Corridor Management Plan

June 2013

Glacial Trail Scenic Byway Corridor Management Plan

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By
Iowa Lakes Resource Conservation & Development
Golden Hills Resource Conservation & Development
In conjunction with
Iowa Department of Transportation
Made possible by a grant from
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Executive Summary

Glacial Trail Scenic Byway Corridor Management Plan

The creation of a Corridor Management Plan for the Glacial Trail Scenic Byway (GTSB) was made possible through a Federal Highway Administration America's Byways Grant in conjunction with the Iowa Department of Transportation. This grant was administered by staff at the Iowa Lakes Resource Conservation and Development (RC&D) office in Spencer, Iowa with assistance from staff at the Golden Hills RC&D office in Oakland, Iowa.

This Corridor Management Plan addresses the fourteen elements of a CMP as defined in the Federal Register (**Federal Register** / Vol. 60, No. 96 / Thursday, May 18, 1995). These points covered a large variety of issues, including a description of the six byway intrinsic qualities and related maps, strategies for maintaining and enhancing the intrinsic qualities, enhancing existing and new development, accommodating commerce, maintaining and enhancing visitor experience, reviewing road safety, compliance of outdoor advertising, a signage plan, design standards, a schedule for implementation and on-going public participation, a marketing plan and brief interpretive plan.

Since its designation as a scenic byway in 2000, numerous groups and organizations have been involved in supporting and promoting the Glacial Trail Scenic Byway. The byway travels through the four counties of Buena Vista, Cherokee, Clay, and O'Brien. Thus, agencies (both public and private) that own or manage resources along the byway have been involved from the start in work affecting the byway region.

Important byway resources that attract and engage visitors or draw visitors to the byway are called "intrinsic qualities". The National Scenic Byways Program defines intrinsic qualities as "features that are considered representative, unique, irreplaceable, or distinctly characteristic of an area." Given the fact that at this time, the GTSB is Iowa's shortest scenic byway at 35.4 miles (and arguably most rural), visitors find a surprising collection of intrinsic quality features on their drive. These six intrinsic qualities are scenic, natural, historic, archeological, recreational, and cultural, and are described below.

Scenic: The scenic qualities of the Glacial Trail Scenic Byway are widely recognized as one of the byway's most distinguishing features. In fact, the scenic qualities of the byway prompted its designation. The Little Sioux River valley and the glacial formed hills provide a picturesque landscape through much of this corridor. The rolling hills are a backdrop for a variety of vegetation elements and natural features. In addition to remarkable natural features, human activity, such as farmsteads, historic churches, cemeteries, fields of cultivated crops, and giant modern wind turbines, has impacted the scenic quality of the byway.

Natural: The natural intrinsic qualities of the byway are evidenced by the numerous protected areas that are publically held and managed or have been protected by non-profit conservation organizations. There are more than a dozen tracts of land within or along the byway, totaling more than 4,300 acres, owned and/or managed by the State of Iowa, Buena

Vista County, Cherokee County, Clay County, O'Brien County, or The Nature Conservancy. Outside of the Loess Hills, the largest concentrations of prairie remnant left in Iowa occur on the slopes and ridge tops of the Little Sioux Valley of northwestern Iowa. Unlike the typical plains of northwest Iowa, the Glacial Trail Scenic Byway region is rich in landforms and varied topography. This environment hosts a number of important species of plants, insects and birds. Three types of plant communities are globally imperiled, vulnerable or critically imperiled and are targeted for conservation. Eleven individual plant species that are listed as either globally imperiled, federally or state threatened, endangered or special concern, can also be found in the Little Sioux Valley. Five butterfly species can be found in the byway region that are listed as globally rare or imperiled, or of federal or state special concern. Eleven species of birds found along the byway are also listed as state or federally threatened and endangered.

Historical: The history of the four Iowa counties, Buena Vista, Cherokee Clay, and O'Brien, start in the same vicinity of the byway. For it is in this same region of the Little Sioux River that the first white settlers chose to make their homestead claims. Early settlers included the Kirchners in Clay County, the Watermans of O'Brien County, Corbett, Parkhurst, and Lebourveau in Cherokee County, and Bell, Weaver and Tucker in Buena Vista County. The famous story of Inkpaduta, a Wahpekute Santee Sioux, and his band of about 60–70 men, women and children is also part of the history of the region. There are seven properties along the byway that are listed on the National Register of Historic Places. Four are archeological sites and three are historic structures: the Philip and Anna Parish Kirchner Log Cabin and House, the Wanata Park Picnic Shelter, and the Brooke Creek Bridge. Other historic sites of interest are the Fort Peterson Blockhouse, the town site of Old O'Brien, Dutch Fred Burial site, and the story of a Bonnie and Clyde hideout.

Archeological: The Glacial Trail Scenic Byway is home to numerous archeological sites of the nationally significant Mill Creek culture. At least twenty-eight Mill Creek sites are located in and around the Little Sioux River and its tributaries of Waterman, Brook and Mill Creeks, in the counties of Cherokee, Buena Vista and O'Brien. Of the 28 sites, eight village sites have been excavated. They are the Chan Ya Ta, Phipps, Brewster, Double Ditch, Lange, and Wittrock. Other archeological sites in the area include the Litka field site and the Bastian site. Bastion, Brewster, Phipps and Chan-Ya-Ta sites are all on the National Register of Historic Places and the Wittrock Indian Village site is now a state archeological preserve. Both the Wittrock Indian Village site and the Phipps site are also National Historic Landmarks.

Recreational: The byway lends itself naturally to many opportunities for recreation. These recreational intrinsic qualities include: pleasure driving and bicycling, hiking and cross country skiing, hunting, camping, bird watching, fishing, picnicking, boating, canoeing, kayaking, horseback riding, geocaching, golfing, swimming, and playgrounds. There are 22 public properties on the Glacial Trail Scenic Byway offering over 1,500 acres of recreational facilities for the activities listed above. Many area organizations, such as bicycling groups, hunting and habitat conservation groups, bird watching groups, and canoeists are involved in activities to support and improve these resources.

Cultural: The cultural heritage of the Glacial Trail Scenic Byway has been influenced by the customs and traditions passed on from the region's first inhabitants, Native Americans; and pioneer settlers of German, Danish, Norwegian, Swedish, Welsh, and Irish descent. A predominately agricultural landscape dotted with small rural communities exists amidst unaltered natural settings and the dramatic features of our nation's new wind turbine energy sources. The cultural quality of the Glacial Trail Scenic Byway is a result of this mixture of features, as well as its variety of cultural attractions and events. More than eight attractions in the Glacial Trail Scenic Byway highlight the region's cultural resources. They include the Prairie Heritage Center, Peterson Heritage Inc./J.A. Kirchner Memorial Public Park, Kirchner Farm Museum, Jim's History Barn, French Museum, McGee Gallery and Framing, Bogenreif Studies, and Barnes Ranch. Among these cultural attractions are pioneer cemeteries, historic churches, art studios, galleries, museums, and heritage centers. Complimenting these attractions, are close to 20 cultural events held regularly in communities throughout the byway. These events include tractor rides, parades, wine tasting festivals, outdoor concerts, guest speaker events, educational activities, heritage celebrations and artist studio tours.

One of the key reasons for the unchanging character of the byway is that its intrinsic qualities, be they scenic, natural, historical, archeological, recreational, or cultural, tend to reside on land that is publically held and managed. Many of these native prairies, historic homes, archeological sites, scenic rivers or creeks, and museums have been deemed important and unique and have already been protected by public agencies or, in some cases, non-profit organizations tasked specifically with the duty of preserving and protecting the resource. Therefore, much of the discussion of "strategies to maintain and enhance" involves the mission and work of other agencies beyond the byway organization. Given the rural nature of the byway and small population of residents living along the byway, it is especially impressive that so very much has been done to designate and care for the resources, or intrinsic qualities, of the region.

Many of the types of concerns prominent on other scenic byways, such as cell towers, billboards, rapid urban development, destruction of natural habitat or traffic congestion, are not of immediate concern on the Glacial Trail Scenic Byway. County comprehensive plans, county signage regulations, state DOT staff and county zoning and planning staff or engineers work to maintain appropriate zoning and development, appropriate signage, safe accommodation of local commerce, and general roadway safety.

The rural nature of the byway brings challenges in providing basic traveler amenities at convenient locations throughout the byway route. While the ultimate goal is not to fill the byway with numerous gas stations, restaurants and motels, there are some basic needs to consider in making the byway a more viable destination for a larger number of visitors, especially those from outside the immediate vicinity of northwest Iowa. These amenities can be established while still maintaining a rural landscape with pristine natural habitats.

There are currently a few basic traveler amenities along the byway, with more services provided in nearby towns. While these services are enough to satisfy the basic needs of most travelers, there is ample opportunity to enhance these services, primarily by offering

them right on the byway, rather than making the traveler drive off the byway to neighboring communities. This aspect of byway planning will be on-going.

The marketing plan section of the Corridor Management Plan contains an analysis of national, regional, and state tourism trends, proposed target audiences and markets for the byway, a communication/marketing plan, suggested marketing partners and a discussion of the need for more detailed timeline and budget. It proposes that the biggest challenge to the byway is attracting visitors to such a rural, off the beaten path location and suggests that the byway organization form alliances with anchor communities of Spencer, Storm Lake, Primghar and Cherokee (and their Chambers of Commerce, County Conservation and Travel and Tourism groups). There are many potential visitor groups to target, such as pleasure drivers, heritage tourists, eco-tourists and recreationalists. A wide variety of marketing and communication resources are available, such as print media (brochures, maps, visitor guides), websites (state byways, county, parks), social media (byway, Prairie Heritage Center and county Facebook pages). The marketing plan suggests that the byway organization form or strengthen relationships with partners such as County Boards of Supervisors, County Conservation Boards, Western Iowa Tourism Region, county tourism and economic development groups, the Byways of Iowa Coalition and the Byways of Iowa Foundation. It encourages the Byway organization to capitalize on existing partnerships and promotion resources and to continue hosting public events to increase awareness of the many opportunities along the Glacial Trail Scenic Byway.

More than 45 individual action items or tasks have been proposed in this Corridor Management Plan, with time frames ranging from on-going to short term to long term. Specific individuals or groups responsible for their implementation are also listed.

The value of this Corridor Management Plan depends entirely on its use and implementation. While some of the recommendations in this plan are already underway, others will require a larger effort from the Byway Board and its stakeholders. This plan is both a management and a development guide for the Glacial Trail Scenic Byway. It is intended to help both board members and stakeholders to work together in a purposeful effort to enhance and maintain this Glacial Trail Scenic Byway and realize its economic development potential as a tourism resource in Northwest Iowa.

By adopting the proposed list of responsibilities and implementation schedule of this plan, the Byway Board and stakeholders can show their commitment to the byway by working together to put their ideas into action to create both a better byway and better byway communities.

Preface and Acknowledgements

This document represents the first version of a Corridor Management Plan for the Glacial Trail Scenic Byway. There will no doubt be later editions or new versions created as the byway organization grows and changes and as stakeholders develop a clearer understanding of the long term management of the Glacial Trail Scenic Byway.

The creation of this Corridor Management Plan for the Glacial Trail Scenic Byway was made possible through the Federal Highway Administration National Scenic Byways Program grant administered by the Iowa Department of Transportation. The grant was administered by staff at the Iowa Lakes Resource Conservation and Development (RC&D) office in Spencer, Iowa with assistance from staff at the Golden Hills RC&D office in Oakland, Iowa.

The Glacial Trail Scenic Byway Board also assisted in the creation of this plan by gathering and reviewing information on the six intrinsic qualities, proposing action items, sharing information about the many other public and private entities that share in the management of lands and resources along the byway, and participating in meetings with stakeholders.

Much has been accomplished for the Glacial Trail Scenic Byway since its designation in 1999, through the hard work of many volunteers and stakeholders. The future of the byway holds many possibilities. This Corridor Management Plan is another step forward to further strengthen the byway organization and the unite byway community.

The individuals and organizations listed below assisted with the creation of this plan:

Glacial Trails Scenic Byway Project Management:

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Iowa Lakes RC&D Board

Golden Hills RC&D Board

Glacial Trail Scenic Byway Corridor Management Plan

Introduction

A scenic byway is a specially designated road that travels through an area of cultural or natural beauty. The designation is usually determined by a governmental body such as a Department of Transportation. The Glacial Trail Scenic Byway (GTSB) is Iowa's shortest byway route, with a total of 35.4 miles of roadway and was designated by the Iowa Department of Transportation (DOT) as a scenic byway based on its scenic qualities.

A corridor management plan includes, but is not limited to, the following features:

- the vision for the byway and the surrounding area as formed collectively by communities along the byway
- an inventory of the characteristics, features and resources associated with the byway's intrinsic qualities
- documentation of the significance of the byway's intrinsic qualities
- a summary of how the intrinsic qualities will be interpreted in order to stir the interest and imagination of visitors
- summation of the goals and strategies for promoting the byway, enhancing and preserving the intrinsic qualities, and ensuring the continuity of the visitor's experience

It also is important to note what the corridor management plan is not. It is not a Federal Highway Administration plan or document. And, it does not supersede state or local land use and transportation plans and requirements. The corridor management plan should complement other plans for the area. Byway representatives should look to local land use and transportation plans and initiatives as means for helping achieve the goals and objectives for the byway.

Development of the byway's corridor management plan is as much about the process as it is the product. By compiling all the specific information about the intrinsic qualities of the byway into one document, the story of the byway can be shared with any number of local residents, governmental officials, and business leaders. By gathering groups of stakeholders to learn about the process and review the plan, this document not only educates and informs, but promotes and celebrates all the many special qualities of the Glacial Trail Scenic Byway.

Description of Byway: Byway Route and Corridor Definition

The Glacial Trail Scenic Byway (GTSB) traverses 35.4 miles of highway and county roads in northwest Iowa. This unique byway takes in a four-county area (O'Brien, Clay, Cherokee, and Buena Vista) of "rolling plains of glacial drift" in northwest Iowa. The byway crosses the Little Sioux River several times and offers views of rolling hills and forested river valleys, as well as a rich history of native and European people. Also, in the corridor, a traveler might

see rising from the horizon like flowers, modern steel windmills providing an alternative, renewable energy source for homes and businesses in the area.

The byway itself is a 35.4-mile loop that can be driven in either a clockwise or counter-clockwise direction. Counter-clockwise, it travels along Iowa Highway 10 from County Road M36 westward, through the town of Peterson, to County Road M12. It turns south from there on M12, traveling approximately 6 miles to County Road C16. The byway turns eastward on C16 and travels approximately 13 miles, jogging briefly on M27 before returning to C16 until intersecting County Road M36. It then turns north onto M36, jogging briefly at C13, and traveling through the town of Linn Grove. M36 then continues north, with the byway ending where it started at the intersection of M36 and Highway 10.

Much of the byway is very rural in nature, passing farms and undeveloped land. The byway passes through just 2 small towns, Peterson (population 334, 2010 Census) and Linn Grove (population 154, 2010 Census). There is an occasional stop sign, but there are no traffic signals for the length of the byway. While the 2 towns on the byway itself offer some basic visitor amenities, the nearby towns of Sutherland, just 3 miles off the northwest corner of the byway or Sioux Rapids, just 5 miles off the east side, offer more amenities. The larger towns of Cherokee, Storm Lake, and Spencer, act as service centers to the byway, providing accommodations, restaurants, shopping and medical services. These towns each lie within 20 miles of the byway. The boundary of the byway includes the roadway itself, the land inside the byway loop, plus a boundary of approximately 5 miles.

History of Byway

In 1998, the Iowa Department of Transportation officially adopted a Scenic Byway Program. That same year, a group of community leaders submitted an application for a proposed scenic byway between Sioux Rapids and Sutherland along State Highway 10. The application originated out of the O'Brien County Economic Development Corporation and included letters of support or resolutions supporting the project from the City of Linn Grove, the City of Paullina, the City of Peterson, the City of Sioux Rapids, the City of Sutherland, O'Brien County, Buena Vista County, Cherokee County, and Clay County.

The Iowa Department of Transportation designated the first 5 scenic byways in late 1998. Four more scenic byways were designated in 2000. The Glacial Trail Scenic Byway was one of these four. Originally nominated as the Old Glacial Trail Scenic Byway, the name

was shortened to Glacial Trail Scenic Byway in 2009. Iowa now has nine state-designated and two nationally-designated scenic byways. To be designated as a Byway, the roadway must represent at least one of the following six intrinsic qualities: natural, scenic, historic, archeological, cultural and/or recreational. The designation letter from the Iowa Scenic Byway Advisory Council stated that the basis for nomination included two main themes:

- Scenic: General visual quality and visual character of the area
- Heritage: Shaping Our Landscape: Man's Impact on the Natural Environment.

In 2008, formal efforts were made to organize the byway community through the Iowa Byways Sustainability Project undertaken by the Iowa DOT. A project manager was hired in 2008, the first stakeholder meeting was held in 2009, and a byway steering committee also began to meet approximately every other month.

Mission, Vision, and Goals

One of the first exercises that the new byway steering committee conducted upon forming in 2008 was the crafting of the mission and vision for the byway. By examining mission and vision statements from other byways, both in Iowa and around the United States, the group was able to formulate statements that suited the Glacial Trail Scenic Byway and expressed their sense of what the primary focus of the byway steering committee should be. They also were able to articulate the main themes to promote to byway visitors. The mission and vision statements for the Glacial Trail Scenic Byway are listed below.

Mission: It is the mission of the Glacial Trail Scenic Byway committee to enhance and promote the area's cultural and natural heritage; and to build awareness and market the intrinsic qualities of the byway to local, state and national visitors.

Vision: It is the vision of the Glacial Trail Scenic Byway committee to guide visitors through a better understanding of the human interaction with the landscape of the byway.

Byway Projects

Prior to 2008, all Iowa Byways had an identical, generic "Iowa Byway" sign that marked each route. In 2008, a statewide byways signage project was started to design route signs unique to each byway, but sharing a similar style. The signage project was a joint project with DOT staff and coordinators from each Iowa byway, with outside consulting work on design by Shive Hattery from West Des Moines. The new byway signs were installed by late 2011.

A variety of other byway projects have been conducted with the assistance of state DOT grants administered by the local Iowa Lakes Resource Conservation and Development (RC&D) office staff. These projects included development of a byway brochure, a periodic byway newsletter to approximately 230 stakeholders, a byway website (both statewide through the DOT and locally through the RC&D), GIS mapping of byway intrinsic qualities and a photo database of byway features. The GIS mapping and photo database projects were part of a joint endeavor with other RC&D offices and DOT grants. The byway coordinator and board members participated in various trainings on topics such as

sustainability, signage design and placement, website design, and marketing, all with Iowa DOT assistance.

The byway coordinator and board have been active in hosting a variety of events along the byway to build awareness and enthusiasm about the byway. These events include a successful Trek the Trail event in June 2010. Games, crafts, food, reenactors, museum visits, and fun stations were set up along the 36 mile loop. Activities were offered at the Prairie Heritage Center, Waterman Prairie, Dog Creek Park, Martins Access, Linn Grove, Peterson and other areas. These types of events along the byway help to build local awareness of the byway and showcase the work done by the coordinator and board.

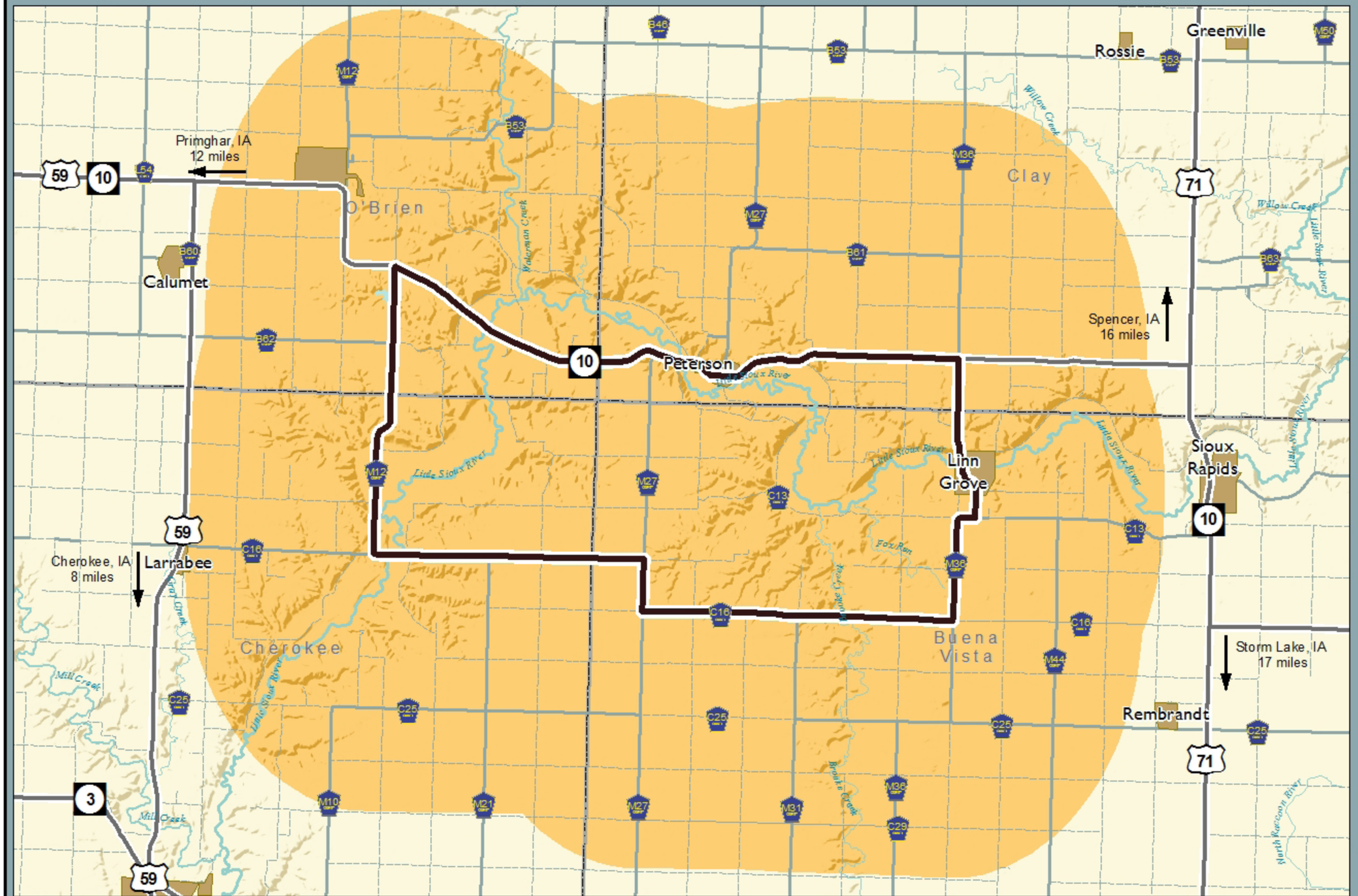
In April 2011 phase two of the highly successful Iowa Byways Sustainability Project officially began. Started in 2008, the program is a cooperative effort between the Iowa Department of Transportation and the Resource, Conservation and Development Councils (RC&Ds) across Iowa. The goal of the program is to promote the long term sustainability of Iowa's byways. Activities underway as part of this sustainability project include developing and implementing fundraising strategies and protocols, assisting local public agencies in preparing grants establishing and organizing the byway board, recruiting volunteers and stakeholders, maintaining the signage program, developing a Corridor Management Plan, developing a marketing plan, and facilitating byway training events.

Point 1: Map of Byway

See map on the following page.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Glacial Trail Byway Map

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

5 mile Boundary

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

Waterbody

River

Landform

Point 2: Intrinsic Qualities

Important byway resources that attract and engage visitors or draw visitors to the byway are called "intrinsic qualities". The National Scenic Byways Program defines intrinsic qualities as "features that are considered representative, unique, irreplaceable, or distinctly characteristic of an area."

The following portion of this Glacial Trail Scenic Byway Corridor Management Plan includes a discussion of the six intrinsic qualities of the byway. The six intrinsic qualities of the Glacial Trail Scenic Byway are listed below:

- Scenic
- Natural
- Historic
- Archeological
- Recreational
- Cultural

Each section will include a definition of the intrinsic quality, a map of important features of that intrinsic quality, a discussion of the important aspects of that intrinsic quality that exist in the byway region and photos to more clearly describe those features.

While many byways may be known primarily for one or two intrinsic qualities, the Glacial Trail Scenic Byway celebrates strong features for all six intrinsic qualities. Given the fact that it is Iowa's shortest scenic byway (and arguably most rural), visitors will find a surprising collection of intrinsic quality features on their drive. Each of one these intrinsic quality categories, alone, delivers enough to attract and engage a wide variety of visitors. When combined, the resources from these six categories make for a highly diverse, engaging and enjoyable experience for visitors of all backgrounds and interests.

Scenic Intrinsic Quality

Definition of Scenic Quality

"The intrinsic quality of scenery is defined as the heightened visual experience derived from the view of natural and human made elements of the visual environment of the scenic byway corridor. Scenic quality refers to the characteristics of the landscape that are strikingly distinct and offer a pleasing and most memorable visual impression. All elements of the landscape including landform, water, vegetation and human-made development—contribute to the intrinsic quality of the corridor's visual environment." (U.S. Government Federal Register 26761, 1995)

The scenic qualities of the Glacial Trail Scenic Byway are widely recognized as one of the byway's most distinguishing features. In fact, the scenic qualities of the byway prompted its designation. The Little Sioux River valley and the glacial-formed hills provide a picturesque landscape through much of this corridor. The rolling hills are a backdrop for a variety of vegetation elements and natural features. The roadway follows the terrain allowing the traveler to view scenes of the river valley as the road ribbons through the hills. The lake at Dog Creek Park is a pleasant surprise along M12 as is the dam at Linn Grove.

Transforming the Landscape

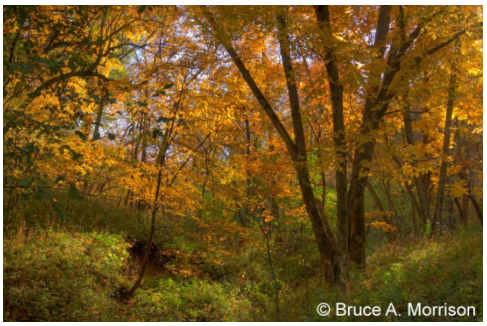
"George Temple arrived here in September 1856 and immediately began the pivotal work in transforming the postglacial landscape in what would become Peterson Township. His title was deputy surveyor, and his work was to make square miles out of unsurveyed prairie, to take land that had heretofore been without limit or precise boundary, and enmesh it in a net of points, lines, numbers. Temple—along with thousands of other US Government contract surveyors—engraved a grid of square miles onto the landscape of much of the United States, creating uniform parcels of land for quick sale and linear farming. His lines engendered the geography of this place, and their effects are as pronounced today in southwest Clay County as those of any other lines, either natural or human-made. No single event has had greater effect on this place, and if we are to understand the landscape here, all events both before and since must be seen in this light."

(Reflecting a Prairie Town: A Year in Peterson, by Drake Hokanson pp 46–47)

In addition to remarkable natural features, human activity has had a lasting impact on the scenic quality of the byway. Farmsteads; historic churches, and cemeteries dot the countryside, while fields of cultivated crops form patterns on the land. Interspersed with these farmsteads and fields, giant modern wind turbines rise up from the horizon. The two rural communities of Linn Grove and Peterson each capture picturesque memories of a simpler time in Iowa, with historic homes and quiet main streets.

Each season brings new and unique scenery to the byway. With spring comes the greening of trees and farm fields. The numerous native prairies and wildlife areas sprout with wildflowers and grasses. Birds migrate back to their habitat and wildlife is more active. Summer heat and sunshine bring a lush green to the fields and grasslands. The patchwork of fields, plus golden sunsets on the hills, offer visitors the full beauty of this fertile land. In autumn, the lovely colors of the local maple and oak trees dot the hillsides. Visitors to the byway see farm equipment on the roads and in the fields as local farmers harvest their bountiful crops. Flocks of ducks and geese are seen overhead as they fly south for the winter. The winter season brings a snow-covered hush to the area with the landscape flocked in white. Some creeks and ponds freeze over and deer can be seen along the roadway searching for food. Winter is a time when visitors can see many types of birds, such as bald eagles, hawks, finches, robins, bluebirds, and flickers, who find shelter in the cedars trees and protected lands of the byway.

Seasons of the Glacial Trail Scenic Byway



The scenic qualities of the byway are not just qualitative in nature. Scenic quality can also be described in quantitative terms. When the Glacial Trail Scenic Byway was chosen by the Iowa Scenic Byway Advisory Council in 2000, the designation letter included a

Corridor Resource Mapping report produced specifically for the route. This report provided evaluation statistics for specific segments of the proposed byway. Segments of the byway route were given numeric ratings for both scenic and heritage qualities. A numeric rating of 4 or higher indicated a visual or heritage quality sufficiently high to qualify under the scenic byway program. Consistency of the visual or historic quality was expressed in part by the percent of the route rated at or above the numeric value. Routes with 50% or more of the corridor rated above 4 generally met the desired consistency. The results of the evaluation are provided in the table below:

Nomination Evaluation Statistics

Evaluation Results	Scenic	Heritage
Segment #1, 38.63 mi. *(Paullina to JCT US71 & IA 10)*		
Quality Rating *(Average rating)*	3.39	1.53
Uniformity *(% of byway rated >4)*	33.11%	5.87%
Maximum Rating	12.20	12.00
Minimum Rating	–0.80	–1.00
Variety Rating *(variance)*	4.85	1.87
Segment #2, 29.18 mi. *(Sutherland to Linn Grove via M12, C16, M36)*		
Quality Rating *(Average rating)*	5.72	2.03
Uniformity *(% of byway rated >4)*	71.00%	9.72%
Maximum Rating	14.00	7.00
Minimum Rating	0.00	–0.00
Variety Rating *(variance)*	6.52	1.32
Segment #3, 17.43 mi. *(Sutherland to Peterson via US10)*		
Quality Rating *(Average rating)*	3.13	1.09
Uniformity *(% of byway rated >4)*	20.11%	00.90%
Maximum Rating	11.20	5.00
Minimum Rating	–1.10	–2.00
Variety Rating *(variance)*	3.16	0.69

The resulting ratings explained how the Scenic Byway Advisory Council designated a byway route that was slightly different than the route proposed by the local byway committee.

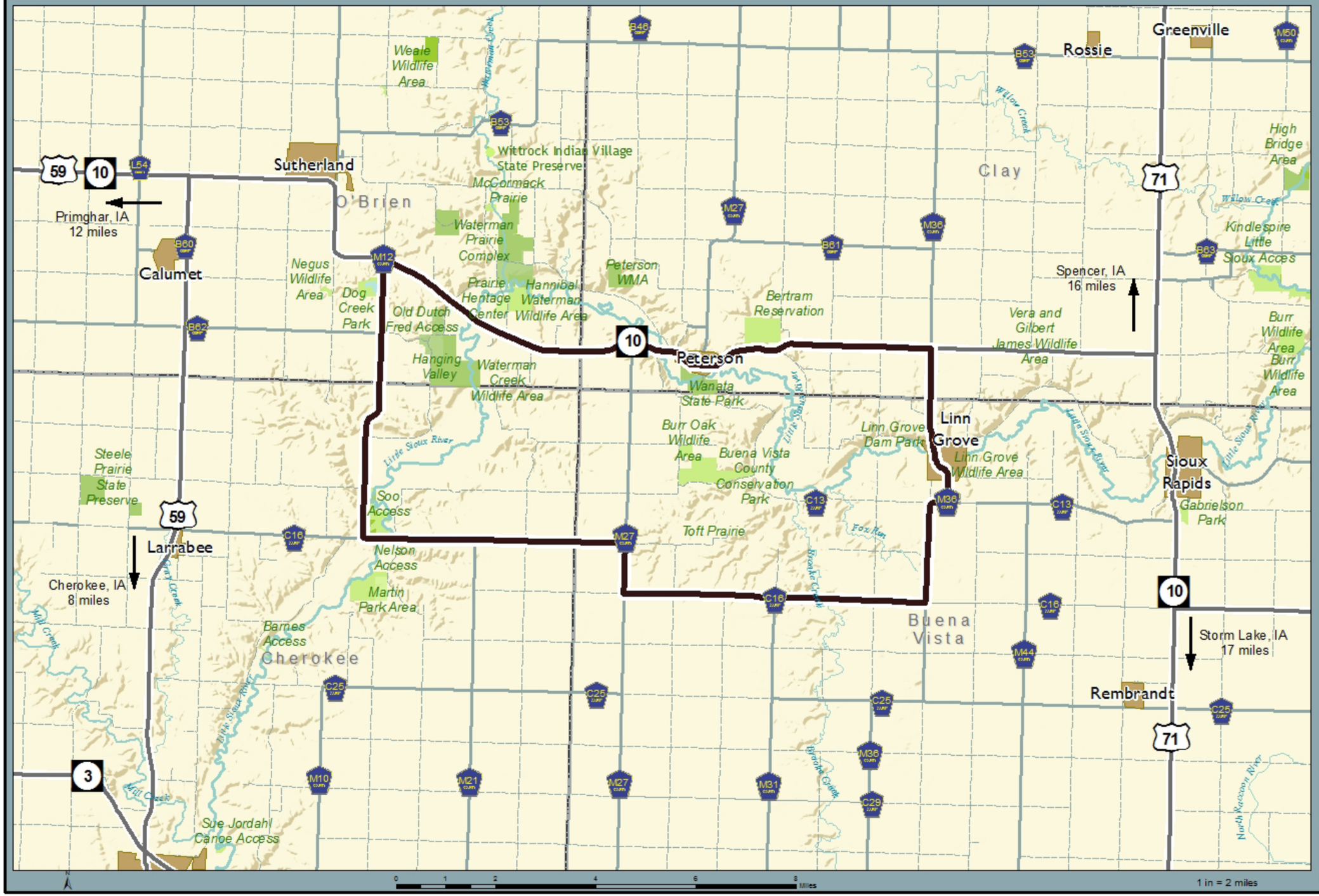
The designated byway route included the best of the byway segments combined into a loop byway, including portions of Highway 10, M12, C16, M36, and C13. The originally proposed straight corridor included a less scenic portions of Highway 71 and Highway 10 from north of Sioux Rapids to Paullina, with accompanying exploration routes. The final Glacial Trail Scenic Byway is a combination of the 3 segments evaluated, thus successfully achieving the scenic criteria for designation.

The evaluation results that are considered "very good visual rating" include (moving clockwise) two portions of the byway east of Peterson on US10, two segments covering much of M12 heading south, two small portions of C16 and the segment of M36 at Linn Grove. "Good visual quality" ratings include US10 just east of Peterson, a small portion of US10 west of Peterson, a small portion of M12, a large segment of C16, and a small portion of M36 south of Linn Grove. As the previous table shows, the heritage evaluations of the byway recognize small segments of the byway where heritage features are located, specifically in the towns of Linn Grove and Peterson. Thus the overall uniformity ratings (% of byway rated >4) are low.

The Glacial Trail Scenic Byway represents a varied view of northwest Iowa. Its scenic qualities extend from the straight clean lines of cultivated fields to the unique hills and valleys carved by receding glaciers. Its picturesque and wild, meandering rivers and streams contrast the orderly development of small towns and quaint farmsteads. Its panoramic vistas with no sign of human development contrast the modern wind turbines declaring a new age of alternative energy. All of these features give the byway its unique and special scenic qualities.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Natural Resources
Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: November, 2012

Legend

Public Lands

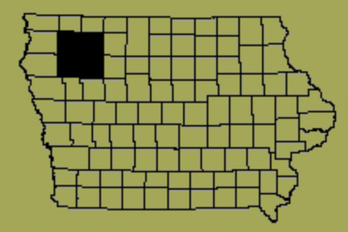
- Federal
- State
- County
- Local

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local
- Waterbody
- River
- Landform



Natural Intrinsic Quality

Definition of Natural Quality

"Natural quality applies to those intrinsic natural features in the corridor's landscape that exist in a relatively undisturbed state. These features predate the arrival of human populations and may include geological formations, fossils, landforms, water, vegetation and wildlife. There may be evidence of human activity, but the natural features reveal minimal disturbances" (U.S. Government Federal Register 26761, 1995)

The authenticity of the natural qualities of the byway is evidenced by the numerous protected areas in the region that are publically held and managed or have been protected by non-profit conservation organizations. There are more than a dozen tracts of land within or along the byway, totaling more than 4300 acres, owned and/or managed by the State of Iowa, O'Brien County, Buena Vista County, Clay County, Cherokee County or The Nature Conservancy. The designation of these lands by these entities speaks to the importance of the natural features, water, wildlife and vegetation present in the area. These protected areas are listed in the following table and described further in the text to follow.

Protected and Public Lands of the Glacial Trail Scenic Byway

NAME	OWNER/MANAGER	COUNTY	ACRES
Prairie/Preserves			
Austin Property	The Nature Conservancy	O'Brien	108.09
Brown's Prairie	The Nature Conservancy	Buena Vista	188
McCormack Prairie	O'Brien County Conservation Board	O'Brien	21
Toft Prairie	The Nature Conservancy	Buena Vista	78.07
Toft Prairie	The Nature Conservancy	Buena Vista	108.98
Steele Prairie State Preserve	Department of Natural Resources	Cherokee	200
Wittrock Indian Village State Preserve	Dept. of Natural Resources Wildlife	O'Brien	6
Wildlife Management Areas			
Bertram Reservation	Clay County Conservation Board	Clay	240
Brooke Wildlife Area	Private/BV County Conservation Board	Buena Vista	60
Burr Oak Wildlife Area	Buena Vista County Conservation Board	Buena Vista	40
Hannibal Waterman Wildlife Area	O'Brien County Conservation Board	O'Brien	160
Linn Grove Wildlife Area	Buena Vista County Conservation Board	Buena Vista	9.5
Negus Wildlife Area	O'Brien County Conservation Board	O'Brien	17
Soo Access WMA	DNR/Cherokee County Conservation Brd	Cherokee	42.30
Thompson WMA	Dept. of Natural Resources Wildlife	Clay	119
Vera & Gilbert James Wildlife Area	Clay County Conservation Board	Clay	13
Waterman Creek Wildlife Area	Department of Natural Resources	O'Brien	223
Waterman Prairie Complex WMA	Dept. of Natural Resources Wildlife	O'Brien	1,571
Weale Wildlife Area	O'Brien County Conservation Board	O'Brien	9
Municipal, County or State Parks			
Dog Creek Park	O'Brien County Conservation Board	O'Brien	110
Linn Grove Dam Park	Buena Vista County Conservation Board	Buena Vista	12
Buena Vista Co. Conservation Park	Buena Vista County Conservation Board	Buena Vista	308
Wanata Park	Clay County Conservation Board	Clay	160
Martin Park Area	Cherokee County Conservation Board	Cherokee	300
Prairie Heritage Center	O'Brien County Conservation Board	O'Brien	39
River Access			
Barnes Access	Cherokee County Conservation Board	Cherokee	9
Bluebird Access	Dept. of Natural Resources Wildlife	Buena Vista	33
Burned Bridge Access	O'Brien County Conservation Board	O'Brien	1
Nelson Access	Cherokee County Conservation Board	Cherokee	8
Old Dutch Fred Access	O'Brien County Conservation Board	O'Brien	1
Riverside Little Sioux Access	Clay County Conservation Board	Clay	3
Soo Access	Dept. of Natural Resources Wildlife	Cherokee	17
Soo Access	Cherokee County Conservation Board	Cherokee	172.64
Total Acres			**4387.58**

Iowa State Preserves

The Iowa State Preserve system was created to identify and preserve, for this and future generations, portions of Iowa's most significant and representative natural, geological, archaeological, historical, and scenic resources and features. Steele Prairie State Preserve, located approximately 7 miles west of the byway's southwest corner, exemplifies a prairie preserve with significant natural resources.

The T.H. Steele Prairie is a 200-acre native tall grass prairie, consisting of a 160-acre tract and a separate 40-acre tract. It is one of the largest native prairies remaining in Iowa outside of the Loess Hills. Dr. Ada Hayden, of Iowa State College, initially visited this prairie in 1944 and recommended that it be protected. The Nature Conservancy and the Iowa Department of Natural Resources jointly purchased the site from the Steele family in 1986 and it was dedicated as a biological and geological state preserve in 1987.

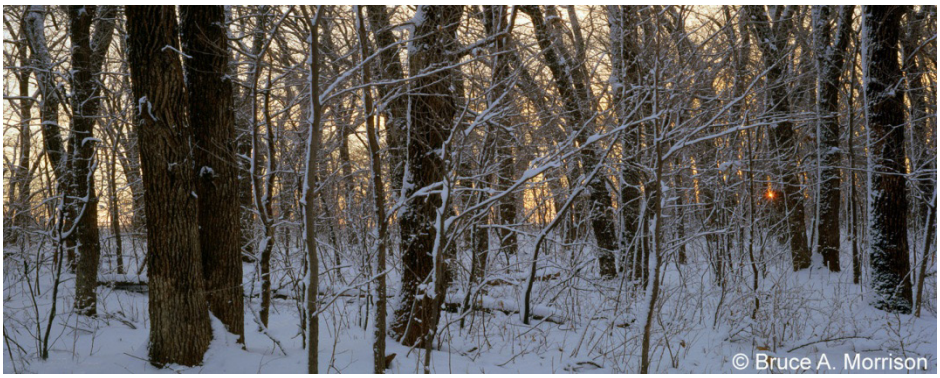
The preserve's terrain is characteristic of the gently rolling topography of the Northwest Iowa Plains. Most of the vast array of vegetation in the preserve is comprised of mesic prairie on uplands (extensive area of flat or rolling, predominantly treeless grassland) and smaller areas of wet prairie communities along drainageways. The preserve is dotted with ant mounds and animal burrows and provides habitat for many species of birds, mammals, and butterflies.

Iowa State University Libray Special Collections

A second designated state preserve located along the byway is the Wittrock Indian Village State Preserve. It will be discussed further in the Archeological Intrinsic Qualities section of this plan.

Wildlife Management Areas

The Iowa Department of Natural Resource's Wildlife Bureau manages lands throughout the State of Iowa that are available for public recreational use every day of the year. All these areas are managed with revenues from the sale of hunting, fishing, and trapping licenses that are purchased by residents and non-residents. These state revenues are supplemented with Federal Sport Fish and Wildlife Restoration funding from the US Fish and Wildlife Service. In general, wildlife management areas are funded almost entirely by hunters, fishers, and trappers. The funding sources used to manage these areas insure that they are managed to provide habitat for Iowa's native wildlife species and those species that migrate through our state. Developing and restoring wildlife habitat to ensure that wildlife species have a safe place to breed, rest, and feed is the primary management objective. Wildlife dependent recreational activities are allowed to enable residents and non-residents to enjoy these wildlife species.



Only basic public use facilities, such as parking lots and boat ramps are provided at most wildlife management areas. Portions of these areas may be designated as refuge and restrictions are placed on certain uses that may interfere with management goals and objectives. There are 12 named wildlife management areas located along the byway. One of the largest tracts is the Waterman Prairie Complex, first recognized as a rich source of native prairie remnants by the Iowa DNR in the early 1990's.

The Nature Conservancy Preserves

Founded in 1951, The Nature Conservancy is the world's leading conservation organization. The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. Its vision is to leave a sustainable world for future generations. The Nature Conservancy has helped protect 2,700 acres in the Little Sioux Valley, much of it in the Iowa Department of Natural Resources Waterman Prairie Project. Prairie, river and wetland systems make up this area, which once was covered by tallgrass prairie. Native prairie remnants still exist, categorized as dry and moderately dry hill prairies and oak woodlands. Much of the land has been historically unsuitable for farming—but ideal for haying and cattle grazing because of the abundant gravel. Grazing and haying have helped to maintain these significant prairie tracts.

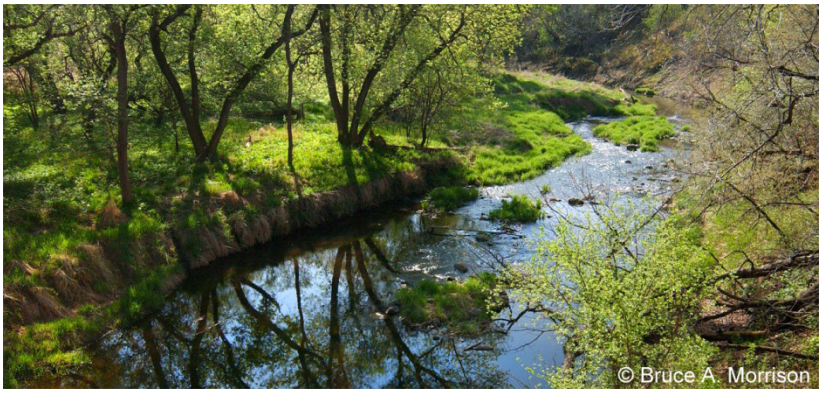
According to The Nature Conservancy's *Little Sioux River Valley Conservation Action Plan* (draft, pp 3–22), Conservancy scientists are hopeful that preservation of larger, connected tracts of natural prairie will lead to the preservation not only of threatened native wild

flowers and grasses, but also of the bird, mammal, insect and reptile communities, which require substantial areas of such habitat to maintain genetic strength and to assure the survival of their species.

The Iowa Chapter of The Nature Conservancy currently owns 3 tracts of prairie preserves in or near the Waterman Prairie Complex or just off the byway. Partnerships exist between the Iowa DNR, The Nature Conservancy and the Iowa Natural Heritage Foundation for continued acquisition and conservation of important lands in the Little Sioux River Valley.

The Little Sioux River

Equally important to the byway region as its native prairies, is the Little Sioux River. This tributary to the Missouri River flows through this area of four counties, entering on the northeast and flowing southwest toward the Missouri River. Many smaller watersheds drain into the Little Sioux, here, including Waterman Creek, Henry Creek, Dog Creek, Mill Creek and Brook Creek. These draws, ravines and valleys create attractive habitat for birds and mammals and support the native plants and trees of the area.



An understanding of how the Little Sioux River was formed, many thousands of years ago, brings an understanding of the natural development of the byways region and sheds light on its name. The following excerpt from *Reflecting a Prairie Town: A Year in Peterson,* by Drake Hokanson, provides this understanding.

Diary of a River

It must have started as a halting trickle, hunting the low way across the landscape, but once positive outflow was established, the current must have surged dramatically as rushing water planed through the soft glacial drift. It must have quickly cut a narrow channel, a chute full of gray, cold water, choked with everything from silt to boulders, heading westbound pell-mell through the landscape.

The creation of the middle part of the Little Sioux valley was a hydrological event of breathtaking proportions. Surging water crossed fifteen or more miles of terrain, found the valley of Waterman Creek west of Peterson, and filled it with torrents of gray water. From then on, what was becoming the Little Sioux drained into the Missouri River via the lower course of Waterman Creek.

Once the breach was made and the course of the valley established, Lake Spencer drained quickly. And the course of what is now the Little Sioux River was changed for good.

Off and on over the next 2,000 to 4,000 years, the Little Sioux continued to work on its valley with meltwater from the shrinking Wisconsinan ice sheet. Year by year the water cut easily through the soft glacial drift, for the incline of the river was steep and the quantity of water considerable. As the river eroded downward, it carved a valley with steep sides and a very narrow floor. The valley sides expanded very little.

Then, sometime about 10,000 years ago, the Little Sioux River shifted its hydrologic gears. The glacier had melted from the watersheds draining into the Little Sioux basin, reducing the water flow to a fraction of what it had been. In addition, the river had cut its valley downward to the extent that the gradient, the slope of the river, was diminished. And as anybody who had ever watched a steep mountain stream knows, the less grade of a stream, the slower it flows; the slower flow of the stream, the less material it can carry. So, instead of expending most of its energy deepening the valley, the Little Sioux began to more actively deposit material across the valley floor. The sediment load available to the river now exceeded its ability to haul it away; the river began to aggrade more than erode; it began to fill its valley with alluvial material.

An aggrading river uses eroded material upstream to build a floodplain, a broad, flat valley bottom deep with sediment. Some floodplains, like that of the Missouri River, are fifteen miles across; more commonly they cover the bottom of a narrower valley. Aside from the presence of water itself, alluvial floodplains are perhaps the most common feature of river environments, and except for rivers in V-shaped mountain canyons, most any river will get around to building one.

Thus the Little Sioux River has reached a point where it no longer works much to deepen its valley and instead concentrates erosional efforts on nibbling at the valley sides and on moving sediment by short hauls down the river. Now, in late youth, the valley no longer gets much deeper, only wider." (Hokanson pp 104–105)

Landforms

Unlike the typical plains of northwest Iowa, the Glacial Trail Scenic Byway region is rich in landforms and topography. As the name implies, this region is the product of glacial movement and the accompanying wind and erosion, thousands of years ago. In many ways, some of the hillsides of this area resemble the much larger and more-defined Loess Hills of far western Iowa, produced by finely ground sediment and strong winds. While the Loess Hills of western Iowa have loess deposits of as much as 200 feet deep, the hills of the Glacial Trail Scenic Byway are covered by just a few inches of this fine soil. These smaller hills of the byway region also exhibit similar "catsteps" as the Loess Hills. "Catsteps, or terracettes, are small, irregular step-like forms on steep hillslopes, formed by creep of erosion of surface material or by slumping loess soil. These forms can be induced or enhanced by the trampling of livestock, such as sheep or cattle. ("Glossary of Landform and Geologic Terms").

Another landform type found in the area is called a "kame". A kame is a geological feature, an irregularly shaped knob, hill or mound composed of sand, gravel and till that accumulates in a depression on a retreating glacier, and is then deposited on the land surface with further melting of the glacier. With the melting of the glacier, streams carry sediment to glacial lakes, building kame deltas on top of the ice. However, with the continuous melting of the glacier, the kame delta eventually collapses on to the land surface, forming the kame.

Kame terraces are frequently found along the side of a glacial valley and are the deposits of meltwater streams flowing between the ice and the adjacent valley side. These kame terraces tend to look like long flat benches, with a lot of pits on the surface made by kettles. They tend to slope down valley with gradients similar to the glacier surface along which they formed, and can sometimes be found paired on opposite sides of a valley. ("Glossary of Landform and Geologic Terms").

