

State Transportation Plan

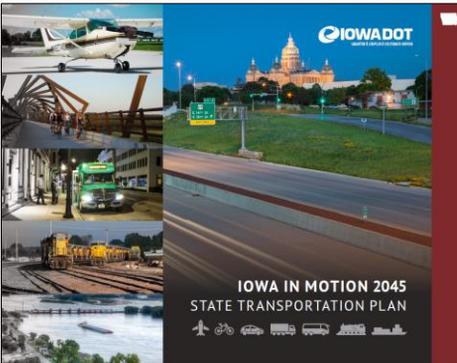
MPO/RPA Quarterly Meeting
June 20, 2017



1

2017 State Transportation Plan

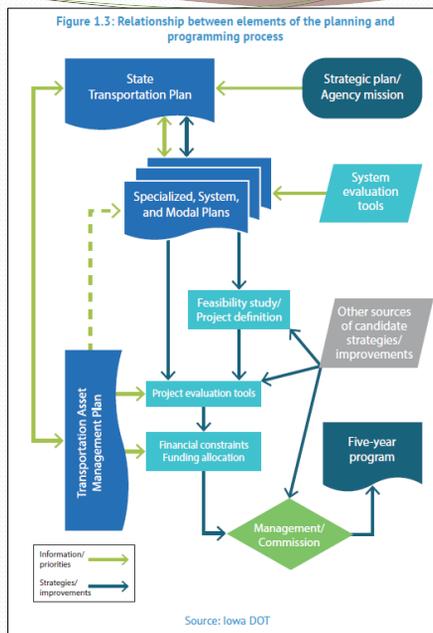
- Approved by Iowa DOT Commission on May 9, 2017
- Full plan available at www.iowadot.gov/iowainmotion/index.html



2

Chapter 1

- Looking ahead to 2045
 - What the Plan is, what it includes, how it was developed, and how it is used
 - How the Plan fits into the overall planning and programming process



3

Chapter 2

- Understanding Iowa
 - How Iowa will be different in 2045, and how the transportation system will be affected
 - Trends in four areas
 - Demographic: Population is growing slowly, urbanizing, aging, and becoming more diverse
 - Economic: Employment is growing slowly, jobs are shifting towards services, and median household income and GDP are increasing
 - Passenger: Travel, vehicles per household, driving to work along, and travel time to work have all be increasing.
 - Freight: Freight movements will continue to increase, particularly for truck and rail.

4

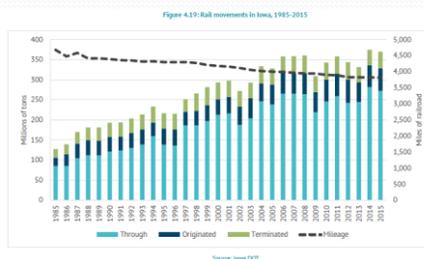
Chapter 3

- Planning considerations
 - Various key issues to consider as we plan the future transportation system
 - Economic vitality
 - Energy
 - Environmental justice
 - Environmental mitigation
 - Land use and livability
 - Maintenance and preservation
 - Management and operations
 - Safety
 - Security
 - Technology
- New sections from previous plan – management and operations; technology
 - Incorporated concepts such as autonomous and connected vehicles, smart corridors, and pause points in project development to reconsider technology impacts

5

Chapter 4

- System overview
 - Mode-by-mode summary of Iowa's current transportation system, including the following for each mode
 - Highlights
 - Impact on Iowa's economy
 - Planning efforts
 - Inventory
 - Current trends
 - Key issues



6

Chapter 5

- Choosing our path
- Vision for the transportation system, associated Investment Areas, and Action Plan with supporting Strategies and Improvement Needs for each mode

5.2 Investment areas

The way the system vision will be realized is through the investment decisions made by the Iowa DOT and Commission. To help translate this vision into meaningful actions, an overall structure has been set up with the following components:

- A broad **vision statement** that captures the overall vision for Iowa's future transportation system.
- Outlining **investment areas** within which actions will be defined to implement the system vision.
- A fiscally responsible **action plan** that defines how the vision will be implemented, through two broad categories.
- Specific **strategies** that will be utilized by the department that fit within one or more of the investment areas.
- Where appropriate, specific **improvement needs** the department feels are necessary to help achieve the overall system vision.

