Chapter 1
Overview

INTRODUCTION

Transportation is one of the foundations of civilization as people and goods must be able to travel from place to place. Whether it be a multilane interstate carrying over 100,000 vehicles a day or a gravel road serving to access farm fields, transportation infrastructure enables society and the economy to move effectively and prosper. The role Iowa’s transportation system has played in its development is clearly identifiable on an aerial photograph. Evident is a pattern of large cities on navigable rivers and past rail lines, county seats regularly located on state highways, and a grid pattern of a road every mile in rural areas. The interdependent relationship between transportation and land use means that decisions made today about the transportation system will not only affect where and how people travel, but how cities, counties, and the state continue to develop.

An important aspect of maintaining and improving this transportation system is reviewing its current state and planning for future needs based on the system’s condition and demographic and economic trends. High growth areas may require new roads, additional capacity, or improvements to public transportation. Routes often used by heavy farm machinery and trucks may require additional maintenance or safety features. Modes of passenger transportation such as buses, air, and rail may become more prevalent due to changing economic conditions. Bicycle and pedestrian accommodations are becoming ever more important due to an increased emphasis on livability and active transportation.

The aim of this Long Range Transportation Plan (LRTP) is to document the present state of transportation patterns and infrastructure in the Iowa Northland Region across all modes, and to chart a course for the maintenance and improvement of each mode based on anticipated needs and revenues. This Plan has a horizon year of 2040. As such, it endeavors to gauge the needs of the transportation system over nearly three decades. While these forecasted needs are based on past trends and expected progression, it is necessary to periodically review and update this Plan to take into account new developments and changing trends. Accordingly, this Plan shall be evaluated and revised every five years.

Purpose of the Long Range Transportation Plan

The Long Range Transportation Plan serves as a mechanism for the Regional Transportation Authority (RTA) to examine the region’s current transportation networks including highway, transit, air, rail, and nonmotorized modes, and to assess their adequacy for the existing population and economy. Moreover, it provides area officials an opportunity to explore the future transportation needs of the community based on existing conditions and projected revenues. This endeavor is conducted through close coordination with several focus groups, a series of meetings with the RTA Technical Committee, and the solicitation of public input to discuss the needs of the region. This document may provide a framework upon which local jurisdictions can base transportation project selection during the annual
programming process. Given a constrained financial future, local officials must be able to prioritize and select projects which best meet the needs of the community.

Plan Format

This document is divided into ten chapters:

- Chapter 1 gives an overview of transportation planning requirements, the purpose of Regional Planning Affiliations, the structure of the Iowa Northland Regional Transportation Authority, its transportation planning goals, and current conditions influencing transportation planning.
- Chapter 2 provides a summary of demographic, commuting, and economic trends in the region.
- Chapter 3 focuses on roads and bridges and identifies system strengths and weaknesses, as well as key future needs, projects, and critical issues.
- Chapter 4 reviews passenger transportation in the region.
- Chapter 5 assesses non-motorized transportation, describes the various types of non-motorized accommodations, and charts a plan for future non-motorized development.
- Chapter 6 focuses on freight movements across different transportation modes including truck, rail, air, and pipeline, and discusses the benefits and burdens of freight transportation.
- Chapter 7 looks at the safety and security of the transportation system, from crash issues in the region to preparedness for natural and manmade disasters.
- Chapter 8 examines the potential impacts of planned transportation projects on the environment, and discusses methods to avoid, minimize, and mitigate these impacts.
- Chapter 9 reviews the traditional sources of transportation funding and estimates the revenues available versus the funding needed over the life of the plan.
- Chapter 10 provides an overview of the public involvement process utilized to develop the plan, and describes how public input helped shape the document.

Regional Planning Affiliations

While federal law does not mandate specific transportation planning funding or requirements for non-metropolitan areas, the State of Iowa has developed a system of Regional Planning Affiliations (RPAs) to carry out this planning on a regional level. Iowa has 18 RPAs that cover all the area outside of Iowa’s nine Metropolitan Planning Organizations (MPOs). The Iowa DOT provides funding through Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) sources to the RPAs to finance planning and to program for projects. In return, the RPAs conduct regional planning activities that mirror those required of MPOs. This includes completing several planning documents and conducting a cooperative, continuous, and comprehensive transportation planning process.
RPAs are expected to complete the following transportation planning documents:

