

Chapter I

Introduction/Background

PURPOSE OF THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Transportation Improvement Program (TIP) is a staged, multi-year program of projects proposed for funding by federal, State, and local sources within the Dallas-Fort Worth Metropolitan Area. The 2021-2024 TIP identifies roadway and transit projects programmed for construction within the next four years.

The 2021-2024 TIP was developed by the North Central Texas Council of Governments (NCTCOG) in cooperation with local governments, the Texas Department of Transportation (TxDOT), and local transportation agencies.

The TIP is developed in accordance with the metropolitan planning requirements set forth in the Statewide and Metropolitan Planning Final Rule (23 CFR Part 450, 49 CFR Part 613) reaffirmed by the most recent transportation bill, Fixing America's Surface Transportation (FAST) Act. The 2021-2024 TIP was prepared under guidelines set forth in the Code of Federal Regulations (referenced above).

TIP OBJECTIVES

The 2021-2024 TIP for North Central Texas was developed with the following local objectives to:

Regional Priorities	<ul style="list-style-type: none"> Identify transportation improvement projects recommended by TxDOT and the Regional Transportation Council (RTC) as a result of the comprehensive, cooperative, and continuing regional transportation planning process. This process yields a multi-year listing of roadway and transit projects;
Funding	<ul style="list-style-type: none"> Indicate realistic, current estimates of costs and funding for transportation programs and individual projects for each year, balanced by estimates of available revenue;
Environmental	<ul style="list-style-type: none"> Demonstrate that energy, environmental, air quality, cost, and mobility considerations are addressed in regional transportation planning and programming of projects;
Legislative	<ul style="list-style-type: none"> Implement <u>Mobility 2045: The Metropolitan Transportation Plan for North Central Texas (Mobility 2045)</u> in accordance with guidelines established in FAST Act; and,
Air Quality	<ul style="list-style-type: none"> Meet the requirements of the Clean Air Act as outlined in the State Implementation Plan (SIP) for air quality



UNDERSTANDING THE METROPOLITAN PLANNING ORGANIZATION

Transportation planning for the Dallas-Fort Worth area began at NCTCOG in December 1969. NCTCOG was later designated by the Governor as the Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth area in July 1974. The State Department of Highways and Public Transportation, now known as the Texas Department of Transportation (TxDOT), under the guidance of the Federal Aid Highway Act of 1973, initiated the statewide structuring of key policy committees of elected officials. NCTCOG's Transportation Department serves as staff to the MPO to support the transportation policy decisions made by local elected officials serving on the Regional Transportation Council (RTC) and the NCTCOG Executive Board. The RTC is the regional transportation policy body for the MPO. According to the Statewide and Metropolitan Planning Final Rule (23 CFR Part 450.326), *"The MPO, in cooperation with the State(s) and any affected public transportation operator(s), shall develop a TIP for the metropolitan planning area. The TIP shall reflect the investment priorities established in the current metropolitan transportation plan and shall cover a period of no less than four years, be updated at least every four years, and be approved by the*

MPO and the Governor. However, if the TIP covers more than four years, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) will consider the projects in the additional years as informational. The MPO may update the TIP more frequently, but the cycle for updating the TIP must be compatible with the STIP development and approval process. The TIP expires when the FHWA/FTA approval of the STIP expires. Copies of any updated or revised TIPs must be provided to the FHWA and the FTA. In nonattainment and maintenance areas subject to transportation conformity requirements, the FHWA and the FTA, as well as the MPO, must make a conformity determination on any updated or amended TIP, in accordance with the Clean Air Act requirements and the EPA's transportation conformity regulations (40 CFR part 93)." The initial MPO designation was made by the Governor on July 2, 1974. The latest designation (which was approved by the North Central Texas Council of Governments Executive Board on August 8, 1988, and by the State of Texas Governor's office on August 26, 1988) will continuously be in effect until amended. A copy of this agreement is provided as Appendix A.