Kettle holes, another geologic formation found along the byway, are formed when blocks of ice were separated from the main glacier and buried in the gravel deposits as the glaciers retreated. The ice block then melted away, leaving a depression, called a "kettle hole".

Hokanson's description of the formation of the Little Sioux River makes it possible to understand how another important landform of the region is formed within the Waterman Prairie Complex: the Hanging Valley.

The Hanging Valley

The Hanging Valley: "East and west of Peterson are numerous terraces representing at least three levels, or stages, of river downcutting. Geologists have traced these features along the valley sides and determined that the three levels represent downcutting during the drainage of Lake Spencer some 13,000 to 14,000 years ago." The town of Peterson is actually built on one of these terraces.

Five miles west of Peterson is another reminder of the history of the Little Sioux River. "This earthen relic, called a hanging valley, is one of the most unusual landscape features in the region. Essentially it is an intact abandoned valley of the Little Sioux, a valley abandoned quite early in the development of the river. It stands high above the present floodplain at a point two miles downstream from where Waterman Creek joins the Little Sioux. The best guess has it that the valley was formed during or shortly after the draining of Glacial Lake Spencer and was abandoned when the river changed course soon thereafter."

"I walked overland to the hanging valley one March day after having located it from the air and was surprised at what I found. I walked east for some distance across muddy fields of the upland plains and quite suddenly came to stand at the lip of a miniature Little Sioux River Valley. It is a perfect fossil from the glacial eons of northwest Iowa, a ghost from the era of wall-to-wall floods of meltwater. It is about fifty feet deep and a few hundred feet across, as compared with the present valley at a maximum of two hundred feet deep and half a mile to a mile across. The crisp details of this inactive valley have long ago succumbed to brome grass and erosion; the land features have softened, and the river course itself, filled with local sediment, has long ago disappeared.

I followed the old valley upstream, walking on the old valley floor so strangely bereft of a stream. It struck me as a surreal version of a river valley, as if a sculptor had carefully seen to its shape and larger elements, but, out of desire for visual tension, had stopped short of providing an actual stream to run through it.

The best-preserved part of the valley is about half a mile long and at its upstream end stops abruptly at a startling view of the much larger and deeper present valley of the river. The old valley simply ends, is cut off, hangs high above the new. I stood on the floor of the old valley, with its valley walls to my left and right, and looked out and down another seventy or more feet to the river, its floodplain, and out to the horizon and the familiar hill of the newer valley.

If ever there was a place where the geomorphological past of this region emerges to be seen in today's light, this is the place. There is no more vivid way to know the history of this river than to stand at the north end of the hanging valley and contemplate, in one sweeping view, both the landscape of the last Ice Age and that of today." (Hokanson, p 109)

Native Prairies

Outside of the Loess Hills, the largest concentrations of prairie remnant left in Iowa occur on the slopes and ridge tops of the Little Sioux Valley of northwestern Iowa. Prairie, river and wetland systems comprise much of this area which includes unique habitats such as oak savanna and tallgrass prairie. The hilly topography and sand and gravel deposits were difficult to farm and were therefore predominantly only grazed. Therefore much of the hillside and ridgetop habitat is unplowed prairie remnant.

In the 1930's and 1940's, botanist Dr. Ada Hayden, from Iowa State University, identified the area around the lower Little Sioux River valley as having some of the best native prairie left in the state. For decades she worked to promote the conservation of prairies throughout the state while collecting and documenting plant species. One of the tracts Hayden recommended for preservation and identified as O'Brien #1 became part of what is now the Waterman Prairie Complex.

Ada Hayden was born on an 80-acre farm near Ames, Iowa in 1884. Her maternal grandparents were early pioneers in Story County and owned a farm adjacent to the Hayden property. The farm was Ada's playground in her youth and helped foster her love of natural areas from an early age.

Dr. Ada Hayden: Special Collections Department / Iowa State University

By the time she graduated from Ames High School, she had made the acquaintance of Iowa State College botanist Louis Pammel. Her love of plants drew her to the study of botany at the college and she chose Pammel as her advisor. She graduated from Iowa State College in 1908 and obtained her Master's degree from Washington University in St Louis in 1910. She then returned to Ames to begin work on a second Master's degree (received 1911) and then her PhD (awarded in 1918). She was the fourth student and first woman to receive a doctorate from Iowa State College.

As early as 1919, Hayden wrote a paper for the "Iowa Parks Report" to the newly-formed State Board of Conservation promoting the need to set aside prairie areas as preserves. While the board discussed priorities for Iowa's first state parks, Hayden's recommendations were the first and only directed toward the importance of creating prairie preserves in the state. Hayden was appointed Assistant Botany Professor at Iowa State in 1920 and worked collaboratively on many papers related to native flora and prairie habitat. By 1934 she was named both Agriculture Experiment Station Researcher and Curator of the Herbarium (which would later be renamed in her honor). During her career at ISC, she collected over 30,000 specimens for the Herbarium. In 1943 she published an extensive survey of the native flora of the lakes region of Clay and Palo Alto counties.

In 1944, with a grant from the Iowa Academy of Science and Iowa Conservation Commission, she traveled throughout the state to survey and select potential preserves from the best remaining prairies across the state. She traveled to, photographed and described 22 prairie tracts in 10 counties (including Cherokee and O'Brien counties). Hayden's concern for prairies did not stop with their "legal" protection. She also worked with others to propose a guide for managing the preserves.

Hayden took her cause for the state's acquisition of prairies to any who would listen. She wrote popular articles, spoke to groups and clubs, and did radio interviews to spread awareness of the need for prairie preservation. While only two of her recommendations were purchased for protection during her lifetime, more than 20 have been acquired since her death (one named in her honor). At the time of her death, the Bulletin of the Ecological Society of America said, "Her name will always be associated with the exceptionally progressive conservation actions, policies, and ideas that place Iowa in the position of conservation leadership among the states" (Billings et al. 1951).

This determined, fearless and independent woman is said to have "almost single-handedly pioneered the idea of setting aside prairie remnants in Iowa as state preserves." (Lewis, pp. 215–219)

Plants

The Little Sioux Watershed, of which the byway is part, contains several plant communities targeted for conservation. Northern Little Bluestem Gravel Prairie (Globally imperiled/vulnerable) and Little Bluestem-Porcupine Grass Dry-Mesic Hill Prairie (Globally vulnerable) are two of the predominant prairie communities. Occurrences of Northern Burr Oak Openings (Globally critically imperiled) also exist within the valley.

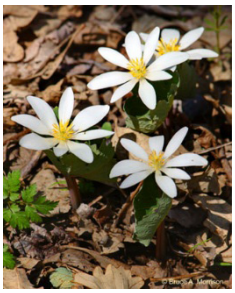
Several globally rare individual plant species can also be found in the Little Sioux Valley, including the federally-threatened prairie bush clover (Globally imperiled/Federally threatened) and Western prairie fringed orchid (Globally imperiled/Federally threatened). Other plant species of either federal or state threatened, endangered or special concern status include Ginseng, Small White Lady's Slipper, Pale Umbrella-wort, Spear Needlegrass, Western Parsley, Pennsylvania Cinquefoil, Dry-Spike Sedge, Bracted Orchid, and Shadbush.

From early spring to late summer, there are countless plant varieties to see in the prairies and wooded lands of the byway. Whether endangered or common to the area, they offer a unique experience to both the casual visitor and the experienced botanist. The photos on the following pages show a portion of the many species of plants to be discovered along the byway.

Prairie Bush Clover
(*Lespedeza leptostachya*)

Western Prairie Fringed Orchid
(*Platanthera praeclara*)

Plants of the Glacial Trail Scenic Byway


Bloodroot


Blue-Eyed Grass


Compass Plant


Cup Plant


Gray-headed Coneflower


Downy Gentian


Dutchman's Breeches


Grass of Parnasus


Joe-Pye Weed


Lead Plant


Indian Grass


Ladies' Tresses


Liatris spicata


Coneflower

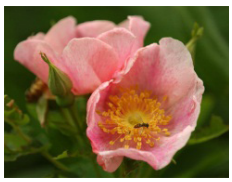

Rattlesnake Master


Snow Trillium

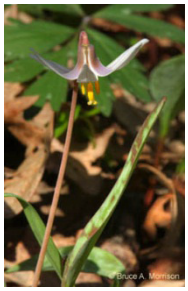

Wild Sweet William


Wild Bergamot

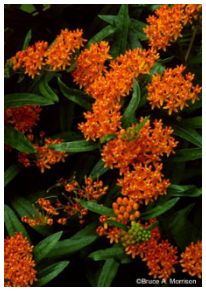

Pasque Flower


Wild Rose


Switchgrass


Trout Lily


Prairie Spiderwort

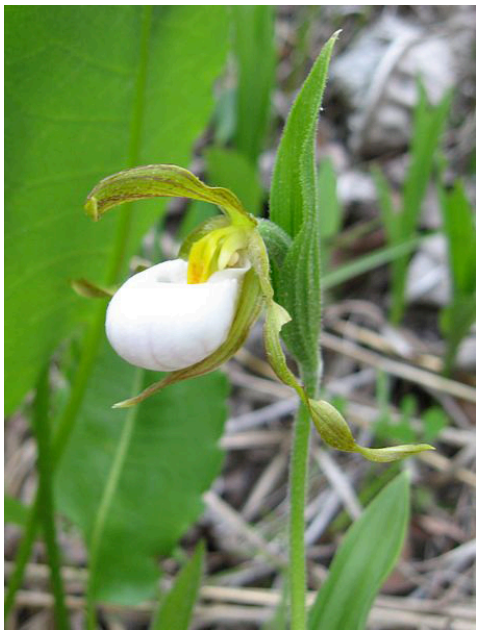

Butterfly Milkweed


New Jersey Tea Plant

The following excerpt, "Prairie" from John Pearson's book, *Deep Nature*, beautifully articulates, from a botanist's point of view, why the Waterman Prairie is such a special place.

Emerging from burr oak woods, I step into yet another prairie opening, the biggest one so far. Big bluestem, Indiangrass, little bluestem, lead plant, and wild rose gently brush my legs as I amble toward a high point where I will try to get my bearings. Walking through a bewildering mosaic of oak forest and tallgrass prairie spread across a dissected landscape of steep hillsides and steeper ravines, distracted by head-high compass plants and interrupted by cedar trees that compel me to duck and weave, I have lost track of how many openings I have traversed since I started hiking this morning. Keeping one eye on the pathway, I continue jotting colorful plant names into my notebook as I walk: purple prairie-clover, redroot, blue-eyed grass, green-flowered milkweed. This is my twenty-fifth prairie list since starting the Waterman Prairie Inventory three days ago and the last one needed to complete my sweep of the valley. I have found so many prairie remnants in this complex of rugged glacial valleys along the Little Sioux River in O'Brien County that my note taking has progressed from a dutiful compilation of species to a roll call of familiar friends. Arriving at the high point, I cap the page-filling list with a brief description of the habitat: "a series of small cedar savannas with a large prairie at its south end." I squeeze the generalization into the narrow line between the species list and today's date: June 5, 1989.

Resuming my inventory, I move slowly across the big prairie opening toward another wooded ravine. But instead of passing through a thickening band of prairie-killing cedars like those rimming the previous openings, I find myself walking through a scattering of stunted burr oaks, their lightly shaded bases lapped with prairie vegetation. As I begin to close my notebook and stow my pen to prepare for another tree-grabbing descent into the upcoming ravine, a small gleam of white in my peripheral vision causes me to freeze. Pricked by a distant memory, my mind has already flashed an image of what I think I saw, but I reject the thought. No, that can't be, it doesn't grow here. But when I turn my head and focus on the plant, it contradicts me. Small white lady's slipper! I stare in amazement at the orchid, half-expecting it to resolve into something more ordinary. When it remains unchanged, I kneel for a closer look, lightly lifting its shining white flower with my forefinger. Its thumb-sized "slipper", suspended gondola-like by an arching stem over a bouquet of pleated leaves, is undeniably that of Cypripedium candidum. Memorized from frequent readings, the conservation profile for the lady's slipper plays spontaneously in my mind: originally occurring in all ninety-nine counties of Iowa, recently confirmed in only fourteen, now confined to tiny, isolated remnants of wet prairie. A fresh swirl of contradictions furrows my brow: O'Brien County is not one of the fourteen and this Waterman Creek prairie is not tiny, isolated or wet.



I notice that the flower in my grasp is not alone. Another white moccasin dangles from a neighboring stem in the leafy clump. Looking up, I spot another clump, and another, and another. Standing up to scan more broadly, I see nearly a dozen clumps, all bursting with flowers, on the hillside below me. I count the number of stems and flowers, finding an especially prolific clump containing 60 stems and 45 flowers. When I tally the whole population of 10 clumps, there are 200 stems supporting a total of 119 flowers. Two-thirds of the flowers are still fresh, but the others have begun to wither. Had I arrived a week earlier, I might well have seen fresh flowers on all 200 stems.

As I count, I also note the plant species associated with the orchids. One tree: burr oak. Three shrubs: lead plant, wild rose, and hazelnut. Four grasses: big bluestem, Indiangrass, little bluestem, and Canada bluegrass. Eight forbs: groundplum, stiff goldenrod, prairie coreopsis, purple prairie-clover, smooth aster, strawberry, rattlesnake-root, and bastard toadflax. The abundance of forbs reminds me of one more element of the orchid's habitat profile: a diversity of nectar sources. This is critical feature because the lady's slipper itself produces no nectar to attract insect pollinators. Instead, relying on the presence of nectar-producing neighbors to draw insects into the neighborhood, it tricks its pollinators—small sweat bees and miner bees—into entering the pouch and its attractive slipper with empty promises of a nectar reward. Once inside the pouch, the gullible bee follows colored lines that normally lead to nectaries, but after squeezing through a one-way gauntlet of stigmas and anthers in the lady's slipper, it encounters nothing but an exit hole in the heel. The bee has no choice but simply to fly away, charged with a fresh coating of pollen.

Finishing my observations, I climb to the crest of the hill to begin my hike back to the car. Traversing the edge of a high, level upland—an easy route compared to my incoming trek across ravine-studded slopes—I reach an overlook with a commanding view of the land I have spent four days surveying. This morning's inventory slips like the last piece of a jigsaw puzzle into my comprehension of the scene. Far to the south, I see a long, high ridge of prairie over the Little Sioux River where prairie bush clover grows. My eye follows a tributary northwestward to Dog Creek Park, where prairie moonwart thrives. In the middle ground, a curving, flat-topped hill juts like a scimitar into Waterman Creek valley, its sandy summit home to needle-and-thread, a Great Plains grass reaching its easternmost outpost. Closer at hand, I recognize the jumble of treeless hills in McCormack Wildlife Area where shortgrass prairie resides on a high ridge, its community of ankle-high grasses—Junegrass, satingrass, hairy grama, and blue grama—interspersed with equally short pasqueflowers and gayfeathers. Peering to the north, I discern the grazed, rolling hills above Wittrock State Preserve, although dominated by bluegrass and dotted with musk thistle, they are still rich with prairie forbs. Awed by the vista, I linger at the point, idly stroking the leaves of silky aster between my fingers as I gaze at a precious Iowa landscape.

Rousing from my reverie, I recall a favorite passage from On the Loose, a rhapsodic tribute to rambling in wild places by Terry and Renny Russell: "One of the best-paying professions is getting ahold of pieces of country in your mind, learning their smell and their moods, sorting out the pieces of a view, (finding) what grows there and why, how many steps that hill will take, where this creek winds, and where it meets the other one below…This is the best kind of ownership, and the most permanent."

As I descend the hill toward my parked car, I realize that my professional experience prompts me to take one exception to this long-held personal perspective. Intimately knowing wild places is unquestionably rewarding, but it is not permanent ownership. True permanence of the wild places we cherish requires active stewardship to ensure their persistence. Prairies, in particular, need to be more than merely known, owned, or even loved to prevent cedar trees from invading, leafy spurge from spreading, or cattle from overgrazing. Prairies need ownership of their stewardship by knowledgeable and loving managers. In my days here at Waterman Creek, I have come to know—and "own"—its prairies well. I wonder if we can assure their stewardship?

Butterflies

The prairie plant habitats of the byway, previously mentioned, also provide habitat for numerous important butterflies. Two globally rare individual butterfly species can be found in the byway region. The Poweshiek Skipperling is considered globally imperiled/vulnerable, a federal candidate for protection and state endangered. The Dakota skipper is considered globally imperiled/vulnerable, a federal candidate, and state threatened. The two butterflies join a number of other species of special concern, either federal or state, for protection, including the Regal Fritillary (*Speyeria idalia*), the Olive Hairstreak (*Callophrys gryneus*), and the Arogos Skipper (*Atryone arogos*).

Poweshiek Skipperling
(*Oarisma poweshiek*)

Dakota Skipper
(*Hesperia dacotae*)

Regal Fritillary
(*Speyeria idalia*)

Birds

The natural habitats of the Glacial Trail Scenic Byways also host a large population of birds throughout the year. While some species remain year around, others species are migratory. The draws, ravines and valleys of the Little Sioux River and nearby smaller watersheds, create attractive habitats for a wide variety of birds. According to *The Nature Conservancy CAP*, many uncommon grassland birds, such as dickcissels and yellow warblers, can be found in the area of the byway due to the large tracts of native grasslands (p.9). Many bird species listed as state or federally threatened and endangered can be found in the Little Sioux Watershed area of the byway. They include: Northern Harrier, Red-shouldered Hawk, Short-eared Owl, Long-eared Owl, Henslow's sparrow, Black Tern, Peregrin Falcon, Golden Eagle and Bald Eagle. A table of other identified bird species and habitat locations along the byway is found below. The following page contains a table of photos of bird species that can be found along the byway.

Location	Habitat	Bird Species
Wanata Park	wooded river bottom, black walnut trees	Cerulean Warbler, Pileated Woodpecker, Red-shouldered Hawk, Scarlet Tanager, Bluegray Gnatcatcher, Yellow-breasted Chat and Kentucky Warbler, Wood Thrush and Black-billed Cuckoo.
Buena Vista County Park	oak savanna	Swainson's Hawks, Am Woodcock, Black-billed Cuckoo, Loggerhead Shrike, Grasshopper Sparrow and Bobolink.
Martin Access Area	large stands of mixed conifers	Both crossbill species, Barred Owl and Northern Goshawk
Dog Creek County Park	pond	Bell's Vireo
Waterman Prairie Complex	river watersheds (open water year-round), oak savanna, tall grass prairie, red cedars (shelter in winter)	American Robin, Cedar Waxwing, Eastern Bluebird, Purple Finch, Northern Flicker, Bohemian Waxwing, Mountain Bluebirds, Townsend's Solitaires, Sharp-shinned Hawks, Cooper's Hawks, Northern Goshawks, Bald Eagle, Golden Eagle, Rough-legged Hawks, Red-shouldered Hawks, Broad-winged Hawk, Red-tailed Hawk, Peregrine Falcons, Merlin Falcon and Prairie Falcon,

Birds of the Glacial Trail Scenic Byway

Bobolink

Cardinal

Cedar Waxwing

Swamp Sparrow

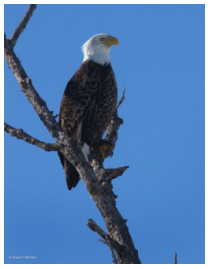
Eastern Bluebird

Grasshopper Sparrow

Yellow-headed Blackbird (female)

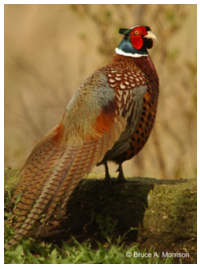
Sedge Wren


Turkey


Bald Eagle

Barred Owl

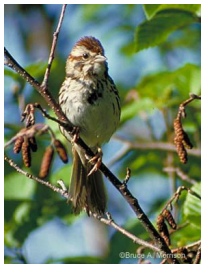
Red-tailed Hawk


Pheasant


Meadowlark


Rose-breasted Grosbeak


Red-headed Woodpecker


Song Sparrow

Fauna

The numerous public lands of the byway area also provide habitat for a variety of wild animals. Some uncommon animals that inhabit the byway include include: red fox, coyote, bobcats, river otters, prairie skinks and redbelly snakes. More common animals to inhabit the byway include white-tailed deer, raccoon, badgers, rabbits, and beavers. Of special interest for animal viewing is the small herd of buffalo on display at the Prairie Heritage Center. A brief description of these animals of the byway is provided below.

Red Fox: The red fox's habitat is primarily farmlands and forests with open areas. They prey mainly on small mammals and birds, but also eat insects, carrion, and fruits. The red fox is not always red, but usually is red on the back and face, with white on its underside. Its tail is bushy and red with a white tip. It has black legs and feet. They are often observed in the early morning and late afternoon.

Coyote: As members of the dog family, Coyotes are known for their nocturnal serenades. In recent years, they have drastically extended their range from the western states to the northeastern US. They adapt well to the presence of man and have moved into areas cleared for farming. Often condemned as livestock-killers, they mainly prey on rodents, rabbits, and other small mammals. Occasionally several adult coyotes will cooperate in hunting large prey such as deer. Coyotes are the weight of a medium-sized dog, with a bushy tail; coarse rusty-colored fur; and hold their tail between their legs when running.

Bobcat: The most common wild feline in North America, the bobcat is fairly uncommon in northern Iowa. Bobcats can live in a variety of habitats and adapts well to the presence of man. It is a solitary animal that preys primarily on hares and rabbits, but will eat almost any mammal, reptile, or bird. It has a short tail and its fur varies from dark (forests) to light (open areas) and has a spotted belly.

River Otter: In particular, the river otter has an interesting history in the byway region and the state. The river otter was once the most widely distributed mammal in North America and was common in Iowa. Unregulated hunting and trapping and habitat destruction decreased its numbers steadily until the last sighting of an otter in Iowa in 1929. In 1985, the Iowa DNR started to reintroduce river otter throughout the state. In 1987, 20 otters (10 male and 10 female) were released at the Little Sioux River near Peterson. In total, 345 otter were released in Iowa between 1985 and 2005. This reintroduction coupled with wetland restoration and conservation contributed to the widespread distribution of otters presently in Iowa and specifically in the Little Sioux River region of the byway.

Prairie Skink: The prairie skink reaches lengths of 5.25 to 8.75 inches. Its body scales are smooth and uniform giving the lizard a shiny appearance. Adults are tan or brown on the back, becoming darker on the sides. There are two very thin white stripes on the sides. The back may be unmarked except for two very thin, interrupted black stripes or two large black stripes that are as wide as the spaces between them. The head is unmarked. Prairie skinks come from sandy prairie areas, open grasslands with loose soils and open rocky areas. They are often found in open grasslands adjacent to marshes or lakes. They seem to be drawn to rocky areas; boulders sunken in the ground, rock piles, logs, or junk. Prairie skinks are accomplished burrowers, and may construct burrows with entrances that form

shallow dugouts under rocks or similar cover. Skinks may break their tails off by themselves by pushing it against a solid structure. The tail will regenerate, but it will have no pattern and will never be as long as the original one.

Redbelly Snake: The redbelly snake's protected status makes it illegal to kill or collect this species by law in Iowa. It is found mostly in the northern counties of the state. This is Iowa's smallest species of snake measuring 7–10 inches long. This snake is generally considered a woodland snake, but it is also found in dry sandy habitats. It is often found near marshes, lakes, or other water sources. This small snake may be found under flat objects or crawling across woodland trails in the evening or at night. They make no attempt to bite when handled, but they may release musk which is relatively mild compared to other species of snakes. The redbelly snake is secretive and their main defense from predators is hiding under rocks, logs or leaf litter. They hibernate underground in rock crevices, abandoned ant mounds, and in burrows dug by other animals.

Deer: The white-tailed deer is among the most recognizable and important species of wild mammals in Iowa. It is the only hoofed mammal common throughout the state. White-tailed deer adapt well to edges between natural communities and edges of towns and farms created by human habitation. Deer numbers generally are increasing, especially near agricultural and residential areas. The same myths, misconceptions, and lack of understanding that perpetuate fear and hatred of predators also create tension among Iowa's hunters, farmers, homeowners, and wildlife enthusiasts. Prior to the European settlement of Iowa, white-tailed deer were common. Due to uncontrolled market hunting, deer were completely eliminated from the state by 1900. Today, white-tailed deer have been restored to Iowa. Hunting and other measures are used to actively manage deer populations.

Bison: A unique opportunity for wildlife viewing along the byway exists at the Prairie Heritage Center. A small herd of bison reside in a penned facility at the center. The herd size ranges between 4 and 8 animals at any given time. Calves are often born in May or June. The young animals have a light or reddish color coat until they are about three months old when the fur color changes to the dark brown of an adult. The living bison exhibit is part of the center's educational mission that gives people an opportunity to observe these grand animals and get a glimpse of what life would be like for the largest grazer on the tallgrass prairie. A walking trail and observation platform at the exhibit provides access for closer observation of the animals

Animals of the Glacial Trail Scenic Byway

White Tailed Deer

Red Tail Fox


Coyote


Bobcat


Bison

Redbelly Snake

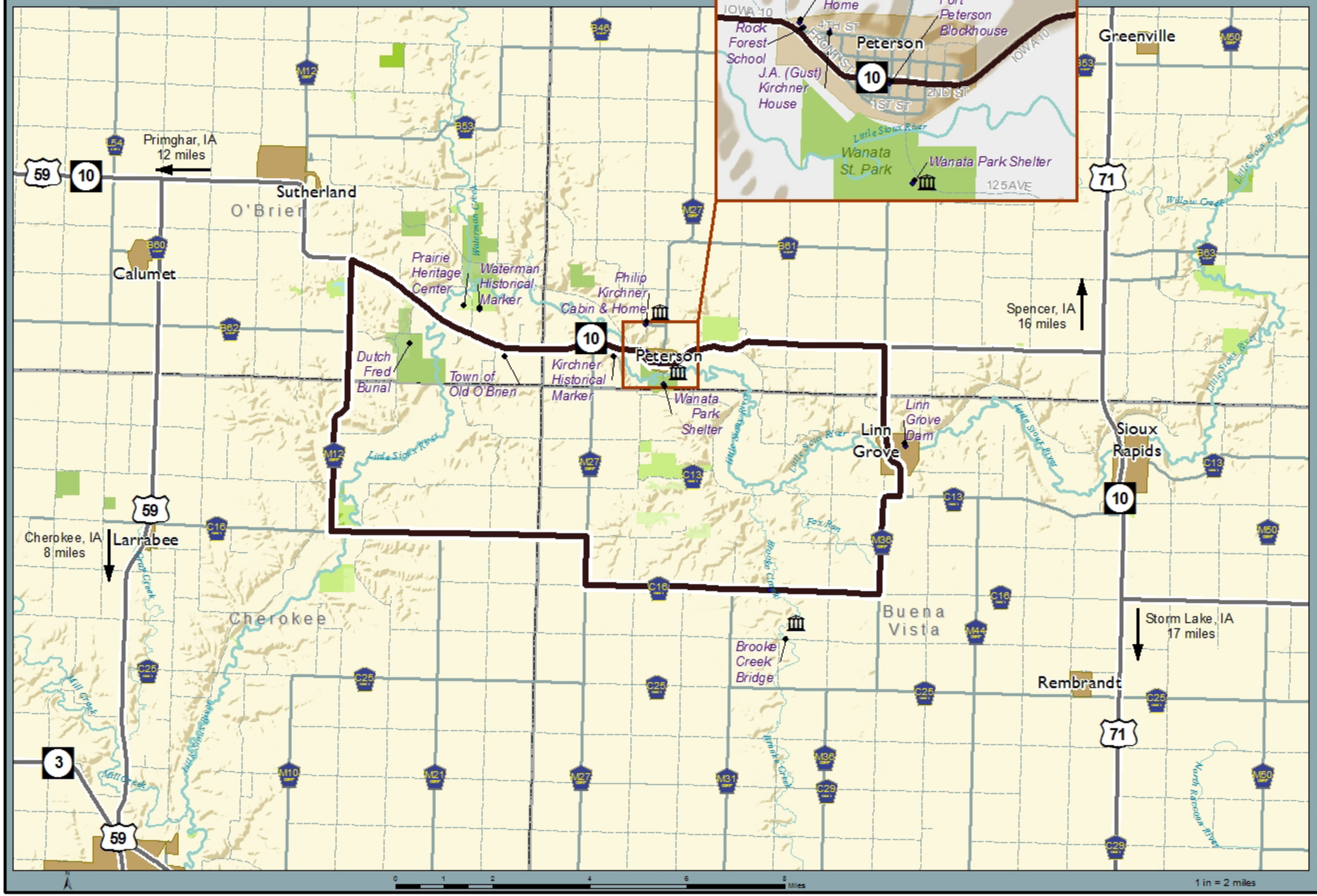

Prairie Skink

River Otter


American Badger

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Historical Resources

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

- Historical Resources
- Nat'l Register of Historic Places

Basemap Legend

Byway
- Byway Spine

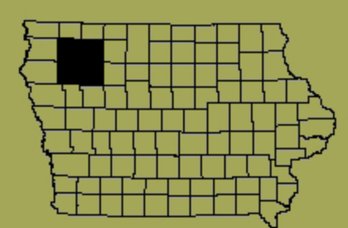
Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

Waterbody

River

Landform



Historic Intrinsic Quality

Definition of Historic Quality

"Historic quality encompasses legacies of the past that are distinctly associated with physical elements of the landscape, whether natural or human made, that are of such historic significance that they educate the viewer and stir an appreciation for the past. The historic elements reflect the actions of people and may include buildings, settlement patterns and other examples of human activity. Historic features can be inventoried, mapped and interpreted. They possess integrity of location, design, setting, material, workmanship, feeling and association." (United States Government Federal Register 26761, 1995)

This section includes a brief history of the byway region and provides details of important its historic sites. Important stories from the byway are also included as they relate to the historic intrinsic qualities.

The history of the four Iowa counties, Clay, Buena Vista, Cherokee and O'Brien, start in the same vicinity of the byway. For it is in this same region of the Little Sioux River that the first white settlers chose to make their homestead claims. The river provided water for household and farm use as well as for powering mills. There were plenty of trees along the river to provide lumber for homes and fuel. The vast prairies would eventually be plowed and tiled and planted with crops for these new settlers. As settlers moved into the area, numerous small towns, schools, churches and cemeteries would also spring up. With the expansion of railroad lines, the population of the area would explode as goods and services could be transported or exchanged with greater ease.

Land surveyors, Ray and Lane, reportedly camped and worked near the present-day town of Linn Grove in the fall of 1855. However, the first permanent white settlers came to the area in the spring of 1856.

In April of 1856, two brothers, John Augustin Kirchner (age 26) and Jacob Kirchner (age 17), and Ambrose Mead arrived at the Little Sioux River near where today's Highway 10 crosses the river, west of the present-day town of Peterson in Clay County. They were

looking for land that could be developed into farms. They found the Little Sioux River at this spot to be a good potential for water power and believed the land to be fertile and productive for farming. The men selected cabin sites, planted spring gardens and returned to the east for supplies and their parents and siblings in upstate New York. Soon after returning that summer, the Kirchner family sold their newly-built cabin and land to the James Bicknell family (who they met on a journey to Cedar Falls for supplies), and built another cabin within the present boundaries of Peterson.

That same spring, Hannibal H. Waterman, his wife Hannah Waterman and their child, Emily, were on their way from Bremer County, Iowa to Nebraska. In Fort Dodge, they met up with the Kirchner family returning from upstate New York. It is said that Gust Kirchner and Hannibal Waterman spent the evening together and were so impressed with each other that Gust urged Hannibal to locate near where the Kirchners had settled. This began a lifelong friendship between the two families. Upon arrival to the area, the Watermans settled in what is now O'Brien County, about 5 miles northwest of Peterson, with two yoke of oxen and a small amount of household goods. Mr. Waterman exercised his right as a squatter by filing a claim at the government land office in Sioux City and settled on what became known as The Waterman Place. Families named Taylor and Williams also arrived and built cabins nearby in 1856.

South of Peterson, the first settlers of present-day Cherokee County, also arrived in 1856. After scouting the area, Robert Perry picked a spot by the river in Pilot Township for the county's first home. While getting supplies at Sergeant Bluff, he met two scouts of the Milford, Massachusetts Emigration Company. They were seeking land for their members whose wagons were close behind. After Perry's vivid description of "his valley," the scouts walked up the Little Sioux River and chose a site on the west side of the river, northeast of the present-day city of Cherokee. Enough land was preempted so that each of the thirteen Milford colonists, two of them with families of children, had a town lot, a wood lot and acreage for farming. The group included Carleton Corbett, Silas Parkhurst, and George Lebourveau.

Christian Kirchner Home

The Christian Kirchner home was built in 1867 and was the first frame dwelling in Peterson and Clay County. It is standing on the original site and only minor structural changes have been made. The property was given to the City of Peterson in 1971 by late John, Elmer and Jacob Kirchner of Fort Dodge, grandson of the original owner. Peterson Heritage members have restored and renovated the home, which is open for tours.

J.A."Gust" Kirchner Home

This home was built by "Gust" Kirchner family in 1875. Gust was the son of Christian and Magdalene. He designed and built this large two story house with his second wife Rachel.

It has been authentically restored with walnut woodwork, a winding stairway and beautiful cupboards in the pantry. Displayed in the house are some of the original tools used to build the home. The house is open for tours by request and on select occasions.

Another group of ten men led by George Banister settled several miles south that same summer.

In May, 1856, Abner Bell of New Jersey and his brother-in-law, W. K. Weaver and family, and John W. Tucker settled in the northern part of Buena Vista County near the Little Sioux River at a point called Sioux Rapids.

Inkpaduta

That first winter of 1856–1857 was cold and food was scarce for these pioneers. Not all had managed to get any crops or gardens planted and basic foodstuffs were difficult to come by in this new frontier. The nearest to place secure supplies of any kind was Fort Dodge, a distance of about seventy miles. Throughout the fall and winter, local Indians, also suffering the difficulties of high snow levels and scarce animal resources for hunting, randomly visited the settlers, requesting food. It was a tenuous, but not-yet-violent relationship between the two groups.

The Lakota had signed the Fort Laramie Treaty of 1851. Different than many treaties of the time, this did not involve the sale of land, but rather, in return for annual annuity payments, allowed whites to pass peacefully through their region on roads protected by the US Army. This treaty was intended to keep the peace, but failed. Various altercations between whites and Indians transpired in the early 1850's as more and more white settlers arrived steadily from the east.

In 1856, Inkpaduta, a Wahpekute Santee Sioux, and his band of about 60–70 men, women and children were trying desperately to hang on to their traditional way of life. They had refused to live on the Minnesota reservation with the other Santee Sioux. After having difficulties collecting their annual annuity payment, at the Dakota reservation, the band intended to winter, as customary, along the Little Sioux River. As Inkpaduta and his people traveled they

Phillip Kirchner Cabin and Home

Built in 1867 by Phillip Kirchner, son of Christian and Magdalene, this cabin has been placed on the National Register of Historic Places. Phillip and his wife, Anna (Parish) lived here for 15 years before they built the two story house, in 1882, that still stands along with the cabin. Phillip died in 1903 and his sister, Charlotte bought the land from his estate in 1909 in order to preserve it.

It still stands on its original site on a hill three-fourths of a mile north and west of Peterson, to the west of Oakland Cemetery. Privately owned, the cabin stands on a portion of land first claimed by the Christian Kirchner family in 1856. A number of handmade tools and furniture are in the cabin. Nearby is a large barn, built in 1890, with a unique "widow's walk" on top. The present owner is a Kirchner descendant, Julia H. Booth. It is open to the public on select occasions.

often met with white settlers in the area and had forged friendships with some of them.

Winter weather hit hard with the first snow storm in December of 1856. This storm was followed by new blizzards, one right after the next, until there were snowdrifts twelve to twenty feet deep and temperatures of thirty-seven degrees below zero Inkpaduta and his band were camped near Smithland in the Little Sioux River valley. They had been hunting elk, but as the winter weather worsened and resources dwindled, some of the citizens of Smithland began to resent their presence. A series of incidences increased tensions until in February of 1857, the local militia of white settlers there demanded their weapons and drove them out of the area.

The band headed up the Little Sioux River northward, stopping at the Milford Colony at Cherokee. Here, they demanded food and later, entered the houses and took the settlers' guns. The settlers were threatened with death, and some livestock, plus a pet dog and a kitten were killed. The arrival of resident, George Lebourveau, dressed in a poncho made of an army blanket, might have halted further violence. The Indians seemed to think he was an advance scout of the Iowa Militia. They struck camp during the night and moved north.

Inkpaduta and his band then proceeded upriver next to the Waterman Place, where they had visited in the past under friendly circumstances. Now they appropriated various tools, some clothing and food and threatened and beat Mr. Waterman. In the meantime, the Kirchner family and the Bicknells had heard about the group and had gathered for protection at the main Kirchner cabin. There were 20 members of the settlement in all. Whether it was because of Gust Kirchner's past friendship and respect for the group or that they decided to speak only in German, these families were not persecuted. The Indians shot 2 oxen for food, killed a dog, took a gun and all the flour they could find. They camped nearby that night and the next day headed east toward the Mead home.

At the Mead cabin, where the Taylor family had also taken refuge, they were far more violent. There they not only killed Mead's livestock and destroyed some of his buildings but they also knocked Mrs. Mead down and carried off the daughter, Hattie Mead, 17, as a prisoner.

Waterman Historic Marker

This marker was erected by the Daughters of the American Revolution of O'Brien County, on the site of the original Waterman homestead. It is located across the road from the Prairie Heritage Center. It commemorates the Hannibal H. Waterman homestead of 1856 and other events for O'Brien County.

Rock Forest School

Built in 1868, this school building is one of the first frame country schoolhouses built in Clay County. Originally located in the northwest quarter of Peterson Township, It was first moved to the C.B. Reed farm to be used as garage and tool shed. It was then moved to its present site in 1963, for restoration by the local Lions Club. The school has been authentically restored and furnished. Grade school tours are conducted throughout the year and it is open to the public by request and on select occasions.

They also tried to take along the younger Mead girl, Emma, but she cried so loudly that they let her go and one Indian picked up a stick and whipped her all the way back to her father's cabin. Enoch Taylor was also knocked down and his son was kicked into the fireplace, burning his leg badly. Mrs. Taylor was also taken prisoner. They kept the women in their camp for two nights and then turned them loose before heading further up the river and leaving the area.

Inkpaduta and his band next continued east to the Sioux Rapids area. Here they took settlers Mrs. Totten and Mrs. Weaver prisoners and held them for several days. The men were beaten and any foodstuffs they could find were taken. They shot the livestock, cooked what they wanted and left the rest. Then suddenly, one morning, they were gone. The settlers breathed easier.

The settlers would later learn that Inkpaduta and his band had committed the well-known Spirit Lake Massacre on the shores of West Lake Okoboji some days later. Over the course of a few days, between West Lake Okoboji and Springfield (now Jackson), Minnesota, Inkpaduta and his followers attacked and murdered 40 settlers and took 4 women captive, before fleeing to the Dakota Territories.

There was one more Indian alarm that spring and this time the Peterson area settlers sent the women and children to the Coon River settlement for a few weeks. When reports of the Spirit Lake Massacre were later received in Cherokee, many settlers deserted that village. Some of the settlers went to Smithland, and others to Sac City. The settlers returned in the fall; but four times in the next three years the settlement was abandoned, due to Indian scares.

In 1862, in response to the Indian Uprising in Minnesota, Iowa Governor Kirkwood sent Schuyler R. Ingham of Des Moines to do everything necessary to protect the people of the frontier. The State Legislature ordered that a force of mounted men be raised to guard the settlers and the Iowa Border Brigade was created. Three companies of volunteers were rushed from Council Bluffs to Sioux City and a full company was located at Estherville. The old Sioux City cavalry company was sent to Spirit Lake and smaller bodies were stationed at Ocheyedan, Peterson,

Fort Peterson Blockade

Fort Peterson was one of a string of forts, constructed in 1862–63 by troops during the Civil War, known as the Northern Border Brigade. Fort Peterson's blockhouse is the only remaining vestige of the entire fortification chain. Restoration began in 1985 by Peterson Heritage. The project included completely dismantling what remained of the original structure and replacing the rotted wood with native hand-hewn oak logs. Using original plans and copies of dispatches from the state archives, the blockhouse was reconstructed on the Park Street Boulevard, near the original location of Fort Peterson stockade and fort. Restoration work is on-going

Town of Old O'Brien

Three miles west of Peterson, a sign marks the site of the town of Old O'Brien. The town, platted in 1862, was the first county seat of O'Brien County. The county seat was moved to nearby Primghar in 1872 and the town was eventually abandoned. The site is now private property, but can be viewed from Highway 10.

Cherokee, Ida Grove, Sac City, Correctionville, Little Sioux, West Fork, Melbourne, and Sioux City. Forts were built in 1862 at Correctionville, Cherokee, Peterson, Estherville, Spirit Lake, and Iowa Lake.

The blockhouses and officer's quarters at Fort Peterson were built of oak and ash timbers ten inches square, roofed with soft maple boards joined together and grooved along the sides to allow water to run off. The Cherokee blockhouse was constructed of timbers one foot square and covered with walnut shingles.

In 1863, the Cherokee settlement was again abandoned, with only the troops at the fort and settler, Carlton Corbett, remaining in the county. Fort Cherokee was abandoned in 1864, and later dismantled. The Peterson Fort was abandoned and partially dismantled around the same time.

Despite the fear of Indians and difficult winters, settlement continued in the area. Some of the early settlers who had survived the harsh winters and Indian difficulties of 1857 and 1858 abandoned their claims and moved on. However, in the next few years, new settlers arrived steadily in this region of Clay, O'Brien, Buena Vista and Cherokee counties.

William Brook and his brother arrived in 1857 and settled southwest of present-day Linn Grove, in Buena Vista County. They took four quarter sections of timber land with upland pasture land adjoining, and in this same place William Brooke lived for more than 50 years. Brooke Township and Brooke Creek were named for these two brothers. Other early settlers of the Linn Grove area included the names of Sweet, Hesla, Evans, and Knutson.

In 1858, W. S. Lee and H. S. Jameson came to northwestern Buena Vista County. Moses Van Kirk came about the same time and settled on section two in Barnes Township. A man by the name of Cole built a log house on section six in Lee Township. Soon after Arthur T. Reeves, James H. Gleason and Moses Lewis took claims in the vicinity. Also that spring, another man came to the settlement on the Little Sioux. His name was Luther H. Barnes. He bought land with the idea of dividing it into town lots and reselling it at a large profit. He named it Sioux Rapids, not because he found any rapids in the river but because he liked the sound of the name. The great city he laid out, however, did not grow according to his plan.

Early Peterson, Iowa: *Peterson Heritage, Inc.*

The area known as "Long Grove" was officially named "Peterson" and a county seat and post office were established by 1860. The O'Brien County seat was established in 1860, first at the Waterman Place and then moved to the new town of O'Brien, three miles west of Peterson. Schools were established in O'Brien and Peterson. Mills were constructed along the Little Sioux River at Linn Grove and Peterson and Sioux Rapids to the east.

The Town of O'Brien

The entire area west of Peterson and Clay County was un-surveyed, uninhabited land making up the Territory of Woodbury in the spring of 1856. After the settlement of Hannibal H. Waterman, as well as many other settlements, O'Brien County was organized, officials were elected, and a small courthouse was built near the Waterman settlement.

The next step in the county movement was to purchase land for a county seat. When efforts to purchase land from Hannibal H. Waterman for a county seat were made, he frankly stated that he wanted the county seat, its affairs and business as far away as possible.

On March 29, 1861, Judge A. W. Hubbard appointed a Board of Commissioners to locate a county seat for O'Brien County. A site for the county seat was located on August 28, 1861. O'Brien County purchased forty acres of land three miles west of Peterson. The original abstract shows the land was surveyed into forty lots, 219 feet 13 inches east and west and 198 feet north and south. Thirteen lots were designated and laid out for the town of O'Brien, the county seat of O'Brien County. It was the first platted town in O'Brien County. Some of the streets had Civil War names such as Lincoln, Hooker, Sherman and Grant.

With O'Brien established as the county seat, the log cabin with sod roof erected on the Waterman place for a courthouse was moved to the new town. It was used for various purposes including that of a schoolhouse in 1868 and 1869. Later when a new brick school house was built, it was used for a blacksmith shop and still later for a stable. A post office was operated there from February 26, 1862 until May 1, 1882. The first general store was built in O'Brien in 1869. The same year a hotel was built across the road.

By 1872, the courthouse occupied three buildings located around the public square; one building serving as an office in the front for the county auditor with his residence in the rear. In addition, the town of O'Brien had grown to include two general stores, the hotel, a blacksmith shop, a shoe repair shop, a newspaper known as the O'Brien Pioneer, a post office, a banking service with the accounts kept on file in Sioux City, eight residences and a brick schoolhouse. The schoolhouse was often used for public meetings at night.

Peterson, three miles east of O'Brien was the county seat of Clay County at that time. It provided many services for the residents of O'Brien. This included the sawing of logs at the Peterson mill for building the residences and other structures in O'Brien. The residents went to Peterson to have their wheat ground into flour.

Many firsts can be attributed to the town of O'Brien such as the first hotel in O'Brien County, the first postmaster, the first banking service, the first newspaper, the brick schoolhouse and the courthouse. But all of this was not enough to hold the county seat in O'Brien.

As more and more settlers moved into the county, the courthouse location in O'Brien in the extreme southeast comer of the county became a growing issue. To resolve the matter, an election was held on November 11, 1872 to determine the location of the courthouse. A total of 360 votes were cast with 307 voting to move the courthouse to the exact geographical center of the county. This eventually became the town of Primghar.

Soon after the election, the building serving the county auditor was moved to Primghar. One general store was moved to Sutherland. One after another, the business buildings were

closed so that in the short span of 15 years, the once promising county seat town rose and then practically vanished. Then the area became known as "Old O'Brien". (Schierholz)

Town of Linn Grove

The town of Linn Grove is said to be named after the beautiful banks of Linden trees along the Little Sioux River. As early as 1855, when two surveyors, Lane and Ray, camped here, they referred to the site as Linn Grove. In 1866, Moses Sweet, a miller from New York, recognized the resource of water and timber in the area and within 2 years had built a dam and a framework for milling machinery. He sold his milled timber to the new settlers for homes and businesses in early Linn Grove. In 1876, Sweet decided to use the water power to grind flour and excavated a long ditch or millrace and built a dam just below the race head.

Early Linn Grove Street Scene (*from www.linngroveiowa.org*)

The early settlers of Linn Grove were of Welsh and Scandinavian ancestry. The Welsh settled north, east and west of the river. The Swedes and Norwegians settled south of the river. The Welsh settlers came by way of Wisconsin and the Scandinavians from settlements in northeastern Iowa and Illinois. Early settlers of the Linn Grove area included Mr and Mrs O.L. Hesla and their sons in 1866, Mr and Mrs Joe Evans and Mr and Mrs Arne Knutson and daughter in 1867. Other settlers in the late 1800's and early 1900's included Ellis, Davis, Davies, Morris, Roberts, Reese, Lewis, Thomas, Anderson, Hughes, Shirk, Pierce, Jones, Williams, Powell, Loe, Campbell, Brostad, Dokken, Lovald, De Long, Mickelson, Phillips, Ward, Johnson, Peterson, and Main.

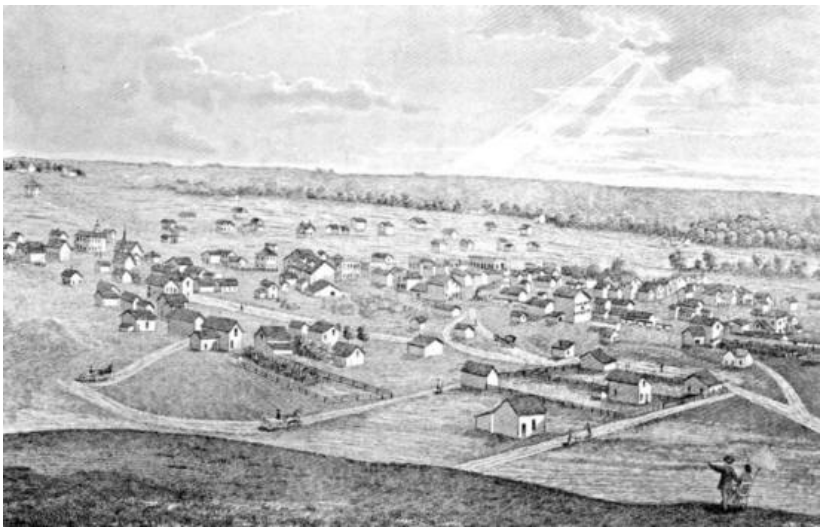
The business section of Linn Grove was established from 1877–1881 and flourished after the Chicago-Northwestern Railroad came in 1882. By 1900, there were four trains a day through town. (Buena Vista County Historical Society)

In 1906, speculators raised funds to dig test holes and shafts on land just west of the town of Linn Grove belonging to John Morris. Because the rolling hills reminded local Welsh immigrants of their homeland, they believed the hills to be rich with valuable coal. Coal samples from the test shafts were sent for analysis and found to burn quickly and with little ash. In 1907, the Linn Grove Mining Company was formed and in 1908, the corporation had capitalized itself at $10,000 in shares that sold for $1per share. Mining operations began, with eight to ten men working in the mine at a time, lowered into the shaft by the same huge hoist that brought the dirt up and out of the mine in barrels. Before long, the miners

came upon groundwater. A large water pump was brought in but excavation problems prevented enough production to make the mine commercially viable. It was not long before the company ran out of money and mining stopped. In 1924, the Linn Grove Mining Company was dissolved. (Whitehouse, p 6B)

Old Cherokee

The first town called Cherokee, later known as "Old Cherokee", was founded in December 1857 just north of the present county seat on the west side of the Little Sioux River. An election was held in the log house on the George W. Lebourvea property in August 1857 to elect officers for Cherokee County. In 1861, three men were appointed by the court to locate the county seat. Cherokee was selected and taxes were voted to build a courthouse. This original courthouse was a frame building, 30 feet square, with outside stairways to the second floor. The framework of the building, located at 7th and Main Streets, was hewn from native black walnut logs. Completed in 1864 at a cost of $1900.00, the building also served as a public hall, schoolroom, and general headquarters for all public gatherings. Before its completion, county business was transacted in the private buildings of the county officials.



