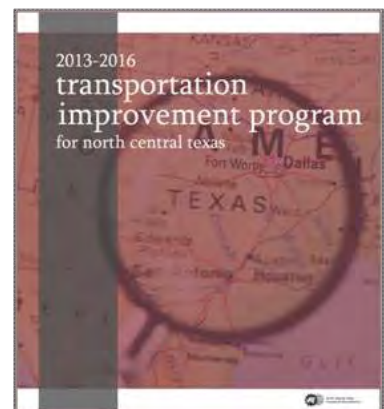


# Appendix C

## Summary of Metropolitan Transportation Plan



# Appendix C

## Summary of Mobility 2035: The Metropolitan Transportation Plan for North Central Texas

### INTRODUCTION

Mobility 2035: The Metropolitan Transportation Plan for North Central Texas (Mobility 2035) is the defining vision for transportation systems and services in the Dallas-Fort Worth (DFW) Metropolitan Area. The mobility plan was approved on March 10, 2011 by the Regional Transportation Council (RTC) and was endorsed by the North Central Texas Council of Governments (NCTCOG) Executive Board on March 24, 2011. The plan will guide the implementation of multi-modal transportation improvements, policies, and programs in the DFW Metropolitan Area through the year 2035.

### LEGISLATIVE BASIS FOR THE PLAN

Since the early 1970s, Metropolitan Planning Organizations (MPO) have had the responsibility of developing and maintaining a metropolitan transportation plan. With the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the role of the metropolitan transportation plan in the overall transportation planning process was greatly advanced. ISTEA called for the strengthening of the plan to become a central mechanism for the decision-making process regarding investments to develop the metropolitan transportation system. The passage of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) continued the same basic philosophy. It was an expansion and refinement of ideas that worked well in ISTEA, including new programs to assist MPOs to improve and enhance urban and rural mobility.

On August 10, 2005, the President signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) into law. This act approved funding for surface transportation projects and represented the largest surface transportation investment in the country to date.

While SAFETEA-LU authorized funding for many transportation funding categories and specific projects, it also continued the concepts identified in ISTEA and TEA-21 regarding the cooperative, continuing, and comprehensive regional planning process. SAFETEA-LU established requirements that MPOs must follow in the development of their long-range plans. All new metropolitan transportation plans developed after July 1, 2007 are required to be consistent with the SAFETEA-LU planning guidance. *Mobility 2035* was developed to fully meet the SAFETEA-LU planning requirements as provided by the Federal Transit and Federal Highway Administrations.

SAFETEA-LU establishes eight planning factors that must be considered in the long-range plan. It is important that the planning process is continuous, cooperative, and comprehensive. Likewise, the plan should also strive to meet the following planning provisions and guidelines.

#### **1. Support Economic Vitality**

The Dallas-Fort Worth region accounts for nearly one-third of the state's gross regional

economy, and the transportation system is pertinent to economical growth. *Mobility 2035* supports the region's economic vitality by increasing the capacity and efficiency at which goods can move to, from, and throughout the region. In addition, sustainable development practices support economic growth while using resources in an efficient and effective manner.

## **2. Increase Safety**

Transportation system safety is an important component of *Mobility 2035* and the Regional Transportation Council has included this major policy factor in the development of the new plan. *Mobility 2035* includes a section dedicated to the policies, programs, and projects that improve the safety of the transportation infrastructure.

## **3. Increase the Ability of the Transportation System to Support Homeland Security**

Transportation system security is both a regional and national priority. Emphasis on system security was a major policy parameter considered in the development of *Mobility 2035*. Likewise, *Mobility 2035* includes recommendations specific to security, which are discussed further in the Social Considerations chapter of the plan.

## **4. Increase Accessibility and Mobility of People and Freight**

Accessibility and mobility of people and freight is addressed throughout the plan in a vast number of ways. Increasing capacity on roadways and the creation of dedicated truck lanes allows both people and goods to have increased access and mobility in the region. A major project, Tower 55, will increase the efficiency of goods to be moved via rail throughout the region.

## **5. Protect and Enhance the Environment**

Environmental protection and mitigation is fundamental to the planning and implementation process. Consistent with state and federal project development rules, projects must be analyzed for environmental impact and mitigation, and are subject to environmental clearance before they may be constructed. Additionally, *Mobility 2035* includes a number of air quality programs designed to reduce potential harmful emissions within the region. Lastly, sustainable development initiatives continue to be important within the region and are aimed at enhancing the environment and the quality of life.