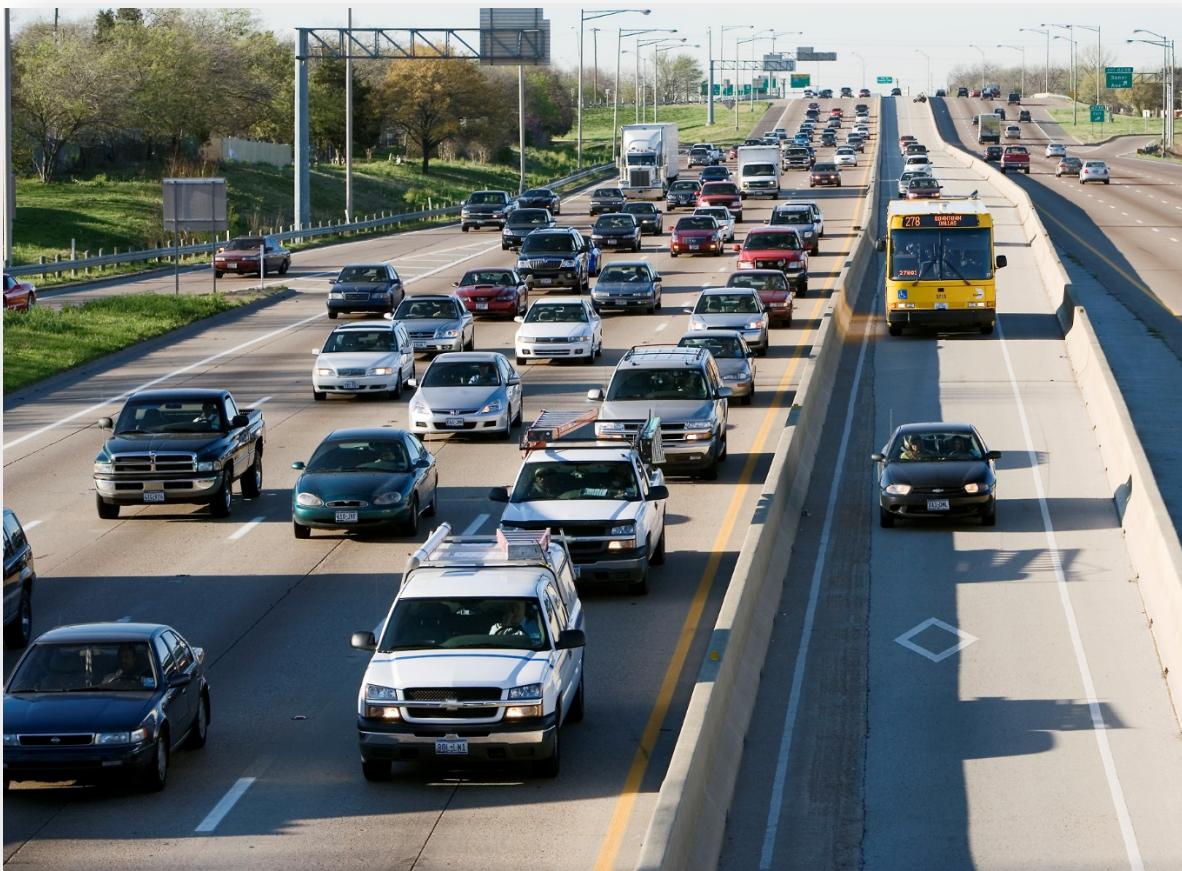
LEGAL REQUIREMENTS IMPACTING THE TIP

The FAST Act describes the requirements of the TIP in general terms. More specific requirements are contained in 23 CFR Part 450 and 49 CFR Part 613 of the Statewide and Metropolitan Planning Rules. This section summarizes those requirements and describes the methods through which they are met. All roadway and transit projects to be funded under Title 23 USC—The Federal-Aid for Highways Act and Title 49 USC—The Federal Transit Act by the US Department of Transportation must be listed in the TIP. All projects in this document that are

proposed for federal funding were initiated in a manner consistent with the federal guidelines in Section 450, Subpart C, of Title 23 of the Code of Federal Regulations and Section 613, Subpart A, of Title 49 of the Code of Federal Regulations. In addition, all regionally significant surface transportation improvements, regardless of funding source, within the Dallas-Fort Worth ozone nonattainment area must be inventoried and included in the TIP for the conformity analysis requirements of the Clean Air Act Amendments of