Early Cherokee, Iowa (Andreas Atlas Co. 1875)

During the Civil War, many Cherokee County men enlisted and their families withdrew to more populated areas. After the war they came back to their land and homes. Following the Civil War, Iowa's population continued to grow dramatically, from 674,913 people in 1860 to 1,194,020 in 1870. The introduction of railroads in the 1850s and 1860s transformed Iowa into a major agricultural producer.

The promise of a railroad from Fort Dodge to Sioux City running through Cherokee brought many businesses and professional people during the late 1860's. The railroad was finally completed in 1870. It did not cross the Little Sioux where expected, although speculators had built up quite a town near the bridge built by the early colonists. In the spring of 1870, residents moved about a mile and a half to the new depot the railroad had set up, dragging houses, shops, and their county courthouse with them. There were not over ten houses in "New Cherokee" prior to that time. New Cherokee grew very fast and soon had many stores and a newspaper. *(*"Cherokee County, Iowa – History"*)*

The Glacial Trail Scenic Byway is the home to a number of interesting historical sites and stories that are celebrated by local residents and recognized nationally with National Register of Historic Places status. A discussion of the Historic Intrinsic Qualities would not be complete without mention of the stories and places on the following pages. Of course, may more stories and special sites can be discovered through study of the region's rich oral history.

Burial Site of Dutch Fred

Soon after the Waterman family settled in O'Brien County (around 1857), Fred Fieldman (Fredrich William Feldman), known as "Dutch Fred" to most, came to the area and worked as their hired hand for some time. He was a German immigrant who claimed to have deserted from King William's Prussian army. Fred left his wife and daughter in Germany because his wife refused to come to America and Fred never went back. The Watermans also employed a hired hand, referred to as the "one-armed Dutchman" and who may have been Fieldman. Accounts of Fieldman say that, although eccentric, he was considered honest and faithful to the Waterman family. Hannibal and Fred built a tenant house for Fred to live in and it was said that Fred spent his free time in the fall plastering the walls both inside and out, just like the homes of his native Germany. He made his plaster from grass and mud that was rich in the clay deposits along the river. After the organization of O'Brien County, he accurately expressed the political situation of the early years in O'Brien County, when he said: "I am der peoples. Der rest all be officers. Don't it?"

In 1868, Dutch Fred homesteaded 80 acres on Section 34 in Waterman Township on the west bank of the Little Sioux River. He had a sod shanty jutting out of the hillside and a shelter for animals. It was said that he homesteaded the land because he wanted to leave something to his daughter. He died in 1873, just six months short of fulfilling his homesteading obligation. (Perkins)

Bonnie and Clyde Hideout

On July 27, 1933, the Sutherland Courier reported that local law enforcement officers had arrived in Sutherland during the previous week and proceeded to an area near Waterman Creek on a heavily wooded section of the W.A. (Will) Brady farm. They were searching for what was left of the Barrow gang: Bonnie Parker, Clyde Barrow, and W.D. Jones. There had recently been a shoot-out in Dexter, Iowa, where other gang members, Buck and Blanche Barrow, were captured, and there was a suspicion that the fleeing trio might take refuge where they had been spotted a week earlier. The gang had been in Iowa during July, implicated in a string of gas station robberies in Fort Dodge on July 18 and allegedly driving a car stolen in Spencer, Iowa.

A week before the Dexter confrontation, local farmer, Will Brady, was in his field when he heard a car driving down a fairly concealed road into a timbered area east of his house. The car came to a halt along the road and Mr. Brady went to investigate. He witnessed three men and two women in the process of preparing what looked to be a pheasant dinner. He spoke to them briefly and noted their southern accents and also took note of their license plate. Two or three of them kept a hand in their pockets and he understood that they probably had guns. He reported the incident and his descriptions matched the stolen Spencer car used in the Fort Dodge robberies and coincided with the outlaw Barrow gang. By the time law enforcement got to the wooded area, there was no one there, but left behind were bloody bandages, fry pans and other evidence that it had been occupied. ("Search Wilds on County's Edge for Barrow Gang" and "State Officers Fail to Find Escaping Barrows")

The Barrow gang would be in northwest Iowa a handful of times again the next year. On January 23,1934, they robbed a bank in Rembrandt taking $3800. On Feb 1, they robbed a bank 70 miles south in Knierim, Iowa. On April 16 they staged a bank robbery in Stuart, Iowa, west of Des Moines and on May 3 they did their last bank robbery in Everly, Iowa. Bonnie and Clyde were killed in an ambush in May 23, 1934 in Bienville Parish, Louisiana. Known for their erratic driving patterns on back roads in stolen cars, as they criss-crossed Midwestern and Southern states to avoid capture, it is difficult to know how many times Bonnie and Clyde passed through Northwest Iowa and took refuge in wooded areas along the Little Sioux River.("Everly Bank Robbed", p.1)

Brook Creek Bridge

Listed on the National Register of Historic Places in 1998, the Brook Creek Bridge is located some eight miles southwest of Sioux Rapids in Brooke Township. This medium-span concrete bridge carries a gravel-surfaced county road over a branch of the Little Sioux River. In the summer of 1908, the Buena Vista County Board of Supervisors contracted civil engineer George K. McCollough to design a concrete dam at the outlet of Storm Lake and a reinforced concrete arch structure for this crossing and for an approach to the existing Sioux Rapids Bridge. McCollough delivered the drawings in August for the dam and the two bridges. The county contracted with John E. Quackenbush, a long-time bridge builder from Webster City, Iowa, to build the Little Sioux River structure for $1,448. When construction had not started by October, the supervisors cancelled his contract and instead hired local builder W.A. Barnes to construct the Little Sioux River Bridge for $1,400. It took Barnes until the following September to complete the bridge. McCollough's design for this span and two others had featured a filled spandrel arch with an elliptical profile, similar to the arch patented by Indianapolis engineer Daniel Luten. Two years after the Little Sioux River Bridge was completed, Luten sued McCollough for patent infringement. The matter was referred to the state highway commission, and the agency used this case to bolster its campaign to break Luten's hold on the concrete bridge industry in the mid-1910s.

The Luten lawsuit was a relatively common occurrence in Iowa in the early 1910s, indicative of a major trend in concrete bridge construction in the state at this time. Many of the early concrete arches were built by Des Moines bridge builders N.M. Stark and J.B. Marsh. These two men extensively marketed the arches for which they held proprietary rights—Stark the filled spandrel arch patented by Luten, and March his own open spandrel rainbow arch design. After the Iowa State Highway Commission was re-formed by the state legislature in 1913, it developed a standard filled spandrel arch design of its own. The Marsh/Luten designs and the ISHC standard designs accounted for the overwhelming majority of concrete arches in the state. A few arches were built from other sources, however, in the case of this structure, by civil engineer George McCollough. This bridge is thus significant for its atypical origins. A well-preserved, relatively early example of its type, it is an important transportation-related resource [adapted from Fraser 1992]. This bridge is closed to traffic, but intact and located just off the byway. Drive 1 mile south from C16 on M31, then east on 470th St about 1 mile on unmaintained gravel to the bridge site. *(*"Historic Bridges of Iowa-Brooke Creek Bridge"*)*

Wanata Park Picnic Shelter

The effort to preserve the land south of the Little Sioux River near Peterson began formally in 1925 with a letter between State Conservation Board Chairman, L.H. Pammel and Peterson resident A.O. Anderson. Besides their proposed donation of land for the park, residents were urged to begin raising funds for the construction of park amenities. Local residents worked to raise funds locally for a number of years. While many in the community thought the object was to clear out all of the underbrush and build roads to a playground, others understood the value of the natural woodland and the many rare woodland plants to be found there. The local Izaac Walton League (a conservation organization) was asked to join in the fundraising.

Records show that most of the land for the park was deeded by flood easement of 135 acres to the state by the Northwestern Light and Power Company, at Peterson and ten acres was a gift of William Kirchner, and 14.5 acres bought from Buena Vista County.

By late 1933, word was received of the man hours needed to do the proposed reforestation work along the Little Sioux River. The beautiful tract of 190 acres of heavily wooded land would include a roadway, walking trails, park area, picnic furniture, toilets and general improvements to the grounds, totaling $15,467. A work camp was established for 100 men at Peterson through the Civilian Conservation Corps (CCC) to work during the winter months. Many of the CCC workers camped for the work day near the park while others lived close enough to go to their homes during off hours.

By July 1934, nearly 500 automobiles and 1500 people gathered on a Sunday afternoon in the new Wanata Preserve (also called Peterson State Park) to listen to a concert by the 126-piece Karl King Band from Fort Dodge. In September of 1934, five stone fireplaces and garbage cans were in place. The stone picnic shelter was finished before year end. The Wanata Picnic Shelter was designed by the Central Design Office in Ames, Iowa. This design office at Iowa State College designed many public works projects at the time, most constructed by the CCC. The stones used for the fireplaces and shelter house came from glacial till at the park. Further work at the park included the planting of 15,000 black locust trees along the road embankment to prevent erosion and constructing a road from the southeast corner of Peterson through the park, both in 1939.

Wanata Picnic Shelter was placed on the National Register for Historic Preservation (NRHP #90001677) in 1990 as part of a combined structures application of numerous Iowa State Park structures built by the CCC in the 1930's. (Peterson Heritage, Inc.)

History of Iowa State Parks and Preserves: *There was tremendous enthusiasm for and success of the state park movement during the 1920s in Iowa and nationally. It has been attributed to a number of circumstances and reasons: — to preserve natural scenery, to provide public recreation, to protect areas of historic or scientific interest. There is also a well-defined link between parks and the advent of the automobile. During the 1910s, the automobile became a "common luxury," which created a demand for good roads and convenient wayside and recreational parks. By the late 1920s, forty-five states already had some form of park or recreation system, attributed primarily to increasing cross-country travel by automobile.*

The combination of private automobiles and public parks improved with roads, picnic shelters, and camping facilities gave rise to the American institution known as the family summer vacation. The inexpensive and easily available outdoor recreation became the chief attraction of state parks. Parks were many things to many people: an escape from the work world with its increasing industrialization and routinization, a convenient playground, an inexpensive vacation spot.

Whatever attracted people to parks, visitor statistics demonstrate the park system's popularity in Iowa. During the 1923 season, an estimated 232,000 people visited seventeen state parks. Both the number of parks and the number of visitors steadily climbed throughout the decade. During the 1930 season, approximately 1,750,000 visitors passed through Iowa's forty state parks.

During the 1930's and the Great Depression, the extensive park improvement program carried out under the direction of the Civilian Conservation Corps, the Work Projects Administration, and other New Deal agencies greatly enhanced park facilities. The number of visitors continued to rise. In 1937, approximately 2.5 million people visited Iowa's parks. The Civilian Conservation Corps contributed more to the development of Iowa's state parks than any other federal or state agency, Enrollees in CCC camps across Iowa carried out projects in almost every state park. Other New Deal agencies that participated in park development and other conservation work during the 1930s and early 1940 included the Works Progress Administration (WPA), the Project Works Administration (PWA), the Civil Works Administration (CWA), and the National Youth Administration (NYA). The WPA was next most active federal agency in conservation and parks projects, contributing to the development of twenty-seven state parks. In 1933–34, various communities lent CWA workers to dredge Lake Manawa and build structures at Wanata and Wildcat Den State Parks. From 1933 through 1935, the federal government spent approximately $366 million for the construction and improvement of recreational areas and facilities nationwide. It has been estimated that New Deal programs advanced park development at all levels — national, state, and local — by at least a decade. This was certainly true in Iowa. ("The Conservation Movement in Iowa, 1857–1942"pp 86–90)

National Register of Historic Places of the Glacial Trail Scenic Byway

The National Register of Historic Places (NRHP) is the *federal government*'s official list of *districts*, sites, buildings, structures, and objects deemed worthy of preservation. Established in 1966, the National Register has more than one million properties, listed either individually or as part of historic districts. Approximately 30,000 properties are added to the National Register each year.

The National Register is administered by the *National Park Service* (NPS). Its goals are to help property owners and interest groups, such as the *National Trust for Historic Preservation*, coordinate, identify, and protect historic sites in the United States. While National Register listings are mostly symbolic, their recognition of significance can provide some financial incentive to owners of listed properties, through tax incentives. Protection of the property is not guaranteed. During the nomination process, the property is evaluated in terms of the four criteria for inclusion on the National Register of Historic Places.

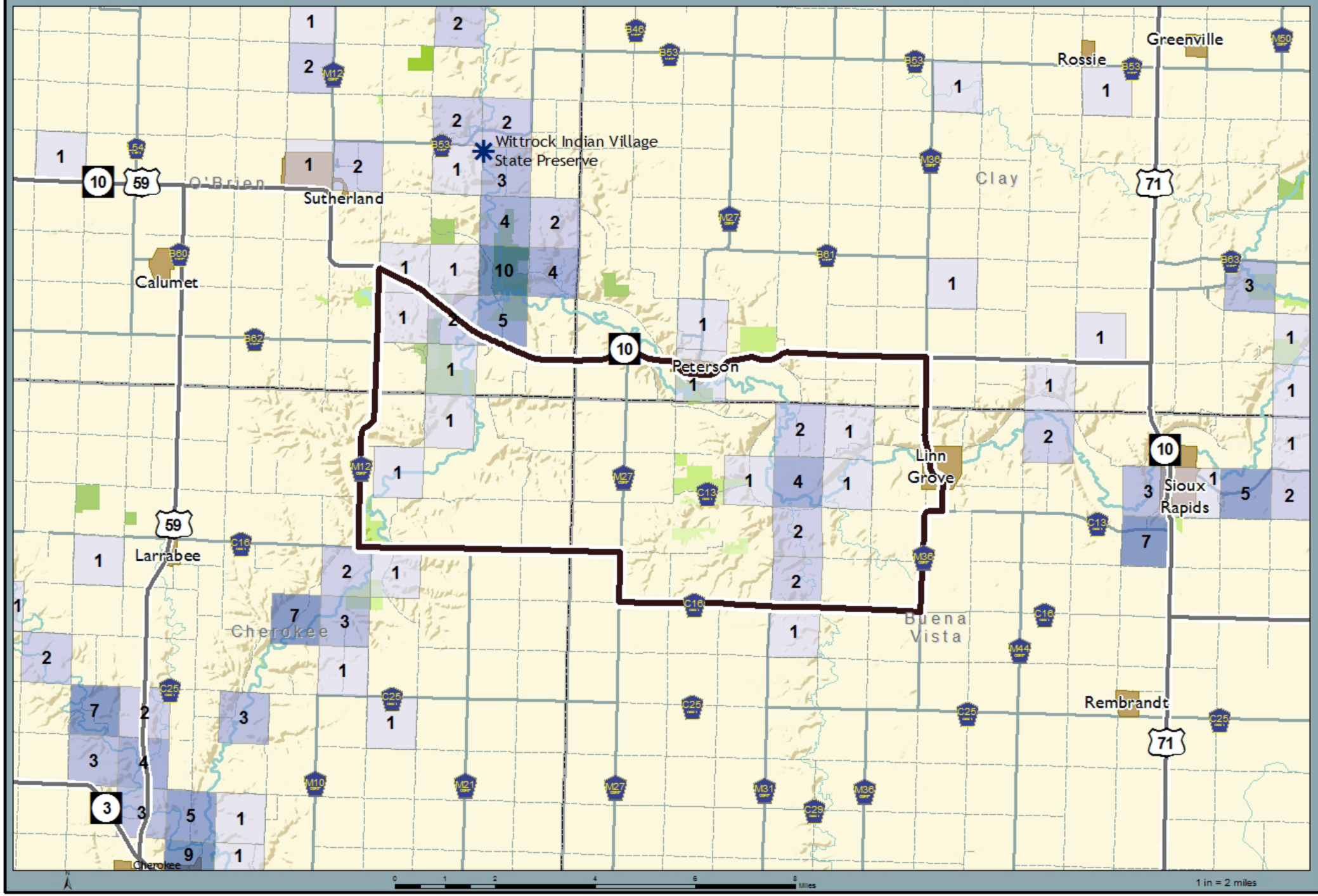
National Historic Landmarks (NHL) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction. Working with citizens throughout the nation, the National Historic Landmarks Program draws upon the expertise of National Park Service staff who nominate new landmarks and provide assistance to existing landmarks.

The following table lists sites in the byway area that have been listed on the National Register of Historic Places. The table is divided into two sections: Historic Structures and Archeological Sites. Descriptions on the Historic Structure have been included in this section about the Historic Intrinsic Qualities of the byway. Further descriptions of the Archeological Sites will be included in the following section on Archeological Intrinsic Qualities of the byway.

Historic Structure	**Type**	**Date Listed**	**Location**	**County**
Philip and Anna Parrish Kirchner Log Cabin and House	NRHP	9/2/1993	4969 120th Ave. Peterson, IA	Clay
Wanata Park Picnic Shelter	NRHP	11/15/1990	South of the junction of Co. Rd M27 & IA Hwy 10	Clay
Brooke Creek Bridge	NRHP	6/25/1998	470th St. over Brooke Creek	Buena Vista
Archeological Site	**Type**	**Dated Listed**	**Location**	**County**
Indian Village Site	NHL/NRHP	7/19/1964 & 11/15/1966	Address Restricted	O'Brien
Bastian Site	NRHP	7/19/1976	Address Restricted	Cherokee
Brewster Site	NRHP	3/21/1979	Address Restricted	Cherokee
Phipps Site	NHL/NRHP	7/19/1964 & 10/15/1966	Address Restricted	Cherokee
Chan-Ya-Ta Site	NRHP	11/21/1978	Address Restricted	Buena Vista

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Archeological Resources

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

Number of Archeological Sites per Section

- 1
- 2
- 3
- 4
- 5
- 7
- 9
- 10

National Historic Landmark & Nat'l Register of Historic Places

Basemap Legend

Byway
- Byway Spine

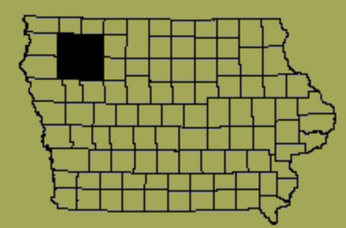
Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

Waterbody

River

Landform



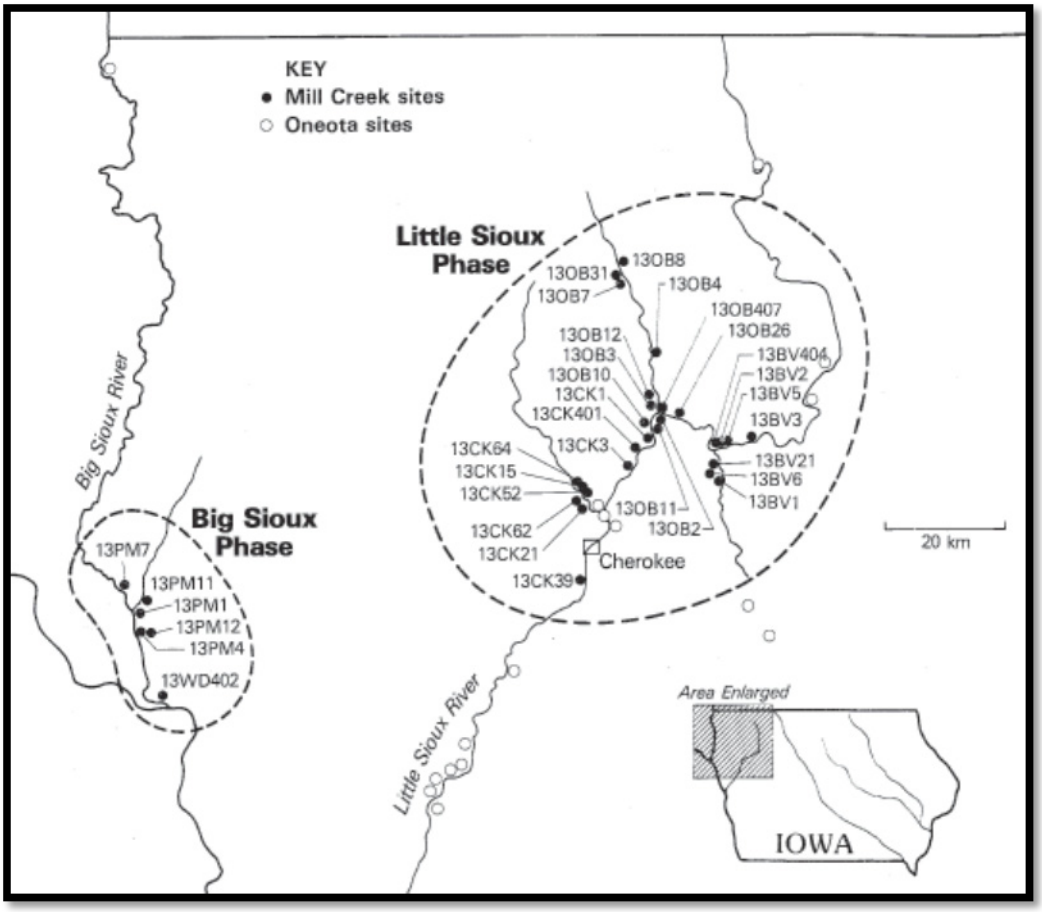
Archeological Intrinsic Quality

Definition of Archeological Quality

"Intrinsic archaeological quality involves those characteristics of the, scenic byway's corridor that are physical evidence of historic or prehistoric human life or activity and are visible and capable of being inventoried and interpreted. The scenic byway corridor's archeological interest, as identified through ruins, artifacts, structural remains and other physical evidence have scientific significance that educate the viewer and stir an appreciation for the past". (United State Government Federal Register 26761, 1995)

The following section of this document provides a brief history of archeology in the byway region. Following the history, important archeological sites are listed and described and their significance to the byway's archeological intrinsic quality is explained.

The Glacial Trail Scenic Byway is home to numerous archeological sites of the Mill Creek culture (as shown in the map below, from the Office of the State Archeologist of Iowa). The Mill Creek Culture is considered of national significance. A nomination for the Kimball Site, a Mill Creek Culture site in Woodbury County, Iowa, as a National Historic Landmark, is being developed by the National Park Service. At least twenty-eight sites are located in and



Mill Creek Sites of Northwest Iowa: Office of the State Archaeologist, The University of Iowa

around the Little Sioux River and its tributaries of Waterman, Brook and Mill Creeks, in the counties of Cherokee, Buena Vista and O'Brien. Of the 28 sites, eight village sites have been excavated. They are Chan Ya Ta (Buena Vista), Phipps (Cherokee), Brewster (Cherokee), Double Ditch (O'Brien), Lange (O'Brien), and Wittrock (O'Brien). The Wittrock Village site, is now a state archeological preserve. Other archeological sites in the area include the Litka field site (O'Brien) and the Bastian site (Cherokee).

History of Archeology along the Glacial Trail Scenic Byway

Many of these sites were known by early settlers of the area because of the mounds or earthworks easily seen in the prairie areas along the river and creeks. Some of the mounds were investigated by relic hunters in the late 19th century, and many were plowed and planted by the local landowners. However, some mounds survived and were captured in the original 1911 plat map of Waterman Township, O'Brien County. Given the prevailing attitude toward Native Americans in the early 20th Century, it is particularly significant that Chicago map-maker, George A. Ogle would note "fort" and "Indian Mounds" on a plat map meant for farmers, mail carriers and residents in 1911.

The Waterman Creek earthworks were also reported in the *O'Brien County History of 1914* (Perkins, p.51). Prehistoric burial mounds, earthworks and fortifications are all noted and described, including their locations on three area farms near Waterman Creek. It was not until 1921 that a professional study of the sites of Waterman Township was begun. That summer, Charles R. Keyes, was faculty member at Iowa Lakeside Laboratory's three-week summer session in natural history. During this session, some of Iowa's most distinguished naturalists were joining him: State Geologist, George Kay, and botanists Bohumil Shimek and Louis Pammel. For Keyes, who was about to be named director of the State Historical Society's Iowa Archeological Survey, this trip to northwest Iowa was an opportunity to inspect and document archeological sites in the region as an example of how a statewide survey might operate.

While acting professor of German language and literature at Cornell College, Keyes had developed a largely self-taught expertise in archeology by building his own artifact collections in Eastern Iowa. He had developed his own artifact classification scheme and was compiling a detailed bibliography of published references, which included notes about the earthworks in Waterman Township. Keyes was using his time at the Lakeside Lab to instruct students about archeological survey, make field trips, and identify any local informants who were familiar with local sites. Through this process, he learned of a local Spencer lumberyard manager, named Jens Thompson. Thompson was a collector of relics and was familiar with some of the Waterman Creek sites.

The two men planned a trip to the Waterman Creek on July 24, 1921. They spent the day traveling to farm properties near the confluence of Waterman Creek and the Little Sioux River. They visited four sites that day with the help of local landowners, investigating earthen mounds, finding surface level artifacts, and occasionally excavating a shovel full of fill to find a myriad of bones, potsherds, and flint chips. By the end of that summer season, Keyes had amassed the knowledge of numerous sites near Waterman Creek as well as similar fortification ditches and artifact styles in neighboring Cherokee and Buena Vista

counties. Recognizing a pattern in the remains, Keyes named this culture Mill Creek, after the Cherokee County stream of the same name along which many villages had once stood. Within five years the Iowa Archeological Survey was well-established and Keyes was still traveling the state in search of archeological sites.

Another local resident, Clay Jordan accompanied Keyes on a return trip to Waterman Creek in June of 1926. Jordan showed Keyes yet another village site near the original homestead of Hannibal Waterman. Again they found numerous surface finds of potsherds, an arrowhead and flint chips.

On his third visit to Waterman valley, Keyes brought T.D. Kas of Sutherland, a physician who knew the local landowners and archeological richness of the area. He introduced Keyes to the new owner of one of the farms, Alfred Wittrock. Wittrock had been finding arrowheads and potsherds since buying the property and showed Keyes a unique "fine quartz lens". A similar lens-shaped stone made of polished diorite was found at a neighboring farm. Keyes could not suggest a function for these artifacts and realized these Waterman Creek villages were triggering questions that could only be answered by digging. Keyes would later justify the need for excavations by stating that "no deep subsurface excavation on a modern scientific basis had been done anywhere in the state."

1921. (Left to Right) Charles R. Keyes, archaeologist and founder of the Iowa Archaeological Survey; Bohumil Shimek, botanist from the University of Iowa; Louis H. Pammel, botanist from Iowa State University; George F. Kay, geologist from the University of Iowa; and T.C. Stephens, ornithologist from Morningside College. The laboratory was the site of research for scientists not only from Iowa and the Midwest but from around the world. (courtesy Iowa Lakeside Laboratory)

By the spring of 1934, Keyes had been asked to serve on the Iowa Planning Board's Committee on Scenic and Historic Features. Projects could be funded through the New Deal's Federal Emergency Relief Administration and later by the Works Progress Administration (WPA). Keyes immediately began formulating a plan, called Project 1047. Under his direction, Ellison Orr and others would map important mound groups and excavate village sites throughout the state. Keyes also planned to use the information to

make recommendations to the state for acquisition of well-preserved sites. Orr, a retired telephone system worker, archeologist, naturalist, and trained surveyor, would devote the next two decades to establishing the archeological record of Iowa.

In September of 1934, Orr and colleagues arrived in the Waterman Creek area to begin the great government-sponsored effort to map Iowa's most important mound groups and conduct the first professional excavations of Mill Creek villages. Over the next few days, test pits were dug in numerous locations along Waterman Creek, unearthing bone and stone tools and exceptional pieces of incised pottery. The group dug large pits approximately 6 feet by 6 feet and near as deep, often with curious local on-lookers and once with the aid of a boyscout group from Spencer. This government-sponsored project had also become an avenue by which Keyes could learn of other collections as well as an opportunity to guide relic hunters to more scientific or useful channels.

The fieldwork for Project 1047 lasted throughout the fall of 1934 and was completed in the late winter of 1935. This great survey of Iowa's archeological treasures produced a 124-page report by Orr, which Keyes would then summarize for the Planning Board. In 1937, with the assistance of Orr and Kas, the uncultivated and intact Wittrock site was purchased by the state and became the third archeological site and first ancient village site to be permanently preserved by the state. It would eventually be declared a National Historic Landmark and be transferred to the State Preserves System. Following Orr's ground-breaking work, archeologists of the 1950's, '60's and '70's would reveal the layout of Mill Creek houses, study the development of Mill Creek settlement mounds, define a variety of Mississippi trade goods, examine changes in how they farmed and hunted, investigate the possible effects of climate change on people of the Plains, and debate Mill Creek origins and possible reasons for abandoning northwestern Iowa. (Perry, 98–109)

Since then, more Mill Creek sites of western Iowa have been excavated and studied by universities, the Office of the State Archeologist of Iowa, members of the Iowa Archeological Society and members of the Northwest Chapter of the Iowa Archeological Society. Some sites have had subsequent excavations to deepen the knowledge gathered in earlier excavations. All of this research, at sites near the byway, as well as sites nearer the Loess Hills of western Iowa, has helped archeologists to piece together a general understanding of Mill Creek culture.

The summary of Mill Creek culture by archeologist, Rich Fishel, that follows provides a general overview of how archeologists currently understand and interpret the culture and its artifacts. In the pages following Fishel's article is a list and description of some of the Mill Creek sites that have been excavated and studied along the Glacial Trail Scenic Byway. Included in the list of sites is one Oneota site, known as Bastian.

The Mill Creek Culture
by Rich Fishel

From A.D. 1000–1200 northwest Iowa was home to a highly distinctive and short-lived group of inhabitants whose arrival, existence, and disappearance has puzzled researchers for nearly 100 years. These people, now known as the Mill Creek culture, followed a way of life completely different from those before them. The uniqueness of this culture has created an interest unparalleled among many Iowa archaeologists.

The Mill Creek culture is part of a larger group of horticultural villages that start to appear around A.D. 1000 near the Missouri River from northwest Iowa to central South Dakota. These groups have been labeled by archaeologists as the Initial Variant of the Middle Missouri tradition. The 35 known Mill Creek villages cluster in two distinct areas in northwest Iowa: along the Little Sioux River and its three tributaries (Brooke Creek, Mill Creek, and Waterman Creek) and along the Big Sioux River and its tributaries in Plymouth County.

The origins of Mill Creek are still being debated. Some argue that these beginnings lie within the Great Oasis culture, while other researchers favor a more generalized Late Woodland origin. While most Mill Creek sites are small, occupying 1 acre or less, several are marked by extensive midden deposits which sometimes accumulate to depths of six feet (2 m) or more. These middens, which can be correctly described as trash heaps, are laden with prolific amounts of broken pottery, animal bone, charcoal, and lithic material. Three of the Mill Creek sites are known to be fortified and show evidence of a large ditch encircling each site.

The Mill Creek inhabitants practiced a mixed economy, relying upon both horticulture and hunting as food sources. Maize was one of the most important foods grown, with chenopods (goosefoot), marshelder, and squash also being utilized. Large hoes manufactured from the scapula of bison were used to till the ground. The Mill Creek sometimes utilized a garden area composed of numerous mounds of earth, referred to by archaeologists as ridged fields. Bison, deer, and elk supplied the bulk of the meat resources, with water fowl, catfish, beavers, and squirrels also being hunted.

One intriguing aspect of the Mill Creek culture is their long-distance connection with people leading a lifestyle completely different from themselves. The Mill Creek had established trade relations with the Middle Mississippian culture of the eastern woodlands, specifically those living in western Illinois. These relations are seen by the occurrence of locally made copies of Middle Mississippian ceramic vessels found at several Mill Creek sites and by Mill Creek vessels found at the Eveland site, a Middle Mississippian village located in the central Illinois River valley. Bison scapula hoes, bird-wing fans, and bone bracelets, all of which are Plains-derived traits, also occur in Middle Mississippian sites in the central Illinois valley, while Middle Mississippian Long-Nosed God masks are found at several Mill Creek sites. Other possible items traded between the two cultures include marine shell beads, bison robes, bird feathers, and hawk and eagle medicine bags.

Whatever happened to the Mill Creek Indians of northwest Iowa? While no one knows for sure, most likely they moved up the Missouri River into South Dakota where they are known archaeologically as the Over Focus. Many researchers now believe that the Mandan and Hidatsa eventually developed from these Mill Creek roots.

But why the reason for this movement? Climate changes, depletion of natural resources, or the arrival of the Oneota into northwest Iowa have been suggested as possible causal factors for this relocation. One current hypothesis is that the Oneota, by moving into areas of central and eastern Iowa, severed the trade routes between the Mill Creek and the Middle Mississippians of Illinois. Feeling isolated and encroached upon by the Oneota, the Mill Creek simply left northwest Iowa and headed west, away from the Oneota.

Archeological Sites of the Glacial Trail Scenic Byway

Chan-Ya-Ta site (13BV1), is located in Buena Vista County near Linn Grove (sec 26, T93N R38W). It lies on a flat spur of land cut on two sides by ravines and is about ½ mile west of Brook's Creek near its confluence with the Little Sioux River. Frank Van Voorhis conducted the first excavations at Chan-ya-ta from 1939–1941 and gave the site its name, purportedly Sioux for "at the woods." Joseph Tiffany, University of Wisconsin and Sanford Museum archeologists conducted excavations in 1974. The first Iowa Archeological Society field school participated in excavations at the site that same year. It was subsequently placed on the National Register of Historic Places in 1978 (#78001209).

Chan-ya-ta is considered a village site of the Mill Creek culture in which the inhabitants lived in earthlodge structures surrounded by a fortified ditch. There are at least 15 large surface depressions and indications of a possible fortification ditch, common to other Mill Creek village sites in the area. These house features were built in pits with storage pits both in and between the dwellings. Excavations reflected a village pattern of house construction in rows showing reuse of house areas over time.

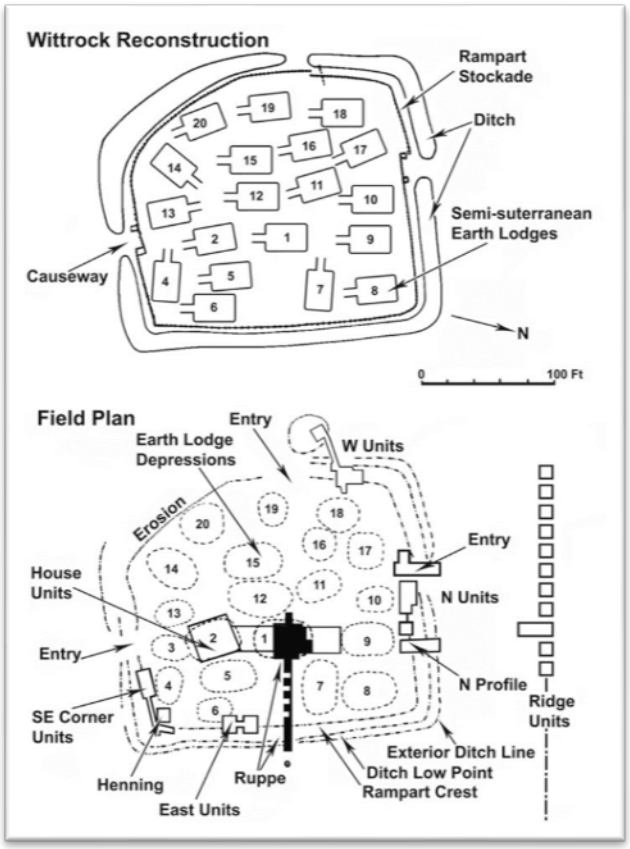
Late 19th century photographs of Omaha earth lodges

While Mill Creek villages typically had rectangular house structures, at least three different house types were found at Chan-ya-ta: (some superimposed on others) a diamond shape measuring 11 feet on each side, a rectangular structure 15×22 feet with a central hearth and possible extended entry off the west wall, and a 20×20 foot square structure with extended entry. Other smaller house structures were also noted. Each house was constructed in a pit 9–14 inches deep, with larger posts on the outside walls and smaller interior posts. Other archeological data indicates a woven frame of twigs and branches. Archeologists have hypothesized that most Mill Creek houses had wattle and daub walls and earth-covered thatched roofs. Compared to other Mill Creek sites, such as Wittrock, Chan-ya-ta houses are much smaller, about half the square footage. Tiffany suggests that they housed nuclear families, not extended families, as in other sites. Tiffany also suggests the possibility that groupings of small houses represented extended family groups. Smaller sized houses might also be indicative of short or one-generation occupation. One theory is that Chan-ya-ta could be an "off-shoot" village. It is closely related ceramically to the Waterman Creek villages and established just before the Bultman site (13BV2), 2 miles to the north. There is speculation that the Chan-ya-ta village inhabitants moved to the Bultman site.

Domesticated plant materials found at Chan-ya-ta include tobacco, maize, sunflower, goosefoot, amaranth, squash and beans. Stone tools present at the site represent such activities as flint knapping, clothing preparation, farming, hide dressing, and butchering. The pottery styles at Chan-ya-ta are typical of the area styles, with some examples that show possible interaction with Great Oasis and other Woodland groups. Radiocarbon dates for the site range from 995AD–1050AD. The site is located on privately-held land. Special permission must be granted for access. (Tiffany, Joseph A.)

Wittrock Indian Village State Preserve

Wittrock Indian Village State Preserve is a 6-acre area featuring the buried remains of an ancient, fortified village occupied by Indians of the Mill Creek culture between the years 1200 and 1300 A.D. It is located on a low terrace of Waterman Creek, a tributary of the Little Sioux River, in O'Brien County. The property area was deeded to the Iowa Conservation Commission in 1937 by the Wittrock family, who plowed around the site for their farm fields, and left the site intact. Excavations by University of Iowa archeologists, under R.J. Ruppe's direction, were conducted in 1959. M.B. McKusick directed University of Iowa archeologists in an excavation in 1965. It was the third archeological site and the first ancient village site to be permanently preserved by the state. The site was dedicated as a National Historic Landmark in 1965, placed on the National Register of Historic Places (#66000888) in 1966, and designated an archaeological State Preserve in 1968. A plaque and interpretive sign with the following quotation are located on the eastern edge of the preserve:



Office of the State Archaeologist, The University of Iowa

Aerial View Wittrock Site: Office of the State Archaeologist, The University of Iowa

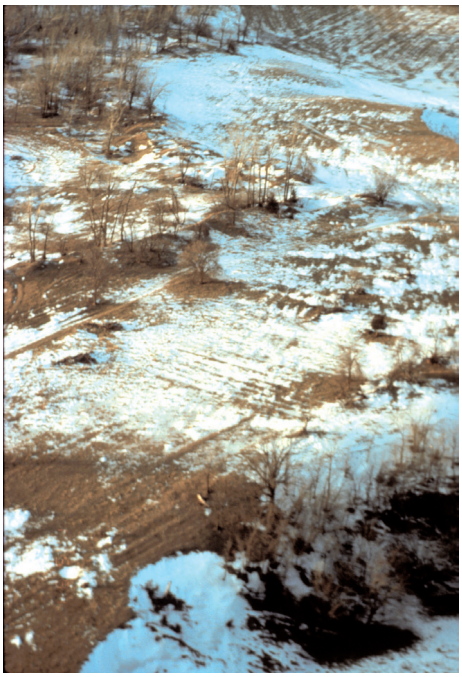
"The ancient Mill Creek Indians built this village and lived here for about 300 years. They made their living hunting bison and cultivating corn, beans and squash. Living was dangerous here in those days and the villagers found it necessary to build substantial fortifications to protect themselves from other Indians.

Posts have been set along sections of the north and south stockade. The original stockade completely surrounded the village. Posts were set to make a solid stockade wall. Inside the wall the villagers built 20 (uniformly sized) rectangular earth lodges 20 by 30 ft. in size and set two ft. deep in the ground. Each lodge had a central fireplace and storage pits and was entered by way of an (south-facing) entrance tunnel (10 to 15 feet long). Excavation in 1965 by the State Archaeologist first disclosed the existence of the stockade and house type."

Gabions (erosion control structures) were built in 1994 on Waterman Creek to protect the western edge of the preserve from stream bank erosion. Access to preserve is across private land. Permission must be obtained to cross private property. ("Wittrock Indian Village State Preserve")

Double Ditch site (13OB8) in O'Brien County, is on a terrace of native prairie overlooking Waterman Creek. It is considered a village site of the Mill Creek Culture, dating to 1100–1250 AD. This village site is the northernmost of the group of Mill Creek Culture villages found along the Little Sioux River and its 3 principle tributaries: Waterman, Mill, and Brooke Creeks. It was first reported in the 1940's and designated a site in 1954 by volunteer members of the Iowa Archeological Society. Investigations on the site did not occur until 1985, by the Office of the State Archeologist. These were two auger tests to confirm it was a Mill Creek period site. Further excavations took place in 1994 and 2000 by OSA. These excavations demonstrated low density artifacts, possibly defining this site as a shorter occupancy than other sites in the area. The Double Ditch is considered a permanently occupied Mill Creek village and is one of the only known unplowed and intact Mill Creek village sites in Iowa. Its main features are fortification ditches: a unique system of two 6 meter wide parallel ditches on at least two sides of the village. The site is set back several meters from the terrace edge to the west. Archeologists have suggested that this made it difficult for any attackers to launch an assault from the west. Other features of the site include typical Mill Creek house structures, hearths, cache pits, and post molds. State archeologists conducted a multi-sensor geophysical survey of the site in 2005. (Goodmaster pp. 1–3)

Artist Rendering Double Ditch Site: Office of the State Archaeologist, The Uniersit of Iowa



Ridged Agricultural Fields, Litka Site: Office of the State Archaeologist, The University of Iowa

Litka site (13OB31): In O'Brien County is a small field of earthen ridges, running east-west, spaced about 1.5–2 meters apart on an upland bench above Waterman Creek. Located directly north of the Lange village site, these features were part of a ridged field or raised bed system, probably associated with the Mill Creek occupation nearby. These ridges may have supported plants such as corn. The shallow ditches between the ridges would retain moisture and possible sheltered beds of squash and pumpkin. The Litka site is the only known prehistoric raised garden bed in Iowa. (Alex p. 158)

Lange site (13OB7) along Waterman Creek in O'Brien County is considered a Mill Creek village site. The Lange site is the site that was recorded in an early O'Brien County history as "a fortified Indian Village". Since then then the site has been disturbed by a county road, bridge, gravel quarry, a farmstead and continuous plowing. Excavation in 1995 and 1996 by the OSA and Iowa Archeological Society filed school, have uncovered various features typical of Mill Creek Culture. These features include numerous cache pits, post molds, and portions of believed houses. Artifacts from the site include ceramics, notched projectile points, plano-convex scrapers and bone items. A marine shell "spoon" and cylindrical bead artifact from the site suggests distant trade or contacts to the east. A variety of large and small mammals could be identified from the site as well as birds and fish. Charred corn kernels and other burned seeds were also noted. The presence of large portions of articulated bison bone indicated that hunts were conducted nearby.(Alex & Lensink pp. 4–5)

Mill Creek Pottery: Office of the State Archaeologist, The University of Iowa

Brewster site (13CK15) is located in Cherokee County. It was placed on the National Register in 1979 (# 79000887). It is considered a village site from the Mill Creek Culture. Named after former landowner Matt Brewster, the site consists of a midden deposit lying on a ridge on the southwest bank of Mill Creek. The site does not appear to have been fortified, but cultivation since at least the 1920's, a cut by a county road, and erosion from Mill Creek make it difficult to know for certain. The site was excavated in 1970 by the University of Wisconsin and the Sanford Museum archeologists under the joint direction of Duane C. Anderson and David

A. Baerreis. The only excavation before 1970 was a one day test conducted by Ellison Orrin 1934. Orr's excavation involved the digging of one 5x10 foot trench. The site has undergone years of periodic surface collecting by local residents.

The main feature of the site is a relatively thick midden deposit, suggesting a lengthy occupation. Anderson's study included large sampling of environmental remains from this thick midden: seeds, rodent bones, teeth, shells, fish remains. Seed assemblages found include domesticated maize, sunflower, marshelder, goosefoot, and possibly domesticated maygrass, little barley, and squash. A notable cultigen found at this site was tobacco. Anderson's ceramic analysis also suggests a long occupational sequence with pottery style showing little change over approx. 11 generations of potters. Conversely, a study of lithics from the site show several different types of points in use. Anderson suggests this shows matrilocal society. In such a scenario, the women stayed in the villages in a given social unit and males were brought in from outside the group as mates. These males would bring in varying lithic styles to the village. Radiocarbon dates for the site ranged from AD 925–1200. (Anderson, Duane C.)


Phipps Site Cr. NPS

Phipps Site (13CK21) is located near *Cherokee* in *Cherokee County* (sec 10 T92N R40W). It is located on a broad terrace above Mill Creek near the confluence of the Little Sioux River. The site has been excavated numerous times. Ellison Orr conducted the first professional investigation in 1934, as part of an area survey, where he dug 2 test pits. The Sanford Museum of Cherokee and the Northwest Chapter of the Iowa Archeological Society under W.D. Frankforter and the University of Iowa under the direction of Reynold Ruppe conducted the next series of excavations intermittently between 1952 and 1956. The University of Wisconsin-Madison conducted an investigation in 1963. The site was declared a National Historic Landmark in 1964 and placed on the National Register of Historic Places in 1966 (#66000335). Later investigations of Phipps site were conducted in 1981 by L. Anthony Zalucha and in 1994 by Richard Fishel of the Office of the State Archeologist and University of Iowa. The 1994 investigation was conducted as a salvage operation after the severe floods of the area in 1993.

The Phipps site consists of numerous earth lodges in what may have been a fortified village. The site is distinguished by its relatively thick and artifact-rich midden deposits. The land has been under cultivation for years and therefore any surface features such as house depressions or fortification ditches would have been destroyed. However the thick midden deposits containing typical Mill Creek culture artifacts suggest that it is a village site. A thick midden often suggests a long occupation of a site. However, Fishel's findings point toward the possibility of large amounts of debris being banked along the exterior walls of structures, thus creating thick deposits. He suggests that Phipps was a short-term

occupation rather than one lasting several hundred years. Radiocarbon dates AD 1020–1220.

Seed assemblages found at Phipps site include domesticated maize, sunflower, marshelder, goosefoot, and possibly domesticated maygrass, little barley, and squash. Ceramic artifacts found at the Phipps site are typical of other Mill Creek sites in the area. Faunal remains include a variety of birds, bison, deer, elk, pocket gophers and some dog. The mammal bone tools found are typical of other Mill Creek sites. Lithic material at Phipps site demonstrates a portion of non-local material, mostly from central and eastern Iowa and possibly eastern Nebraska and North Dakota. The tools types found are typical of farming, butchering, hide processing and hunting activities. One notable feature from the 1994 investigations was an area of the village that may have been used for processing trade items such as bison robes and raptor bodies and feathers. A portion of this site is being actively eroded by Mill Creek. (Fishel, Richard L.)

Bastian site (13CK28) is located in Cherokee County. The site lies on a peninsular shaped outwash terrace that overlooks the confluence of Mill Creek with the Little Sioux River. A north-south county road bisects the site and a railroad passes through its eastern border, constructed 1886–87. The area was homesteaded as early as the 1850's.

The site was first reported by C.H.D. Smith and W.D. Frankforter in 1953 and placed in the Iowa Site Record maintained by OSA in 1960. It was placed on the National Register of Historic Places in 1976 (#76000742). When surveyed by Joseph A. Tiffany and Office of the State Archeologist in 1979, the site area had multiple encroachments: plowed land, historic buildings, an abandoned quarry site, new housing development, and a large junk yard.

Tiffany's analysis of surface finds of pottery and lithics, plus review of earlier reports and findings made the case for a large scale excavation of the site to thoroughly study and document what might be left of the site. It is believed to be part of the Late Prehistoric Oneota culture, dating AD 1250–1700s, as the one radiocarbon test for the site dates to ca 1450. Tiffany also recommended the site be considered for the state preserve system.

Catlinite Tablet: Office of the State Archaeologist, The University of Iowa

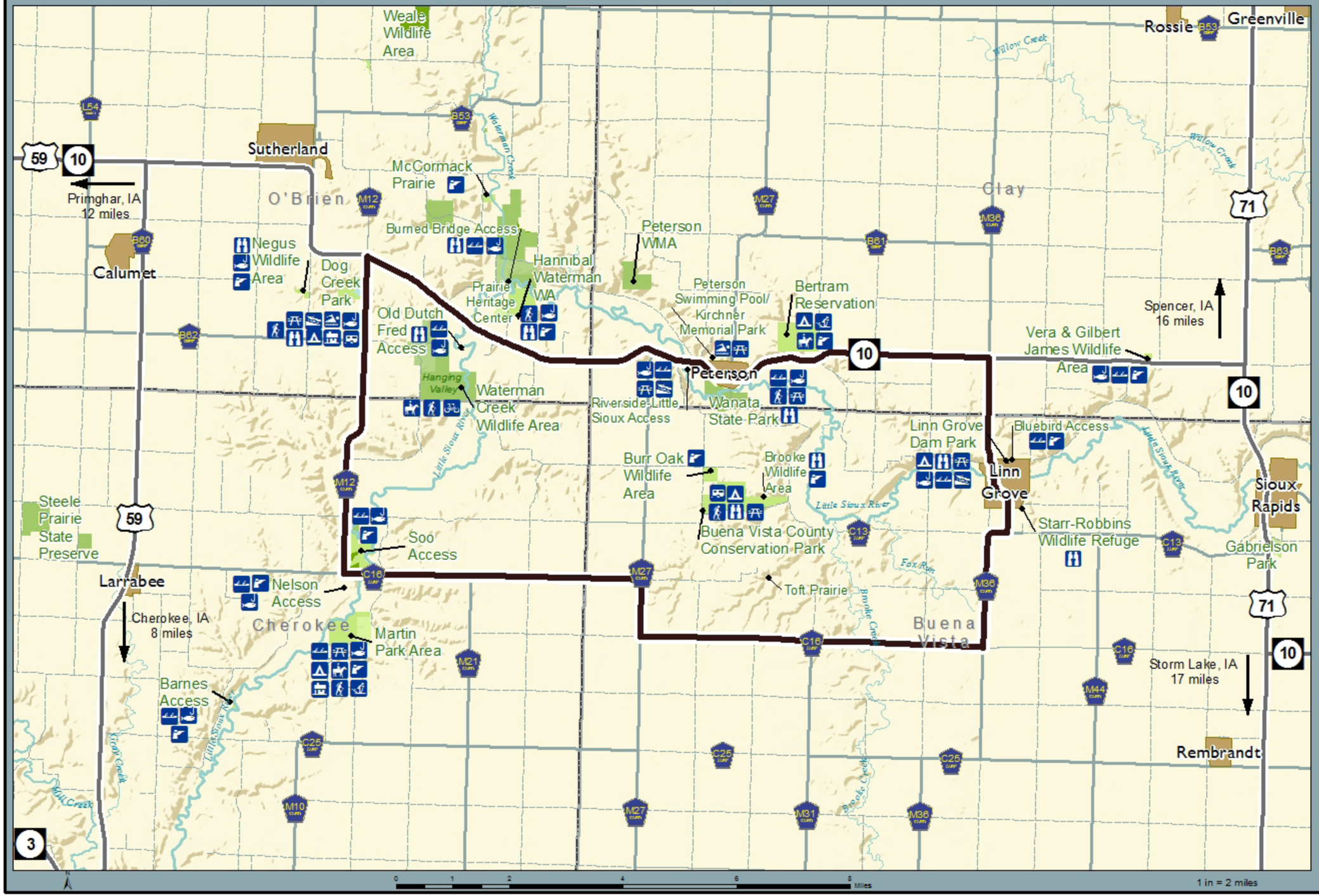
The Bastian site is significant for the large number of portable rock art pieces made out of catlinite. Catlinite is a red indurated clay from the upper Missouri region, most commonly known for its use by American Indians for tobacco pipes, but also used for tablets or plaques with etched figures or abstract designs. Ten well-known tablets, called the "Stiles tablets" were found at the Bastian site. There is no other site in the Midwest with as much portable art made out of catlinite. (Tiffany, Joseph A.)

