7. Making it happen

Implenting the Plan will require three important steps, which include addressing the funding shortfalls identified in the previous chapter, programming future investments, and continuous performance monitoring.

7.1 Addressing the shortfall

The first step in implementation involves gathering the resources necessary to make much-needed investments in Iowa's transportation system. With limited resources, efficient investment actions made through the Five-Year Program are extremely important to support the stewardship of Iowa's existing transportation system.

As illustrated below, Iowa is at a major crossroads concerning transportation investments. Difficult decisions must be made in dealing with Iowa's funding shortfall. Projects could be delayed, postponed, or canceled with programming and implementation moved out into the future years or dropped entirely. This option is not conducive to fostering economic development and job growth and a stronger state of Iowa. The more appropriate and preferred option is to keep project development on schedule by acquiring additional financial resource

- ✓ Projects delayed or canceled
- ✓ Fewer jobs created and retained
- ✓ More deaths and injuries
- ✓ Higher shipping costs
- ✓ Poorer air and water quality
- ✓ Higher vehicle operating costs
- ✓ Increased travel time
- ✓ More congestion
- ✓ Deteriorated system condition

- ✓ Projects kept on schedule
- ✓ Increased economic activity
- ✓ More higher paying jobs
- ✓ Fewer deaths and injuries
- ✓ Lower shipping costs
- ✓ Improved air and water quality
- ✓ Lower vehicle operating costs
- ✓ Reduced travel time
- ✓ Less congestion

Appendix 1 identifies various options for addressing the funding shortfalls that were identified in Chapter 6, including some mechanisms that may be more applicable to a single mode, and others that could be used to generate revenue for various modes as will be discussed at the end of this section. It should be noted that some of these mechanisms are already in place, and additional revenue would need to be generated through some adjustment to how the mechanism is applied. Also, while various advantages and disadvantages are identified in the table, the purpose of this information is not to advocate for any specific revenue generating mechanism(s).

In evaluating these mechanisms, the following principles should be considered, which were publically expressed during the Governor's Citizen Advisory Commission's input gathering process:

- The user fee concept should be preserved, where those who use the system pay for the system, including non-residents.
- Revenue-generating mechanisms should be fair and equitable across users.
- Implement revenue generating mechanisms that are viable now, but also begin to implement and set the stage for longer-term solutions that bring equity and stability to funding.
- Continue Iowa's long-standing tradition of pay-as-you-go financing.

Governor's Transportation 2020 Citizen Advisory Commission recommendations

At the March 8, 2011 Iowa Transportation Commission meeting, Governor Branstad announced his *Transportation 2020* initiative and named his appointees to the Citizen Advisory Commission (CAC). This group was charged with assisting the Iowa DOT in an assessment of the condition of Iowa's roadway system while evaluating the current and future funding available to best address system needs. As part of this process, the CAC gathered public input related to the need for additional revenue and many of the revenue sources identified in the previous table.

Over 500 people attended the seven public meetings held across Iowa through the months of August and September, with 198 providing verbal or written comment at the meeting or online. Comments were received from a wide array of individuals. It is useful to note that well over half of those that provided input were non-governmental. Among the individuals who spoke, there was overwhelming support for raising additional revenue to help repair roadways. Reasons cited for this support included meeting needs for manufacturing and agriculture, supporting economic development, preserving the valuable public road infrastructure, and creating and supporting jobs.

Over 90 percent of the verbal or written comments were in support of additional funding for Iowa's roads and bridges. Almost two-thirds supported increasing the state fuel tax. Other revenue

enhancement ideas supported by some presenters were a one cent tax per bushel of corn/soybeans that would be spent on local roads in the county from which the revenue was generated, an increase of the fee for new registration from five to six percent, raising the cost of a driver's license, a sales tax on fuel purchases, a flat fee charged on high-fuel efficiency/alternatively fueled/hybrid vehicles, and a fuel tax rate tied to an inflation index. Although most presenters identified raising the state's fuel tax as the preferred option, some discussed it as a short-term solution to meet the current needs and suggested that other revenue generating methods, such as a VMT fee, should be pursued for the long-term sustainability of Iowa's roadways.