1990. The 2021-2024 TIP has been developed in accordance with these requirements.

Federal regulations mandate that the metropolitan transportation planning process must include development of a TIP for the metropolitan planning area by the MPO in cooperation with the state department of transportation, local governments, and public transportation authorities. Specific requirements of the TIP and a brief discussion of how NCTCOG complied with these requirements are outlined next.



Source: NCTCOG Photo Archives

NCTCOG Fulfillment of TIP Requirements

TIP Requirements	NCTCOG Requirements Fulfillment
The TIP must be updated at least every four years.	The current procedure of the RTC is to update the TIP for North Central Texas on a biennial basis. In addition, the TIP is refined on a quarterly basis as project implementation costs, schedules, and scopes change, and as new projects are identified through funding initiatives. All refinements to the TIP are coordinated with TxDOT, North Texas Tollway Authority (NTTA), Dallas Area Rapid Transit (DART), Fort Worth Transportation Authority/Trinity Metro, Denton County Transportation Authority (DCTA), and local governments in North Central Texas, as appropriate.
In nonattainment and maintenance areas for transportation related pollutants, Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), as well as the MPO, must make a conformity determination on any new or amended TIPs (unless the amendment consists entirely of exempt projects).	<p>The 2018 Transportation Conformity determination for the North Central Texas Nonattainment Area was completed by NCTCOG and was forwarded to the federal and State reviewing agencies on June 18, 2018. This analysis was conducted in accordance with the criteria and procedures promulgated by the US Environmental Protection Agency. The US Department of Transportation approved the 2018 Transportation Conformity Determination in November 2018.</p> <p>The project listings for the 2021-2024 TIP were revised consistent with recommendations of Mobility 2045 and the 2018 Transportation Conformity determination. All transportation projects contained in the final project listings of the 2021-2024 TIP were reviewed to ensure that the projects were included in and consistent with air quality conformity, unless those projects were exempt from the analysis. An overview of the conformity analysis is provided in Chapter V of this document. Complete copies of the conformity report are available from NCTCOG.</p>
There must be reasonable opportunity for public comment.	In November 2018, the RTC adopted a revised NCTCOG Transportation Public Participation Plan, which meets the requirements mandated by federal law. A public meeting was held during the 2021-2024 TIP development process in accordance with this policy and federal law. The public involvement process followed in the development of the 2021-2024 TIP is further described in Chapter II of this document.
The TIP shall cover a period of not less than four years, but may cover a longer period if it identifies priorities and financial information for the additional years.	The 2021-2024 TIP, in accordance with federal guidelines, identifies roadway and transit projects programmed within the next four years. Projects are programmed only for those years in which federal and State funding are committed or may reasonably be expected for each category. Projects with funding outside the 2021-2024 four-year window are listed in Appendix D.
The TIP shall be financially constrained by year and include a financial plan that demonstrates which projects can be implemented using current and proposed revenue sources.	The 2021-2024 TIP is financially constrained by category for the first four years of the TIP as required by federal regulation. The financial plan for the four-year period, identified for each TxDOT District (Dallas, Fort Worth, and Paris), is provided in Chapter VIII.
The TIP shall include projects as required by federal regulation.	According to the Metropolitan Planning Regulations (23 CFR Section 450.326), the TIP shall include all transportation projects or identified phases of a project, within the metropolitan area, proposed for funding under Title 23, USC—the Federal Aid to Highways Act, and Title 49 USC, the Federal Transit Act. The TIP shall also include all regionally significant transportation projects to be implemented with federal, State, or local funds consistent with the metropolitan transportation plan. Detailed project listings are included in Chapter VII. Information included in the project description includes: 1) sufficient descriptive material to identify location of the project, 2) type of work to be performed, 3) estimated cost by phase, 4) amount of committed funds for each program year in year-of-expenditure dollars, 5) proposed funding source, and 6) identification of the funding recipient/State and local agencies responsible for project implementation.
In nonattainment and maintenance areas, projects included shall be specified in sufficient detail to permit air quality conformity analysis.	The design concept, or the type of facility identified by each project, is contained in the project listings in Chapter VII. The scope identifies the design aspects which will affect the project's impacts on regional emissions, such as the number of lanes, signalization, access control, etc. These characteristics are included in the project listings contained in Chapter VII.
The TIP must include projects that will lead to progress toward the federal	23 CFR Section 450.326 (c) requires that the TIP contain projects that will lead to progress toward achieving the performance targets laid out in the Metropolitan Transportation Plan. 23 CFR Section 450.326 (d) mandates that the TIP include a

