In order to achieve the City's goal of improved mobility and air quality, this study's objectives are to identify and evaluate the following:

- Current transportation supply and demand;
- Future transportation supply and demand;
- Major activity and growth centers; and
- Priority corridors for future transportation improvements.

The findings from this study will form the framework for future alternatives analysis to help bridge the gap between transportation supply and demand. By understanding future development patterns and identifying the locations of severe congestion, the City can begin to develop a comprehensive plan to address the deficiencies. The City's future MAQ Plan must consist of a comprehensive approach to develop a unified transportation system, where the various components recognize and reinforce each other. When implemented, the MAQ Plan will provide for a logical and comprehensive approach to developing transportation infrastructure and services for the City of Fort Worth and The T.

Existing and Future Conditions

The following sections outline existing and future conditions that impact the overall transportation system. Each section was analyzed individually as it relates to transportation supply and demand and then integrated into a comprehensive overview of the transportation deficiencies.

Population and Employment

The study area population will grow from 1.5 to 2.9 million by 2030 (94% growth). More than 90% of this growth will occur outside of Loop 820.

Population growth within the study area will not be focused within any one specific area. This growth will occur largely outside of the City of Fort Worth, with only 21% of the growth (304,000) projected to occur within the City.
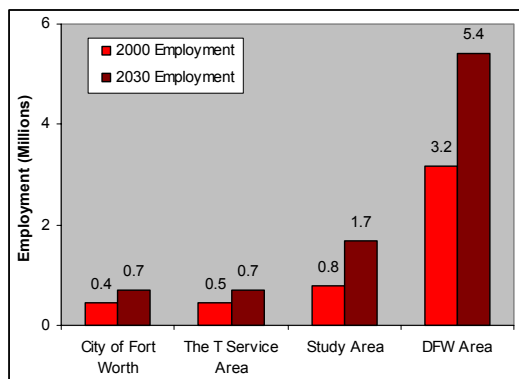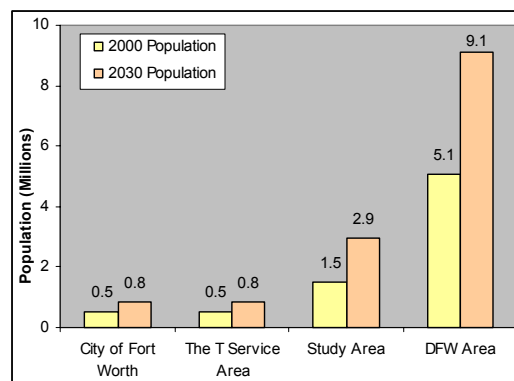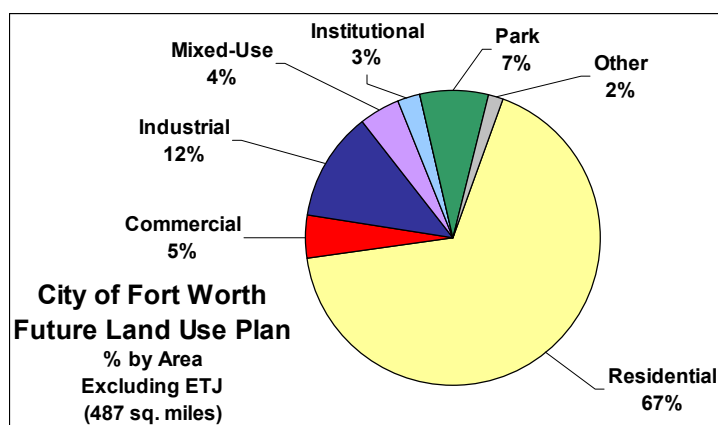

Employment in the study area is projected to grow 115%, from 775,000 to 1.67 million. A considerable portion of this growth will occur within existing major activity centers and along major highway corridors, with substantial growth in northern Tarrant County and southern Denton County. Corridors with high employment growth include IH-35W, North IH 820, SH 121/183 and SH 114 in northeast Tarrant County, IH-30 west of the CBD, and the SH 360 corridor in eastern Tarrant County.

The population and employment growth between 2000 and 2030 directly correlates to a 179% (from 36.7 million to 102.4 million) increase in vehicle-miles of travel (VMT) on the study area's transportation system. While the population and employment increases are 94% and 115%, respectively, the increase in trips and VMT is growing at a much higher rate. This phenomenon is indicative of an increasing number of people traveling further to work. Without a change in land use development patterns, commuter trips will continue to lengthen and result in increased congestion and travel times.