Following this input process, the CAC concluded that Iowa's public roadways are facing a severe funding shortfall and the lack of adequate funding has resulted in the state and Iowa's counties and cities under investing in the system and utilizing other funding mechanisms such as property tax and bond revenues. Consequently, the CAC made the following recommendations:

1. Increase the state fuel tax rates across the board by eight to ten cents.
2. Increase the "Fee for New Registration" from five percent to six percent.
3. Iowa DOT should evaluate and recommend a funding mechanism in their report to the legislature that applies to alternatively fueled, hybrid and high fuel efficiency vehicles (including commercial vehicles).
4. Consistent with existing Code of Iowa requirements, new funding should go to the TIME-21 Fund up to the cap ($225 million) and remaining new funding should be distributed consistent with the Road Use Tax Fund distribution formula.
5. The Code of Iowa should be changed to require the study of the sufficiency of the state's road funds to meet the road system's needs every two years instead of every five years.
6. Iowa DOT should at least annually convene meetings with cities and counties to review the operation, maintenance and improvement of Iowa's public roadway system to identify ways to jointly increase efficiency; efficiency actions should be quantified, measured and reported to the public on a regular basis.
7. By June 30, 2012, Iowa DOT should complete a study of vehicles and equipment that use Iowa's public roadway system but pay no user fees or substantially lower user fees than other vehicles and equipment.

In addition, the Iowa DOT's 2011 Road Use Tax Fund (RUTF) Study (a report to the Iowa Legislature per 2011 Iowa Code section 307.31) very closely mirrored the CAC's report with the following recommendations:

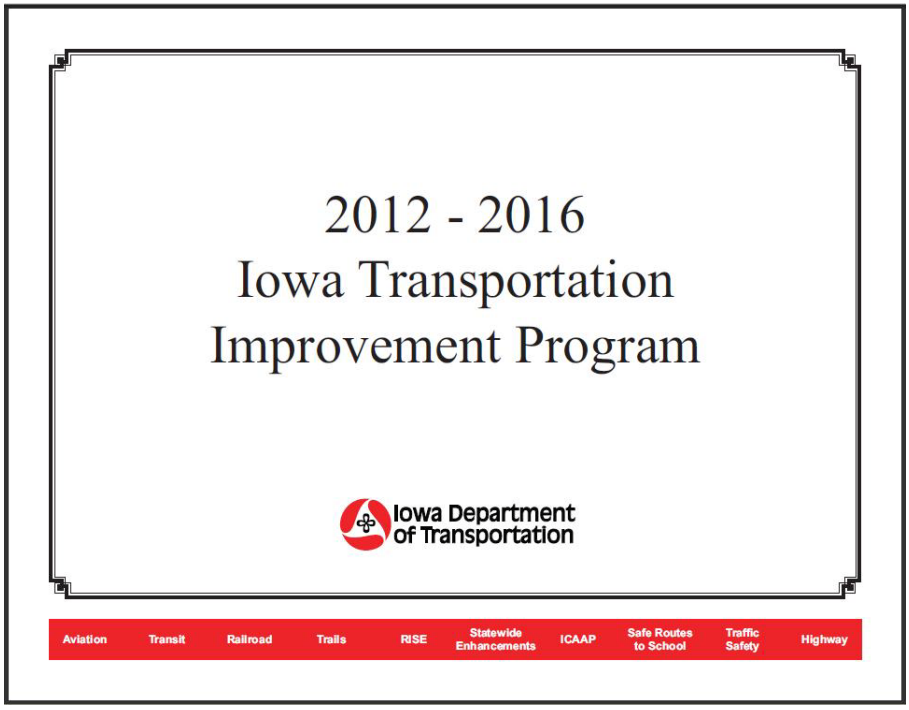
1. Through a combination of efficiency savings and increased revenue, a minimum of $215 million of revenue per year should be generated to meet Iowa's critical roadway needs.
2. Current Code of Iowa language requires the Iowa DOT to "periodically review the current revenue levels of the road use tax fund and the sufficiency of those revenues for the projected construction and maintenance needs of city, county, and state governments in the future." This study is required every five years. The Iowa DOT recommends the Code of Iowa be changed to require this study be completed every two years timed to coincide with the biennial legislative budget appropriation schedule. In addition, an increased frequency of study will allow the legislature to better respond to changing conditions, changing roadway needs and new technology. If this recommendation is implemented, the next study will be due December 31, 2012.
3. Modify the current registration fee for electric vehicles to be based on weight and value using the same formula that applies to most passenger vehicles.
4. Consistent with existing Code of Iowa requirements, any new funding should go to the TIME-21 Fund up to the cap ($225 million) and remaining new funding should be distributed consistent with the Road Use Tax Fund distribution formula.
5. The CAC recommended the Iowa DOT at least annually convene meetings with cities and counties to review the operation, maintenance and improvement of Iowa's public roadway system to identify ways to jointly increase efficiency. In direct response to this recommendation, Governor Branstad directed the Iowa DOT to begin this effort immediately with a target of identifying $50 million of efficiency savings that can be captured from the over $1 billion of state revenue already provided to the Iowa DOT and Iowa's cities and counties to administer, maintain and improve Iowa's public roadway system. This would build upon past joint and individual actions that have reduced administrative costs and resulted in increased funding for improvement of Iowa's public roadway system. Efficiency actions should be quantified, measured and reported to the public on a regular basis.
6. Iowa DOT should undertake a study looking at vehicles and equipment that use Iowa's public roadway system but pay no user fees or substantially lower user fees than other vehicles and equipment. This study should result in an assessment of whether fee structures should be