## **6. Enhance the Integration and Connectivity of Intermodal Transportation**

The provision of more transportation options and solutions within the region creates a more seamless system. This seamless connectivity is illustrated in *Mobility 2035* through the expanded transit and roadway systems, the Transit Operations and Human Services Coordination Program, and innovative funding strategies resulting in streamlined project delivery and funding projects sooner, rather than later.

## **7. Promote Efficient System Management and Operation**

*Mobility 2035* demonstrates increased efficiency in system management and operations through a robust Congestion Management Process, as well as dedicating available funding resources to maintaining the existing infrastructure and planning for the eventual reconstruction and rehabilitation of major roadway sections over time.

## 8. Emphasize Preservation of Existing System

Region-wide, more than \$32.1 billion has been dedicated to system operations, maintenance, rehabilitation, safety, and reconstruction; which are all important components to system preservation. *Mobility 2035* is dedicated to not only funding needed improvements over time, but also to allocating available resources to maintaining the existing infrastructure while planning for reconstruction and rehabilitation needs for an aging transportation system.

*Mobility 2035* is required to be financially constrained to anticipate funding resources, which means that projects and programs can only be included as a recommendation in the plan if funding is anticipated to be available through the life of the plan. This policy ensures that greater emphasis is placed on multi-modal solutions, congestion mitigation strategies, and sustainable development initiatives aimed at achieving greater transportation system efficiency. Financial constraint represents one of the most significant limitations to long-range solutions, because many projects, while needed, cannot be included or constructed until funding is identified. Due to the reduction in transportation revenue of approximately \$44 billion, a significant number of corresponding programs and projects have been deferred from the financially constrained recommendations. As part of a long-range needs based study, it has been determined that the Dallas-Fort Worth area needs approximately \$395.3 billion to alleviate the most severe levels of congestion by the year 2035. However, federal law requires the long-range plan to be based on revenue sources that are “reasonably expected to be available.” In order to determine what sources the region could expect to be available for funding, a detailed financial model and plan was developed jointly by the MPOs and the Texas Department of Transportation, and

validated by the Texas Transportation Institute. The plan utilized the Transportation Revenue Estimator & Needs Determination System (TRENDS) tool to project anticipated revenue for the region. The financial plan illustrates that the region could anticipate receiving \$101.1 billion, in actual dollars, in revenue to fund transportation projects from now until 2035.

SAFETEA-LU recognizes that new highway construction is only one part of the solution for improved mobility. *Mobility 2035* has been developed in accordance with the following planning guidelines and requirements:

A long-range plan for each metropolitan area is to be prepared and updated periodically (Section 1024(a), 23 USC 134(g)(1)).

- Long-range plans identify transportation facilities (multi-modal, intermodal, pedestrian, and bicycle) that function as an integrated transportation system; include a financial plan that demonstrates how the plan can be implemented, assess capital investment, and other measures to preserve the existing transportation system and make the most of the existing transportation facilities to relieve traffic congestion; and must indicate appropriate transportation enhancement activities (Section 1024(a), 23 USC 134(g)(4)).
- Reasonable opportunity for public comment on the plan before approval (Section 1024(a), 23 USC 134(g)(4)).
- Consistency with Title VI of the Civil Rights Act of 1964 and Executive Order 12898 on Environmental Justice ensuring that no person is excluded from participation in, denied benefits of, or discriminated against in planning

efforts, including the development of the metropolitan transportation plan.

- The development of the plan in nonattainment areas for ozone and carbon monoxide must be coordinated with the development of Transportation Control Measures for the State Implementation Plan (SIP) required under the Clean Air Act activities (Section 1024(a), 23 USC 134(g)(3)).

In 1997, the United States Department of Transportation (US DOT) issued its Environmental Justice order, US DOT Order 5610.2, to Address Environmental Justice in Minority Populations and Low-Income Populations to summarize and expand upon the requirements of Executive Order 12898 on Environmental Justice. The US DOT Order clarifies and reinforces Title VI responsibilities, and addresses effects on low-income populations. Environmental Justice and Title VI are not new requirements, and have always been considered throughout the planning process, including the development of the metropolitan transportation plan. A technical analysis of Title VI and Environmental Justice has been included in *Mobility 2035*.