TIP Requirements	NCTCOG Requirements Fulfillment
performance targets in the Metropolitan Transportation Plan.	description of how the projects selected for inclusion in the TIP will accomplish that requirement. Chapter IX contains more information on how this TIP is leading to progress toward the Dallas-Fort Worth region's targets.

RELATIONSHIP TO TRANSPORTATION PLANNING PROCESS

NCTCOG, serving as the MPO for the Dallas-Fort Worth area, has the responsibility of preparing and maintaining three key elements of the regional planning process: the Metropolitan Transportation Plan (MTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). In addition, areas greater than 200,000 in population, such as the Dallas-Fort Worth area, are designated as Transportation Management Areas (TMA) according to planning regulations, and must also have in place a congestion management process (CMP). Because the counties of Collin, Dallas, Denton, Ellis, Kaufman, Johnson, Parker, Rockwall, Tarrant, and Wise have been designated as

nonattainment areas for the pollutant ozone, the MPO shall coordinate the development of a metropolitan transportation plan with the process of developing Transportation Control Measures for the SIP, as required by the federal Clean Air Act. The 2021-2024 TIP was developed through a coordinated process maintaining consistency with the planning documents listed below, in addition to the planning factors identified by federal regulations, which must be specifically considered by MPOs in developing transportation plans and programs. These planning factors are outlined in Exhibit I-1. The relationship between the TIP, the UPWP, the MTP, and the CMP is described below.

EXHIBIT I-1

Factors to be Considered in the Planning Process (23 CFR Section 450.306)

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
- Increase the safety of the transportation system for motorized and non-motorized users
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- Increase the accessibility and mobility of people and freight
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
- Enhance travel and tourism

Mobility 2045

Mobility 2045 is the defining vision or plan for transportation systems and services in the Dallas-Fort Worth Metropolitan Area. Serving as a guide for the expenditure of State and federal funds through the year 2045, the Plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives, and selecting those options which best meet the mobility needs of the region.

Mobility 2045 is the product of a cooperative effort between local governments, TxDOT, NTTA, DART, FWT/Trinity Metro, DCTA, and other transportation agencies. The Plan was approved by the RTC on June 14th, 2018 and was developed in accordance with the planning requirements established in the FAST Act and the Clean Air Act Amendments of 1990. The Plan is required to be updated at least every four years. Mobility 2045 is the product of a multi-modal system evaluation, which recommends a metropolitan transportation system, as well as congestion mitigation strategies designed to minimize drive-alone peak-period travel and enhance the operation of the transportation system.

The development of the Plan was guided by a set of goals presented and refined at technical workshops, policy briefings, and public meetings. The RTC adopted goals in four categories: mobility, quality of life, system sustainability, and continued project implementation. The policies, programs, and projects developed as part of Mobility 2045 are designed to accomplish these goals. The Plan calls for approximately \$136.4 billion in metropolitan transportation system improvements. A summary of the Mobility 2045 is provided in Appendix C.