Artifact Collections

Artifact collections from the archeological sites along the Glacial Trail Scenic Byway can be found in numerous locations: the University of Wisconsin's Department of Anthropology in Madison, the Office of the State Archaeologist in Iowa City, the Sanford Museum in Cherokee and the O'Brien County Prairie Heritage Center.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Recreational Resources

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: December, 2012

Legend

- Bird Watching
- Boating
- Boating (ramp)
- Cabin
- Campsite (non-electric)
- Campsite (electric)
- Fishing
- Hunting
- Mountain Biking
- Picnicking
- Trails (equestrian)
- Trails (hiking)
- Trails (XC ski-groomed)

Basemap Legend

Byway
- Byway Spine

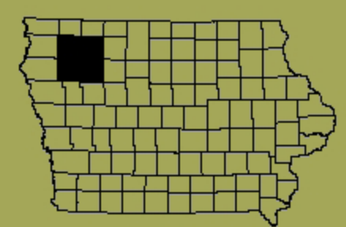
Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

Waterbody

River

Landform



Recreational Intrinsic Quality

Definition of Recreational Quality

"Recreational quality involves outdoor recreational activities directly associated with and dependent on the natural and cultural elements of the corridor's landscape. The recreational activities provide opportunities for active and passive recreational experiences. They can include, but are not limited to, skiing, rafting, boating, fishing and hiking. Driving the road itself may qualify as a pleasurable recreational experience. The recreational activities may be seasonal, but the quality and importance of the recreational activities as seasonal operations must be well recognized" (United States Federal Register 26761, 1995).

The following section of this document provides a list and description of the various recreational intrinsic qualities of the byway region, along with pertinent photos. Local organizations and related recreational events are also included to stress the importance and utilization of the recreational resources in the region.

Pleasure Driving and Bicycling

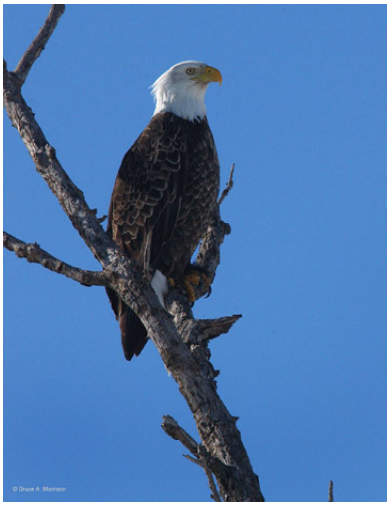
As stated above, the byway itself naturally offers many opportunities for the recreational aspects of pleasure driving and bicycling. Bicycling events are organized by the local bicycling group, Little Sioux Spoke Folk. This organization, established in 1987 and based out of Cherokee hosted annual bicycling club events on the byway between 1999 and 2003. Members chose from four routes: a short-short 20-mile ride from Sutherland to Peterson and back, a short 28-mile route, a medium 42-mile route, and long 50-mile route. The short, medium and long routes all started in Sutherland and proceeded along the full route of the scenic byway with the long route adding an additional loop north of the byway. In 2012, a "Glacial Trail Scenic Byway Bike Ride" was organized through a partnership with GTSB volunteers and the Little Sioux Spoke Folk. This ride was open to the public and scheduled in July as a potential training opportunity for Iowa's RAGBRAI event.

Hiking and Cross Country Skiing

Hiking Trails are available at parks and wildlife areas throughout the byway region. Many of these trails are accessible year around, with potential use for snow shoeing or cross country skiing. An important use for these trails is not only exercise, but for wildlife viewing and bird watching. Hiking trails are located at Bertram Reservation and Wanata Park in Clay County, Dog Creek Park, Hannibal Waterman Wildlife Area, and the Prairie

Heritage Center in O'Brien County, Buena Vista County Conservation Park in Buena Vista County, and Martin Park Area in Cherokee County. The trails at Martin Park and Bertam Reservation are maintained in winter for cross country skiing. The Hanging Valley hike, mentioned in the Natural Intrinsic Quality section of this document is located within the Waterman Creek Wildlife Area.

Bird Watching



The Glacial Trail Scenic Byway provides ample opportunity for bird watching. The many public lands and wildlife refuges of the area offer ideal habitats for many species of birds for the bird watcher to enjoy. The public lands of the byway provide some of the best winter birding locations in the state according to the local Prairie Lakes Audubon Chapter. The local chapter has about 100 members. The Iowa Audubon Society website and Watchable Wildlife website both mention various parks of the area as special places for viewing rare and sought after birds.

Some of the more popular locations along the byway that are known for bird watching include Wanata Park in Clay County, Burned Bridge Access, Dog Creek Park, Hannibal Waterman Wildlife Area, Negus Wildlife Area, Old Dutch Fred Access, and the Prairie Heritage Center in O'Brien County, Brooke Wildlife Area, Buena Vista County Park, Linn Grove Dam Area, and Starr-Robbins Wildlife Refuge in Buena Vista County, and Martin Park Area in Cherokee County. The Prairie Heritage Center hosts a variety of birding events throughout the year to educate the public about area bird species, including Winter Bird Count in January, Bald Eagle Watch in March, Wings and Wetlands Weekend in May, and Hawk Watch in September.

Fishing

The Little Sioux River is one of the top catfishing streams in the state. Walleye and northern pike concentrate below rock riffles and the Linn Grove Dam during spring movements. There are a variety of great fishing spots along the GTSB. Stream or river fishing locations include Riverside-Little Sioux Access, and Wanata Park in Clay County, Burned Bridge Access, Hannibal Waterman Wildlife Area, and Old Dutch Fred Access in O'Brien County, Linn Grove Dam Area in Buena Vista County, Barnes Access, Martin Park Area, Nelson Access and Soo Access in Cherokee County. Lake or pond fishing locations include Vera and Gilbert

James Wildlife Area in Clay County, and Dog Creek Park and Negus Wildlife Area in O'Brien County.

Hunting

Deer, turkey, pheasant, waterfowl, squirrel, rabbit, and other small mammals are the most commonly hunted animals along the Glacial Trail Scenic Byway. Many of the public lands, including county Wildlife Management Areas and conservation areas allow hunting with seasonal permits. The Prairie Heritage Center hosts a biennial Big Buck event for deer hunters. There are many active hunting and habitat conservation organizations in the byway area, such as Pheasants Forever, Ducks Unlimited, Wild Turkey Federation, White Tails Unlimited, O'Brien County Sportsmen, Clay County Sportsmen, and Special Youth Challenge.

Camping

The GTSB is home to five campground areas: Buena Vista County Conservation Park and Linn Grove Dam Park in Buena Vista County, Martin Access Park in Cherokee County, Bertram Reservation in Clay County, and Dog Creek Park in O'Brien County. Most of the campgrounds feature non-electric sites, however Dog Creek Park and BV County Park offer some electric hook-up sites. Dog Creek offers two seasonal cabins for rent and Martin's Access has three cabins for rent throughout the year.

Picnicking and Family Gatherings

There are a number of parks on the byway that provide picnic tables, covered picnic areas and shelter houses for picnicking and family gatherings. They include the Peterson Swimming Pool Park, Riverside-Little Sioux Access, and Wanata Park in Clay County, Dog Creek Park in O'Brien County, Martin Park Area in Cherokee County and Buena Vista County Conservation Park and Linn Grove Dam Park in Buena Vista County.

Boating, Canoeing, Kayaking

The Glacial Trail Scenic Byway runs along a nearly 30-mile portion of the 134-mile Inkpaduta Canoe Trail. This canoe trail follows the meandering Little Sioux River from Spencer (to the north in Clay County) to Smithland (to the south in Woodbury County). The Little Sioux River offers the canoeist excellent fishing and scenic opportunities. It is a typical prairie stream, meandering with sand, mud and gravel bottom and high mud banks throughout most of its course. The river current is quite slow, as the rate of fall averages only two feet per mile. The river rarely exceeds 100 feet in width. The Inkpaduta Canoe Trail offers a variety of recreational opportunities, from a 3–4 hour leisurely float to a 2–3 day canoe camping trip. Both canoeists and kayakers alike can enjoy the waters of the Little Sioux River. The annual Inkpaduta Canoe Race is organized by the Prairie Heritage Center and takes place the second Saturday in August. Canoeists and kayakers race on the Little Sioux River from the town of Peterson to the Prairie Heritage Center.

Access points along the river that are on or near the byway include Bluebird Access and Linn Grove Dam Park in Buena Vista County, Wanata Park Access and Riverside Access in Clay County, Burned Out Bridge and Hannibal Waterman Wildlife Area in O'Brien County, and Soo Access, Nelson Access, and Martin Access in Cherokee County. The small lakes at Dog Creek Park in O'Brien County and the Vera and Gilbert James Wildlife Area in Clay County also allow canoes or non-motorized small boats for recreational activities.

Horseback Riding

Martin Area Park (Martin's Access) in Cherokee County includes five miles of marked horseback riding trails. Signs for the trails were purchased with a $250 grant from the Iowa Horse Council. New sections of trail are marked with orange flagging tape. The trails wind through woodlands and prairies, crossing small streams and bringing riders near to the banks of the Little Sioux River. Riders will enjoy beautiful views and the quiet of birdsong and the wind in the trees. Trailer access is located within the south gates of the park, in a new parking area designated by split rail fence (signs to follow). Trailers may be parked at the original park entrance, where a trail head has been established, or in the new grass lot. Due to the steep terrain and rare plant communities within the park, horses are not permitted on trails during wet conditions, nor may they be ridden off-trail or on trails marked with "no horses" signs. Bertram Reservation in Clay County also provides 2 miles of equestrian trails.

Geocaching

According to the Iowa DNR website, "Geocaching is the activity of hiding a geocache container from public view for the challenge of participants using a global positioning system (GPS) device and internet-published coordinates to locate the geocache. Once located, the participants typically take an item from the geocache, replacing it with one that they contribute. There is usually a logbook in the cache that the finder can sign and date". ("Geocaching")

There are numerous opportunities for this new hobby of geocaching in the GTSB area. The parks, conservation areas and river shores are popular spots for cache placement. Geocaching can be done year around and brings visitors of all ages to the byway. An important component of geocaching is exploring a natural area by hiking or climbing its features. Learn more at: *http://www.geocaching.com/seek/default.aspx*.

Golfing

Just off the byway are three golf courses: The Primghar Golf and Country Club at 720 2nd Street NE, in Primghar, the Little Sioux Golf and Country Club at 4251 U.S. 71, in Sioux Rapids, and the Cherokee Golf and Country Club at 800 North 11th Street, in Cherokee.

Swimming

The town of Peterson has a public swimming pool that is open during the summer months. It is located at, what is referred to locally as the Swimming Pool Park, near the intersection of Highway 10 on West 4th Street (M27). The pond at Dog Creek Park in Cherokee County also provides a small beach and swimming opportunities.

Playgrounds

Public playgrounds are located throughout the byway area, providing another recreation option for families traveling the byway with young children. The three playgrounds located along the byway are all placed in conjunction with picnic facilities. These locations include Kirchner Park Playground/Jacob Kirchner Memorial Public Park in Peterson, Linn Grove Dam Park in Linn Grove, and the Buena Vista County Conservation Park.

The table on the following page shows the recreational facilities of the Glacial Trail Scenic Byway by county. Recreational amenities and related activities are noted for each facility or property.

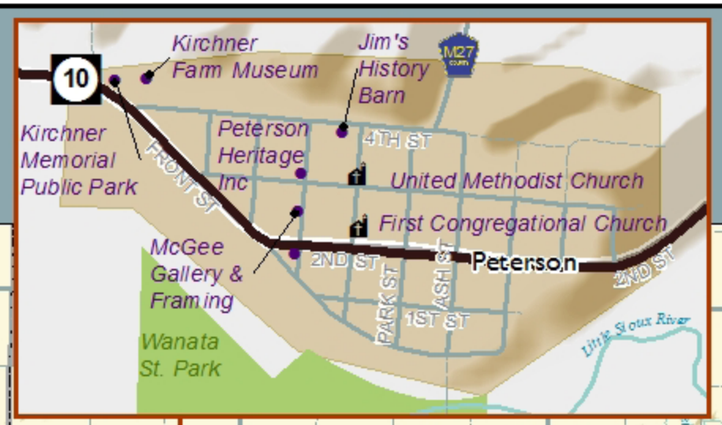
Recreational Facilities of the Byway

	ACREAGE	CAMPSITES: Electric/Non-Electric/Full Hookup	WATER: Drinking/Showers	TOILETS: Flush/Pit	CABIN RENTAL: Seasonal/Year Round	SHELTER: Enclosed/Open/Rental/Free	PICNICKING/Playground Equipment	TRAILS: Hiking/Equestrian/XC Ski-Groomed	SWIMMING: Beach/Pool	FISHING: Pier/Jetty/Lake(acres), Stream	BOATING: Motor/Canoe/Electric/BR-Boat Rental/Ramp	SPORTS: Winter Sports/Playground/Horseshoe	Bird Watching	HUNTING: Wetland/Forest/Upland
BUENA VISTA COUNTY														
Blue Bird Access	33										R			F
Brooke Wildlife Area	60												B	F,U
Buena Vista Co. Conservation	308	E18, N9	D,S	F,P		ERY, OFY	P,PL	H				W,P,	B	
Burr Oak Wildlife Area	40													F,U
Linn Grove Dam Area	12	N6	D	P		OFY	P,PL			S	M,C,R	P	B	
Starr-Robbins Wildlife Refuge	9.5												B	
CHEROKEE COUNTY														
Barnes Access	9									S	M,C			F
Martin Park Area	300	N21	D	P	Y3	OF1	P	H5.3, E, X5.3		S	C			F,U
Nelson Access	8									S	C			F,U
Soo Access	16									S	C			W,F
CLAY COUNTY														
Bertram Reservation	240	N4						E2, X						F,U
Riverside-Little Sioux Access	3			P			P			S	M,C,R			
Vera & Gilbert James Wildlife Area	13									L3	C,E			U
Wanata Park	160			P		O	P	H		S	R		B	
Peterson Swim Pool / Kirchner Memorial Park				P		E	P,PL		P			P		
O'BRIEN COUNTY														
Burned Bridge Access	1									S	C		B	
Dog Creek Park	110	E29,T	S	F,P	S2	O	P*	H	B*	L28	C,E,R		B	
Hannibal Waterman Wildlife Area	160							H		S			B	W,F,U
McCormack Prairie	21													F
Negus Wildlife Area	17									L11			B	W
Old Dutch Fred Access	1									S			B*	
Prairie Heritage Center	39			F				H					B	
Waterman Creek Wildlife Area	223							H, E						

*Handicap Accessible

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Cultural Resources

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: December, 2012

Legend

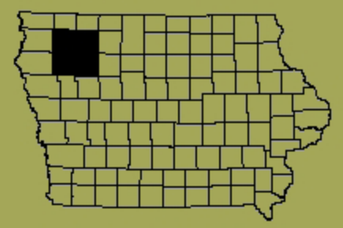
- Church
- Cemetery
- Cultural Site
- Nature Center
- Ranch

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local
- Waterbody
- River
- Landform



Cultural Intrinsic Quality

Definition of Cultural Quality

"Cultural quality is the evidence and expressions of the customs or traditions of a distinct group of people. Cultural features include, but not limited to, crafts, music, dance, rituals, festivals, speech, food, special events, vernacular architecture, etc., that are currently practiced. The cultural qualities of the corridor could highlight one or more significant communities and/or ethnic traditions" (United States Government Federal Register 26761, 1995)

The cultural heritage of the Glacial Trail Scenic Byway has been influenced by the customs and traditions passed on from the region's first inhabitants, Native Americans; and pioneer settlers of German, Danish, Norwegian, Swedish, Welsh, and Irish descent. A predominately agricultural landscape dotted with small rural communities exists amidst unaltered natural settings and the dramatic features of our nation's new wind turbine energy sources.

The cultural quality of the Glacial Trail Scenic Byway is a result of this mixture of features, as well as its variety of cultural attractions and events. More than eight attractions in the GTSB highlight the region's cultural resources. Among these cultural attractions are pioneer cemeteries, historic churches, art studios, galleries, museums, and heritage centers. Complimenting these attractions is close to 20 cultural events that are held regularly in communities throughout the GTSB. These events include tractor rides, parades, wine tasting festivals, outdoor concerts, guest speaker events, educational activities, heritage celebrations and artist studio tours.

Cultural Attractions of the Glacial Trail Scenic Byway

Prairie Heritage Center

The cornerstone facility for the Glacial Trail Scenic Byway, the Prairie Heritage Center, is located just off Highway 10 in O'Brien County. An average of 14,000 visitors come to the center annually to participate in events and learn about the region. These visitors come from all 50 states and 27 foreign countries. The center is used by school groups from 13 surrounding counties with programming conducted year

around. With programming outreach into O'Brien county schools, libraries and community centers, the Prairie Heritage Center has impacted 10,964 adults and students in the last year.

The Prairie Heritage Center building consists of 4,786 square feet on the main level. This space houses a 1,260 square foot meeting space with kitchenette, a 2,070 square foot display area, restrooms, two offices, and a workspace. An additional, 3,340 square foot basement area is used for storage, utilities and select programming.

The Prairie Heritage Center provides environmental education as it relates to the prairie and region, strives to preserve and protect the region's prairie heritage, and encourages economic development with opportunities for recreation and historic exploration.

With this mission in mind, the Prairie Heritage Center acts as the primary interpretive center to the byway. Tourists and other visitors can use the center for a starting point, or a stopover location for the many activities available along the byway. The center has displays that educate its visitors about the natural resources of landforms, native prairie, birds and other wildlife of the area. Prairie Heritage Center displays demonstrate prairie restoration and provide information and help in preserving and re-establishing the prairie. It also has displays describing the archeology of the area, complete with artifacts and replicas of Mill Creek features. There are photos and artifacts from the pioneer history of the region. The Prairie Heritage Center is also a resource for the recreational opportunities of the area.

Accompanying all of the center's exhibits and displays are myriad activities and events hosted and organized by center staff and volunteers. Besides the annual events listed in the table later in this section, the Prairie Heritage Center and the O'Brien County Conservation Board hold a minimum of two public events each month. Topics can include prairie hikes, night hikes, creek walks, astronomy events, guest speakers, wildlife programs, movies, archeology events, winter fun days, snow shoe outings, snow shoe building, bird/bat house building, recycling education and much more!

Peterson Heritage, Inc. / J.A. Kirchner Memorial Public Park

The J.A. Kirchner Memorial Public Park is the home to multiple historic structures in Peterson (described in the *Historic Intrinsic Qualities* section of this document). Peterson Heritage, Inc., incorporated in 1971, is dedicated to the mission to preserve, promote and enhance the history of Peterson. The organization has taken on the task of restoring and maintaining the Christian Kirchner house, the J.A. (Gust) Kirchner house, and the Rock Forest School. The organization is also involved

in restoration of the historic Boarding House at 301 Main Street, Peterson. This building functions as the office and starting point for historic tours of Peterson. Each year many local school children tour the site and learn about the history of Clay County and its early residents. Call to arrange tour: 712-295-8889 or 712-283-5005.

Kirchner Farm Museum

The Kirchner Farm Museum is located near the Jacob Kirchner Park on M27 at the western edge of Peterson, Iowa. This 60 by 100 foot museum is filled with historic horse-drawn farm equipment and machines, such as a century-old sheepherder's wagon, the "mobile home of the high plains". It provides a fascinating glimpse into the past. The museum was built through the joint efforts of the late Jacob Kirchner and Peterson Heritage, Inc. The late George Reed of Peterson did the collection and restoration of most of the equipment.

Jim's History Barn

This private museum in Peterson is owned and operated by Jim Haas, since 1996. Open by appointment or "by chance," Jim takes free will donations at the door. The museum contains a variety of items from Jim's sixty plus years of collecting: hundreds of arrowheads, 80 to 100 military uniforms and a veritable arsenal of rifles, pistols and muskets, elk heads, tiger skulls, model ships, Indian artifacts, war memorabilia and historical documents, a uniform belonging to one of Saddam's generals, and even a white-sheeted Klan costume. He also has some rare cardboard toys that were popular during World War II. His guns range from pre-Revolutionary War flintlocks through World War II and beyond, including some large decommissioned German World War I machine guns. To schedule a tour, call 712-295-6552.

The French Museum

French Museum contains the life-long collections of 95 year old Doris French. There are over 200 dolls, dressed in the times they were made. This beautifully kept museum contains something of interest for everyone. There is rare antique furniture including wicker baby buggies and dual-purpose high chairs, toys, one-of-a-kind dishes, tankards, tea sets, cruets, demonstration stoves, lamps, quilts, and much more. Call City Hall in Peterson for information: (712) 295-6401.

McGee Gallery and Framing

Opened by Barbara McGee in 2000 at 217 Main Street Peterson, this studio and gallery was expanded to a neighboring building in 2008. The gallery portion of the building not only showcases McGee's own work, but also that of many other artists of the area. McGee's art studio is accessible from the gallery, giving visitors an opportunity to see new works at varying stages of creation. In addition to paintings of her own design, Barbara does commission paintings, and offers custom framing (712) 295-6315.

Bogenreif Studios, Sutherland

This internationally acclaimed stained glass studio is in nearby Sutherland, Iowa. Founders Mark and Jeanne Bogenreif have been creating exquisite and highly detailed works of art in glass for over a quarter of a century. Their works are inspired by antique, traditional and historical themes. The studio, housed in a former school building is located at 220 West Southern Street in Sutherland, Iowa. Tours are available upon request. (712) 446-2094

Barnes Ranch

While not open to the public, the Barnes Ranch, located along the byway on C16, in Cherokee County, is a local landmark of interest to rodeo fans from around the country. Bob Barnes and his sister Marjorie started training and breaking horses together in the 1940's. Bob became a member of the Rodeo Cowboys Association and held his first Rodeo Cowboy Association (RCA) rodeo in 1950. From the 1950's through the 1960's the business grew, as they contracted stock to rodeos as far away as 600 miles. In the early 1960's, Bob helped start a children's home in Peterson, Iowa, and still serves on the board of directors today. In the late 1970s, the Barnes family formed a second rodeo company to accommodate an opportunity to have high school and college rodeos. The brand, MJM Rodeo Company, stands for the first initial of each of the three

Barnes children, expanding the business to the next generation of Barnes. After developing a solid foundation in the rodeo business, MJM Rodeo Company joined the Professional Rodeo Cowboy Association (PRCA) in 1980. In 1994 Bob was inducted into the ProRodeo Hall of Fame. He has served on the PRCA Board of Directors, the National Finals Rodeo Committee and numerous other boards and committees in his lifetime. The Barnes Ranch has a fleet of tractors, trailers, and other vehicles and travels through 32 states and over 100,000 miles a year, supplying stock for as many as 50 rodeos a year. Their stock consists of about 100 bulls and 450 horses, mostly bucking broncs. Thousands of rodeo enthusiasts travel to Cherokee every summer for the Cherokee Chamber PRCA Rodeo. This annual event takes place the weekend after Memorial Day. In addition to 3 nights of quality rodeo entertainment, there are kid's activities, western vendors, Rodeo Queens, a Western BBQ at the Depot, and a large parade through Cherokee.

Century Farms

The Century Farm Program in Iowa began in 1976 as part of the National Bicentennial Celebration. Sponsored by the Department of Agriculture and the Iowa Farm Bureau Federation, with endorsement from the Iowa American Revolution Bicentennial Commission, the program recognizes and honors individuals who have owned a tract of farm land for 100 years or more. The family farm represents the traditions and heritage upon which the State of Iowa was built. This program honors those individuals and families who have followed in the footsteps of their ancestors by continuing to produce crops and livestock on the same land. Since 1976 over 15,000 families have been recognized. There are numerous Century Farms along and near the byway and these farms represent the cultural heritage of the region.

Barn Quilts

Numerous barn quilts can also be seen from the byway. This celebration of barns and the tradition of decorating them with painted quilt block designs is also a link to the cultural heritage of agriculture and family farms along the byway. O'Brien and Buena Vista counties have websites for their Barn Quilt Program, showing maps and photo tours of their barn quilts (*www.obriencounty.com* and *www.bvbarnquilts.com*). Many Clay and Cherokee county farms also display quilt blocks on their barns.

Churches and Cemeteries

There are 7 churches and 14 cemeteries along and near the byway. Most of the churches and cemeteries of the Glacial Trail Scenic Byway have direct ties to local heritage and customs. The first churches of the area were started by early pioneers, first in their own homes with lay leaders and then visited by itinerant ministers who traveled the frontier preaching wherever a group of residents had gathered. There are numerous examples of first places

of worship in the region being a local log cabin. Eventually, as populations grew, churches were built and associated cemeteries established. Prior to the establishment of church cemeteries, cemeteries were usually established on family lands or for groups of settler families.

As is typical for many of the churches in the United States, churches were often initially associated with ethnic groups. This is the case with some of the early churches in the byway area. For example, as many of the earliest settlers of Buena Vista County were Scandinavian, they brought with them the Lutheran religion of Norway, Sweden, and Denmark. For example, Ole Enderson Hesla, who settled in Barnes Township, in 1866, was called the "moving spirit" in the organization of the Little Sioux Valley Lutheran congregation. The group built a church in 1880. Similarly, the German immigrants of Brooke and Spring Townships near Peterson organized the German Evangelical St John's Lutheran Church in 1888 and built the church in 1896. The current church St John's Church was built in 1924. Services continued to be held in German into the 1930's or 1940's, as was also typical of many such churches. (Peterson Heritage, Inc, pp 129–130) A table listing the various churches and cemeteries of the Glacial Trail Scenic Byway region is provided below. Photos and a table of annual cultural events along the byway are provided in the pages to follow.

Cemeteries and Churches of the Glacial Trail Scenic Byway

County	Church or Cemetery Name	Location
Clay	First Congregational Church	Peterson
Clay	United Methodist	Peterson
Clay	Oakland Cemetery	Peterson
Clay	Welch Pioneer Cemetery	Hyw 10, east of Peterson
Clay	Zion Methodist Cemetery	Linn Grove
O'Brien	Calvary Catholic Cemetery	Waterman Twp, sec 8
O'Brien	Waterman Cemetery	Waterman Twp, sec 17
O'Brien	H.H. Waterman Cemetery	Waterman Twp, sec 26
O'Brien	Fieldman Burial	Waterman Twp, sec 26
Cherokee	St Paul Lutheran Church	3 mi s. C16/3 mi e. M12
Cherokee	St Paul Lutheran Church Cemetery	3 mi s. C16/3 mi e. M12
Cherokee	Spring Township Pioneer Cemetery	C16 and M12
Buena Vista	First Baptist Church (defunct)	Linn Grove
Buena Vista	Riverside Presbyterian Church	Linn Grove
Buena Vista	Trinity Lutheran Church	Linn Grove
Buena Vista	Little Sioux Valley Lutheran Church	Barnes Twp (defunct)
Buena Vista	St John's Church	M27 at C16
Buena Vista	St John's Church Cemetery	M27 at C16
Buena Vista	Elk Township Cemetery	5195 50th Ave (M31)
Buena Vista	Barnes Township Cemetery	Linn Grove
Buena Vista	Immanuel/Swedish Lutheran/Plainview Cem.	4890 40th Ave
Buena Vista	Daily Burial Ground	Brooke Twp (C16&M27)

Cultural Events of the Glacial Trail Scenic Byway

Annual Events on the Glacial Trail Scenic Byway

Event Name	Event Activities	Location	Date
Winter Bird Count	Bird watchers gather to access winter birds in the area and do Iowa's annual Bald Eagle count	Prairie Heritage Center	1st weekend in January
Bald Eagle Watch	Scopes on hand to observe bald eagles using Little Sioux Valley as their overwintering territory, eagle education activities	Prairie Heritage Center	1st weekend in March
Big Bucks Event	Participants bring in mounted deer for display, rack scores are tabulated, hunting/land management seminars	Prairie Heritage Center	2nd weekend in March
Lions Club Annual Auction	Baked goods, new, used, and homemade items auctioned & dinner to benefit the Peterson Pool	Peterson	Late Mar/ early April
Pasque Flower Search	Hike the Waterman Prairie in search of the first prairie flower of spring	Prairie Heritage Center/Waterman Prairie	1st weekend in April
Wings and Wetlands	Bird hike, Trumpeter Swan release, prairie flower walk, movies, crafts and more	Prairie Heritage Center	2nd Sat. in May
Memorial Day Commemoration	Avenue of Flag and memorial service at Oakland Cemetery, dinner at local church	Peterson	Late May
P.A.T.O.O.T. (Peterson's Annual Trip on Old Tractors)	Tractor and wagon rides on byway, food, 5 and 10k fun runs, tractor display	Peterson, Linn Grove, and Byway	Late-June
Peterson Heritage Tour	Historical tours, food, live music, car show, beer garden	Peterson	Biennial in August
Peterson Fire Department Benefit	Car show, pork feed, benefit for Fire Dept.	Peterson	1st Sat in August
Inkpaduta Canoe Race	Canoe/kayak race on Little Sioux River from Peterson to the Prairie Heritage Center	Peterson and Prairie Heritage Center	2nd Sat. in August
Bison Burger Picnic and Lawn Concert	Fundraising Event for Prairie Heritage Center, bison burgers and live music	Prairie Heritage Center	3rd Tuesday in August
Sutherland Labor Day Celebration	S.A.L.U.T.E. Tractor Ride, live music, street dance, food, car show, horse show, parade	Sutherland and byway area	Labor Day weekend
Monarch Tagging Event	Citizen science project to tag monarch butterflies on their migration through the area to Mexico, data collected is submitted to U of Kansas Monarch Watch	Prairie Heritage Center	1st week in September
Hawk Watch Festival	Hawk identification education, counting migrating hawks using the river valley	Prairie Heritage Center	2nd/3rd weekend in September
Fall Festival	Wagon rides to pioneer cemetery, pioneer games and crafts, apple cider press,	Prairie Heritage Center	3rd/4th Sat. in Sept.
A.R.T. (Artisans Road Trip)	Self-guided tour: professional artists welcome guests into their studios to discover and purchase quality original works	Peterson, Linn Grove, Byway region & more	1st weekend in October
Hiney Wine and Arts Festival	Outdoor event with wine, food and art in conjunction with Artisans Road Trip	Peterson, Kirchner Historical Park	1st Saturday in October
Winter Craft Day	Nature crafts for the holiday season	Prairie Heritage Center	3rd Saturday in November
Peterson Annual Christmas & Caroling	Commercial Club benefit with caroling, Mr & Mrs Santa, and soup supper	Peterson	1st Sun in December

Point 3: Strategy for Maintaining and Enhancing Intrinsic Qualities

One of the key reasons for the unchanging character of the byway is that its intrinsic qualities, be they scenic, natural, historical, archeological, recreational, or cultural, tend to reside on land that is publically held and managed. Many of these native prairies, historic homes, archeological sites, scenic rivers or creeks, and museums have been deemed important and unique and have already been protected by public agencies or, in some cases, non-profit organizations tasked specifically with the duty of preserving and protecting the resource. Therefore, much of the discussion of "strategies to maintain and enhance" involves the mission and work of other agencies beyond the byway organization. Given the rural nature of the byway and small population of residents living along the byway, it is especially impressive that so very much has been done to designate and care for the resources, or intrinsic qualities, of the region.

These strategies will be described in the following section, where each intrinsic quality will be listed and accompanied by the associated land owners and management mission for the resource. At the end of this section is a listing of proposed action items pertaining to maintaining and enhancing the intrinsic qualities of the byway.

Scenic

Public Lands/Agencies: As discussed in further detail in the section on natural intrinsic qualities, there are many acres of public lands along the byway. These public entities that own and manage the lands play an important role in maintaining the scenic qualities of the byway. By protecting the natural, historical, archeological, recreational, and cultural qualities of the byway, the scenic qualities are protected as well.

County Planning and Zoning/Engineering: Each of the four counties along the byway, Buena Vista, Cherokee, Clay and O'Brien has a county zoning and planning department and/or a County Engineer. Staff from these county offices will follow their current county comprehensive plan, when available or their county zoning regulations to insure that any new development follows the proper review channels. This protocol is described further in *Section 5*. This organizational structure helps to maintain the scenic qualities of the byway by offering a public review process before any major alterations to the landscape.

Iowa DOT Integrated Roadside Management (IRVM): This program, established in 1988 by the Iowa Legislature (Iowa Code Section 314.22) has as its objective, "to be in the general

public welfare of Iowa and a highway purpose for the vegetation of Iowa's roadsides to be preserved, planted, and maintained to be safe, visually interesting, ecologically integrated, and useful for many purposes." This is done through a procedural plan that uses cultural, mechanical, biological and chemical practices to achieve its goals. Part of its plan is to also provide education and information on IRVM. One of the main goals of the IRVM Plan is to enhance the scenic qualities of the roadsides and their value as wildlife habitat.

View Shed Mapping Project: Utilizing new technology and the LIDAR (Light Detection and Ranging) data recently collected by the State of Iowa, Northeast Iowa RC&D (who also participates in the Iowa Byways Sustainability Project) will complete view shed mapping for each of Iowa's byways, including the Glacial Trail Scenic Byway. In essence, the view shed software allows the user to select a certain location on a map and the software details what can be viewed from that location. With this information, byways will have a better idea for potential pull offs, conservation easements, and other opportunities to enhance scenic resources along the byway. The view shed project can assist in prioritizing features of critical importance to the byway landscape and help the byway board to see if development in a particular area will impact views. Once this project is completed, the data will be made available as supplemental information to the byway CMP.

GIS Mapping Project: Northeast Iowa RC&D administered the "Sustaining Iowa's Byways Through GIS Technology" grant. The grant allowed each Iowa byway, including the Glacial Trail Scenic Byway, to capture coordinates of important byway resources and then map those using GIS software. By mapping important scenic resources, this project also acts to protect the resource and provide accessible and quantitative data for potential resource enhancement projects on the byway.

Iowa DOT Corridor Resource Mapping Report: This report, which accompanied the original designation letter for the Glacial Trail Scenic Byway, provides a better understanding of the strengths and shortcomings of the route, in scenic terms. It can be used as a tool to propose improvements for any scenic shortcomings and propose preservation strategies for the scenically strong portions of the route.

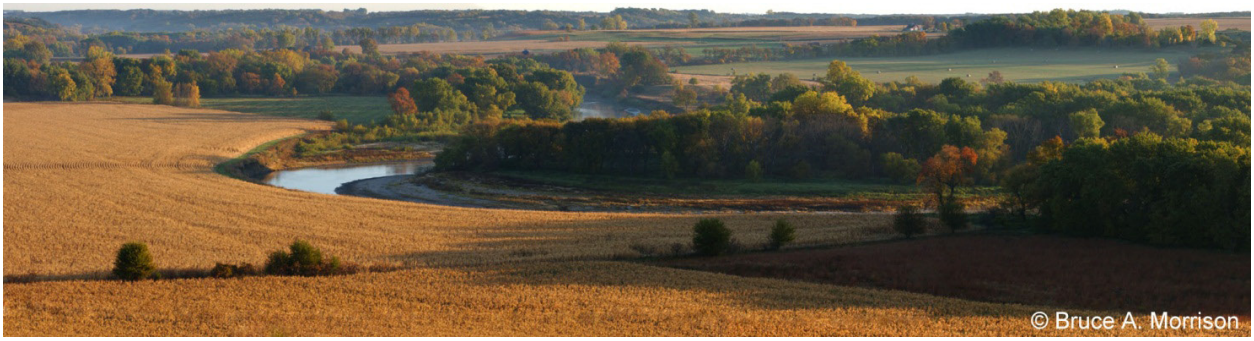
Natural

There are more than a dozen tracts of land within or along the byway, totaling almost 4000 acres, owned and/or managed by the State of Iowa, O'Brien County, Buena Vista County, Clay County, Cherokee County or the Nature Conservancy. The designation of these lands by the above-mentioned entities speaks to the importance of the natural features, water, wildlife and vegetation present in the area. Because these lands are owned by these public entities, they are also then protected and maintained under each organization's individual management plans and organizational missions. The entities involved in maintaining and enhancing the natural intrinsic qualities of the byway are listed and described in the following pages.

Iowa Department of Natural Resources: The DNR's organizational mission is *"To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life for Iowans and ensure a legacy for future generations."*

The Iowa DNR manages fish and wildlife programs, ensures the health of Iowa's forests and prairies, and provides recreational opportunities in Iowa's state parks. Just as importantly, the DNR carries out state and federal laws that protect air, land and water through technical assistance, permitting and compliance programs. The DNR also encourages the enjoyment and stewardship of natural resources among Iowans through outreach and education. The DNR has a variety of conservation projects and plans that it manages and administers in relation to natural resources throughout the state. The *Iowa Wildlife Action Plan* lays out goals and visions pertaining to Iowa's wildlife, its habitats, management, and wildlife-associated recreation.

The DNR administers the Resource Enhancement and Protection (REAP) Program, which provides funding support to projects on public land at the state, county and city level. The program mission is to be a long-term integrated effort to wisely use and protect Iowa's natural resources through the acquisition and management of public lands; the upgrading of public parks and preserve facilities; environmental education, monitoring, and research; and other environmentally sound means. Several aspects of REAP encourage private contributions to help accomplish program objectives.



The Nature Conservancy (TNC): *The Nature Conservancy Conservation Action Plan* represents a joint collaboration with the DNR. The Nature Conservancy has helped protect and manage over 2,700 acres within the Little Sioux Valley, much of it within the Iowa DNR's Waterman Prairie Project. The Conservancy's primary role in the project area to date has been assisting with protection of native prairie habitats through "cooperative" land deals with the DNR, in which TNC purchases and holds properties, works with the DNR and other partners to raise funds for them and ultimately transfers the preserves to DNR. While TNC does play a stewardship role in the project area through fire training and summer intern crews, most conservation lands are managed by the DNR.

The long term goal set in the late 1990s has been to work with partners to conserve and restore 15,000 acres in the lower Little Sioux landscape. The acquisition and protection of Iowa's last remaining prairie remnants is a high priority for all partners in the area. Iowa's Resource Enhancement and Protection (REAP) program and Iowa's Wildlife Action Plan (IWAP) identify prairie in the Little Sioux as a top conservation priority. When the 1990 REAP Congress asked that REAP funds be directed to prairie acquisition, DNR staff selected the Little Sioux River Valley as one of the state's premier prairie preservation sites.

According to the Nature Conservancy Action Plan, the Nature Conservancy goals in the region are twofold: 1) Restore the economic viability of pastures in the Little Sioux Valley by one-on-one contacts between land users and pasture experts and demonstration projects. These actions target the preservation and expansion of tallgrass prairie and savanna, and 2) Create an awareness of conservation opportunities within the Little Sioux Valley within 3–5 years by writing and implementing a "social marketing plan" which identifies the goals of the outreach and includes such activities as: identification and engagement of community leaders/keystone people; development and dissemination of publications (target audience: both layperson and landowners); small "neighborhood meetings"; education of all ages of school groups; education of community groups (Elks, Masons, etc.); identification of landowners and land managers; field days/workshops; citizen science programs; development of a friends group.

Iowa Natural Heritage Foundation: The Iowa Natural Heritage Foundation protects and restores Iowa's land, water and wildlife. The priorities of this member-supported organization include protecting priority lands, connecting natural landscapes and natural corridors, restoring natural areas, and engaging Iowans with their state's natural heritage. The Iowa Natural Heritage Foundation is a statewide private nonprofit conservation organization, with a unique role in supporting landowners and encouraging active collaboration between cities, counties, private associations and government agencies.

County Conservation Boards (Buena Vista, Cherokee, Clay, O'Brien): Each of the county conservation boards operating within the byway region operate under the same basic mission: the Conservation Boards of Iowa are "*local natural resource management and outdoor recreation agencies whose responsibilities are the following: to acquire, develop, maintain and make available public museums, parks, preserves, parkways, playgrounds, recreation centers, forests, wildlife and other conservation areas, to encourage the orderly development and conservation of natural resources and to provide adequate programs of public recreation. Conservation boards also help educate local residents about the natural world in which we live, and administer roadside vegetation management programs. County conservation boards have been created in all of Iowa's 99 counties and are governed by Chapter 350 of the Code of Iowa.*" (from Iowa Association of County Conservation Boards website: *www.iaccb.com*)

The county conservation agencies associated with the Glacial Trail Scenic Byway also participate as owners of lands along the byway and work in conjunction with the DNR and The Nature Conservancy as needed to maintain and enhance natural resources in the area. County conservation boards use REAP funds for a variety of protection and improvement projects on their lands and often partner with other non-profit and citizen groups for matching funds and other assistance. Each county conservation board adopts short and long term plans to address conservation projects in its county. Many of these projects involve the Glacial Trail Scenic Byway region's natural intrinsic qualities.

Little Sioux Valley Conservation Association: The Little Sioux Valley Conservation Association, a 501(c)3 nonprofit, was formed in cooperation with the O'Brien County Conservation Board in 1994. One of the main goals of the Association is to advance the environmental education programs in O'Brien County. The Little Sioux Valley Conservation

Association seeks funds and donations to fulfill the mission and goals of the Prairie Heritage Center project. The Prairie Heritage Center's role in environmental education is a valuable asset to the region. The Center also focuses on the preservation and protection of the area's natural heritage, as well as emphasizing the importance of the area's cultural heritage. Furthermore, the Prairie Heritage Center works to encourage recreational opportunities and the economic development possibilities that grow from these activities.

Watchable Wildlife Project: This website project in Northwest Iowa (www.watchablewildlifenwia.org) is a fresh and innovative approach to bringing Iowans, and others, into closer contact with their outdoor environment. Aimed especially toward a younger generation of citizens, familiar with computer technology for accessing information, this project helps users become aware of, and take greater interest in, the wonders of nature in northwest Iowa. The project's aim is to excite website visitors with the beauty and wonder of northwest Iowa's natural and historic cultural resources and thus get them outdoors to actually experience those treasures first-hand. These connections might result in a much better understanding of Iowa's natural resources and the importance of protecting them. Portions of the Glacial Trail Scenic Byway are included in four of the six loops on the website. These include the Glacial Loop, Prairie History Loop, River Corridor Loop, and Timber Loop. Participation in the Watchable Wildlife Project helps to educate participants about the importance of protecting the wildlife of Northwest Iowa and the Glacial Trail Scenic Byway.

Area Hunting and Habitat Conservation Organizations: There are numerous hunting and habitat conservation organizations in the byway region that partner with county conservation and other organizations on a variety of projects. These might include projects to promote wildlife and habitat conservation, to improve recreational opportunities of hunting in the region, or to conduct educational seminars. Organizations active along the byway include the following: Pheasants Forever, Ducks Unlimited, Wild Turkey Federation, White Tails Unlimited, O'Brien County Sportsmen, Clay County Sportsmen, and Special Youth Challenge.

Historic

Many of the historic resources along the Glacial Trail Scenic Byway are located on public lands owned and managed by the state or county. As discussed above, these governmental entities have a mission to conserve and preserve the public's resources. Some of the historic resources of the byway region are held and managed by local non-profit groups. A few historic properties of the Glacial Trail Scenic Byway are on private land.

National Register of Historic Places: *"The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources." (*from the NRHP website, *www.nps.gov/nr/).*

As described in the *Historic Intrinsic Qualities* section of this plan, there are multiple properties with the National Register of Historic Places designation: Phillip and Anna Parish Kirchner Log Cabin and Wanata Park Picnic Shelter in Peterson and the Brooke Creek Bridge in Buena Vista County. While this designation does not automatically insure preservation of the property, it does represent efforts by either owners or a local citizen group to designate it as historically significant. This designation is respected by agencies at the city, county and state level and therefore does act as some protection for the property in any jurisdictional planning or zoning activities. Both the Wanata Park Picnic Shelter and Brooke Creek Bridge are owned and managed by county conservation boards (Clay and Buena Vista, respectively) and are part of their resources management plans. The Phillip and Anna Parish Kirchner Log Cabin is privately owned by descendants of the Kirchner family, who live in another historic family home on site, providing for on-going maintenance of the property.

Peterson Heritage, Inc: The main group of historic properties along the byway, are located in the Jacob Kirchner Memorial Public Park and are owned and managed by the non-profit group, Peterson Heritage, Inc. The organization's mission is, "We work together to preserve, promote, and enhance the history of Peterson" (www.petersonhistory.org). This group of volunteers maintains and continues with the restoration of the historic properties in Peterson. This includes the J.A. Kirchner home, the Christian Kirchner home, the Rock Forest School, and the Peterson Blockhouse.

O'Brien County Conservation Board: This board oversees the preservation of historic properties under its ownership in O'Brien County. These include the historic Waterman pioneer family property, pioneer cemetery, and Dutch Fred Burial, near the Prairie Heritage Center. The O'Brien County Conservation Board also acts in an advisory role for the privately-held land of the Old O'Brien Town site.

Iowa's State Historic Preservation Office (SHPO): This office, under the State Historical Society of Iowa, has a mission to identify, preserve, and protect Iowa's historic resources. Established in 1972, SHPO's role is to be a facilitator and educator for those who desire to preserve and protect Iowa's historic resources. SHPO staff administers state and federal

historic preservation and incentive programs throughout the state, including the *National Register of Historic Places* program, the *Certified Local Government program*, *Iowa's Cultural and Entertainment District* program, *the state and federal rehabilitation tax incentives program*, and the *Review & Compliance* program. SHPO also maintains a *statewide inventory* of historic properties and provides *technical assistance* on best practices in all aspects of preservation. Two cities near the byway, Spencer and Cherokee, are Certified Local Governments under SHPO. These 2 CLGs are active in their city Historic Preservation Commissions, but are also available to serve as an educational and advisory role in potential byway projects.

Archeological

Archeological resources along the Glacial Trail Scenic Byway are located on both private lands and public lands, owned and managed by the state or county. As discussed above, these governmental entities have a mission to conserve and preserve the public's resources. A majority of the known archeological sites of the Glacial Trail Scenic Byway are on private land. These include Chan-Ya-Ta, Double Ditch, Litka, Lange, Brewster, Phipps, and Bastian. Of the archeological sites described in this plan, only Wittrock is under public ownership.

State Preserve of Iowa: The designation of Wittrock Village site as a State Preserve brings added protection and maintenance. Preserves are established and overseen by a seven-member State Preserves Advisory Board. The State Preserves Advisory Board and land owner (in this case, the DNR), work together to stipulate acceptable land uses and create a management plan to maintain the land's natural characteristics. All provisions must enhance the goal of preserving the area's special features. The State Preserve System is intended to identify, protect, and maintain significant archaeological, historical, geological, biological, and scenic areas for Iowa's citizens. Planning efforts include general long-range planning, to determine what should be included in the system, and development of specific management prescriptions for individual preserves.

National Register of Historic Places: As described in the *Archeological Intrinsic Qualities* section of this plan, there are multiple properties with the National Register of Historic Places designation: Chan-Ya-Ta in Buena Vista County, Bastian, Brewster, and Phipps in Cherokee County and Wittrock State Preserve in O'Brien County. Four of these sites are located on private property: Chan-Ya-Ta, Bastian, Brewster, and Phipps.

While NRHP designation does not automatically insure preservation of the property, it does represent efforts by either owners or a local citizen group to designate it as archeologically significant. This designation is respected by agencies at the city, county and state level and therefore acts as some protection for the property in any jurisdictional planning or zoning activities.

Northwest Iowa Archeological Society: Organized as a branch of the Iowa Archeological Society, the Northwest Chapter members are pledged to support and further the aims and purposes of the parent organization. The Iowa Archeological Society was established by interested Iowans for the study and preservation of the prehistoric and early historic heritage of the state. The mission of the Northwest Chapter of the IAS is, "*to further*

archeological knowledge and to gather, record, and publish information of all archeological remains, whether they be sites, data, or artifacts, for the benefit of future generations of Iowans and scientists." A quarterly newsletter is published at the Sanford Museum in Cherokee and mailed to members.

Sanford Museum and Planetarium: Located in Cherokee also conserves and displays a collection of artifacts from the archeological sites of the byway and offers a variety of speakers and educational opportunities for better understanding of the archeology and prehistory of the byway region.