Ultimately, each identified strategy and improvement need relates back to one or more investment areas and the overall vision.

Vision → **Investment Areas** → **Strategies/Improvement Needs**



Four principal investment areas were identified to help achieve the system vision:

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

Each of these investment areas are supported by specific strategies and improvement types, which are summarized in the following section and detailed in the action plan. The investment areas are not mutually exclusive categories. For example, safety is required throughout all investment areas, and strategies and improvement types may align with more than one investment area. Together these four investment areas encompass the range of strategies and improvement types to be utilized to ensure the Iowa DOT and Commission continue to create, manage, and operate the transportation system Iowa needs.

Stewardship – maintaining a state of good repair

The bulk of the existing multimodal transportation system will likely need to be managed and maintained similarly to how it is today, though there may be some changes to the composition of the system because of anticipated social, economic, and technological trends. One of maintaining a state of good repair involves applying appropriate asset management techniques to keep transportation infrastructure in adequate condition. This includes recognizing that it can be more cost-effective in the long run to invest in assets before they wear out completely – in other words, avoiding a worst-first approach to system maintenance and modernization. This also means replacing assets such as roads, guardrails, transit vehicles, and snowplows when they have exceeded their useful lives. Maintaining the system also involves operational maintenance, such as plowing snow and grading shoulders, and making needed investments to address specific issues, such as safety enhancements, Americans with Disabilities Act compliance improvements, and access modifications. The aim of stewardship is to ensure that the system Iowa needs is maintained in a condition that enables safe, efficient passenger and freight movements.

Modification – right-sizing the system

The multimodal transportation system as it exists today has developed over many decades, and reflects the progression of population and employment growth and advances in transportation. Right-sizing the system for the service it provides means ensuring that the decisions we make today regarding transportation investments and the future in mind. Our role is not to continually rebuild the system as it has been developed, but to invest to implement a system that will meet the needs of the 21st century. This will require significant investments in developing some focused capacity expansion as resources allow, and perhaps even some contraction of the system. Future capacity expansion should be limited, strategic, and prioritized. Nontraditional capacity improvements should be considered where appropriate, including managed lanes (high-occupancy vehicles, bus-lanes), operations improvements such as intelligent transportation systems (ITS) components, and highway design elements that help improve roadway operation, such as turning lanes, passing/clearing lanes, access modifications, and geometric improvements.

Optimization – improving operational efficiency and resiliency

In addition to building and maintaining the multimodal transportation system, it is also important to work continually to improve the system and there is a critical role for passenger and freight traffic. The primary focus is on decreasing commute times, making freight more efficient, and improving system resiliency. This can be achieved by investing in the system rather than in additional pavement. This means investing in efforts such as utilizing ever-increasing amounts of complete data to monitor the system, improving response efforts when managing incidents to lessen the disruption to traffic, and enhancing the two-way communication between the department and system users.

Transformation – increasing mobility and travel choices

Iowa is changing in a number of ways. Overall, its population is growing slowly, becoming more diverse, and its increasing urbanized. City centers with mixed land use and complete streets are developing, but suburbs also continue to expand and small towns remain vital to the state. While the number of individual farms is decreasing, the issue of farm agriculture to the economy continues to exist. In order to provide a multimodal transportation system that accommodates all aspects of Iowa's population and development patterns, it is important to have a diverse menu of travel choices that allow mobility across different demographics and land uses. This can involve investments beyond the typical highway system that target moving people by other modes of transportation, such as public transit, bicycle, pedestrian, etc., and rail. It can also include investments aimed at decreasing single-occupant vehicles.

Chapter 5

- Action Plan
- Improvement needs by mode
- Non-highway modes based largely on existing modal plans
- Highway based on seven-layer analysis
- Would encourage MPOs/RPAs to review primary system needs identified in their areas
- DOT can provide data, suggestions for analysis if MPOs or RPAs would like to undertake similar analysis for non-primary system

8

4

Chapter 5

Action Plan – improvement needs matrix

Table 5.5: Highway improvements matrix, US routes (continued)

