INTRODUCTION

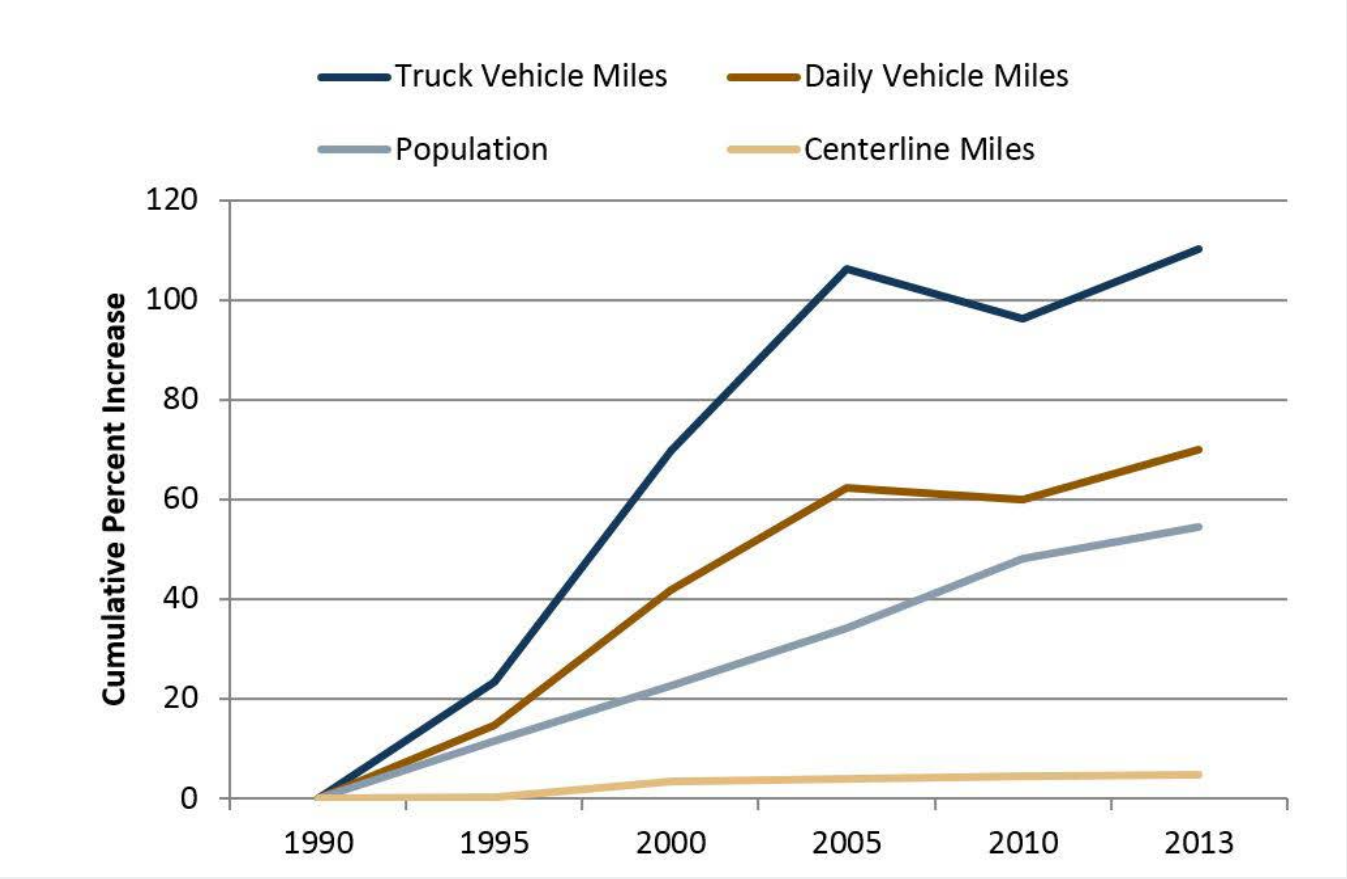
The Texas Transportation Plan (TTP) 2040 documents the existing infrastructure and funding needs for all passenger and freight modes in the state over a 25-year horizon. As the state's first performance-based long-range transportation plan, the TTP provides a path forward to align transportation investment decisions with performance outcomes to address passenger and freight needs and demands amid unprecedented growth and declining revenues.

The population in Texas is expected to increase by 17 million to 45 million people between 2014 and 2040. As people continue to move to Texas, and the economy continues to grow, the transportation system must expand to accommodate this growth in a manner consistent with the priorities and desires of Texans and business leaders.

One of many challenges continues to be the increasing disparity between demand and available capacity. Since 1990, the state's population has increased by 55 percent. During the same period, daily vehicle miles traveled have increased 70 percent and daily truck miles traveled have increased 110 percent on TxDOT-maintained roadways, while roadway centerline miles have increased at a disproportionate rate of 7 percent (Exhibit 1-1).