Unified Planning Work Program for Regional Transportation Planning

The UPWP is the instrument for coordinating transportation and comprehensive planning in the North Central Texas region. This work program includes a description of proposed work submitted to State and federal agencies that are the financial sponsors of the Program, and it serves as a management tool for the participating entities. The UPWP describes the transportation and comprehensive planning efforts in the North Central Texas region over a two-year period and defines the functional and financial responsibilities of participating agencies. The UPWP was developed in accordance with the Metropolitan Planning Rules of the Fixing America's Surface Transportation Act (FAST Act).

TxDOT Unified Transportation Program and Statewide Transportation Improvement Program

The Unified Transportation Program (UTP) is TxDOT's 10-year planning document that guides the planning and development of each TxDOT District's transportation improvements. The North Central Texas area includes three TxDOT district offices: Dallas, Fort Worth, and Paris.

Planning rules require that the TIP be constrained by available financial resources in the first four years; however, based on State law, TxDOT programs the UTP over ten years. Hence, the UTP may contain additional projects beyond those included in the TIP. In order for any of these additional projects to move forward into the programming and construction stages, they must be included in the TIP, and subsequently, the Statewide Transportation Improvement Program (STIP). Appendix D of the TIP contains a list of projects that are not planned for construction within the four-year time frame of the

TIP, but are referenced in the current TIP to allow engineering, feasibility, environmental clearance, and other pre-construction efforts to continue.

TxDOT's UTP is used as a guideline for programming projects in the STIP. In metropolitan areas, projects are programmed in Metropolitan TIPs, and then included in the Statewide TIP. Projects in rural areas of the State are programmed into the STIP through TxDOT Districts. The TxDOT Dallas, TxDOT Fort Worth, and TxDOT Paris sections of the latest UTP are available through the TxDOT Districts and on the TxDOT website.

Management Systems

The Metropolitan Planning Rules (23 CFR Part 450) describe the relationship between the metropolitan transportation planning process and the required management systems. The congestion management, public transportation, and intermodal management systems must be part of the metropolitan transportation planning process within metropolitan planning areas.

These management systems are expected to enhance the traditional transportation planning process at both the project planning and system levels by providing more systematic and comprehensive data and analyses across the

network as a whole. The congestion management process (CMP) is a dynamic decision-making tool, integrated with the transportation planning and programming processes that are responsive to changing traffic conditions and trends. CMP makes an initial assessment of congestion, identifies congested areas and systems, develops regional strategies, and targets resources needed for implementation of those strategies. CMP provides effective management of new and existing transportation facilities through the use of travel demand reduction and operational management strategies. The effectiveness of these management systems must be evaluated periodically as part of the metropolitan planning process.

In nonattainment areas, single occupant vehicle (SOV) capacity improvements must be included in a congestion management process. In addition, the resulting SOV projects must utilize management strategies such as travel demand reduction and operational management strategies as appropriate for the corridor. Projects that have advanced beyond the National Environmental Policy Act (NEPA) stage prior to April 6, 1992, and which are actively advancing to implementation, are not subject to this provision. Additional information on the CMP is provided in Appendix E.



Vitruvian Park Trail in Addison

Source: NCTCOG photo archives

APPROVAL OF THE TRANSPORTATION IMPROVEMENT PROGRAM

The 2021-2024 TIP was developed in coordination with and reviewed by technical and policy committees. Technical review was provided by the Surface Transportation Technical Committee (STTC). Members of this committee are the lead transportation personnel from local governments, TxDOT, and other transportation agencies in the North Central Texas region. STTC aided in the development of the criteria/processes used to evaluate and select projects in MPO-selected categories included in the 2021-2024 TIP. The committee also guided the refinement of programmed projects, which in turn provided input for the 2021-2024 TIP. This committee serves as the technical body that recommends the TIP for RTC approval. A current list of STTC members is located

in the introduction pages before Chapter I of this document.

