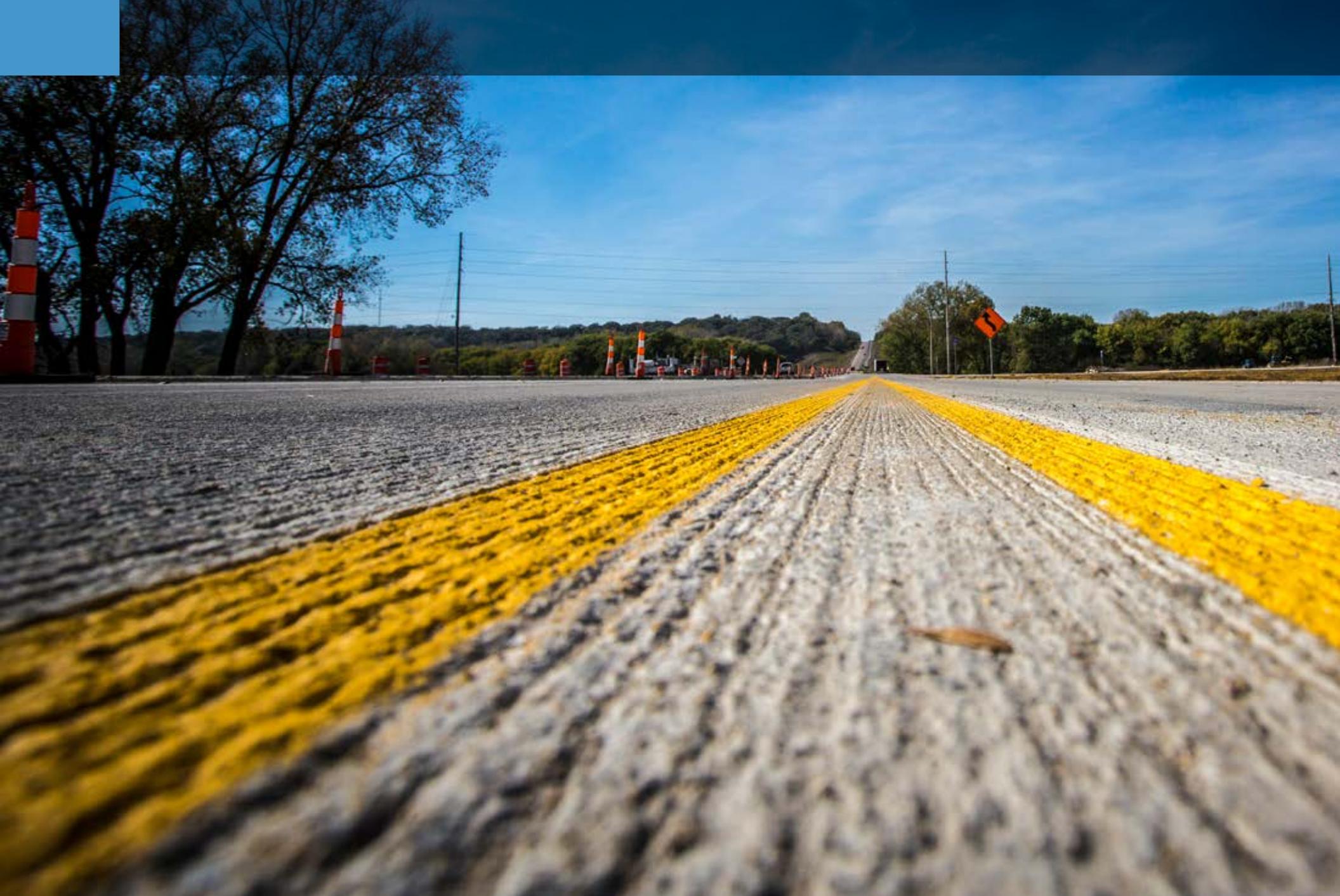




1. LOOKING AHEAD TO 2045



One hundred years ago, in 1917-1918, Iowa's first interurban highway was constructed with the paving of 11 miles between Mason City and Clear Lake. During this same era, the Ford Model T became the first automobile truly affordable to the masses. Although a century in the past, these developments occurred during the lifetime of today's oldest living generation.