modified and/or created so that all vehicles and equipment using Iowa's public roadways are paying equitable user fees. This study should be completed by June 30, 2012.

While the activities of the CAC and the content of the RUTF study are certainly focused on Iowa's roadway system, the intent of this section and Appendix 1 is to identify options for addressing the funding shortfalls associated with each of the modes. As previously mentioned, some of the mechanisms noted in Appendix 1 may be more applicable to a single mode. However, there are several options that could be used to generate revenue for various modes. Some examples include bonding, gaming/lottery tax, public-private partnerships, sales tax, and transportation improvement districts. While these mechanisms represent those that are more clearly multimodal in their possible application, it should be noted that the legislation associated with all revenue generating mechanisms could be structured in such a way to direct funds to any transportation mode(s).

7.2 Programming

The second step in implementation involves the development of Iowa's Five-Year Transportation Improvement Program (Five-Year Program), which is done by the Iowa Transportation Commission (Commission) and the Iowa DOT. This document is used to inform Iowans of planned investments in our state's multimodal transportation system. The Five-Year Program is typically updated and approved each year in June, and encompasses investments in aviation, transit, railroads, trails, and highways.



Program development and management

Each day Iowans are affected by some facet of the transportation system, whether it is to get to work or a medical appointment, receive mail, allow groceries and other goods to be stocked on local shelves, or the many other ways transportation keeps people, goods and services moving in our state. The process of making the critical decisions about what investments will be made to preserve and expand the state-managed system is complex. It involves input from a wide range of individuals and organizations, and is based on an expansive programming process. The major steps in that process include:

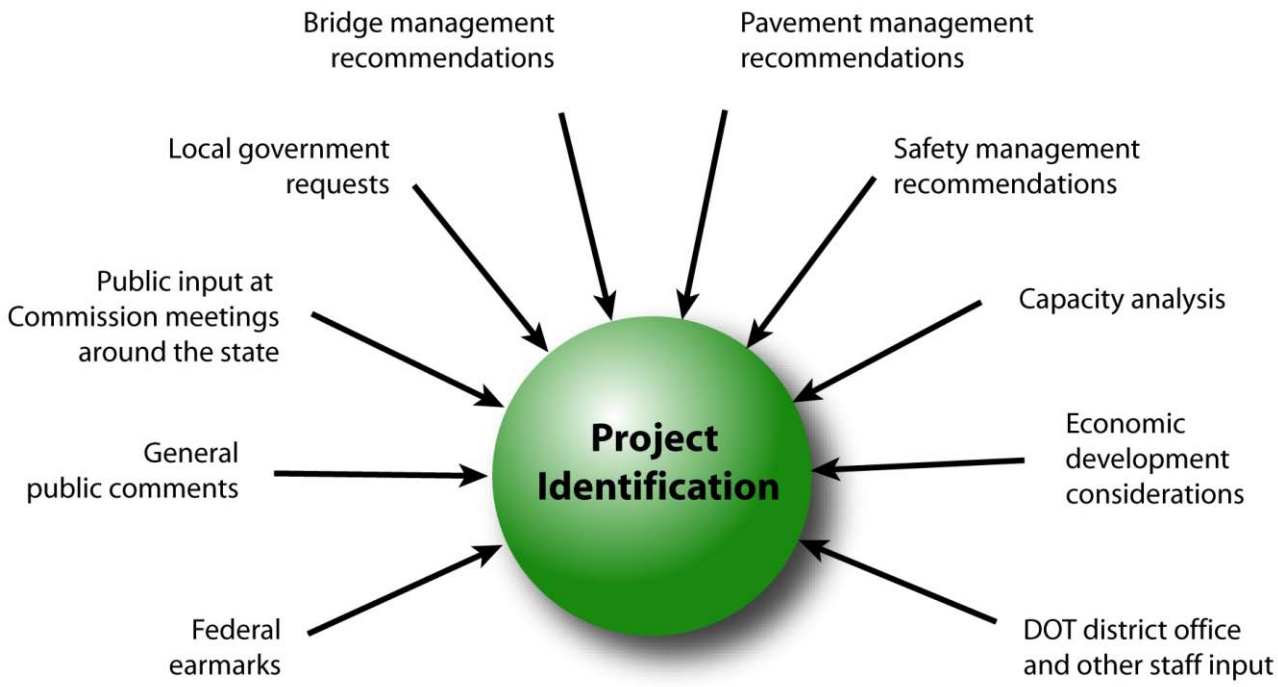
1. Identifying projects
2. Establishing programming objectives
3. Evaluating potential projects
4. Developing the final program