Office of the State Archaeologist: The OSA acts as an advisory to State Preserves and a state representative for archaeological resources if there any issues or development. The OSA is also responsible for maintaining the iSites system, an online GIS and database for Iowa archaeological sites. The mission of the State Archaeologist Office "*is to develop, disseminate, and preserve knowledge of Iowa's human past through Midwestern and Plains Archaeological research, scientific discovery, public stewardship, service, and education*." (*www.uiowa.edu/~osa/*)

Recreation

County Conservation Boards (Buena Vista, Cherokee, Clay, O'Brien): Each of the county conservation boards operating within the byway region operate under the same basic mission: the Conservation boards of Iowa are "*local natural resource management and outdoor recreation agencies whose responsibilities are the following: to acquire, develop, maintain and make available public museums, parks, preserves, parkways, playgrounds, recreation centers, forests, wildlife and other conservation areas, to encourage the orderly development and conservation of natural resources and to provide adequate programs of public recreation. Conservation boards also help educate local residents about the natural world in which we live, and administer roadside vegetation management programs. County conservation boards have been created in all of Iowa's 99 counties and are governed by Chapter 350 of the Code of Iowa.*" (*www.iaccb.com*)

The county conservation agencies associated with the Glacial Trail Scenic Byway also participate as owners of lands along the byway and work in conjunction with the DNR and Nature Conservancy as needed to maintain and enhance natural resources in the area. County conservation boards use REAP funds for a variety of protection and improvement projects on their lands and often partner with other non-profit and citizen groups for matching funds and other assistance. Each county conservation board adopts short and

long term plans to address conservation projects in its county. Many of these projects involve the Glacial Trail Scenic Byway region's natural intrinsic qualities.

For example, Wanata Park has recently come under the ownership and management of the Clay County Conservation Board. Previously the park was named Wanata State Park and was owned by the State of Iowa and managed by the county through a 28E agreement with the DNR. Future projects for the park include improving or restoring the park trail system and possibly installing new restrooms for park users and new boat ramp users.

DNR/REAP Programs: REAP stands for Resource Enhancement and Protection. It is a program in the State of Iowa that invests in the enhancement and protection of the state's natural and cultural resources. REAP provides money for projects through state agency budgets or in the form of grants. Several aspects of REAP also encourage private contributions that help accomplish program objectives. Fund distribution is listed below:

1. State Open Space 28%
2. City Parks and Open Space 15%
3. Soil and Water Enhancement 20%
4. County Conservation 20%
5. State Land Management 9%
6. Historical Resources 5%
7. Roadside Vegetation 3%

SCORP (Statewide Comprehensive Outdoor Recreation Plan): The purpose of the 2006 Statewide Comprehensive Outdoor Recreation Plan (SCORP) titled "Outdoor Recreation in Iowa" was to assess the supply of, and demand for, outdoor recreational opportunities. This action plan is the first phase in outdoor recreation planning for Iowa. An implementation plan for outdoor recreation was developed for the Department of Natural Resources and was dedicated to working with numerous partners and improving outdoor recreation for our citizens.

Project AWARE (A Watershed Awareness River Expedition): This organization, under Iowa DNR, conducted its annual river cleanup on the Little Sioux River in 2005. Roughly 200 volunteers pulled a record 124 cubic yards of trash from the Little Sioux River, between Milford and Cherokee from June 18–25. The river cleanup route included the full length of the Little Sioux River that travels through the byway region.

This river cleanup effort happens each summer along a river in Iowa and is organized by two programs within the Iowa Department of Natural Resources: the IOWATER citizen water quality monitoring program and the Keepers of the Land volunteer program. The trash is collected by volunteers who canoe the river in designated sections. The collected trash is recycled whenever possible.

DNR/ Water Quality: Portions of Little Sioux River are on the Iowa DNR's *Iowa 2010 Impaired Waters list* (p 103). The section from Highway 3, Cherokee County, to the confluence of Waterman Creek, is designated and its cause for 303(d) listing is sited as bacteria/TMDL priority low.

Local Hunting and Habitat Conservation Organizations: There are many active hunting and habitat conservation organizations in the byway area, such as Pheasants Forever, Ducks Unlimited, Wild Turkey Federation, White Tails Unlimited, O'Brien County Sportsmen, Clay County Sportsmen, and Special Youth Challenge. These organizations often work in partnership with the local county conservation boards and DNR projects to conserve or protect wildlife habitat or to promote recreational hunting activities along the byway.

Iowa Audubon Society/ Northern Iowa Prairie Lakes Audubon Society: "*The mission of the Iowa Audubon Society is to identify, protect and restore Iowa's bird habitats, to educate Iowa's citizens toward a greater level of conservation awareness, and to promote enjoyment and greater pride in Iowa's natural ecosystems, birds, and other wildlife*." (*www.iowaaudubon.org*) The local Audubon chapter is quite active in the byway region and involved in a number of area educational, recreational and conservation programs.

Cultural

Little Sioux Valley Conservation Association and Prairie Heritage Center: The Little Sioux Valley Conservation Association, a 501(c)3 nonprofit, was formed in cooperation with the O'Brien County Conservation Board in 1994. The Little Sioux Valley Conservation Association seeks funds and donations to fulfill the mission and goals of the Prairie Heritage Center project. The Prairie Heritage Center focuses on the preservation and protection of the area's natural heritage, as well as emphasizing the importance of the area's cultural heritage. Furthermore, the Prairie Heritage Center works to encourage recreational opportunities and the economic development possibilities that grow from these activities.

Linn Grove Community Enhancement Foundation: The primary purposes of the corporation is to expose the public to our past national, state and local cultures; reacquainting people to small town river life; an avenue for fund raising to promote tourism, growth, and town beautification; and to develop commercial and artistic ventures, and recreational opportunities.

DNR/REAP Programs: REAP stands for Resource Enhancement and Protection. It is a program in the State of Iowa that invests in the enhancement and protection of the state's natural and cultural resources. REAP provides money for projects through state agency budgets or in the form of grants.

Artisans Road Trip: A.R.T. is organized and run by "Artists working for Artists." Through this organization, professional artists welcome guests into their studios to discover and purchase quality original works during the annual Artisans Road Trip in early October. A.R.T. is a free self-driving open studio tour. The free tour includes many Northwest Iowa artists representing several counties. A.R.T. invites all to travel Iowa's scenic byways and back roads looking for one-of-a-kind art treasures. Artisans offer a rare glimpse into creative processes as they demonstrate their craft in personal and unique workspaces. A.R.T. offers a printed brochure with directions to artist's studios. Each year's brochure/ map is available at local art centers, banks, libraries, community gathering centers, Iowa Welcome Centers and artist locations. A.R.T. organizes studios, dining and lodging sponsors into 4 area tours. A.R.T. also maintains a comprehensive website showcasing involved artists and provides links to individual sites. A.R.T. works to advance Northwest Iowa Art, educating and helping to develop local markets and tourism. (*artisansroadtrip.com*)

Action Items/Point 3 Strategy for Maintaining and Enhancing Intrinsic Qualities:

- Continued communication, education and outreach via public programming, expanding the GTSB newsletter (in size and distribution).
- Continued support and cooperation with staff at the Prairie Heritage Center regarding public outreach, events and programming.
- Invite a county zoning and planning person or engineer to join the Byway Board.
- Promote Buena Vista County Conservation Board's plans for improvements at Buena Vista County Conservation Park. They include 18 new camp sites (10 pull through) with electrical hookup and water, a new shower and restroom facility, dump station, and playground. Also planned is a new ¾ mile wooded walking trail and 1–2 small rental cabins.
- Promote Clay County Conservation Board's plans for improvements to Wanata Park, such as improving or restoring the park trail system and possibly installing new restrooms for park users and new boat ramp users.
- Support the Cherokee and O'Brien County Conservation Boards plans for promotion and improvements to their county parks and facilities along the byway.
- Develop a plan for incorporating a hard surface shoulder/bicycle lane along the byway from the Prairie Heritage Center to Dog Creek County Park. This would enable young families to ride safely with their children. Starting with a small segment and then adding more each year would be a good long range goal. Partner with Little Sioux Spoke Folk and other bicyclists toward this goal.
- Develop long term plans for conservation of archeological sites, currently located on private land. Maintain communication with the Archaeology Conservancy, Office of the State Archeologist and local landowners to be aware of opportunities for protection and conservation as they arise.
- Continued cooperation with staff at the Sanford Museum and Planetarium regarding public outreach, events and programming.
- Promote the Artisans Road Trip event each October, by incorporating ART information in brochures and maps where possible and partnering with the ART organization in supporting artists and art/culture along the byway whenever possible.
- Participate in Water Trail planning efforts for the Little Sioux River with the Iowa Department of Natural Resources and other organizations involved along the byway. The Iowa Department of Natural Resources was mandated in 2008 to undertake development of a statewide plan for the water trails program and the low-head dam public hazard program. Elements were to include an inventory of low-head dams, various design templates and construction guidelines for working in and along rivers and recommendations for volunteers, communities, water trail developers, and dam owners.

Point 4: Schedule and List of all Agency, Group, and Individual Responsibilities in the Implementation of the CMP

The table below shows a list of action items or tasks pertaining to the Glacial Trail Scenic Byway Corridor Management Plan. It represents a summary of the action items listed throughout the document. The sub-headings in the table show the section or point from where the action item or task originated. The table also shows the entities responsible for their implementation and a time frame for action. The Glacial Trail Scenic Byway Board is responsible for the review and evaluation of these goals each year.

	Action Item/Task	Responsibility for Implementation	Time Frame
Point 3: Strategy for Maintaining and Enhancing Intrinsic Qualities			
1.	Continued communication, education and outreach via public programming, expanding the GTSB newsletter (in size and distribution)	GTSB Coordinator	Biannual, Spring & Fall
2.	Continued cooperation with staff at the Prairie Heritage Center regarding public outreach, events and programming	GTSB Board, O'Brien County Conservation Board, Little Sioux Valley Conservation	On-going
3.	Invite a county zoning and planning person to join the Byway Board.	GTSB Board	2014/short-term
4.	Promote Buena Vista County Conservation Board's plans for improvements at Buena Vista County Conservation Park. They include 18 new camp sites (10 pull through) with electrical hookup and water, a new shower and restroom facility, dump station, and playground. Also planned is a new ¾ mile wooded walking trail and 1–2 small rental cabins	GTSB Board with Buena Vista County Conservation Board	Short to Mid-term
5.	Promote Clay County Conservation Board's plans for improvements to Wanata Park, such as improving or restoring the park trail system and possibly installing new restrooms for park users and new boat ramp users	GTSB Board with Clay County Conservation Board	Short to Mid-term
6.	Support the Cherokee and O'Brien County Conservation Boards plans for promotion and improvements to their county parks and facilities along the byway	GTSB Board with Cherokee County Conservation Board	Short to Mid-term
7.	Develop a plan for incorporating a hard surface shoulder/ bicycle lane along the byway from the Prairie Heritage Center to Dog Creek County Park. This would enable young families to ride safely with their children. Starting with a small segment and then adding more each year would be a good long range goal.	GTSB Board with DOT, Little Sioux Spoke Folk, cities of Sutherland and Peterson	Long-term
8.	Develop long term plans for conservation of archeological sites, currently located on private land. Maintain communication with the Archaeology Conservancy, Office of the State Archeologist and local landowners to be aware of opportunities for protection and conservation as they arise	GTSB Board, The Archaeological Conservancy, Iowa Archeological Society, Office of the State Archeologist of Iowa	Long-term

9.	Continued cooperation with staff at the Sanford Museum and Planetarium regarding public outreach, events and programming	GTSB Board and Sanford Museum and Planetarium staff	On-going
10.	Promote the Artisans Road Trip event each October, by incorporating ART information in brochures and maps where possible and partnering with the ART organization in supporting artists and art/culture along the byway whenever possible.	GTSB Webmaster and Artisans Road Trip members	On-going
11.	Participate in Water Trail planning efforts for the Little Sioux River with the Iowa Department of Natural Resources and other organizations involved along the byway	GTSB Board, DNR, Buena Vista, Cherokee, Clay and O'Brien County Conservation Boards	Mid-term
Point 5: Strategy to Enhance Existing Development and Accommodate New Development While Preserving the Intrinsic Qualities of the Corridor			
12.	Maintain contact with the County Zoning Officers of Clay, O'Brien, Cherokee, and Buena Vista counties to keep informed of any zoning changes along the byway or future development	GTSB Board and County Zoning Officers of Buena Vista, Cherokee, Clay and O'Brien Counties	On-going
13.	Invite a County Zoning Officer to be a member of the Byway Board.	(see action item #3 above)	
14.	Maintain regular contact with the County Board of Supervisors of Buena Vista, Cherokee, Clay and O'Brien counties and keep them informed of byway activities and needs.	GTSB Coordinator	Annually through 2014
15.	Further develop relationships with the business community along the byway, so that they may better understand the intrinsic qualities and efforts underway to preserve them. Listen also to their specific needs and concerns. Groups to communicate include area farmers, businesses of Linn Grove and Peterson, and wind turbine owners and operators.	GTSB Coordinator and GTSB Board	On-going
Point 7: Review of Road Safety/Accident Record/Correcting problems			
16.	Cooperate with any Iowa DOT assessments regarding road safety or opportunities to reduce the number of crashes along the Glacial Trail Scenic Byway.	Iowa DOT and GTSB Board	On-going
Point 8: Accommodating Commerce while Maintaining Safe Highway Service and Convenient User Facilities			
17.	Develop relationships with farmer and private landowners through stakeholder meetings to understand their specific concerns regarding the byway.	GTSB Board	On-going, Annually at Stakeholder Meetings
18.	Develop relationships with wind turbine representatives through stakeholder meetings to understand their specific concerns regarding the byway.	GTSB Board	On-going, Annually at Stakeholder Meetings
19.	Incorporate mention of farm equipment on the roadways, especially during planting and harvest seasons, in all promotional materials for the byway, advising visitors to be aware and use caution (through brochure etc).	GTSB Coordinator	On-going

Point 9: Minimizing Intrusion on Visitor Experience and Improvements to Enhance Experience			
20.	Maintain regular contact with County Zoning Officers of Clay, O'Brien, Cherokee, and Buena Vista counties to keep informed of any zoning changes along the byway or future development	(see action item #12 above)	
21.	Invite a County Zoning Officer to be a member of the Byway Board.	(see action item #3 above)	
22.	Maintain contact with the County Board of Supervisors of Buena Vista, Cherokee, Clay and O'Brien counties and keep them informed on byway activities and needs.	(see action item #14 above)	
23.	Further develop relationships, through stakeholder meetings, with the business community along the byway, so that they may better understand the intrinsic qualities and efforts underway to preserve them. Listen to their specific needs and concerns. Groups to communicate include area farmers, area property owners, businesses of Linn Grove and Peterson, wind turbine owners and operators.	GTSB Board	On-going, Annually at Stakeholder Meetings
24.	Investigate the need to introduce the Adopt-a-Highway program into the byway area.	GTSB Board	Mid-term
25.	Create a data base (and maps) of haves, immediate needs and long term wishes as far as attractions, amenities, accommodations, etc.	GTSB Board and Stakeholders	On-going
26.	Prioritize and work on attracting attractions, amenities, accommodations, etc on the "immediate needs" list. This may involve other agencies such as area economic development, etc	GTSB Coordinator and GTSB Board	Long-term
27.	Work with promotion organizations to attract group tours (ie bank clubs etc) to the area.	GTSB Coordinator and GTSB Board	Mid-term
28.	Make sure that existing visitor amenities are included in marketing materials	GTSB Coordinator and GTSB Board	On-going
29.	Invite an Economic Development member to join the Board	GTSB Coordinator and GTSB Board	Short-term (2014)
Point 10: Review of Compliance with Existing Laws on Control of Outdoor Advertising			
30.	Maintain contact with the State of Iowa Department of Transportation regarding any DOT notifications about outdoor signage on State Highway 10 and changes to the state ordinance on outdoor signage.	GTSB Board	On-going
31.	Maintain contact with County Zoning Officers of Clay, O'Brien, Cherokee, and Buena Vista counties to keep informed of any outdoor signage changes along the byway or changes in outdoor signage ordinances.	GTSB Board	On-going
32.	Invite a County Zoning Officer to be a member of the Byway Board	(see action item #3 above)	

Point 11: Signage Plans/Supporting Visitor Experience			
33.	Comply with Task 8 of the Byway Sustainability Project "This task shall require RC&D to organize stakeholders to participate in an annual inventory of signage and communication of inventory results to applicable byways jurisdictions"	GTSB Coordinator, GTSB Board, DOT	Mid-term
34.	Survey and assess the value of establishing consistent destination signs for all County Conservation Areas, County Parks, Water Access Points and Wildlife Management Areas along the Glacial Trail Scenic Byway. Currently there is no official destination sign on the byway for the following features: Bertram Reservation, Martin Area, Nelson Area, Soo Access, Burned Bridge Canoe Access (signed "Public Area"). and Little Sioux Riverside Access (signed "Roadside Park") or directional sign to Prairie Heritage Center at M12 and Hyw 10.	GTSB Board with County Conservation Boards of Clay, O'Brien, Cherokee, Buena Vista	Long-term
35.	Survey and assess the value of establishing consistent signage for area historic sites and museums.	GTSB Board, Peterson Heritage, Inc, and County Conservation Boards	Mid-term
36.	Consider working with the communities of Linn Grove and Peterson to update their directional and town limit/ welcome signs, per the State DOT Official City Sign requirements and incorporating mention of the Glacial Trail Scenic Byway as appropriate.	GTSB Board, DOT, and elected officials of Linn Grove and Peterson	Mid to Long-term
37.	Investigate options for signage of visitor amenities such as restrooms, picnic tables, canoe access, camping, hiking, etc. as they exist at area public lands like city and county parks, river access, and wildlife management areas.	GTSB Board, County Conservation Boards, elected officials of Linn Grove and Peterson	Mid-term
38.	Investigate the options for establishing a bicycle route along the byway and its appropriate signage	(see action item #7 above)	
Point 12: Marketing the Byway and its Intrinsic Qualities			
39.	Capitalize on or cooperate with other marketing and programming such as Watchable Wildlife and Iowa Country Ways	GTSB Board	Long-term
40.	Maintain current list of area partnerships and cooperatives	GTSB Coordinator and GTSB Board	On-going
41.	Engage area economic/tourism development agencies in a publicity or marketing campaign Decide who will develop the campaign, what media outlets will be involved, what area will be targeted, what type of customers sought, and costs/funding	GTSB Coordinator and GTSB Board	Short-term/On-going
42.	Conduct a survey of visitors to be used as data base for grant opportunities and future planning. Decide who will administer, develop and perform analyses.	GTSB Coordinator with Prairie Heritage Center staff	Mid-term (first stage is on-going)
43.	Host a public event for byway awareness that is fun, festive and attention getting. Decide who will plan and host, budget, audience, when, how many volunteers and who.	GTSB Coordinator and GTSB Board	On-going

44.	Place brochures and maps in hotels, welcome centers, local businesses, attractions etc.	GTSB Coordinator and GTSB Board	On-going
45.	Continue work on the specifics of a thorough marketing and communication plan, develop quantifiable objectives as part of marketing goals, define the target audience that can help reach goals and objectives, conduct market research via surveys, focus groups or investigate existing market research, create a communication plan using multiple methods to reach your audience, set a timeline and budget, and evaluate the results of marketing efforts on a regular basis.	GTSB Coordinator and GTSB Board	Mid-term
Point 13: Design Standards for Proposed Modification of Roadway			
46.	The GTSB Board will work closely with State DOT staff and county engineers to plan any modifications to the roadway as necessary.	DOT and GTSB Board (if Board proposes)	As needed
Point 14: Plans to Interpret the Significant Resources of the Scenic Byway			
47.	Complete the mapping process of the byway and develop information for mini trails: cemeteries, parks, libraries, festivals, attractions, etc. for website/brochure	GTSB Board	Mid-term
48.	Prepare a brochure and map system for print on paper and electronic media	GTSB Coordinator and GTSB Board	Short-term/On-going
49.	Finalize first “loops” and related maps and develop a photo gallery of these side trips throughout all of the seasons	GTSB Board	Mid to Long-term (photo gallery on-going)
50.	Develop iPod type guided tours of attractions, loops and a system for byways travelers	GTSB Board	Mid to Long-term
51.	Work to develop oral histories and archaeological surveys of the area. Work with other agencies or granting bodies to find funding for this work.	GTSB Board and related stakeholders	Mid to Long-term
52.	Develop a series of annual byway events in conjunction with other agencies to educate and engage the public about byway intrinsic qualities.	GTSB Coordinator and GTSB Board	On-going
53.	Develop a plan for incorporating a hard surface shoulder/ bicycle lane along the byway from the Prairie Heritage Center to Dog Creek County Park.	(see action item #7 above)	
54.	Establish various “birding loops” to drive. Establish more hiking, biking and cross country skiing trails in habitat areas for more people to bird, year around with improved access.	GTSB Board, local Audobon Society, related stakeholders (see action item 49)	Mid to Long-term

Point 5: Strategy to Enhance Existing Development and Accommodate New Development While Preserving the Intrinsic Qualities of the Corridor

The rural nature of the Glacial Trail Scenic Byway leads any discussion of development to agricultural land use. As has been discussed throughout this plan, many of the intrinsic qualities of the byway are protected by the public lands that contain them. The towns of Linn Grove and Peterson are not currently experiencing any major development or expansion. Any existing or new development that would have an impact on the intrinsic qualities of the byway involves development on privately owned agricultural lands. Theses impacts primarily impact the scenic intrinsic quality of the byway and come in the form of wind turbines, cattle yards and large farm machinery sheds or grain storage bins. Any local regulations to these types of development come from the county zoning departments.

A review of local county comprehensive plans provides only minor mention of the byway area and no specific mention of the scenic byway and its intrinsic qualities. The counties of O'Brien and Cherokee have no current county comprehensive plans in place and rely on the county zoning officer and county board of supervisors to administer any zoning requirements or address any zoning issues as they arise. In the case of livestock yards or confinements, the Iowa DNR also conducts a review of any runoff issues. Depending on the number of animals units, the master matrix scoring system is used to evaluate the siting of permitted confinement feeding operations. Before construction is approved, the project owner must earn points on the master matrix for choosing sites and using practices that reduce adverse impacts on the environment and the community.

The *Buena Vista County Comprehensive Plan (2009–2030)* existing land use map shows the land-use categories of wind power generation towers, agricultural storage and confined animal feeding operations (CAFOs) scattered throughout the county and the byway area. In the plan's discussion of future land use and land use categories, development in general is encouraged as a means of enhancing the county economy. The main concern sited, regarding development on agriculture lands, is for areas near the Little Sioux River or when development might impact groundwater, surface water or air quality and/or soil productivity.

The same basic philosophy regarding development of agricultural lands is found in the *2010 Comprehensive Plan for Clay County*. Agricultural land uses in Clay County include land use to produce row crops, grazing, pasture, raising or confined livestock, support orchards or farming, or store grain or agricultural products on a small scale. In a summary

of its planning goals, the plan states (p. iii), "*3. Clay County should achieve a progressive balance between promoting development to facilitate the economic development potential of the county and respecting the rights and responsibilities to preserve prime agricultural lands and natural resources*." While the agricultural economy remains one of the county's strongest economic resources, the protection of prime agricultural land from future (non-agricultural) development and unnecessary urban sprawl is detailed.

Regarding non-agricultural development in the byway region, the Clay County Future Land Use map (p. iv) shows potential future residential zoning for the land just east of Peterson along Highway 10. Any building plans for this area would require the usual special use permits, public notification and public hearings. Subdivision projects would require more public hearings and a preliminary plot plan through the Zoning Commission and Board of Supervisors. While there are no residential housing subdivisions currently planned for this area, current zoning would allow such development there.

Both county comprehensive plans mention the importance of supporting projects within their county park lands as a means of economic development. This support is part of the strategy for enhancement of existing recreational/park development in the byway region

The *Buena Vista County Comprehensive Plan (2009–2030)* mentions numerous goals and policies related to economic development and the role county recreational facilities play in economic development (p. 130, Goal 5 and policies 5.2 and 5.5, and p. 133, Goal 10 and policies 10.1–10.6). These policies would support any improvements to the Buena Vista County parks and facilities in the byway region. In discussions of future land use, recreational development policies are also supported. Finally, under Buena Vista Counties Proposed Improvements (p 154), a Trail Development map sites "Alternate Route" bike trails on current gravel roads near the Buena Vista County Park, Wanata Park, Bluebird Access and the River Road between Sioux Rapids and Linn Grove.

The *2010 Comprehensive Plan for Clay County* mentions various objectives and related policies dedicated to maintaining and improving county parks and facilities (p. 119, Objective 9, policies 9a–9c). The plan also offers policies to promote the effective utilization of natural resource areas and encourage environmentally conscious developments in Clay County (p. 120, Objective 10, policies 10a–10f).

Action Items:

- Maintain contact with the County Zoning Officers and/or engineers of Clay, O'Brien, Cherokee, and Buena Vista counties to keep informed of any zoning changes along the byway or future development.
- Invite a County Zoning Officer or Engineer to be a member of the Byway Board.
- Maintain regular contact with the County Board of Supervisors of Buena Vista, Cherokee, Clay and O'Brien counties and keep them informed of byway activities and needs.
- Further develop relationships with the business community along the byway, so that they may better understand the intrinsic qualities and efforts underway to preserve them. Listen also to their specific needs and concerns. Groups to communicate include area farmers, businesses of Linn Grove and Peterson, and wind turbine owners and operators (Alliant and MidAmerican Energy).
- Provide resources and information to area economic development agencies about byway intrinsic qualities for informed decision-making when evaluating future development.

Point 6: Public Participation in the Implementation of the CMP

This section of the CMP provides suggestions for ongoing public and community involvement activities to continue to build interest in the byway and generate additional support, partnerships, and resources over time.

The Glacial Trail Scenic Byway Corridor Management Plan was developed through the coordinated efforts of local agencies and organizations that are already responsible for stewardship and preservation of public lands and resources along the Glacial Trail Scenic Byway. Representatives from these entities, as members of the Byway Board, have worked together to develop the plan and will continue to coordinate plan implementation. They have involved and gathered input from the public and other stakeholders throughout the planning process. The hope is that even more organizations, businesses, community groups, and individuals will get involved over time to help implement the projects and actions in this plan.

Point 4: Schedule and List of Agency, Group and Individual Responsibilities in the Implementation of the Corridor Management Plan, contains a table of proposed action items or tasks pertaining this plan. It also shows the entities responsible for their implementation and a time frame for action. This list of action items involve participation from a variety of public entities, and clearly shows that the Byway Board will be seeking assistance from stakeholders beyond the immediate byway organization.

One key aspect of public participation for the Corridor Management Plan was the review process whereby a draft of the plan was sent out for review by staff from different local entities associated with the byway. The following individuals or groups were invited to review a portion or all of a draft of the Glacial Trail Scenic Byway and offer comments (and those comments were incorporated into the document):

- Glacial Trail Scenic Byway Board
- RC&D staff (Golden Hills RC&D and Iowa Lakes RC&D)
- County Conservation Board members of Buena Vista, Cherokee, Clay and O'Brien Counties
- County Board of Supervisor members of Buena Vista, Cherokee, Clay and O'Brien Counties
- County Zoning and Planning or Engineering staff of Buena Vista, Cherokee, Clay and O'Brien Counties
- Iowa Department of Transportation staff
- Northwest Iowa Planning and Development Commission staff
- Tourism and Economic Development staff of Buena Vista, Cherokee, Clay and O'Brien Counties
- Area Non-Profit Representatives: Sanford Museum and Planetarium, NW IA Archeological Society, Peterson Heritage, Inc., Audubon Society, Little Sioux Spoke Folk, Linn Grove Community Enhancement Foundation,
- Interested private residents and business owners along the byway

In addition to the agencies and organizations that have guided development of this plan, there are many other existing and potential partners who can help with ongoing byway management and implementation. It is important to know who the stakeholders are along the byway and to involve them in ongoing byway management and implementation activities as much as possible. Who hasn't been involved to date, but should be? There may be some valuable and important partners out there ready and waiting to help.

Typical major stakeholders should include:

- Property owners and private landowners and land managers along the byway (identify names from tax records) including farmers, land managers, and others
- Local business people, especially those from businesses that would be affected by increased tourism
- Agencies and interests responsible for management activities in the corridor
- Local community associations, chambers of commerce, tourism and economic development groups, and other community organizations dedicated to promoting business, quality of community life, or tourism
- Organizations dedicated to specific intrinsic qualities of the corridor (such as historical or archeological societies, local museums, outdoor recreational organizations, local or regional festival organizers, artists, and conservationists).

A broad level of involvement will be needed to achieve the byway mission "to enhance and promote the area's cultural and natural heritage; and to build awareness and market the intrinsic qualities of the byway to local, state and national visitors" and its vision "to guide visitors through a better understanding of the human interaction with the landscape of the byway. **"**

Ongoing public participation and community involvement will be essential to the success of future byway planning, management, and implementation. The byway organization will continue to represent the views of local communities and interests, but at key decision making points and important milestones in the future, there also will be a need for broader community input and involvement. Citizens and special interest groups throughout the byway region can provide valuable information and input. They are the local experts who can describe in detail the existing conditions, problems, and potential solutions that are best suited to their specific situations.

Since 2008, annual byway stakeholder meetings have been organized and held to keep the public informed of byway projects and volunteer needs. Other byway outreach activities have also been conducted along the byway each year. Time is a precious commodity in peoples' busy lives and it may be difficult for some to attend public meetings and workshops. With that in mind, it may be useful to reach out to the public in other ways besides meetings.

Websites, social media, and email lists are a good way to keep people informed and to encourage dialogue through on-line correspondence. These communication tools are also mentioned in more detail in *Point 12: Marketing the Byway and its Intrinsic Qualities*, as marketing and public participation ideally go hand-in-hand. A successful way to get participation is to attend meetings that are already set-up in the community, such as local

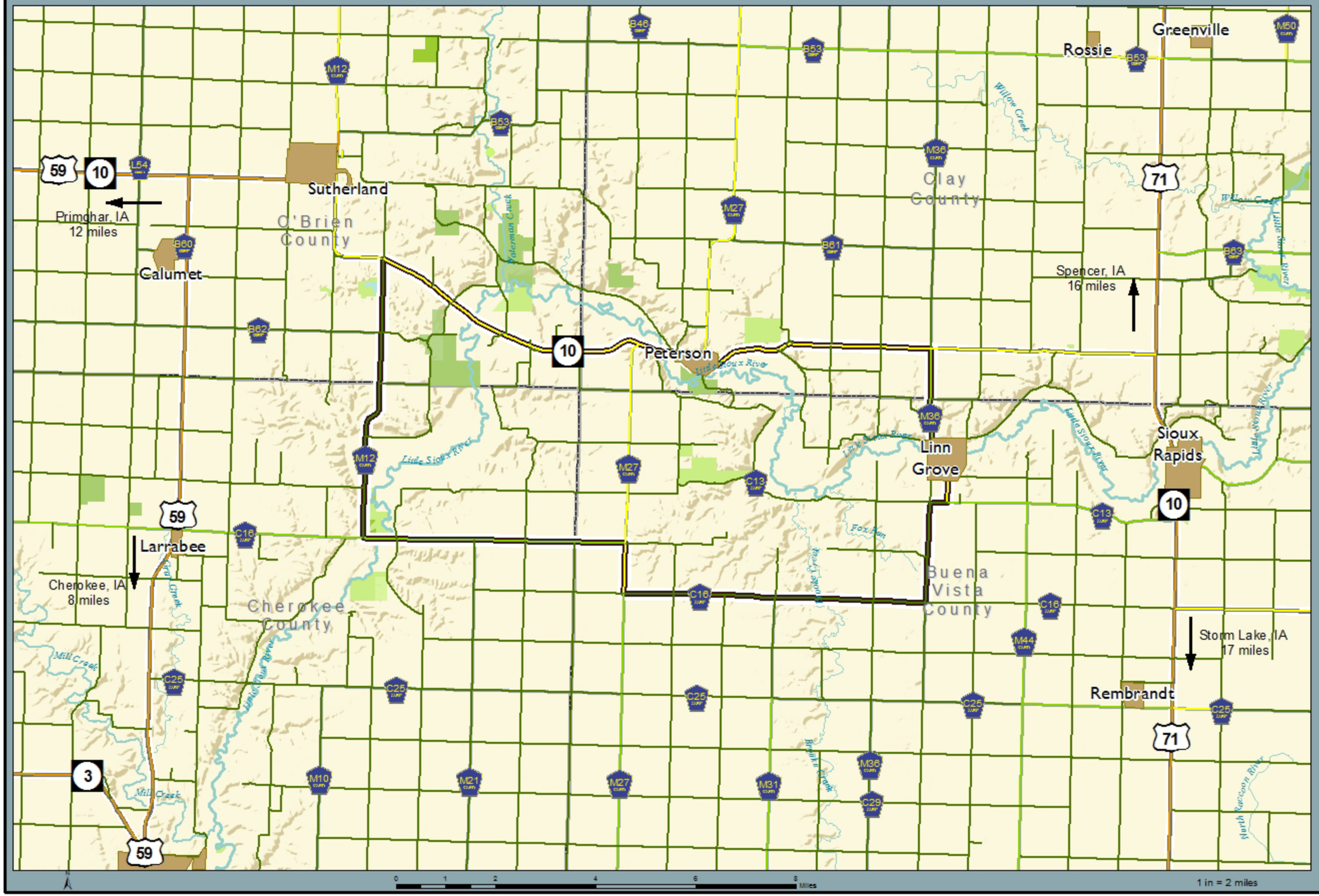
chambers of commerce, tourism groups, service and environmental organizations, public agency boards and committees, etc. This method can be successful because information can be obtained through meetings that are already attended by a group of devoted volunteers or community representatives, rather than adding another meeting to their busy schedules.

Presentations to elected officials and commissions can also provide opportunities for input and involvement in byway activities, as well as for building awareness and gathering support for needed improvements.

Promoting public participation in the implementation of this Corridor Management Plan will remain a challenge to the byway organization. As the byway organization continues to grow and the Byway Board expands, more members of the byway community will be called on to assist in promoting the mission and vision of the Glacial Trail Scenic Byway.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Traffic Volume
Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: February, 2013

Legend

Average Annual Daily Traffic (AADT) 2008

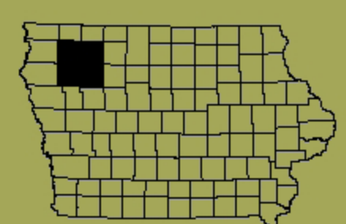
- 0 - 250
- 251 - 500
- 501 - 1000
- 1001 - 4000
- 4001 - 10000

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local
- Waterbody
- River
- Landform



Point 7: Review of Road Safety/Accident Record/Correcting Problems

The Average Annual Daily Traffic (AADT) map on the previous page provides information on roadway use of the Glacial Trail Scenic Byway route. It reaffirms that the byway is a typical rural roadway with overall light traffic numbers.

Is it important to review the accident data for the Glacial Trail Scenic Byway in order to identify any dangerous portions of the roadway, dangerous intersections or other issues that may endanger travelers on the byway. Potential safety issues along the byway include deer or other animals, large and/or slow-moving farm machinery on the road, school bus stops, utility trucks alongside the road, bicyclists, or weather-related conditions (snow, ice, fog, or wind).

Crash Statistics, Glacial Trail Scenic Byway, 2002–2011

The Crash Severity map below was provided by the Iowa Department of Transportation. It shows the locations and severity of crashes along the Glacial Trail Scenic Byway from 2002 to 2011. Further specifics on these crashes are detailed in the tables on the following pages, also provided by the Iowa DOT.

Crash Severity
Glacial Trail Scenic Byway, 2002-2011

Disclaimer:
The information contained in this report was derived from the June 12, 2012, Iowa Department of Transportation crash database. If errors or odd cases are found, please communicate the case number or send a printed crash report to Michael Pawlovich, Iowa DOT, Office of Traffic and Safety, (Michael.Pawlovich@dot.iowa.gov, 515.239.1428). Since the database is actively being updated, edited, and reviewed, some of the fatality totals may differ from the Fatality Analysis Reporting System (FARS).

Legend

Crash Severity
- Fatal (1)
- Major Injury (11)
- Minor Injury (14)
- Possible/Unknown (15)
- PDO (62)

Glacial Trail Segments
- IA-10 in OBrien County
- IA-10 in Clay County west of Peterson
- IA-10 in Peterson city limits
- IA-10 east of Peterson
- M-36 in Clay County (170th Ave)
- M-36 in Buena Vista County (80th Ave/Weaver St)
- M-36 in Linn Grove, IA city limits (Weaver St)
- M-36 south of Linn Grove (85th Ave/440th St/80th Ave)
- C-16 easternmost segment (460th St)
- M-27 (20th Ave)
- C-16 in Buena Vista County (450th St)
- C-16 in Cherokee County (450th St)
- M-12 in Cherokee County (U Ave)
- M-12 in Obrien County (Warbler Ave)

Borders
- City limits
- County limits

ctre Center for Transportation Research and Education
Iowa State University
ITSDS Iowa Traffic Safety Data Service
Iowa Department of Transportation
Governor's Traffic Safety Bureau

Crash Statistics, Glacial Trail Scenic Byway, 2002–2011

The Crash Severity map below was provided by the Iowa Department of Transportation. It shows the locations and severity of crashes along the Glacial Trail Scenic Byway from 2002 to 2011. Further specifics on these crashes are detailed in the tables on the following pages, also provided by the Iowa DOT.

Table 1: This table shows the total number by type of crash severity on the Glacial Trail Scenic Byway from 2002–2011. Total estimated property damage for the crashes is also provided.

Crash Severity on Glacial Trail Scenic Byway			State Averages
Severity		**Est. Property Damage**	
Fatal	1	$30,000	
Major Injury	11	$45,650	
Minor Injury	14	$82,414	
Possible/Unknown	15	$76,050	
Property Damage Only	62	$230,091	
Grand Total	103	$464,205	

****Disclaimer:**
The information contained in this report was derived from the June 12, 2012 Iowa Department of Transportation crash database. If errors or odd cases are found, please communicate the case number, or send a printed crash report, to Michael Pawlovich, Iowa DOT, Office of Traffic and Safety, (Michael.Pawlovich@dot.iowa.gov, 515.239.1428). Since the database is actively being updated, edited, and reviewed, some of the fatality totals may differ from the Fatality Analysis Reporting System (FARS). Date Produced: November 6, 2012

Table 2: This table shows total number of crashes by severity for each year from 2002–2011. Crash totals have generally decreased over the past 5–6 years. Over the past 10 years, the Glacial Trail Scenic Byway has averaged about 10 crashes each year, most resulting in property damage only and no injuries.

Year	Crash Severity by Year										Total
	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	
Fatal						1					1
Major Injury		1	4	1	2	1	2				11
Minor Injury	1	4		2	1		2	1	2	1	14
Possible/Unknown	3	2	2	3	3					2	15
Property Damage Only	6	12	8	8	2	4	2	10	5	5	62
Year Total	10	19	14	14	8	6	6	11	7	8	103

Table 3: This table provides information for each segment of the Glacial Trail Scenic Byway. From 2002–2011, the segment of Highway 10 from Peterson eastward to M36 had the most accidents, including one fatality. The next 2 most accident-prone sections of roadway were from Peterson west on Highway 10 and M36 within the Linn Grove corporate limits.

Segment	Segment Length (mi)	Annual Average Daily Traffic	Crash Severity by Segment					Total
			Fatal	Major Injury	Minor Injury	Possible/ Unknown	PDO	
IA-10 in OBrien County	4.45	600			1	2	8	**11**
IA-10 in Clay county West of Peterson	2.00	742			1	1	12	**14**
IA-10 in Peterson City Limits	0.96	924			2		5	**7**
IA-10 East of Peterson	4.38	620	1	4	2	3	11	21
M-36 in Clay County (170th Avenue)	1.00	480					1	**1**
M-36 in Buena Vista County (80th Ave/Weaver St)	1.09	501			1	3	5	**9**
M-36 in Linn Grove, IA Corporate Limits (Weaver St)	0.67	679		3	2	3	5	**13**
M-36 south of Linn Grove (85th Ave/440th st/80th ave)	2.77	285		1	2		2	**5**
C-16 (460th st)	6.04	173					1	**1**
M-27 (20th Ave)	1.00	550		1		1	2	**4**
C-16 to county line (450th st)	1.01	340						0
C-16 in Cherokee County (450th Street)	4.25	409		2	3	1	4	**10**
M-12 in Cherokee County (U Ave)	3.22	180					6	**6**
M-12 in Obrien County (Warbler Ave)	2.49	216				1		1
Total	35.34	420	1	11	14	15	62	103

NOTE: The annual average daily traffic is a weighted average of each segment. A short part of the segment with high traffic will have a lower weight than a long segment with little traffic. Also, crashes that happen at an intersection between two segments are grouped with the segment to the clockwise direction. For example, a crash at M12 and IA-10 would be assigned to the IA-10 segment

Table 4: This table provides data about the manner of collision on the byway each year from 2002–2011. The most common manner of collision was a "non-collision". A non-collision is a motor vehicle accident which does not involve an actual collision. Non-collision accidents include jackknifes, overturns, fires, cargo shifts and spills, and incidents in which vehicles run off the road.

Manner of Collision	Year										Total
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Non-collision	8	18	12	10	6	4	5	5	4	6	**78**
Head-on					1				1		2
Rear-end	1										1
Angle, oncoming left turn			1	1							2
Broadside	1	1	1				1			1	**5**
Sideswipe, same direction									1	1	**2**
Unknown				3	1						4
Not Reported						2		6	1		9
Total	10	19	14	14	8	6	6	11	7	8	103

Table 5: This table shows the cause of accidents along the byway. The largest cause of accidents along the byway is animals. The next most common causes include swerving or evasive action and running off the roadway to the right. When combined with the information in the previous table, showing non-collisions as the most common manner of collision, one might surmise that animals or other issues on the roadway are causing the vehicles to leave the roadway.

It should be noted that there are deer crossing signs in at least two locations on the byway: 2 are placed along county road M12 south of Dog Creek Park. The others are placed on Highway 10 in O'Brien County west of the Little Sioux River and east of the intersection with M12. There are also tractor crossing signs on Highway 10 between Peterson and the Prairie Heritage Center turn and just east of Peterson on Highway 10. There are multiple School Bus Stop Ahead signs along M27 near Midwest Christian Services.

Year	Major Cause of Accident										
				Failure To Yield							
	Animal	Ran Stop Sign	Crossed centerline	At uncontrolled intersection	From stop sign	Making left turn	From driveway	Driving too fast for conditions	Exceeded authorized speed	Erratic/ reckless/ careless/ negligent/ aggressive	Swerving/ Evasive Action
2002	2			1		1			1	1	1
2003	8				1						3
2004	7	1				1			1		2
2005	8		1		1						1
2006	2					1		2			1
2007	3									1	1
2008	1				1					1	1
2009	8										1
2010	2							1			2
2011	4						1	1			
Total	45	1	1	1	3	3	1	4	2	3	13

Table 5 (continued)

Year	Major Cause of Accident (continued)									Total
		Ran Off Road			Distracted	Other				
	Over correcting/ over steering	Right	Left	Lost Control	Fatigued/ asleep	Other improper action	Unknown	No improper action	Not Reported	
2002			2							10
2003	1	2	1		1			1	1	19
2004		2								14
2005			1				1	1		14
2006		1						1		8
2007		1								6
2008		2								6
2009		1					1			11
2010		1		1						7
2011		1	1							8
Total	**1**	**11**	**5**	**1**	**1**	**1**	**2**	**3**	**1**	**103**

Table 6: This table shows data for crashes at intersections along the Glacial Trail Scenic Byway. While there are not many crashes at intersections, the most dangerous intersection, with major injuries, is on County Road M36 at 80th Avenue.

Intersection	Crashes at Intersections				Total
	Major Injury	Minor Injury	Possible/Unknown	Property Damage Only	
CHURCH ST & WEAVER ST				1	**1**
Co Rd C13/440TH ST & Co Rd M36/80TH AVE	1				1
Co Rd C16/450TH ST & Co Rd M27/20TH AVE	1				1
Co Rd M36/80TH AVE	2				2
IA 10/FRONT ST & 4TH ST		1		1	**2**
IA 10/IOWA 10 & 110 AVE	1			1	**2**
IA 10/IOWA 10 & 115 AVE	1				1
IA 10/IOWA 10 & 160 AVE				1	**1**
IA 10/IOWA 10 & Co Rd M36/170 AVE			1		1
IA 10/HWY 10 BLVD & Co Rd M12/ WARBLER AVE	1				1
Co Rd M12/U AVE & 430TH ST	1				1
Total	**8**	**1**	**1**	**4**	**14**

NOTE: A crash is assumed to be at an intersection if its road type was coded as an intersection. There may be intersection crashes not listed in this table and crashes in this table may not have occurred exactly at the intersection

Table 7: This table shows a snapshot of data collected by the Iowa DOT regarding type of vehicles commonly traveling the byway. The data shows passenger cars and light trucks as the most common vehicles.

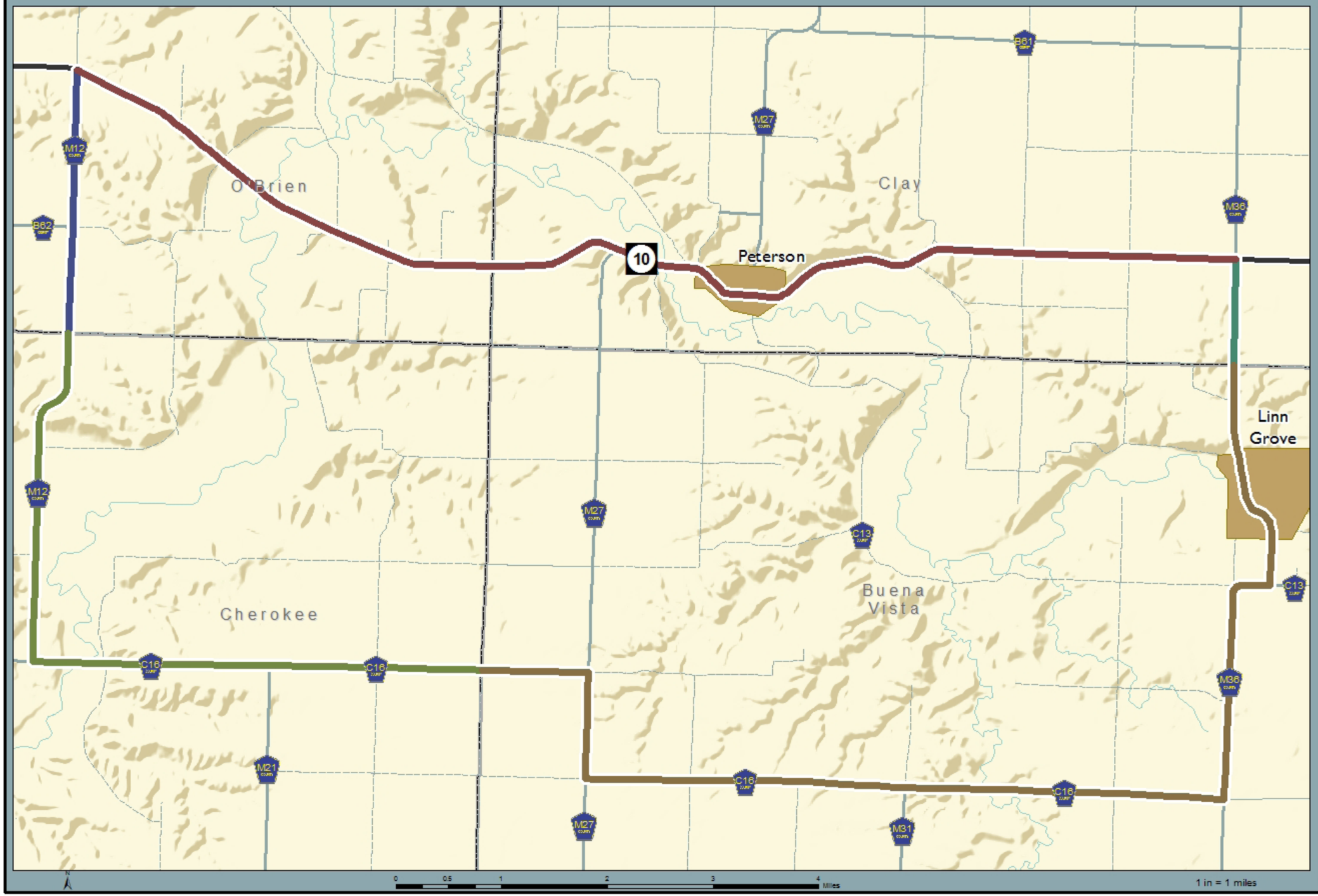
Vehicle Configurations on Glacial Trail Scenic Byway		
Vehicle Configuration	**Count**	**Percent**
Passenger car	38	32.8%
Four-tire light truck (pick-up/panel)	20	17.2%
Van or mini-van	9	7.8%
Sport utility vehicle	8	6.9%
Single-unit truck (2-axle/6-tire)	3	2.6%
Single-unit truck (>= 3 axles)	3	2.6%
Tractor/semi-trailer	2	1.7%
Motorcycle	9	7.8%
Farm vehicle/equipment	4	3.4%
Not reported.	19	16.4%
Unknown	1	0.9%
Total	**116**	**100%**

Action Item:

- Cooperate with any Iowa DOT assessments regarding road safety or opportunities to reduce the number of crashes along the Glacial Trail Scenic Byway

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Road Jurisdiction
Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

Jurisdiction

- State
- Buena Vista County
- Cherokee County
- Clay County
- OBrien County

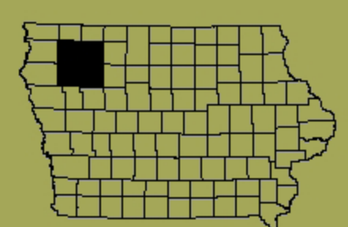
Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

- Waterbody
- River
- Landform



Point 8: Accommodating Commerce while Maintaining Safe Highway Service and Convenient User Facilities

The entire roadway of the Glacial Trail Scenic Byway is two-lane hard-surface asphalt pavement in fair to good condition. The roadside shoulder is primarily gravel and grass and is well-maintained. The paved road accommodates local commerce of agricultural vehicles, utility vehicles and various trucks and automobiles for year-round use.

Much of the Glacial Trail Scenic Byway is located in open, rural countryside. As shown in the table in the previous section, the annual average daily traffic counts for the byway road segments range from 140 vehicles to 950 vehicles. The segment of Iowa Highway 10 that is most heavily traveled is the portion that runs through the town of Peterson. The next most heavily traveled portion of the byway runs through the town of Linn Grove on county road M36. Both towns offer ample parking both along the main byway and directly off the byway and can safely accommodate tourists and their vehicles. The towns of Linn Grove and Peterson are also equipped to accommodate any tourist stops within their communities without disturbing any local commerce.