By the middle of the 20th century, postwar demand led to rapidly escalating auto and truck sales, producing heavy traffic on a neglected highway system. In response to these trends, along with mobility and defense concerns, the Federal-Aid Highway Acts of 1944 and 1956 funneled billions of dollars to the nation's highways and new Interstate Highway System. In the meantime, the Iowa General Assembly created a dedicated fund to direct road-user taxes to the state's primary, secondary, and municipal roads.

Just a half-century later, the momentum began to shift. A century of highway-centric system development has slowed, and philosophies regarding land use and alternative transportation modes have been evolving. As this Plan development effort concludes, many experts are predicting widespread adoption of automated and connected vehicle technology within the next few decades, which has the potential to revolutionize travel.

Transportation in Iowa has always been an evolution – from horses and buggies to trains and trolleys to cars and trucks. Now more than ever, it is critical that we plan for the system of the future, and not simply rebuild the system of today. This will require informed and dynamic investment in the transportation system. Iowa's oldest generation has lived through 100 years of incredible transportation advancements. This Plan seeks to position the state of Iowa for the coming decades of change.

1.1 What the Plan is

The state transportation plan (Plan) is a long-range document that addresses federal requirements¹ and serves as a transportation investment guide. The Iowa Department of Transportation's (DOT) long-range planning process is called Iowa in Motion, and the most recent Plan developed through this process was adopted in 2012. The Plan is updated every five years in order to stay current with trends, forecasts, and factors that influence decision-making, such as legislation, funding, technological changes, and state priorities.

The Plan forecasts the demand for transportation infrastructure and services to 2045 based on consideration of social and economic changes likely to occur during this time. Iowa's dynamic economy and the need to meet future challenges will continue to place pressure on the transportation system. With this in mind, the Plan provides direction for each transportation mode and supports a continued emphasis on stewardship. The Iowa DOT views stewardship as efficient investment and prudent, responsible management of the existing transportation system.

As Iowa changes and the transportation system evolves, one constant will be that the safe and efficient movement of people and goods is essential for stable growth in Iowa's economy. Iowa's extensive multimodal and multijurisdictional transportation system is a critical component of economic development and job creation throughout the state. The system is also a major contributor to Iowans' quality of life.

1. See Appendix 1 for a list of federal requirements for state transportation plans.

1.2 What the Plan includes

Some of the key components of the document include the following.

- **Trends:** An analysis of demographic, economic, passenger, and freight trends and what these trends mean for Iowa's transportation system.
- **Planning considerations:** An overview of several issues and factors that influence transportation planning.
- **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:** Overarching areas within which actions will be defined to implement the system vision.
- **Strategies and improvements:** Actions and initiatives that will be utilized by the department to implement the vision.
- **Costs and revenues:** An analysis of annual costs and revenues for each transportation mode.
- **Implementation:** A discussion related to addressing funding shortfalls, programming future investments, and ongoing performance monitoring.

1.3 How the Plan was developed

Development of the Plan involved input from a wide variety of stakeholders and resources. While it is impossible to capture every resource used in an exhaustive list, the sources identified below played a critical role in shaping this planning effort and document.

Public input

The Iowa DOT's current public participation process² identifies several steps to be used in developing the long-range state transportation plan to ensure opportunities for public input, review, and comment. Each of the following steps was used during the development of the Plan.

1. Use appropriate mailing (including email) lists to notify the public.
2. Use advisory committees.
3. Hold regional public information/listening meetings, when appropriate.
4. Use the Iowa Transportation Commission meetings.
5. Encourage letters and written comments.
6. Distribute draft plans and documents for review.
7. Review the state public participation process.