Land Use

In the future, low-density residential land uses will occupy the majority of currently undeveloped areas. Currently, 54% of the existing developed area is residential, and in the future, 67% of the City's developed area will be residential. The same pattern will occur outside of the City in the balance of the study area. Within the Central City, residential growth is occurring, and will continue to occur, in the planned mixed-use centers and urban villages.

City of Fort Worth Existing Land Use Plan
% by Area
Developed Areas Only
(220 sq. miles)

- Other 4%
- Park 13%
- Institutional 6%
- Industrial 15%
- Commercial 8%
- Residential 54%

Source: City of Fort Worth

City of Fort Worth Future Land Use Plan
% by Area
Excluding ETJ
(487 sq. miles)

- Mixed-Use 4%
- Institutional 3%
- Park 7%
- Other 2%
- Industrial 12%
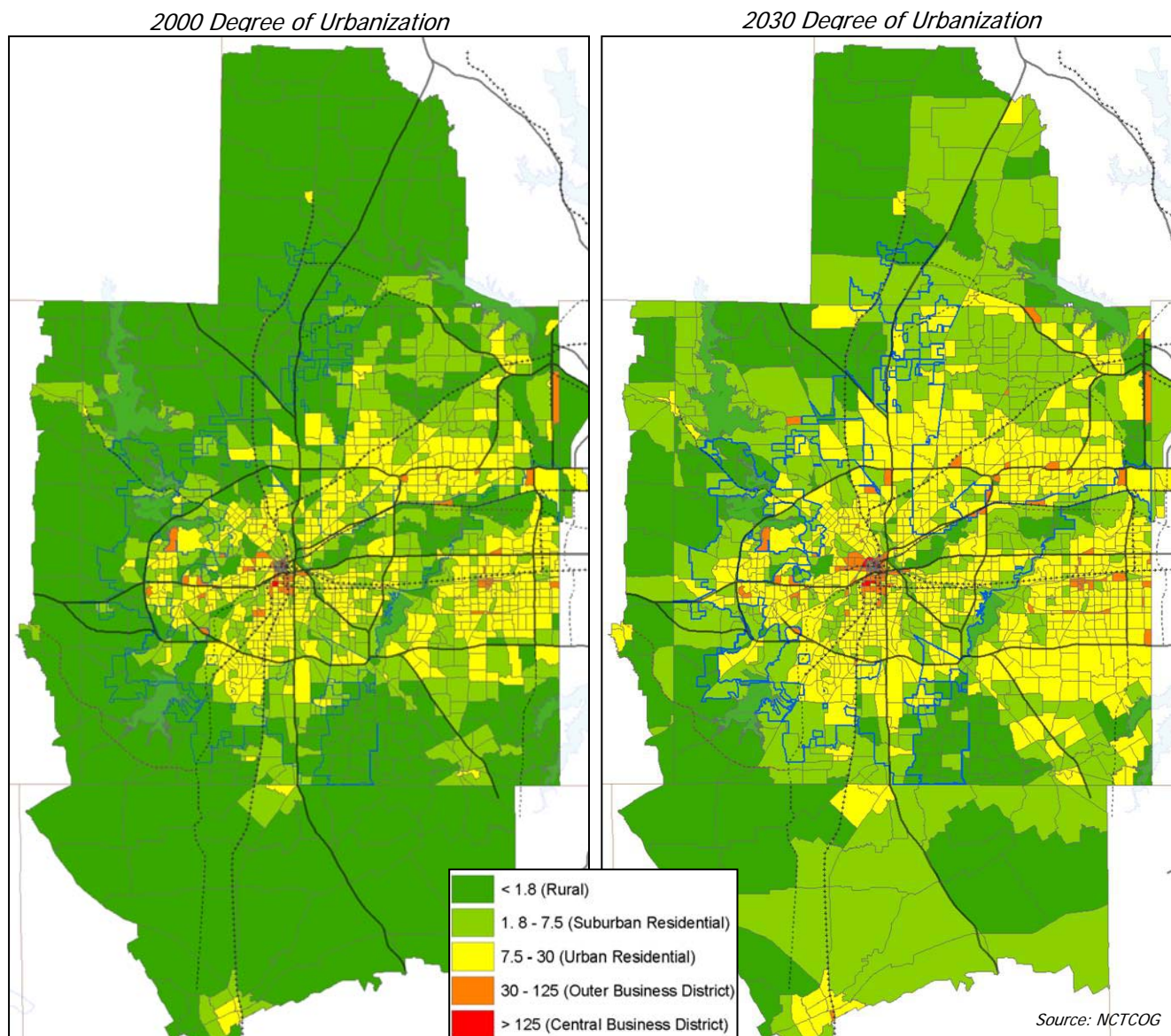- Commercial 5%
- Residential 67%
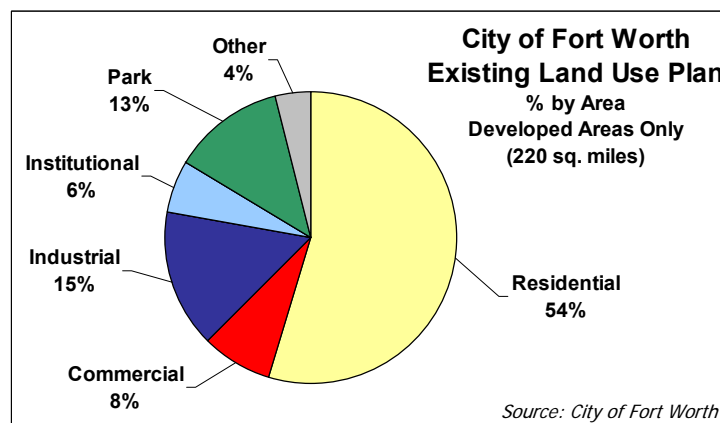
The City's future land use plan also emphasizes the industrial and mixed-use growth center concept. The industrial areas focus on providing a substantial amount of employment in one place, while the mixed-use concept attempts to integrate various residential and commercial land uses. With the exception of some of the industrial growth centers, however, most of the commercial growth is projected to occur in small pockets surrounded by residential development.