The TTP was developed concurrently with TxDOT's first freight plan – the Texas Freight Mobility Plan (TFMP) – to support TxDOT goals established in its 2015-2019 Strategic Plan, and the national goals defined in the Moving Ahead for Progress in the 21st Century (MAP-21) Act.

Exhibit 1-1. Highway System and Growth Trends



1.1 Texas Transportation Plan Purpose

In support of the Strategic Plan, the TTP is TxDOT's long-range, multimodal, performance-based transportation plan. It will guide planning and programming decisions for the development, integrated management, and operation of the statewide transportation system over the next 25 years. The TTP documents the funding needs and identifies funding gaps based on reasonably expected revenues for all passenger and freight modes to achieve performance outcomes aligned with TTP goals and federal performance goals under MAP-21. The TTP includes modal needs by reference to other mode-specific plans and programs.

Performance-based planning and programming decisions are informed by:

Strategic Direction – *Where do we want to go?*

- Goals and objectives
- Performance expectations and measures

Long-Range Planning – *How are we going to get there?*

- Identification of current trends, performance expectations, and targets
- Development of strategies consistent with Strategic Plan and TFMP goals
- Development of investment priorities based on needs and available funding

Transportation Programming – *What will it take?*

- Fiscally-constrained approach to reaching targets
- Investment and resource allocation based on project prioritization and selection criteria
- Project selection consistent with system performance expectations

Implementation and Evaluation – *How did we do?*

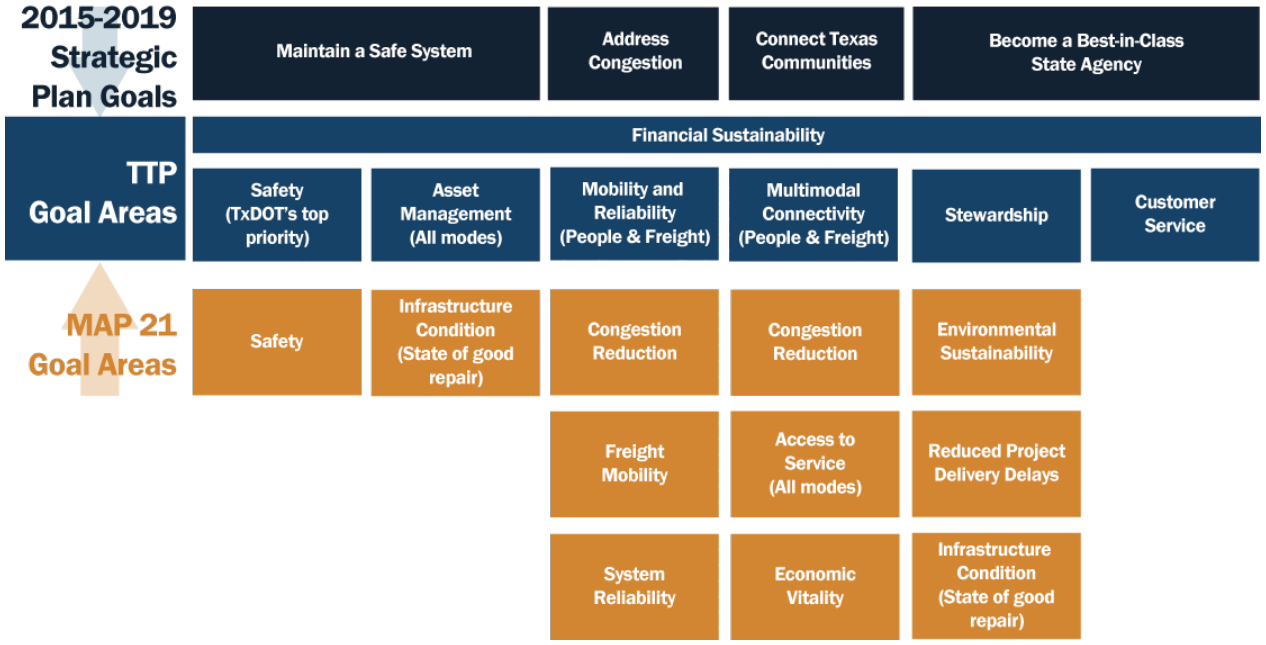
- Monitoring and reporting
- Communication of performance outcomes
- Collaborative evaluation to improve strategies

Exhibit 1-2 illustrates the Performance-Based Planning Process.

Exhibit 1-2. Performance-Based Planning Process

Exhibit 1-3 shows how TTP goals were developed to align with Strategic Plan goals and with national goals established under MAP-21.

Exhibit 1-3. Texas Transportation Plan Goal Areas



1.2 Goals, Objectives, and Performance Measures

The final goals for the TTP are as follows:

- **Safety** – Improve multimodal transportation safety.
- **Asset Management** – Maintain and preserve multimodal assets using cost-beneficial treatments.
- **Mobility and Reliability** – Reduce congestion and improve system efficiency and performance.
- **Multimodal Connectivity** – Provide transportation choices and improve system connectivity for all passenger and freight modes.
- **Stewardship** – Manage resources responsibly and be accountable and transparent in decisionmaking.
- **Customer Service** – Understand and incorporate customer desires in decision processes and be open and forthright in all agency communications.
- **Sustainable Funding** – Identify and sustain funding sources for all modes.