The following sections provide more detailed information about public and stakeholder input efforts during the planning process.

² Iowa DOT's public participation adheres to the process outlined in 23 CFR 450.210(a).
The process can be viewed at http://www.iowadot.gov/program_management/StatePublicParticipationProcess.pdf.



Public surveys

In order to gather public input throughout the planning process, two public surveys were conducted during Plan development. The surveys are described briefly here, and their results have been integrated throughout the Plan. A summary of survey results can be found in Appendix 2.

In February 2016, a survey was developed to gather initial feedback on possible investment areas and strategies for the Plan. This survey involved ranking four potential investment areas and suggesting others; providing a one to five-star rating for each of five possible strategies under each investment area; and answering three open-ended questions on what activities the department should continue doing, should enhance or expand, and should discontinue. A total of 520 people provided data through the survey. Results helped form the draft vision, investment area structure, and content that was carried forward in Plan development.

A second survey was conducted in August and September 2016 to gather additional input. The survey focused on questions regarding how people would like to live and travel in the future and asked for opinions on various highway investment strategies. The survey was available concurrently with the Iowa State Fair and tied in with the Iowa DOT's 2016 State Fair booth theme "Future of Transportation." A total of 1,646 people took the survey, and the input was used to help develop action plan strategies and improvement needs.



Blog posts and news releases

Information was distributed in the form of news releases and posts to the Iowa DOT's Transportation Matters blog throughout the plan development process. These included the following.

- [Jan. 14, 2016](#): First blog on the Plan, which focused on the reasons for developing the Plan and what was changing from the 2012 document.
- [Feb. 1, 2016](#): News release regarding the first public input survey, which sought input on conceptual investment areas and strategies, as well as open-ended feedback.
- [April 26, 2016](#): Blog on results of first round of public input.
- [Aug. 9, 2016](#): News release regarding the second public input survey that sought input on how people want to live and travel in the future.
- [Sept. 13, 2016](#): Blog on vision and investment areas.
- [Nov. 1, 2016](#): First in a series of three blogs covering highway improvement needs analysis, which focused on statewide capacity and mobility needs.
- [Dec. 22, 2016](#): Second in a series of three blogs covering highway improvement needs analysis, which focused on freight and condition needs.
- [Jan. 20, 2017](#): Third in a series of three blogs covering highway improvement needs analysis, which focused on urban capacity, operations, and bridge needs.
- [Feb. 14, 2017](#): Blog on modal needs analysis, including aviation, bicycle and pedestrian, public transit, rail, and water.

Public input surveys were also advertised through the department's social media platforms.

Public meeting and comment period

In addition to the public input surveys, a public meeting was held March 21, 2017 to provide an opportunity for in-person feedback following draft Plan development. The meeting, a 45-day public comment period, and methods for providing comments on the draft Plan were advertised through a series of news releases and social media posts. The following statistics summarize the level of public input achieved during the comment period.

- Webpage visitors: 2,400
- Total public meeting attendance: 14
- Written comments received: 21

Iowa Transportation Commission

The Iowa Transportation Commission (Commission) sets policy for the department through its approval of the state transportation plan and the Iowa Transportation Improvement Program (Five-Year Program). The governor appoints the seven transportation commissioners, with political and gender balance required. Commissioners are confirmed by the Iowa Senate and serve on a staggered basis for four-year terms. Meetings occur monthly, with eight of the 12 Commission meetings held in Ames. The other four meetings involve tours and stakeholder input opportunities in various locations around the state. The meetings are open to the public and streamed online.