The 2021-2024 TIP was approved by the RTC, the transportation policy body for this MPO, on June 11, 2020. The RTC provides guidance to assure that multi-modal, regional transportation planning is accomplished according to federal, State, and local requirements. Members of the RTC include elected officials, TxDOT district engineers, transportation authority board members, an NTTA representative, and citizen representatives. The current RTC members are listed on the introductory pages prior to Chapter I of this document.

PLANNING AREAS

The designation of the MPO is by agreement among the units of general-purpose local governments and the Governor of Texas. An expanded 12-county metropolitan boundary was approved by the RTC on October 8, 2009, and NCTCOG's Executive Board on October 15, 2009. This designation will continuously be in effect until rescinded.

The North Central Texas region is the 16-county area for which NCTCOG is responsible for coordinating regional planning. This area consists of the Counties of Collin, Dallas, Denton, Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, and Wise. The region was designated as the North Central Texas State Planning Region by Executive Order of the Governor on August 28, 1973. Comprehensive transportation planning in North Central Texas was initiated by the Texas State Department of Highways and Public Transportation (now TxDOT) in the July 1967 Dallas-Fort Worth Regional Transportation Study. That

study set the foundation for subsequent transportation planning in the region and defined the area of primary interest for such work.

In addition, NCTCOG is designated by the Governor of Texas as the MPO for the Dallas-Fort Worth Metropolitan Area in accordance with federal law (PL 102-240). According to Section 310 of Title 23 Part 450 of the United States Code and as reaffirmed in the FAST Act, an MPO shall be designated for each urbanized area with a population of more than 50,000. The 2010 US Census and resulting delineation of urbanized areas identified the Denton and Lewisville Urbanized Areas as a single Urbanized Area of greater than 200,000, while still remaining separate from the Dallas-Fort Worth-Arlington Urbanized Area. In addition, the 2010 Census data also resulted in the designation of portions of the City of McKinney and surrounding areas as an Urbanized Area of greater than 50,000. NCTCOG

serves as the MPO for all three areas. A map of these areas is provided in Exhibit I-2.

The Metropolitan Planning Area (MPA) includes all of Collin, Dallas, Denton, Rockwall, Tarrant, Ellis, Johnson, Kaufman, Wise, Hunt, Hood and Parker Counties, a total area of approximately 4,980 square miles. The MPA covers the existing urbanized area and the contiguous area expected to be urbanized by the year 2045. The Metropolitan Area also has the federal designation as the Transportation

Management Area (TMA) for the Dallas-Fort Worth area, which is a metropolitan area with a population greater than 200,000. The TMA boundary is identical to the Metropolitan Planning Area (MPA) boundary. This TIP contains programmed transportation improvements inside the MPA boundary. All programmed transportation improvements located outside of the MPA are contained in the STIP, which is published by TxDOT. A map of the MPA boundary is provided in Exhibit I-3.

EXHIBIT I-2

US Census Bureau Urbanized Areas (2010)

U.S. Census Bureau Urbanized Areas and Urban Clusters (2010)