Exhibit 1-4 provides an overview of TTP performance measures. More information regarding the development of the TTP goals and the objectives aligning to these goals is provided in Chapter 3, Sections 3.1 and 3.2.

Exhibit 1-4. Texas Transportation Plan Performance Measures

Performance Measure and Definition	Plan Goal Areas Supported	Focus
Rural and Urban Level of Service (LOS), Total Delay, and Congestion Severity Index (CSI)	Mobility and Reliability Multimodal Connectivity	Highway Congestion
National Highway System (NHS) and NonNHS % Lane-Miles with a "Good" or "Better" International Roughness Index (IRI) and % Lane-Miles with a "Good" or "Better" Pavement Condition Score	Asset Management Stewardship Safety	Highway Pavements
NHS and NonNHS % Structurally Deficient (SD) Deck Area, Count of Bridges and % Deck Area with Cyclic Maintenance Needs, Count of Bridges and % Deck Area with Preventive Maintenance Needs, and Count of Bridges and % Deck Area with Rehabilitation or Replacement Needs	Asset Management Stewardship Safety	Highway Bridges
Metropolitan Transit Authority (MTA) and NonMTA % of Transit Assets in "Good" or "Better" condition and Additional Annual Transit Ridership	Asset Management Mobility and Reliability	Non-Highway Infrastructure (Transit)
% Passenger Rail Needs Met	Mobility and Reliability	Modal Alternatives (Passenger Rail)
% ITS Needs Met	Asset Management Mobility and Reliability	Highway Congestion
National Plan of Integrated Airport Systems (NPIAS) and NonNPIAS Backlog of Aviation Projects	Asset Management Multimodal connectivity	Non-Highway Infrastructure (Aviation)
Number of Fatalities and Serious Injuries	Safety	Multimodal Safety
% Bicycle and Pedestrian Needs Met	Stewardship Multimodal Connectivity	Modal Alternatives (Bicycle and Pedestrian)
% NonHighway Freight Needs Met	Mobility and Reliability Multimodal Connectivity	Modal Alternatives (Non-Highway Freight)

1.3 Expected Revenues and Multimodal Needs

Revenues for highway and non-highway investment that will be available to meet the multimodal transportation needs identified in the TTP total approximately $9.1 billion (2014 constant dollars) annually over the 25-year horizon. Revenues were forecasted using estimates for reasonably expected available funds for the highway and non-highway modes identified in the TTP.

A summary of unconstrained needs through 2040 for each mode analyzed in the TTP is provided in Exhibit 1-5, indicating that $21 billion is needed each year for passenger and freight transportation modes in the state. This means that in order to meet long-range transportation goals, more than twice the average annual investment in the state's transportation system – for all modes – is needed. More information regarding the methodologies and assumptions used in the analyses can be found in Chapter 4. It is important to note that unconstrained needs for all modes total more than twice the $5 billion in estimated highway needs that has been cited by TxDOT to maintain system conditions, but includes TxDOT and non-TxDOT responsibilities.

Exhibit 1-5. Unconstrained Needs through 2040 by Mode

Mode	Unconstrained Needs (2014 Dollars in Billions)
Highways - Pavement	$103.7
Highways - Bridge/Culvert	$40
Highways - Expansion	$239.2
Transit (excluding Passenger Rail)	$101.2
Passenger Rail	$21
Bicycle and Pedestrian	$2.19
Aviation	$20.4
ITS	$13
Non-Highway Freight	$5.7 (total) - $3.9 B (freight rail) - $0.8 B (port/waterway) - $1.0 B (air cargo)
Total	**$547 B ($21 B/year)**

1.4 Meeting Needs with Available Revenues

The single greatest challenge to meeting transportation needs in Texas is available revenue. The TTP development team has identified the needs and analyzed the costs for meeting those needs over the next 25 years. Growth in population and demand for transportation services has outpaced growth in transportation revenues. Traditional funding sources do not provide the needed revenues to keep pace with growth and demand. There are additional challenges that must be considered.

- **Inflation**. The purchasing power of the dollar has diminished over time, but the rates at which revenue is collected have remained static for two decades.
- **Fuel Efficient Vehicles.** As vehicles become more fuel efficient, less fuel is purchased resulting in declining fuel tax revenues.
- **Federal Funding**. The Federal Highway Trust Fund (HTF) that states rely upon is near insolvency.
- **Aging Infrastructure**. Many highway pavements and bridges have reached or exceeded their expected lifespan. Deferred maintenance and reconstruction increase construction costs dramatically.

The issues discussed in this Introduction are analyzed and explained in depth in Chapters 2 through 8.