

An aerial photograph of a suburban neighborhood. The image shows a dense grid of streets with numerous single-family homes. In the upper left, there are several large industrial silos and storage tanks. A river flows through the lower portion of the image, with a bridge crossing it. In the bottom center, there is a large parking lot filled with cars, and a tennis court is visible nearby. The overall scene is a typical suburban landscape with a mix of residential and commercial areas.

Chapter 1 Overview

Chapter 1 – Overview

The goal 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 2045. As such, it endeavors to gauge the transportation system over two and a half decades. While these forecasted needs are based on past trends and expected progression, it is necessary to periodically review and update this Plan to consider new developments and changing trends. Accordingly, this document is evaluated and revised every five years.



Purpose of the Long-Range Transportation Plan

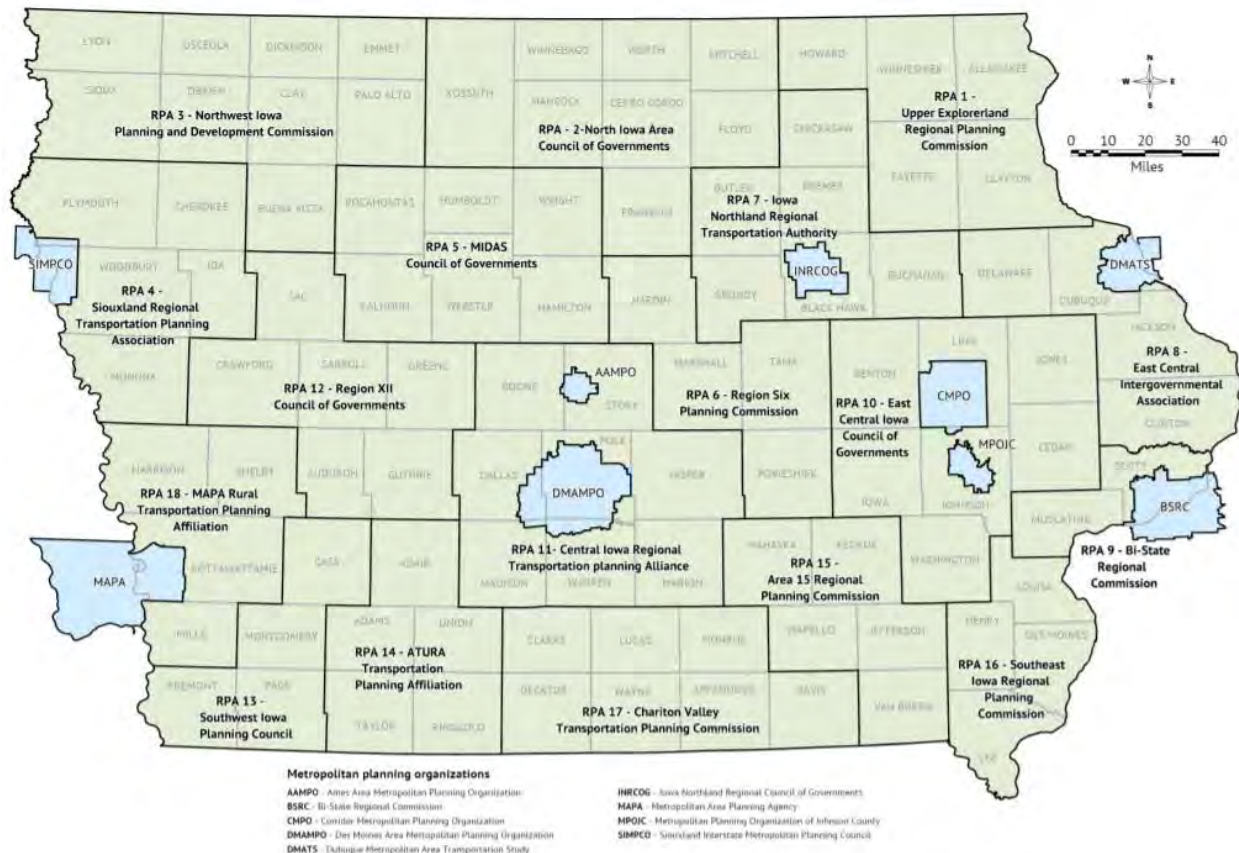
The Long-Range Transportation Plan serves as a mechanism for the Iowa Northland Regional Transportation Authority (RTA) to examine its current transportation networks – highway, transit, air, rail, bicycle, and pedestrian modes – and to assess their adequacy for the existing population and economy. Moreover, it provides area officials an opportunity to explore the future transportation needs of the community based on existing conditions, projected revenues, and population and employment projections. This effort is conducted through close coordination with 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 provides 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 region, and whose costs do not exceed the revenue projected to be available during the life of this Plan.