With the signing of the Clean Air Act Amendments of 1990 (CAAA) into law, the Counties of Collin, Dallas, Denton, and Tarrant were designated as nonattainment areas for exceeding the 1-Hour Ozone National Ambient Air Quality Standard. In April 2004, the Environmental Protection Agency redesignated the nine-county area of Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant County as nonattainment for exceeding the 8-Hour Ozone National Ambient Air Quality Standard. Section 176(c)(4) of the Act required the Environmental Protection Agency (EPA) to finalize the rule-making on conformity determinations for transportation plans and programs. This rule, titled

Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded Under Title 23 U.S.C or the Federal Transit Act, requires MPOs to make conformity determinations on metropolitan transportation plans and transportation improvement programs before they are approved in nonattainment areas. A conformity determination was conducted for Mobility 2035: The Metropolitan Transportation Plan for North Central Texas and approved in June 2011.

## **ECONOMIC AND ENVIRONMENTAL BASIS FOR THE PLAN**

In addition to meeting legislative requirements, transportation planning enhances the region's quality of life and economic vitality. Without adequate transportation funding to ensure mobility, the region will not be able to sustain economic growth. This reality is of serious concern to the state, as well as the region. The DFW Metropolitan Area is the largest regional economy in Texas, comprising approximately 30 percent of the state's economy. Larger in population than more than half of the states in the US, the region is a significant economic, social, and political center of both Texas and the US. With substantial growth in population and employment expected to continue, planning the development of an efficient, effective transportation system must be a top priority in order to maintain the region's quality of life and economic vitality.

In the DFW Metropolitan Area in 2002, nearly 34 percent of the volatile organic compound (VOC) emissions and over 58 percent of Nitrogen Oxide (NOx) emissions that cause ozone pollution were produced by on-road mobile sources which include cars, trucks, buses, motorcycles, and other registered vehicles. Excessive levels of ozone can

reduce lung capacity in some people, and may increase the frequency of asthma episodes and reduce the body’s ability to resist respiratory infections. All of the recommendations of *Mobility 2035* are aimed at providing adequate mobility, while combating pollution from mobile sources. These strategies focus on making the transportation system more efficient, reducing the demand on the system, and making advances in infrastructure technology to develop cleaner burning transportation modes, fuels, and vehicles.

**GOALS**

The development of *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas* was guided by a set of adopted goals. The goals cover three categories: traditional transportation, quality of life, and financial goals. A summary of the adopted goals is shown in Exhibit C-1.

The traditional transportation goals reflect the desire of the community to develop safe, effective transportation projects that mitigate traffic congestion, enhance mobility, and provide multi-modal travel options in the region. Included in the goals is a focus on minimizing drive-alone travel. The benefits are three-fold: less travel means less traffic congestion and lower automobile emissions.

A discussion regarding quality-of-life issues, which began in *Mobility 2020* and expanded in *Mobility 2025*, is continued with more depth in *Mobility 2035*. At technical workshops, policy briefings, and public forums, participants discussed how investment in transportation projects and programs impacts various areas of urban living, not just mobility. It is recognized that, while transportation investment directly impacts such things as urban mobility, air quality, and economic development, there are other less direct, but equally

important, impacts of transportation systems and services. This concept was used to solicit public input into all goals, but especially in the quality-of-life goals. These goals dictate that planning efforts consider urban form and transportation’s impact upon the economy and the environment, in addition to the provision of transportation services and infrastructure to those traditionally underserved.

**Exhibit C-1 -- Mobility 2035 Goal Summary**

<p>Mobility</p> <ul style="list-style-type: none"> <li>• Improving the availability of <b>transportation options</b> for people and goods</li> <li>• Supporting travel efficiency measures and system enhancements targeted at <b>congestion reduction and management</b></li> <li>• Assuring all communities and provided <b>access</b> to the regional transportation system and the planning process</li> </ul> <p>Quality of Life</p> <ul style="list-style-type: none"> <li>• Preserving and enhancing the natural environment, and improving air quality, and promoting active lifestyles</li> <li>• Encouraging livable communities which support sustainability and economic vitality</li> </ul> <p>System Sustainability</p> <ul style="list-style-type: none"> <li>• Ensuring adequate maintenance and enhancing the safety and reliability of the existing transportation system</li> <li>• Pursuing long-term sustainable revenue sources to address regional transportation system needs</li> </ul> <p>Implementation</p> <ul style="list-style-type: none"> <li>• Providing for timely project planning and implementation</li> <li>• Developing cost-effective projects and programs aimed at reducing the costs associated with constructing, operating, and maintaining the regional transportation system</li> </ul>
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Financial goals were also reviewed for *Mobility 2035*. A major part of the planning process focused on the identification of strategies aimed at reducing the financial shortfall between needed transportation improvements and available funds. To support the adopted goals, the recommendations of *Mobility 2035* reflect the aggressive activities aimed at