Project identification

Figure 7.1 illustrates the wide range of sources from which projects are identified. Some requests are generated through the Iowa DOT's bridge, pavement, and safety management systems that track the needs of these existing systems. Others are garnered through requests from the Iowa DOT's district offices, local governments, and public input. Additional projects are identified through special federal appropriations, commonly referred to as Congressional earmarks.

The projects compiled in this step are extensive and far exceed funding capabilities; thus, they must be further analyzed and prioritized in accordance with the Commission's investment objectives.

Figure 7.1: Project Identification

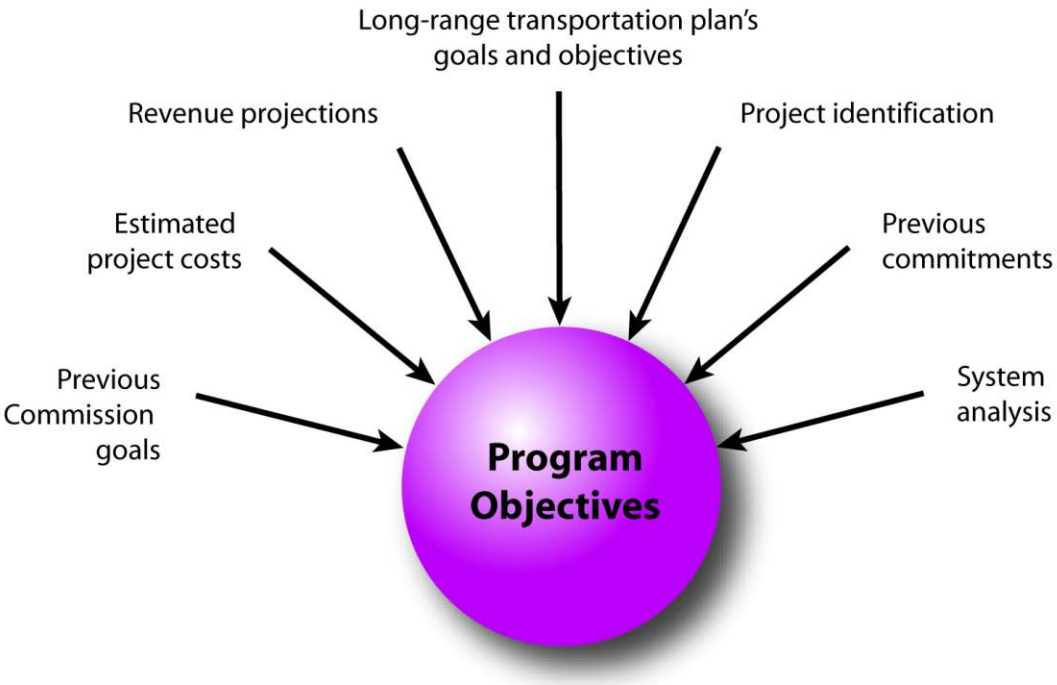


Source: Iowa DOT, Office of Program Management

Establishing the Iowa Transportation Commission's annual programming objectives

Figure 7.2 illustrates the complexity of the programming process. It is during this process when the Commission not only takes into consideration the projects identified during Step 1, but also the Commission's previous program goals and commitments to development of projects or corridors. Other considerations include estimated project costs, revenue projections, the Plan's goals and investment actions, and a highway system analysis.

