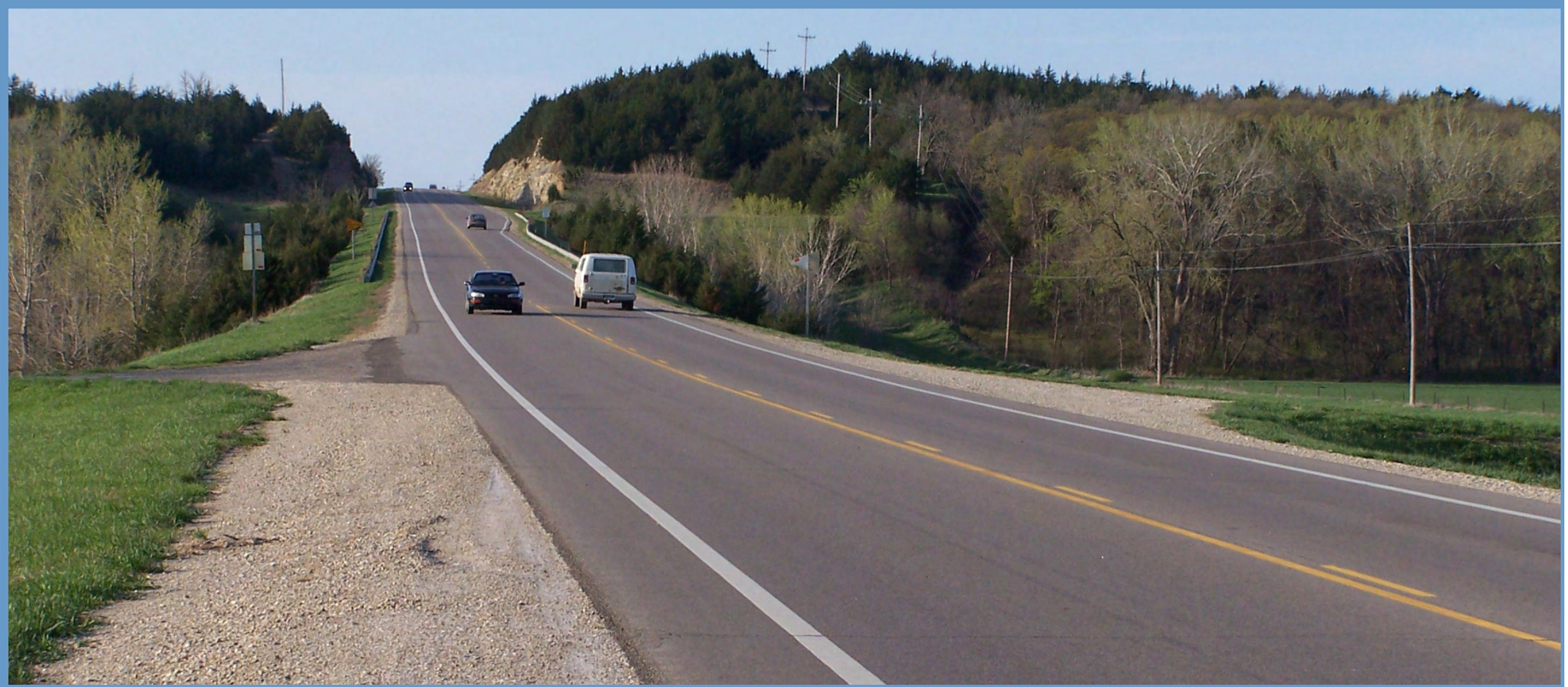
US 77/K-18 CORRIDOR MANAGEMENT PLAN

PREPARED FOR:

US 77/K-18 Partnership:

Junction City
Milford
Geary County
Kansas Department of Transportation



PREPARED BY: HNTB **IN ASSOCIATION WITH:** Development Strategies, Inc., Stinson Morrison Hecker, LLC, ETC Institute

Acknowledgements

Preparation of this Plan required the input and efforts of many team members from the US 77/K-18 Partnership as well as community officials and the public. This report acknowledges and expresses our appreciation for everyone's efforts.

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Introduction

PLAN PURPOSE

The purpose of the ***US 77/K-18 Corridor Management Plan*** ("Plan") is to outline a long-term comprehensive land use, transportation, and access management strategy for US 77 and K-18. The primary issues driving the need for the Plan include:

- Development pressures associated with future population and employment resulting from Fort Riley growth.
- Impacts of the Junction City Middle School located on K-18.
- Increasing congestion along US 77 through Junction City.
- Safety concerns at a number of key intersections.

STUDY GOALS

To address these issues, representatives from the Kansas Department of Transportation (KDOT), the Cities of Junction City, Milford and Geary County formed a Study Partnership (Partnership) to commission a comprehensive study of US 77 and K-18. The primary objectives of the Study were as follows:

- Reduce the number and severity of accidents.
- Support efficient and safe vehicular movement along US 77 and K-18.
- Address future pedestrian connections across US 77 and K-18.
- Provide reasonable access to support existing and anticipated development without significantly impacting through movements along US 77 and K-18.

STUDY CORRIDORS

The study extents, highlighted in yellow in Exhibit 1 on page 5, are as follows:

US 77 Corridor:

- 12th Street in Milford to the north.
- Lyons Creek Road to the south.
- Includes all properties generally within one mile on either side of the US 77 centerline.

K-18 Corridor:

- US 77 to the east
- Geary County/Dickinson County Line to the west.
- Includes all properties generally within one mile on either side of the K-18 centerline.

CORRIDOR CHARACTERISTICS

The Study Corridor is approximately 22 miles in length (16.5 miles along US 77 and 5.3 miles along K-18). Throughout these corridors, the physical characteristics of each roadway changes, as well as the surrounding natural and built environment. As shown in Exhibit 1, portions of the Study Corridor are more suburban (areas through and adjacent to Junction City), while other areas are more rural (areas north and south of Junction City along US 77 and west of the Middle School along K-18). North of Junction City, along US 77, Milford Lake and the surrounding US Army Corps of Engineers (USACE) property border much of the Study Corridor to the west, while Fort Riley property covers much of the area to the east. Along with the presence of Milford Lake and Fort Riley, significant topography north of Junction City has limited development. South of Junction City, aside from industrial development immediately south of I-70, much of the Study Corridor is within the floodplain and is rural.

Milford Lake

Milford Lake was authorized by the Flood Control Act of 1954 as a multi-purpose project to address flood control, water supply, water quality, navigation, recreation and wildlife. Construction of the dam began July 13, 1962 at river mile 8.3 on the Republican River. Impoundment of the lake began January 16, 1967 and six months later on July 13, the multipurpose pool elevation of 1,144.4 mean sea level was reached. Milford Lake's dedication ceremony was held in May of 1968. Today, Milford Lake has 15,700 acres of water and 163 miles of shoreline, making it the largest lake in Kansas. The lake has often been referred to as the "Fishing Capitol of Kansas" due to its many quality fishing locations. The lake is also home to Milford State Park, the Milford Nature Center and Fish Hatchery as well as fourteen boat ramps, picnic areas, swimmable beaches, camp grounds, cabins, and recreational vehicle (RV) sites. The USACE controls and maintains the shoreline and large areas surrounding the lake. The areas shown in green on Exhibit 1 are under the USACE's jurisdiction and are not subject to County regulations.

Fort Riley

Fort Riley, highlighted in light red in Exhibit 1, was established in 1853, as a base for Westward expansion in the Kansas territory to protect settlers coming down the Kansas River heading west. It later became the calvary headquarters for the Army. Today, Fort Riley is home to the US Army Calvary Museum. Fort Riley has over 100,000 acres. This quantity of space allows the Fort's soldiers to fire every weapon system in a heavy division's inventory.

Introduction

Today, Fort Riley maintains approximately 7,000 military personnel and 8,400 dependents on-post, and 3,000 military personnel and 7,000 dependents off-post. On-post military personnel occupy 3,052 single-family houses and 4,772 barracks beds. The installation also includes approximately 7,300 civilian and contract personnel. The *2005 Base Realignment and Closure Plan* (BRAC) recommended the closure of 33 major military bases and a "realignment" (either enlarging or shrinking) of 29 other bases. Based upon this plan, Fort Riley was selected for realignment in terms of being identified to significantly grow. By 2011, there are estimated to be approximately 11,750 military personnel and 9,400 dependents on-post, and 9,200 military personnel and 20,000 dependents off-post. This includes approximately 1,250 military personnel estimated during the peak three-week training personnel load. On-post military personnel will occupy 3,525 single-family houses and 8,342 barracks beds.

As part of the Army Residential Communities Initiative (RCI), Fort Riley is in the process of transferring responsibility for providing on-post family housing and potentially barracks hosing to Picerne Military Housing. As part of this process, Picerne and the Army have developed a Community Development and Management Plan (CDMP) that maximizes new home construction and renovations. Picerne will be constructing 2,205 new homes and renovating 1,309 existing homes on-post over the next ten years. The CDMP is intended to supplement or replace pre-2005 BRAC housing. There is no net increase of new family housing beyond CDMP. The demand for additional housing is to be met off-post by the private market in the surrounding communities. It is assumed that Junction City will receive a majority of this growth due to the proximity of the fort and attainable housing prices.

Along the US 77 Study Corridor, Rifle Range Road and Old US 77, provide access to Fort Riley. Rifle Range road connects the Rifle Range gate to Camp Forsyth which contains family housing as well as a school, youth center, Post Exchange (PX), child development center and recreation fields. Old US 77 connects the Estes Gate to Custer Hill which contains the new brigade and battalion headquarters, company operations facilities, maintenance facilities and barracks.

PUBLIC WORKSHOPS

Community censuses can only be achieved through fair and open public discussions. For this study, one of the most critical issues was achieving consensus with the public regarding a large spectrum of issues. To achieve this consensus, it was important to listen to the public to understand their issues and concerns and develop a set of alternative recommendations. It was also important to educate the public about the trade-offs that come with each possible solution, while meeting the unique challenges and constraints associated with the Study Corridor. These challenges were addressed in a carefully planned and managed workshop process. During the workshops, the consultant team worked with a Technical Team, stakeholders and the community at-

large to understand their needs and values and to develop preliminary concepts and ideas for feedback. Those preliminary concepts, developed early in the process, were then refined and presented again to ensure that he Plan addressed key issues and met the community's needs.

Technical Team

To start the process, the Partnership appointed a Technical Team with representatives from each jurisdiction. This committee provided guidance, input and direction to the Consultant Team throughout the process.

Stakeholders

The Stakeholders included community leaders from a wide variety of interests representing all jurisdictions including elected officials, major employers, property owners, realtors and interested residents. Additionally, residents who lived across from the Junction City Middle School on K-18 were invited to a focus group to discuss concerns about traffic and safety as well as to discuss potential solutions.

Residents and Businesses

The Consultant Team and the Technical Team presented ideas and concepts for consideration by property owners, business owners, residents, and interested citizens. Each workshop concluded with a public open house, where the community at large, as well as potentially affected property owners had a chance to discuss the project, and their concerns, with the project team. Based upon this input, the Plan concepts and alternatives were refined to reflect community input.

Public Survey Summary

ETC Institute, in association with HNTB Corporation, conducted a survey of residents in Junction City, Milford, and in Geary County outside of Junction City, during February of 2008. The purpose of the survey was to gather input from the community about issues relating to developments being considered around US 77 and K-18. Some of the specific topics that were addressed in the survey included:

- Frequency that residents travel on US 77 and K-18 on the west side of Junction City
- Perceptions of the value of improvements on US 77 and K-18 to the economic development of the area
- Reasons for travel on US 77 and K-18
- Physical condition of various sections of US 77 and K-18
- Traffic flow on various sections of US 77 and K-18
- Feelings of safety on various sections of US 77 and K-18
- Levels of support for various developments along US 77 and K-18
- Resident ratings of improvements at various intersections
- Preferred ways to keep residents informed about planned improvements to US 77 and K-18

Introduction

Methodology

The survey was administered by phone to 619 households during February of 2008. The overall results for the 619 surveys have a precision of at least +/-4% at the 95% level of confidence.

Report Contents

A summary of this report is provided in the following pages. The full report is included in Appendix B and contains:

- Charts depicting the overall results to the survey.
- Tables that show the results of the survey.
- Cross-tabs showing the results of the survey by those inside Junction City and those outside.
- A copy of the survey.

Major Findings

- **Frequency of Travel.** Forty-four percent (44%) of those surveyed drive US 77 or K-18 on the west side of Junction City daily.
- **Importance of the US 77 Corridor to Economic Development in Junction City and Geary County.** Eighty-nine percent (89%) of those surveyed felt that US 77 was "very important" or "somewhat important" to the economic development in Junction City and Geary County.
- **Importance of the K-18 Corridor to Economic Development in Junction City and Geary County.** Seventy-five percent (75%) of those surveyed felt that K-18 was "very important" or "somewhat important" to the economic development in Junction City and Geary County.
- **Overall Physical Condition of Sections of Highway and Intersections on US 77 and K-18.** Sixty-nine percent (69%) of those surveyed rated the section of highway from I-70 to K-18 as "very good" or "good"; 67% rated the section of highway south of I-70 as "very good" or "good", and 54% rated K-57/244 to 12th St. in the Town of Milford as "very good" or "good", with regard to physical condition.
- **Overall Traffic Flow on Sections of Highway and Intersections on US 77 and K-18.** Fifty-seven percent (57%) of those surveyed rated the section of highway south of I-70 as "very good" or "good"; 52% rated K-57/244 to 12th St. in the Town of Milford as "very good" or "good", and 51% rated I-70 to K-18 and "very good" or "good", with regard to traffic flow.
- **Overall Feeling of Safety from Accidents on Sections of Highway and Intersections on US 77 and K-18.** Sixty percent (60%) of those surveyed rated the section of highway south of I-70 as "very good" or "good"; 53% rated K-57/244 to 12th St. in the Town of Milford as "very good" or "good", and 52% rated I-70 to K-18 and "very good" or "good", with regard to feeling of safety from accidents.
- **Issues of Access Affecting Traffic Flow.** Those surveyed were asked their level of agreement with three statements relating to access on and off of US 77 and K-18:
  - "The number of streets and driveways accessing US 77 and K-18 should remain the same." Sixty-six percent (66%) agreed, 19% were neutral and 16% disagreed.
  - "The number of streets and driveways accessing US 77 and K-18 should be reduced." Twenty seven percent (27%) agreed, 18% were neutral and 55% disagreed.
  - "The number of streets and driveways accessing US 77 and K-18 should be increased." Nineteen percent (19%) agreed, 16% were neutral and 65% disagreed.
- **Perception of Travel Speeds.** Those surveyed were asked about the appropriateness of the current travel speed on US 77 and K-18; in the city limits of Junction City, 69% felt the travel speed was appropriate, and outside Junction City, 76% felt the travel speed was appropriate.
- **Corridor Identity and Image.** Those surveyed were in greatest agreement with these four issues: that all new developments should be required to provide internal sidewalks within the site (84%), that new developments should assist the Cities and County in helping pay for sidewalks and trails along arterial and collector roads connecting new developments to established areas (82%), that guidelines for attractive development should be established for new development (79%), and that bicycle and trail connections crossing US 77 and K-18 should be a priority, especially near the new middle school (77%).
- **Preferred Developments along US 77 and K-18 Corridors.** It was important to those surveyed to expand industrial developments to the US 77/I-70 Interchange (69%), to provide commercial development adjacent to the US 77/I-70 interchange (67%), and that US 77 should remain primarily rural between Junction City and Milford (63%).
- **Level of Need for Improvements at Various Intersections Along US 77 and K-18.** Those surveyed expressed the highest levels of need for improvement at intersections of US 77 and Rucker Road (65%), K-18 and Spring Valley Road (65%), and US 77 and Old US 77 into Fort Riley (Estes Gate) (63%).
- **Relocating or Consolidating Intersections**. Those surveyed were asked if relocating or consolidating signalized intersections on US 77 should be considered even if you had to drive a little further to your destination – 43% responded "yes", 33% responded "no", and 24% did not have an opinion.
- **Information about Potential Improvements**. Forty-seven percent (47%) of those surveyed said they would like to receive information about potential improvements to US 77 and K-18. The primary source of information should be the local newspaper (55%), newsletters (27%) and television (26%).
- **Fort Riley**. Seven percent (7%) of those surveyed said they lived on Fort Riley, 22% said they worked on Fort Riley, and of those who did not live or work on Fort Riley, 44% said they had visited Fort Riley for shopping, medical or other purposes during the last month.

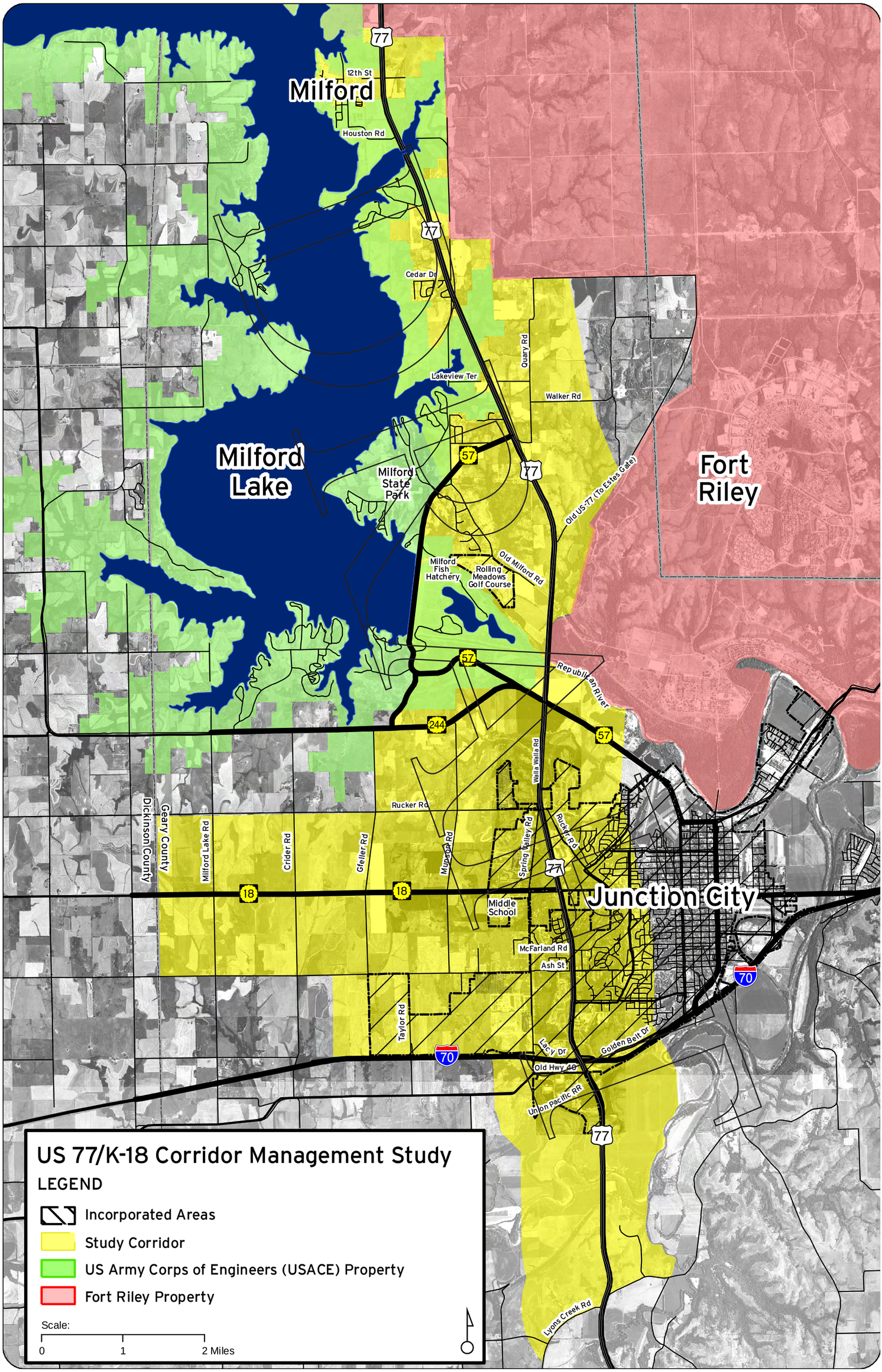
TECHNICAL ANALYSIS

Based upon the issues raised by the Technical Team, stakeholders and the general public, the Consultant Team conducted a technical analysis of the Study Corridor to address land use, traffic and preliminary engineering issues with respect to potential improvements. This information was then provided back to the groups to allow participants to make informed decisions about potential recommendations for the Study Corridors. The Market Analysis identifies opportunities for future land use within the Study Corridors. The Market Analysis, along with input at the public workshops, provided the direction for the development of the Land Use Plan. The Land Use Plan in turn provided the land use projections for the Traffic Analysis.