Regional Planning Affiliations

The State of Iowa has developed a system of Regional Planning Affiliations (RPA) to carry out transportation planning, even though federal law does not mandate specific transportation planning funding or requirements for non-metropolitan areas. Iowa has 18 RPAs that cover the area outside of the nine Metropolitan Planning Organizations (MPO). The Iowa Department of Transportation (DOT) provides funding through Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) sources to the RPAs to finance planning and programming for transportation projects. In return, the RPAs conduct regional planning activities that mirror those federally required of MPOs. This includes completing several planning documents and conducting a continuing, cooperative, and comprehensive (3-C) planning process.

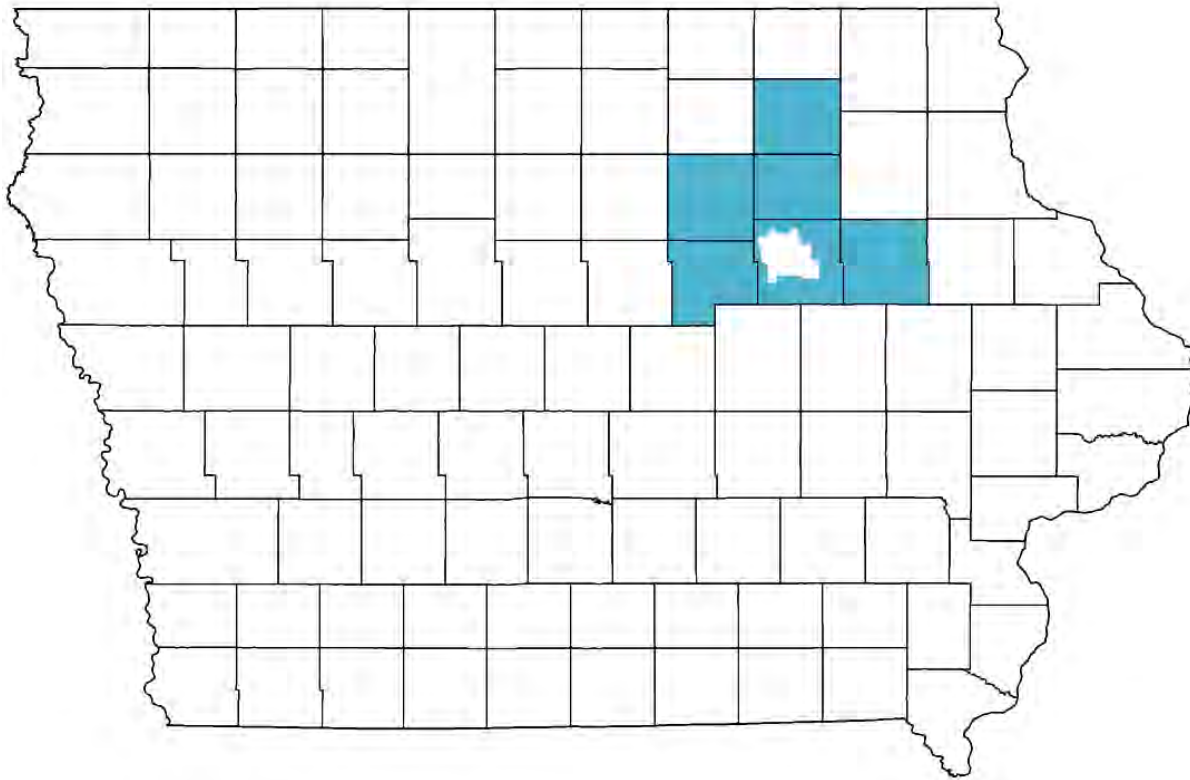


MPOs and RPAs in Iowa
Source: Iowa DOT

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, excluding the Waterloo-Cedar Falls metropolitan area (Figure 1.1). 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 has also been designated by the State of Iowa as the MPO for the Black Hawk County Metropolitan Area. Map 1.1 provides an overview of the RTA region.