Figure 7.2: Program Objectives



Source: Iowa DOT, Office of Program Management

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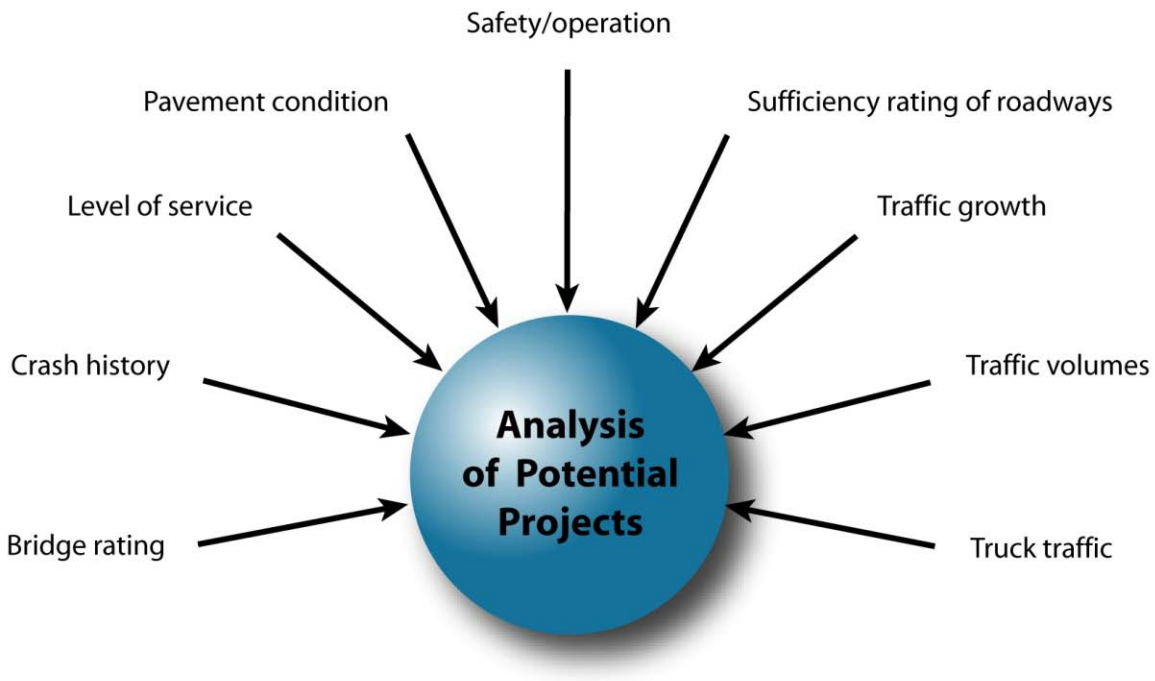
Evaluating potential project candidates

After the Commission establishes its programming objectives, Iowa DOT staff evaluate potential projects based on technical factors, such as highway safety, engineering, traffic management, and other criteria. This step is illustrated in Figure 7.3.

