SUMMARY

Analyzing potential future land uses enables the estimation of future transportation and access needs. This chapter summarizes the Project Team’s analysis of future land uses anticipated within the Planning Area. Land use analysis and sensitivity considerations were developed in an integrated manner to assess the effects of transportation improvements on land uses and vice versa.

EXISTING LAND USE DATA AND PLANS

The policies outlined in the West of K-10 Plan, the K-10 and Farmers Turnpike Plan, the 6th and K-10 Nodal Plan, the Northwest Plan, and Horizon 2020 provided the starting point for the analysis of future land uses within the Planning Area. A “windshield survey” of existing land uses was also conducted to quantify development trends in northwest Lawrence and to prepare an inventory of existing land uses, businesses, and public facilities.

Existing land uses are comprised of mostly rural-agricultural with some single-family and two-family residential in the Southeast Quarter Section of the Planning Area. The First United Methodist Church’s West Campus is located in the South-Central Quarter Section. There are no existing commercial or retail land uses within the Planning Area. Existing land uses are shown in Exhibit 3.1.

The Mercato Development planned in the Northeast Quarter Section will bring major commercial opportunities with two large commercial buildings and a number of pad sites for development. The pad sites could include gas/convenience store, fast food restaurant, and bank uses. The total estimated space is approximately 511,000 square feet of commercial and retail. This development may become a major commercial center for northwest Lawrence. There are also over 90 residential units planned to be developed in the form of single family homes and townhomes.
FUTURE LAND USE ANALYSIS METHODOLOGY

Analysis of future land uses within the Planning Area followed a 5 step process.

1. **Examination of Existing Land Use Conditions and Inventory.** This procedure included a “windshield survey” and data collection of all existing land uses in the Planning Area. The existing land uses and features were mapped in a GIS database.

2. **Examination of Existing Plans and Intent.** Existing land use plans for the area were collected and examined. Abstracts of how these plans affect US-40/West 6th Street were then developed.

3. **Potential Land Use Scenario.** A potential land use scenario was developed based on a synthesis of existing plans and discussions with major land owners and developers in the Planning Area.

4. **Public and Stakeholder Comment on Potential Land Use Scenario.** The potential land use map was presented at the first public meeting for discussion. Members of the public were encouraged to comment on what they liked or disliked about the land uses identified within the Planning Area. Stakeholders were also surveyed on desired land uses and land use assets currently missing.

5. **Anticipated Land Use Scenario.** Input received during the public involvement phase was applied to the potential land use scenario to develop the Anticipated Land Use Scenario. A concept described as “Practical Reserve Capacity”, which will be discussed in greater detail later in this chapter, was introduced into a land use sensitivity analysis to address possible variations in development patterns.

ANTICIPATED LAND USE SCENARIO

The anticipated land use scenario was developed based on policies outlined in the **West of K-10 Plan**, the **K-10 and Farmers Turnpike Plan**, the **6th and K-10 Nodal Plan**, the **Northwest Plan**, and **Horizon 2020**, as well as discussions with the major land owners and developers in the Planning Area. The land uses included are listed below by quarter-section.

- Northeast Quarter Section – Commercial, Multi-Family Residential, and Single-Family Residential.
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- Southeast Quarter Section – Multi-Family Residential, Two-Family Residential, and Single-Family Residential.
- North-Central Quarter Section – Light Industrial and Office.
- South-Central Quarter Section – Commercial, Office, Public/Quasi-Public, and Open Space.
- Northwest Quarter Section – Multi-Family Residential and Single-Family Residential.
- Southwest Quarter Section – Multi-Family Residential and Single-Family Residential.

The anticipated land use scenario is shown in Exhibit 3.2.

**IMPACT ON TRAFFIC**

People travel between home, work, school, shopping centers, and entertainment. As residential, commercial, and office growth occurs in or near the Planning Area, the area will experience an increase in traffic on the public roadways. The major roadways in the area, specifically US-40 and K-10, are expected to experience the highest traffic demands. A balance must be considered between the need for access for land uses and the need for traffic mobility along the major roadways.

Quantifying the traffic demands from future land uses is accomplished by correlating the anticipated land use to the traffic demands generated by existing sites of similar size and use. The correlation is typically based on the type, size, and intensity of the land use. Traffic forecasting and analysis of traffic impacts on the existing transportation infrastructure are discussed in greater detail in Chapter 5.
POPULATION GROWTH AND MARKET ABSORPTION

Analysis of population growth and market absorption rates assists with validating the future land use assumptions. Potential future land uses within the Planning Area include 511,000 square feet of retail and 1,600,000 square feet of non-retail. Assuming complete development by the traffic analysis horizon year 2040, these totals equate to a yearly increase of 17,033 square feet of retail and 53,333 square feet of non-retail per year.