Figure 1.1: Iowa Northland Region

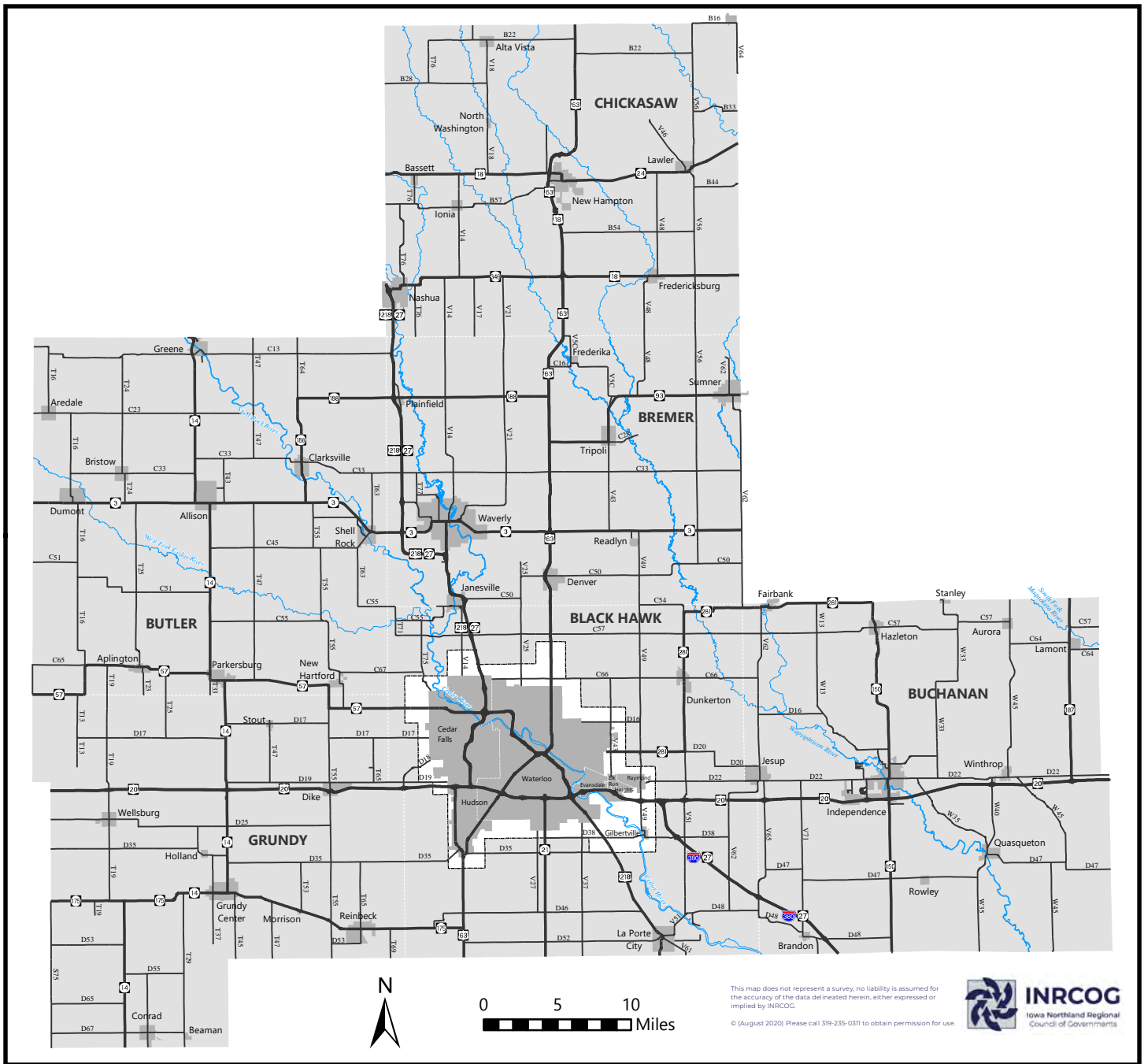


While INRCOG provides staff and technical support, the decision-making and programming authority of the RTA rests with its Policy Board. The Policy Board has the power to make policy decisions and conduct comprehensive transportation planning studies and plans. Voting Policy Board members include a member of the Board of Supervisors for Black Hawk, Bremer, Buchanan, Butler, Chickasaw, and Grundy Counties, and a mayor 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 representative from Bremer County must be from the City of Waverly, and one representative from Buchanan County must be from the City of Independence. Non-voting members of the Policy Board include representatives from INRCOG, the Iowa DOT, FHWA, and FTA.