- Transportation Planning Work Program (TPWP) – outlines the transportation planning activities RPA staff plan to conduct in the next fiscal year and its sources of funding; updated annually.
- Transportation Improvement Program (TIP) – includes all projects programmed for federal transportation funding in the RPA in the next four fiscal years; updated annually.
- Long Range Transportation Plan (LRTP) – reviews the current condition and future needs of the transportation system and provides guidance for transportation investment decisions; updated every five years.
- Passenger Transportation Plan (PTP) – provides coordination between passenger transportation providers and human service agencies and recommends projects to improve passenger transportation; full document update every five years; joint document with MPO and Iowa Northland Region.
- Public Participation Plan (PPP) – details the process the RPA will follow to involve the public in the transportation planning and programming process; updated as needed.

**Iowa Northland Regional Transportation Authority**

The Iowa Northland Regional Transportation Authority (RTA) was established in 1993 to conduct transportation planning and programming for Black Hawk, Bremer, Buchanan, Butler, Chickasaw, and Grundy Counties. The RTA was established under the umbrella of the Iowa Northland Regional Council of Governments (INRCOG) which has been a regional planning agency serving those same counties since 1973. INRCOG also serves as the umbrella organization for the Black Hawk County Metropolitan Area Transportation Policy Board which is the MPO for the Waterloo-Cedar Falls area. The MPO conducts a transportation planning and programming process that parallels the RTA. Map 1.1 provides an overview of the RTA region.

**Organization**

While INRCOG provides staff and technical support, the decision making and programming authority of the RTA lies within its two main branches, the Policy Board and Technical Committee. The Policy Board consists of local elected officials and is the governing body of the RTA. The Board has the power to make policy decisions and conduct comprehensive transportation studies and plans. The Board is responsible for the annual adoption of the four year TIP and the periodic review and adoption of the LRTP.

Voting Policy Board members include a member of the Board of Supervisors, or other elected official designee, for Black Hawk, Bremer, Buchanan, Butler, Chickasaw, and Grundy Counties, and a mayor, council member, or other elected official designee from two cities in each county as determined by a convention of cities in that county. In lieu of a convention, two cities may be selected by the County Board of Supervisors. In order to include the region’s small urban areas, one city representative from Bremer County represents the City of Waverly, and one city representative from Buchanan County represents the City of Independence. Non-voting members of the Policy Board include representatives from INRCOG, the Iowa Department of Transportation, the FHWA, and the FTA.
Map 1.1
Iowa Northland Region Boundary Map

- Metropolitan Planning Organization Study Area
- City Boundary
- Highways
- County Roads

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The Technical Committee consists of local planners, engineers, and interested parties. The Technical Committee has extensive knowledge of the area’s transportation system and advises the Policy Board but does not vote on policy issues. The Policy Board and Technical Committee generally meet on a monthly basis. A subcommittee of the Technical Committee is the Regional Transportation Alternatives Program Committee which generally meets annually to discuss transportation alternatives projects.

Another standing committee utilized in the transportation planning process is the Transit Advisory Committee (TAC). This group meets at least twice annually to discuss passenger transportation and human service agency coordination and to help develop the PTP. The RTA also utilizes focus groups as needed, and particularly as part of the development of the LRTP. These groups have included Highway, Safety, Intermodal/Land Use/Economic Development, and Bicycle/Pedestrian. Current membership for all RTA committees can be found in Appendix I.

**FEDERAL AND STATE LEGISLATION**

Federal law has mandated transportation planning at the state and metropolitan (population greater than 50,000) levels for some time. However, until the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, transportation planning in rural areas was generally conducted at the state level. ISTEA included a provision for the consultation of rural officials in the transportation planning process but did not create specific planning agencies for non-metropolitan areas. The level at which planning was conducted for these areas was largely left up to the state. Similar guidelines for transportation planning were also included in the Transportation Equity Act for the 21st Century (TEA-21), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the Moving Ahead for Progress in the 21st Century Act (MAP-21).