Route	Counties	Corridor	Miles	Capacity	Mobility and safety	Freight (out of 94)	Condition	Bridge (out of 216)
US 67	Scott	US 61 to I-74	3.9			3		2,214
	Scott	I-74 to I-80	9.5			3,62		
	Scott, Clinton	I-80 to US 30	21.0			62		
	Clinton	US 30 to Clinton N CL	5.4					
	Clinton, Jackson	Clinton N CL to US 52	12.1				Corridor targeted for stewardship	
	Decatur, Clarke	MO border to US 34	40.1					161
	Clarke, Warren	US 34 to US 65	23.5				Corridor targeted for stewardship	
	Warren, Polk	IA 5 to I-235	7.3	*				52,166
	Polk	I-235 to I-35/80	3.2					
	Polk	I-35/80 to Ankeny N CL	10.0			68		
US 69	Polk, Story	Ankeny N CL to US 30	16.0	*				
	Story	US 30 to Ames N CL	5.3	*				159
	Story, Hamilton	Ames N CL to US 20	26.7				Corridor targeted for stewardship	
	Hamilton, Wright	US 20 to IA 3	20.0				Corridor targeted for stewardship	
	Wright, Hancock	IA 3 to US 18	24.9					210
	Hancock, Winnebago, Worth	US 18 to MN border	32.6					195
	Page, Montgomery	MO border to US 34	29.6					
	Montgomery, Cass	US 34 to I-80	38.4					70
	Cass, Audubon, Carroll	I-80 to US 30	44.0					111
US 71	Carroll, Sac	US 30 to US 20	41.5					
	Sac, Buena Vista	US 20 to IA 3	19.0					
	Buena Vista, Clay	IA 3 to US 18	27.1			65		
	Clay, Dickinson	US 18 to IA 86	10.8		current 4-lane corridor			
	Dickinson	IA 86 to MN border	18.3					
		Woodbury, Plymouth	US 20 to IA 60	27.9				
US 75	Plymouth, Sioux	IA 60 to IA 18	25.5					
	Sioux, Lyon	US 18 to MN border	21.0				Corridor targeted for stewardship	
US 77	Woodbury	NE border to I-29	0.3					
US 136	Lee	US 61 to US 218	2.4					
US 151	Iowa, Benton, Linn	I-80 to US 30	19.1	*				57, 135
	Linn	US 30 to IA 13	8.2	*				
	Linn, Jones, Dubuque	IA 13 to US 61	56.9				Corridor targeted for stewardship	

9

Chapter 5

Action Plan – 80 strategies across 12 areas

- Asset management
- Aviation
- Bicycle/pedestrian
- Bridge
- Energy
- Freight
- Highway
- Public transit
- Rail
- Safety
- Technology
- Transportation system management and operation (TSMO)

Each strategy maps back to one or more of the four investment areas (stewardship, modification, optimization, and transformation), and a graphic notes which area(s) the strategy falls under. The strategies consist of an action statement and an explanation of what the strategy entails or how it will be carried out. A summary table of all strategies is provided at the end of the chapter. These strategies will help guide future actions and financial investments across the system.

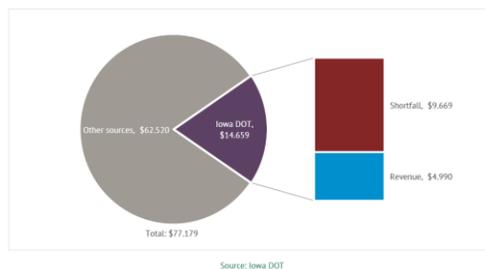


10

Chapter 6

- Paying our way
 - Cost to maintain/improve the system, anticipated future revenues, and potential shortfall and implications
 - Where possible, needs presented at statewide level, with the Iowa DOT's "share", revenue, and shortfall provided

Figure 6.5: Aviation average annual total costs, Iowa DOT share, revenue, and shortfall, 2017-2045 (\$ millions)



11

Chapter 7

- Making it happen
 - Financing, programming, and performance monitoring
 - Overview of the enhanced programming process Iowa DOT is transitioning to, that will improve transparency, align available tools and plans, and better incorporate appropriate stakeholders
 - 1. Problem statement development
 - 2. Scoping
 - 3. Project advancement
 - 4. Project prioritization
 - 5. Program synthesis
 - 6. Final programming

12

Next steps and implementation

- Incorporating the Plan into the programming process referenced on the previous page
 - Working to involve a check against improvement needs identified in the Plan when a project is being scoped
- Discussing how super-2 elements (as discussed in the mobility and safety analysis) can be considered for targeted corridors in the project design process
- Strategies are at various levels of integration – some already being done, some being planned