Degree of Urbanization

Degree of Urbanization is a measure of the population and employment density developed by the NCTCOG. Areas are subdivided into five categories from least to most dense: rural, suburban residential, urban residential, outer business district, and central business district.

The CBD, Cultural District, and Medical District are now and are projected to be the most urbanized (densest) sections of the study area. Development density within the CBD area is likely to increase by 2030. Growth in these areas will provide opportunities for reduced trips, both in number and in length.

Looking at the remaining study area, however, there are not a significant number of densely urbanized areas except in parts of North Arlington in and around the UT-Arlington campus. Future growth outside of the Central City is projected to consist primarily of suburban and urban residential densities.

2000 Degree of Urbanization   *2030 Degree of Urbanization*

- < 1.8 (Rural)
- 1. 8 - 7.5 (Suburban Residential)
- 7.5 - 30 (Urban Residential)
- 30 - 125 (Outer Business District)
- > 125 (Central Business District)

Source: NCTCOG

Major Activity Centers

Nine major employment activity centers were identified and analyzed in this study. Transportation access to these activity centers is critical to their viability. Each center is served by one or more major highway corridors and six of the nine activity centers are located on one or more of the regional rail corridors currently under study by NCTCOG.

The City's future land use plan recognizes these nine areas as major activity centers. Each area is shown as an Industrial Growth Center, a Mixed-Use Center, or a combination thereof.

Industrial Growth Centers *(high concentration of industrial & commercial uses)*	Mixed-Use Growth Centers *(high concentration of commercial & residential uses)*	Combination Industrial / Mixed-Use Growth Centers
Lockheed Martin Bell Helicopter Textron Carter Industrial Park (Alcon) Meacham Field	Fort Worth CBD Fort Worth Medical District	CentrePort Business Park Alliance Area Spinks / Huguley