increasing transportation revenue and decreasing project development and implementation costs. The financial goals focus on securing stable revenue and controlling costs for current and future transportation systems and services.

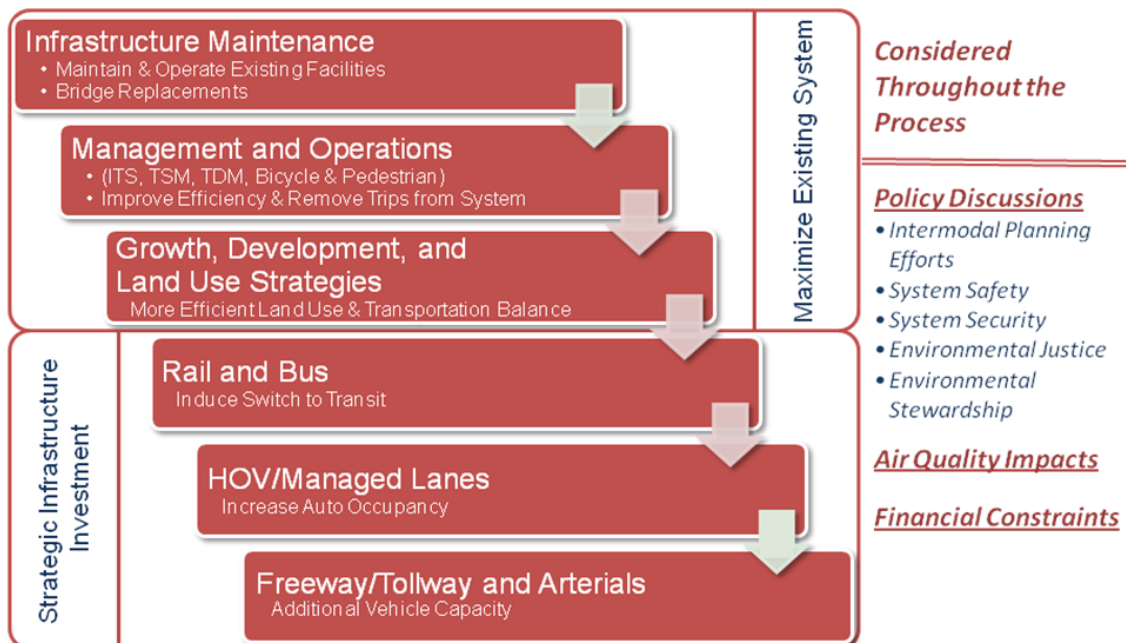
**PLAN DEVELOPMENT PROCESS**

Because of growing concerns regarding air quality in the North Texas area and the lack of funding for many desired transportation projects and programs, *Mobility 2035* was developed in such a way that available funds are allocated to the lower cost, but most cost-effective and air quality beneficial projects and programs first. Then, the more traditional major capital intensive projects are considered, if they could be afforded, both from a financial and air quality standpoint. A diagram outlining this philosophy is shown in Exhibit C-2.

The process began by assuming the current infrastructure and other transportation strategies

are in place. Then, funding necessary to maintain and operate the current transportation system was allocated. Next, an assessment of the 2035 travel forecast was performed to identify future congested locations and quantify transportation system needs or deficiencies. The subsequent priority was to squeeze as much efficiency out of the current transportation system as possible and to eliminate as many trips as possible from the system using congestion mitigation strategies. These strategies are developed to increase transportation system efficiency through transportation systems management, and reduce drive-alone travel through travel demand management, including bicycle and pedestrian opportunities. With these strategies in place, alternative rail systems were developed in an effort to reduce automobile travel. If trips cannot be eliminated altogether, a mode change to transit can be encouraged. Following the identification of a recommended rail system, high-occupancy vehicle (HOV) and managed facilities were evaluated.