ALTERNATIVES AND FINAL RECOMMENDATION

Based on input from the first workshop, alternative concepts were generated to address future traffic needs. The Consultant Team provided the groups with puzzle pieces representing potential improvements along the Study Corridor and colored dots representing future land uses. These puzzle pieces included scaled interchange configurations, traffic lights, roundabouts, and stop signs. Through this process, the work groups identified potential future land uses and associated improvements. The Consultant Team facilitated the process and provided guidance on the implications of potential future land use patterns and access strategy with travel time, safety, cost, impacts to existing residents and businesses etc. These considerations are outlined in the following chapters. Based on input at the first two workshops as well as the public survey the consultant team led the technical team, stakeholders and general public through an exercise to identify a preferred long-term transportation strategy for the Study Corridors. The preliminary concepts, issues and final recommendations were then incorporated into the final Transportation Plan.

EXHIBIT 1: STUDY CORRIDORS MAP



Market Analysis

RECENT TRENDS AND KEY FACTS

Prior to the 2005 announcement that Fort Riley would receive several thousand new troops as a result of the Department of Defense's base realignment strategy, the population in Junction City had been slowly declining for many years and was projected to continue to decline at a slow pace into the near future. Nonetheless, the job and retail markets remained relatively stable for many years. The announcement in 2005 that Fort Riley would soon receive many more new troops led to the rapid development of new housing, the expansion of existing companies, and the attraction of new industries to the area. Key development trends are summarized below:

- Fort Riley is expected to gain 8,000 to 10,000 military personnel plus their dependants and additional civilian employees as a result of the Department of Defense's military base realignment strategy. To date, Fort Riley has already gained about 5,000 new solders along with over 7,000 new family members since 2005. It should be noted that 9,500 of the soldiers stationed at Fort Riley are either currently deployed or scheduled to be deployed, which influences current demand for homes and retail in surrounding cities.[1] Based on current estimates, the expansion of Fort Riley's operations will result in a net increase of 21,600 residents in the area by 2011, although the rate of this increase is heavily dependent on the current situation in Iraq.

Table 1. Fort Riley Population Figures

Category	*Sep-05*	*Aug-07*	*FY 2011 Est.*	*Net Change 2005 to 2011*	*% Change 2005 to 2011*
Soldiers	10,060	15,138	18,300	8,200	82%
Family Members	12,714	20,063	25,660	12,900	101%
On Post	7,751	7,854			
Off Post	4,963	12,209	17,740	12,800	258%
Civilian Employees	5,805	6,013	6,800	1,000	17%
Retirees	19,752	19,195	unknown		
Total	**48,331**	**60,409**	**69,955**	**21,600**	**45%**

Source: Big Red One & Fort Riley Community Update, August 2007

Fort Riley estimates that about 45 percent of the existing military families currently live in Junction City and the city is poised to absorb a significant portion of the demand generated by the expansion of the base. The most critical implication of this population information is that Junction City, Manhattan, and other nearby towns are experiencing a very rapid influx of new households, which has led to the development of thousands of new homes and is fueling demand for new retail, medical services, classrooms, as well as jobs for the family members of soldiers. Many officials believe that Junction City will absorb a greater proportion of the new military households moving to the area.

- As of June 2007, nearly 3,500 new single-family (1,260), duplex (1,120), and multi-family (1,100) permits were issued in and by Junction City and many of these units have been completed or are currently under construction. According to www.realtor.com, about 500 new homes are currently listed for sale in Junction City. An additional 1,400 units are currently planned for Junction City, mainly single-family homes. In total, city officials expect 6,000 new homes to be constructed as a result of the Fort Riley expansion, including those already built. The vast majority of the new home construction is taking place on the west side of town in newly-annexed areas along US 77.
- Typical new homes vary widely in price depending on finish materials, size, and other features, although most homes are selling for less than $200,000. A typical duplex consists of three bedrooms, two bathrooms, an attached two-car garage, and contains about 1,300 square feet. These duplexes generally range from $120,000 to $140,000 in price. Similarly-sized single-family homes generally start at about $140,000.
- New apartment developments – Hunter's Ridge Apartments and The Bluffs – filled very quickly and maintain high occupancy rates despite having added 850 units to the market in the past two years.
- The influx of new military households will bring a skilled workforce, as many dependents of military personnel will be looking for jobs. Several announcements have been made during the last few years regarding the expansion of existing businesses and the attraction of other businesses to the area. These include:
  - **EdenSpace** – A biosciences firm is moving its headquarters from Virginia to a new 20,000 square foot building in the Tom Neal Technology Park in Junction City. The company will have an option to expand into 20,000 additional square feet.
  - **Unplugged Cities** – An internet technology firm will locate its main support center in Junction City, initially bringing 31 new jobs to the area.
  - **Capgemini** – A business technology and consulting firm will develop its 600-seat call center in Junction City.
  - **GSC** – The North American distribution center for military base commissaries recently constructed a 150,000 square foot warehouse and has plans to construct another similar warehouse in the I-70 Industrial Park.
  - **Ventria Bioscience** – A biotechnology firm that produces lactoferrin and lysozyme, which are health supplements, recently opened a new facility in the I-70 Industrial Park.
- There are other major employers in the area, including Foot Locker's US distribution warehouse, a Conagra sausage plant, and UPU (plastic wrap).

[1] *Big Red One & Fort Riley Community Update.* August 2007, Volume 1, Issue 7. According to the report, many military families are reluctant to purchase homes in the area while family members are deployed. This report does not specify where off-post personnel live, and the influx of new families to the area is not captured in population estimates provided by the Census and other demographic providers such as ESRI.

- Finally, Junction City recently announced plans for Smokey Hill Marketplace, a mixed-use development that will include a 4,500-seat arena, an indoor water park, a new hotel, a 45,000 square foot military museum, 500,000 to 600,000 of new retail, multiple restaurants, 15 soccer fields, five baseball fields, and an auditorium. If developed, this project will bring many new jobs to the area and will serve as a regional entertainment destination. It may also meet most of the future demand for retail and related services generated by the growth that is occurring in the area.

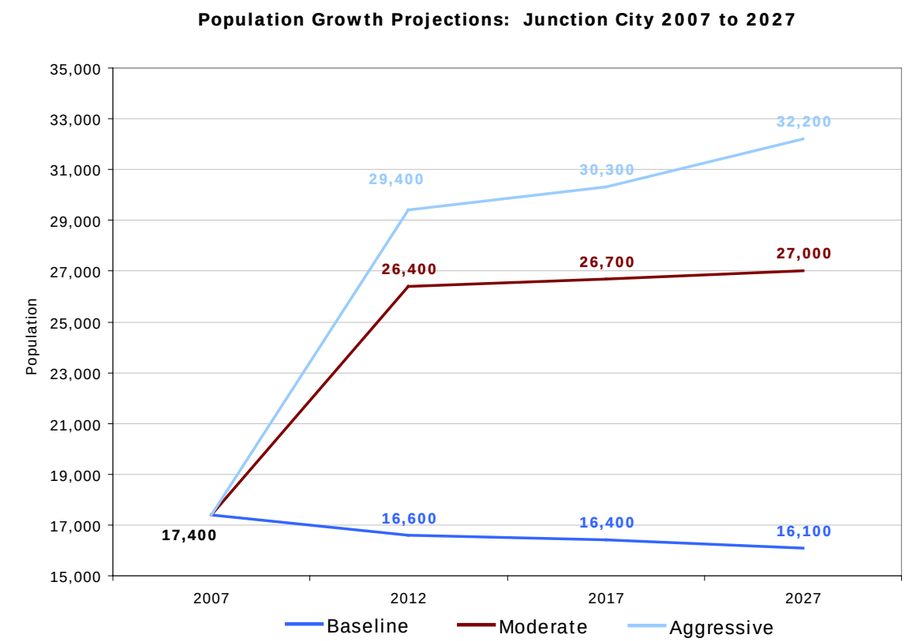
Assumptions

The analysis presented in this memorandum uses three scenarios to estimate the prospective impact of the Fort Riley expansion on the retail, office, industrial, and institutional sectors in Junction City – a baseline, moderate growth, and aggressive growth scenario.

- **Baseline** – The baseline scenario is a hypothetical analysis of Junction City assuming that the Fort Riley expansion will not occur.[2] The population and household estimates, therefore, are based on historic trends prior to the expansion that has already taken place, which indicate that Junction City continues to slowly lose its population. With a declining population, demand for retail and jobs will gradually decrease.
- **Moderate Growth** – This scenario assumes that Junction City will absorb 45 percent of the off-post military and civilian households that will move to the area. This is the proportion that has historically been absorbed by Junction City. Following 2012, when the expansion of Fort Riley is expected to be complete, a one-half percent per year growth rate is applied.
- **Aggressive Growth** – This scenario assumes that Junction City will absorb about 60 percent of the new households moving to the area and is based on the city's projections which are based on actual building permit trends in the area to date. Following the initial influx of new Fort Riley households, a one percent annual growth rate is assumed.

The 2007 population and household numbers[3] in the following graphs are based on Environmental Systems Research Institute (ESRI) estimates, which do not reflect population growth that has occurred since 2005. Fort Riley provides population figures for the soldiers, their dependants, and civilian employees that are based there, but these figures do not specify where off-post families live. The total growth as a result of the expansion of Fort Riley's operations is reflected in the 2012 numbers. The 2012 numbers are based on Fort Riley's current estimates that 21,600 new people will move to the area by 2011 and the average household size is assumed to be 2.5 persons. Thus, approximately 8,640 households will move to the area. Some military personnel, mainly highly-ranked officers and single soldiers, will live on-post, although most new military families will live off-post.

Figure 1.



The baseline scenario indicates that Junction City will lose about 7.5 percent of its population from 2007 to 2027. The moderate growth scenario exhibits an increase in population of 63.8 percent, while the aggressive growth scenario exhibits an increase of 116.7 percent from 2007 to 2027.

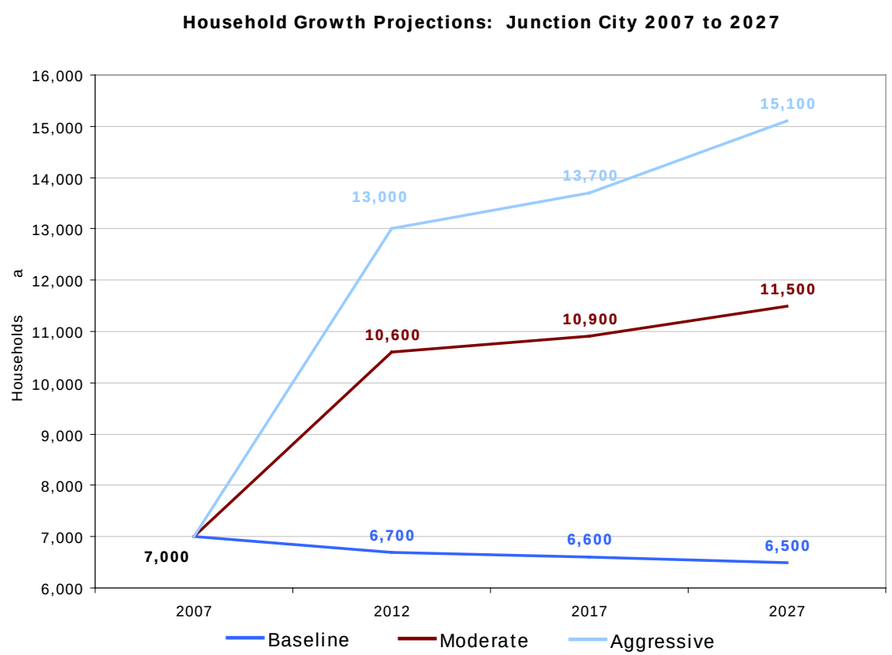
Similar trends emerge for household growth, as the baseline scenario exhibits a decline in households, the moderate growth scenario exhibits a 64.3 percent increase, and the aggressive growth scenario exhibits a 115.7 percent increase from 2007 to 2027. Overall, the household projections assume a slight decline is average household size (persons per household), a trend that continues to generally affect household demographics in the US.

[2] This is something of a moot point, of course, because much expansion has already occurred. The baseline scenario, however, assumes that the expansion has not occurred at all.

[3] The 2007 estimates from ESRI do not include Fort Riley's expansion to date and reflect a slow decline in population from Census 2000 numbers. ESRI's population estimates are in line with yearly Census estimates through 2006.

Market Analysis

Figure 2.



RETAIL MARKET

Despite steady population decline, the retail market in Junction City has remained relatively stable for over ten years. It is true that some stores have closed, but others have generally opened to take the place of the closed stores. In other cases, as with the Alco store, a store closed only to reopen a few years later. It is possible that the apparent stability indicated by the reopening of stores is more due to the influx of new residents generated by the expansion of Fort Riley. There are four main concentrations of retail in the city:

- **Downtown** – Downtown Junction City has a relatively stable office and retail presence. Redevelopment efforts several years ago helped improve the quality of the streetscape and the pedestrian environment. A wide variety of retail options are available in this district, including sporting goods, hardware, clothing, jewelry, cellular phones, furniture, and restaurants. Most shops are located along Washington Street between 6th Street and 10th Street. The area north of 10th street consists of several car dealerships.


Downtown Junction City

- **Grant Avenue** – A wide variety of retailers are located along the stretch of Grant Avenue from the Fort Riley entrance to Freeman Field Airport, including furniture stores, auto dealerships, small strip centers, and banks, service stations and restaurants. These facilities are generally scattered along the street, with a small concentration of stores at Grant Avenue and Washington Street.


Grant Avenue

Market Analysis

- **East Junction City** – The largest concentration of retail in the city is located at the I-70/ Chestnut Street inter-change. Several hotels, including the Courtyard by Marriott that is attached to the Geary County Convention Center, are located at this interchange, as is a Wal-Mart, Alco, three or four strip centers containing several different stores, and a few restaurants. The Wal-Mart, Alco, and multiple hotels were constructed during the last five years, although the Wal-Mart and Alco relocated from older stores.

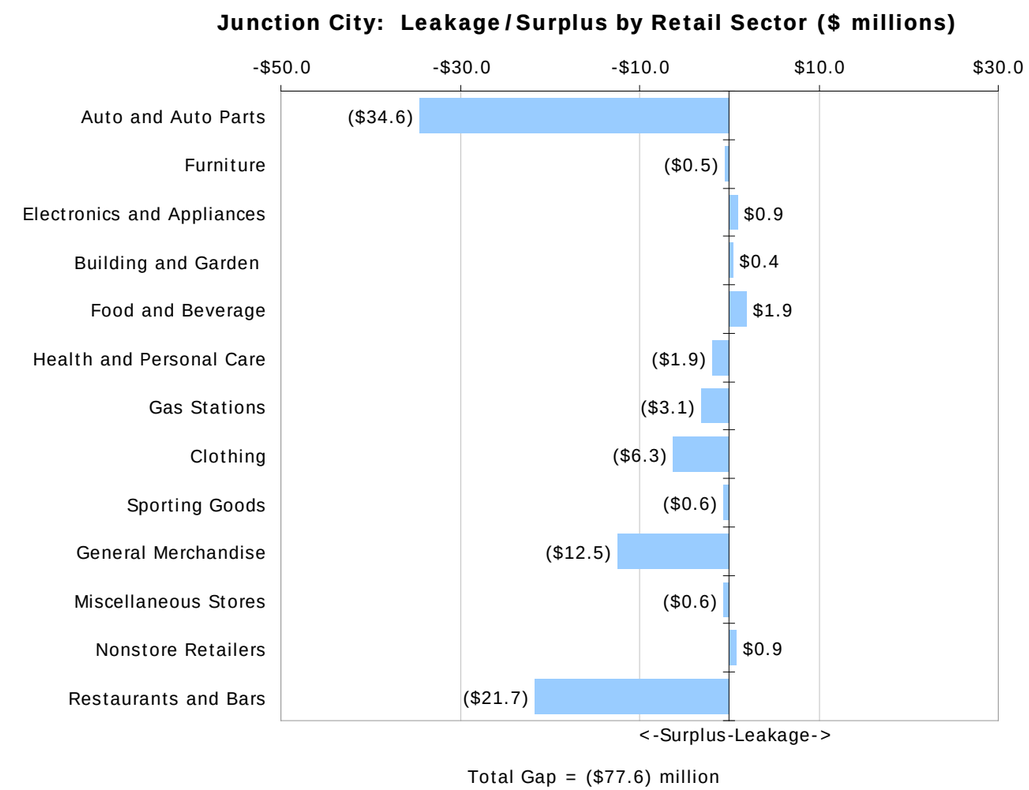

I-70/Chestnut Street Wal-Mart

- **West 6th Street** – There is a concentration of older retail stores located at West 6th Street and Eisenhower, including a Dillon's supermarket, a movie theater, and various other stores.

Additional retail options are scattered throughout the city.


West 6th Street

Figure 3.



The above chart shows that there is little room for Junction City's retail market to grow based on trends measured before the expansion of Fort Riley began. In fact, the only category that could theoretically support an additional store is electronics and appliances, with a positive gap of about $900,000, which is sufficient to support an additional small-to-medium scale electronics store.

Retail Spending Patterns

Junction City attracts shoppers from outside its borders, particularly from surrounding rural areas and from military personnel living on-post at Fort Riley. According to ESRI data, Junction City residents currently spend nearly $150 million on retail items per year and about $227 million in retail sales occur in the city, indicating that the city attracts about $77 million in retail sales from "outsiders". A "retail gap analysis" is presented in the following chart. A positive value indicates that retail dollars spent by local residents are "leaking" to other areas. In other words, the local supply of retail does not meet the demand generated by local residents. A negative value indicates that the local supply exceeds local demand and that retail sales are attracted from outside of the cities' boundaries. A negative gap typically indicates that there is a strong retail market, while a positive gap indicates a relatively weak market.

Future Demand

The retail market in Junction City is currently stable and has little room for growth[4], but the influx of new households moving to the area as a result of the expansion of operations at Fort Riley will substantially increase the need for retail options in the area. The baseline scenario will not be discussed in this section because the demand for re-tail in this scenario will decrease very slightly and will not differ much from what is discussed in the previous section.

The moderate growth scenario assumes that Junction City will gain about 3,600 new households by 2012, while the aggressive growth scenario assumes the city will gain 6,000 new households. In order to estimate a "ballpark" figure of what this projected growth can generate in terms of demand for new retail space, the typical retail spending power of each new household is estimated, based on 2007 trends

The first step in estimating future retail demand is to determine the buying power of the new households. According to ESRI, the average disposable household income (2007) in Junction City is $41,000, or about $287 million dollars. The Fort Riley growth will lead to a significant increase in disposable income in the area:

- **Moderate Growth** – Adding 3,600 new households will generate about $152 million in new disposable in-come [3,600 x $41,000 = $152 million], a 58 percent increase.[5]
- **Aggressive Growth** - Adding 6,000 new households will generate about $346 million in new disposable income [6,000 x $41,000 = $246 million], a 94 percent increase.[6]

The next step is to determine what proportion of an average household's disposable income is spent on retail goods. ESRI data indicates that Junction City residents spent about $150 million on retail goods. Thus, about 52 percent [$150 million ÷ $286 million] of the disposable income of an average Junction City household is spent on retail goods. This indicates that the average Junction City household will spend about $21,320 on retail goods [$41,000 x 52%] per year.

- **Moderate Growth** – Adding 3,600 new households will generate about $77 million in new retail spending [3,600 x $21,320 = $77 million], a 51 percent increase.
- **Aggressive Growth** - Adding 6,000 new households will generate about $128 million in new disposable income [6,000 x $21,320 = $128 million], an 85 percent increase.

The third step in estimating future retail demand is to divide the new retail spending number by the average sales per square foot for Junction City. ULI's *Dollars and Cents* provides both national and regional sales data for various types of shopping centers. Average sales for a variety of shopping centers average $300 per square foot in the US; Rates in the Midwest range from $250 to $340 per square foot. Older and smaller centers typically garner less sales per square foot while newer centers with a greater concentration of stores, such as those located near the Wal-Mart in east Junction City, garner higher sales numbers.

Stores in Junction City likely have lower sales per square foot sales numbers relative to national averages because household retail spending power is higher. For instance, the average disposable household income in Junction City of $41,000 is about 25 percent less than the national average disposable income of $55,000. Thus, the average sales per square foot numbers should be adjusted downward to compensate for locational differences. The projections utilize the median of this range, $255 per square foot.