The Technical Committee consists of local planners, engineers, modal representatives, 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 jointly on a monthly basis. A subcommittee of the Technical Committee is the Transportation Alternatives Program Committee which generally meets once annually to discuss and program transportation alternatives projects.



Cedar River Parkway, Waverly



Map 1.1
**Iowa Northland Region
Boundary Map**

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

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 Passenger Transportation Plan (PTP). The RTA also utilizes focus groups as needed, and particularly as part of the development of the LRTP. For this plan update, these groups included Highway and Safety, and Bicycle and Pedestrian. Current membership for all RTA committees can be found in the *Appendix*.

Transportation Planning Process

In addition to conducting ongoing transportation planning and programming, and participating in studies and projects, the RTA is responsible for completing the following transportation planning documents:

- Transportation Planning Work Program (TPWP) – Outlines the transportation planning activities RTA staff plan to conduct in the next fiscal year and sources of funding; updated annually.
- Transportation Improvement Program (TIP) – Includes all projects programmed for federal transportation funding in the RTA 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 the MPO.
- Public Participation Plan (PPP) – Details the process the RTA will follow to involve the public in the transportation planning and programming process; updated as needed.

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 each state. Similar guidelines 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); the Moving Ahead for Progress in the 21st Century Act (MAP-21); and the Fixing America's Surface Transportation (FAST) Act.

FAST Act Planning Factors

Like the previous transportation bill, the FAST Act continues – and further strengthens – the requirement that an extensive, ongoing, and cooperative planning effort for the programming of federal funds be undertaken. The RTA's overall transportation planning goal is to provide for the adequate, safe, and efficient movement of persons and goods in the region. The RTA utilizes the FAST Act's planning factors to help reach this goal, which are as follows:

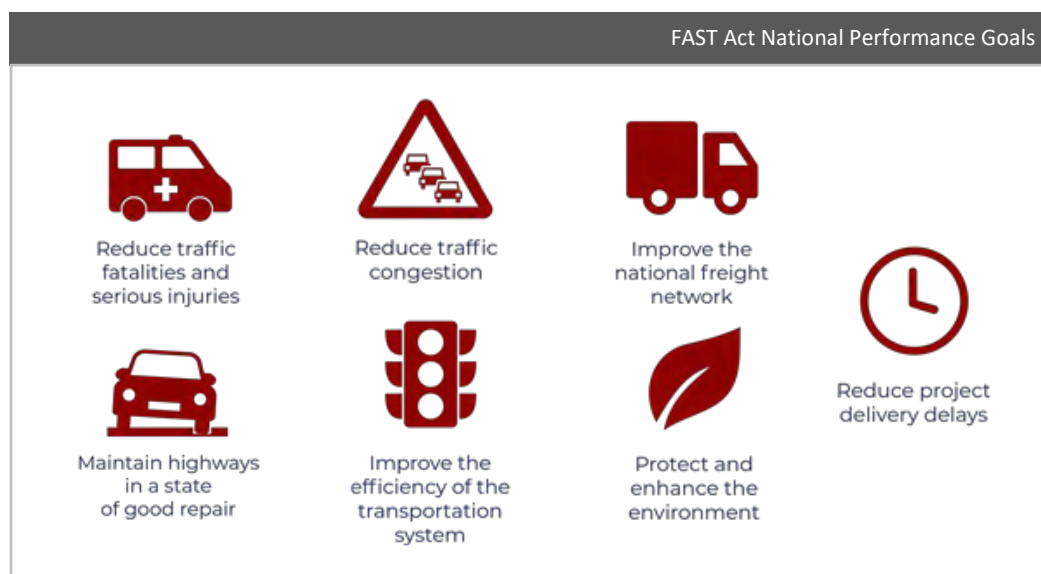
- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
- Increase the safety of the transportation system for motorized and non-motorized users
- Increase the security of the transportation system for motorized and non-motorized users
- Increase the accessibility and mobility of people and for freight

- 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
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts on surface transportation
- Enhance travel and tourism

FAST Act National Goals

The FAST Act emphasizes a performance-based approach and requires a process of performance measurement setting, starting with the U.S. DOT establishing performance measures, followed by the states and MPOs establishing performance targets. While RPAs are not required to establish performance targets, it is important to consider national goals during the regional transportation planning process. The national goals are as follows:

- **Safety** – To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- **Infrastructure Condition** – To maintain the highway infrastructure asset system in a state of good repair
- **Congestion Reduction** – To achieve a significant reduction in congestion on the National Highway System
- **System Reliability** – To improve the efficiency of the surface transportation system
- **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
- **Environmental Sustainability** – To enhance the performance of the transportation system while protecting and enhancing the natural environment
- **Reduced Project Delivery Delays** – 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



State Transportation Plans

The public is the primary beneficiary of the nation's intermodal transportation system built to serve public mobility and productivity. Transportation decisions must be made in an environmentally sensitive way, using a comprehensive planning process that includes the public and considers land use, development, safety, and security. The vision of the Iowa DOT and the Transportation Commission is *"A safe and efficient multimodal transportation system that enables the social and economic wellbeing of all Iowans, provides enhanced access and mobility for people and freight, and accommodates the unique needs of urban and rural areas in an environmentally conscious manner."* The Iowa DOT has adopted several plans to address federal requirements and guide transportation investments to achieve the system vision.

Iowa in Motion 2045 State Transportation Plan

Adopted in 2017, the State Transportation Plan is a long-range document that addresses federal requirements and serves as a transportation investment guide for each transportation mode. This document is updated every five years in order to stay current with trends, forecasts, and factors that influence decision-making. The State Transportation Plan includes the following:

- Trends – An analysis of demographic, economic, passenger, and freight trends.
- System condition – An overview of each mode within the transportation system.
- Vision – A broad statement that captures the overall vision for Iowa's future transportation system.
- Investment areas – Four overarching areas within which actions are defined to implement the system vision.
- Strategies and improvement needs – Actions and initiatives to implement the vision.
- Costs and revenues – An analysis of anticipated costs and revenues for each mode.
- Implementation – A discussion related to addressing funding needs, programming future investments, and continuous performance monitoring.

The prior Plan focused on policy issues and not on specific actionable items. The 2045 Plan provides specific strategies and improvement needs that can be implemented and revisited over time. Notable enhancements include extensive internal and external stakeholder and public input efforts throughout the plan development; and a multimodal action plan, with specific modal strategies and improvement needs.

Four principal investment areas with specific strategies and improvement types were identified to help achieve the system vision. The investment areas include:

- Stewardship through maintaining a state of good repair.
- Modification through rightsizing the system.
- Optimization through improving operational efficiency and resiliency.
- Transformation through increasing mobility and travel choices.



A wide range of strategies have been identified to achieve the vision. Strategies were derived from a variety of sources, including ongoing activities, existing plans, and stakeholder and public input. A total of 80 strategies were identified across the following categories:

- Asset management
- Aviation
- Bicycle/pedestrian
- Bridge
- Energy
- Technology
- Freight
- Highway
- Public Transit
- Rail
- Safety
- Transportation System Management and Operation (TSMO)

A multi-pronged approach was used to help determine improvement needs across the multimodal system. For highways and bridges, a seven-layer analysis was conducted. The Primary Highway System was divided into 464 corridors for analysis, and needs were identified at the corridor level. A comprehensive matrix covering the entire Primary Highway System is included in the Plan. The matrix shows which needs were identified for each highway corridor. For aviation, bicycle and pedestrian, public transit, rail, and water, needs were derived from existing system plans for those modes or from updated analysis where warranted.

www.iowadot.gov/iowainmotion

Iowa Transportation Asset Management Plan 2019

Transportation asset management is a strategic approach to managing transportation infrastructure. It embodies a philosophy that is comprehensive, proactive, and long-term. The overall goals of asset management are to minimize long-term costs, extend the life of the transportation system, and improve the performance of the transportation system. Transportation Asset Management Plans (TAMP) act as a focal point for information about the state's assets, management strategies, long-term expenditure forecasts, and business management processes. The Iowa DOT's TAMP describes how the Iowa DOT manages its bridges and pavements throughout their lives. The document also connects the state transportation plan and system and modal plans to the Iowa DOT's five-year Transportation Improvement Program. In addition to meeting federal requirements, this TAMP meets the following objectives:



- Defines clear links among agency goals, objectives, and decisions
- Defines the relationship between proposed funding levels and expected results
- Develops a long-term outlook for asset performance
- Documents how decisions are supported by sound information
- Develops a feedback loop from observed performance to subsequent planning and programming decisions
- Improves accountability for decision-making
- Unifies existing data, business practices, and divisions to achieve asset management goals

Consistent with best practices nationally, the Iowa DOT's asset management goals are to:

- Build, preserve, operate, maintain, upgrade, and enhance the transportation system more cost-effectively throughout its whole life.
- Improve performance of the transportation system.
- Deliver to Iowa DOT's customers the best value for every dollar spent.
- Enhance Iowa DOT's credibility and accountability in its stewardship of transportation assets.

www.iowadot.gov/systems_planning/Planning/Federal-Performance-Management-and-Asset-Management

Iowa Strategic Highway Safety Plan 2019

One method states conduct safety planning is through the development of a highway safety plan. A Strategic Highway Safety plan (SHSP) is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. The SHSP establishes statewide goals, objectives, and key emphasis areas developed in consultation with federal, state, local, and private sector safety stakeholders. The 2019 SHSP is the fourth statewide safety plan to be adopted in Iowa.