Commission meetings typically include an informal workshop and formal business meeting. Commission workshops were used to inform the Commissioners on the progress of the Plan and ask for their feedback. Presentations were made at seven Commission workshops between January 2016 and April 2017, prior to final action at the Commission's May 2017 business meeting. These presentations were also made available online at the project website.³

³ <http://www.iowadot.gov/iowainmotion/index.html>



Internal stakeholders

Individuals representing a diverse cross section of the Iowa DOT were involved in the development of the Plan through a combination of topical communication and meetings as well as two formal committees. Staff members from the following Iowa DOT offices were involved in some manner during Plan development.

- Aviation
- Bridges and Structures
- Contracts
- Design
- Local Systems
- Location and Environment
- Maintenance
- Performance and Technology
- Policy and Legislative Services
- Program Management
- Public Transit
- Rail Transportation
- Right of Way
- Strategic Communications
- Systems Planning
- Traffic and Safety
- Traffic Operations

Planners representing each of the state's six transportation districts were also engaged throughout the planning process.

Two committees were established early in the planning process to create more structured opportunities for discussing Plan development and gathering feedback. An Internal Steering Committee (ISC) was created to serve as a sounding board for Plan development and to help provide guidance for the overall process. The ISC included broad representation from across the department to ensure the opportunity for a wide range of perspectives to provide input to the Plan, and included a Federal Highway Administration (FHWA) liaison. A second committee, the Action Plan Focus Group (APFG), was also established.

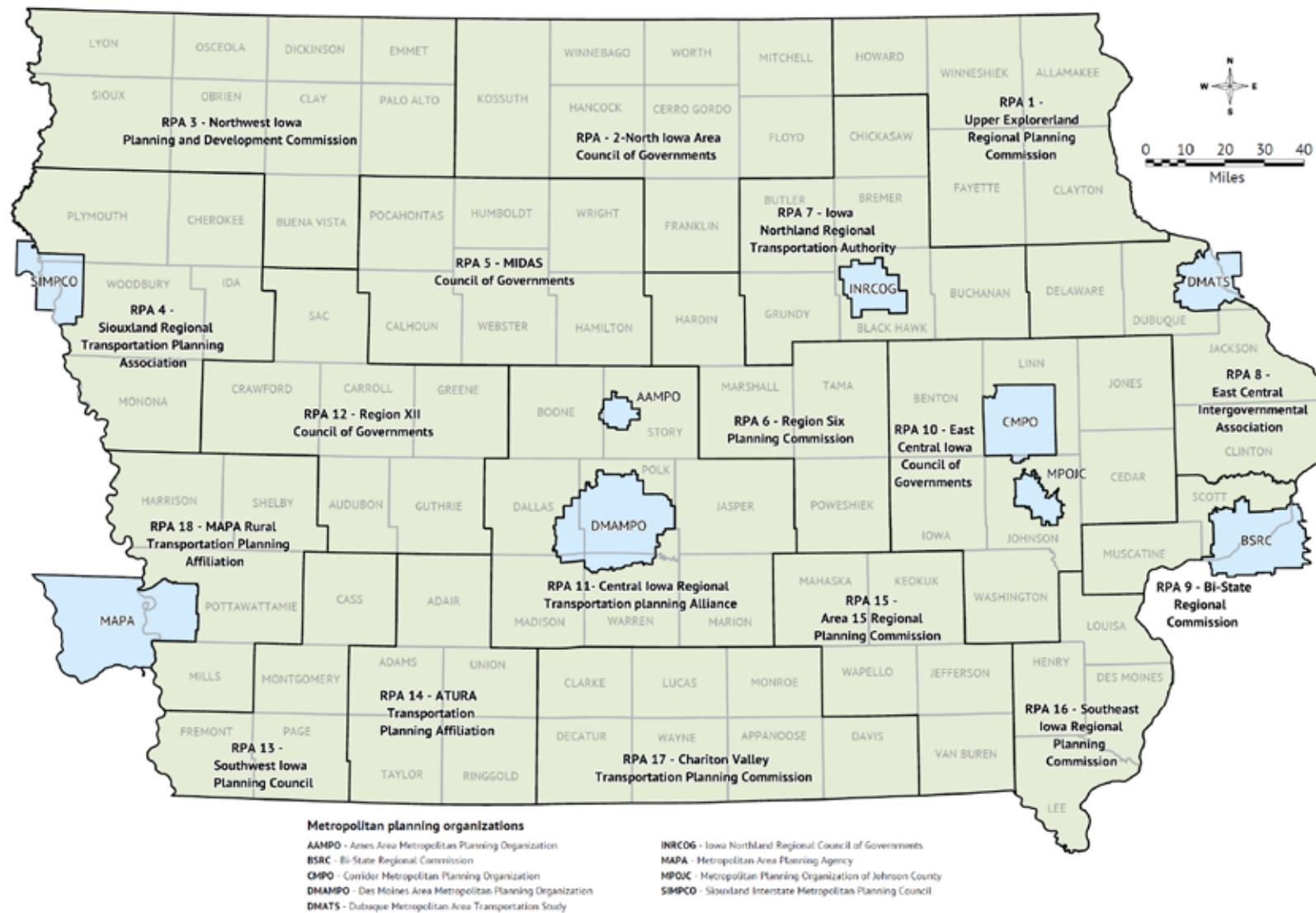
The APFG involved a subset of individuals from the ISC and additional representation from the department. The APFG was charged with assisting in the development of the strategies and improvements contained in this Plan. The ISC met eight times and the APFG met seven times during Plan development.