**SAFETEA-LU and MAP-21 Planning Factors**

SAFETEA-LU and MAP-21 both contain eight planning factors that the RTA uses to help guide transportation planning and programming. These planning factors and past and current endeavors related to them are discussed throughout the plan. The planning factors are

1. Support the economic vitality of the region, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and nonmotorized users.
3. Increase the security of the transportation system for motorized and nonmotorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
National Goals in MAP-21

MAP-21 emphasizes a performance-based approach and requires a process of performance measurement setting, starting with the U.S. DOT establishing performance measures. While performance measures have not yet been determined, there are seven national goals included in MAP-21 which give an indication of likely areas for performance targets. The national goals are:

1. Safety – To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. Infrastructure Condition – To maintain the highway infrastructure asset system in a state of good repair.
3. Congestion Reduction – To achieve a significant reduction in congestion on the National Highway System.
4. System Reliability – To improve the efficiency of the surface transportation system.
5. Freight Movement and Economic Vitality – To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. Environmental Sustainability – To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. Reduced Project Delivery Delay – To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies’ work practices.

Goals of the 2040 Long Range Transportation Plan

Transportation planning is directed towards implementing the local goals of the region. The Long Range Transportation Plan represents the continuing, cooperative, and comprehensive effort to establish such a plan for the region. This plan was prepared in response to requirements from the Iowa Department of Transportation for the benefit of citizens residing in the region and the local jurisdictions responsible for their well-being. For this planning effort, the RTA has established the following goals and objectives:

1. To provide a safe, reliable, and efficient transportation network for the movement of persons and goods within and through the region by encouraging projects that will:
   a. Maintain and improve the condition of roads.
   b. Maintain bridges at a level that is safe and consistent with their use and need for repair.
   c. Address safety issues, particularly those in areas with a history of crashes.
   d. Minimize motor vehicle, truck, bus, train, bicycle, and pedestrian conflicts.
   e. Reduce travel times or improve travel time reliability.
   f. Improve transportation links to other communities, regions, or states.
   g. Increase connectivity, accessibility, and mobility options by developing the multimodal aspects of the transportation system, such as bicycle/pedestrian, transit, air, and rail facilities.
h. Continue to provide needed passenger transportation services to the region and improve service where feasible.

2. To promote cost-effective means of meeting transportation needs by:
   a. Maximizing the useful life of existing elements of the transportation system.
   b. Developing transportation investment decisions which result in the most benefit to the system by considering cost-effectiveness through initial capital costs and life cycle costs.
   c. Discouraging projects with high maintenance or operations costs or low traffic volumes or number of users.
   d. Identifying federal, state, and local funding sources to assist with the financing of projects.
   e. Encouraging shared funding of projects that benefit more than one government entity.

3. To promote and enhance economic development and quality of life within the region by:
   a. Giving priority consideration to transportation projects and system improvements that facilitate local job creation and retention.
   b. Developing desirable linkages between existing developments, new developments, redevelopments, and economic drivers.
   c. Promoting the use of environmentally sustainable modes as a means of transportation, including transit, walking, and bicycling to support the creation of livable communities.
   d. Developing context sensitive transportation facilities that fit the physical setting and preserve scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility.

**Current Conditions**

As discussed throughout this document, there are a wide variety of issues affecting the quality of the transportation system. For example, roads and bridges are deteriorating at a higher rate due to increased volumes of freight and heavy farm equipment; a significant number of bridges in the region are structurally deficient or functionally obsolete and require repair, replacement, or closure in the near future; the increasing age of the population leads to roadway design challenges and the need for additional transit service; improved multimodal facilities are needed to enhance the flow of freight between modes; and more connections via recreation trails, on-road bicycle facilities, and sidewalks are needed to improve the walking and bicycling environment for recreation and commuting. These concerns and more are examined throughout this Plan. There are also several overriding factors that will affect how transportation planning moves forward.

**Economy**

This Plan has been developed while the nation has been recovering from a major economic recession. Gas prices have fluctuated over the past several years and averaged almost $4.00 per gallon nationally at times in 2011 and 2012. Vehicle miles traveled (VMT) decreased throughout the recession, though they have started to level off as the economy has begun to recover. A stagnate or decreasing rate of
VMT is a major concern in transportation planning as it means less funding for transportation maintenance and improvements due to less revenue from the gas tax.

**Transportation Funding**

At the local, state, and federal levels, lawmakers are grappling with how to fund transportation infrastructure as construction prices increase and revenues fall. Locally, Black Hawk County established a large bonding program that helps pay for many necessary road repairs. Butler County utilizes a local option sales tax of which half is used for road and bridge projects. Grundy and Butler Counties utilize local property taxes as a funding source for projects.

