# Executive Summary

The North Fork of the Flathead Road (NFFR), also locally known as the North Fork Road, is located entirely within Flathead County in northwest Montana and generally follows the North Fork of the Flathead River to the west of Glacier National Park. Although the NFFR runs from the City of Columbia Falls northward, passing near the community of Polebridge and up to the United States border with Canada, only a 13-mile section, from the junction with Blankenship Road (RP 9.5) to the junction with Camas Creek Road (RP 22.7), was covered in this study. See Figure 1.1–Project Location Map. The 13-mile study section of roadway will be referred to as the NFFR throughout this study document. This segment of roadway is a Forest Highway (Forest Highway 61) on the state Secondary Highway System (HWY 486) and maintained by Flathead County.

The request for a study along this corridor came from Flathead County in response to numerous concerns received from residents seeking a mechanism to make improvements along the gravel section of the roadway currently under the county's jurisdiction. This document discusses the findings and recommendations for the NFFR Corridor Study conducted by PB for Flathead County between March 2010 and August 2010. The purpose of the study was to gather information from the public to identify options and consensus, if any, to improve driving conditions and the surrounding environment. The corridor study evaluated the feasibility of improving the corridor, including assessing a range of low-level safety or maintenance-type improvements to consideration of major reconstruction. The intent of the study is not to identify a specific project, but to give Flathead County options to consider in future planning on the NFFR, if public consensus exists.

The section of NFFR being studied is functionally classified as a rural major collector. The corridor study area is 300 feet wide and centered on the roadway. The corridor study process evaluated existing and future conditions of the corridor study area and made recommendations for possible improvement options for the NFFR within the study limits. Activities included:

- Researching existing conditions;
- Documenting existing and projected geotechnical, land use, and environmental conditions;
- Identifying stakeholder concern and issues for the corridor study area
- Forecasting future growth;
- Identifying goals and analyzing possible improvement options for the corridor from several perspectives including financial feasibility, and public acceptance; and
- Identifying possible improvements and management strategies for the existing and long-term safety and operation of the corridor.

The process involved a collaborative effort with Flathead County, other agencies and the public in identifying transportation problems, the most efficient and effective possible options to address the issues and concerns, and public consensus, if any.

## *ES1 Study Objectives and Corridor Needs*

Objectives for the study were identified at the beginning of the study process and were further refined based on input from the public and resource agencies. They included:

- Document existing conditions –roadway and environmental
- Review data available that projects future growth

- Identify corridor issues
- Develop corridor goals and possible improvement options
- Analyze future transportation improvements based on impacts, constructability, public acceptance, and financial feasibility
- Recommend possible improvement options and management strategies for long-term safety and operation of the corridor
- Maintain character of the area
- Develop dust mitigation strategies
- Review impacts on wildlife
- Identify maintenance needs - roadway surface conditions, including washboard and potholes
- Review travel speeds
- Document roadway safety
- Review emergency services

### *ES2 Strategies for Identifying Corridor Problems*

The following strategies were utilized to identify problems within the study corridor:

Review of Existing MDT Reports

Existing reports that MDT has prepared for the corridor were reviewed. They include the following:

- Preliminary Geotechnical Report, April 2010
- MDT Accident Analysis Reports

  The analysis showed that accident trends within the corridor study area are higher than the statewide average for similar type routes. Also the overall accident category is loss of control on curves, usually during snowy, slushy or icy roadway conditions, and possibly driving too fast for conditions. More than half of the accidents that occurred within the corridor study area occurred at night and were single car crashes.

- Environmental Scan

  This document was completed as part of this study to identify the biological resources and environmental considerations near the corridor study area. A summary of the results of the scan have been included in this Corridor Study, the full Environmental Scan document is available electronically on the study website and as part of the Final Corridor Study paper documents on a CD. Numerous species of wildlife and vegetation are described that occur or have habitat within the roadway corridor, as well as the aquatic resources and wetlands.

The Geotechnical Report and Environmental Scan are available on a CD ROM. The CD is included as part of the report for public and agency review.

Stakeholder interviews

The fourteen stakeholders shown in Table ES-1 were interviewed. During the stakeholder interviews, safety and environmental concerns were discussed with landowners, resource

agency staff, business owners, recreation outfitters, non-profit organizations and a local government official.