Figure 7.3: Project/System Analysis Criteria

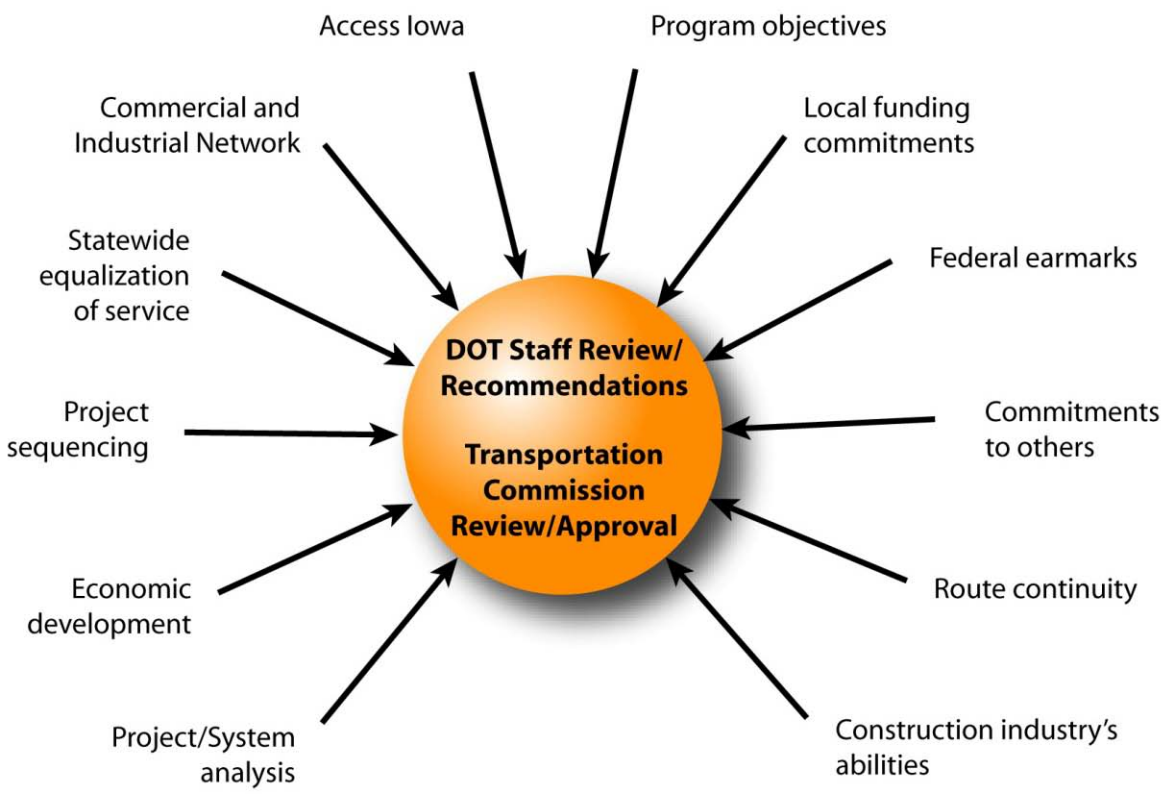


Source: Iowa DOT, Office of Program Management

Developing the final program

Figure 7.4 illustrates the final step in the process, which involves Iowa DOT staff and Commission review and consideration of additional non-technical factors, including economic development, project sequencing or staging, and statewide equalization of service. Consideration is also given to whether the project is part of Iowa's Commercial and Industrial Network or is an Access Iowa corridor, or if any funding commitments have been made in conjunction with local governments or others. Route continuity and the construction industry's ability to perform the work within the contracting period at a competitive market price are also given consideration.

Figure 7.4: Programming Considerations



Source: Iowa DOT, Office of Program Management

Multimodal programming

It should be noted that the programming process described on the preceding pages is more directly applicable to the highway portion of the Five-Year Program. As previously mentioned, the document is multimodal in nature, and contains the following program sections that are directly related to one of the five non-water modes discussed in the Plan:

- Aviation Program
- Transit Program
- Railroad Program
- State and Federal Trails Programs
- Revitalize Iowa Sound Economy (RISE)
- Iowa Statewide Transportation Enhancements
- Iowa's Clean Air Attainment Program (ICAAP)
- Safe Routes to School Program
- Traffic Safety Improvement Program
- Highway Program

With few exceptions, the funding for the non-highway programs is associated with an application-based process in which applications are solicited, typically on a routine basis, by Iowa DOT staff. Eligible applications are then evaluated by staff and/or a standing committee against a set of established criteria. Following the evaluation process, a funding recommendation is developed and presented to the Commission for their review. The Commission then holds final approval authority for each of the individual programs contained in the Five-Year Program.

The funding cycle and program monitoring

The transportation programming process is a continuous, year-round effort. The Iowa DOT's contracting and revenue experiences are closely monitored and monthly updates are reviewed by the Commission. Because Iowa uses a "pay-as-you-go" investment model, adjustments to the Five-Year Program may be warranted throughout the year to insure the investment plan remains balanced and expenses do not exceed revenues. If revenues or expenses significantly exceed projections, projects may be added or removed.

A copy of the Five-Year Transportation Improvement Program can be found on the Iowa DOT's website at http://www.iowadot.gov/program_management/five_year.html.

7.3 Performance monitoring

The third step in implementation is the process of performance monitoring. This process allows a public agency to demonstrate how well the transportation system is performing relative to stated goals and expectations. Through the statewide transportation planning process, performance measures were identified that will allow the department to do the following:

- Improve decision-making and make more prudent investments
- Address the need for increased and enhanced accountability
- Comply with legislative mandates
- Monitor performance progress
- Improve internal organization and management
- Communicate, cooperate, and build consensus

Performance-based planning

A 2010 report from AASHTO's National Forum on Performance-Based Planning identified six performance-based planning elements common among transportation agencies transitioning to a more performance-driven and outcome-based decision process. These six elements include the following:

1. **Setting Goals and Objectives**: This step is addressed through the Plan and the guiding principle and goals that were highlighted in Chapter 5.
2. **Selecting Performance Measures**: While the Iowa DOT has utilized performance measures in many ways, the information in this chapter formalizes the selection of these measures and their application going forward.
3. **Setting Performance Targets**: The performance measures identified on the following pages are each tied to 2010 data, which provides a "benchmark" for current performance. In addition to considering past and current performance, a combination of peer performance, industry standards, and professional judgment will lay the groundwork for setting future performance targets.
4. **Allocating Resources**: As was highlighted in section 7.2 of this chapter, the Iowa DOT's programming process is used to allocate resources and incorporates many performance-driven factors.
5. **Measuring and Reporting Results**: Periodic reporting, which can be done in subsequent plan updates or independently, will allow the Iowa DOT to articulate both accomplishments and unmet needs.