State planning agencies

The state's transportation planning agencies, which include metropolitan planning organizations (MPOs) and regional planning affiliations (RPAs), partnered with the Iowa DOT and were critical in the development of the Plan. MPOs conduct transportation planning and programming activities in the state's nine urban areas with populations greater than 50,000, which include Ames, Cedar Rapids, Council Bluffs, Davenport, Des Moines, Dubuque, Iowa City, Sioux City, and Waterloo. Iowa's 18 RPAs conduct transportation planning and programming activities in the remaining nonmetropolitan areas of the state, covering all 99 counties. The locations of these agencies are shown in Figure 1.1.

The MPOs and RPAs were engaged in a number of different ways during development of the Plan. Input was gathered through quarterly meetings held between the agencies and Iowa DOT, survey responses, policy board and technical committee meetings, and numerous interactions with staff. In addition, MPO and RPA long-range transportation plans (LRTP) were referenced throughout the development of the Plan. MPO and RPA input was very valuable to Plan development; ultimately, it is anticipated that the Plan will be useful to MPOs and RPAs in their transportation planning and programming activities.

Figure 1.1: Iowa metropolitan planning organizations and regional planning affiliations



Source: Iowa DOT



Interagency and external stakeholder consultation

Another important part of developing the Plan is consulting with other various government agencies, including Federal, State, Tribal, and local governments. Consultation with these agencies was achieved in two main ways: By reviewing plans and maps from these entities, and inviting them to review and comment on draft Plan content. As part of the consultation process, the Iowa DOT contacted the following agencies and tribal governments.

- Federal Highway Administration, Iowa Division
- Federal Transit Administration, Region 7
- Iowa Department for the Blind
- Iowa Department of Agriculture and Land Stewardship
- Iowa Department of Cultural Affairs
- Iowa Department of Education
- Iowa Department of Human Rights
- Iowa Department of Human Services
- Iowa Department of Natural Resources
- Iowa Department of Public Health
- Iowa Department of Public Safety
- Iowa Department on Aging
- Iowa Economic Development Authority
- Iowa Homeland Security and Emergency Management
- Iowa Tourism
- Iowa Utilities Board
- Iowa Workforce Development
- Meskwaki Tribe
- Office of the State Archaeologist
- State Historical Society
- U.S. Army Corps of Engineers, Rock Island District
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Environmental Protection Agency, Region 7
- U.S. Fish and Wildlife Service

In addition to the abovementioned agencies, the Iowa DOT consulted with a variety of modal interest groups throughout the development of the Plan. These groups included, but were not limited to, public transportation providers, the Iowa Bicycle Coalition, the Iowa Bicycle and Pedestrian Advisory Committee, the Iowa Transportation Coordination Council, the Freight Advisory Council, the Passenger Rail Advisory Committee, and the Railroad Advisory Committee.