Table ES.1 – Stakeholders/Organizations

| Role/Title | Association |
|---|---|
| President and Vice President | North Fork Land Owners Association |
| Key Staff | Fire Department and Emergency Services |
| Representative | National Parks Conservation Association |
| Individual | Property Owner |
| Senior Command | U.S. Border Patrol |
| Trail Manager | Recreational Trails, Montana Fish Wildlife Parks |
| Leader Member | National Resource Defense Council |
| Tour Manager | Adventure Cycling |
| Leader Member | North Fork Preservation Association |
| Leader Member | North Fork Compact |
| Member | North Fork Coalition for Health and Safety |
| Key Staff | Columbia Falls Chamber of Commerce |
| Owners | Guides and Rafting Outfitters |
| City Official | City of Columbia Falls |

Engineering Review

The existing roadway alignment was compared to current MDT and Flathead County design standards to identify areas that do not meet current standards. Overall, the roadway complies with most MDT and County design standards. There are no major improvement concerns that would result in shifting the alignment.

Public and Agency Coordination

Coordination with the general public and the resource agencies occurred throughout the study. Feedback from the public and agencies was used to identify corridor issues and concerns, as well as potential improvement options. Several meetings occurred during the study process.

## *ES3 Improvement Options*

Over 25 improvement options were analyzed to address the issues and concerns identified in the corridor study area (Table ES.2). A detailed description of each option is included in Section 4. Options were grouped into five categories – maintenance, stabilization treatments, improved grading/surfacing, speed enforcement strategies, and bituminous surface treatment. A no-action option was also included.

The “no-action” category was intended to illustrate the option that would maintain the road in its current state, at the current level of operations. The cost comparison for the no-action option included grading twice per year and dust control, since those were the maintenance options which were proposed to change. Improvement options 2 through 5 would be actions taken beyond those contained in the “no-action” or existing conditions routine maintenance. Costs associated with any of the improvement options (2-5) are in addition to the cost of the “no-action” or existing conditions.

Table ES.2 – Potential Improvement Options

| Improvement Options | |
|---|---|
| 1 | No-action |
| 2 | Maintenance |
| 2a | Additional grading of current road |
| 2b | Guardrail Installation |
| 3 | Stabilization Treatments |
| 3a | Bentonite |
| 3b | Magnesium chloride/ calcium chloride |
| 3c | Lignin |
| 3d | Black oil |
| 3e | EnviroKleen |
| 3f | RoadOyl |
| 3g | SoilSement |
| 3h | Dead wood and vegetable oil |
| 3i | Soybean oil byproduct |
| 4 | Improve Gravel Surfacing |
| 4a | New gravel lift |
| 4b | Double shot/bitumen |
| 4c | Driving Surface Aggregate (DSA) |
| 5 | Speed Enforcement/reduction Strategies |
| 5a | Speed indicator signs (solar) |
| 5b | Speed dips |
| 5c | Narrow the gravel roadway |
| 5d | Police car with dummy |
| 5e | Additional signage (safety or speed limit) |
| 5f | Fund additional law enforcement |
| 5g | Educational effort to reduce speeds |
| 6 | Bituminous Surface Treatment/Asphalt Concrete Pavement |
| 6a | Full pavement - complete 36' width |
| 6b | Full pavement - 24' top, 11' travel ways |
| 6c | Millings/asphalt (with chip seal) |
| 6d | Foamed asphalt mix (with double shot) |

## *ES4 Corridor Improvement Options Advanced*

All options were reviewed for potential cost. Eight criteria per option were analyzed. Each option was then reviewed for advancement into additional study or elimination from further consideration (Table ES.2). Criteria for screening included:

- Helps with dust abatement
- Agrees with land use and management plans
- Impacts to environment
- Impacts to wildlife
- Potential to increase vehicle speed
- Improvements to road safety
- Potential to increase traffic
- Estimated cost over 20 years

While several of the improvement options presented in the study are feasible from an engineering perspective, only additional grading and stabilization treatments have public support (Table ES.3). Regardless, implementation is dependent upon funding being secured.

Table ES.3 – Viable Improvement Options

| Improvement Options | | Viable<br>Feasible / Public support |
|---|---|---|
| **2** | **Maintenance** | |
| 2a | Additional grading of current road | Yes / Yes |
| **3** | **Stabilization Treatments** | |
| 3a | Bentonite | Yes / Potential |
| 3b | Magnesium chloride/ calcium chloride | Yes / Potential |
| 3c | Lignin | Yes / Potential |
| 3f | RoadOyl | Yes / Potential |
| 3g | SoilSement | Yes / Potential |

*Implementation is dependent upon funding being secured.

## *ES5 Next Steps*

Future actions taken for this segment of the NFFR will be determined by Flathead County. This study provides a diverse list of improvement options that may be considered. If any option demonstrates public buy-in, is selected and funding is prioritized by the county for that option, a project implementation process would begin, including any required environmental process.