6. **Data and Analysis Tools**: The data and necessary analysis tools already exist for most of the identified performance measures, and are decentralized among the various Iowa DOT offices responsible for managing the specific data.

Performance measures

Performance measures are used in the plan implementation phase as a way to identify specific measures that monitor progress toward achieving the three goals of the Plan. Among other things, system performance measures should be specific, measurable, relevant, and meaningful.

Some of the performance measures in Table 7.1 specifically measure the Iowa DOT's progress toward meeting the Plan's goals, while others have been included for tracking purposes. (Note: These 'tracking measures' have been identified by an asterisk, and the Iowa DOT does not necessarily invest in or directly impact the performance of these measures.) These measures were developed in consultation with the Iowa DOT's modal offices, and many were previously established in modal system plans and the 2006 report by Iowa State University's Institute for Transportation, *Performance Measures for Iowa's Transportation Systems*.

As shown in Table 7.1, each of the identified performance measures and associated benchmarks are tied to a specific mode and one of the Plan's three goals highlighted in Chapter 5. Benchmarks contain 2010 data unless otherwise noted.

Table 7.1: Performance Measures by Mode and Goal

	Safety	Efficiency	Quality of life
Aviation	Percentage of airports with clear runway approaches (Benchmark: 37%) Percentage of cities/counties that have comprehensive planning that addresses land use around their airport (Benchmark: 43%)	Percentage of airports that meet all facility targets for their role (Benchmark: 61%)[1] Percentage of airports with a Pavement Condition Index (PCI) of 70 or above on paved runways (Benchmark: 87%)[2] Percentage of airports that store all based aircraft in covered hangars (Benchmark: 78%)	*Percentage of Iowans within a two-hour drive of commercial air service (Benchmark: 99%) *Percentage of employment within a half-hour drive of a Commercial Service or Enhanced Service airport (Benchmark: 78%) *Percentage of Commercial Service, Enhanced Service, and General Service airports that offer aircraft rental and flight instruction (Benchmark: 83%) Percentage of airports that meet 75% of service targets for their role (Benchmark: 70%)[3]
	Safety	**Efficiency**	**Quality of life**
Bicycle & Pedestrian	Annual number of bicycle fatalities from on-road crashes (Benchmark: 8) Annual number of on-road, reported bicycle and pedestrian crashes (Benchmark: 412) Number of Safe Routes to School projects in Iowa (Benchmark: 72)	Percentage of off-road trails construction less than 20 years old (Benchmark: 73%) Percentage of Level 1 trail mileage complete (Benchmark: 44%)[4]	Miles of off-road trails (Benchmark: 1,616) Percentage of public transit vehicles equipped with bicycle racks (Benchmark: 45%)

*Tracking measure. For more information, see Chapter 7, p. 13.
[1] For more information on airport roles, see Chapter 4, p. 1-2.
[2] For more information on Iowa's Pavement Condition Index (PCI), see Chapter 4, p. 15.
[3] For more information on airport roles, see Chapter 4, p. 1-2.
[4] Level 1 trails include trails of statewide significance. For more information, see Chapter 4, p. 6.

	Safety	Efficiency	Quality of life
Highway	Overall crash rate (Benchmark: 171 crashes per 100 million VMT) Number of fatalities (Benchmark: 364)[5] Miles of new paved shoulders awarded for construction on the primary highway system (Benchmark: 471.5) The overall annual percentage of all districts' A and B highway miles returned to a reasonable, near-normal surface condition within 24 hours after the end of a winter storm (Benchmark: 98.6%)[6]	Percentage of highway miles that meet or exceed a sufficiency rating of tolerable or above (Benchmark: 73%)[7] Percentage of bridges on primary system that are structurally deficient or functionally obsolete (Benchmark: 11.7%)[8] *Highway fuel use per vehicle-mile (Benchmark: 0.0729 gallons per vehicle-mile) Percentage of primary system below pavement condition index (PCI) cutoff across all planning classes (Benchmark: 34.5%)[9]	Average international roughness index (IRI) rating weighted by length on the primary highway system (Benchmark: 1.74)[10] Percentage of interstate system operating at level of service 'C' or better (Benchmark: 95.4%)[11] *Total annual vehicle miles traveled (Benchmark: 31,579,000,000)

*Tracking measure. For more information, see Chapter 7, p. 13.
[5] 2011 benchmark data.
[6] A and B highway miles include the interstate and the Commercial and Industrial Network (CIN).
[7] For more information on sufficiency ratings, see Chapter 4, p. 15.
[8] For more information on bridge condition ratings, see Chapter 4, p. 15 and 18.
[9] 2009 benchmark data. For more information on Iowa's Pavement Condition Index (PCI), see Chapter 4, p. 15.
[10] 2009 benchmark data. The International Roughness Index rating (IRI) compares the roughness of different roads. The scale ranges from 0 (perfectly smooth), to 10 or more (extremely rough ride).
[11] Level of Service (LOS) is a measure of traffic flow. The scale ranges from LOS 'A' (free flow), to 'F' (forced or breakdown flow). LOS 'C' describes stable flow operations.