Table 2. Demand for New Retail Space

	Moderate Growth	*Aggressive Growth*
Projected New Households by 2012	3,600	6,000
Current Avg. Disposable Income	$41,000	$41,000
= New Disposable Income (in millions)	$147.6	$246.0
New Retail Spending (52% of Disp. Inc)	$76.8	$127.9
New Retail Spending per Household	$21,300	$21,300
Demand for New retail Space (in SF) (assuming $255 Sales PSF)	**300,000**	**500,000**

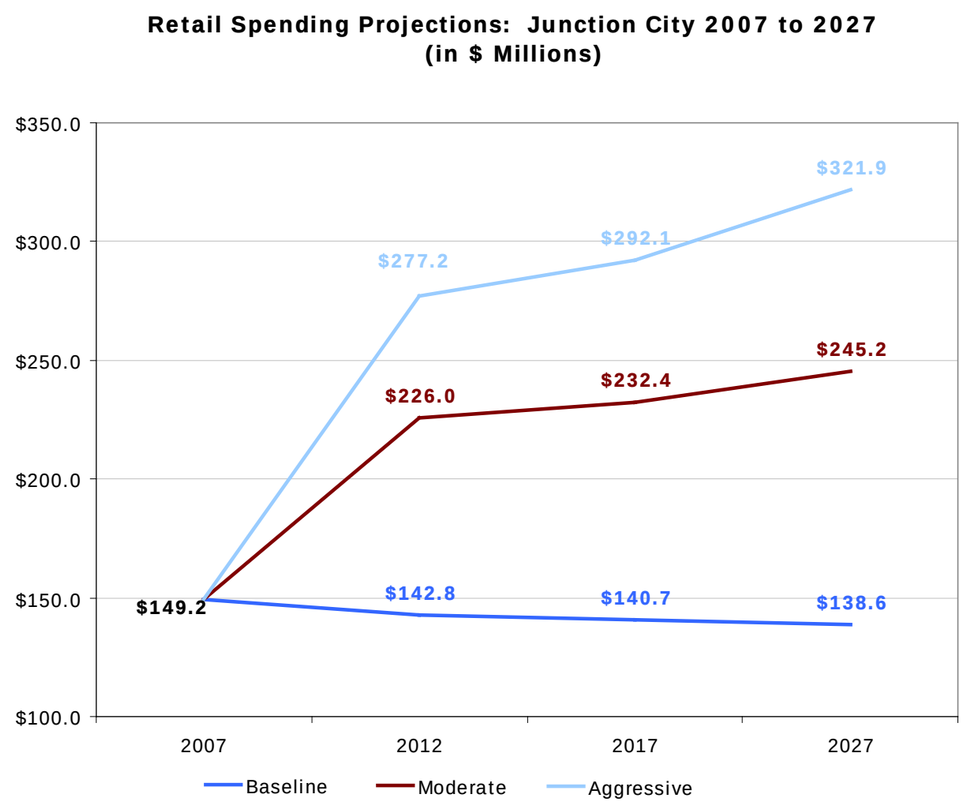
Additional demand for retail space will be generated by the modest population growth projected through 2027, but the most significant increase in demand for retail establishments will occur through 2012.

[4] This is based on ESRI population projections, which do not take into account the population growth that has already taken place due to Fort Riley's expansions.

[5] This estimate is based on 2007 dollars and does not take into consideration any increases in disposable income or adjustments for inflation.

[6] Id

Figure 4.



Assuming a floor-to-area (FAR) ratio of 25 percent and allocating for utility and infrastructure space, the increase in population generated by the Fort Riley expansion will generate demand for 45 to 80 acres of additional land zoned for retail purposes in all of Junction City. Not all retail uses will be appropriate for the US 77 corridor.

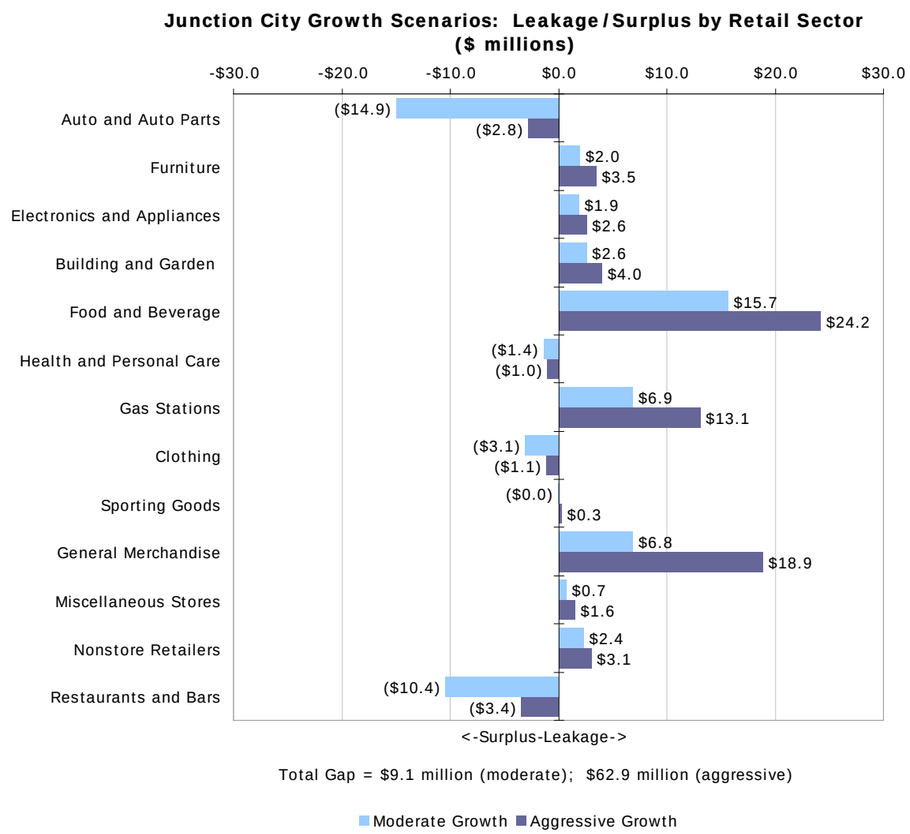
Table 3. Retail Land Demand Projections

Retail Land Demand Projections, 2007-2027 (incl. stand-alone stores and multi-store centers)		
	Moderate	Aggresssive
	Space Demand and Absorption *Net Acres/Units of Space Demand (SF Floor Area)*	
2007-2012	300,000	500,000
2012-2017	30,000	60,000
2017-2027	50,000	120,000
TOTAL	**380,000**	**680,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use (0.20 FAR)*	
2006-2011	28	46
2011-2016	3	6
2016-2026	5	11
TOTAL	**36**	**63**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure (1.25)*	
2006-2011	35	58
2011-2016	4	8
2016-2026	6	14
TOTAL	**45**	**80**

Future Retail Gap

A retail gap analysis can be applied to the retail spending projections for the moderate growth and aggressive growth scenarios to examine which retail sectors will experience the most significant increase in demand by 2012.

Figure 5.



An increase in retail spending of $77 million in the moderate growth scenario and of $128 million in the aggressive growth scenario will lead to an overall positive spending gap in both situations if the current mix of retailers does not change. The general merchandise (i.e. Target, Wal-Mart, and Alco), gas stations, and food and beverage show categories the greatest increase in demand, while the restaurants and bars, clothing, health and personal care, and auto-motive categories still show negative gaps, indicating that Junction City will still attract retail dollars in these categories from outsiders even with substantial household growth.

Using industry sales per square foot data from Dollars and Cents and BizStats.com, there will be demand for the following retail stores.

- **Moderate Growth** – Junction City will be able to support one additional furniture store (i.e. Cost Plus), two small electronics stores (i.e. Radio Shack), one medium-size grocery store, two service stations, and two to three limited-service restaurants (i.e. Panera or McDonald's).
- **Aggressive Growth** – Junction City will be able to support one furniture store, three electronic stores, a supermarket, four service stations, one miscellaneous store retailer, and about five limited-service restaurants. There will also be demand for a 45,000 square foot general merchandise store similar to Alco.

Summary

There will be additional demand generated by the expansion of Fort Riley that could be captured by Junction City retailers, although there will be considerable competition from Manhattan, which already has a more robust retail market given its size and student population. Nonetheless, Junction City is expected to receive more military households than Manhattan due to its more favorable location and more affordable housing prices. Also, the proposed Smokey Hill Marketplace will likely meet future demand for retail if the mix of tenants is geared to fill prospective gaps in the retail market.

Finally, the projections for future retail demand encompass all of Junction City. Although most population growth and household growth will occur along US 77, the area may not be suitable for large-scale retail development, given traffic and access limitations. The most likely retail uses along the US 77 corridor are neighborhood commercial uses, such as a beauty products store, barber shop, a small music store, or restaurants, which are typically contained in relatively small strip centers or free-standing stores.

[7]This analysis assumes that retail spending in each sector increases by the same proportion as overall retail spending (58 percent and 94 percent for the moderate growth and aggressive growth scenarios, respectively).

OFFICE MARKET

Office space in Junction City is generally relegated to governmental entities, banks, medical offices (i.e. dentist or private physician), business services, law offices, and offices at industrial and commercial facilities. The market for office-only facilities is relatively weak in Junction City, as these businesses typically do not require large facilities. Nonetheless, the rapid growth in the area will increase demand for office space, as more doctors, government workers, lawyers, and others will be needed to serve the burgeoning population. At the same time, much of the demand for additional office space that has been generated by companies such as GSC, Ventria, and EdenSpace, is or will be contained within their production facilities. This trend is likely to be the case if similar facilities locate in Junction City or if existing facilities expand.

A significant occurrence in the past few years has been the announcement that both Capgemini and Unplugged Cities will located call/customer service centers in Junction City, which is considered "back office" space. A main reason these companies are locating in Junction City is the influx of military families to the area, which brings spouses and other dependents who will be looking for work. If these facilities are successful and there are a sufficient number of additional workers, it is possible that additional facilities will move to the area, creating additional demand for this type of office space.

As with population growth, household growth, and the increase in retail demand, the initial increase in demand for office space will occur by 2012. Including the Capgemini and Unplugged Cities facilities, there will be demand for an estimated 300,000 to 450,000 square feet of new office space in Junction City during the next 20 years. Some office facilities may locate along US 77 in the Jack Lacy Industrial Park, I-70 Industrial Park, or the Tom Neal Business and Technology Park. There is limited space for office development along the corridor outside of these industrial and business parks, although there is other space throughout the city.

Table 4. Office Land Demand Projections

Land Demand Projections, 2007-2027 Total Office (incl. medical, finance, business services, government)		
	Moderate	Aggresssive
	Space Demand and Absorption* *Net Acres/Units of Space Demand (SF Floor Area)*	
2007-2012	250,000	325,000
2012-2017	25,000	50,000
2017-2027	25,000	75,000
TOTAL	**300,000**	**450,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use (0.35 FAR)*	
2007-2012	16	21
2012-2017	2	3
2017-2027	2	5
TOTAL	**20**	**29**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure (1.35)*	
2007-2012	22	28
2012-2017	3	4
2017-2027	3	7
TOTAL	**28**	**39**

**Assumes 350 gross square feet per employee for Capgemeni facility- Planner's Estimating Guide: Projecting Land-Use and Facility Needs , by Aruthr C. Nelson, 2004*

Market Analysis

INDUSTRIAL MARKET

Prior to the expansion of Fort Riley, Junction City was already home to Foot Locker's distribution facility for the US, as well as GSC's North American distribution center and a Conagra sausage plant. The expansion of Fort Riley has contributed to the expansion of the city's industrial sector, as GSC recently completed a new warehouse and is expected to construct another 125,000 square foot facility. Other companies, such as Ventria, have also located to the area bringing new jobs in new sectors (bioscience). As with office space, the continued success of these companies combined with a growing workforce may attract additional companies to the area, which will fuel additional demand for industrial space.

Junction City has four main locations for industrial facilities: Kaw Valley Industrial Park (Grant Avenue), Republican River Industrial Park, I-70 Industrial Park, and Jack Lacy Industrial Park. I-70 Industrial Park is the largest in the city and is home to Foot Locker, Ventria, and GSC. Each industrial park has room to grow and it is unlikely that the city will have to designate additional land for industrial purposes for many years. Jack Lacy Industrial Park and I-70 Industrial Park are located along the US 77 corridor.

Table 5. Industrial Land Demand Projections

Industrial Land Demand Projections, 2007-2027 Total Industrial (incl. flex space, contractors, manufacturing, wholesale trade)		
	Moderate	Aggresssive
	Space Demand and Absorption* *Net Acres/Units of Space Demand (SF Floor Area)*	
2007-2012	200,000	300,000
2012-2017	50,000	100,000
2017-2027	50,000	75,000
TOTAL	**300,000**	**475,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use (0.25 FAR)*	
2007-2012	18	28
2012-2017	5	9
2017-2027	5	7
TOTAL	**28**	**44**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure (1.5)*	
2007-2012	27	42
2012-2017	8	14
2017-2027	8	11
TOTAL	**43**	**67**

**Includes space currently under construction or planned (Ventria, GSC, etc.)*

Demand for Schools

USD 475 has already constructed a new Middle School and is considering future schools in west Junction City due to the growth that has already occurred in the area. A new middle school is under construction off K-18 about one-half mile west of US 77 and Spring Valley Elementary School is under construction just north of Tom Neal Business and Technology Park. Two additional elementary schools are planned south of the middle school. Additional population growth will fuel additional demand for educational facilities, especially considering that many military families have young children. The greatest demand will be for elementary schools.

USD. 475 publishes enrollment figures on their website (http://www.usd475.org/info/aboutdistrictfacts.htm). As of September 2006, the district had nearly 6,400 students. Assuming that about two-thirds of the enrollment for the district comes from Junction City, about 4,200 students originate from Junction City households. This is the baseline for the education space needs projections. Overall, an estimated 1,700 to 3,230 new students will move to Junction City during the next 20 years, which will greatly increase the demand for school space.

Table 6. Education Land Demand Projections

Education Land Demand Projections, 2007-2027 Total Education (K-12)		
	Moderate	Aggresssive
	New School Enrollment (K-12)**	
*2006 Enrollment**	*4,200*	*4,200*
2007-2012	1,300	2,800
2012-2017	50	210
2017-2027	50	220
TOTAL	**1,400**	**3,230**
	School Building Space Demand (SF) *Assumes 115 square feet per pupil****	
2007-2012	150,000	322,000
2012-2017	6,000	24,000
2017-2027	6,000	25,000
TOTAL	**162,000**	**371,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use (0.20 FAR)*	
2007-2012	17	37
2012-2017	1	3
2017-2027	1	3
TOTAL	**19**	**43**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure (1.15)*	
2007-2012	20	43
2012-2017	1	3
2017-2027	1	3
TOTAL	**22**	**49**

**September 2006 enrollment figures from USD 457 Geary County Schools. Assumes that 67 percent of total students (6,374) come from Junction City*

***Enrollment projections based on DSI population growth estimates and pupil per dwelling unit calculations provided by Ehlers & Associates, Inc., November 2000*

Demand for Other Institutional Space

The population growth in Junction City will fuel demand for more schools than any other type of institutional space (i.e. jails, government offices, police and fire stations, etc.). Nonetheless, the dramatic increase in population with significantly increase demand for such services, which, in turn, will drive demand for new institutional space.

Table 7. Institutional Land Demand Projections

Institutional Land Demand Projections, 2007-2027 Excludes Schools (incl. hospitals, higher eduction, gov. agencies)		
	Moderate	Aggresssive
	Space Demand and Absorption *Net Acres/Units of Space Demand (SF Floor Area)*	
2007-2012	100,000	175,000
2012-2017	50,000	75,000
2017-2027	25,000	25,000
TOTAL	**175,000**	**275,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use (0.35 FAR)*	
2007-2012	7	11
2012-2017	3	5
2017-2027	2	2
TOTAL	**12**	**18**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure (1.35)*	
2007-2012	9	15
2012-2017	4	7
2017-2027	3	3
TOTAL	**16**	**25**

CONCLUSIONS

An increase in demand for new residential units, retail options, office space, industrial facilities, and schools is already evident in Junction City and city, county, and school officials have planned well for much of the growth that has occurred to date. For instance, a significant amount of land has been annexed into the city on its west side and has been zoned residential. Also, a few new schools are currently under construction and the school district has additional schools planned in the area in anticipation of further growth. The city has also created a new business and technology park to support and attract growing bioscience companies.

Citywide, the growth associated with the expansion of Fort Riley (including growth that has occurred since 2005) will fuel demand for an additional 1.25 to 2.17 million square feet of office, industrial, institutional, and school space, in addition to the thousands of housing units planned for the city. This will result in demand for about 146 to 250 acres of land for future growth in these sectors (excluding residential).

Table 8. Aggregate Land Demand Projections

Aggregate Land Demand Projections, 2007-2027 Total from all Sectors		
	Moderate	Aggresssive
	Residential Units	
2007-2012	3,600	6,000
2012-2017	100	400
2017-2027	100	400
TOTAL	**3,800**	**6,800**
	Space Demand and Absorption* *Net Space Demand (SF Floor Area)*	
2007-2012	1,000,000	1,620,000
2012-2017	140,000	280,000
2017-2027	110,000	270,000
TOTAL	**1,250,000**	**2,170,000**
	Land Demand and Aborption *Acres of Land by Primary Land Use*	
2007-2012	86	143
2012-2017	12	23
2017-2027	11	23
TOTAL	**109**	**189**
	Gross Land Use Demand and Absorption *Total Acres Required incl. Utilities and Infrastructure*	
2007-2012	113	186
2012-2017	17	32
2017-2027	16	32
TOTAL	**146**	**250**

The US 77 and K-18 corridors are absorbing and will continue to absorb the majority of the residential growth in the city. Most, if not all, new schools will also be built in the area because of the residential growth, and the I-70 Industrial Park and Jack Lacy Industrial Park are poised to absorb a significant amount of industrial growth. Like-wise, the Tom Neal Business and Technology Park is also poised to absorb a substantial amount of office and re-search facility growth.

At the same time, the US 77 and K-18 corridors will not absorb a significant portion of the city's retail growth. This is because these corridors are not an ideal location for large concentrations of retail given the area's residential nature, as well as traffic and access limitations. Thus, it is assumed that thesw corridors will absorb:

- 80 percent of all residential, school, and industrial growth;
- 50 percent of all office growth; and
- 10 percent of all institutional and retail growth.

Thus, about 670,000 to 1.1 million square feet of building space will be required along or near the US 77 and K-18 corridors to accommodate future demand for retail, office, industrial, school, and other institutional space. This amounts to about 84 to 133-acres. Most of this demand will be accommodated in existing facilities (i.e. the Tom Neal Business and Technology Park, and the Jack Lacy and I-70 industrial parks) or land that has already been set aside for future uses (i.e. land for future schools). Some of the facilities reflected in the square footage figures are already planned or under construction.

Land Use Plan

PLAN USE

The Land Use Plan (see Exhibit 2 on Page 20) is intended to be used as a guide by the Junction City, Milford and Geary County in considering future development proposals within the Study Corridor. The policies within this chapter work together with the US 77/K-18 Land Use Plan Map (see Exhibit 2) to provide a guide for future development. When considering development proposals within the Study Corridors, City and County staff and officials will consider the following factors:

- Existing access to US 77 or K-18.
- Recommended access and improvements.
- Identified land use designation on the Land Use Plan Map (Exhibit 2).
- The type, size and density of surrounding existing development.
- The adequacy of infrastructure to support the proposed development; especially improved roads, water and wastewater provisions.

RELATIONSHIP TO THE COMPREHENSIVE PLAN

The *Junction City/Geary County Comprehensive Plan* was adopted in April 2007 and serves as the official future land use guide for Junction City and unincorporated Geary County. Because the Comprehensive Plan was recently adopted, it was used as a key starting point for the development of a land use plan for the Study Corridors. Refinements were made based upon input received during the planning process as well as the preferred access management and transportation strategy. For the most part, the future land use categories were retained from the Comprehensive Plan with strategic refinements and additions. A key addition is the requirement for a traffic study and specific access guidelines.

ACCESS GUIDELINES

The public process overwhelmingly identified the need to improve safety along US 77 and K-18. Other concerns included the need to enhance mobility while balancing the need to provide reasonable access to local businesses and residences. Therefore, a reasonable and flexible access strategy was identified to allow areas adjacent to the Study Corridors to develop in a managed way. This strategy protects existing uses while ensuring that future uses meet the identified standards. Identified driveways within the Plan Plates will be considered a non-conforming use. Existing driveways will be "grandfathered" allowing for the implementation of Plan policies and standards over time. The local jurisdictions and KDOT will work proactively with individual property owners to seek opportunities to close identified driveways and relocate access to the nearest improved collector or arterial road. However, the property owner must relocate existing driveways at their own expense in conformance with the Plan under the following conditions:

- The property is subdivided; and/or
- The property owner requests a zoning change to a higher intensity use; or
- Enlargements or improvements of existing uses increase the gross square footage by 25 percent or more (excluding agricultural uses and rural residences).

PLAN REVIEW

This Plan should be included as an amendment to the existing Comprehensive Plan. All new development plans within the Study Corridor should be reviewed by the appropriate jurisdictions for conformance to this Plan. Usually, this review occurs at the rezoning or platting process. However, within the County, minor subdivisions do not go through the full platting process with County review. Therefore, before a building permit is issued, it is recommended that the County review a site plan to ensure the proposed development meets the Plan's land use and access guidelines.

LAND USE CATEGORIES

US Corps of Engineers (USACE) Leased Property: These areas owned and governed by the USACE. However, unlike the areas highlighted in green, the USACE has the option to lease the properties to outside parties to support recreational/resort or other approved uses. As stated before, the Cities and County do not have jurisdiction over USACE properties. During the workshop process, participants noted that a potential resort-type development may occur in the future in one of the leased areas.