The 2019 SHSP was developed in consultation with the SHSP Implementation Team which is composed of individuals representing the E's of safety – education, emergency medical services, enforcement, and engineering. These representatives provide updates on programs, policies, and education campaigns for their respective organizations, as well as data on the latest research for their area of expertise. For this update, the prioritization of Iowa's 19 safety emphasis areas was supported by an analysis of crash data and an extensive statewide input process involving Iowa's traffic safety stakeholders. The result of these efforts was the prioritization of eight of the safety emphasis areas that are now considered priority safety emphasis areas. For each of the priority safety emphasis areas, the Implementation Team identified strategies that provide the greatest opportunity to reduce fatalities and serious injuries. The eight priority safety emphasis areas are as follows:

- | | |
|---|-------------------------------------|
| • Lane departures and roadside collisions | • Intersections |
| • Speed-related | • Impairment involved |
| • Unprotected persons | • Older drivers |
| • Young drivers | • Distracted or inattentive drivers |

Implementation of the priority safety emphasis areas and strategies will be carried out by the SHSP Implementation Team and broadly supported by traffic safety professionals from around the state. The implementation and progress of the plan will be evaluated on an annual basis of the five-year planning period ending December 2023. The ultimate goal of this plan is **Zero Fatalities**, however, interim annual goals aligning with the Highway Safety Improvement Program performance measures will be developed during the plan period. Although the Implementation Team is fully committed to reducing the number of fatalities and serious injuries on Iowa's roadways, it recognizes that commitment pales in comparison to the cumulative impact **every driver** (fifth "E") can have on the safety of Iowa's roadways.

Although Zero Fatalities is Iowa's long-term vision, the state also recognizes the need to establish short term goals in pursuit of this vision. In 2016, FHWA published the Highway Safety Improvement Program (HSIP) and

Safety Performance Management (Safety PM) Final Rules. As part of these rules, states are required to develop statewide targets annually for five safety performance measures. These targets serve as the short-term goals for the state.

www.iowadot.gov/traffic/shsp/home

Iowa State Freight Plan 2018

The Iowa DOT has developed a multimodal freight plan to address all modes of the freight transportation system and to incorporate freight considerations into the statewide transportation planning and programming process. The State Freight Plan serves as a platform for safe, efficient, and convenient freight transportation in the state. In recent years, the Iowa DOT has embarked on numerous freight planning activities to help achieve this objective. The State Freight Plan is a way to connect all of these initiatives and allow them to move forward toward a common goal of optimal freight transportation in the state. In addition, the Plan guides Iowa DOT's investment decisions to maintain and improve the freight transportation system. This plan also:

- Aligns with the state transportation plan: Iowa in Motion 2045.
- Meets the requirements of the FAST Act.
- Supports national freight goals.

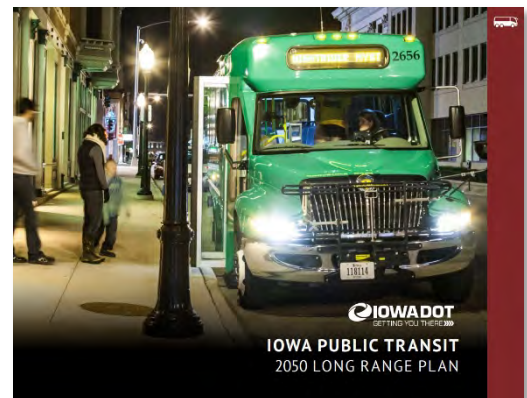


Each of Iowa's freight-related initiatives plays a role in a collaborative planning and programming process. The tools and studies are utilized to develop system and modal plans, such as the State Freight Plan, which are consistent with the state transportation plan. Projects are then identified, studied, and programmed based on the findings and recommendations provided from each of these initiatives.

www.iowadot.gov/iowainmotion/files/Iowa-State-Freight-Plan-Update-2018.pdf

Iowa Public Transit 2050 Long Range Plan

In 2020, the Iowa DOT adopted the *Iowa Public Transit 2050 Long Range Plan*. While the Iowa DOT has conducted specific planning efforts – Iowa Statewide Passenger Transportation Funding Study, Iowa Park and Ride System Plan – this Plan looks at the public transit system from a broader point of view. The Plan seeks to coordinate planning, programming, and technical assistance statewide to support transit operations at the local level. The goal is to provide specific strategies and improvements that can be implemented and revisited over time.