Other than the historic sites in Peterson, most of the main attractions of the byway are located outside of these two communities on the less-traveled portions of the byway. These attractions have entrances on the byway, with appropriate turn-offs or intersections to safely accommodate tourist traffic. All intersections of the byway are well-marked by signage and in good condition.

For future planning and any proposed increase in byway traveler traffic volume, consideration of average daily traffic counts on all Iowa rural roads is useful. The 2011 weighted average daily traffic count on rural county roads in Iowa overall is 161 vehicles. The weighted average on municipal streets is 1,235 vehicles. The byway's traffic counts fall within these two averages and therefore demonstrates that the two-lane roadway can accommodate both current and future commerce, including both commercial and tourist traffic.

Continued education for local roadway users as well as leisure travelers should play an important role in planning for the Glacial Trail Scenic Byway. In all forms

of byway promotional literature for visitors, such as brochures, maps and websites, etc., the importance of travel safety and the fact that the byway is a "working highway" with agricultural, industrial, commercial, and commuter traffic should be stressed. Special attention should be given to awareness of heavier traffic of farm machinery each spring and fall during planting and harvest seasons.

Equally important is communication, with local motorists and residents involved in commercial, industrial, and agricultural interests, that stresses how the Glacial Trail Scenic Byway is also an important tourism (economic) attraction unto itself and awareness and respect for all types of roadway users is critical.

Action Items:

- Develop relationships with farmers and private landowners through stakeholder meetings to understand their specific concerns regarding the byway.
- Develop relationships with wind turbine representatives through stakeholder meetings to understand their specific concerns regarding the byway.
- Incorporate mention of farm equipment on the roadways, especially during planting and harvest seasons, in all promotional materials for the byway, advising visitors to be aware and use caution.

Point 9: Minimizing Intrusions on Visitor Experience and Improvements to Enhance Experience

Minimizing Intrusions

Common intrusions to the visitor experience along a byway might include such issues as cell towers, transmission lines, billboards, rapid urban development, destruction of natural habitat or land forms, destruction of historic structures, traffic congestion, and road safety. Few of these issues exist along the Glacial Trail Scenic Byway.

As described in the previous sections of this plan, much of the land along the byway is publicly owned and managed. This makes the preservation of many of the intrinsic qualities of the byway secure, thus also minimizing any intrusions to the visitor experience that might be more common for other byways. Because the byway is primarily rural in nature, minimal threats of development, sprawl or traffic congestion exist either. Much of the privately-held land along the byway is cultivated and planted with row crops of corn and soybeans. The more hilly portions of the byway, while not suited to row crop farming, are suited to animal grazing activities. Because of this, there are a number of cattle feedlots adjacent to the roadway. This positive feature of the local economy exists compatibly with the byway intrinsic qualities.

Another visible feature of the local economy is the large wind turbine farm along the southern portion of the byway. Northwest Iowa is one of the most wind-rich areas in the United States. Although wind speeds vary slightly throughout the region, most of Northwest Iowa falls into the Class 4 category of wind resources. Class 4 wind resources are suitable for wind power generation with large wind turbines. These turbines, which stand as high as 213 feet and weigh upwards of 50 tons, have been using wind to make electricity since 1999, making it one of the biggest wind farms of its time in the region and the United States.

County planning and zoning and/or county engineering staff for the four counties of the byway, Buena Vista, Cherokee, Clay and O'Brien, are actively involved in any major projects or potential development on private lands along the byway. As mentioned in Point 5, any new development in the area requires a permit from the associated city or county agency, as well as public input for larger projects.

Another potential impact to visitor experience along the byway is the presence of unsightly litter or abandoned buildings or vehicles near the roadway. A program that could be used to address this issue is the Adopt-a-Highway program. The Adopt-a-Highway (AAH) Program was developed by the Iowa Department of Transportation to increase public awareness of environmental needs along Iowa highways by making sections of roadsides available for "adoption." This gives the adopting individual or groups opportunities to improve the appearance of roadsides throughout the state. There is an active AHH group along a section of Highway 10 just east of Sutherland, ending just before county road M12 and the byway. While there are currently no sections along the byway route designated in the program, all of Hwy 10 between MP 58.85 and MP 70.7 is available for adoption, after review for safety issues. Only areas that might be dangerous to walk because of steepness or rough terrain or

some other safety hazard would be excluded. Some of Hwy 10 could fall into that category because of rough terrain. Adoption of county roadways would require further discussion with the appropriate county officials.

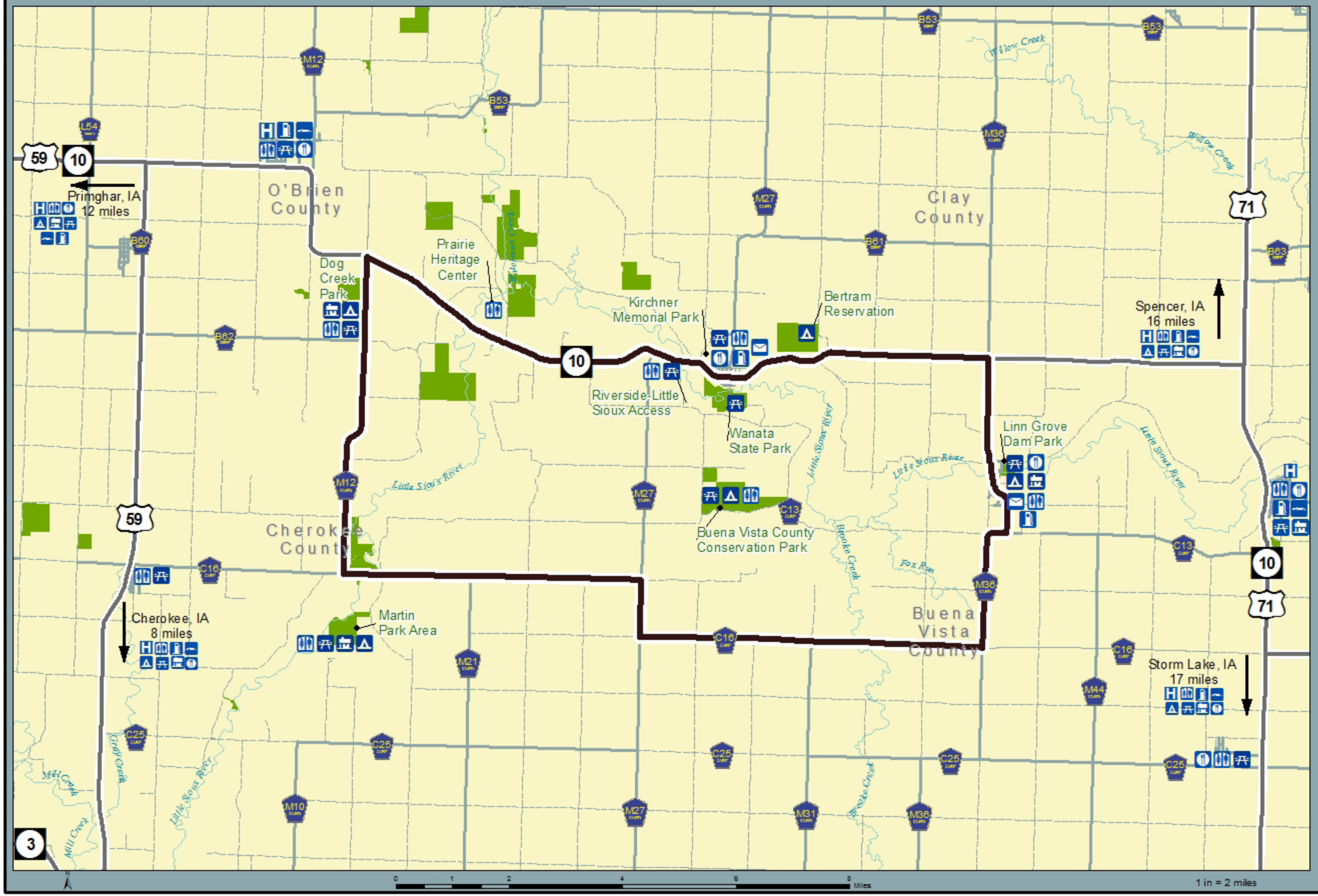
Listed below are action items related to minimizing intrusions on the visitor experience of the byway.

Action Items:

- Maintain regular contact with County Zoning Officers and/or County Engineers of Buena Vista, Cherokee, Clay and O'Brien and counties to keep informed of any zoning changes along the byway or future development.
- Invite a County Zoning Officer or County Engineer to be a member of the Byway Board.
- Maintain contact with the County Board of Supervisors of Buena Vista, Cherokee, Clay and O'Brien counties and keep them informed of byway activities and needs.
- Further develop relationships, through stakeholder meetings, with the business community along the byway, so that they may better understand the intrinsic qualities and efforts underway to preserve them. Listen to their specific needs and concerns. Groups to communicate include area farmers, area property owners, businesses of Linn Grove and Peterson, wind turbine owners and operators.
- Investigate the need to introduce the Adopt-a-Highway program into the byway area.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Visitor Amenities

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

- Lodging/Cabin
- Camping (Tent/RV)
- Food/Restaurant
- Picnicking
- Hospital/Clinic
- Post Office
- Public Restroom
- Auto Service
- Gas/Fuel

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local

Waterbody

River

Landform

Improvements to Enhance Visitor Experience

Perhaps of more interest, regarding the visitor experience on the Glacial Trail Scenic Byway, are ideas for enhancing and improving the visitor experience. There are many opportunities to consider. The rural nature of the byway brings challenges in providing basic traveler amenities at convenient locations throughout the byway route. While the ultimate goal is not to fill the byway with numerous gas stations, restaurants and motels, there are some basic needs to consider in making the byway a more viable destination for a larger number of visitors, especially those from outside the immediate vicinity of Northwest Iowa. These amenities can be established while still maintaining a rural landscape with pristine natural habitats.

There are currently a few basic traveler amenities along the byway, with more services provided in towns in the byway region. While these services are enough to satisfy the basic needs of most travelers, there is ample opportunity to enhance these services, primarily by offering them right on the byway, rather than making the traveler drive off the byway to neighboring communities. The types and locations of visitor amenities in the byway region are shown in the table below. A map of visitor amenities in the byway area and a table showing current traveler service businesses are provided in the following pages.

Glacial Trail Scenic Byway Traveler Amenities

Location	Public Restroom	Gas/ Fuel	Auto Service	Food/Restaurant (Coffee/snacks*)	Picnic	Lodging (Cabin*)	Camping (tent/RV)	Hospital (Clinic*)
Linn Grove	X	X		X*	X	X	X	
Peterson	X	X		X	X			
Prairie Heritage Center	X							
Dog Creek Park	X				X	X*	X	
Riverside Little Sioux Access	X				X			
Martin Park	X				X	X*	X	
BV County Conservation Park	X				X		X	
Sutherland	X	X	X	X	X			X*
Sioux Rapids	X	X	X	X	X	X		X*
Larrabee	X				X			
Rembrandt	X			X	X			
Cherokee	X	X	X	X	X	X	X	X
Primghar	X	X	X	X	X	X	X	X
Storm Lake	X	X	X	X	X	X	X	X
Spencer	X	X	X	X	X	X	X	X

Current Traveler Service Businesses (2013)

Gas/Fuel	Gas/Fuel	Auto Service	Restaurant/Food	Accommodations
Peterson	B & J Services 105 W 2nd St (712) 295-6111	B & J Services 105 W 2nd St (712) 295-6111		
	Cargo Express 217 W 3rd St (712) 295-6017		Cargo Express (snacks) 217 W 3rd St (712) 295-6017	
	First Coop Assoc. 100 Front St. (712) 295-6361		Lon's Lounge 225 Main Street (712) 295-7006	
Linn Grove	Self Serve Pump Weaver St. (credit card only)		Bobby's Sand Bar 112 Weaver St. (712) 296-3232	Inspiration B&B 1790 510th St (712) 296-4966
			J&Ks Dam Bait Shop 201 Main St. (712) 296-3611	
Sutherland	Cargo Express 202 W Southern (712) 446-3769	Sutherland Implement 106 W 2nd St. (712)446-3305	The Old PO/ Main St. Lounge 111 Main Street (712)446-2069	Generations B&B 207 W. Southern (Hwy 10) (712) 363-3178
	Zub's Shop, Inc. 107 W 1st ST (712) 446-2474	Zub's Shop, Inc. 107 W 1st ST (712) 446-2474	Rumors 107 N Main Street (712)446-2222	
			Cargo Express (snacks) 202 W Southern (712) 446-3769	
Rembrandt			Rembrandt Grille Main Street (712)286-5099	
Sioux Rapids	Casey's General Store 720 Highway 71 (712) 283-2173	Mike's Repair 714 4th St (712) 283-2506	Lily Pad 605 Highway 71 (712) 283-2083	Little Sioux Motel 601 Highway 71 (712) 283-2503
	Brad's Service 300 Highway 71 (712) 283-9280	Brad's Service 300 Highway 71 (712) 283-9280	Valley Lanes 400 Highway 71 (712) 283-2823	
Primghar	Multiple Locations	Multiple Locations	Multiple Locations	Multiple Locations
Cherokee	Multiple Locations	Multiple Locations	Multiple Locations	Multiple Locations
Storm Lake	Multiple Locations	Multiple Locations	Multiple Locations	Multiple Locations
Spencer	Multiple Locations	Multiple Locations	Multiple Locations	Multiple Locations

Action Items:

- Create a data base (and maps) of haves, immediate needs and long term wishes as far as attractions, amenities, accommodations, etc.
- Prioritize and work on attractions, amenities, accommodations, etc. on the "immediate needs" list. This may involve other agencies such as area economic development, tourism, etc.
- Work with promotion organizations to attract group tours (eg bank clubs, etc.) to the area.
- Make sure that existing visitor amenities are included in marketing materials.
- Invite an economic development or tourism person to join the Board and/or improve outreach and communication with area economic development and tourism agencies.

Point 10: Review of Compliance with Existing Laws on Control of Outdoor Advertising

The Glacial Trail Scenic Byway travels along portions of five county highways and one state highway, passing through four county jurisdictions. Therefore, both state and county regulations apply to the control of outdoor advertising.

In a specific reference to scenic byways, the Iowa Department of Transportation's *Iowa Guide to Outdoor Advertising Sign Regulations, 2009*, states, that in the case of off premise signs (aka billboards). "*New signs may not be erected along highways that have been designated as scenic byways. Information about Iowa's scenic byways is available at www.iowadot.gov/iowasbyways/scenic_byways.pdf or by contacting the Iowa DOT Office of Systems Planning at 515-239-1369.*"

At the county level, Buena Vista, Cherokee and Clay counties each have a planning and zoning department who implement and oversee any regulations pertaining to outdoor advertising signage on its county roadways. While none of the four counties has any special ordinance regarding signage on a scenic byway, each county requires a permit for any roadway signage, both within and outside of the right-of-way. There are written signage regulations that must be adhered to in order to be approved for a permit. These county sign regulations can be found on file at the county offices. Clay and Buena Vista counties also have their Code of Ordinances available on-line. The county zoning departments have an active sign inspection program to monitor any changes in outdoor signage on any of their county's roadways.

There is minimal concern regarding outdoor advertising along the byway. A review of advertising signage along the byway produced no examples of permanent outdoor billboards. There were a handful of temporary signs for seed corn, two temporary real estate "for sale" signs, and a handful of temporary election signs on private property. The very rural nature of the Glacial Trail Scenic Byway makes the threat of large obtrusive billboards very unlikely, and therefore of limited concern in this Corridor Management Plan. The above-mentioned regulations and county entities are in place should the situation change and any future action be deemed necessary.

The following table provides current contact information for outdoor signage regulations for the Glacial Trail Scenic Byway.

Contact Information for Outdoor Signage Regulations for Glacial Trail Scenic Byway

Gov't Entity	Website	Contact Person	Phone/Email
Iowa DOT	*http://www.iowadot.gov/iowaroadsigns/guide_* to_outdoor_sign_regulations.pdf	Brent Christian	(515) 239-1673 Brent.Christian@ dot.iowa.gov
Clay County	*http://www.co.clay.ia.us/offices/zoning/forms/* ClayCountyZoningOrdinance.pdf	Tammy McKeever	(712) 262-8165 tmckeever@ co.clay.ia.us
Cherokee County	Not available on-line, hard copy of regulations provided in appendix	Dave Shanahan	(712) 225-6712
Buena Vista County	http://www.bvcountyiowa.com/images/uploads/bvc_ zoning_ordinance.pdf	Kim Johnson	(712) 749-2555 kjohnson@ bvcountyiowa.com

Action Items:

- Maintain contact with the State of Iowa Department of Transportation regarding any DOT notifications about outdoor signage on State Highway 10 and changes to the state ordinance on outdoor signage.
- Maintain contact with County Zoning Officers of Clay, Cherokee, and Buena Vista counties to keep informed of any outdoor signage changes along the byway or changes in outdoor signage ordinances.
- Invite a County Zoning Officer or County Engineer to be a member of the Byway Board.

Point 11: Signage Plans/Supporting Visitor Experience

A well-planned and maintained signage system is critical to supporting a positive and safe visitor experience on any scenic byway. A sign system for a scenic byway should perform a variety of functions:

- Directions for traveling the byway
- Directions to attractions in the corridor,
- Information about the intrinsic qualities or resources of the byway corridor.

Beyond this most basic purpose, the signs of a scenic byway can offer many other benefits to the byway. Signs not only provide information, they create an impression and set a tone. Good signage conveys a welcoming impression, encouraging visitors to visit attractions and enjoy the available visitor services. The sign plan for the scenic byway should also integrate well with trip planning literature, travel guides and on-line resources related to the byway.

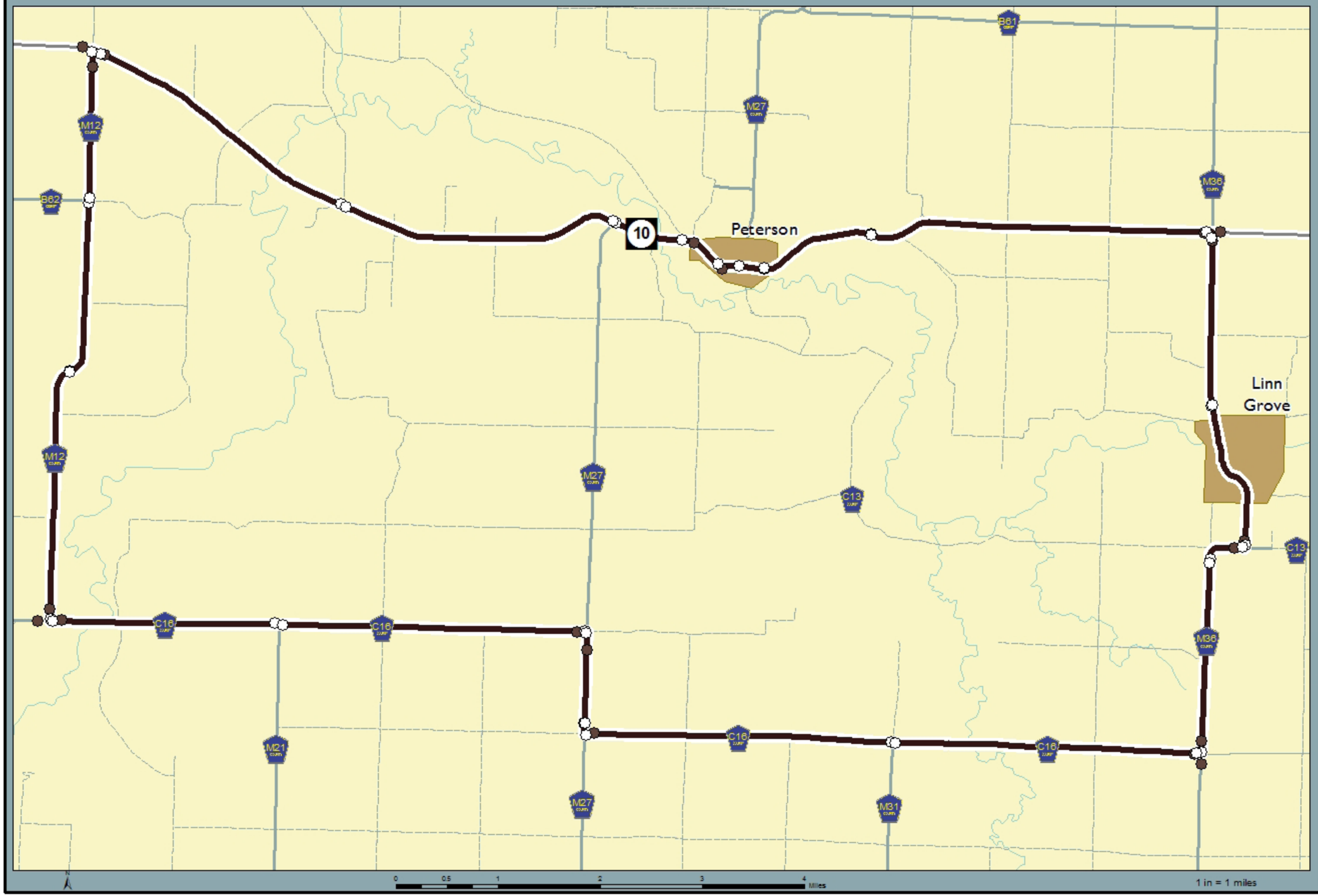
Finally, when creating a quality signage plan for a byway, attention to the material requirements and placement of signs is important. Consideration to the following aspects is critical:

- Readability by motorists traveling at various speeds and in a variety of conditions;
- Use of local materials and service;
- Cost of fabrication, installation, maintenance, and replacement;
- Sustainability (permanence of the message, etc.)
- Durability (to vandalism, weather, etc.)
- Ability to accept night lighting;
- Siting and adaptability in diverse settings;
- Uniformity of appearance: color, font, size, materials etc.

The sign plan for the Glacial Trail Scenic Byway builds on projects already completed and signs already posted along the byway. These are described on the following pages. Where changes and additions can improve visitor experience, recommendations have been listed at the end of this section.

Glacial Trail Scenic Byway

GLACIAL TRAIL SCENIC BYWAY



Byway Sign Location

Buena Vista, Cherokee, Clay and O'Brien Counties

Source: Northeast Iowa RC&D, IDOT, & IDNR
Prepared By: Northeast Iowa RC&D GIS
Published: April 2013

Legend

GTSB Signs (Spine)

GTSB Signs (Auxiliary)

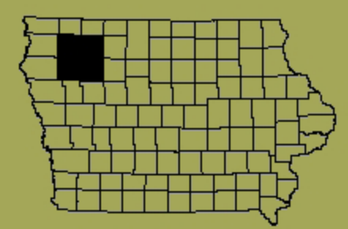
Byway

Basemap Legend

Byway
- Byway Spine

Roads
- Interstate
- US Hwy
- State Hwy
- Country Hwy
- County Border
- Cities

Public Lands
- Federal
- State
- County
- Local
- Waterbody
- River
- Landform



State Scenic Byway Signage Project

The statewide scenic byways signage project was started in 2008. This signage project was a joint effort between DOT staff and the coordinators from each Iowa byway, along with public input through byway boards and stakeholder groups. The comprehensive signage system and the artwork were developed by Shive Hattery Architectural Engineering and David L. Dahlquist Associates LLC. The project was funded in part by a grant from the National Scenic Byways Program that brought federal funds of $580,000 to Iowa. Signage for Glacial Trail Scenic Byway was completed in August of 2011.

The Glacial Trail Scenic Byway signage design is part of a series of byway signs, with each of the 10 Iowa byways represented by its own appropriate design. All signs from this project include the Iowa Byways logo, the Unique Byway logo and the Byway name and type. They are approximately 24" wide x 42" tall with an arch at the top. The signs are also retro-reflective.

The unique design for the Glacial Trail Scenic Byway sign shows a majestic buffalo roaming a prairie hillside with blue sky and white clouds in the background. This design evolved from a brainstorming session of byway board members and other interested parties. As the group brainstormed to come up with ideas, they noted the significance of the hills – representing the glacial action that took place along the byway. The bison were native animals useful to people who made their homes in the area originally. The open sky behind the bison depicts the wide open spaces found along the byway. Those elements were presented to the designer who then produced the final design (shown left). Further information about byway logo, signs, and copies of letters about the program sent to each jurisdiction involved, are found in the Appendix to this document.

Signage Inventory

An inventory of byway signage along the 35.4-mile route of the Glacial Trail Scenic Byway provides an idea of the quantity and type of signs that the traveler of the byway encounters. The types of signage, per Iowa DOT description, are listed and described in the following paragraphs.

Glacial Trail Scenic Byway Signs: These signs are placed throughout the Glacial Trail Scenic Byway, along state and county roads that are designated as part of the byway route. They assist travelers in following the byway route and are displayed in conjunction with directional signs at intersections. A signage placement map is found following page 136. For more information, refer to Iowa Byways Signage Policy (www.iowadot.gov/traffic/manuals/pdf/02g-01.pdf).

Destination Signs:

Destination signs (also referred to as guide signs) are essential to direct motorists along highways; to inform them of intersecting routes; to direct them to cities, towns or other important destinations; to identify nearby rivers and streams, parks, forests, and historical sites; and generally to give such information as will help them along their way in the most simple, direct manner possible. Destination signing is not intended to promote or advertise the existence of the destinations. The color of the sign is based on the type of destination listed on the sign. Brown is used for cultural and recreational destinations. Green is used for all other destinations. Blue is used for information signs related to motorist services.

There are numerous destination signs along the Glacial Trail Scenic Byway. Browns signs point to or identify most of the county parks and public areas along the byway, as well as the Prairie Heritage Center and the Peterson Heritage, Inc Historical Site. Green signs identify the Little Sioux River crossings and direct the driver to Linn Grove from Highway 10 or to the town of Peterson. They also provide direction to area communities a few miles off of the byway.

Tourist Orientation Directional Signs (TODS): These are signs located along primary routes in rural areas that identify qualifying activities or sites of significant interest to the traveling public. Each sign costs $350. An attraction would typically have two signs per highway for a total of $700. Annual renewal fees due June 30th of every year are $50 per sign. There is a blue Tourist Orientation Directional Sign along Highway 10, just east of M36, providing direction for Inspiration Inn B&B.

Distance Signs: Distance signs are intended to list cities located on or adjacent to the highway. The signs provide destination information by listing the next major city along the route as well as the distance to the next community along the route. Distance signs exist throughout the byway route, providing distances to both Linn Grove and Peterson, as well as distances to communities off the byway.

Official City and County Signs: These signs are authorized by local jurisdictions that display general noncommercial destination information. To qualify as an official city, county or public agency sign, the sign must follow the rules below, per the Iowa DOT *(http://www.iowadot.gov/iowaroadsigns/roadsigns.aspx?Official_City_and_County_Signs)*

- *Be erected and maintained by a public officer or agency (a city or county can authorize a group to erect and maintain the sign on their behalf).*
- *Be erected within the territorial or zoning jurisdiction of the public officer or agency (a city may extend two miles outside its corporate limits under extraterritorial zoning).*
- *Be erected according to directions or authorizations contained in federal, state or local law (an ordinance, resolution or law authorizing erection of the sign must be passed).*
- *Be erected for the purpose of carrying out an official duty or responsibility.*
- *Be located beyond the highway right-of-way at a location that will not obstruct the vision of a driver approaching an intersection;*
- *Not imitate or resemble traffic control devices governed by the Manual on Uniform Traffic Control Devises (MUTCD);*
- *Not contain any commercial message or business name.*

Local jurisdictions and agencies have considerable latitude in the type of messages that can be displayed on the signs. Messages that provide a welcome at entrance points, identify jurisdiction boundary lines, direct motorists to public buildings, parks or recreation areas, or which generally reference motorist services and community attractions are acceptable. Messages that

include specific business names, products, commercial messages or promotions for private non-profit groups, however, are not allowed on this type of sign.

The local jurisdiction or public agency would merely need to secure a lease or other interest in a site to erect such a sign. No approval or involvement by the DOT is required. However, the DOT would be willing to assist cities, counties and public agencies in meeting the requirements needed to qualify for official signing.

Private Directional Signs: Private directional signs are intended to inform motorists of public and privately owned natural phenomena, historic, cultural, scientific, educational, and religious sites, and areas of natural scenic beauty which are naturally suited for outdoor recreation. These signs are required to be located off the right-of-way, (i.e., on private property along interstate, freeway and primary highways. There are a handful of Private Directional signs along the byway. They include signs to the communities of Linn Grove and Peterson, and to the Prairie Heritage Center

Interpretive Signs: These signs are usually placed at attractions along a byway. Interpretive signs are an integral part of the interpretive program for a byway corridor and educate and entertain travelers with information about the intrinsic qualities of the byway. They also provide travelers with information about the byway itself and assist travelers in locating other attractions and information sites. There is one interpretive sign visible from the byway roadway at the site of the Town of Old O'Brien. It describes the site of O'Brien County's first county seat. There are other interpretive signs at features off of the byway.

Bicycle Route Signs: These signs help bicyclists locate and follow established bicycle routes, advise motorists of the presence of bicycles and warn bicyclists of any hazardous riding conditions. There are currently no bicycle route signs along the Glacial Trail Scenic Byway.

Additional information regarding State of Iowa's road signing program can be found by contacting the respective person listed below.

Name	Sign	Phone Number
Brent Christian	Billboards	515-239-1673
Vicki Elscott	Logo signs	515-239-1700
Bethany Waltersdorf	Logo signs	515-239-1755
Joe Guckert	TODS and construction projects	515-239-1479
Eileen Buchanan	Private directional, church and service club, official city or county signs	515-239-1449
Tim Crouch, P.E.	Distance and destination (guide) signs	515-239-1513
Colleen Chapa	Violations	515-239-1296

Action Items:

- Comply with Task 8 of the Byway Sustainability Project "This task shall require RC&D to organize stakeholders to participate in an annual inventory of signage and communication of inventory results to applicable byways jurisdictions"
- Survey and assess the value of establishing consistent destination signs for all County Conservation Areas, County Parks, Water Access Points and Wildlife Management Areas along the Glacial Trail Scenic Byway. Currently there is no official destination sign on the byway for the following features: Bertram Reservation, Martin Area, Nelson Area, Soo Access, Burned Bridge Canoe Access (signed "Public Area") and Little Sioux Riverside Access (signed "Roadside Park") or directional sign to Prairie Heritage Center at M12 and Highway 10.
- Survey and assess the value of establishing consistent signage for area historic sites and museums.
- Consider working with the communities of Linn Grove and Peterson to update their directional and town limit/welcome signs, per the State DOT Official City Sign requirements and incorporating mention of the Glacial Trail Scenic Byway as appropriate.
- Investigate options for signage of visitor amenities such as restrooms, picnic tables, canoe access, camping, hiking, etc. as they exist at area public lands such as city and county parks, river access, and wildlife management areas.
- Investigate the options for establishing a bicycle route along the byway and its appropriate signage.

Point 12: Marketing the Byway and its Intrinsic Qualities

This marketing section is to serve as a blueprint to help the Glacial Trail Scenic Byway organization target activities to meet the goals and objectives necessary to sustain interest in the Glacial Trail Scenic Byway. Since byway designation in 2000 and formal organization of the Byway Board in 2008, a variety of activities have stimulated visitor interest in the byway. However, completion of a marketing plan will help to establish a budget, set fundraising goals and target potential visitors.

Goals and Objectives

It is the vision of the Glacial Trail Scenic Byway committee to guide visitors through a better understanding of the human interaction with the landscape of the byway.

It is the mission of the Glacial Trail Scenic Byway committee to enhance and promote the area's cultural and natural heritage; and to build awareness and market the intrinsic qualities of the byway to local, state and national visitors.

Situation Analysis

In order to define a target audience for the Glacial Trail Scenic Byway, it is important to review relevant travel marketing research and outdoor preferences of both Iowans and the surrounding states. Some relevant statistics and their sources are provided below.

In 2011, $7.2 billion dollars was spent by travelers in Iowa in. A total of $153 million was spent in the 4-county area surrounding the Glacial Trail Scenic Byway in Northwest Iowa. *(US Travel Data Center's 2011 Domestic Travel Impact on Iowa counties).*

The Iowa Tourism office supports a strong network of Welcome Centers throughout Iowa that provide needed services to visitors while also providing an opportunity for the tourism industry to survey more than 170,000 travel parties and over 450,000 travelers. Historical areas, scenic byways and outdoor recreation all rank in the top 5 main interest areas for travelers. The average traveler spends 4.1 days in Iowa and makes 3.2 trips within a year. People traveling in Iowa are here for vacation or leisure (48%), and 31% are here to visit friends and family. The average age of a traveler in Iowa is 46.8 years and 46.4% of travelers originate in Iowa, with Minnesota at 9.3% and Wisconsin at 10.8%. Average daily spending is $248.62. *(Statistics are from the 2011 Marketing follow-up survey and 2011 Iowa Welcome Center Surveys, Iowa Tourism Office, Iowa Economic Development Authority).*

One of the most important marketing strengths for the Byway is that it has been designated a "State Scenic Byway" by the Iowa Department of Transportation. Nine state-designated byways and one nationally-designated byway are identified by directional signs featuring the new Iowa Byway Brand as shown on the following page:

Iowa's Byways are promoted and advertised on websites, social media and paid advertising in print media that has been purchased through grant awards from the Iowa Department of Transportation and Federal Highway

Administration. Third party advertising on the national and state levels increases exposure to potential visitors and the national and state endorsement of the Byway's scenic value gives an extra boost to our invitation to visit the Glacial Trail Scenic Byway.

The 35.4-mile by-way is located in a sparsely populated area that is easily accessible from Federal Highways 71 and 59. Visitors will find assistance and interpretation at the Prairie Heritage Nature Center located on the Byway. Restrooms, meals and lodging can be found in or near the community of Peterson with more options merely 30-minutes off the Byway.

The results of a recent U.S. Travel Association survey, confirmed that over half of the American traveling public thinks it's harder to find unspoiled places than it used to be, and three out of four travelers don't want their visits to harm the environment. At least 55–65 million U.S. travelers can be classified as 'geo-travelers'.

Surveys conducted by the Iowa Department of Natural Resources in the past five years show that Iowans who participate in one outdoor activity usually participate in at least 2–3 other outdoor related activities. Those activities that can be accomplished in a day or in a couple of hours are also the activities with higher participation rates and activities that are continuing to grow.

According to the Fish and Wildlife Service's National Survey, 48% of Iowans participate in some form of Wildlife Watching (from Iowa DNR website).

The biggest challenge facing the Byway Board will be to attract visitors to such a rural, off-the-beaten-path location. Since the Byway location is not a destination in itself, the Byway Board must form an alliance with the anchor communities of Spencer, Storm Lake, Primghar and Cherokee (Chambers of Commerce, County Conservation and Travel and Tourism groups) to help promote the Byway experience to travelers on or near the Byway. In addition, developing cooperative advertising opportunities, new "Get Away" ideas and itineraries for group travel is a win-win for area attractions and local businesses. By forming the alliance and working to include the Byway experience with other activities, the Glacial Trail is an attractive addition to a day-trip or vacation.

Target Audience

The most obvious and immediate audience will target business travelers, casual visitors and vacationers that are spending time in the 4-county Byway area throughout the year. Reaching this group will require a more generic sales approach as opposed to targeting the specific audiences listed below. It will also depend on successful partnerships with destination marketing organizations, event organizers and hotels in each town, but especially, Spencer, Storm Lake and Cherokee.

Local residents and their guests can increase attendance, interest and income at local attractions and events along the Byway. Perhaps more importantly, a well-informed and enthusiastic resident is a great word-of- mouth promoter and ambassador.

Visitor evaluations generated by other regional byways indicate that the Glacial Trail may be of interest to scenic byway drivers; heritage and cultural tourists; eco-tourists; and outdoor recreation users; in addition to regional residents and their extended family or guests.

Several studies have been compiled regarding who drives scenic byways and why.

For the purposes of this marketing section, we will address pleasure drivers; heritage tourists; nature enthusiasts, eco-tourists, and outdoor recreationists.

Pleasure Drivers: Pleasure Drivers are the broadest market likely to be interested in the scenic byway. They seek experiences that provide beauty, cultural adventure, evoke nostalgia and entertain. They often choose a byway over other more direct routes.

The most popular reasons cited for using scenic byways in a Kansas study included viewing scenery, visiting historic sites, shopping, taking photos, wildlife viewing and visiting museums.

In an Iowa study, 66% of the visitors said that the small towns on the route intrigued them, 59% enjoyed shopping and 77% enjoyed the scenic views.

Heritage Tourists: A Lou Harris poll in the early 1990's found that "visiting cultural, historical and archeological treasures" was a significant motivation in less than a third of travelers in the 1980's, but in the 1990's interest levels increased to more than half of Byway travelers. Heritage tourists typically have higher education levels and disposable incomes and are members of the 45–65 year age group.

To attract this group, the Glacial Trail Scenic Byway organization must establish an excellent website to aid trip planning, work to develop short get-away trips with a variety of activities, provide authentic experiences and offer outdoor education opportunities to address their concerns about the environment and preservation.

Eco-Tourism and Outdoor Recreation: Eco-tourism attracts tourists that are environmentally minded with a specific focus on nature and conservation. Outdoor recreationists may include primitive campers, bird and wildlife watchers, hunters, fishers, hikers, mountain bikers, cross-country skiers, canoeists and horseback riders.

The US Travel Data Center noted that 8 million American adults have taken an eco-tourism trip and more than 4 million plan to do so in the next 5 years. Outdoor tourists are frequent travelers with higher education and income levels.

The Glacial Trail Scenic Byway is well equipped to serve these groups, and area attractions and businesses will most likely yield the highest return servicing both outdoor enthusiasts and eco-tourists.

In conclusion, potential audiences to be targeted in marketing the Glacial Trail Scenic Byway include families, retirees, sportspeople (hunting and fishing), campers, hikers, and bicyclists. Motorcyclists, classic car cruisers, canoeists/kayakers, botanists/naturalists,

"geo-travelers", bird-watchers, wild life watchers, photographers, artists, history buffs, and geo-cachers to name a few. These groups could be reached through advertising and travel articles in special interest magazines, on websites and through social media.

Target Markets

The world-wide web provides immense opportunities for reaching both business and leisure travelers. The Glacial Trail Scenic Byway will capitalize on the extended reach and exposure of the Byway through the America's Byway site (*byways.org)*, the Iowa Byways site (*iowabyways.org*), the Iowa Tourism office (traveliowa.org), and the Western Iowa Tourism Region (visitwesterniowa.com).

Byway promoters will request reciprocal links with *mycountyparks.com*, County Conservation sites, Chambers of Commerce and area Visitors Bureaus in the 4-county Byway region.

Targeting special interest groups using social media outlets like Facebook, Blogs and Twitter will help the Byway Board notify visitors of upcoming events and give visitors an opportunity to comment about their experiences at the end of their visit.

Byway marketers will utilize the free service to distribute information and promotional brochures at Iowa Welcome Centers, county and city tourism offices, and local chamber of commerce offices..

Advertising targets include all of Iowa, Minnesota, South Dakota and Nebraska in a 150-mile radius.

The Glacial Trail Scenic Byway will participate in Iowa Byway advertising cooperatives, as well as cooperatives offered by the Iowa State Tourism Office and the Western Iowa Tourism Region that reach the stated target markets at a reduced price.

Forming a relationship with conservation organizations, hotels and the tourism organizations in the Iowa Great Lakes region may offer additional opportunities to "target" visitors in the Lakes area on vacation. The average length of stay is eight days and the Glacial Trail Byway is approximately forty-five miles away.

Communication Plan: All communication, both internal and external will project a professional image and reinforce the selected brand.

Image and Identity will include business cards, letterhead, envelopes and newsletters and customer contacts whether in-person, telephone and email.

Promotion will include: press releases for byway events, brochures, maps, professional photography stock, travel stories, press kits and audio visual materials for presentations or education.

Advertising will include print media, radio and television and the website.

Branding: The Glacial Trail Scenic Byway is a part of the Iowa Byway Brand and as such, already has developed signage and interpretive materials consistent with that brand. The new Glacial Trail Scenic Byway signage design works as an attractive logo that is well-liked and recognized by visitors and local byway partners.

The Glacial Trail Byway will seek a tag-line or slogan indicative of our uniqueness for use in all forms of communication, including advertising.

Collecting visitor survey samples to determine the most frequent "take home memory" of visitors to our Glacial Trail Byway should lead the Byway organization to one or two possible options.

Regardless of the selected tag-line or slogan, emphasis on efforts to deliver consistently on the "Byway promise" will be a priority. Local buy-in, hospitality training and reviewing customer feedback will be studied by the Byway organization frequently.

Merchandising: It is the intent of the Glacial Trail Scenic Byway organization to support the Iowa Byway Brand by using the logo located on the Byway sign more effectively on selected merchandise and to generate income for our Byway. A tag-line or slogan, if adopted may be used on merchandise to distinguish the Glacial Trail Byway from others and to promote our uniqueness.

Marketing

The Glacial Trail Scenic Byway will capitalize on all marketing outlets that are free to the Byway such as the National and State Scenic Byway's travel guides and websites, using the Iowa Welcome Centers to distribute our maps and brochures and working on reciprocal agreements on multiple websites and social media.

Media/Print: The Glacial Trail Scenic Byway organization will devise a plan to develop, print, and distribute various print media to designated locations and develop a sustainable budget and financing plan for these materials**.** Printed marketing materials include the following:

- Local GTSB brochure and map
- Iowa Scenic Byways Visitor Guide (with Iowa DOT)

Media/Websites: The Glacial Trail Scenic Byway organization will work together with all four counties of the byway: Buena Vista, Cherokee, Clay, and O'Brien to participate in area websites for promotional purposes. This plan includes creating links on the area Chamber of Commerce, Economic Development and Visitor Bureau websites. Maintenance and cost issues are to be determined. Some current websites used to promote the Glacial Trail Scenic Byway are listed below:

- State Byways website
- Links to county websites
- MyCountyPark website

Media/Social: The Glacial Trail Scenic Byway organization uses social media resources for promotion of the byway. These social media outlets might also be used for posting the stakeholder meetings, or other opportunities for visitors, to the byway website link (such as a chance to sign up to receive email updates and notices about things that are happening and send updates to everyone that has signed up on a seasonal basis). Current social media used to promote the byway are listed below:

- Glacial Trail Scenic Byway Facebook
- Prairie Heritage Center Facebook
- O'Brien County Conservation Board Facebook

Organizations/Partners: The Glacial Trail Scenic Byway organization currently partners with a number of entities to promote the byway. They are listed below:

- Resource Conservation and Development offices of Iowa
- Byways of Iowa Coalition and Byways of Iowa Foundation.
- County Boards of Supervisors in Buena Vista, Cherokee, Clay and O'Brien counties
- Local residents and businesses (increased involvement of these entities is recommended in this plan).
- County Conservation Boards and Naturalists in Buena Vista, Cherokee, Clay and O'Brien counties.
- Western Iowa Tourism Region: One of three tourism regions in Iowa, the Western Iowa Tourism Region is the only organization solely devoted to promoting and developing the tourism industry in Western Iowa. Vision Statement: *The Western Iowa Tourism Region connects, develops and promotes the tourism industry in western Iowa.*
- County tourism and economic development agencies: O'Brien, Clay, Cherokee, and Buena Vista
- Linn Grove Community Enhancement Foundation: The primary purposes of the corporation are exposure to the public of our past national, state and local cultures; reacquainting people to small town river life; an avenue for fund raising to promote tourism, growth, and town beautification; and to develop commercial and artistic ventures, and recreational opportunities.

Timeline and Budget: This plan is intended to be a 3-year plan with annual review and revisions by the Byway Board. Once the board is able to complete some of the action items listed below, a more specific annual marketing budget can be created**.**

Evaluation Methods: Visitor surveys (random) at a minimum of 1 location once a year and a Stakeholder survey in Linn Grove and Peterson (include businesses and residents) at the end of each calendar year.

Action Plan/Proposed Marketing Activities:

- Capitalize on or cooperate with other marketing and programming such as Watchable Wildlife and Iowa Country Ways.
- Establish and maintain a comprehensive list of partnerships and cooperatives
- Engage area tourism/economic development agencies in a publicity or marketing campaign. Decide who will develop the campaign, what media outlets will be involved, what area will be targeted, what type of customers sought, and the coast/funding.
- Conduct a survey of visitors to be used as a data base for grant opportunities and future planning. Decide who will administer, develop and perform analyses.
- Host a public event for byway awareness that is fun, festive and attention-getting. Decide who will plan and host, a budget, the audience, when, how many volunteers and whom.

- Place brochures and maps in hotels, welcome centers, county and city tourism offices, local Chamber of Commerce offices, local businesses, attractions etc.
- Capitalize on local publications, such as newspapers doing “one tank trip” articles on local travel destinations. Contact them about the byway or issue press releases.
- Continue work on the specifics of a thorough marketing and communication plan, develop quantifiable objectives as part of marketing goals, define the target audience that can help reach goals and objectives, conduct market research via surveys, focus groups or investigate existing market research, create a communication plan using multiple methods to reach your audience, set a timeline and budget, and evaluate the results of marketing efforts on a regular basis.

Point 13: Design Standards for Proposed Modification of Roadway

Road design is generally influenced by the physical aspects of the terrain, road use, design, speed, and technical standards set by local, State, or Federal regulations. However, there are other qualities to keep in mind when considering roadway improvements. According to *Scenic Byways: A Design Guide for Roadside Improvements*.

"The design of all constructed elements must be appropriate to its particular byway and its context within the landscape, the community, and its history. It must take into account expectations and behaviors of its visitors, maintenance requirements, stewardship responsibilities of the local community, the economy of the area, safety of the visitors, and the preservation of the unique intrinsic qualities of the byway." (Yamada, Ostergaard, Jilbert and Brunswick, p 28)

Roadway design standards for the State of Iowa are available from the Iowa Department of Transportation, Office of Design. There are several documents that may pertain to roadside improvements on the Glacial Trail Scenic Byway. They are listed below:

The Iowa DOT Office of Design, Design Manual (*http://www. iowadot.gov/design/dmanual/manual.html*) summarizes Federal and State laws and regulations. These standards pertain to interstate and primary (state and U.S. highway) roads. Sections of particular interest to the byway are listed below:

- **Design Manual Chapter 12 - Sidewalks and Bicycle Facilities 12A - Sidewalks** *http://www.iowadot.gov/design/dmanual/12A-02.pdf*
- **Design Manual Chapter 12 - Sidewalks and Bicycle Facilities 12B - Bicycle Facilities** *http://www.iowadot.gov/design/dmanual/12B-02.pdf*
- **Design Manual Chapter 12 Sidewalks and Bicycle Facilities Check for ADA Compliance** *http://www.iowadot.gov/design/dmanual/12C-01.pdf*

Iowa Statewide Urban Design and Specifications (SUDAS) design manual (*http://www.iowasudas.org/design.cfm*) is a comprehensive reference to road design for transportation infrastructure at the city and county level.

Roadway Design Standards for Rural and Suburban Subdivisions SUDAS (Statewide Urban Design and Specs), Final Report, June 2007 (*http://www.iowadot.gov/operationsresearch/reports/reports_pdf/hr_and_tr/reports/tr549.pdf*) was sponsored by the Iowa Highway Research Board (IHRB Project TR-549) and the Iowa Department of Transportation (CTRE Project 03-167)

Iowa Trails 2000: Connecting People and Trails, Local Community Planning for Bicyclists and Pedestrians (*http://www.iowadot.gov/iowabikes/trails/web-pdf/Bike-Ped/connecting_people_trails_handbook.pdf*) also offers design considerations for bicycle and pedestrian trails.

Iowa Department of Transportation Funding Guide: This is a guide compiled by the staff of the Iowa DOT to help local governments, organizations and individuals with preliminary searches for funding assistance from the Iowa DOT. (*http://www.iowadot.gov/pol_leg_services/funding_guide.htm*)

The IDOT Office of Local Systems provides links to a number of other documents relating to road design standards, including bridges and culverts (*http://www.iowadot.gov/local_systems/publications/proj_dev_info.html*).

Any state roadway improvements must be part of the Iowa Transportation Improvement Program, If the project utilizes federal funding it will be shown in the Statewide Transportation Improvement Program (STIP). Both the Iowa Transportation Improvement Program and the STIP identify a multi-year plan that prioritizes proposed highway improvements. The Iowa Transportation Improvement Program covers a five year period and the STIP is for four year periods. Regional Planning Affiliations (RPAs) submit Transportation Improvement Plans (TIPs) for their respective regions for inclusion in the STIP. Two RPAs are responsible for TIPs involving the Glacial Trail Scenic Byway: The Regional Planning Affiliation for Clay, O'Brien and Buena Vista counties is Northwest Iowa Planning and Development Commission, in Spencer. The RPA for Cherokee County is the Siouxland Regional Transportation Planning Association in Sioux City.

It is important to remember that any modifications made with federal funding assistance, require preconstruction surveys of archaeological and historic architectural sites within the proposed rights-of-way. This is mandated by the National Historic Preservation Act. These surveys, reviewed for compliance by the State Historic Preservation Office, provide considerable protection for historic properties in areas along roads in the Byway corridor.

For the purposes of this Corridor Management Plan, the most likely roadway modifications to the Glacial Trail Scenic Byway are either scenic pull outs or a bicycle path or paved shoulder. The Byway Board would need to work closely with State DOT staff and county engineers to plan any modifications to the roadway. The table below provides contact information for the District 3 DOT staff and respective county engineers that could assist with roadway modifications to the Glacial Trail Scenic Byway.

Iowa DOT Administrative and Engineering Staff - District 3 & County Engineers		
Name	**Position**	**Phone Number**
Tony Lazarowicz, P.E.	district engineer	712-276-1451
Shane Tymkowicz, P.E.	assistant district engineer	712-274-5834
Darwin Bishop, P.E.	district construction engineer	712-274-5826
Todd Huju, P.E.	district maintenance manager	712-274-5825
Dakin Schultz	transportation planner	712-274-5837
Brian Catus, P.E.	local systems engineer	712-274-5839
Robert Wortman, L.S.	land surveyor	712-274-5838
Roxanne Seward	traffic technician	712-274-5840
Doug Manley	utility coordinator	712-274-5828
Sheila Cowles	secretary	712-274-5821
Scott Rinehart	Clay County Engineer	712-262-2825
Steve Struble	O'Brien County Engineer	712-957-3425
Dave Shanahan	Cherokee County Engineer	712-225-6715
Jon Ites	Buena Vista County Engineer	712-749-2540

Action Item:

- The GTSB Board will work closely with State DOT staff and county engineers to plan any modifications to the roadway as necessary.