Allowed Uses:

- Recreational/resort uses.
- Cabins, campgrounds, and other types of lodging approved by the USACE.
- Other uses approved by the USACE.

Required Infrastructure:

- The USACE is encouraged to coordinate with the Study Partners to ensure adequate infrastructure to these areas to support future development including the use of the Plan Plates to guide future access and improvements.

Employment: These areas are intended to provide a stable employment base through a wide-range of industries and businesses supported by available infrastructure and proximity to interstate, highway and rail.

Allowed Uses:

- Manufacturing and processing.
- Warehouse and distribution.
- Business parks.
- Related retail services and office.

Landscape Treatments (If adjacent to a lesser-intensive use):

- A minimum 50-foot setback with a landscape buffer consisting of a combination of a berm, fence or structure, groundcover, shrubs and trees.
- Landscape treatments will also be provided along the property frontage to screen buildings and parking areas from US 77 or K-18 and adjacent arterial roads.

Required Infrastructure:

- Central sewer required.
- Municipal water required.
- Access to an improved or new arterial road with dedicated turn lane(s); and
- Paved internal roads are required with curbs and gutters.
- New developments will require a traffic study to determine the need for improvements to the parallel arterial road network as well as US 77 and K-18 system improvements such as turn lanes, lighting, signals, roundabouts, interchange improvements, etc. caused by the development.

Potential Future Development: These areas currently lack quality access and infrastructure to support new development. However, if a new interchange is constructed in the area, and the City extends the necessary infrastructure to support the development, these areas may support future employment uses.

Allowed Uses:

- Uses allowed under the "Employment" or "Retail/Office" categories.

Required Infrastructure:

- See the "Employment" or "Retail/Office" categories.

Retail/Office: Allows a wide-range of commercial and office development.

Allowed Uses:

- Commercial-retail including grocery stores, sit-down restaurants, drive-through restaurants, convenience stores, service stations, drug stores, banks, etc.
- Professional office and services.
- Hotels and motels.
- Churches and other quasi-public uses.

Landscape Treatments (If adjacent to a lesser or more intensive use)

- A minimum 25-foot setback with a landscape buffer consisting of a combination of a berm, groundcover, shrubs and trees.
- Landscape treatments will also be provided along the property frontage to screen buildings and parking areas from US 77 or K-18 and adjacent arterial roads.

Required Infrastructure:

- Central sewer required.
- Municipal water required.
- Paved internal roads are required with curbs, gutters, sidewalks and street lights.
- Access to an improved or new arterial road with dedicated turn lane(s).
- Existing access to US 77 or K-18 will be modified according to the Plan Plates (See Appendix A).
- New developments will require a traffic study to determine the need for improvements to the parallel Arterial road network as well as US 77/K-18 system improvements such as turn lanes, lighting, signals, roundabouts, interchanges, etc. caused by the development.

Land Use Plan

Public: These areas include publicly-owned and operated buildings, schools, etc.

Allowed Uses:

- Public buildings and property.
- Utilities.

Required Infrastructure:

- Public buildings will require access to an improved or new collector or arterial.

Suburban Neighborhood: These areas are intended to provide a wide-range of housing choices including attached and detached residences with a densities ranging from 3 to 24 dwelling units per acre. A majority of these areas will be single-family detached residential.

Allowed Uses:

- Single-family detached and attached (duplexes, townhomes, etc.) residences.
- Apartments.
- Elderly housing.

Landscape Treatments (If adjacent to a lesser or more intensive use such as single-family and multi-family)

- A minimum 10-foot setback with a landscape buffer consisting of a combination of groundcover, shrubs and trees.
- Landscape treatments will also be provided along the property frontage to screen buildings and parking areas from US 77 or K-18 and adjacent arterial roads.

Required Infrastructure:

- Central sewer required.
- Municipal water required.
- Paved internal roads are required with curbs, gutters and sidewalks (on at least one side of the street).
- If a lot split or subdivision is requested, the property owner will be asked to remove the existing driveway to US 77 or K-18 and provide new access to an improved or new collector or arterial.
- New developments will require a traffic study to determine the need for improvements to the parallel collector or arterial road network as well as US 77/K-18 system improvements such as turn lanes, lighting, signals, roundabouts, etc. caused by the development.

Agriculture/Rural Residential: These areas represent the last expansion and growth areas for the cities. It is unlikely that these areas will be served by municipal sewer or improved roads within the next 20 years. Some of these areas, due to physical constraints such as significant topography or flood plain may remain rural indefinitely. As identified in the Comprehensive Plan, these areas may support clustered development allowing higher densities in exchange for preservation of open space and environmentally sensitive areas. These types of developments are allowed provided that the net overall density is not greater than 1 dwelling unit per acre and any existing access along US 77 or K-18 is relocated in conformance with the Plan Plates to a the nearest collector or arterial road.

Allowed Uses:

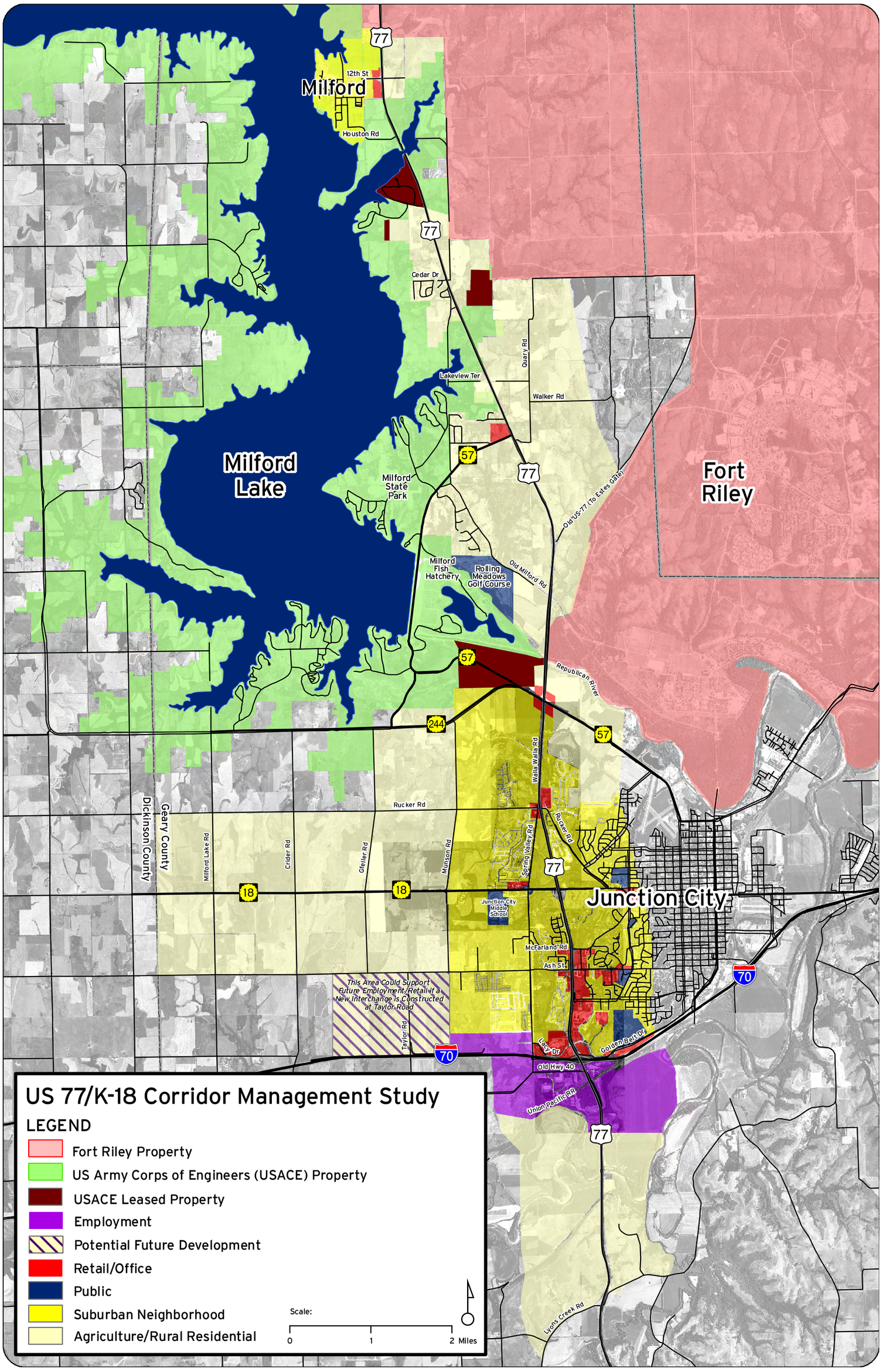
- Agriculture.
- Ranches.
- Single-family detached residential development on large lots.

Required Infrastructure:

- On-site septic systems allowed (subject to inspection).
- Wells or municipal water.
- Gravel or chip and seal local road.
- Access to county collector or arterial. If a lot split is requested, the property owner will be asked to remove the existing driveway to US 77 or K-18 and provide new access to an improved or new collector or arterial road.

Agriculture uses are exempted from the access requirements. Additionally, a one-time family subdivision will be allowed provided that the newly subdivided property shares the existing driveway or provides new access (within access spacing requirements) to a parallel arterial or collector road.

EXHIBIT 2: US 77 AND K-18 LAND USE MAP



Traffic Analysis

INTRODUCTION

The US 77 and K-18 Corridor street network and traffic analyses were performed for the planning horizon of 2027. The traffic analysis focused on developing US 77 and K-18 Study Corridor intersection improvements that would operate at an acceptable level of service for 2027. The primary traffic including an accident analysis as well as a Highway Capacity Manual (HCM) methodology operational analysis of key intersections along US 77 and K-18. Based upon this analysis, this section provides recommended future improvements for intersections along US 77 and K-18.

NATIONAL, REGIONAL AND LOCAL CONTEXT

As shown in Figure 6, US 77 spans from Canada to Mexico. Both US 77 and K-18 serve an important role in moving regional traffic through the area. Regionally, US 77 provides an important connection north to Lincoln, Nebraska and Interstate-80 and south to I-35 and the Wichita area. Important local connections include but are not limited to Wakefield and Marysville Kansas to the north and Florence and El Dorado to the south. Likewise, K-18 provides important regional and local connections including Bennington and US-81 to the west and Ogden and Manhattan to the east.

Figure 6: US 77 National Context

TRANSPORTATION LAND USE CYCLE

Increased development pressures along the US 77 and K-18 brought the study partners together to discuss land use and transportation issues. As development along US 77 and K-18 occurs, traffic increases. In addition to increases in traffic, there are numerous driveways on US 77 and K-18, causing accidents and lower operational efficiency. The impending impacts from Fort Riley have already been felt through development pressure within the Study Corridors. Additionally, a new Junction City Middle School located along K-18 west of Spring Valley Road, significantly increasing traffic within this area.

MOBILITY VERSES ACCESSIBILITY

If a transportation corridor becomes too congested with high traffic volumes, traffic operations can begin to experience congestion and adjacent land uses will ultimately suffer. Individuals make choices about where they live, work, shop, play and so do businesses in part based on the amount of travel time it takes them to access these destinations. Figure 7 shows the cycle of transportation and land use development.

There is a trade-off between mobility and accessibility when identifying the type of transportation improvement that best fits an area. Land uses, especially commercial, office and industrial, uses need to be accessible to and from the transportation network. However, these uses also need to be convenient to areas where people live.

Figure 7: Transportation Life Cycle

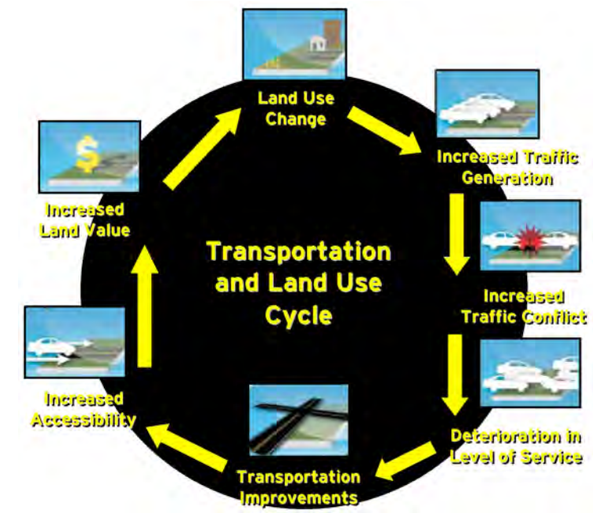
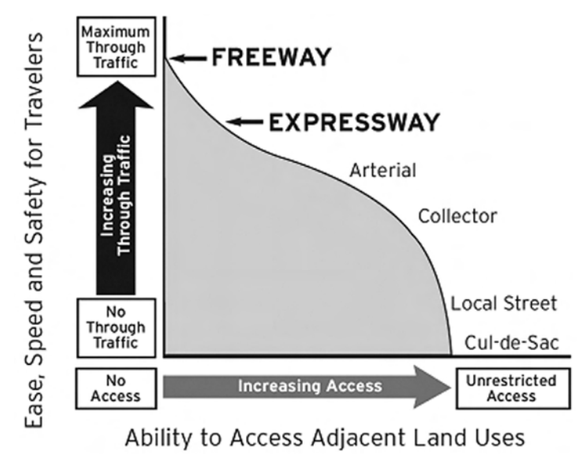


Figure 8: Accessibility and Mobility Trade-Off



Traffic Analysis

TRAFFIC ANALYSIS

The consultant team used a travel demand model to analyze traffic demand and travel characteristics for the US 77 and K-18 corridors. Results from this analysis were used to recommend improvements to US 77 and K-18 as well as to test potential improvements identified at the workshops. Data collected included a market analysis, land use plans, traffic counts, accident data. Peak turning movement traffic counts at key intersections were collected and used during model calibration and existing analysis.

Safety Analysis

The purpose of the safety analysis was to identify high accident locations along US 77 and K-18. Five years of crash data was provided by KDOT from 2000 to 2005, and is shown in Exhibit 3. Traffic safety was discussed with the Technical Team, Stakeholders and the public at the workshops. The following conclusions were based on the analysis, as well as workshop comments:

- Almost half of the crashes recorded along the corridors were animal-related and nearly one-quarter of the crashes involved two or more vehicles at intersections.
- Safety at the US 77 and K-57/244 intersection was a concern expressed at Workshop #1. It was noted by a participant that nine fatalities had occurred at this intersection in a one-year period. Data indicates that this is the highest accident location along the corridor; however, no fatalities were reported during the most recent 5-year period. The latest traffic data from 2006 or 2007 may include these fatalities.
- Exhibit 3 shows potential safety issues south of I-70 near the Foot Locker Distribution Facility entrance. Possible causes for the crashes are not apparent based on traffic data, alone, however, crashes are most likely occurring during shift changes at the plant.
- There are potential safety concerns at US 77 and Old Highway 77 due to the skew of the intersection. Geometric improvements should be considered.
- The safety of pedestrian movements near the Junction City Middle School was expressed as a concern by participants. Posted speed limits along K-18 in this area are 60 mph.
- It was noted that traffic queues block driveways during the AM peak near the intersection of US 77 and Ash Street.

Potential Solutions for Animal-Related Crash Reduction

Prevention efforts have focused on warning signs to alert drivers to animal crossings, speed restrictions, roadway fencing and underpasses/overpasses aimed at directing animals toward safe passage, roadside clearing, roadside mirrors and reflectors (i.e., to deflect headlight beams toward the sides of the road to alert deer), and reduction of deer populations through recreational hunting. Evaluation studies have been conducted to assess the cost and effectiveness of these methods, but the results are inconsistent. Physical improvements such as fences can be effective but are expensive to build and maintain.

Primary prevention of motor vehicle animal crashes can be accomplished by keeping large animals, especially deer, from entering the roadway or by providing drivers with more time to react to a potentially dangerous situation. The same behaviors that are recommended to help prevent crashes in general are relevant for motor vehicle animal crashes. Driving within speed limits, staying alert and reducing distracted and drowsy driving, and eliminating alcohol-impaired driving will give drivers, particularly teenagers and younger adults, more time to react and avoid collisions. Prevention of injury if a crash occurs can be accomplished by the universal use of proper restraints, including safety belts, child safety seats, and booster seats.

INTERSECTION IMPROVEMENTS

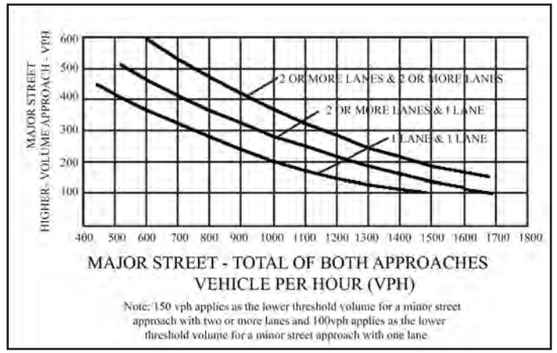
The traffic analysis generated an understanding of needed improvements for key intersections along US 77 and K-18. This intersection traffic analysis utilized traditional Highway Capacity Manual, 2000 methods. Table 9 shows the level of service thresholds based on intersection delay for signalized and unsignalized/roundabout intersections. Design level of service D was used as the acceptable level of service. The Manual on Uniform Traffic Control Devices (MUTCD) was used to identify where traffic signals would be needed. Figure 9 shows the graph used to identify where signals are warranted.

Table 9: Level of Service Thresholds

LOS	*Signalized Intersections* Avg. Delay (sec/veh)	*Unsignalized / Roundabout Intersections* Avg. Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Highway Capacity Manual, 2000.

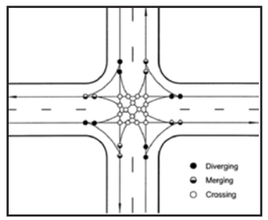
Figure 9: MUTCD Signal Warrant, Peak Hour



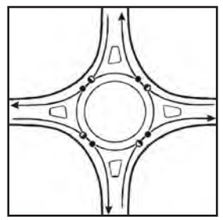
Traffic Signals and Roundabout Considerations

As shown in Figure 10 below, a conventional signalized intersection has significantly more conflict points than a roundabout intersection. More conflict points provide increased opportunities for collisions. For this reason, roundabouts were also considered at key intersections.

Figure 10: Conventional and Roundabout Conflict Points



Conventional Intersection



Roundabout Intersection

As shown in Figure 10, left, a conventional intersection has 32 conflict points while a roundabout intersection has 8 conflict points. It should be noted that a roundabout may not work at all locations. A roundabout works best when a majority of traffic flows in primarily one direction. When heavy traffic flows in two directions, (unless the roundabout is very large) vehicles can back-up in the roundabout causing significant delays.

EXHIBIT 3: ACCIDENT SUMMARY MAP

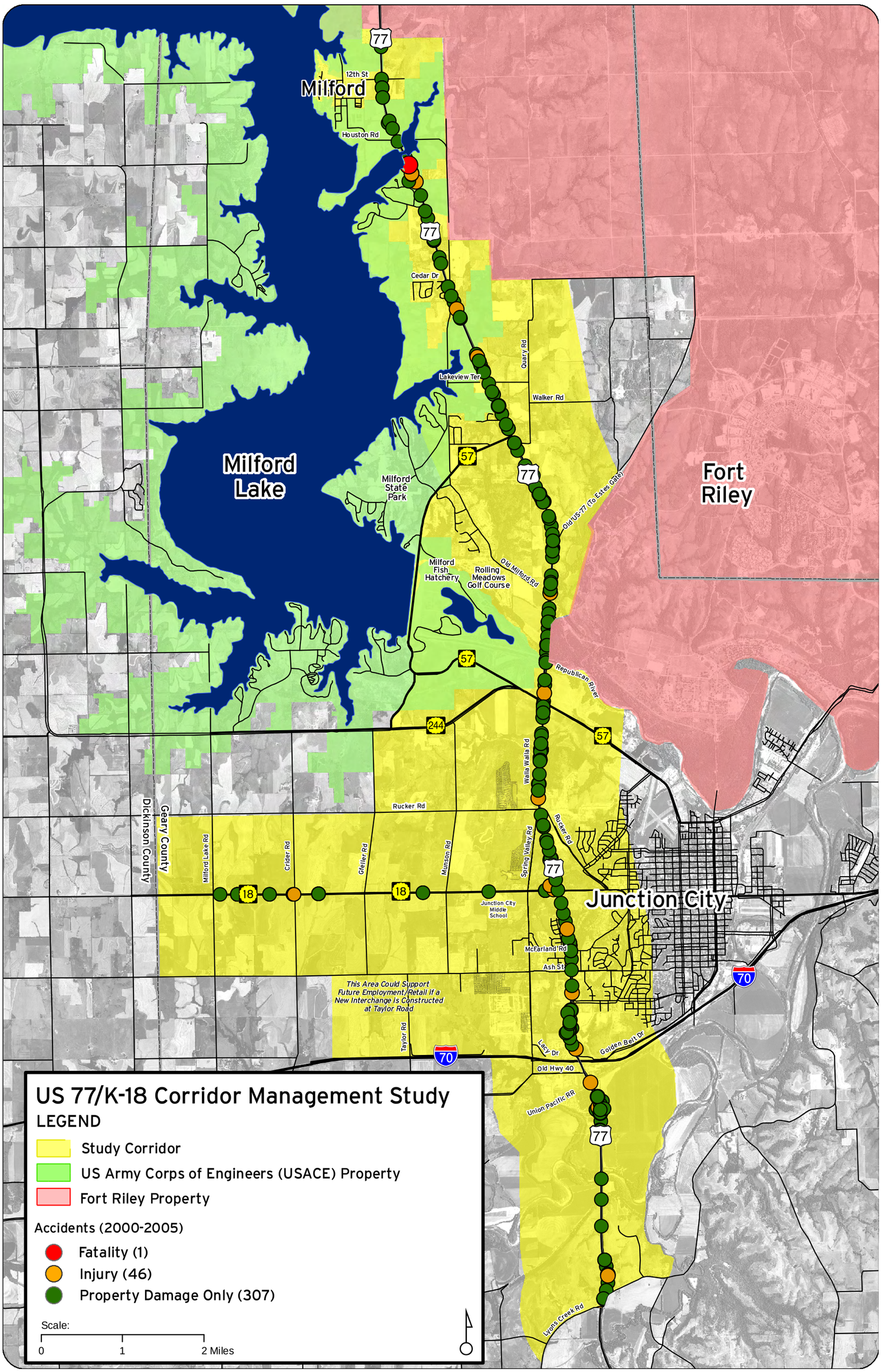


Table 10 shows the recommended intersection improvements. Geometric improvements as well as intersection improvements are described in greater detail in Chapter 6, Transportation Recommendations. The final recommendations included within the Plan Plates were based upon the traffic analysis, geometric analysis and input from the Technical Team, Stakeholders and general public.