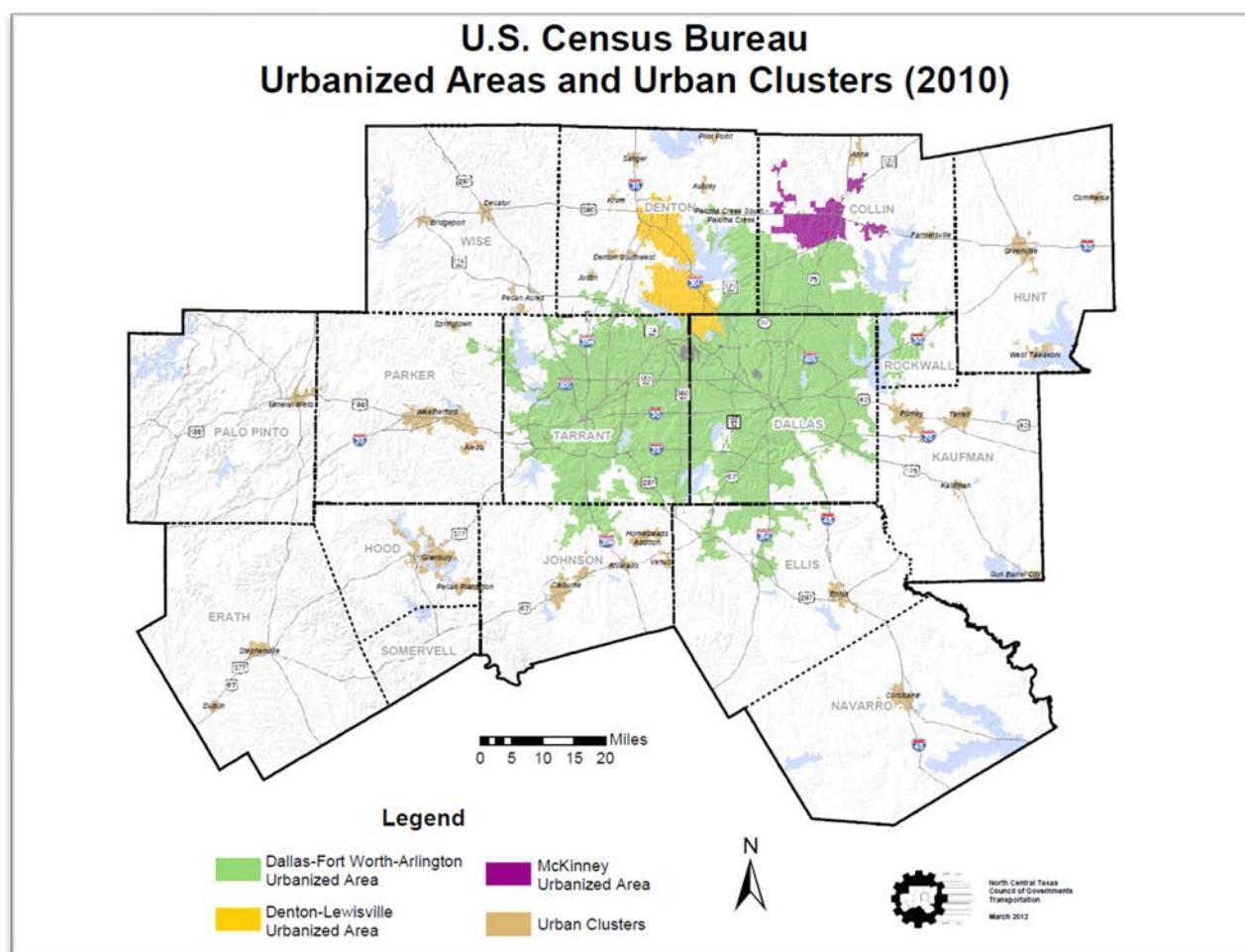
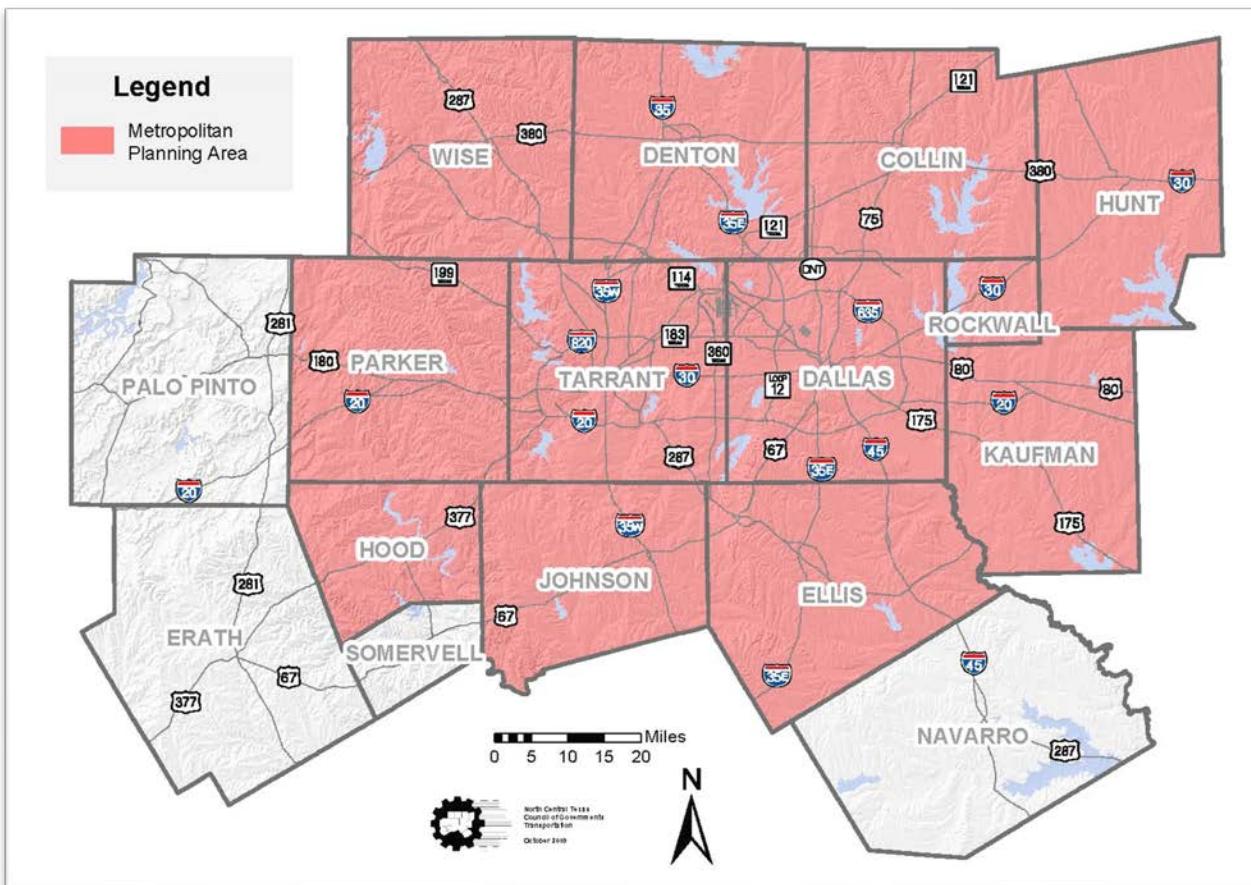