**Exhibit C-2 – Plan Development Process**



Through this process, projects, programs, and policies were developed to aggressively target traffic congestion and improve air quality for North Texas in the most cost-effective manner.

The idea is that after reducing as many automobile trips as possible, auto occupancy of the remaining trips can be increased. Finally, to accommodate the remaining demand, single-occupant vehicle capacity was evaluated in congested corridors. Throughout the development of each of these components, air quality and financial impacts were evaluated to ensure that financial feasibility and air quality conformity requirements could be met. In addition, each component was also reviewed for sustainable development and intermodal opportunities, so that the recommendations minimized community impacts and maximized freight movement.

## **REGIONAL GROWTH**

A key element of travel forecasting is the development of accurate demographic forecasts. Demographic projections drive the travel forecasting process, because they provide information regarding potential locations of increased residential and employment centers, which generate increased travel and traffic. The DFW Metropolitan Area was one of the most rapidly growing areas in the U.S. during the 1990s. The 2000 Census lists the Dallas-Fort Worth Metropolitan Area as the fourth largest urban area in the country with a growth rate more than twice that of the eight larger areas. By 2035, the region is expected to attract over three million new residents and over two million new jobs. Planning the development of an efficient, effective transportation system must be a top priority in order to maintain the region's quality of life and economic vitality.

## **IMPLICATIONS FOR REGIONAL MOBILITY**

The dramatic growth projected in Dallas-Fort Worth will undoubtedly have mobility implications for the region. As previously stated, the demographic projections drive the travel forecasting process, and greater demographic activity in certain areas clearly means increased travel for those areas. Current

travel trends brought about by the growth in population and employment in the DFW Metropolitan Area have led to increased travel, which has translated into increased traffic congestion. Since the region is projected to continue undergoing growth, travel and associated congestion will also increase, unless appropriate improvements are made to the regional transportation system.

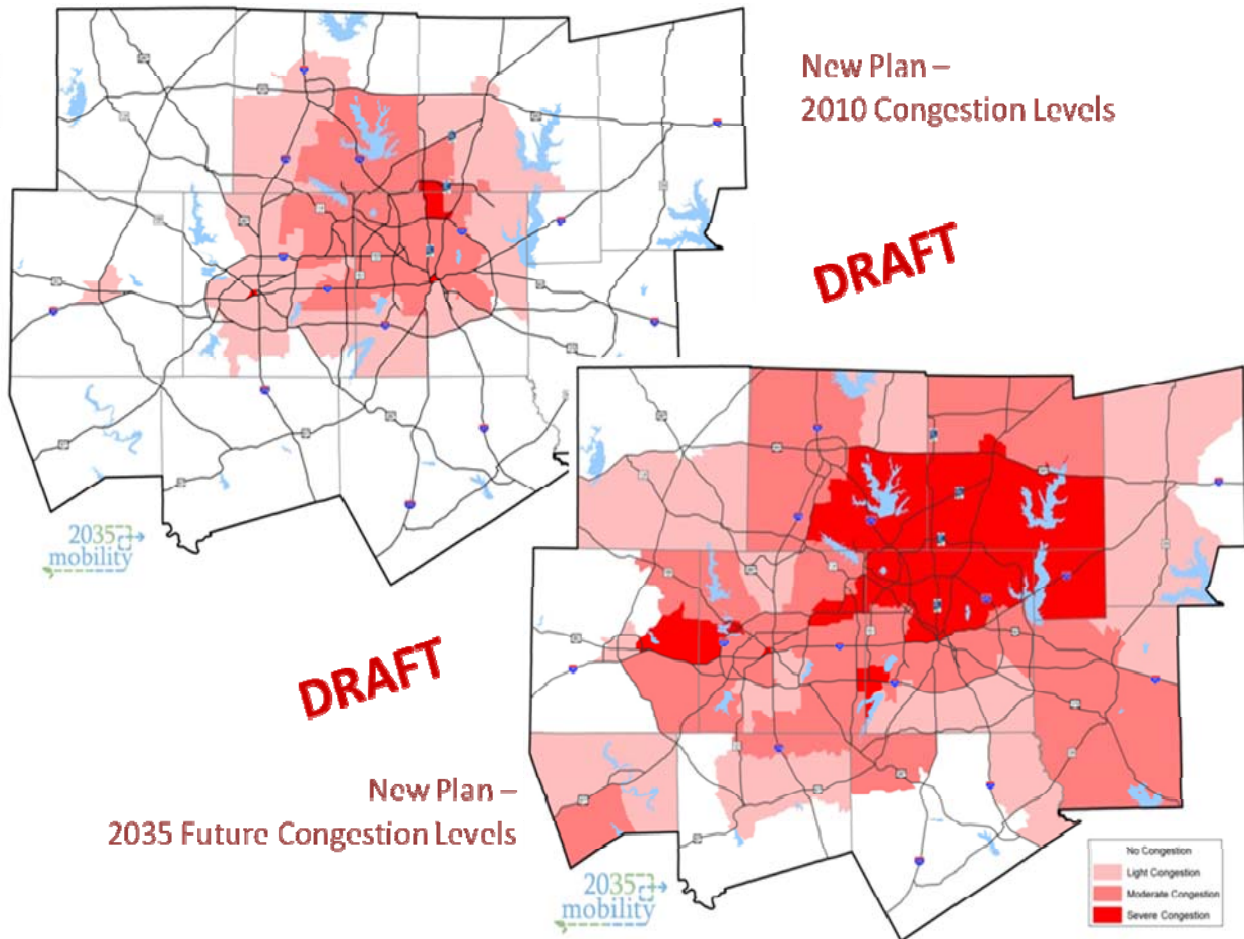
Weekday vehicle miles of travel (VMT) are on the rise in the region. Total VMT for the region was 125 million in 2000, meaning that on a typical weekday, area residents travel approximately 125 million miles on area freeways, arterials, and local streets. In order to equal this amount of travel, one would have to drive from coast to coast in the United States over 35 thousand times. VMT has steadily increased from 125 million in 2000 to its current level of 176 million in 2012, representing a 41 percent increase over a 12-year period.