Key Considerations:

- **US 77 and Old US 40**: A roundabout was tested at this intersection, however, due to heavy volumes and turning movements south from the Foot Locker and the I-70 Interchange, a traffic signal was selected as the best option. It should also be noted that a signal is identified on the Plan Plates for the intersection south of Old US 40 and the Union Pacific rail line fronting the Foot Locker Distribution Facility. Members of the Technical Committee noted that the area to the east of this intersection would develop as industrial in the future.
- **US 77 and Lacy Drive/Goldenbelt Road**: A roundabout was tested at this intersection, as well as a potential realignment of the intersection north to improve spacing between the intersection and the I-70 Interchange. However, due to heavy traffic volumes from I-70 and turning movements from adjacent developments, a traffic signal was selected as the best option.
- **Ash Street**: Ash Street has an existing signal. However, based on the 2027 traffic numbers, this street will need to be widened in the future to handle additional east-west movements.
- **McFarland Road**: McFarland Road has an existing signal, however, due to the proximity to Ash Street, an option was considered to either close access to McFarland from US 77 or to only allow right-in/right-out from US 77, The former improvement is included as an option on the Plan Plates, however, based upon public input and direction from the Technical Team, the preferred option is to keep the existing signalized intersection with full turning movements.
- **K-18 Ramps**: Existing traffic turning movements were not available for the K-18 interchange ramps. However, based on proposed geometric improvements that will provide a full interchange, traffic signals are identified for the K-18 ramps.
- **US 77 and K-57/244**: A roundabout was tested at this intersection, however, due to heavy volumes from the intersection of two highways, a traffic signal was selected as the best option.
- **K-18 and Spring Valley Road**: A roundabout was considered at this location, however, due to the proximity of a historic property on the southeast corner of the intersection, a traffic signal was selected as the best option.
- **K-18 and Karns Drive**: This intersection is not shown in the table. Karns Drive is a proposed road that provides access to the west side of the Junction City Middle School. Potential plans include the possible extension of the road north of K-18. Participants at the workshops were concerned about traffic speeds through this area. A roundabout was identified at this intersection to serve future turning movements and to serve as a transition to slow east-bound traffic into Junction City. This option is included in the Plan Plates to preserve right-of-way for a potential roundabout in the future.

Table 10: MUTCD Signal Warrant, Peak Hour (Year 2027)

Intersection	Existing Intersection Control	AM Peak		PM Peak		Recommendation
		Intersection Analysis*	MUTCD Warrant	Intersection Analysis*	MUTCD Warrant	
US 77 and Old US 40	Stop Control	n/a	n/a	F	Warranted	Traffic Signal
US 77 and I-70 SB Ramp	Stop Control	F	Warranted	F	Warranted	Roundabout
US 77 and I-70 NB Ramp	Stop Control	F	Warranted	F	Warranted	Roundabout
US 77 and Lacy/ Goldenbelt	Stop Control	F	Warranted	F	Warranted	Signal w/ Improvements
US 77 and Ash	Traffic Signal	F	-	F	-	Intersection Improvements
US 77 and McFarland	Traffic Signal	-	-	-	-	-
US 77 and K-18 On Ramp	Stop Control	-	-	-	-	-
US 77 and K-18 Off Ramp	Stop Control	-	-	-	-	-
US 77 and Spring Valley	Signal	D	-	D	-	Signal or Roundabout
Rucker & US 77	Stop Control	F	Warranted	F	Warranted	Signal
US 77 and K-57/244	Stop Control	F	Warranted	F	Warranted	Signal
US 77 and Rifle Range	Stop Control	F	Warranted	F	Not Warranted	Signal or Roundabout
US 77 and Old US 77	Stop Control	F	Warranted	F	Warranted	Signal or Roundabout

ACCESS MANAGEMENT STRATEGY

The recommended intersection improvements are intended to work in conjunction with other geometric and mainline improvements. In addition, a sound access management strategy is critical to enhancing safety and ease of travel along US 77 and K-18. This access management strategy is described in detail in Implementation Chapter and outlined within the Plan Plates.

Transportation Recommendations

CORRIDOR PRESERVATION PLAN

The creation of this Plan is a significant milestone in the preservation of the integrity of US 77 and K-18. Through the course of this study, it has been decided that the long term goal for US 77 and K-18 is to be maintained and enhanced as an expressway-type facility. The results of this study and the Plan Plates (see Appendix A) are a tool for KDOT, Junction City, Milford, and Geary County to plan for future access consolidation as well as future right-of-way for proposed improvements. The goal of the access consolidation and transportation improvements are to improve safety and ease of travel along US 77 and K-18. This chapter provides more detailed descriptions for an overall access strategy and proposed transportation improvements. Appendix A provides Plan Plate drawings at a scale allowing the proposed local street network system to be shown and defines future access to these facilities as well as the right-of-way preservation needs for associated intersection improvements.

Plan Plate Components: (More specific descriptions by area are included later in this section)

- **Parallel Network**: The Plan Plates show existing and proposed arterial, collector and local road network for the corridor. US 77, K-18 and these parallel roads function as an integrated system that serves different destination and travel purposes. Designing an effective street network will ultimately enhance safety and the ease of traffic flow along US 77 and K-18.
- **Proposed Right-of-Way**: The Plan Plates show an estimate of future right-of-way, highlighted by the yellow dashed line, for mainline US 77, K-18 and associated intersection improvements. Along mainline US 77, the existing right-of-way will be used to the extent possible for the future improvements. However, along much of the corridor, particularly at intersections, additional right-of-way will be required. Any proposed development within these locations should check the plates to ensure that future improvements do not occur within identified future right-of-way areas.
- **Future Driveway/Access Points**: A key goal of this Plan is to eliminate and/or consolidate identified existing access points along US 77 and K-18 and provide alternative access to the parallel City or County road network. The Plan Plates currently delineate two types of future driveway/access point strategies:
  - **Future Access Removal**: These existing access points, shown by a red "X" on the Plan Plates, represent future access removal within the near term (5 to 10 years) due to impending improvements to mainline US 77 or K-18 and/or intersection improvements.
  - **Opportunity Access Removal**: These existing access points, shown by a green square on the Plan Plates, represent "grandfathered access" to US 77 and K-18. These existing driveways may remain; however, future access removal and relocation may be triggered in the future if and when the property changes use, is subdivided, or improvements increase the square footage by 25 percent or more (excluding agricultural uses and rural residences). Prior to new building permits being issued, the property owner/developer will provide a site plan for review by the appropriate jurisdiction that shows access removal from US 77 or K-18 and relocation to the nearest County or City parallel road. See Future Land Use Plan for specific guidelines.

CORRIDOR-WIDE ACCESS MANAGEMENT TOOLS

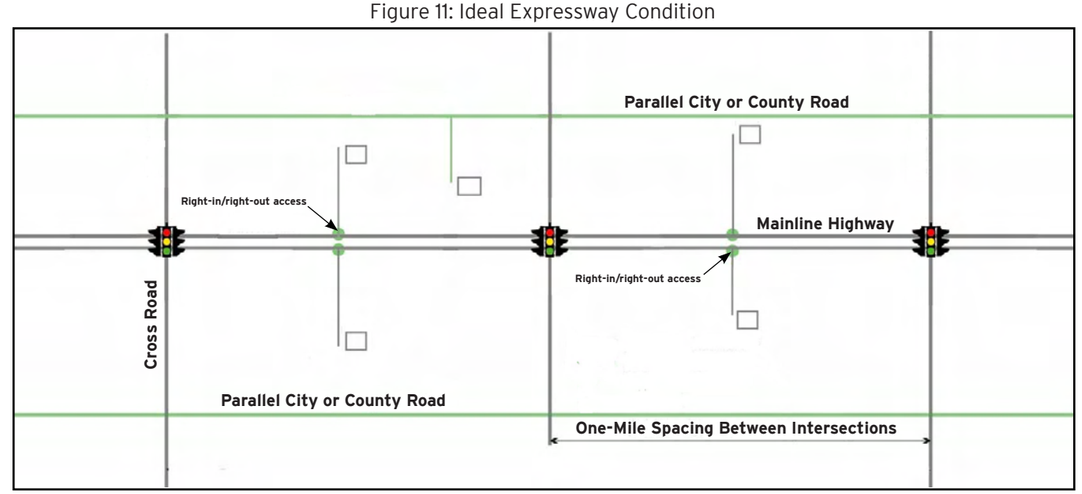
Access management is necessary to protect the safety of the public and the operational efficiency of US 77 and K-18. Effective access management also protects public investment and the continued economic vitality of these corridors. Uncontrolled access on the other hand, can impede development and produce high costs in the future as retrofits are needed. Junction City, Milford and Geary County can undertake access management activities as part of what are known as "police powers" which is the authority to take action to protect citizens' safety, health and welfare. A component of access management is regulation of traffic flow. Regulation of traffic flow could include several actions outlined in the access management tools within this section. Managing access is complicated and requires careful consideration, but, done properly, protects the driving public while also providing adjacent property owners with reasonable access to their property and the parallel road network.

Facility Type

An ***expressway-type facility*** is recommended for US 77 and K-18. The general goals for this facility type are as follows:

- Primary access to US 77 and K-18 will be at controlled intersections spaced approximately one mile apart. Exceptions to this spacing are described later in this section.
- Driveway spacing will be at least one-half mile and should be right-in/right-out; all other existing access should be closed or consolidated.
- All other local access to US 77 and K-18 will be through the parallel road network or frontage roads to connect to the nearest identified intersection location.

Figure 11: Ideal Expressway Condition



LOCAL ACCESS GUIDELINES

Today, portions of existing US-77 and K-18 function as a city-type arterial roadway with numerous intersections and individual driveways. This condition exists through incorporated Junction City from I-70 to K-57/244 and K-18 from US-77 to Karns Drive. Because of the number of existing driveways and access points, Junction City should work with individual property owners to achieve the best possible access solution based upon existing constraints.

Local Access Tools

- Primary access to these portions of US-77 and K-18 will be at controlled intersections.
- The ultimate goal is to have intersections spaced at one-mile with the following exceptions.

  US 77:

  - The intersection of Old Highway 40 is less than one-eighth of a mile from the I-70 ramps. Unfortunately, due to the proximity to existing development and the Union Pacific Rail line, there are no feasible options for relocating the intersection further south.
  - The intersection of Lacy Drive/Goldenbelt Boulevard is approximately one-eighth of a mile from the I-70 ramps. Through the study process, several options were considered including relocating Lacy Drive/Goldenbelt Boulevard north to provide better spacing. However, due to the rather minimal benefit, coupled with significant property impacts on both sides of the road, the current intersections were recommended to remain.
  - Ash Street and McFarland Road are currently spaced at approximately one-quarter mile. One study option recommended making McFarland Road a right-in/right-out. At some point in the future, if congestions along US 77 warrants, Junction City and KDOT may consider this option. However, at this time, based upon input received during the workshops and at the direction of the technical team, the McFarland intersection will continue to be signalized allowing full turning movements.

  K-18:

  - Karns Drive and Spring Valley Road are currently spaced at approximately one-half mile. Karns Drive is a new road intended to serve the Junction City Middle School. At some point in the future, this road will be extended north and south, potentially serving the surrounding neighborhood. During study workshops, participants noted that this area should serve as a transition point between the rural Geary County and Junction City.
- Driveways on parallel City streets and County roads should be located a minimum of 600-feet from collector and arterial street intersections and 1,000-feet from the nearest ramp terminal at interchanges.
- All other existing access should be consolidated through shared parking, cross access, joint access, and access easements.
  - Shared Parking: Shared parking between adjacent properties shall be encouraged to the greatest extent possible. The study partners should consider reducing parking requirements if adjacent property owners agree to share parking. The number of parking spaces shall be dependent upon the types of uses and size of development.
  - Cross Access: Property owners are encouraged to provide cross access and/or shared parking areas between adjacent developments. This should ensure a safe and efficient flow of traffic throughout the study area and allow local traffic to access adjacent developments without having to enter onto US-77 or K-18. Whenever possible, adjacent property owners shall be required to enter into cross access agreements and/or provide cross access easements between properties.
  - Joint Access: Joint access is a single point of access to one or more properties. Joint access may provide one or more points of entry and access between adjacent developments. At a minimum, property owners should be required to provide access between all adjacent developments. This should provide vehicles the opportunity to access adjacent developments without having to enter onto US-77 or K-18.
  - Access Easements: Access roads, cross access easements and/or joint use driveways shall be incorporated in the site review process. Property owners shall dedicate an easement allowing for cross access to and from other properties served by joint use driveways. Upon approval by the City or County, the easement shall be dedicated on a plat of the property or by separate legal instrument. The plat or separate instrument shall then be recorded. Whenever possible, rear access roads and cross access points should be utilized.

CORRIDOR PRESERVATION TOOLS

Corridor preservation is the application of planning efforts to identify needed right-of-way and control or protect it for a future transportation facility. Frequently, the application of corridor preservation also accomplishes access management goals by providing connectivity to alternate transportation facilities for existing access points that are desired to be removed. The following tools can be used to preserve right-of-way and accomplish the Plan's access goals:

Right-of-Way Preservation: Junction City, Milford and Geary County should use the Plan Plates to preserve future right-of-way for proposed transportation improvements. This includes integrating the Plan's Land Use Plan and Plate Maps into the site review process through local zoning and subdivision regulations.

Access Consolidation: As stated in the Land Use Plan section of this report, existing driveways should be considered a non-conforming use. This means, if the property owner decides to subdivide or change use of the property, the property owner should implement the Plan's access recommendations as shown in the Plan Plates at the owner's expense. In cases where the property does not change use, KDOT, Junction City, Milford and Geary County should work with individual property owners to meet the Plan's access goals. In these cases, the Partners should consider the following strategies.

Advanced Land Acquisition: Public sector entities have the authority to acquire land for public improvements including state highways and local roads and streets by gift, purchase, or condemnation. Sufficient land may be acquired to accommodate immediate construction needs, as well as for future needs. In appropriate circumstances, public sector entities can acquire interests in land for public improvements in advance of the date of the start of construction.

Land Swaps: Land swaps can be used by local governments to relocate properties within the Study Corridor to accomplish the Plan's access goals. For example, some parcels with shallow lot depths or that are constrained from alternative access because of existing environmental or physical conditions may need to be relocated to areas better suited to provide safe access onto US-77, K-18 or the parallel road network. Once relocated, these shallow lots could be converted to open space.

Eminent Domain: Eminent domain or condemnation is a tool used by state and local governments to acquire land for redevelopment or for the greater good of the community. The condemning authority is obligated to provide the property owner compensation based upon "fair market value" of the property. Typically, this tool is used as a last resort.

LOCAL STREET NETWORK IMPROVEMENTS

The proposed local street network improvements were established through a combination of input from the City and County plans and the workshop process to assess how their local street network was affected by the US 77 and K-18 recommendations. Through this input and use of general traffic planning principles, the following guidelines were established:

Arterials:

1. The primary function is to distribute traffic away from the intersections, serve as medium to longer range travel on the local street network, and distribute traffic to the collector road system.
2. The County Arterials should be planned as two-lane facilities with additional intersection turn lanes as dictated by turning movement volumes.
3. Arterials should be planned to provide control of access as much as possible. For the arterials within Junction City, the desired intersection spacing is one-half mile with right-in/right-outs allowed at one-quarter mile spacing. A typical urban arterial street section is shown on page 31.

Collectors:

1. The primary function is to distribute traffic away from the arterials, provide short range trips to final destinations, and provide access into developments and residential areas.
2. Collectors should be planned as two-lane facilities with an extra left turning lane if warranted.
3. A typical collector streets section is shown on page 31.
4. Generally cities and counties have ordinances that require dedication of right-of-way for roadway purposes as development occurs.

MAINLINE AND INTERSECTION RECOMMENDATIONS

Typical sections for US 77 and K-18 mainline characteristics are provided on page 30 and 31 at the end of this section. Individual intersection or interchange observations are summarized on the following pages. The purpose of the transportation recommendations is to focus on US 77, K-18, the major intersecting highways and the adjacent local street system. US 77, K-18 and the local street network are an integrated system and it would not be prudent to focus on the mainline at the expense of the local street network, or conversely, to have a focus on the local street network at the expense of the mainline.

Before any consideration for improvements to US 77 and K-18, the Consultant Team reviewed the capacity, type, function, and parameters of these highways. Some of the varying roadway characteristics include:

- Number of lanes.
- Type of access control.
- Median divided lanes or undivided.
- Curb and gutter or shoulder.
- Traffic control at intersections.
- Posted speed limit and roadway design speed.
- Frequent driveways or limited private access.

Segment 1: US 77 (Lyons Creek Road to I-70)

The first segment of the US 77 begins at Lyons Creek Road and extends north to the I-70 interchange. This section is currently two-lane and is primarily rural with few private driveways. A majority of this area is within the Smokey Hill River flood plain. However, there is significant industrial development near the I-70 interchange, including a Foot Locker Distribution Facility, Sewer Treatment Plant and KDOT maintenance facility. According to Junction City officials, there is interest in additional industrial uses east of the Highway.

US 77 at Old Highway 40

- Due to the proximity to existing development and the Union Pacific Rail line, there are no feasible options for relocating this intersection further south away from I-70, therefore, the existing alignment is retained.
- A roundabout or signal is warranted at this intersection. A signal is recommended to avoid the more complex navigation of a dual roundabout (dumbbell) arrangement that would be created due to its proximity to the I-70 Interchange.

US 77 at I-70

- A standard diamond interchange configuration is proposed at I-70. This configuration may allow the existing I-70 bridges to be salvaged. Roundabouts will be incorporated at the ramp terminals to facilitate better traffic flow.

US 77 at I-70 (Continued)

- Combining Old Highway 40 with a south terminal roundabout and Lacy/Goldenbelt with a north terminal roundabout was considered, however, this configuration fails due to high turning volumes.
- A future I-70 interchange (potentially at Taylor Road) was discussed at the workshops. This possibility is accounted for in the Land Use Plan and could reduce congestion at the US 77 interchange and improve access to West Junction City. However, a break in access study and environmental process will need to be competed as well as identifying project financing to determine the feasibility and timing of any future interchange.

Segment 2: US 77 (I-70 to Old Highway 77/Old Milford Road)

The second segment of the US 77 begins at the I-70 interchange and ends just north of Old Highway 77/Old Milford Road. This section is currently four-lane and is the most developed area with numerous businesses and emerging multi-family neighborhoods fronting US 77. Due to the amount of development, this section of US 77 operates like a City arterial. Fortunately, Junction City and KDOT have successfully controlled access as most businesses access US 77 from side streets. North of K-57/K244 to Old Highway 77/Old Milford Road is currently rural due to the Republic River flood plain and the proximity to the USACE and Fort Riley property. However, due to the traffic volumes in this area and the connections to Fort Riley and Milford Lake, this segment is identified as an improved four-lane facility with significant intersection improvements to address key safety and mobility concerns through this area.