This Plan serves as a guide to assist the Iowa DOT in making informed public transit decisions for the state. The strategies and action items within the plan serve as the starting points for the implementation phase of the planning process. The transit plan will also be updated every five years in order to stay current with trends, forecasts, and factors that influence decision-making.

www.iowadot.gov/iowainmotion/Modal-Plans/Public-Transit-Plan

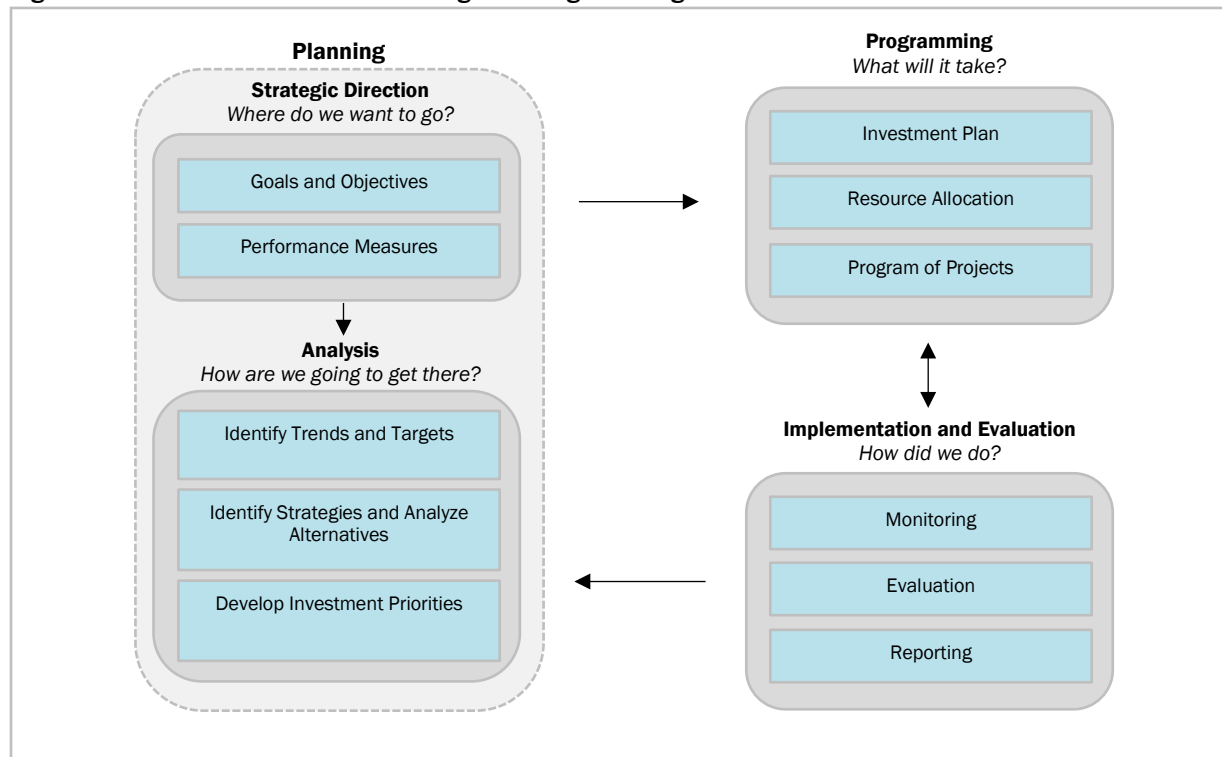
Performance-Based Planning and Programming

The foundation of this Plan is built upon performance-based planning and programming. This approach provides a link between short-term management and long-range decisions about policies and investments made for the transportation system. The approach links specific strategies to help improve decision-making and provides accountability for following through on the plan. The building blocks for a performance-based planning process are goals, objectives, and performance measures which are described as:

- **Goal** – A broad statement that describes a desired end state.
- **Objective** – A specific and measurable statement that supports achievement of a goal.
- **Performance measure** – A metric used to assess progress toward meeting an objective.

