Lessons from the Road

NATIONAL SCENIC BYWAYS PROGRAM

Case #1: Mapping Your Byway

Mapping considers all of the byway's intrinsic qualities.

Determining the length and width of your Scenic Byway corridor is a key starting point in developing a Corridor Management Plan. By drawing lines on a map, the byway begins taking shape and definition. How long will it be? Which route is the most scenic? What will visitors see? What are the route's intrinsic values? This case study examines the volunteer-based approach used to map the Loess Hills Scenic Byway Corridor in western Iowa.

Mapping the Scenic Byway Corridor

The process and techniques used to map the Loess (pronounced luss) Hills Scenic Byway Corridor represent just one approach to mapping. In the Loess Hills, volunteers completed much of the data collection and inventory, and paid professionals compiled the information.

According to National Scenic Byway Program guidelines, a Corridor Management Plan should contain a map identifying the corridor boundaries, the location of intrinsic qualities, and land uses within the corridor. Boundaries can be defined using natural topographic features, roadways, linkages, political boundaries, or a combination of these elements.

About Lessons from the Road

This case study features lessons learned by scenic byway advocates across the country that are applicable to many scenic byway initiatives.

Scenic byways are public roads with special scenic, historic, recreational, cultural, archaeological, and/or natural qualities that have been recognized as such through legislation or some other official declaration.

Nomination guidelines for National Scenic Byway designation require a series of planning and management elements. Some byway efforts lead to nomination, and possibly national designation; the rest choose other paths for implementation. These case studies show how various byway managers address planning and management issues in distinctive ways.

Each case study in this series concludes with a resource list of helpful publications and details on how to contact the National Scenic Byways Clearinghouse.

Good luck with your byway.

The Series

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2. Design and Maintenance
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The Loess Hills Scenic Byway—A Lesson in Mapping

The Loess Hills Scenic Byway follows the spine of the Loess Hills, a unique geological formation along the southwestern boundary of Iowa and the Missouri River. The grinding action of massive glaciers produced a dust called loess, which the strong winds deposited over thousands of years on the eastern edge of the floodplain to create the area's rolling hills. Since then, running water and erosion have formed the sharp angles and deep ravines seen today.

In 1990, the Loess Hills Hospitality Association initiated a several-county effort to promote tourism and awareness of the Loess Hills. The local Golden Hills Resource Conservation & Development, Inc. (RC&D) motivated eight counties to form the Loess Hills Scenic Byway. In 1991, RC&D staff coordinated the initial phases of the byway project, including mapping and selecting the route.

The geology of the Loess Hills makes for scenic, rolling terrain.

Organize Community Input

To ensure community involvement—key to developing any Corridor Management Plan—the RC&D staff established a committee of local leaders from each county, as well as a Multi-County Committee charged with overall project decisions and byway policy.

Volunteers were important to the success of mapping the Loess Hills Byway. Newspaper articles, contacts with schools and teachers, and word of mouth through County Committee members recruited volunteers and encouraged participation in the process. Local, regional, and State newspapers and public television stations provided excellent coverage of the process of route selection and final route establishment.

Analyze Candidate Routes

Develop a Landscape Assessment

With candidate routes chosen, RC&D staff selected three landscape assessment indicators by which volunteers could analyze and classify visual resources:

- ***Character:*** a measure of how well the landscape and its components work and belong together;
- ***Structure:*** a measure of the distance that one can see in a view, and;
- ***Information:*** a measure of the ability of the landscape to engage the viewer.

Volunteers assigned three rating levels to measure the dominance or weakness of each indicator in the landscape. Assessed in combination, these indicators often identified outstanding qualities in seemingly ordinary landscapes.

Volunteers collect data about the character, structure, and information along a possible byway route.

Conduct a Windshield Survey

Trained teams of volunteers collected the data for visual analysis of potential routes. Three teams per county, each consisting of three to five people, analyzed the intrinsic visual qualities along their routes.

As the team drove the route they mapped the views directly out the side windows of the car, and recorded their consensus rating of the view with symbols on the base maps (see Construct Base Maps on page 4). In addition, team members recorded their personal preferences of the view as well as the driving condition of the roadway.