US 77 at Lacy/Goldenbelt Drive

- Several options were tested to consider the feasibility of relocating Lacy Drive/Goldenbelt Boulevard north to provide better spacing with the I-70 interchange ramps to the south. Relocating the intersection to the north would provide slightly more north bound US 77 storage, but would require significant impact to the bluff in the north east quadrant as well as likely acquisition of the new apartment building. Relocation of the intersection while avoiding the apartment building would possibly require significant retaining walls and/or a skewed intersection on a curve with only minimal increase in North bound US 77 storage length. Due to significant site constraints and traffic impacts, this option would be very costly.
- A roundabout or signal is warranted at this intersection. A signal was selected to avoid the more complex navigation of a dual roundabout (dumbbell) arrangement that would be created due to its proximity to the I-70 Interchange. A roundabout was tested but failed due to north bound US 77 traffic backing up into the I-70 north ramp terminal roundabout.
- To address the spacing issue, a study option shown in the Plan Plates (see Plate 3 and inset 1b) includes a provision for a "Michigan Left" that will also necessitate an additional signal slightly north coordinated with the main intersection signal. At some point in the future, if congestion within this area significantly worsens, Junction City and KDOT may consider this option. However, due to input received at the workshops, including the concerns about out-of-direction travel, the existing intersection configuration will initially remain and be signalized.

US 77 at Lacy/Goldenbelt Drive (Continued)

- Improvements to Lacy/Goldenbelt including additional lanes to accept turning traffic to/from US 77 and the addition of left and right turn lanes are needed.

US 77 at Ash Street

- A roundabout was tested but fails due to large turning volumes.
- Improvements will be needed to Ash Street including potential widening.

US 77 at McFarland Road

- A full intersection would violate desired intersection spacing. A study option, shown in the Plan Plates (see Plate 4 and inset 3b), shows McFarland Road as a right-in/right-out. At some point in the future, if congestions along US 77 warrants, Junction City and KDOT may consider this option. However, at this time, based upon input received during the workshops and at the direction of the technical team, the McFarland intersection will continue to be signalized allowing full turning movements. There is some concern that a right in/right out intersection will produce undesired cut-through traffic to adjacent neighborhoods to access Spring Valley Road. In addition, Ash Street would need to be improved to accommodate additional east-west traffic across US 77.

US 77 at K-18

- An at-grade intersection, while likely possible here, would require extensive earthwork/rock cuts and would eliminate the added safety of an interchange near the new middle school.
- The current loop ramps only meet about 25 mph design speed. If US 77 is widened to a 4-lane median section the extra width would further tighten and/or shorten the ramps if left in this configuration.
- A standard diamond interchange is proposed in order to preserve right-of-way should one be deemed desirable in the future. A rock quarry in the northeast quadrant of this intersection will likely force the east ramps to stay in tight to US 77 making a tight diamond configuration a possibility.
- The current K-18 bridge over US 77 is a concrete box girder bridge built in the late 1950s so it likely is not a great candidate for widening to accommodate a bike/pedestrian path or any turn lanes. A new bridge may be a more economical choice, especially if US 77 is widened as the existing piers may not accommodate much extra width.

US 77 at Rucker Road

- The signalized configuration currently under construction is retained.
- A Roundabout was considered but fails due to large turning volumes. Other potential realignment options resulted in numerous property impacts that are mitigated through retention of the planned improvements.

US 77 at K-57/K-244

- A signal is warranted at this location in the future. A roundabout fails at this location due to high traffic volumes in all directions.
- Realignment of the intersection to remove the skew was evaluated and provided little actual benefit compared to the property impacts and the extensive work required to realign the channelized intersection just to the west.
- Eliminating the channelized intersection just west of here would likely increase safety in the area.

US 77 at Old Milford Road

- A signal or roundabout is warranted at this location in the future.
- A roundabout is proposed to allow continuous flow of traffic and yet slow the traffic in the area of the skewed intersection.

US 77 at Old Highway 77

- A signal or roundabout is warranted at this location in the future. A roundabout is proposed to allow continuous flow of traffic and yet slow the traffic near this busy intersection.
- The intersection was realigned to the north to eliminate the extensive skew and to allow an access connection to the homes and land west of the intersection. This realignment also conforms to the desired intersection spacing along the corridor.

Segment 3: US 77 (Old Highway 77 to 12th Street Milford)

The third segment of the US 77 begins at Old Highway 77/Old Milford Road and ends just north of 12th Street in Milford. This section is currently two-lane and is very rural due to the proximity of the USACE and Fort Riley Property as well as a few topographical constraints. Despite its rural nature, this section has numerous rural residences and subdivisions with driveways fronting US 77.

US 77 at North K-57, Lakeview Terrace, Cedar Drive, and Houston Road

- These stop-controlled intersections function as important access points but do not produce the traffic volumes needed for more elaborate intersection controls.

US 77 at 12th Street in Milford

- This stop-controlled intersection functions as an important access point but does not produce the traffic volume needed for a more elaborate intersection control. Simple improvements such as deceleration lanes would address safety concerns for turning movements in and out of Milford.
- An additional access point onto US 77 approximately 1000' south of the 12th Street intersection was considered to accommodate future development in the area. The intersection was deemed inappropriate due to its proximity to the main 12th Street intersection (would significantly violate the desired 1-mile access spacing), reasonable access being available via 12th Street, Houston Road and/or other city streets, and the possible unsafe nature of the extra intersection in regards to driver expectation and interference with future US 77 left-turn lanes and associated widening.

K-18 MAINLINE AND INTERSECTION RECOMMENDATIONS

K-18 is identified as one continuous segment from the US 77 west to the county line. Several new residential subdivisions along Spring Valley Road and a new Junction City Middle School has significantly changed the character and local traffic patterns within this area. Through the study process, which included representatives from Junction City, the County and residents along K-18, participants identified the area between US 77 and Karns Drive as more suburban in character and the areas west of Karns Drive as likely to remain rural for the foreseeable future.

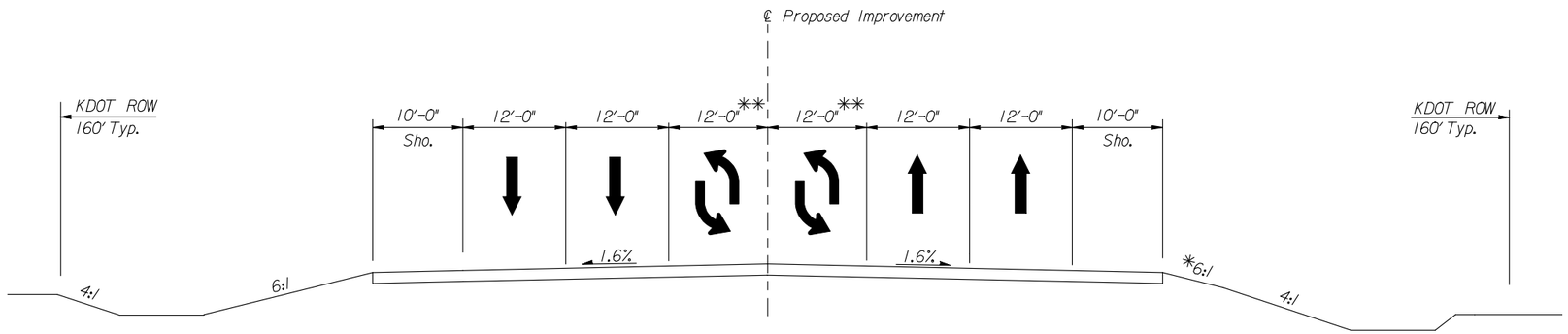
K-18 at Spring Valley Road

- A signal or roundabout is warranted. A roundabout was considered; however, due to significant relief to the north of the intersection and potential impacts to a historic building in the southeast corner of the intersection, a traffic signal was selected.

K-18 at Karns Drive west of Middle School

- It should be noted that this intersection was not tested to meet future warrants for a signal. However, plan participants, including a focus group of K-18 residents, requested a traffic calming device to slow traffic through the area. A roundabout was suggested to force a slowdown in the traffic stream prior to passing through the residential and middle school area and yet still provide continuous traffic flow along K-18.
- Traffic speeds through this area are a major concern for local residents and others who are concerned about the proximity of K-18 to the Junction City Middle School. Based on these concerns, a speed study is recommended to determine the 85th percentile speeds through this area. The study should also consider the effect of proposed transportation improvements. Based on this study, and public input, KDOT should work with Junction City to determine if the speed limits through this area should be adjusted.

Transportation Recommendations



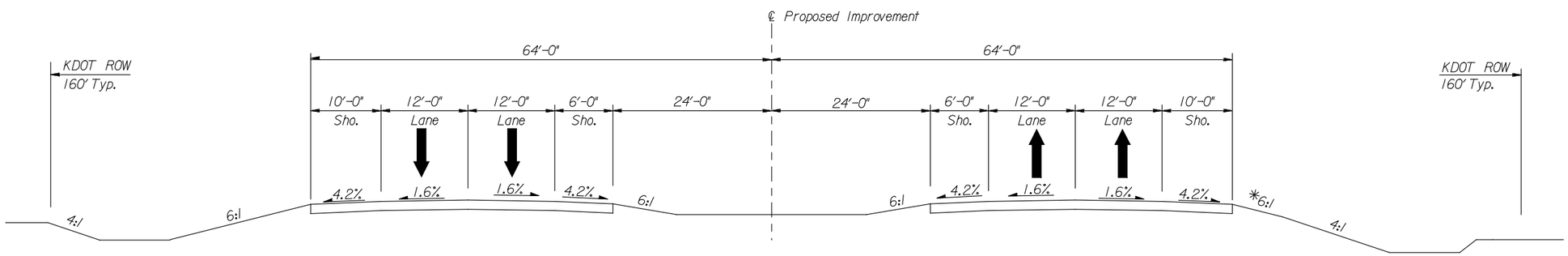
** Turn Lanes Striped and Delineated as needed

* 6:1 used to limits of clear zone

CUT SECTION

FILL SECTION

US-77 4-LANE EXPRESSWAY
URBAN UNDIVIDED SECTION
(Not to Scale)



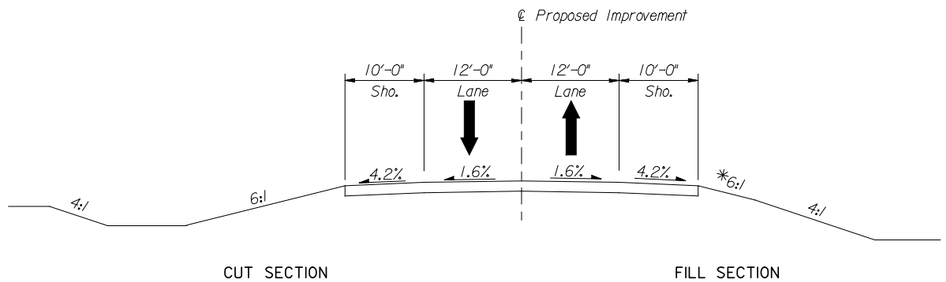
CUT SECTION

FILL SECTION

* 6:1 used to limits of clear zone

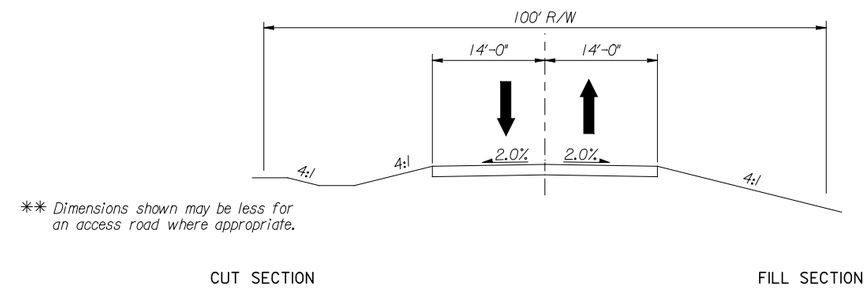
US-77 4-LANE EXPRESSWAY
RURAL OPEN MEDIAN SECTION
(Not to Scale)

Transportation Recommendations



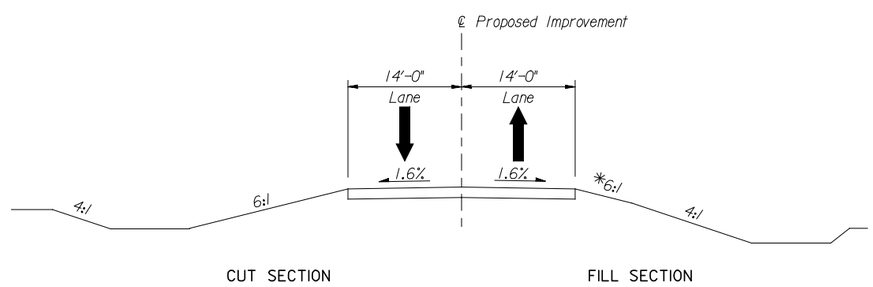
* 6:1 used to limits of clear zone

US-77 RURAL 2-LANE
(Not to Scale)



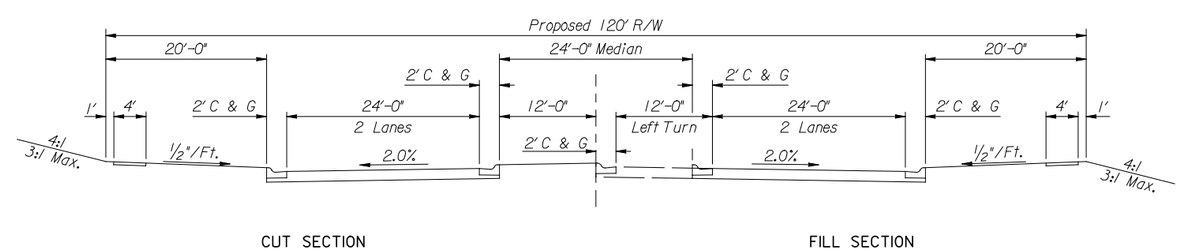
** Dimensions shown may be less for an access road where appropriate.

2-LANE COLLECTOR / ACCESS ROAD (RURAL)
100' RIGHT OF WAY
(Not to Scale)



* 6:1 used to limits of clear zone

K-18 RURAL 2-LANE
(Not to Scale)



4-LANE URBAN ARTERIAL
120' RIGHT OF WAY
(Not to Scale)

US 77/K-18 CORRIDOR ADVISORY COMMITTEE

The purpose of the Corridor Advisory Committee ("Committee") is to serve as an advisory body to regularly review, evaluate, facilitate discussions, suggest Plan amendments and provide input on events and developments that may have an impact on the Study Corridor and to assist in the development of the Plan implementation strategy. The Committee shall not have any authority regarding powers vested in cities and counties pursuant to state law. The Committee shall be composed of at least one representative from Junction City, Milford, Geary County and KDOT. The city and county representatives shall be appointed by the chief elected official of that particular city or county for a term to be determined by that official. The members of the Committee shall each year elect one member to serve as chair of the Committee. The Committee shall meet whenever the Chair determines that a meeting is appropriate, but shall, at a minimum, meet at least twice a year. The Chair has the option to cancel one of the two meetings if there is no reason to meet.

CORRIDOR PRESERVATION

With the general right-of-way needs identified in the Plan, coupled with the parcel maps, needed tracts of land will be identified for right-of-way preservation. Planning tools highlighted in this Plan should be utilized, including overlay districts to assist in the preservation of needed land. As development occurs through the platting process, communities will need to collaborate with KDOT and each other regarding the need for dedication and/or purchase of the required parcels of land, the construction of portions of the street network (i.e. turn lanes, reverse frontage roads, etc.), and in the modifications to local access to US 77 and K-18. A number of the access management tools identified in this Plan should be used to eventually achieve the access parameters established for the corridor.

Permanent Improvements:

a.) US 77 and K-18: At some point in the future, preliminary design will be needed for the proposed US 77 improvements to further define in more detail the required right-of-way footprint for the Study Corridors. The Plate Maps within this Plan identify a conceptual right-of-way footprint based on standard interchange and roundabout templates and conservative assumptions on customized interchange configurations. No vertical information has been analyzed nor any detailed horizontal alignments performed. More detailed traffic analysis along with preliminary horizontal and vertical geometrics, cross sections, drainage, and environmental work will need to be performed to determine grading limits and more accurate right-of-way requirements.

b.) Local Street Network: As development occurs and as traffic demand increases, each community will need to make to design and construct new or improve existing parallel Arterial and Collector roads in compliance with the Plan. This can be completed through normal CIP improvements or can be accomplished through private development participation.

Interim Improvements:

Given the current lack of funding to build the identified ultimate improvements, interim improvements will be needed to accommodate the growing traffic demands and to address safety issues. Examples of interim improvements include adding traffic signals and/or roundabouts, turn lanes and lighting at intersections which will eventually become interchanges.

These improvements could be funded from one or several of the following sources:

1. projects which qualify for federal funding;
2. projects which qualify for special KDOT funding (ie. geometric improvements);
3. projects which are included on a communities CIP; and
4. projects funded by developers as a result of development impacts.

TOOL BOX OF IMPLEMENTATION STRATEGIES

Substantial effort and expense has been put into the development of this Corridor Management Plan. All of the parties have invested significant resources to:

- collect and analyze all available, relevant background information on the land area included within the corridor footprint map to fully understand current conditions;
- study and extrapolate projections from the current plans adopted and being prepared by the parties and other entities whose plans may have an impact on development within the Corridor to identify trends and prepare alternative scenarios of how future development may and can progress;
- prepare market projections on development opportunities and constraints that will either positively or adversely affect development potentials;
- reach out to all interested stakeholders to obtain input and guidance on what has occurred, what exists and what they feel should be the vision for this Corridor into the future; and
- forge a consensus among KDOT, the community partners and interested stakeholders on a plan that captures this shared vision for enhancements to the mainline highway and adjacent local street network and the interface between the two, including the type and location of points of access, as well as land uses and densities and intensities of development within the Corridor.

Successfully completing this planning effort is a major accomplishment in and of itself. The dividends which will flow to the parties from having achieved this goal are inestimable.

That being said, this Corridor Management Plan is just that: A PLAN. The real purpose for doing a plan is to, through comprehensive and thorough analysis, create a plan to guide decision-making by all the interested parties so that the vision, and as much as possible, the details of the plan can become reality. To make the vision of the Plan a reality, KDOT and each of the local communities within the Corridor, must take action to implement the Plan. This Chapter of the Plan describes a series of techniques that can be used by the partners to help turn the maps, illustrations, policies, goals, strategies and recommendations of the Plan into the actual facility improvements and the associated development patterns envisioned

by the Plan. The tools described in this Chapter, when put into place, have the supplemental benefit of establishing additional criterion against which state, county, municipal and utility improvement plans and private development proposals can be evaluated, as each is brought forward through time. Having these supplemental criterion in place will give all parties greater assurance that all the resources the parties put toward creation of this Corridor Management Plan are realized upon and that the vision for this Corridor becomes a well-functioning component of each community.

The tool box of techniques described here is divided into three major sub-sets: Corridor Preservation Strategies; Access Management Strategies and Financing Strategies. Each of these sub-sets are, where appropriate, further categorized to give those using the Plan a better understanding of the role the technique plays in the Tool Box of implementation techniques, the authority to use the tool and how the techniques complement one another when used appropriately.

I. Corridor Preservation Strategies

Corridor preservation is achieved through planning and the implementation of those resulting plans using a variety of regulatory strategies, including zoning, subdivision regulations, access management and exercise of the police power. One primary goal is to control or protect areas identified in the Plan that will be necessary for future enhancement to the mainline of the highway as well as for improvements to the local street network within the Corridor. An equally important goal is to preserve and, wherever possible, enhance opportunities for development at locations within the Corridor that maximize the economic potential of the Corridor, while simultaneously preserving the functionality of the mainline highway, its access points and the interfacing adjacent local street network. Benefits of corridor preservation include:

- preventing incompatible development;
- minimizing adverse environmental/social/economic impacts;
- reducing displacements;
- establishing the location of transportation facilities which allows communities increased opportunities to achieve orderly development through future planning; and
- reducing future project costs.

Close coordination between KDOT and the local communities is essential since authority for some preservation tools are vested in the state and the authority for others is vested in the local governments.