Performance-based planning and programming begins with a strategic direction which indicates where the RTA would like to go in the future. The RTA sets this strategic direction by choosing goals, quantifiable objectives, and performance measures to guide decision-making. Next, the RTA creates a long-range plan that identifies trends and targets, defines strategies, and develops investment priorities. The RTA then links the long-range plan to a Transportation Improvement Program (TIP) to deliver projects that improve performance and achieve targets within the strategic direction. Finally, the RTA monitors and evaluates the performance-based planning and programming process to create a feedback loop that informs future planning efforts. Figure 1.2 illustrates the performance-based planning and programming process.

Figure 1.2: Performance-based Planning and Programming Process



Source: Federal Highway Administration, Performance-based Planning and Programming Guidebook

RTA Goals, Objectives, and Performance Measures

The RTA identified four goals for the 2045 Long-Range Transportation Plan which are to:

- Increase the safety of the transportation system.
- Strategically preserve the existing infrastructure.
- Support an efficient transportation system.
- Provide a high degree of multimodal accessibility and mobility.

The RTA has adopted several objectives to help achieve these goals and performance measurements to track the progress toward meeting the objectives. Performance measurements are not federally required for Regional Planning Affiliations (only MPOs). However, the RTA felt it was important to identify performance measurements specific to the region to help inform future regional planning efforts and implement the state transportation plan. RTA goals, objectives, and performance measures can be found in Table 1.1.



Table 1.1: 2045 Long-Range Transportation Plan Goals, Objectives, and Performance Measures

Goal	Objective	Performance Measurement	2019 Baseline Condition Data
Increase the safety of the transportation system	1.1) Reduce the number of traffic fatalities	10-year average of fatalities (2010-2019)	12.5
	1.2) Reduce the rate of traffic fatalities	Rate of fatalities per 100 million Vehicle Miles Traveled	0.65
	1.3) Reduce the number of traffic serious injuries	10-year average of serious injuries (2010-2019)	43.8
	1.4) Reduce the rate of traffic serious injuries	Rate of serious injuries per 100 million Vehicle Miles Traveled	2.3
	1.5) Reduce the number of non-motorized fatalities and serious injuries	10-year average of non-motorized fatalities and serious injuries (2010-2019)	1.3
	1.6) Reduce the number of traffic accidents involving pedestrians and bicyclists	10-year average of total number of crashes involving pedestrians and bicyclists (2010-2019)	9.5
Strategically preserve the existing infrastructure	2.1) Preserve and maintain Iowa DOT road pavement conditions	Percentage of Interstate, U.S. Highway, and Iowa Highway pavement in good condition (2018)	57.3%
		Percentage of Interstate, U.S. Highway, and Iowa Highway pavement in poor condition (2018)	2.94%
	2.2) Preserve and maintain local road pavement conditions	Percentage of city and county owned paved roads in good condition (2018) Percentage of city and county owned paved roads in poor condition (2018)	76.4% 4.97%
	2.3) Decrease the number of bridges that are posted or closed	Total number of posted or closed bridges (2018)	255
	2.4) Decrease the number of bridges that are structurally deficient	Total number of structurally deficient bridges (2018)	273
Support an efficient transportation system	2.5) Increase the average bridge sufficiency rating	Average bridge sufficiency rating of all bridges (2018)	82.8
	3.1) Maintain the percent of person-miles traveled on the Interstate that are reliable	Level of Travel Time Reliability (LOTTR) (2019)	100.0%
	3.2) Maintain the percent of the person-miles traveled on the non-Interstate NHS that are reliable	LOTTR (2019)	98.6%
Provide a high degree of multimodal accessibility and mobility	3.3) Improve freight travel time reliability	Truck Travel Time Reliability (TTTR) (2019)	1.24
	4.1) Provide more on-road bicycle facilities	Number of miles of on-road bicycle accommodations	62.0
	4.2) Provide more off-road bicycle and pedestrian facilities	Number of miles of paved off-road trails	95.5
	4.3) Decrease the percent of RTC's vehicles that are beyond Useful Life Benchmark (ULB)	Percent of vehicles that have met or exceeded ULB (2019)	59.1% (13 of 22 vehicles)
	4.4) Increase public transit ridership usage	10-year average of annual rides provided by RTC (2010-2019)	137,723