Point 14: Plans to Interpret the Significant Resources of the Scenic Byway

Interpreting the resources of a scenic byway involves well-planned wayside exhibits and trails that help visitors discover meanings in the resources and sites. Byway interpretation also conveys messages about safety, resource protection and visitor orientation.

"Interpretation is a communication process that guides visitors in their search for meaning in objects, places and landscapes." (Gross, Zimmerman, and Buchholz, p 1)

This section of the Glacial Trail Scenic Byway Corridor Management Plan provides some possible interpretive themes for the byway, lists existing interpretive sites and resources and names some possible goals for future interpretive resources. The development of a stand-alone Interpretive Master Plan for the Glacial Trail Scenic Byway is proposed for the near future. Official themes and messages for the byway will be developed at that time, as well as a specific inventory of existing and proposed interpretive resources.

Possible Themes/Messages

Interpretive themes are the key messages to be conveyed to the byway visitor. Some possible themes or messages for the Glacial Trail Scenic Byway are listed below:

- Expanses of native prairies, rivers and creeks, and unique geologic formations provide scenic beauty in every season.
- Capture beautiful photographs of unique flora and fauna year-around.
- Hike prairies and woodlands for spectacular bird-watching opportunities all year.
- Canoe the Inkpaduta Trail for multiple days or a few hours to experience a peaceful world off the road.
- Explore historic buildings and learn about the heritage of the area's first European settlers.
- Experience family fun by camping, fishing, hiking, biking and canoeing.
- Learn about the rich archeology of the Mill Creek Culture.

Resource Inventory

Below is a list of resources already in place that assists visitors in understanding the relevant messages or themes of the byway. These resources can be in many forms, such as publications, websites, and programming, or specific interpretive facilities and actual sites along the byway. All of these resources combine to give the byway visitor a full educational and enjoyable experience when traveling the byway.

Existing Interpretive Publications, Products, Websites, Programming
Iowa Scenic Byways Visitor Guide
Glacial Trail Scenic Byway Brochure/Map
Little Sioux River & Mill Creek Expedition & Fishing Guide
ART/Artisans Road Trip map/brochures
Watchable Wildlife website
Iowa State Byways website
County websites
My County Parks website
Facebook: Glacial Trail Scenic Byway, Prairie Heritage Center, O'Brien County Conservation
Programming at Sanford Museum and Planetarium
Programming at Prairie Heritage Center

Existing Interpretive Facilities and Sites			
Site Name	**Location**	**Description/Site Amenities**	**Agency Responsible**
Prairie Heritage Center	Yellow Ave, O'Brien County	Visitor Information Center, exhibits, displays, restrooms, programming, parking	O'Brien CCB/ Little Sioux Valley Conservation Assoc.
Waterman Historic Marker	Yellow Ave, O'Brien County	Stone marker with bronze information panel	O'Brien CCB
Old Dutch Fred Burial		marker	O'Brien CCB
Town of Old O'Brien	Highway 10, O'Brien County	Wooden sign with historic dates/ information	Private Property
Kirchner Farm Museum	Peterson	Museum with historic farm equipment and other pioneer artifacts	Peterson Heritage, Inc.
Kirchner Cabin Site	Peterson/near Riverside Little Sioux Access	Stone marker with bronze panel marking first log cabin in Clay County	Peterson Heritage, Inc.
Christian Kirchner Home	Peterson	Historic Home/Bronze plaque	Peterson Heritage, Inc.
J.A. "Gust" Kirchner Home	Peterson	Historic Home with wooden sign and date	Peterson Heritage, Inc.
Phillip Kirchner Cabin and Home	Peterson	Historic Home	Private Property
Rock Forest School	Peterson	Historic Schoolhouse with date panel	Peterson Heritage, Inc.
Fort Peterson Blockade	Peterson	Historic Fort and stone marker with bronze information panel	Peterson Heritage, Inc.
Linn Grove Mill replica	Linn Grove	Replica of old Linn Grove mill with plantings and pond	
Wittrock Preserve	O'Brien County	Archeological preserve with interpretive panel	Iowa DNR/
Soo Access	M12/Cherokee County	Single panel with Inkpaduta Trail and distance to Nelson Access	Cherokee CCB
Riverside Little Sioux Access	Highway 10/Clay County	Single panel with Inkpaduta Trail and distance to Burned Out Bridge Access	Clay CCB
Sanford Museum & Planetarium	Cherokee (14 miles from byway)	Museum with historic, natural, archeological displays, exhibits, programming, etc.	Sanford Museum Association

Proposed New Interpretive Facilities and Sites			
Site	**Location**	**Description**	**Agencies Involved**
Birding Driving Loop	to be determined	Develop driving loop routes for birding with map, signage	County Conservation Boards partner with Northern Iowa Prairie Lakes Audubon Society and Byway Board
History Driving Loop	to be determined	Develop driving loop routes of historic features with map, signage	County Conservation Boards partner with Peterson Heritage Inc and Byway Board
Birding Trails	to be determined	Develop hiking, biking, cross country skiing trails for birding at selected public lands/county parks, maps, signage	County Conservation Boards partner with Northern Iowa Prairie Lakes Audubon Society and Byway Board
Bicycle Trails/hard surface shoulders	Highway 10 and M12/O'Brien County	Develop hard surface shoulder/bicycle trail between PHC and Dog Creek Park or Sutherland to Dog Creek Park	O'Brien CCB partner with Little Sioux Spoke Folk, IDOT and Byway Board
Town of Old O'Brien	Highway 10/O'Brien County	Develop interpretive panel at pullout with history of Old O'Brien	Property owners, IDOT and Byway Board
Hanging Valley Trailhead	O'Brien County	Develop interpretive panel with explanation of valley and trail map/guide	O'Brien CCB and Byway Board
Hanging Valley View	to be determined	Stationary tube to view hanging valley formation	Byway Board and O'Brien CCB
Old Dutch Fred Burial	to be determined	Interpretive Panel?	O'Brien CCB and Byway Board
Kirchner Memorial Park	Peterson	Develop interpretive panel with history of Kirchner family and homes	Peterson Heritage, Inc and Byway Board
Fort Peterson Blockhouse	Highway 10/ Peterson	Develop interpretive panel with byway map/brochures	Peterson Heritage, Inc., IDOT and Byway Board
Linn Grove Dam	M36/Linn Grove	Develop interpretive panel with history of dam	Buena Vista CCB and Byway Board
Linn Grove Mill replica	M36/Linn Grove	Develop interpretive panel with history of Linn Grove with byway map/brochures	Linn Grove Community Enhancement Foundation and Byway Board
Soo Access, Nelson Access, Burned Bridge Access, Riverside Little Sioux Access, Wanata Park, Linn Grove Dam, Blue Bird Access	Cherokee, Buena Vista, O'Brien, Clay Counties	Develop interpretive panels at each access with map of River Trail (Inkpaduta Trail) and information, distances, etc	County Conservation Boards, Byway Board
Covered Bridge	C16/Buena Vista County	Provide information on maps and brochures about history and ownership/ access?	Property Owners and Byway Board?
Highway 10 Pullout	Clay County	Scenic Pullout/south side?	Clay CCB and IDOT

Action Items:

- Complete the mapping process of the byway and develop information for mini trails, cemeteries, parks, libraries, festivals, attractions, etc. for website/brochure.
- Prepare a brochure and map system for print and electronic media.
- Finalize first "loops" and related maps and develop a photo gallery of the side trips throughout all of the seasons.
- Develop iPod type guided tours of attractions, loops and a system for byways travelers.
- Work to develop oral histories and archaeological surveys of the area. Work with other agencies or granting bodies to find funding for this work.
- Develop a series of annual byway events in conjunction with other agencies to educate and engage the public about byway intrinsic qualities.
- Develop a plan for incorporating a hard surface shoulder/bicycle lane along the byway from the Prairie Heritage Center to Dog Creek County Park.
- Establish various "birding loops" to drive. Establish more hiking, biking and cross country skiing trails in habitat areas for more people to bird, year around with improved access.

Conclusion

The value of this Glacial Trail Scenic Byway Corridor Management Plan depends entirely on its use and implementation. While some of the recommendations in this plan are already underway, others will require a larger effort from the Byway Board and its stakeholders. This plan is a management and development guide for the Glacial Trail Scenic Byway. It is intended to help both board members and stakeholders to work together in a purposeful effort to enhance and maintain this Glacial Trail Scenic Byway and realize its economic development potential as a tourism resource in Northwest Iowa.

By adopting *Point 4: Schedule and List of All Agency, Group, and Individual Responsibilities in the Implementation of the CMP* of this plan, the Byway Board and stakeholders can show their commitment to the byway by working together to put their ideas into action to create both a better byway and better byway community.

The Glacial Trail Scenic Byway Board should conduct periodic reviews and updates to this plan, celebrating accomplishments, addressing the status of uncompleted tasks, encouraging the participation of new partners, and exchanging new ideas for future byway activities and projects.

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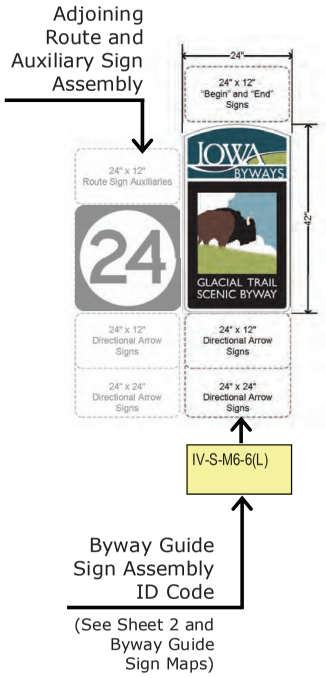
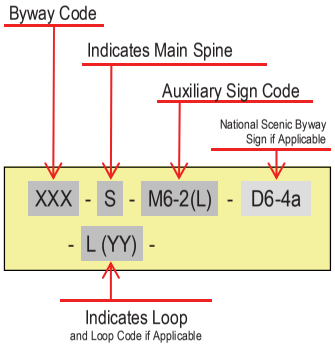
Appendix 1

Index of Sheets

Iowa Byway Guide Sign—Typical Placement with Adjoining Route and Auxiliary Signs



Byway Guide Sign Assembly ID Code—MAIN ROUTE OR SPINE



Iowa Byway Name Codes

Byway Name	Byway Code
Delaware Crossing Scenic Byway	DC
Driftless Area Scenic Byway	DA
Glacial Trail Scenic Byway	GT
Grant Wood Scenic Byway	GW
Iowa Great River Road National Scenic	GRR
Historic Hills Scenic Byway	HH
Iowa Valley Scenic Byway	IV
Lincoln Highway Heritage Byway	LIH
Loess Hills National Scenic Byway	LOH
River Bluffs Scenic Byway	RB
Western Skies Scenic Byway	WS

Auxiliary Sign Codes

M4-14	BEGIN 24 x 12	M5-2	24 x 24
M4-6	END 24 x 12	M5-2B	24 x 24
M6-1(R)	24 x 12	M5-1	24 x 24
M6-1(L)	24 x 12	M5-1B	24 x 24
M6-4	24 x 12	M6-7	24 x 24
M6-1(S)	24 x 12	M6-7B	24 x 24
M6-2(R)	24 x 24	M8-1	24 x 24
M6-2(L)	24 x 24	D6-4a	24 x 12
M6-6(R)	24 x 24		
M6-6(L)	24 x 24		

(R) = Right
(L) = Left
(S) = Straight

Glacial Trail Scenic Byway Guide Sign Quantities

ITEM DESCRIPTION	TOTAL QUANTITY
Byway Guide Signs	
GT-S	57
Auxiliary Signs	
M4-14	
M4-6	
M6-1(R)	7
M6-1(L)	7
M6-4	1
M6-1(S)	1
M6-2(R)	
M6-2(L)	
M6-6(R)	1
M6-6(L)	3
M5-2	
M5-2B	
M5-1	
M5-1B	
M6-7	
M6-7B	
M8-1	
D6-4a	
Total Installations	57

BYWAY GUIDE SIGN ASSEMBLIES

Iowa Department of Transportation

Predictive Mapping

IOWA BYWAYS

Glacial Trail Scenic Byway

Title Sheet

Sheet: C-1

GT-S	GT-S-M4-14	GT-S-M4-6	GT-S-M6-1(R)	GT-S-M6-1(L)	GT-S-M6-4	GT-S-M6-1(S)	GT-S-M6-2(R)	GT-S-M6-2(L)	GT-S-M6-6(R)

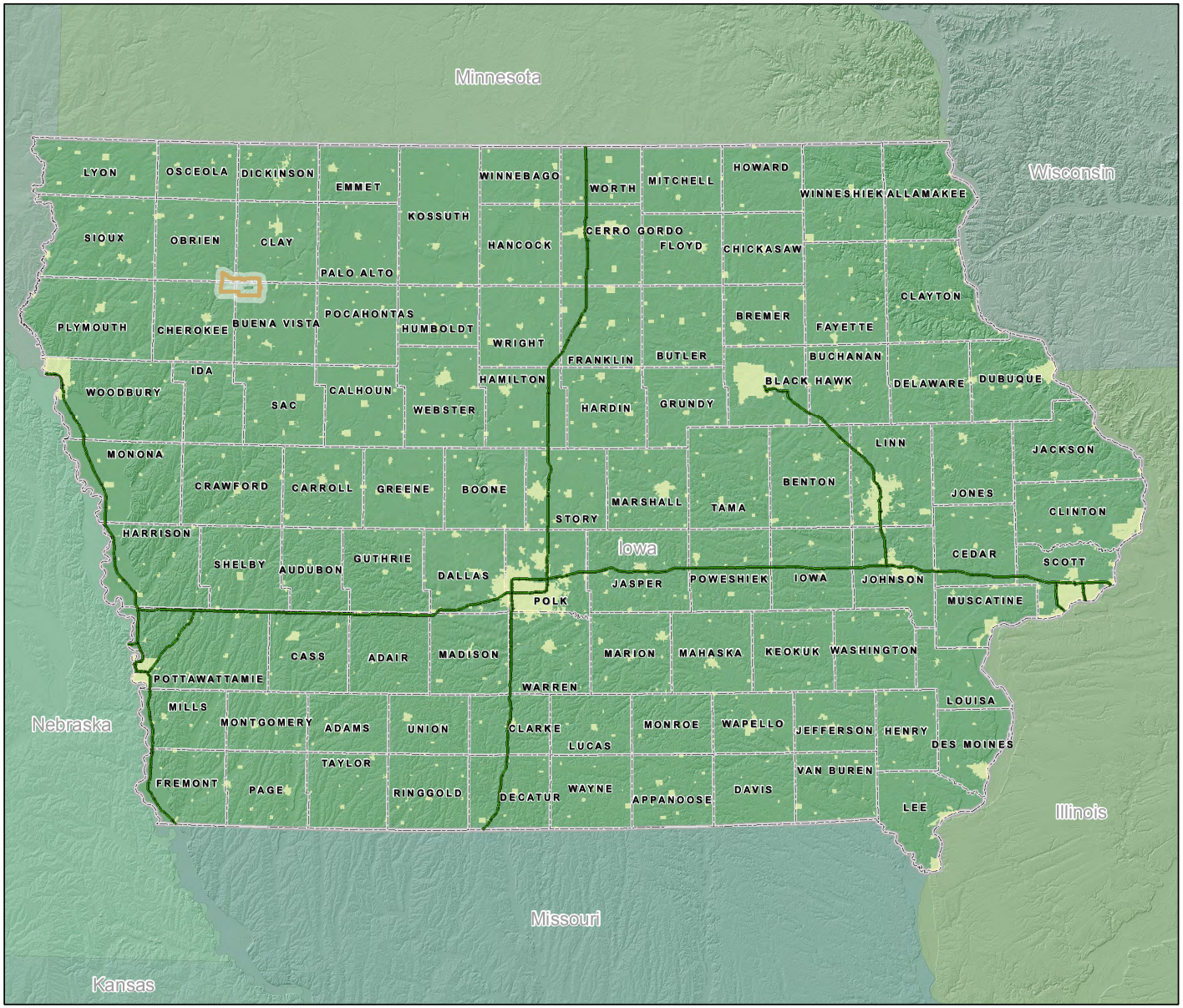
GT-S-M6-6(L)	GT-S-M5-2	GT-S-M5-2B	GT-S-M5-1	GT-S-M5-1B	GT-S-M6-7	GT-S-M6-7B	GT-S-M8-1

Iowa Department of Transportation

BYWAY GUIDE SIGN ASSEMBLIES AND ID CODES

Glacial Trail Scenic Byway

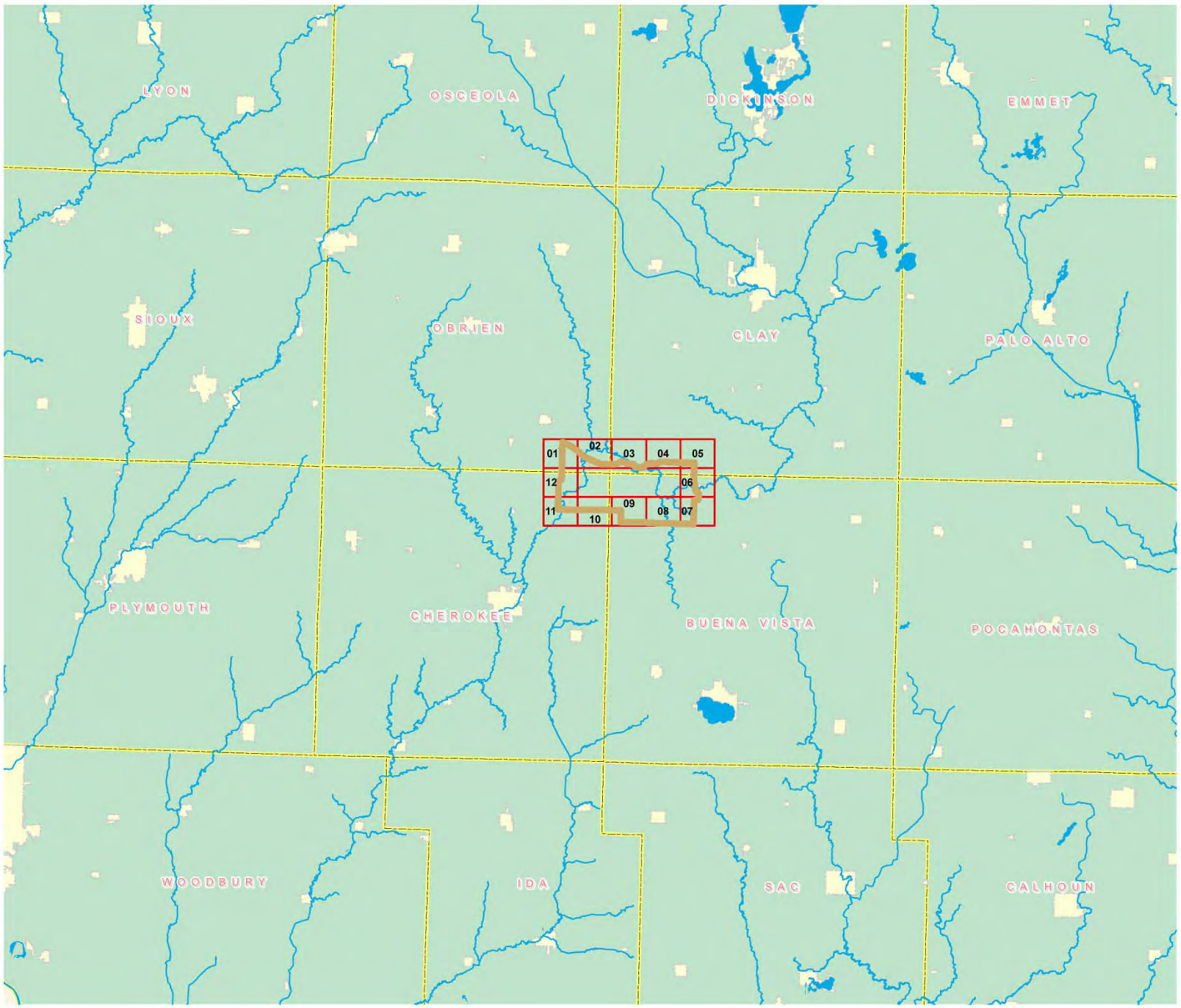
(R) = Right
(L) = Left
(S) = Straight



GLACIAL TRAIL SCENIC BYWAY

Legend

- Glacial Trail Scenic Byway
- Interstate
- Incorporated Areas



GLACIAL TRAIL SCENIC BYWAY

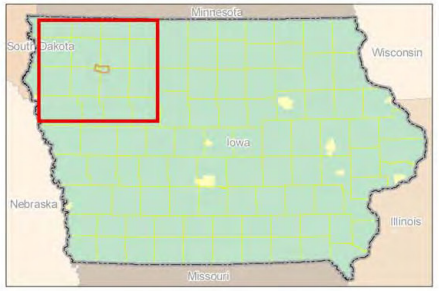
Legend

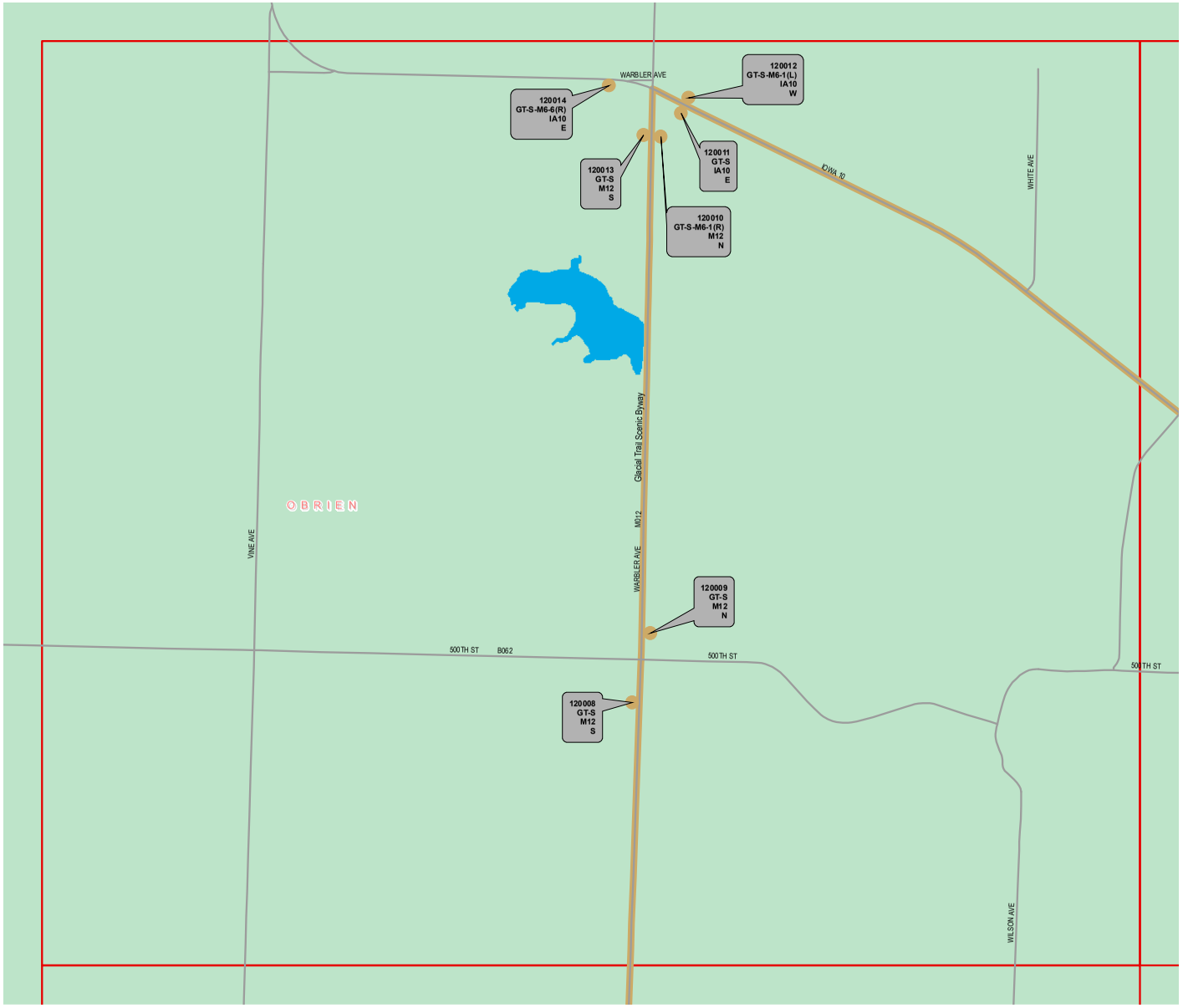
- Glacial Trail Scenic Byway
- Incorporated Areas

0 8 16 Miles

N
W E
S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY 1

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

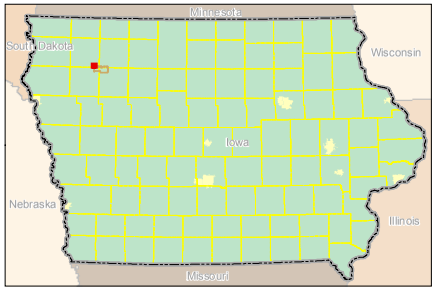
Legend

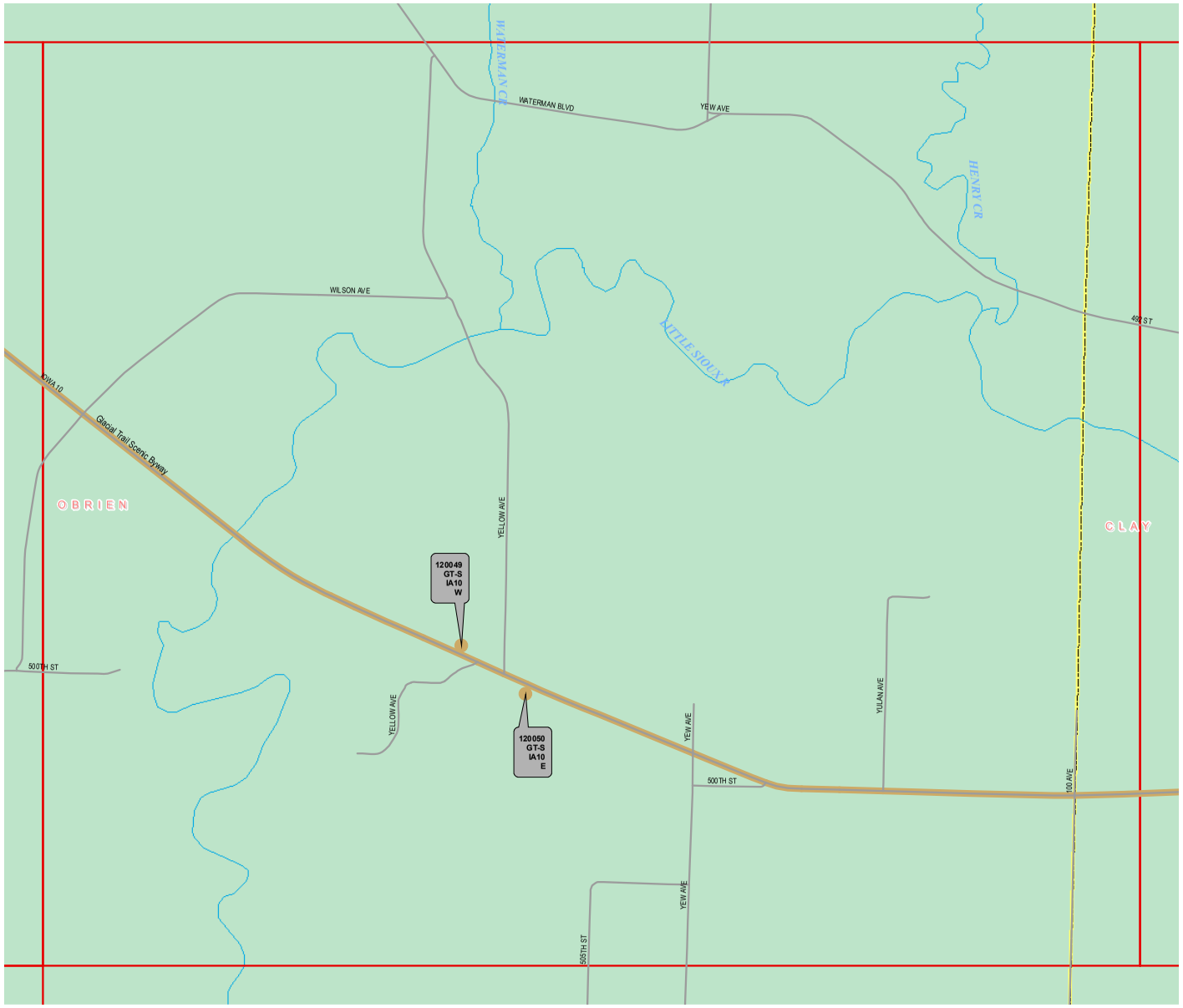
- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N
W E
S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY 2

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

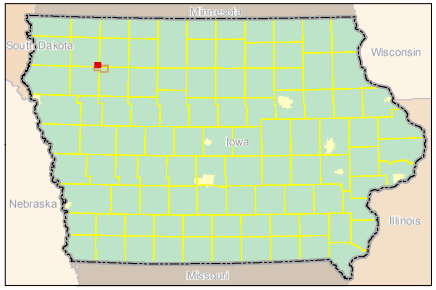
Legend

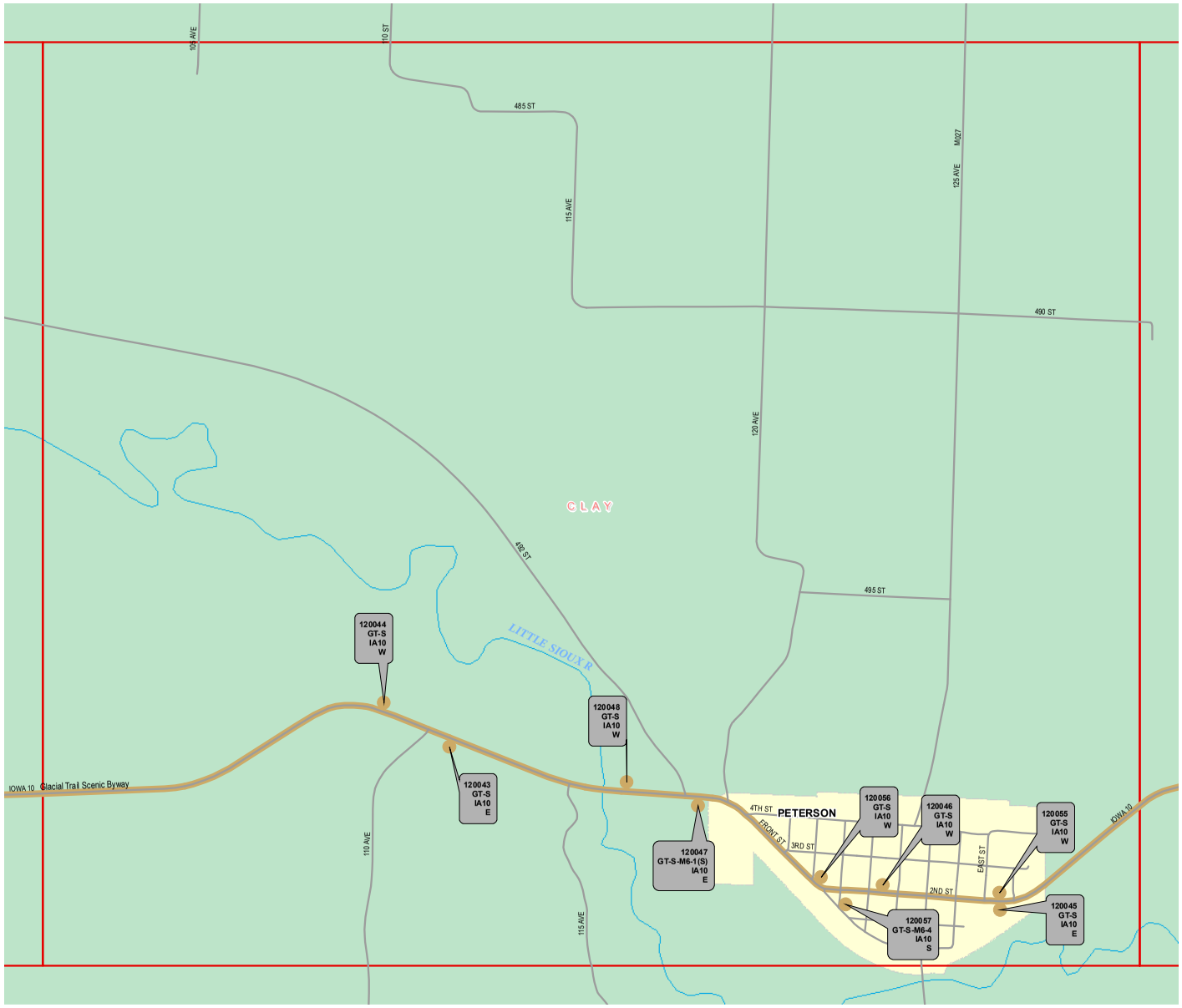
- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N W E S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY 3

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

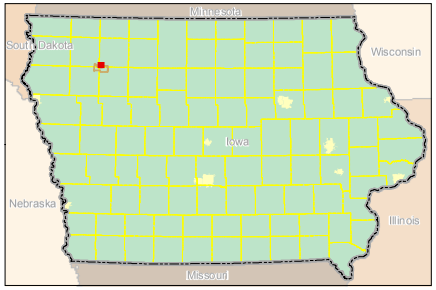
Legend

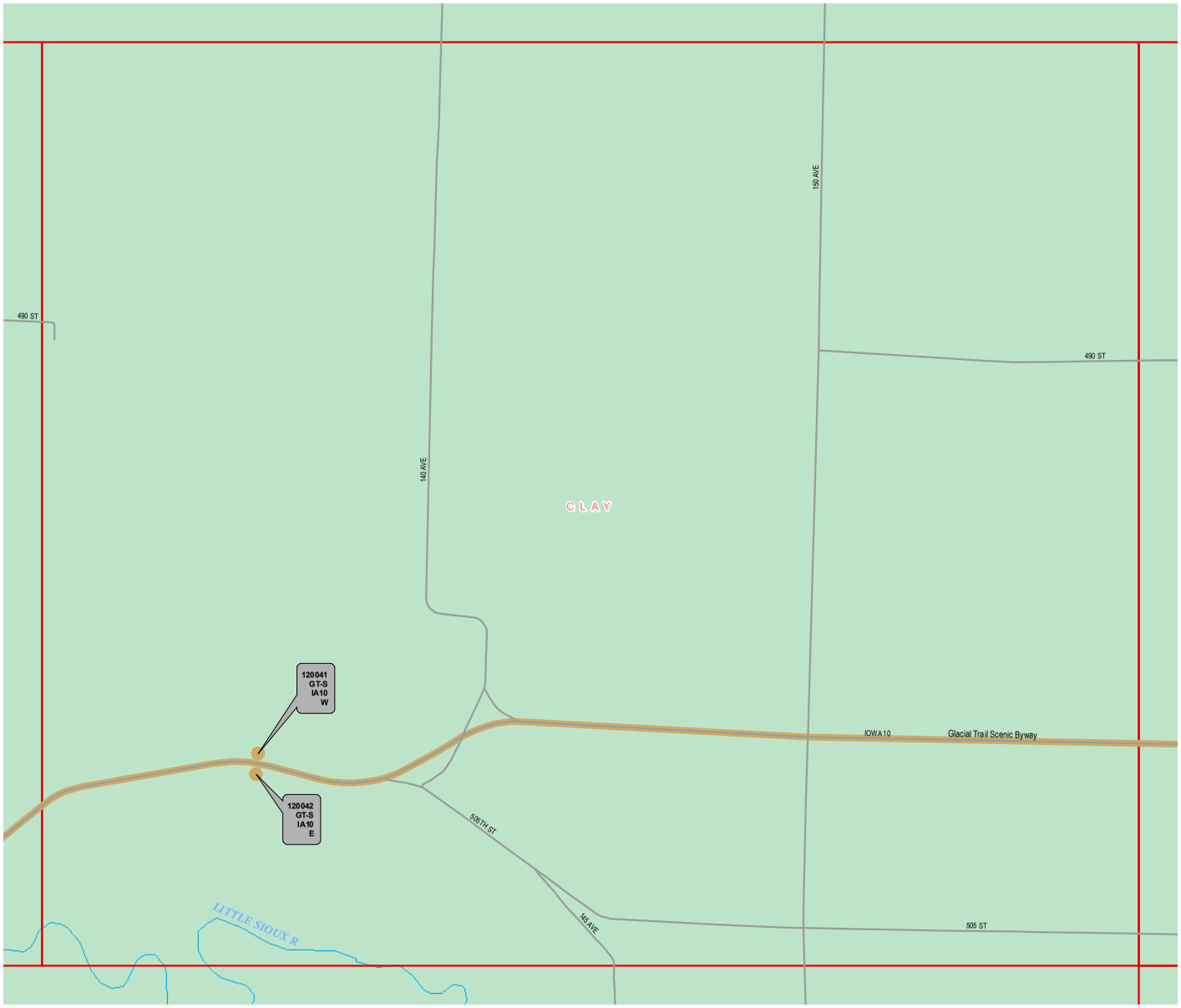
- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N W E S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

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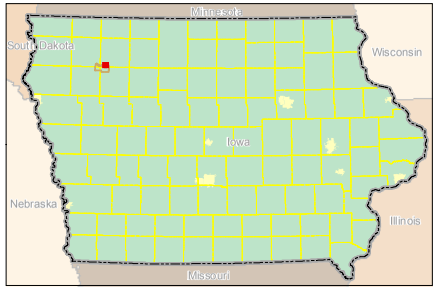
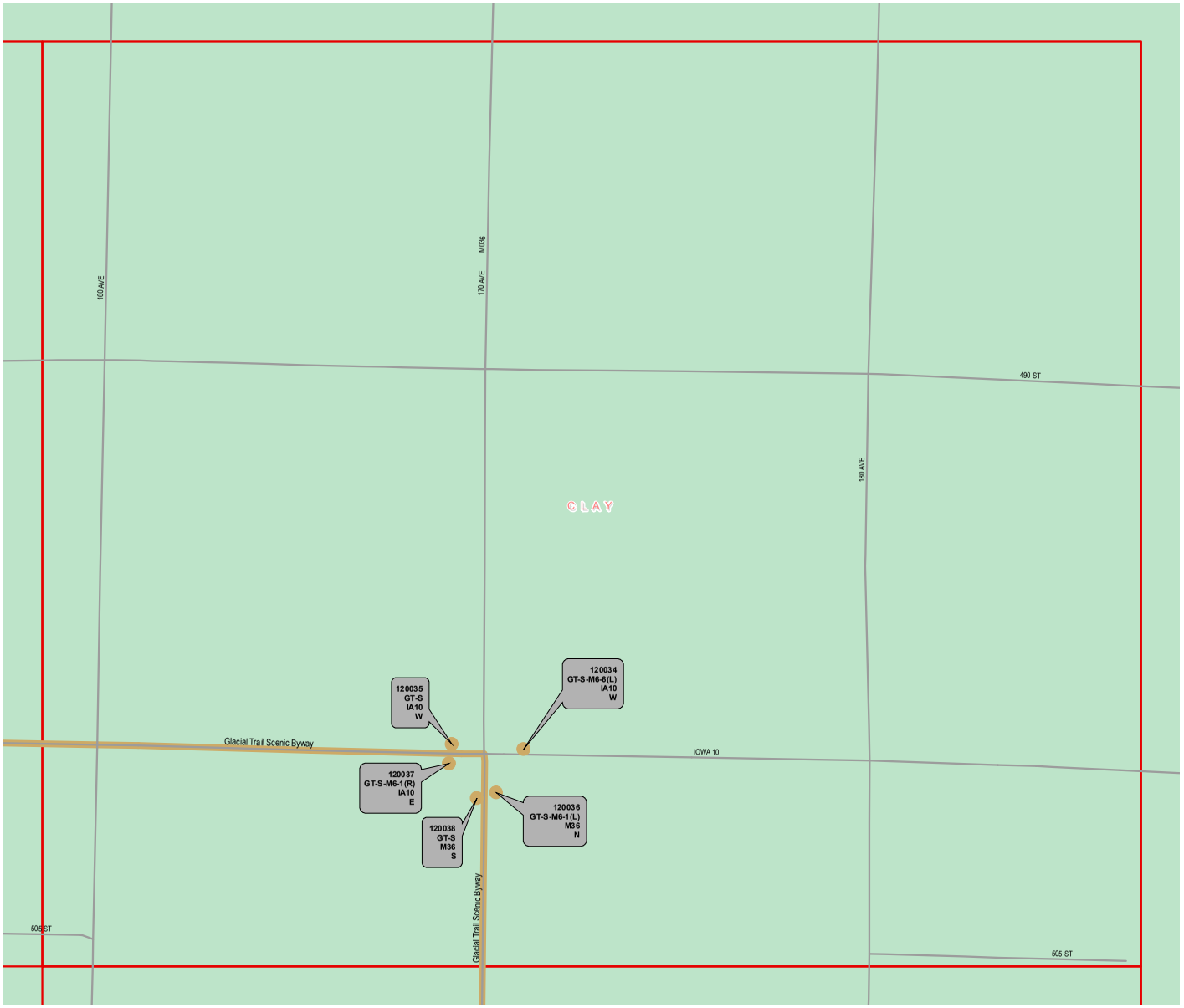
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N
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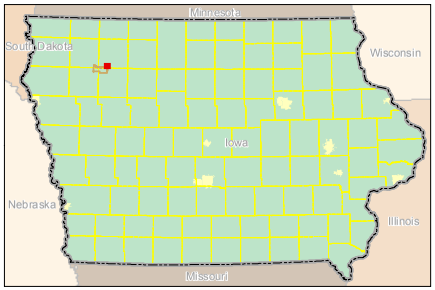
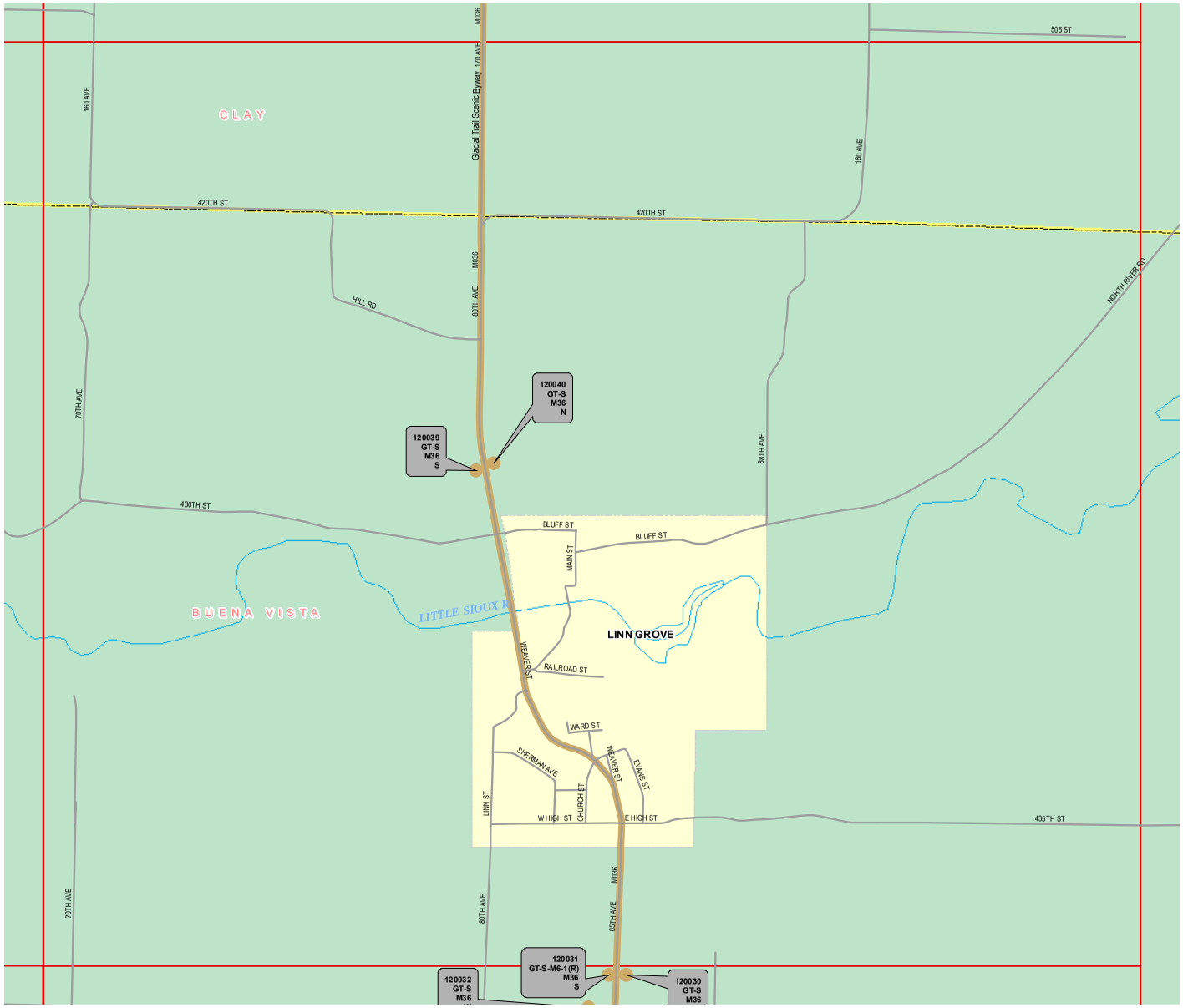
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5Miles

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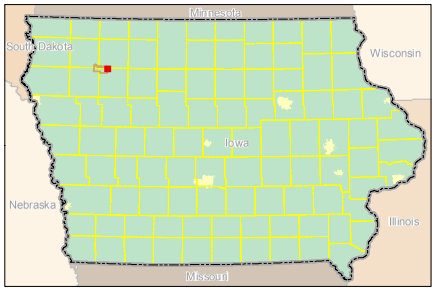
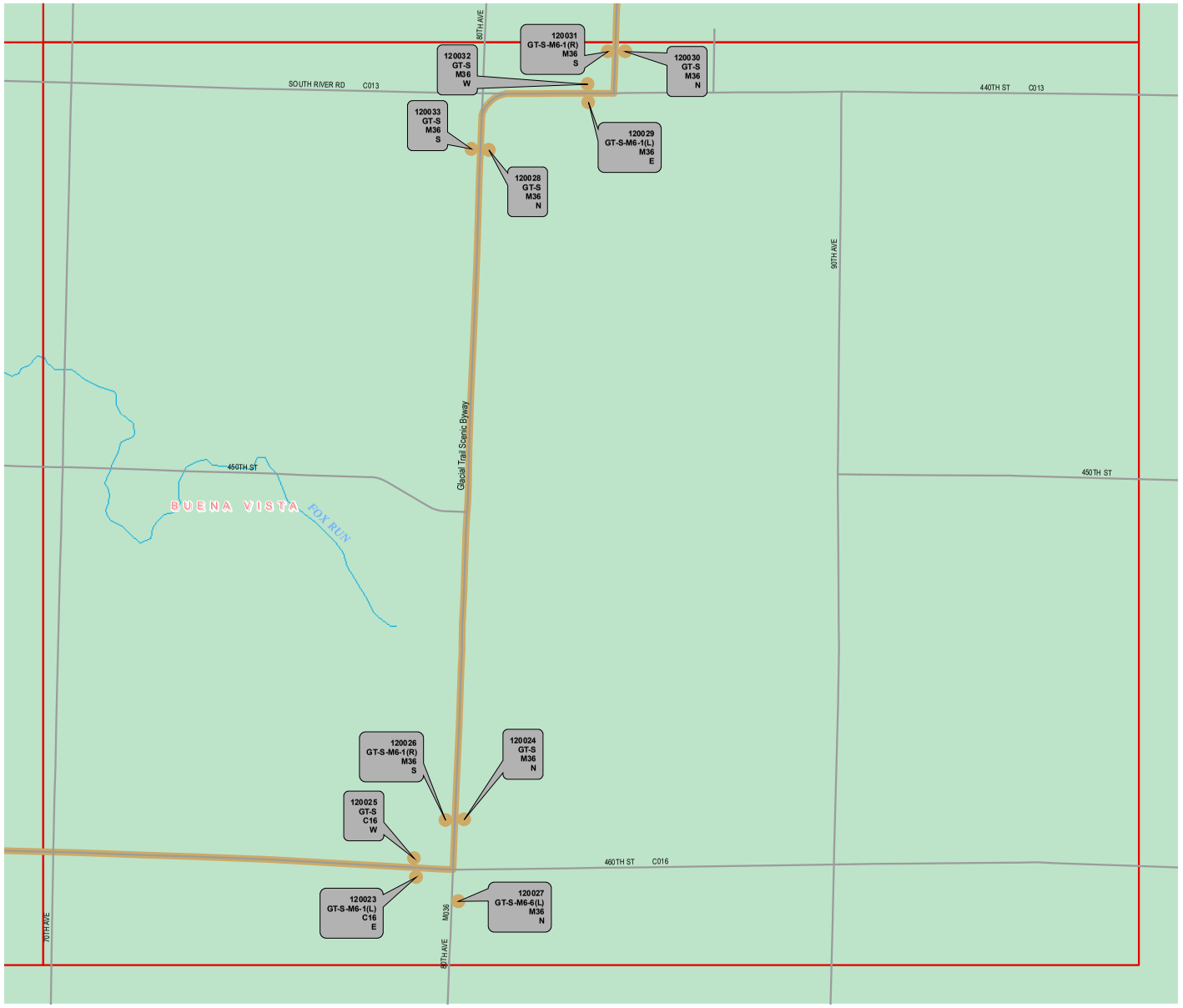
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY 7