A. Planning Tools

1. Comprehensive Planning - To help ensure that the land development decisions are consistent with and are made in accordance with the recommendations of the Corridor Management Plan, each community should adopt the Corridor Management Plan, including the footprint map covering areas lying within the city's planning area, as a part of the city's comprehensive plan. K.S.A. 12-747 authorizes city and county planning agencies to make or cause to be made a comprehensive plan for the development of that community. There is specific authority to adopt area or sector plans covering only a portion of the area within a community's jurisdictional boundaries. The plan must show the commission's recommendation for the development or redevelopment of the territory included in the portion of the plan prepared. The planning commission must hold a hearing on the adoption of the Corridor Management Plan and make a recommendation to the governing body on its adoption. The plan does not become effective unless approved by the governing body.
   Jurisdiction: Local.
2. Official Maps - A legally adopted map that conclusively shows the location and width of proposed roads or streets, public facilities and public areas and drainage rights-of-way. It is also commonly referred to as a major street plan. Although the Kansas statutes do not specifically authorize cities or counties to adopt an official map, K.S.A. 12-747, in its description of the elements that should be covered in a comprehensive plan, clearly contemplates that the plan include the type of information that is traditionally included in an official map. It goes without saying that the lack of specific statutory authority to adopt an official map in no way precludes a city or county from acting pursuant to their home rule authority to do so. In addition, K.S.A. 12-765, discussed below, granting authority to cities and counties to establish building or setback lines, does authorize cities doing so to incorporate by reference an official map in the ordinance or resolution, as the case may be. The adoption of an official map, which includes its major street and highway systems, as a part of the community's comprehensive plan or as a stand alone document, gives that community one additional point of reference and source of guidance when considering development applications relating to land that lies within the Corridor to determine whether the development proposed will have an impact on the improvements contemplated by the Corridor Management Plan.
   Jurisdiction: KDOT/Local.
3. Plan Consistency - To help ensure that the community's comprehensive plan is internally consistent and therefore effectively serves as a comprehensive guide to development within the community, upon adoption or in conjunction with the adoption of the Corridor Management Plan, the community should review its existing comprehensive plan to assure that other portions of the plan are not in conflict with and do support the recommendations of the Corridor Management Plan. If the community identifies inconsistencies, it should readopt the comprehensive plan with revisions designed to eliminate those inconsistencies using the procedures outlined for the adoption of a comprehensive plan.
   Jurisdiction: Local.
4. Utility Planning - Utilities necessary to support development will be constructed within the Corridor. It is critical that these utilities be located at places that are consistent with the Corridor Management Plan, so they will not have to be relocated upon construction of enhancements to the mainline highway at future dates. Each community within the corridor should, in coordination with all providers of utility services within its corporate boundaries, prepare and continually update a master utility plan. These utility master plans must be carefully coordinated with the Corridor Management Plan to ensure consistency between the two. KDOT and communities within the Corridor should carefully evaluate the Corridor Management Plan, when making decisions about

the location of new utilities and related easements. In addition, KDOT and each community should establish a regular point of interface with each utility provider to ensure coordination between the parties in ongoing planning efforts and land acquisition and placement decisions.

Jurisdiction: KDOT/Local.

5. Conformity of Public Improvements - K.S.A. 12-748 provides that whenever a planning commission has adopted a comprehensive plan for an area, no "public improvement, public facility or public utility," of a type covered by the recommendations of that plan, may be constructed without first being submitted to and approved by the planning commission as being in conformity with the plan. Public entities with plans for construction of these improvements, facilities and utilities should consult with the representative of cities and counties with adopted comprehensive plans early in that entity's decision-making process and timely submit those plans to the appropriate planning commissions for this determination. This requirement applies to any public entity that is intending to do this type of construction within the jurisdictional boundaries of a city or county and is an important way to ensure due consideration is given to the recommendations of the Management Plan, once it is made a part of a community's comprehensive plan. Cities and counties that learn of plans for construction of this type, by another public entity, within their boundaries, should be diligent in contacting the entity to make sure they are aware of this obligation and then to facilitate the contemplated review, thereby helping to ensure the Plan is fully considered in these situations. It is important to note that the governing body of the entity proposing this construction can over-ride a negative recommendation of a local community planning commission, but even in that instance, an important opportunity for review of the consistency between the proposed construction and the Management Plan by the parties is captured.

Jurisdiction: KDOT/Local.

B. Regulatory Tools

1. Development Moratoria - The adoption by a public sector entity of a temporary halt on the processing of applications for all or a specified type of development until a governmental activity is completed, such as the adoption of a plan or the passage of a revised ordinance on a specified subject. The Supreme Court recently held that a reasonable moratorium fulfills a legitimate public purpose and is not per se a taking.

   As vigilant as the partners to this Plan may be in incorporating the Management Plan into local comprehensive plans and utilizing the regulatory strategies to implement the Plan, situations are bound to arise where development pressures overtake the local professional staff's ability to effectively manage those pressures. In those situations, development moratoria are a very effective tool to help stem those pressures while the community determines what approach will be most effective; be it an amendment to the comprehensive plan or passage of an ordinance establishing a new or updated regulatory implementation technique, such as an overlay district. The moratorium ceases the processing of applications during a legislatively established period of time needed to prepare and adopt whatever strategies the community determines will best address the circumstance. It is important to note that adoption of a moratoria is generally considered to be a zoning action. Accordingly, that ordinance must be adopted pursuant to the hearing and notice requirement of Article 7 of the Kansas Statutes. For that reason, it is critical that communities act quickly to get a moratorium in place once a situation calling for a "time out" is identified. One way to close the window on the rush of applications that might result from notice of the consideration of a moratorium ordinance is for the community's governing body to adopt a resolutions directing staff to stop accepting applications until the moratorium ordinance takes effect. The authority for adoption of a resolution of this type is found in the "pending ordinance" doctrine, which has been accepted by the courts of most states.

   Jurisdiction: Local

2. Zoning – Zoning is one of the most prevalent and effective mechanisms for implementing a comprehensive plan. Zoning is a process utilized by local governments to classify land into areas and districts. These areas are being generally referred to as "zones" and impose, in each area and district, restrictions related to building and structure designs, building and structure placement, and uses to which land, buildings, and structures within these districts may be put, including setbacks and height, lot coverage, and impervious cover restrictions. Zoning ordinances may also make provisions for certain uses to be established community-wide or in individual zones only by issuance of a special or conditional use permit. Rezoning of parcels that have been previously originally zoned may be initiated by the local community or by a property owner.

   Jurisdiction: Local.

Through the adoption of zoning ordinances, which are carefully tailored to implement the strategies and policies of the Corridor Management Plan, development within the Corridor can be effectively managed to ensure successful implementation of that Plan. K.S.A. 12-755 and 12-756 authorize both cities and counties to adopt original zoning ordinances, and K.S.A. 12-757 authorizes the rezoning of properties in those instances changing a property's zoning classification is advisable or necessary to adapt original zoning to current situations. K.S.A. 12-715b authorizes cities, with a couple of exceptions and under certain conditions, to adopt zoning regulations applicable to land located outside of its corporate limits, but only within three miles of those limits and only if the county has not adopted zoning regulations applicable to that area of the county. Written notice of a city's intent to adopt zoning outside its limits must be provided to the appropriate board of county commissioners. Similarly, each county that proposes to adopt zoning regulations affecting property within three miles of the corporate limits of a city, must give written notice of its intent to that city's governing body.

a. Zoning Approval Criteria -- Arguably, the most important Kansas Supreme Court case dealing with zoning is Golden v. the City of Overland Park. Golden sets out a set of factors that planning commissions and governing bodies may consider when deciding whether to approve or deny a zoning application. One of those factors is consistency with the comprehensive plan. Each community along the corridor, when acting on a development application related to land that lies within the Corridor, should consider whether the development proposed by that application is consistent with the Corridor Management Plan, as adopted into its comprehensive plan.

b. Overlay Districts -- One of the most effective plan implementation zoning techniques is overlay

districts. An overlay district can be either mapped or narratively described to be mapped at some later point in time (floating). An overlay district superimposes certain additional restrictions that modify or supplement the restrictions of the underlying zoning district or districts, in recognition that distinguishing circumstances exist within the area that must be regulated in a manner different from the regulations of the underlying district. One misunderstanding about the term overlay district is that communities think there is a model that can be pulled off the shelf and adopted to serve as its overlay district. While it might be accurate to say that a procedural framework model might exist, nothing could be farther from the truth when talking about the real implementation aspects of the overlay district.. The whole goal behind adoption of an overlay district is to address special and unique circumstances and considerations that affect a specific geographic area of the jurisdiction differently than other areas of the jurisdiction. Thus the objective is to identify those circumstances and considerations,; articulate a vision for how that particular area should develop over time while both accommodating and capitalizing on opportunities presented by those considerations,; then develop regulations, restrictions and incentives to guide development to effectively realize that vision.

Overlay ordinances are generally composed mainly of design and performance guidelines and standards, and are filled with illustrations and graphics. They are carefully prepared to effectuate the plan for that specific area. In this instance, the Corridor Management Plan has created the vision, or at least, the superstructure of that vision. An overlay district is crafted to implement that Plan. It is also common for people to believe that the community could prepare one overlay district, and that it would apply to all land in its jurisdiction within the Corridor. For the very reasons stated above, that notion is incorrect also. Because the Plan identifies development scenarios that are unique to each different location within the Corridor, the idea that one set of regulations and incentives could be prepared to guide development along an entire length of a corridor is flawed. Each one of those locations should have its own overlay district with carefully chosen implementation techniques employed to achieve Plan objectives. Potentially, one overlay district could be prepared for each jurisdiction along the Corridor, but for it to have any real usefulness, it would have to break the Corridor into distinct segments with a separate set of standards created for each segment.

3. Subdivision Regulation - The subdivision of land through platting is the other most common method used by communities to manage the development of property within its jurisdiction. The control of the division of a parcel of land is effectuated by adopting subdivision regulations by ordinance or resolution that requires development be in accordance with set design standards and procedures adopted by local ordinance. It is through this mechanism that communities are able to require that the layout of building lots and the public improvements associated with those lots conform with locally established standards. In some locations, subdivision regulation and plat approval may actually be the most significant regulatory tool for managing development. In some more rural area, it is more common for counties to have adopted subdivision regulations than to have adopted zoning. In those unincorporated areas, there would be no local legislative authority to manage development through zoning restrictions. Accordingly, subdivision regulation would be those counties' primary land management tool.

Subdivision regulations usually specify what improvements the subdivider will be required to provide and the standards to which the improvements need to be constructed. A plat is a map prepared by a registered civil engineer or licensed land surveyor showing the boundaries and locations of individual properties and streets of the proposed subdivision. The plat generally also shows land to be dedicated to a public sector entity for streets and easements for public utilities. K.S.A. 12-749 authorizes a planning commission to adopt and amend regulations regarding the subdivision of land, including payment of a fee in lieu of dedication of land. This same section also authorizes a county planning commission to establish subdivision regulations. Much like with respect to zoning, a city may adopt subdivision regulations that control the subdivision of land outside of its corporate boundaries, but only within three miles of that limit or one half the distance between two cities, whichever is less. Similar written notice requirements apply. The regulations must be considered by the planning commission at a noticed public hearing, and the commission must forward its recommendation to the governing body for its approval. K.S.A. 12-750 lays out a process that must be followed where a city desires to adopt extraterritorial subdivision regulations and the county has its own regulations in effect as to that area. That process can result in the creation of a joint city/county committee for subdivision regulation.

K.S.A. 12-752 establishes the procedure for the consideration of and action on plats. Each plat must be submitted to the planning commission, which determines if the plat conforms to the subdivision regulations. If it finds that it does, it notifies the owners of that fact and endorses that fact on the plat. A dedication of land for public purposes must be accepted by the governing body before it takes effect.

Jurisdiction: Local.

This same section prohibits the issuance of a building permit for the use or construction of any structure on any platted lot in an area governed by subdivision regulations, except in the manner provided by that section. It further authorizes subdivision regulations adopted by cities and counties to provide a procedure for the issuance of building permits that takes into account the need for adequate street rights-of-way, easements, improvements of public facilities and zoning regulations, if in existence. The issuance of a building permit is obviously the last step in the typical development approval process. Although courts hold that a building permit must be issued upon submission of a complete application, if all code provisions governing the process for building permit issuance have been fulfilled (ministerial), this does not mean that communities cannot creatively incorporate building permit requirements into their governing code provisions or as a part of the last discretionary step in the development approval process the decision maker cannot condition issuance of a building permit on certain actions by the applicant or the predecessor in title of the lot on which a structure is to be built. For example, it is common for the issuance of a building permit to be conditional upon the payment of a legislatively imposed fee, such as an impact fee. In cities or counties that have not adopted zoning or subdivision regulations, local regulations governing the issuance of building permits may not only be the last step, but also the first step in the development approval process, thus markedly increasing the importance of this tool in the arsenal of techniques a community may employ to effectively manage land development. Even in communities that have adopted one or both regulatory tools, the procedure

for the issuance of building permits still may play a very a critical role. K.S.A. 12-751 authorizes cities to adopt and enforce building codes outside that city's limits and allows compliance with subdivision regulations a condition of the issuance of a building permit.

Jurisdiction: Local.

4. Transfer of Development Rights and Density Transfers - Some locations along the Corridor, for a variety of reasons, including availability of access, are best developed with more intense and/or dense uses. Other locations along the Corridor, for other reasons, including the lack of direct access, are most suited for less intense or dense development. One way communities along the Corridor can help ensure that property owners are afforded the maximum opportunity to develop their property to its most reasonable and economic potential is to establish a system of density incentives and transfers to encourage more intense development in areas designated on the Plan for such development and to provide those landowners whose land is designated for less intense development the ability to transfer some or all of their development rights to locations where more intense development is planned, through a sale of those rights to landowners at those intense locations. These systems involve the transfer of all or a part of the permitted density on the parcel to another parcel or to another portion of that same parcel at higher density than would be allowed under the existing zoning regulations. The transfer or removal of the right to develop or build is expressed in units per acre or floor area ratio. This transfer generally occurs in accordance with a legislative established program that allows the shifting of development potential from areas where more intense land uses are considered undesirable (the donor site or sending zone), such as at locations which are a distance from the location where mainline interchanges are to be constructed, to other areas (receiving zones) chosen on the basis of its ability to accommodate development that is more dense or intense, such as areas adjacent to proposed interchanges. For example, developers can buy development rights from properties targeted for public open space and transfer the additional density to the base number of units permitted in the zone in which they propose to develop.

5. Density Incentives – This technique is an additional method of increasing density at locations designated by the Plan, and thereby maximizing the economic potential of the Corridor without sacrificing the functionality of the mainline highway and the adjacent local street network. This technique involves identifying areas, such as areas near interchanges or other access points, which are shown on the Management Plan as more appropriate for dense or intense development than other areas within the Corridor and providing incentives that will encourage developers to propose a form of development at those locations that conform to the density or intensity levels contemplated by the Plan. The most common incentive is to allow for a streamlined development approval process for applications that propose developments which exceed the density thresholds established by the local community through the restrictions of the underlying zoning district regulations. This is generally achieved by allowing for administrative, rather than legislative, approvals during the application review process. To be legally valid, the legislation establishing the program must include specific standards to guide the administrative official in decisions on when an application qualifies for streamlined review and when other application approval criteria are met. There are few limits to the innovation that can be used in creating incentives to lure more dense development. The Management Plan should serve as a good source of inspiration on potential incentives.

Jurisdiction: Local.

6. Cluster Development - This technique is yet another tool to help achieve Plan goals of ensuring denser development at locations where the Plan calls for it, while simultaneously keeping development away from or at very minimal levels at locations where it will have an adverse impact on Plan goals, such as preserving and protecting critical environment or cultural resources. Generally authorized by specific district regulations, such as a cluster subdivision, it is a development design technique that concentrates buildings in specific areas on a site to allow the remaining land to be used for recreational, common open space or preservation of historically or environmentally sensitive areas. Through the employment of this technique, property owners are able to achieve an acceptable average density for the entire parcel and both the public and private sector participants are able to effectively protect key community resources. This technique is intended to allow for significant creativity in site layout and planning, generally resulting in added value to development areas as a result of access to permanent open space and recreational opportunities.

Jurisdiction: Local.

7. Setback Ordinances - One of the keys to successful implementation of the Corridor Management Plan is ensuring that development does not encroach on right-of-way that would be necessary for highway and interchange improvements as the corridor develops. One very effective way to achieve this objective is through the adoption of a building or setback line. This tool preserves projected rights-of-way and reduces acquisition costs, over-riding goals of the Management Plan. K.S.A. 12-765 authorizes cities or counties which have adopted a plan for a major street or highway system (which would include the Corridor Management Plan) as a part of its comprehensive plan, to adopt building setback lines. After consultation with the Secretary of Transportation, the county engineer and any planning commission of a county or counties within which that highway system lies, the governing body may establish, by ordinance or resolution, a building or setback line along proposed major streets or highways. This enactment includes a prohibition on the location of buildings in front of that setback line. The enacting ordinance or resolution may incorporate by reference an official map showing with survey accuracy the location and width of existing or proposed major streets or highways and any setback or building line. A building or setback line cannot be enforced until a certified copy of the map and any adopting ordinance or resolution is filed with the register of deeds of each county. The key to the enforceability of the setback line is a careful evaluation of the impact of the line, and its attendant prohibition, on adjacent landowners. The restriction on development must leave these owners with viable economic uses for the commonly owned contiguous parcels of land. As a safety valve, the local board of zoning appeals is vested by statute with the power to modify any building restrictions to address unwarranted hardships that constitute a complete deprivation of use. Building setback lines, like build-to lines, can also be established as a part of zoning district restrictions and as a design guideline in an overlay district.

Jurisdiction: KDOT/Local.

8. 4(f) Uses - Federal statute places significant restrictions on the authority of the United States

Secretary of Transportation to approve a transportation program requiring use of publicly-owned land, a public park, recreation area or wildlife refuges or land of a historic site. Because state transportation programs or projects often involve federal funds, the Secretary's approval is commonly required. Accordingly, it is important that these uses not be located within the Corridor unless no other viable option is available. This imperative makes it critical that communities avoid locating or approving development applications seeking to establish public parks, recreation areas or wildlife refuges and historic sites, also known as 4(f) uses, in the areas shown on the Plan footprint map as right-of-way for the mainline or of any portion of the local street network. The moniker 4(f) comes from the United States Code provision that limits the Secretary's authority.

Jurisdiction: KDOT/Local.

9. Variances - Communities in Kansas have authority to grant variances from the specific terms of the zoning restriction whenever doing so is not contrary to the public interest and where, due to special conditions, local enforcement of the provisions of the regulations in an individual case results in unnecessary hardship. K.S.A. 12-759. The board of zoning appeals has the authority to grant a variance to area and setback regulations applicable to that property. The grant of a variance from district restrictions, such as parking requirements and impervious cover requirements, may be an effective way to allow an important development proposal to proceed with minor modifications that keep it out of necessary rights-of-way and behind setback lines. At the same time, the grant of some variances could adversely impact the recommendations of the Plan. Therefore, it is recommended that the board of zoning appeals consult the Corridor Management Plan, as incorporated into its comprehensive plan, when considering any request for a variance to ensure that the variance decision supports the recommendations of the Plan.

   Jurisdiction: Local.

C. Administrative Tools

1. Accessibility of the Comprehensive Plan - The goal of a comprehensive plan is not only to serve as a guide to development for the planning commission and the governing body but also to owners and potential owners of property within the community's jurisdictional boundaries. That being the case, it is recommended that the amended comprehensive plan be posted on the city's website and at all other appropriate locations to assist in assuring that all interested parties are informed of the recommendations of the Corridor Management Plan for areas included in its footprint map.

   Jurisdiction: Local.

2. Notice and Opportunity to Provide Input - Since the Corridor Management Plan is a joint cooperative effort between the Kansas Department of Transportation and communities along the corridor to create a vision for development of that Corridor and provide a guide to development decisions made by each community within that Corridor, all parties with an interest in potential development along the Corridor should be afforded an opportunity to provide input on that decision-making process during the requisite application and consideration procedures utilized by that community. Accordingly, each community should provide KDOT with appropriate notice of any development application or hearing on an amendment to that community's comprehensive plan if either could reasonably be expected to have the potential to adversely impact the Corridor. In addition, each community should provide KDOT with advance copies of the proposed plan amendment or development application and any related staff report.

   Jurisdiction: KDOT/Local.

3. Notice of Applicability of Plan - Another tool to help ensure that individuals who own property within the Corridor and who are considering development of that property are aware that their land is covered by the Corridor Management Plan is to amend all development applications to highlight the existence of special planning areas, including the area covered by the Corridor Management Plan.

   Jurisdiction: Local.

4. Land Purchase - Success in being able to acquire property necessary for right-of-way for the mainline highway at the earliest time possible is critical to the successful implementation of the Corridor Management Plan. The ability to act quickly when an opportunity arises is key to this success. If KDOT has prompt notice of properties that become available for purchase within areas shown as future right-of-way in the Corridor Management Plan, it will be in a better position to timely coordinate with local governments on the acquisition of necessary rights-of-way. Cities and counties within the Corridor should employ whatever means are available and identify additional means by which they can keep apprised of land purchase opportunities as they arise within the Corridor.

   Jurisdiction: KDOT/Local.

5. Economic Incentive Policy – As discussed below, city and county economic incentives can effectively be focused to increase the amount of revenues they generate to pay for the cost of acquisition of land needed for transportation facilities and for the actual construction of the facilities shown on the Plan, as well as to encourage dedications of land for facility rights-of way. Many cities and counties have adopted policies to guide governing body decisions on when to grant incentives and the level of incentives that will be available. If a community along the Corridor has adopted or is considering the adoption of an economic incentives policy, that policy should be revised or adopted to encourage the use of economic incentives to implement the recommendations of the Corridor Management Plan.

   Jurisdiction: Local.