EXHIBIT I-3**Metropolitan Planning Area within the NCTCOG Region**

On May 21, 2012, the United States Environmental Protection Agency (EPA) designated ten North Central Texas counties as nonattainment for the pollutant ozone under the 2008 8-Hour Ozone National Ambient Air Quality Standards (NAAQS). The ten counties include: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise. The EPA published nonattainment designations for the 2015 8-hour ozone NAAQS on June 4, 2018, effective August 3, 2018. Nine of the ten counties, excluding Rockwall are classified as marginal nonattainment under the 2015 ozone NAAQS. These areas are shown in Exhibit I-4.

At the project programming level, the MPA has been divided into Eastern and Western Subregions. These

subregions are divided into the portions of the MPA for which each TxDOT District (Dallas, Fort Worth, or Paris) has jurisdiction. The Eastern Subregion, under the jurisdiction of TxDOT Dallas and Paris Districts, includes: Collin, Dallas, Denton, Ellis, Hunt, Kaufman, and Rockwall counties. The Western Subregion, under the jurisdiction of TxDOT Fort Worth District, includes: Tarrant, Parker, Wise, Hood, and Johnson Counties.

Projects are selected for funding in each category according to these subregions. Annual program apportionments of federal and State funds are made to the region or District by the Texas Transportation Commission.

EXHIBIT I-4

Nonattainment Area