Other plans and studies

A large variety of plans, reports, and studies were considered throughout the Plan development process. The following summarizes many of the documents and planning efforts that were utilized.

- Americans with Disabilities Act (ADA) Transition Plan (2016)
- Climate Change Impacts on Iowa (2010)
- Economic and Health Benefits of Bicycling in Iowa (2012)
- Governor's Transportation 2020 Citizen Advisory Commission – Report and Recommendations (2011)
- Iowa Air Service Study (2008)
- Iowa Aviation System Plan Update (2011)
- Iowa Bicycle and Pedestrian Long-Range Plan (Draft, 2017)
- Iowa Comprehensive Highway Safety Plan (2006)
- Iowa Crude Oil and Biofuels Rail Transportation Study (2016)
- Iowa Energy Plan (2016)
- Iowa in Motion – Planning Ahead 2040 (2012)
- Iowa in Motion – Iowa Park and Ride System Plan (2014)
- Iowa in Motion – State Freight Plan (2016)
- Iowa in Motion – State Transportation Plan (1997)
- Iowa Infrastructure Condition Evaluation (ICE) – 2016-2017 Highway Planning Report (2017)
- Iowa Interstate Corridor Plan (2013)
- Iowa Passenger Transportation Funding Study (2009)
- Iowa State Rail Plan (2017)
- Iowa Strategic Highway Safety Plan (2013, 2017)
- Iowa Trails 2000 (2000)
- Iowa's Mississippi River Trail Plan (2003)
- Iowa's Renewable Energy and Infrastructure Impacts (2010)
- Lewis and Clark Multiuse Trail Study (2010)
- Livability in Transportation Guidebook (2010)
- Policy Strategies for Iowa in Making Major Road Investments (2002)
- Road Use Tax Fund (RUTF) Study (2006, 2008, 2011, 2016)
- The Fix We're In For: The State of Our Nation's Bridges (2013)
- Transportation Asset Management Plan (2016)
- Transportation Planning and the Environment (2009)
- Transportation Systems Management and Operations Program Plan (2016)
- Transportation Systems Management and Operations Strategic Plan (2016)
- Uses and Benefits of Aviation in Iowa (2009)



1.4 How the Plan is used

The Plan is a multimodal transportation planning effort intended to assist the department and Commission in making informed transportation investment decisions for the state. It helps provide policy direction for the types of investments the department should be making, and also identifies specific strategies and corridor-level improvement types for consideration. Additionally, MPO and RPA policy boards and technical committees may use the Plan to help capture the Iowa DOT's perspective for their local planning efforts and guide their own investment decisions.

Projects programmed within the Iowa DOT Five-Year Program, which is approved by the Commission, support implementation of the Plan. In addition, more specialized plans will provide further detail concerning the implementation of elements of the Plan. Figure 1.2 highlights the Plan's role in the transportation planning cycle.



Public policy and input

Congress outlines specific requirements and factors to be addressed in planning and programming activities. Federal and state legislation provide parameters for the administration of transportation funds. The governor, state legislature, and citizens provide statewide direction; the Iowa Code lays out numerous program operational criteria.

Transportation plan

The Plan serves as a guide for the development of transportation policies, strategies, and improvements between now and 2045. The Plan evaluates transportation in Iowa from a system perspective, focusing on the movement of people and freight.