At the state level, in 2007 the Iowa legislature created the Transportation Investment Moves the Economy in the 21st Century, or TIME-21 fund. Ideally, this fund would generate $200 million per year that would be distributed to the state, counties, and cities. In 2008, the legislature approved increases in registration and other fees that will eventually generate about $160 million per year. Throughout this time, the amount of additional funding needed per year to address critical shortfalls was estimated to be between $200 and $267 million per year.

In 2011, Governor Branstad appointed the Governor’s Transportation 2020 Citizen Advisory Commission to assist the Iowa DOT with assessing the condition of Iowa’s roadway system and evaluating current and future funding options to best address system needs. The Commission’s report made several recommendations including increasing the state’s fuel tax by eight to ten cents, increasing the fee for new vehicle registrations from five to six percent, and developing a funding mechanism to apply to alternatively fueled, hybrid, and high fuel efficiency vehicles. In addition, the Governor charged the Iowa DOT with identifying $50 million in efficiencies. In October, 2013, the Iowa DOT distributed a list of several transportation funding concepts and asked for input from the public and stakeholders. In February, 2015, Governor Branstad signed a state fuel tax increase which increased Iowa’s gas tax by 10 cents per gallon. It is estimated that the gas tax increase will provide over $200 million annually to be put towards Iowa’s network of bridges and roads, many of which are in disrepair.

At the national level, MAP-21 was signed into law on July 6, 2012, after SAFETEA-LU’s expiration on September 30, 2009 and a series of Continuing Resolutions that kept federal transportation regulations and funding in place between the two bills. MAP-21 is only a two year bill and has continued to be extended while the House and Senate work on a reauthorization bill. Over the past several years, there have been multiple infusions of funding from the General Fund into the Highway Trust Fund (HTF) to keep it solvent. Congress must solve the HTF revenue crisis before they can draft a new policy bill.

**Extreme Weather and Natural Disasters**

In 2008, the region was hit with devastating natural disasters. In June of that year, large portions of the region experienced widespread flooding. This event caused two major types of transportation issues: operation issues at the time of the floods, and recovery issues for damaged infrastructure. During the flood event, many local streets, highways, bridges, railroads, and recreational trails were closed for
several days. The challenges that occurred during and after the flooding included the closure of portions of US-218 and IA-57. In May 2008, an EF5 tornado hit the towns of Parkersburg, New Hartford, and Dunkerton. Immediately following the event, multiple local streets were impassible due to debris and downed powerlines. This made it difficult for emergency response personnel to access those in need. In the years since, communities within the region have recovered and rebuilt.

The region has also experienced extreme winters with heavy snowfall and multiple freeze-thaw cycles. These conditions greatly increase maintenance costs for local jurisdictions, from increased plowing, salting, and sanding, to increased repairs to the pavement and roadbed come spring. Keeping roadways safe and open to the public is a top priority for local governments. Accordingly, the funding needed to react to these events often comes at the cost of deferring planned maintenance and preservation projects.

Planning Considerations

Transportation planning is at a crossroads. Long term planning can seem like an exercise in futility when regulations and revenues across all levels of government are in a state of flux. Several city and county jurisdictions are struggling just to maintain existing transportation infrastructure. For example, a road discussion at a Board of Supervisors meeting in a rural area may likely involve closing a road rather than building a new one.

At the national level, there is a movement towards concepts such as livability, sustainability, and complete streets. While these concepts are addressed in the Plan, at times they can be difficult to apply to rural areas that have limited transportation options.
However, a positive characteristic of many rural communities is that large sections of the town were often built prior to the predominance of the personal automobile, and thus tend to have a compact design with a grid street network and sidewalks that enable walking or bicycling through town. Additionally, mobility within and between communities can help drive economic growth. Therefore, a well-planned transportation system can provide rural areas with access to regional jobs and services and enable them to attract and retain residents.

It is impossible to know for sure what will happen with regard to transportation in the next 20-30 years. Accordingly, it is necessary to periodically review and update this document to take into account new developments and changing trends. This Plan has been developed based on historical data, current trends, and the best available forecasts. Regardless of whether the current trends in gas prices, vehicle miles traveled, legislation, weather, and planning are short-term or long-term, personal vehicles will likely remain the dominant form of transportation in the region over the life of this Plan. Likewise, planning for roads and bridges will likely remain the foremost transportation concern of local officials. Maintaining and improving that system, along with other transportation modes, will be critical to ensure a positive future for the Iowa Northland Region.