The relationship between land use and transportation planning is critical to understanding how development patterns place demands on the transportation system. Low-density development places an increased burden on an already constrained transportation system. Increased demand from low-density development can be measured over time by increased trip length, travel time, and worsening congestion. Promoting the growth-center concept, however, can provide a foundation for development patterns that reduce trips and trip lengths and encourage higher densities and patterns of development that support public transit use.
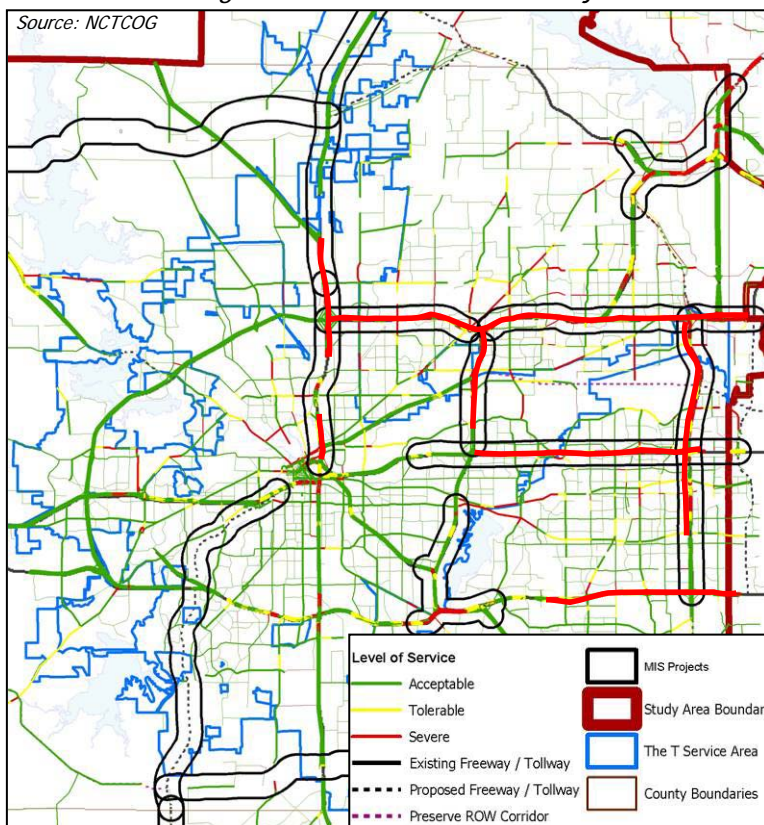
Roadway Transportation

Existing Conditions

A commonly used measure of congestion is volume to capacity (V/C) ratio. Severe congestion occurs on any roadway with a V/C ratio greater than 0.9. A number of major highway corridors experiencing severe congestion today include IH 35W north of Loop 820, NE Loop 820, SH 121/183, SH 121/114, IH 30 east of Loop 820, and SH 360 south of DFW Airport. Conversely, the majority of thoroughfares are operating within the range of acceptable levels of service.

In order to address these needs, NCTCOG, TxDOT, and the North Texas Tollway Authority (NTTA) are conducting corridor improvement studies (shown at right) for nearly all of the severely congested corridors. Funding sources have not yet been identified for all of these corridor improvements. One recent development is the passage of the Texas Transportation Commission (TTC) guidelines requiring TxDOT to consider toll facilities on any new capacity improvements.

Existing Level of Service with MIS Projects

Source: NCTCOG

Level of Service		
Acceptable	MIS Projects	
Tolerable	Study Area Boundary	
Severe	The T Service Area	
Existing Freeway / Tollway	County Boundaries	
Proposed Freeway / Tollway		
Preserve ROW Corridor		

Future Conditions

The vast majority of the roadways in 2030 are projected to experience severe congestion even with all of the proposed improvements in place. These conditions will be prevalent along nearly all of the major corridors: IH 35W, Loop 820, SH 121/183, SH 121/114, and IH 30. These deficiencies are not limited to freeway facilities. As a result of the congestion on the freeway system, trips will be diverted to the local street system. This diversion results in increased congestion and travel times on arterials, collectors, and local streets. By 2030, total vehicle delay within the study area will increase by over 1000% (from 182,000 hours to 2.2 million hours per day). Within the City of Fort Worth, total delay will increase 976% (from 69,500 hours to 748,000 hours per day). Much of this can be attributed to the fact that demand will exceed capacity by nearly 20% across the study area. For example, even with a planned 33% increase in capacity along IH 35W north of the CBD, supply will still not accommodate projected demand as it increases by 73%. Existing traffic volumes along IH 35W just north of the CBD are 110,000 vehicles per day (vpd) while 2030 volumes are projected to be 190,000 vpd.

With increased congestion, travel times across the study area increase significantly. Not only will travel times increase during the peak hours, but also the actual peak hours will extend longer than they do now.

Accommodating these demands is made more complex when considering the character of future development patterns. As shown in the analysis of the study area demographics, congestion will not be concentrated along any one major corridor. Instead, demand will occur over a number of major corridors. This means that transportation improvements and future funding sources will be needed throughout the study area.

2030 Level of Service by Area

Source: NCTCOG

Level of Service
- Acceptable
- Tolerable
- Severe