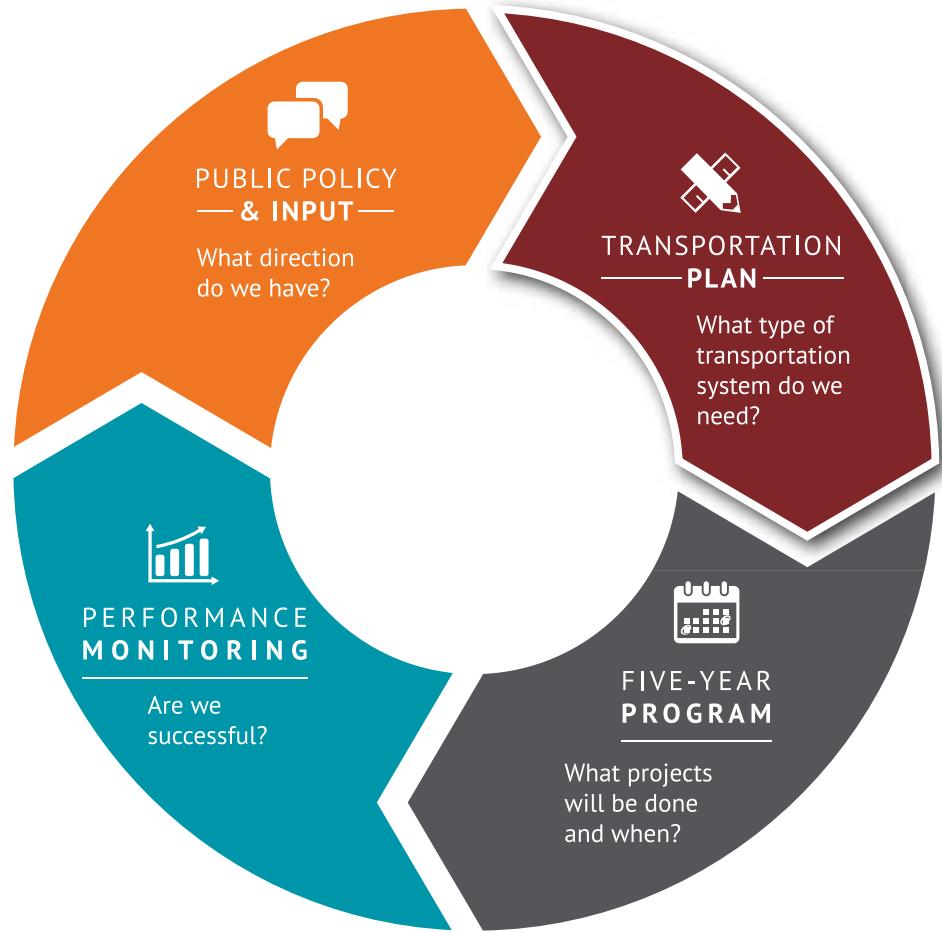
Five-Year Program

The Five-Year Program is a listing of specific departmental project investments and is approved by the Commission annually. Major elements include individual modal projects scheduled over the next five years, sources of funds, annual accomplishments, and criteria/eligibility of different modal funding programs.

Performance monitoring

The Iowa DOT has been involved with performance monitoring and reporting for many years. However, these monitoring efforts have, for the most part, been done by individual mode. Following on the performance-based planning requirements of the Moving Ahead for Progress in the 21st Century (MAP-21) Act and the Fixing America's Surface Transportation (FAST) Act, the Plan brings these modal monitoring elements into a more coordinated and comprehensive transportation system evaluation process.