	Safety	Efficiency	Quality of life
Public Transit	Public transit crash rate (Benchmark: 593 crashes per 100 million VMT) *Percentage of negative drug and alcohol tests among drivers (Benchmark: 99.2%)[12] Percentage of public transit fleet with security cameras on-board (Benchmark: 41.4%) Percentage of fixed-route bus stops with shelters (Benchmark: 3%)	Percentage of public transit systems with in-house routine and preventative maintenance capabilities (Benchmark: 71.4%) Percentage of public transit fleet operating within FTA's normal useful life standards (Benchmark: 51%)[13] Number of public transit agencies practicing mobility management (Benchmark: 15 of 35 agencies)[14]	*Percentage of total employment within ¼ mile of fixed-route transit service (Benchmark: 43%) Annual non-emergency medical transportation ridership (Benchmark: 76,610)[15] Percentage of public transit fleet with GPS on-board (Benchmark: 33.3%) *Annual statewide transit ridership (Benchmark: 26,209,999)
	Safety	**Efficiency**	**Quality of life**
Rail	Total crashes at rail/highway crossings (Benchmark: 55) *Derailments per million ton-miles (Benchmark: 0.002)	Percentage of track-miles able to operate at 40 mph or higher (Benchmark: 69.8%) Percentage of track-miles able to handle 286,000-pound cars (Benchmark: 82%)[16] *Rail ton-miles per gallon of fuel (Benchmark: 500)	Percentage of Iowans within a two-hour drive of a passenger rail station (Benchmark: 72%) *Annual passenger rail ridership (Benchmark: 68,744)
	Safety	**Efficiency**	**Quality of life**
Water	Water-related performance measures were not included as the Iowa DOT does not directly invest in water transportation infrastructure.		

*Tracking measure. For more information, see Chapter 7, p. 13.
[13] For more information on FTA's useful life standards, see Chapter 4, p. 21.
[14] Mobility management can be described as a strategic approach to service coordination and customer service which enhances the ease of use and accessibility of transportation networks.
[15] Non-emergency medical transportation (NEMT) rides are for Medicaid recipients.
[16] 286,000-pound cars are the current rail industry standard.

Periodic review

The purpose of a periodic review of these performance measures is to bring the Plan into a more focused short term perspective while providing more detailed information to decision makers. The review will function as a planning tool which can raise red flags concerning potential adjustments that decision makers may consider. This assessment can consider all elements impacting transportation investment, including guidance for activities such as design, programming, and location studies. When done in advance of programming activities, the review can provide direction and guidance for including specific investment actions in the Five-Year Program.

7.4 Keys to making it happen

Outside of the three important steps identified earlier in this chapter, there are additional keys to implementing the plan that should be noted. One such key is to maintain and strengthen the Iowa DOT's partnership with the state's metropolitan planning organizations (MPOs) and regional planning affiliations (RPAs). This partnership is cultivated both through day-to-day interactions and more formalized interactions such as the quarterly meetings of these agencies, which are hosted by the Iowa DOT. The state's MPOs and RPAs will be critical in the development and implementation of future statewide transportation plans.

Another key to 'making it happen' will be to diligently update the Plan as needed given recent developments and progress towards implementation. It is possible that future federal legislation may require statewide transportation plans to be updated on a specific schedule. In the meantime, it is important that the Plan be continuously evaluated, revised, and updated in accordance with 23 CFR 450.214(o). It is generally agreed that a minimum 5-year update cycle is appropriate for such long-range transportation plans.

7.5 What we learned

The investigation and analysis that was conducted throughout development of the Plan has led to the following general conclusions:

- The state is completing a transition from building the system to efficiently managing the existing system through a philosophy of stewardship.
- The state has a good system overall, but additional improvements are needed.
- There is a funding shortfall that will dramatically worsen over time if action is not taken to identify new/additional financial resources.
- Action must be taken immediately to ensure the future viability of the transportation system and the future economic health of the state.