Population Growth

Lawrence has experienced a steady population growth of 2.5 percent per year since 1950. In similar fashion, employment opportunities have grown at 2.4 percent per year since 1970. With long term projections indicating more urban growth, it is expected some of that growth will occur in the Planning Area. Horizon 2020 population projections provided high (99,013), medium (95,178), and low (88,961) growth scenarios as shown in Figure 3.1. The 2010 US Census estimate for Lawrence is 87,643, closest to the low population projection. Linear growth between the 2010 US Census population and the 2030 Low Scenario results in a population growth of 1,177 people per year. Extrapolating to 2040, the estimated population growth is 35,322 persons with a total population of 122,965 people.
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3.5

Housing Requirements and Absorption

Horizon 2020 estimates the City of Lawrence population will have an additional 23,548 persons by 2030 and need an additional 10,361 dwelling units (518 dwellings per year). These numbers calculate to 0.44 units per person or 2.3 persons per dwelling unit.

Given the estimated growth of 35,322 persons by 2040, Lawrence will need an additional 15,542 dwelling units by 2040. Future land uses within the Planning Area is expected to provide 5,427 new dwelling units by 2040, accounting for approximately 35 percent of the new dwelling units needed throughout the community by 2040.

Retail Growth and Absorption

The Lawrence-Douglas County Planning Department recently prepared the 2010 Retail Market Report which estimated roughly 47 square feet of retail space in Lawrence per capita. Applying this rate of retail needs to the estimated low scenario population growth of 35,322 persons by 2040 equates to about 1.66 million square feet (55,338 square feet per year) of additional retail space in the community. The Planning Area includes an estimated 511,000 square feet of future retail space planned, accounting for 31 percent of the expected retail space absorbed by 2040.

Timing of Growth and Absorption

The need for additional new homes and retail service is a function of supply and demand. In the current economic downturn, the demand for new homes and retail services has likewise slowed. As the economic environment improves, the demand for new homes and retail services will improve.

Developments planned for east of K-10 may begin in the next five years. Overall, the market absorption of proposed housing and retail development within the Planning Area appears reasonable to anticipate by 2040. Absorption of all of the non-retail commercial/office space proposed may be more challenging given the more than 1,000,000 square feet in current land use and development plans identified within the Planning Area.
PRACTICAL RESERVE CAPACITY AND LAND USE

The Project Team expressed the desire to develop a flexible Plan to address future uncertainties that may affect traffic patterns and traffic demands, including the type and density of the future land uses. Variations in future land uses and the timing of development can only be estimated with a relative degree of accuracy. The population forecasts used in the absorption analysis for this plan are based on the 2010 Census data which met the Horizon 2020 low population growth scenario for 2010.

To obtain the middle or high population projections of Horizon 2020 for the years 2020 and 2030, the City of Lawrence would need to grow at a substantially faster rate than previously experienced. A “what-if” scenario incorporating a faster population and development growth should be considered. The two most likely results would be:

1) Faster, denser, and more complete absorption of all land use and development types forecast for the Planning Area, and/or
2) Population and development growth that covers more land and extends development further west, outside the Planning Area.

Both of these results would increase the traffic growth in the Planning Area. As a result, it is prudent to identify and consider the practical reserve capacity in the proposed transportation improvements as discussed in Chapter 5.
Exhibit 3.1: Existing Land Use

AREA TRANSPORTATION PLAN
US-40/West 6th Street and K-10 Interchange

KDOT Project: 40-23 KA-1869-01
Date Prepared: March 2012

DISCLAIMER:
This map is PRELIMINARY and depicts conceptual ideas only. The exact location, design and right-of-way for items shown cannot be determined from this map and could be different than shown.

Land Use Type

- Commercial
- Office/Industrial/Warehouse
- Retail
- Multi-Family
- Open Space
- Agricultural
- Single-Family
- Public/Quasi-Public
- Multi-Family
- Two-Family

1" = 0.2 mile

W 0 0.25 0.5 E

0 0.25

Miles

0
Environmentally sensitive areas will be preserved.

Existing single-family and two-family residential land use will be maintained.

Higher density residential land use will be located along US-40 with decreasing residential densities as you move away from US-40.

Proposed office land use will be low density campus type office buildings.

Proposed light industrial land use will be low-density research type industrial uses.

Commercial land use will be located along US-40 and/or at the US-40/K-10 interchange.

Residential office land use will accommodate a mix of administrative and professional offices along with residential.

Proposed office land use will be low density campus type office buildings.

Existing single-family and two-family residential land use will be maintained.

Higher density residential land use will be located along US-40 with decreasing residential densities as you move away from US-40.

Proposed office land use will be low density campus type office buildings.