Figure 1.2: Transportation planning and programming cycle



Source: Iowa DOT

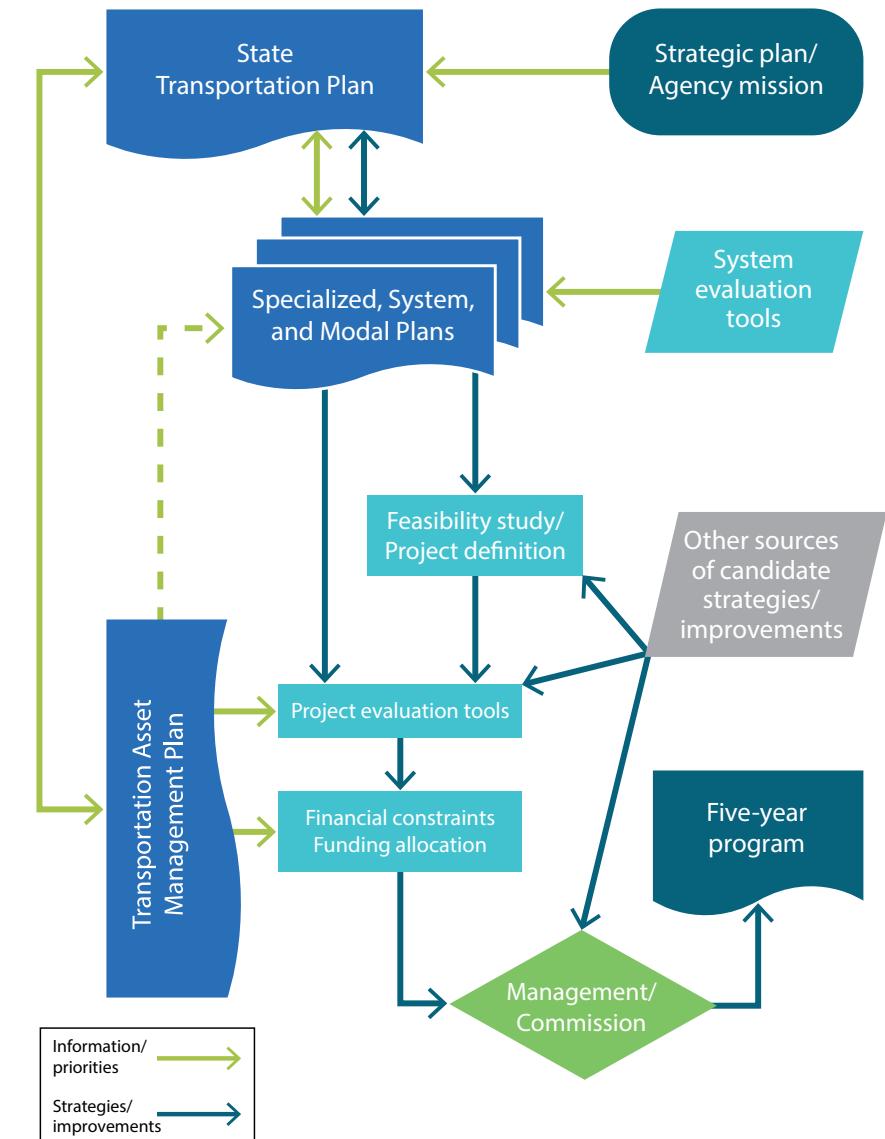


Beyond this generalized four-step cycle, Figure 1.3 illustrates in more detail how the Plan relates to the variety of additional plans and tools the department utilizes to ultimately inform the development of the Five-Year Program. These include more specialized plans (e.g., State Freight Plan and Transportation Asset Management Plan), system evaluation tools (e.g., Infrastructure Condition Evaluation tool), and project-level evaluation tools (e.g., Project Prioritization). The programming discussion in Chapter 7 provides more detail regarding the ways specific projects are developed and prioritized for funding, which largely occurs in the steps identified as feasibility study/project definition, project evaluation tools, and financial constraints/funding allocation on Figure 1.3.

While the development process for each update to the Plan considers all available planning resources and tools, the planning process also provides an opportunity to revisit the overarching policies, strategies, and improvements that will guide all other department planning efforts. The Plan is the cornerstone of the statewide transportation planning process, serving a critical function in transforming the state's policy directions into future investment actions.



Figure 1.3: Relationship between elements of the planning and programming process



Source: Iowa DOT