Test Public Preferences

To establish what is considered scenic in the Loess Hills and to gather public input, RC&D staff implemented a public preference testing process. Residents rated photographs of scenes in the Loess Hills as having low, medium and high levels of several landscape qualities. Black and white images eliminated bias due to variable foliage or sky color, and computer processing allowed the RC&D staff to alter certain qualities.

Trained volunteers displayed the photographs—mounted on illustration boards—and administered more than 450 ques- tionnaires at county fairs, a rodeo, an art fair, an antique show, theater performances, and at historical societies.

The results indicated that people favor two types of views. The first includes a short distance view with compatible land uses, such as steep sloped land that is not cultivated.

The second type of view was a long distance view with compatible land uses, for example, steep sloped land with variety such as forests, croplands, native grasses and a few buildings.

Collect Resource Information

Beyond the visual qualities of the Loess Hills corridor, volunteers gathered additional resource information about tourist attractions, special event days, recreation sites, emergency services, restaurants, lodging, art and history museums, churches, historic sites and buildings, and areas of critical significance to archaeologists, biologists, botanists, and geologists.

Construct Base Maps

A scenic byway corridor map should show the length and width of the corridor, the location of intrinsic qualities (recognizing that the scale of the map may prevent showing all details), and current land uses. A corridor map should provide a snapshot in time of the corridor that can be used to track changes and potential threats to the corridor viewshed.

About Map Scale

Map scale terminology can be confusing. Keep it simple by remembering that small scale maps show little (or less) detail. Large scale maps show great (or more) detail.

Imagine you are looking down from an airplane. Flying very high you have a small-scale view: not much detail, but a wide vista. At tree-top level, you have a large-scale view: great detail, but a narrow field of vision.

The most common topo maps are drawn at a scale of 1 to 24,000. One inch on the map represents 2,000 feet on the ground. Newer editions are metric, at 1 to 25,000.

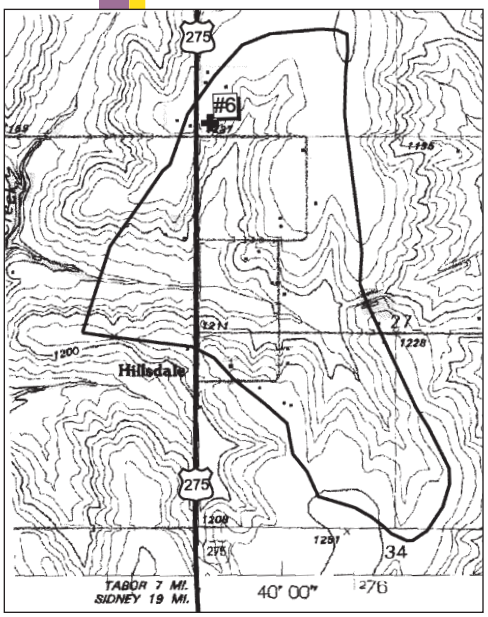
U.S. Geological Survey (USGS) topographic maps at a scale of 1 to 1,200 (where one inch on the map represents 100 feet on the ground) served as large-scale base maps to allow recording of detailed landscape characteristics. This scale is unusually large, and is not commonly available.

Volunteers compiled all of their Loess Hills corridor visual information and other data they had collected on topo maps to aid in selecting the final route.

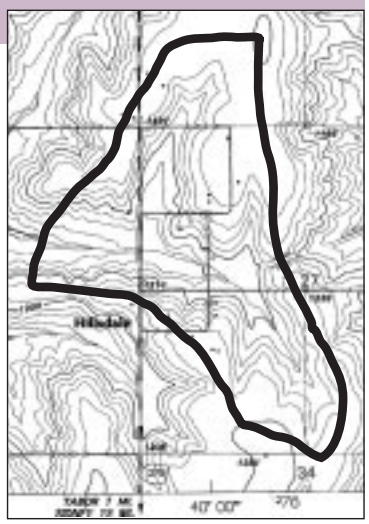
RC&D staff used USGS quadrangle maps for the Loess Hills Byway base and prepared mylar transparent overlays of the scenic resources and of the various resource information. A graphic symbol, or icon, indicated each resource type.