## **PLAN PERFORMANCE AND FINANCIAL CONSTRAINT**

Increased travel is having an impact on the North Texas roadway system. While travel is increasing, revenues to support construction and maintenance of the roadway system have not kept pace. VMT has nearly doubled from 1980 to 2000; however, highway expenditures during the same time period remained relatively constant in real terms. The imbalance between travel demand and roadway supply has resulted in a significant increase in congestion and roadway maintenance needs. Exhibit C-3 graphically shows the congestion levels of the region in 2010, resulting in a social cost of approximately \$4.2 billion annually. This exhibit also shows what the congestion levels are expected to be if the recommendations of the plan are implemented, resulting in an annual cost of \$9.3 billion.



**Exhibit C-3 – System Performance Levels of Congestion**



As described above, the plan recommendations were developed to increase travel efficiency and get the most use out of our existing transportation system first, then add improvements based on their ability to reduce drive-alone travel in a cost effective manner. Programs and policies necessary to support the overall goals are also included in plan recommendations.

**REVENUE/COST IMBALANCE RECONCILIATION INITIATIVES**

The financial constraint approach does not tie the plan to any specific revenue generation strategy, such as gas tax increases or percentage of gas tax

revenue returned to the state. This system allows for a more flexible approach to financial planning. While flexible in its approach, this practice also puts an increasing burden on the RTC to monitor the financial situation of the plan on a regular basis and make adjustments accordingly.

It is proposed that the following strategies be implemented in order to close the gap between revenue and costs:

- Pursue congestion pricing opportunities through managed facilities in corridors identified through major corridor studies;

- Continue value engineering initiatives;
- Increase DFW share of state allocation;
- Continue to pursue legislative actions aimed at increasing revenue through initiatives identified by the Regional Transportation Council Mobility Plan Finance Subcommittee; and
- Decrease project costs through streamlining the project development process.

The financial status of the plan will be reviewed prior to each Texas legislative session. The RTC will monitor federal, state, and local legislative initiatives and develop policy positions which support the financial goals of *Mobility 2035*. This legislative monitoring effort will be coordinated with those of other metropolitan planning organizations, local and state governments, and other agencies and interest groups such as the National Association of Regional Councils, the Association of Metropolitan Planning Organizations, the National League of Cities, and others as appropriate.

To access the complete  
Mobility 2035 document, please visit  
<http://www.nctcog.org/trans/mtp/2035/index.asp>