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

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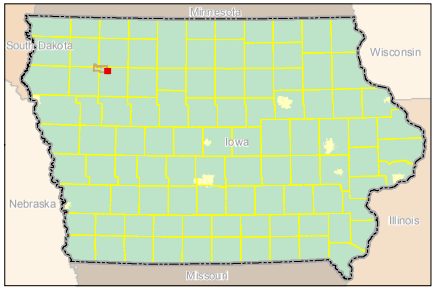
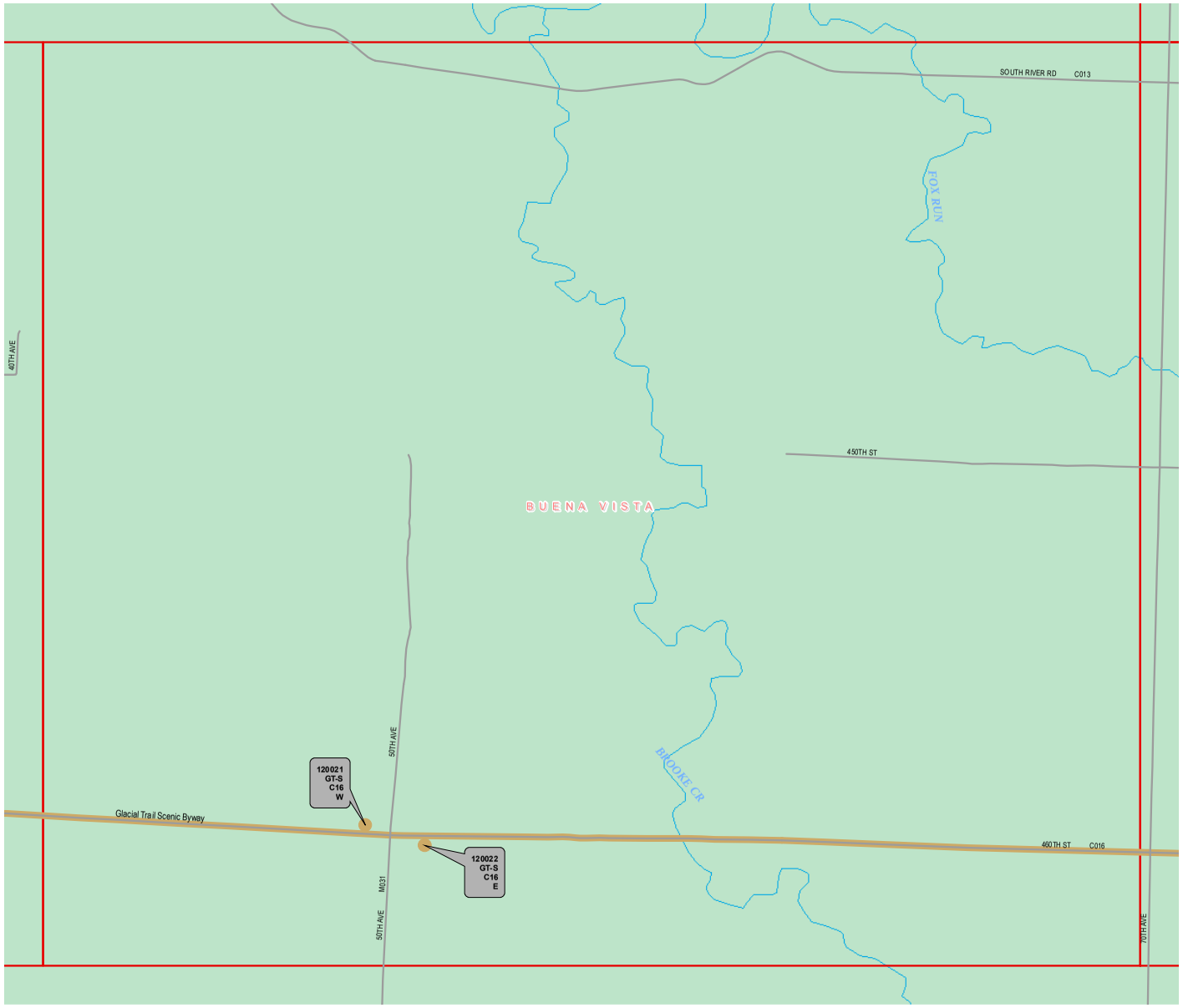
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N
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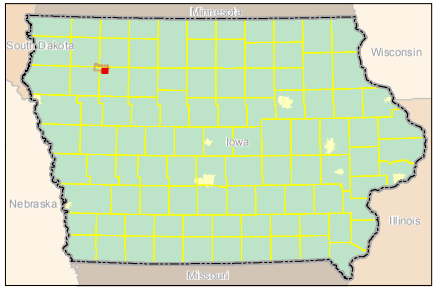
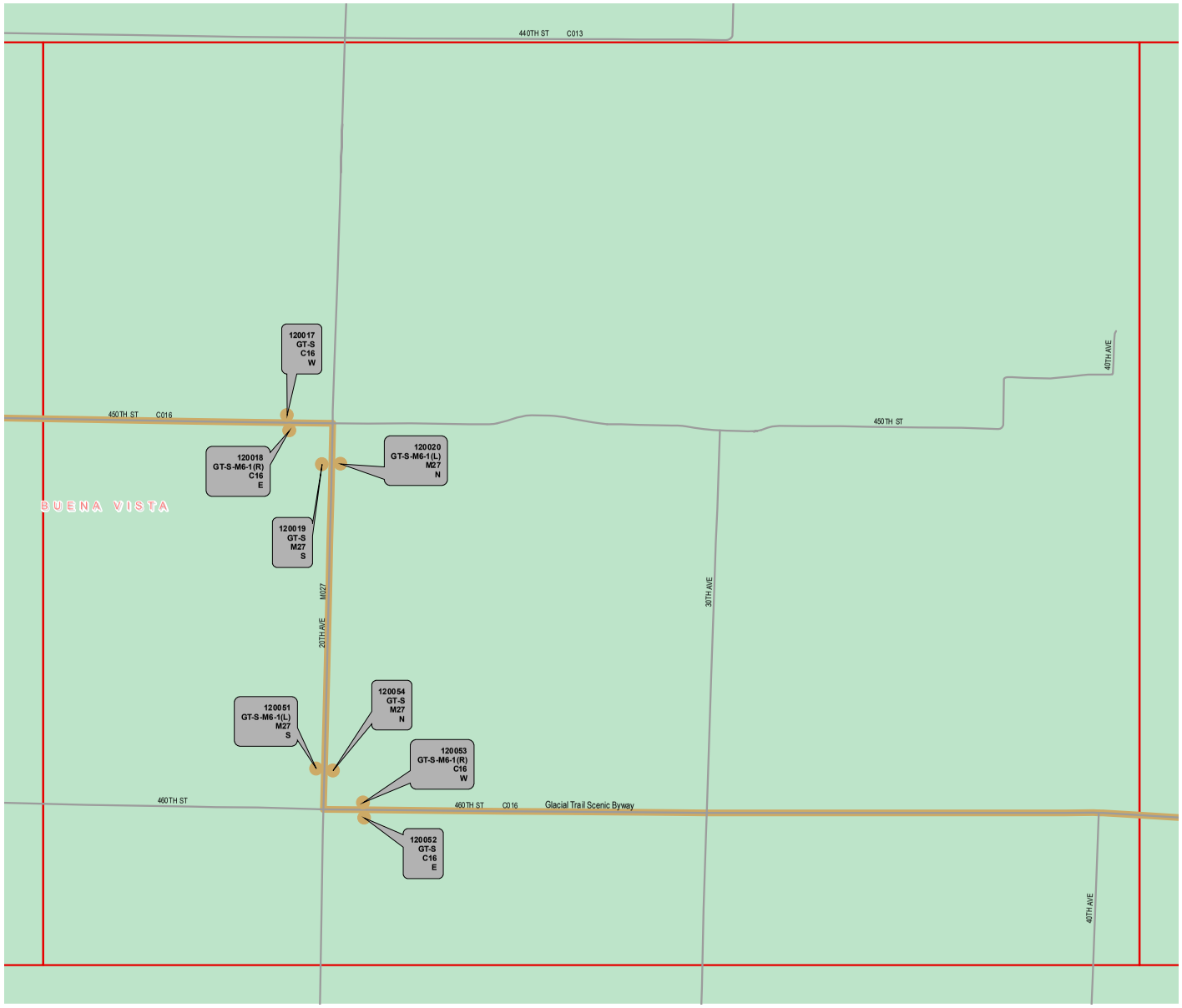
S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY 9

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

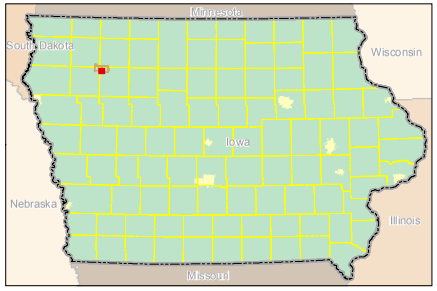
Legend

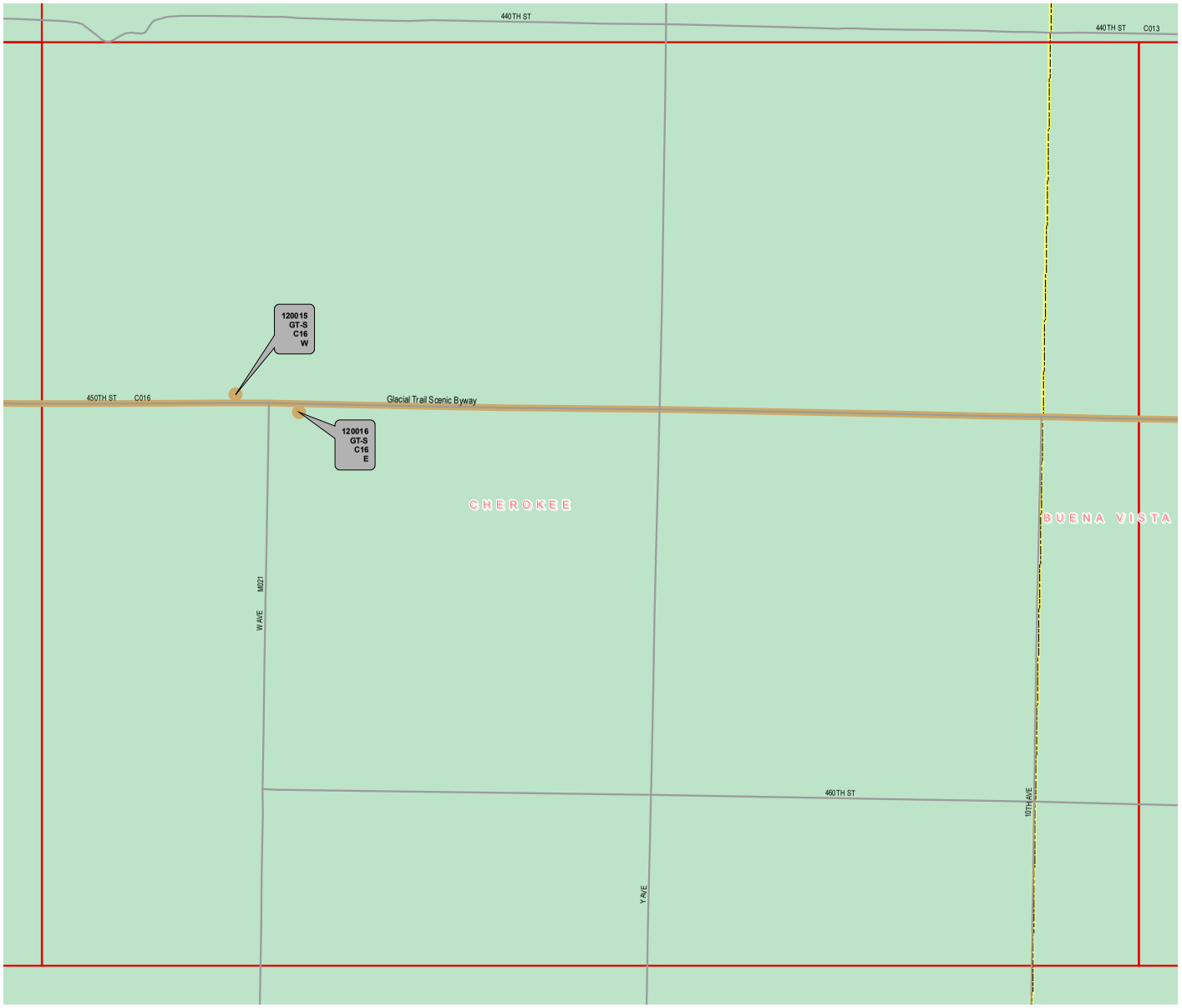
- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N W E S

Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

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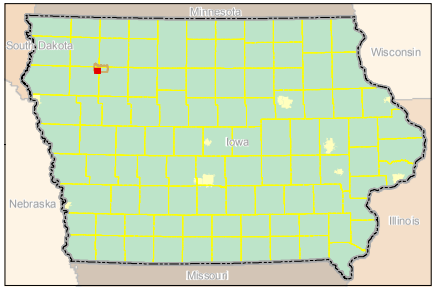
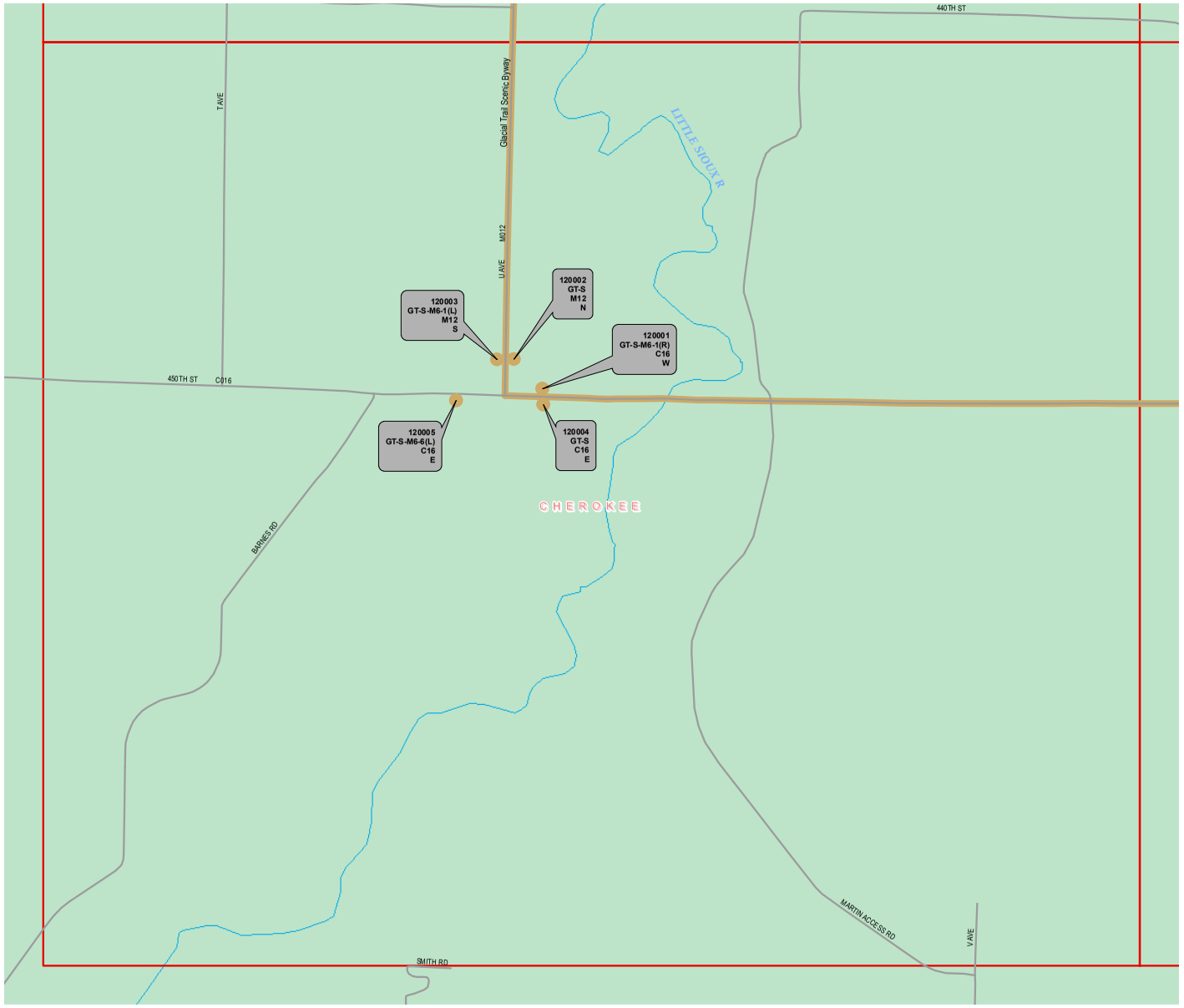
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N
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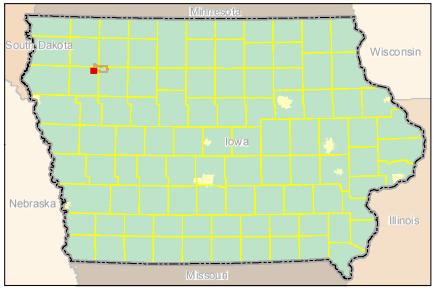
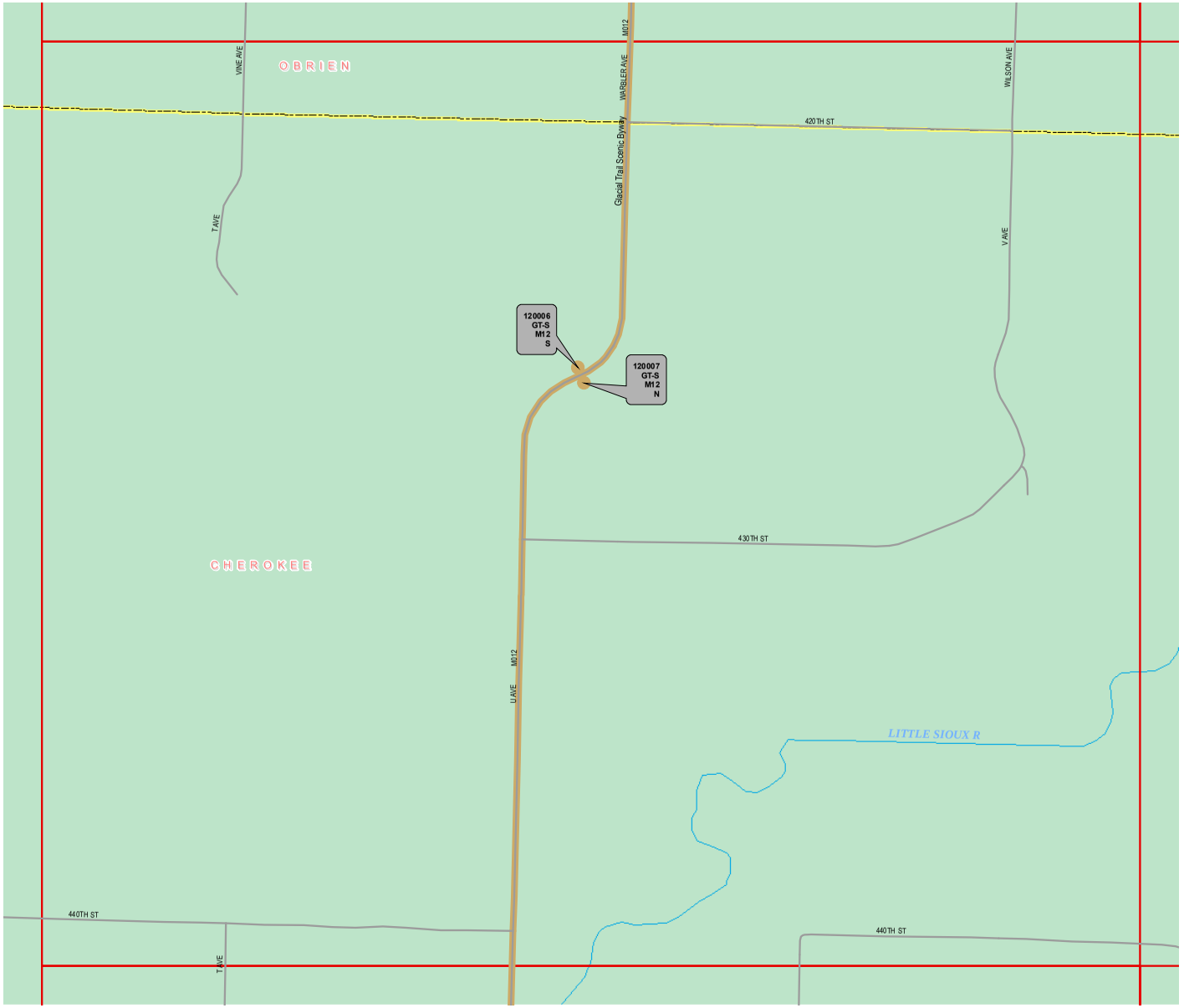
Iowa Department of Transportation





GLACIAL TRAIL SCENIC BYWAY

Issue Date: October 8, 2010
Origin of Geo-data: Iowa DOT

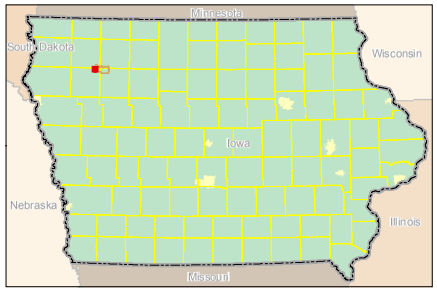
Legend

- Glacial Trail Byway Sign Assembly
- Glacial Trail Scenic Byway
- Incorporated Areas

0 0.25 0.5 Miles

N
W E
S

Iowa Department of Transportation



Appendix 2

IOWA BYWAYS BRAND GUIDELINES

for the Iowa Byways Identity and
Member Byways of the Iowa Byways System

Word and Design Marks
& Specifications for Proper Use

Prepared for
GLACIAL TRAIL SCENIC BYWAY

MARCH 2010

Iowa Department of Transportation

Office of Media and Marketing Services
800 Lincoln Way
Ames, Iowa 50010

Introduction

This document describes the components developed to create a recognizable, consistent, and memorable graphic identity for the Iowa Department of Transportation's Scenic Byway Program, the Iowa Byways brand. The brand is ultimately the program's public identity intended to create awareness of the program and its benefits and to encourage and enhance the visitor's experience on Iowa's scenic byways. This document also outlines rules for the brand's proper use and application.

Definitions and Terms in this Document

WORD MARK
The word mark consists of the exact wording chosen to identify the subject. In this case, the words Iowa Byways is the official designation identifying the Iowa Department of Transportation's scenic byway program. This wording is legally and exclusively affiliated with this program irrespective of punctuation, associated graphics, or typographic style. This is also true of the names of the 11 individual byways which make up the Iowa Byways program; for example; Glacial Trail Scenic Byway is the official word mark of the Glacial Trail Scenic Byway and is likewise protected under state law.

Iowa Byways

Glacial Trail Scenic Byway

(Word Marks)

IOWA BYWAYS BRAND
The Iowa Byways brand consists of the word mark, graphic design, and color palette developed to identify and create recognition for the Iowa Department of Transportation's scenic byway program. The brand is designed to consistently identify the program across a range of media such as signage, brochures, and websites.

(System-wide Identity Graphic)

SYSTEM-WIDE IDENTITY GRAPHIC
The system-wide identity graphic is a stand-alone graphic that incorporates the word mark, graphic design and color palette and is the identity for the Iowa Byways program.

INDIVIDUAL BYWAY LOGO
Each of the 11 byways in the Iowa Byways program is identified with a unique graphic, in combination with a name, to create a logo. While unique logos have been developed for each byway, they share graphic and typographic characteristics designed to unite them as a family of logos within the Iowa Byways brand.

(Individual Byway Logo)

WAYSHOWING SIGNAGE (Byway Guide Signs)
Wayshowing signage describes byway guide signs designed to assist visitors in safely and efficiently finding their way along Iowa's scenic byways. Wayshowing signage consists of a combination of the system-wide identity graphic and individual byway logo.

(Wayshowing Signage)

System-Wide Identity Graphic

The Iowa Byways brand System-wide identity graphic was designed to represent the comprehensive family of Iowa Byways.

It is designed to be a stand-alone graphic for use in identifying and promoting the Iowa Byways program.

It is also designed to be used in combination with individual byway logos on roadway wayshowing signage.

The system-wide identity graphic was developed in an intentionally simple graphic style so as to appear as a recognizable and memorable graphic theme without competing with or dominating the individual byway logo when displayed on wayshowing signage.

The colors and curves in the logo are an abstraction of the undulating Iowa landscape. These colors serve as the primary color palette for the Iowa Byways brand.

System-Wide Identity Graphic

System-Wide Identity Graphic
in combination with
individual byway logo
on wayshowing signage

System-Wide Identity Graphic

FOR PRINT, DIGITAL, & PROMOTIONAL APPLICATIONS:

Light Blue
C100 M70 Y60
(Spot: PMS7477c)

White

Green
C30 M10 Y70
(Spot: PMS5777c)

Dark Blue
C100 M90 Y70
(Spot: PMS546c)

System-Wide Identity Graphic
Grayscale version

70% Black

30% Black

100% Black

The typeface for "IOWA" is a derivation of Cheltenham BT set in all caps. The original typeface has been manipulated to blend with abstract graphic representations of hills and valleys. Typeface for "BYWAYS" is Gill Sans set in all caps.

Colors for the brand identity are Light blue (C100 M70 Y60) or PMS equivalent, Dark blue (C100 M90 Y70) or PMS equivalent, and green (C30 M10 Y70)or PMS equivalent.

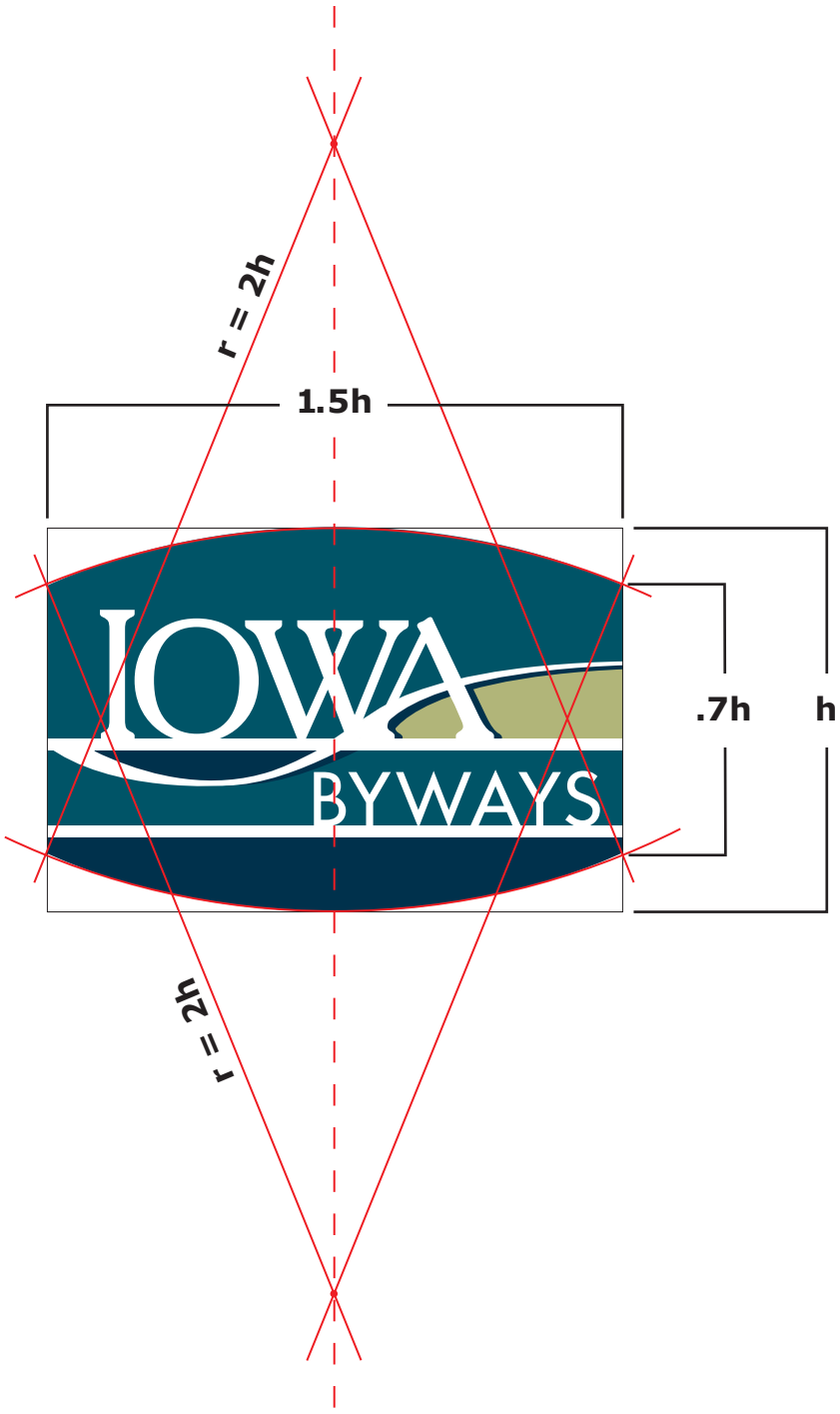
A black and white version consists of 70% black = light blue, 100% black = dark blue, and 30% black = green.

System-Wide Identity Graphic

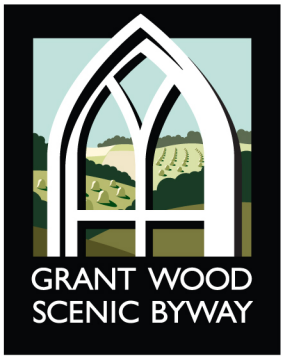
The proportion of the system-wide identity graphic is created in a ratio of 1h:1.5h Any enlargement or reduction of the logo must maintain the ratio. At a ratio of 1:1.5, the radii of the arcs comprising the top and bottom of the mark = 2h.

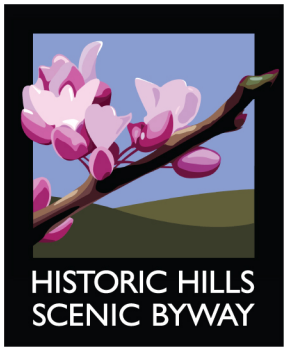
FOR PRINT, DIGITAL, & PROMOTIONAL APPLICATIONS:

For printed media, the minimum size of the logo must not be less than 1/2” high.

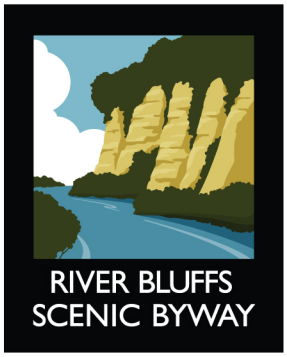


Individual Byway Logos





Logos for the individual byways in the Iowa Byways program were developed in an intentionally simple graphic style so as to appear as a recognizable and memorable graphic theme, descriptive of the character and experience of the byway, and as a safe and effective wayshowing tool when displayed on signage.

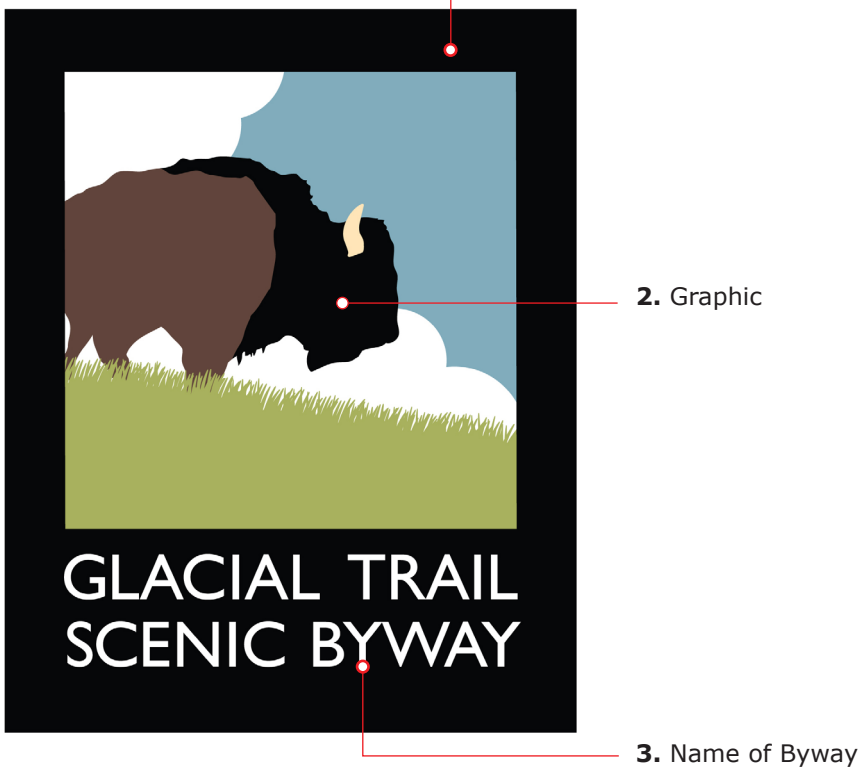


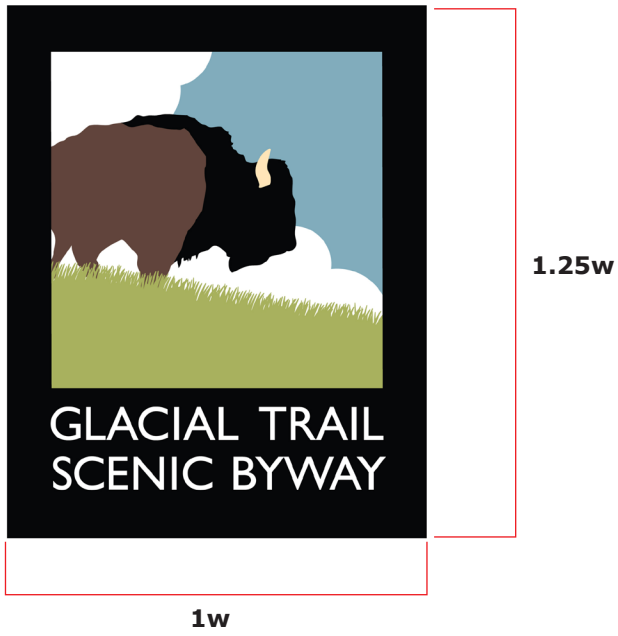
Individual Byway Logos

The individual byway logos were developed in an intentionally simple graphic style so as to appear as a recognizable and memorable graphic theme and a safe and effective wayshowing tool when displayed on signage.

The Glacial Trail Scenic Byway logo consists of three parts; 1. the black background; 2. the graphic; 3. the name of the byway. All three parts comprise the entirety of the logo, the graphic and/or text may not be separated from the black background.

The proportion of each logo is created in a ratio of width = 1w, height = 1.25w. Any enlargement or reduction of the logo must maintain the ratio.





Individual Byway Logos

Glacial Trail Scenic Byway

THE WORD MARK

The word mark, GLACIAL TRAIL SCENIC BYWAY, consists of standard characters, without claim to any particular font, style, size or color.

Glacial Trail Scenic Byway logo (stand-alone)

LOGO

The Glacial Trail Scenic Byway logo was designed to represent the story and experience of the byway.

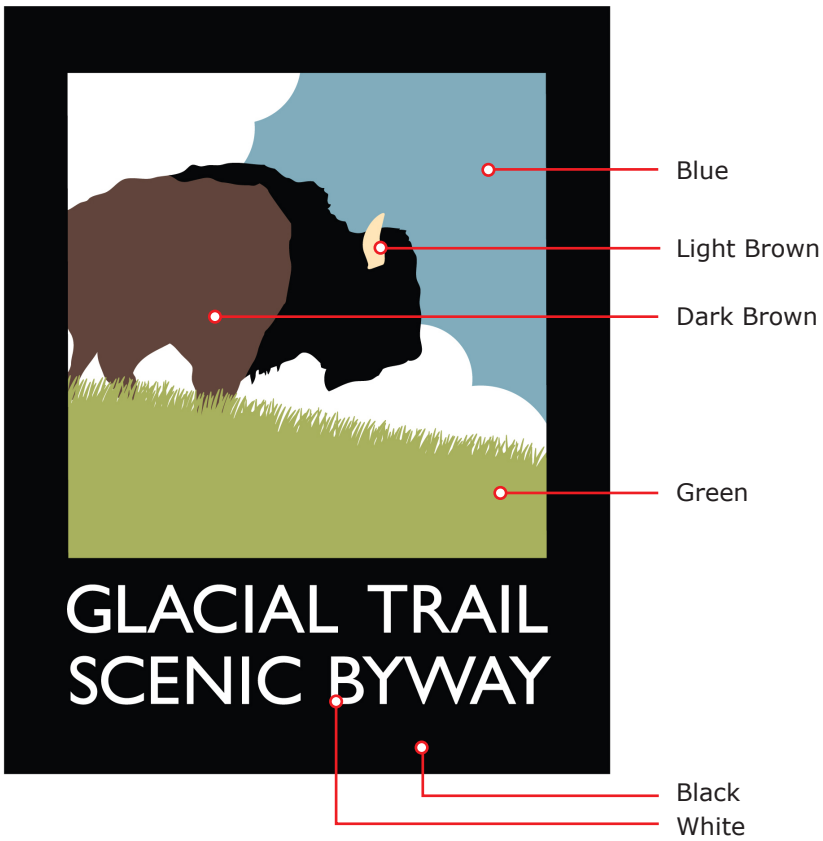
It is designed to be a stand-alone graphic for use in identifying and promoting the Glacial Trail Scenic Byway and the entirety of the Iowa Byways program.

It is also designed to be used in combination with the Iowa Byways system-wide identity graphic on roadway wayshowing signage.

Glacial Trail Scenic Byway Logo in combination with Iowa Byways System-Wide Identity Graphic on wayshowing signage

Individual Byway Logos

Glacial Trail Scenic Byway



FOR PRINT, DIGITAL, & PROMOTIONAL APPLICATIONS:

For printed media, the minimum size of the logo must not be less than 1" high. Requests for exceptions to the minimum size must include a sample/mockup at the proposed size, be submitted to IDOT, and obtain written approval before proceeding.

The typeface for "GLACIAL TRAIL SCENIC BYWAY" is Gill Sans set in all caps.

Colors for the Glacial Trail logo are;

Blue: C50 M20 Y20
Green: C40 M20 Y80
Light Brown: M10 Y30
Dark Brown: C80 M90 Y100
Black
White

A black and white/grayscale version is available for use in non-color applications.

Iowa Byways Brand
System-Wide Identity

PROPER NOTICE:
A trademark symbol is required for all prominent uses of the mark (e.g., titles of documents, headlines, labels, packaging, marketing collateral, signage, Web site promotion, brochures, data sheets, news releases, advertising, etc.) except where space of style criteria prevent compliance with this requirement. A trademark symbol is required on the first use of the mark in any text or body copy, even though the symbol may have already been used in the headline or other prominent use: Iowa Byways®. The ® indicates the trademark is registered in the United States. Wherever possible, the trademark notice should appear in superscript in a size smaller than the mark itself and without parentheses. Where such formatting is not available, however, place the appropriate letters in parentheses next to the mark.

PROPER USE:
The Iowa Byways® trademark is an adjective (brand name) and should be followed by the generic term it describes (highway, route, corridor, roadway, etc.). Please follow these guidelines in using the trademark:

- Do not use the mark as a noun or verb.
- Do not pluralize the mark.
- Do not hyphenate the words in the mark.
- Keep the trademark distinct from other text, images or material.
- Do not alter, stretch, skew, edit, modify or combine the trademark with other marks.
- Adhere to the color schemes in attachments A and B.
- Do not render the trademark possessive through use of an apostrophe.
- Provide a proper trademark notice and attribution.

PROPER ATTRIBUTION:
When you use the Iowa DOT's trademark in any materials, please include a brief statement attributing ownership of the mark to the Iowa Department of Transportation. For example: The word mark Iowa Byways and Iowa Byways design mark are registered trademarks.

QUESTIONS:
Questions about proper useage of the Byways mark should be directed to:

Iowa Department of Transportation
Office of Media and Marketing Services
800 Lincoln Way
Ames, IA 50010

Iowa Byways Brand
System-Wide Identity

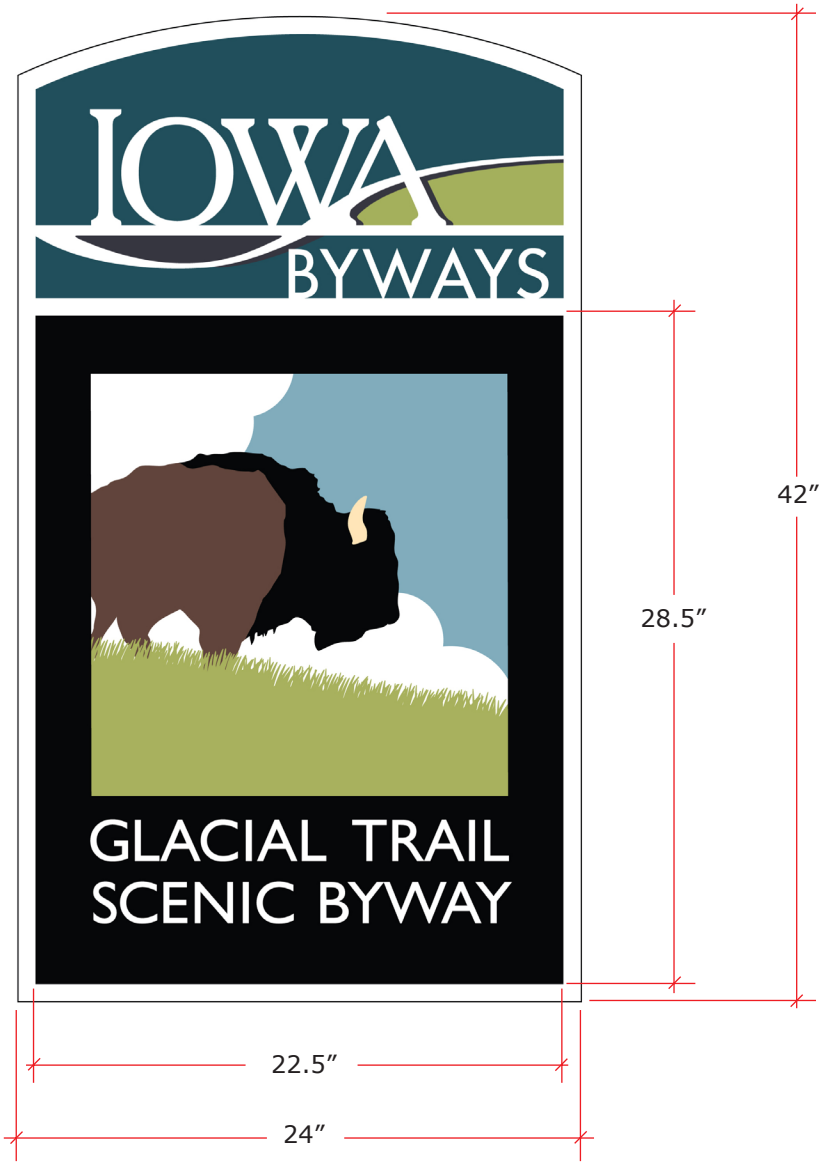
ORIGINAL ARTWORK

Original artwork should be obtained directly from the Iowa DOT.

YOU MAY NOT USE THE IOWA BYWAYS BRAND WORD MARK, SYSTEM-WIDE IDENTITY GRAPHIC, OR ANY OF THE INDIVIDUAL BYWAY WORD MARKS OR LOGOS:

- In, as or part of your own business name, product name, domain name or in the name of your service.
- To identify products or services that are not associated closely with the Iowa Byways program or any Individual Byway.
- In a manner likely to cause confusion.
- In a manner that directly or indirectly expresses or implies Iowa DOT sponsorship, affiliation, certification, approval, or endorsement in relation to your own activities, products and services that are separate from or unrelated to Iowa Byways or participating members of the Iowa Byways program.
- In connection with any obscene or pornographic materials; and your use of the mark may not be disparaging, defamatory or libelous to the Iowa DOT, any of its products or services, or any person or entity.
- In any manner that shortens or abbreviates the mark.
- As a slang term.

Iowa Byways Brand



System-Wide Identity Graphic
in combination with
Individual Byway Logo on
roadway wayshowing signage

FOR ROADWAY WAYSHOWING SIGNAGE:

The mark consists of a variation of the system-wide identity graphic with a straight horizontal bottom in contrast to the arched bottom. The straight bottom is designed to accommodate the straight top of the individual byway logos that will appear below the system-wide identity graphic on roadway wayshowing signage.

The Iowa Department of Transportation will supply art to the signage fabricator.

Colors for roadway wayshowing signage are printed using 3M inkjet process on to SP4000 Provisional Spec Diamond Grade DG Cubed Series 4000 to be attached to die-cut aluminum substrate. (See page 3 of this document for colors assigned to the system-wide identity graphic on roadway wayshowing signage.)

The largest specified size for the individual byway logo is designed for roadway wayshowing signage and is 22.5″ wide X 28.5″ high. Use of the logo at sizes larger than the roadway sign dimension must be approved by IDOT.

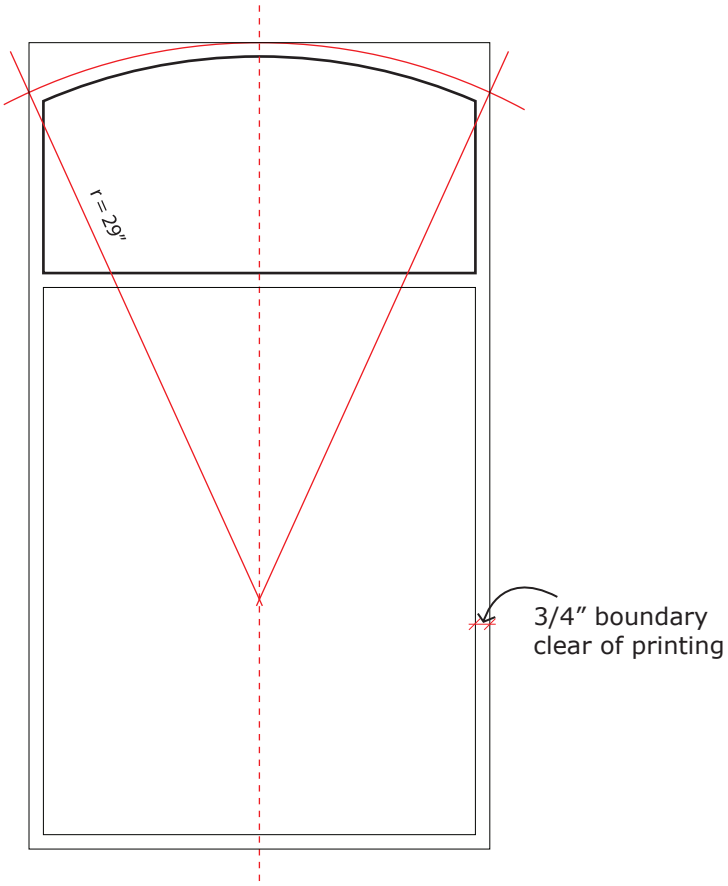
Iowa Byways Brand

FOR ROADWAY WAYSHOWING SIGNAGE:

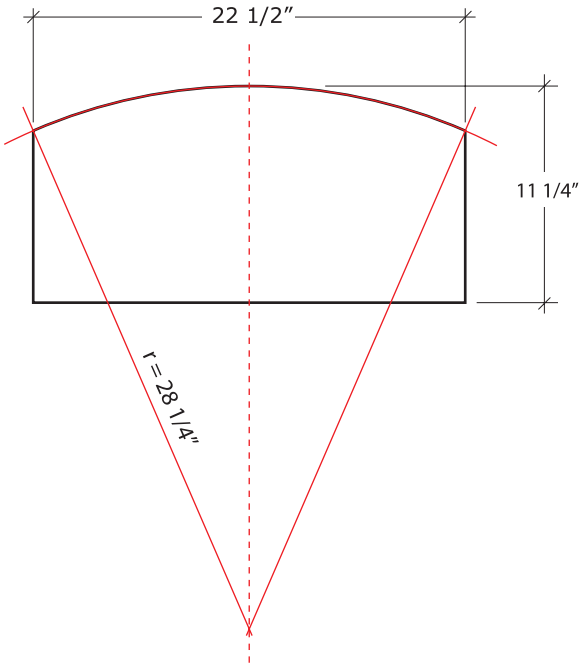
Substrate sign blank dimension is rectangular 42” tall x 24” wide die-cut with an arc at the top. The radius of the arc = 29”.

Substrate is aluminum blank (.080).

There is a consistent 3/4” border around the sign blank clear of any printing. The arc of the system-wide identity graphic is consequently 3/4” shorter than the arc of the sign blade, r = 28 1/4”.



Arc on wayshowing signage sign blank



Arc on system-wide identity graphic
on wayshowing signage

AGREEMENT FOR USE OF
IOWA BYWAYS GRAPHIC IDENTITY
AND THE GLACIAL TRAIL SCENIC BYWAY LOGO

The Iowa Department of Transportation (IDOT) has registered the Iowa Byways word mark and graphic identity and the Glacial Trail Scenic Byway word mark and logo with the State of Iowa and maintains exclusive rights to their use.

This agreement extends the use of the Iowa Byways graphic identity and the Glacial Trail Scenic Byway logo to the signee for the purposes of promotional use related to the byway. This agreement between IDOT and the signee exists in perpetuity with the following provisions:

- Any use of the Iowa Byways graphic identity and the Glacial Trail Scenic Byway logo must meet the standards and requirements described in the Brand Guidelines.
- Any use not included in the Brand Guidelines must first be submitted to IDOT and written approval obtained.
- Any unauthorized use deemed inappropriate by IDOT may result in suspension of this agreement.

The IDOT Office of Systems Planning reserves the right to modify, suspend, or revoke this agreement if the above provisions are not met. Written notification of any change to this agreement will be provided to the signee(s).

Iowa Lakes RC&D, Inc.	Iowa Department of Transportation
Date	Date