Use GIS (Geographic Information Systems)

A Geographic Information System (GIS, pronounced simply as the three letters) is a useful way to compile and track corridor information on a computer. GIS is widely recognized for versatility and clarity, and it allows easy updating. GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information. In other words, data identified according to location. The ter "GIS" often refers to the computer hardware and software, the data stored in the system, and the trained staff necessary to run the system.



RC&D staff took the information that volunteers collected through their windshield surveys (above right) and transferred the data into GIS for final map production (left).



Computer-based mapping, or GIS, helps track byway corridor information.

Evaluate Route Options

Some scenic byways will have one logical main route while others will have many options. To choose the route, the Multi-County Committee set criteria for the byway, requiring:

- A main route or spine on a paved road following a general north to south direction through the seven counties, and;
- Loop routes off the main road, which could include dirt, gravel, bituminous, and concrete road surfaces.

The mix of road types accommodates drivers who prefer paved surfaces, while allowing variety for drivers comfortable on other surfaces.

Candidate routes included those roads within the Loess Hills themselves and roads several miles on either side of the hills. The corridor width and length are defined by the geological boundaries of the Loess Hills.

In consultation with County and State engineers, the committee excluded roads with safety-related concerns.

Right: Maps are an excellent tool for involving citizens in byway planning. Below: Door-to-door surveys are one way to gather opinions from residents and businesses.

Lessons Learned

✔ Use simple tools and techniques to record data about potential routes: USGS topo maps, fill-in-the-blank recording forms, and consistent map annotation symbols.

✔ Transfer field data to mylar overlays for analysis.

✔ Train volunteers in teams to collect data about views from the road.

✔ Ask—don't assume—what people think about corridor features and scenic preferences.

✔ Include local leaders and citizens in each step along the way.

✔ Regularly publicize your progress through newspapers, radio, and schools.

✔ To celebrate completion of windshield surveys, throw a party for volunteers in a space with a broad expanse of tables, or a large open floor. Stage a ceremonial "fly over" with narration by the teams.

Volunteers Choose Final Route

The Multi-County Committee reviewed the base maps and overlays and recommended a 221-mile main route with 12 excursion loops through seven counties. County and State engineers reviewed the selected routes and commented on function and flow of the entire Scenic Byway system. The main route, which requires six hours to drive, is easily accessible from Interstates 29, 680, and 80, with numerous opportunities to enter and exit the system.

As a result of the preference testing and the involvement of volunteers in each county and 18 communities, the ultimate route selection for the Scenic Byway rested on a firm foundation of landscape values articulated by the people of the Loess Hills.

Additional Resources

Views from the Road: A Community Guide for Assessing Rural Historic Landscapes, David H. Copps, Island Press, 1995.

Byway Beginnings: Understanding, Inventorying, and Evaluating a Byway's Intrinsic Qualities, Evelyn Swimmer, Rick Taintor, John Whiteman, National Park Service & USDOT-FHWA, 1998.

Obtaining Maps

To order USGS Quadrangle Maps: 1-800-USA-MAPS or //mapping.usgs.gov/

Other map sources:

- Local sporting goods stores
- State Highway Department
- State Historic Preservation Office
- State Natural Resources Department

Contact the National Scenic Byways Clearinghouse for these and other resources (see below).

About this Series

The National Scenic Byways Program of the Federal Highway Administration and the Rivers, Trails & Conservation Assistance Program of the National Park Service collaborated to research, write, and produce **Lessons from the Road**. The series was written in 1998.

For information on resources mentioned in this series, contact the National Scenic Byways Clearinghouse: 1-800-4-BYWAYS (1-800-429-9297), press 2, or visit our website at www.byways.org.

The Rivers, Trails & Conservation Assistance Program works beyond national park boundaries to bring conservation assistance to communities, serving as a catalyst for tangible results.

U.S. Department of the Interior
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