D. Acquisition Tools

1. Land Acquisition - Public sector entities have the authority to acquire land for public improvements, including state highways and local roads and streets by gift, purchase, or condemnation. (K.S.A. 19-101 et seq., Article 12, Section 5 of the Kansas Constitution, K.S.A. 68-404) Sufficient land may be acquired to accommodate immediate construction needs, as well as for future needs. In appropriate circumstances, public sector entities can acquire interests in land for public improvements in advance of the date of the start of construction. Timely acquisition of necessary rights-of-way preserves opportunities to fully implement the goals of the Corridor Plan and helps reduce the cost of full implementation. The primary objective of all the partners in implementing the Plan

must be to continually coordinate with one another to identify opportunities to acquire the interests in land necessary to construct the transportation improvements envisioned by the Plan. Continuing coordination is critical, but it means nothing if the partners are not equally devoted to cooperation with one another in the identification of traditional and innovative new sources of revenue and in creative partnering on acquisition strategies.

Jurisdiction: KDOT/Local.

2. Access Acquisition – As discussed in Section H below, existing access points that are not consistent with the Corridor Management Plan can often be eliminated though the KDOT's, city's or county's exercise of their police power. For that exercise to be appropriate however, adjacent landowners must be left with "reasonable" access after the inconsistent access point is removed. A private property owner does not have a right to direct access to the highway or to a particular local street, so long as reasonable access to their property is available through some alternative means, such as access to a frontage or reverse frontage road, in the case of a highway or from some other adjacent street.. That being said, situations will arise where this objective of reasonable access cannot be achieved solely though exercise of a public entity's police power. Situations will also exist where it is desirable to eliminate one or more existing access points to a particular parcel to achieve the access management objectives of the Plan, while still leaving that property owner with a point of direct access that is consistent with the Plan. In those, and in other instances, it may be advisable or even necessary to acquire inconsistent points of access through traditional negotiation or condemnation processes. The authority to acquire land referenced in Section D.1 above is also the authority of KDOT, cities and counties to acquire access. Acquisition of access rights can be applied to:
   - limit access to designated locations or side streets;
   - control access and sight distance at intersections or interchanges;
   - introduce long term or permanent access control; and/or
   - control traffic and turning movements at locations with high numbers of conflicting movements occur.
3. Land Dedication and In-Lieu Fees - One of the most, if not the most, critical recommendation of the Corridor Management Plan is that both KDOT and the communities along the Corridor do everything within their power to preserve and acquire the right-of-way necessary to construct the enhancements to the highway mainline and to the adjacent and interfacing local street network. One of the goals of the plan is to maximize economic opportunities for both landowners and communities along the corridor while, at the same time, minimizing development of land at locations of a nature, and of an intensity that impedes the partners' ability to ensure that the mainline highway and the local street network function as envisioned by the Corridor Management Plan. New development that takes place within the corridor, in most instances, will create a need for new transportation network facilities to accommodate the vehicle trips it generates.

   Both federal and state law authorize the communities along the corridor to require, as a condition of development approval, that the landowner dedicate rights-of-way needed for network improvements in an amount that is roughly proportionate to the need for facilities generated by that development. A carefully calculated system of fees in lieu of dedication also can be effectively utilized to ensure the timely purchase of sufficient rights-of-way. These in-lieu fees are authorized by K.S.A. 12-749. If each community along the corridor adopts a well-designed, legally defensible right-of-way dedication and/or in-lieu fee program, the significant costs of acquiring the right-of-way contemplated by the Corridor Management Plan can be greatly minimized, thereby helping to ensure successful implementation of the Plan.

   Jurisdiction: Local.

II. Access Management Strategies

KDOT and local communities can undertake access management activities through its "governmental police powers," which is the authority to take action to protect the well-being, safety and health of the public, and through its authority to acquire interests in land. These management strategies can be designed to apply equally to all parts of the transportation network within the Corridor. Alternatively, access management tools and regulations can be imposed as an overlay district and don't have to be city or county-wide, but can be tailored to accomplish specific objectives in defined areas. A component of access management is known as regulation of traffic flow. Regulation of traffic flow could include several actions listed in the access management tools described below or be as simple as prohibiting left turns, prescribing one-way traffic, or restricting speed as examples. Managing access is complicated and requires careful consideration, but it can be done while still allowing the property owner reasonable access to their property and to the surrounding street network. It is important to understand the differences between access (connection with surrounding roadways) and routing (direction of flows between properties and surrounding roadways).

The following are several action steps the Corridor partners can take in the area of access management to help assure successful implementation of this Management Plan.

A. Closing of Access - While the ultimate objective of conversion of an existing route to an access controlled facility generally may not be realized immediately, KDOT and the communities need to constantly be looking for and acting on opportunities to eliminate access at locations other than those interchanges and access locations designated in the Plan. Access management is necessary to protect safety for the motoring public and the operational efficiency of the Corridor. Effective access management also protects public investments and facilitates the continued economic vitality of the corridor. In contrast, uncontrolled access, generally impedes development and produces high costs when and if retrofits are needed.

   Jurisdiction: KDOT/Local.

B. Approval of Access – As stated above, the authority to allow access to a state highway or city connecting links is vested in KDOT. A request for access is approved and controlled through issuance of a Highway Permit. The Permit is the legal document that establishes the relationship between the landowner and KDOT. All points of access to the state highway system must be the subject of a Highway Permit. This includes when access connections or local streets and intersections are installed, relocated, improved, removed, or replaced on or along state highway system right-of-way. The permit will specify such things as the location of the point of access, issues related to the construction of the access, type of use allowed at the access point and

other conditions and limitations of access at that point. The District Engineer has been delegated the authority to approve Highway Permits. Request for a Highway Permit must be made with the appropriate KDOT Area Office.

With respect to access to local streets within the Corridor, the authority to approve that access is vested in either the city or county that has jurisdiction at the requested location. This authority is derived from the government's inherent police power. The actual procedure for obtaining access will vary for community to community. Some communities may have adopted an access management policy that governs the location and other aspects of access to the public streets and road. In other instances, regulations governing access points may be located in the community's zoning district regulations or its subdivision regulations, Provisions on access should be included in the overlay district created for an area with the Corridor. On City Connecting Links, a Highway permit must be obtained for work in the right-of-way. Executed copies of the permit, approved by KDOT and the city or county will be provided to the property owner.

C. Input to KDOT on Access - Coordination of Access Management - Because of the importance of access management on the mainline highway, road and street network within the Corridor and because the authority to permit and close access to the state highway system and its connecting links is vested exclusively in KDOT, (K.S.A. 68-413 and K.S.A. 68-404(a)), it is critical that communities along the Corridor confer with KDOT respecting development applications that propose access points on the mainline highway and on portions of the local street network that are included in the Corridor Management Plan, particularly if that access is not consistent with points shown on the Corridor Management Plan as future points of access.

   Jurisdiction: KDOT/Local.

D. Coordination with KDOT - The Corridor Management Plan identifies existing access points on the highway that should be closed over time, as appropriate circumstances present themselves to achieve access management objectives. Accordingly, each community along the Corridor should cooperate with KDOT in identifying existing access points along the mainline and in closing those points, where doing so, will implement the access management goals of the Corridor Management Plan. Each local government partner should establish points of contact with KDOT to facilitate the ability to quickly capitalize on opportunities as they arise.

   Jurisdiction: KDOT/Local.

E. Shared Access - One meaningful way to help ensure that all property owners are afforded reasonable access to the mainline and to the local street network consistent with the full functionality of that network, is to encourage that joint access to that network by adjacent property owners be utilized to the maximum extent possible. Therefore, communities, when reviewing development applications should consider, as a condition of approval of that application, the grant of a recorded easement by the applicant to adjoining property owners or such other conditions as are appropriate to further the Corridor access management objectives.

   Jurisdiction: Local.

A lists of common access management tools are provided below. Each tool is illustrated in Table 11 on the following page.

Access Management Tools:

1) Close median breaks
2) Consolidate mainline driveways
3) Eliminate mainline driveways/side road access
4) Eliminate public road connections to mainline, reconnect to frontage roads
5) Eliminate private driveways, reconnect to frontage roads
6) Intersection consolidation
7) Convert major intersections to interchanges
8) Advanced right-of-way acquisition
9) Interim intersection upgrades (traffic signals, turn-lanes and acceleration lanes)

Table 11

Tool	Description	Jurisdiction	Implementation and Compensation Requirements
Close Mainline Median Breaks	Eliminate existing median breaks to prohibit left turns to/ from mainline and abutting properties.	KDOT	Administrative action under police power to regulate traffic flow. No private property right exists in traffic flow (turning movements) and therefore no compensation due abutting property owners.
Consolidate Private Driveways	Eliminate redundant driveway connections to mainline into single driveway connection, either within an individual tract or at property line of contiguous tracts.	KDOT/LOCAL	If "reasonable" access to the property will remain after consolidation, can potentially be accomplished by KDOT regulation of driveway permits under police power without payment of compensation to affected property owners. More typically, existing access control breaks allowing private driveways to mainline are acquired through traditional negotiation or condemnation processes. If abutting property owner submits a re-zoning or development proposal to local government, driveway locations are subject to regulation under zoning authority without payment of compensation as condition of zoning or development plan approval.
Eliminate Private Driveways/ Side-Road Access	Where property owner has frontage on both mainline and side-road, eliminate mainline driveway and restrict access to side road.	KDOT/LOCAL	If "reasonable" access to the property will remain after consolidation, can potentially be accomplished by KDOT regulation of driveway permits under police power without payment of compensation to affected property owners. More typically, existing access control breaks allowing private driveways to mainline are acquired through traditional negotiation or condemnation processes. If abutting property owner submits a re-zoning or development proposal to local government, driveway locations are subject to regulation under zoning authority without payment of compensation as condition of zoning or development plan approval.
Eliminate Public Road Connections to Mainline, Re-Connect to Frontage Road	Where local roads connect to mainline at locations other than mile roads, eliminate connection between mainline and local cross-road, re-connecting cross road to newly installed frontage or reverse frontage road.	KDOT/LOCAL	KDOT may regulate location where public roads connect to mainline under general statutory authority to establish and maintain state system and its police power. No public "property right" in location where local roads connect to mainline. Therefore, local governments cannot enjoin closure of mainline connections nor can abutting property owners seek compensation for resulting re-routing along local roads to mainline. More typically, KDOT and local governments will jointly undertake coordinated road improvement projects pursuant to their respective general statutory powers to establish and maintain public roadways. Such a project would include closing cross-road intersections with mainline and reconnecting cross-roads to frontage or reverse-frontage roads which connect to mile-roads and mainline interchanges. If abutting property owner submits a re-zoning or development proposal to local government, location of abutting public or private streets are subject to regulation under zoning authority without payment of compensation as condition of zoning or development plan approval.

III. FINANCING STRATEGIES

The Corridor Management Plan has been developed to maximize economic opportunity and to provide a fully functional highway and street network for property owners within the Corridor. The full costs of the improvements to the mainline highway and adjacent street network necessary to achieve these Plan objectives are significant. Monies needed to complete these enhancements may not be available from KDOT or from the local communities within the Corridor when the enhancements are needed. Therefore,

- identifying all existing financing tools, both the traditional and the alternative tools;
- creatively analyzing how these tools can best be utilized individually and in concert with one another to maximize resources;
- investigating possibilities for new options using home rule and delegated powers;
- pursuing federal and state statutory and regulatory amendments to eliminate funding obstacles and provide new approaches; and
- pursuing new legislative authority for innovative funding approaches are all critical to the successful implementation of the Management Plan.

To achieve this sought-after success, it is imperative that all Corridor partners carefully and constantly coordinate with one another to identify potential sources of funds and work diligently, once sources are identified, to make certain that available funds are utilized in the most effective and efficient way to the benefit of all parties to this endeavor.

That having been said, there is a wide array of financing options available to cities and counties to finance infrastructure improvements. Notably, many of these same financing options can be used as economic incentives to encourage development to occur at a certain location, in a certain form, and/or in specified densities or intensities. These financing options include the traditional mechanisms used by cities and counties to raise revenues and to pay for both the capital and operational expenses of government and other alternative financing strategies.

A. Traditional Funding

Traditional funding mechanisms include federal and state funds, real and personal property taxation (Article 12, Section 5 of the Kansas Constitution, K.S.A. 19-101 et seq. and K.S.A. 79-1801 et seq.), sales taxation (K.S.A. 12-187 et seq.), economic development tax exemptions (Article 11, Section 13, Kansas Constitution), special assessments (K.S.A. 12-6a01 et seq., and K.S.A. 12-601), and the Main Trafficway Act (K.S.A. 12-685). All of these financing mechanisms are available to fund improvements contemplated by the Corridor Management Plan and their use, as the situation dictates, should not be ignored.

Because the traditional mechanisms are regularly utilized by KDOT, cities and counties to pay for capital projects, they will not be discussed in detail in this Chapter; rather, this portion of this Chapter is devoted to an explanation of several of the less-traditional mechanisms available to cities and counties to pay for improvements contemplated by the Plan and to incent Corridor development that is consistent with the Plan's recommendations.

Although not actually a source of additional revenue, the bonding authority of cities and counties is worthy

of mention. Each is authorized to issue long-term debt to finance projects, with that debt to be repaid from a variety of traditional and some alternative revenue sources. Bonding authority is important for many reasons, but one key advantage of issuing bonds to finance public improvements is that it allows the issuing entity to pay for an improvement up front (before total project costs are available in hand) to get a project started or even completed in those instances where timing is critical in terms of events in the community and/or to take advantage of favorable financial markets. These improvements can then be paid for over time, generally up to 20 years, as tax revenues or other dedicated sources become available. This can be a huge advantage and can help the partners in their efforts to acquire land for and make the improvements contemplated by the Plan when actual situations in the Corridor dictate those actions occur.

Cities and counties are authorized to issue general obligation bonds payable from a general tax levy on all taxable property within the city (K.S.A. 10-101 et seq.). These GO Bonds are backed by the full faith and credit of the issuing entity. As an alternate, the city may issue revenue bonds (K.S.A. 10-1201 et seq.). Revenue bonds are repaid from a pledge of the revenue from a specified income-generating facility or source. Revenue bonds are not guaranteed by the full faith and credit of the issuer. A city may issue special assessment bonds to be repaid, in whole or in part, from the revenues received from special assessments imposed on properties that are specially benefited by the improvement(s) constructed within an assessment district (K.S.A. 12-60015). Special assessment bonds are actually general obligations of the issuer, which, in addition to the pledge of the revenues from the special assessment, are backed by the full faith and credit of the city. The final category of traditional municipal bonds are special obligation bonds. These are bonds issued under the authority of Kansas statute, specifically, K.S.A. 12-1770 et seq. and 12-17, 160, et seq., to finance the undertaking of redevelopment projects. These bonds are payable from incremental property tax increases resulting from the redevelopment in an established redevelopment district, a pledge of a portion of the revenues received by the issuer from transient guest, sales and use taxes collected from taxpayers doing business in a redevelopment district, franchise fees, private, state or federal assistance or any combination thereof.

B. Alternative Funding Mechanisms

Most alternative funding techniques are devised by one local government to meet a local need and their use than spreads from community to community, where the techniques are refined based on trial-and-error. Many of these approaches do not have specific legislative authority, but are enabled through home rule, local police powers, or a broad reading of authority from another source, such as local planning.

State, highway, road and street projects, required to support new development, may be constructed utilizing economic incentives, such as tax increment financing, Star Bonds, sales tax reimbursement agreements, tax abatement, special assessment districts and transportation development districts, to name only several of the options. It is important that, wherever possible, local communities along the Corridor be cognizant of their ability to require that revenues from the grant of these incentives to developers be used to offset the cost of the construction of mainline highway improvements and related improvements to the local street network, as shown on the Corridor Management Plan. But, even more importantly, they must actually make the grant of these incentives conditional on a reasonable portion of these monies being used to pay the cost of Corridor Management Plan identified improvements.

Jurisdiction: Local

These incentives also effectively can be used to influence the location, type/uses, form, architectural quality, configuration and density/intensity of development. It is important to utilize these incentives, not only to offset traditional public costs for these facilities, but also as incentives to shape development proposals, so they further Plan recommendations and achieve quality design and sustainable development in the Corridor.

1. Impact Fees - Impact fees are one-time regulatory fees assessed against new development to cover the costs for necessary capital facilities proportionate to the demand generated by the new development. The fee is imposed by a public sector entity on development activity as a condition of granting development approval, and generally is calculated at the platting stage and collected at the time a building permit is issued. Kansas has no impact fee establishing authority. Nevertheless, cities and counties can establish a system of impact fees using their home rule authority. This system of fees requires the development of a legislative adopted scheme that includes the calculation methodology for the fee, and a system of credits, exemptions and appeals. The system would be adopted by ordinance or resolution, as the case would require. Impact fees must be used to add capacity attributable to new development; they cannot be used to pay for improvements necessitated by existing development. An impact fee must meet three requirements:

- The new facilities are a consequence of new development;
- There must be a proportionate relationship between the fee and the infrastructure demand; and
- The funds collected must be used to provide a substantial benefit to the new development.

In Kansas, impact fees may be collected either across the entire jurisdiction or in a designated geographic area. While they may be assessed at platting, impact fees are typically collected at building permit issuance. A detailed calculation is necessary to ensure that the system, and particularly the fee charged property owners, is proportionate to the demand for new facilities that each unit of new development generates, i.e., its impact, in terms of facility capacity consumed. In funding transportation network facility improvements, the measuring stick for each development's impacts is the number of vehicle trips it will generate. Since streets are generally designed to accommodate the PM Peak trips, that is generally the time interval used.

The Kansas Supreme Court has recognized the legitimate use of impact fees in McCarthy v. City of Leawood.[1] In that case, the City of Leawood assessed the payment of impact fees on the issuance of building permits and plat approvals for properties within the K-150 (135th Street) Corridor. The purpose of the fee was to finance a portion of the improvements of K-150. The fee was calculated based upon trip generation, at a rate of $26.45 per trip. This rate was then multiplied by the average number of trips generated by a use to determine the individual fee. For example, residential uses were projected to generate 10 trips per day, multiplied by $26.45 for a fee of $264.50 per unit.

Jurisdiction: Local.

[1] *257 Kan. 566, 894 P.2d 836 (1995).*

2. Excise Tax - Technically, an excise tax is a broad term that covers every type of tax, except a property tax. As with all taxes, it is a method of raising revenue. It is distinguished by the fact that rather than being based on the value of property, it is levied on a certain activity or the exercise of a privilege – more accurately described as business done, income received, or privilege enjoyed. Typical examples of excise taxes include taxes on the purchase of gasoline, alcohol or cigarettes, business license taxes and on the rental of hotel rooms. In recent past, local governments in Kansas have innovatively used an excise tax to fund transportation network improvements that are required to support development. It is structured as a tax on activity of platting lots. The rate of the tax is based on the amount of square footage proposed to be constructed or on the number of vehicle trips the proposed development will generate on the street network. The key reason for its use has been that because it is a tax and not a regulatory fee, the rate is not required to satisfy the constitutional benefit or nexus requirements of regulatory fees imposed by local governments, such as impact fees discussed above. Kansas courts had upheld this financing approach. In 2006, however, the Kansas Legislature amended K.S.A. 12-194 to make it uniformly applicable to all cities. By doing so, this provision became no longer subject to a charter ordinance whereby cites could make its provisions inapplicable to that city and adopt supplemental provisions on the subject. This charter ordinance approach was the one that cities had used to eliminate the legal impediment in K.S.A. 12-194 and use its ordinary ordinance home rule power to establish an excise tax system of this type. It had become known as a "development excise tax." That amendment, in addition to precluding local governments that did not have a development excise tax in place from adopting one, also included a provision that prevented cities that had levied or imposed a development excise from increasing the rate of the tax without a majority vote of the city electors, after July 1, 2006. Accordingly, this technique is only available to local governments that had a development excise tax in place before that date, and those that did have one in place cannot increase the rate charged without a vote.

   Jurisdiction: Local.

3. Transportation Development Districts - A Transportation Development District (TDD) (K.S.A. 12-12,14017,140 et seq.) is a form of a special district that was enacted specifically to facilitate the construction, maintenance and financing of a broad array of transportation projects, ranging from streets, roads, highway access roads, interchanges, bridges to light rail and mass transit facilities. Most improvements related thereto, such as streetscape, utility relocations and other necessary associated infrastructure, can also be funded using this technique. While a regular special district can be used to address transportation issues, transportation development districts allow greater funding flexibility, including authority to impose a transportation development district sales tax of up to 1% (K.S.A. 12-17,145), in addition to the authority to levy special assessments. The district may issue bonds backed by the revenues received from properties in the district from the imposed sales tax or special assessment. One significant difficulty in utilizing this mechanism for improvements covering a larger area is that the district can only be formed through a petition signed by owners of all of the land area within the proposed district. So, if the improvement is adjacent to lands owned by different owners, it may be difficult to obtain the consent of all necessary owners. It may have its greatest utility for distinct segments of the improvements proposed by the Management Plan, such as mainline highway interchanges and access roads located within one tract of land that is designated in the Plan for more dense or intense development. This technique can also be used effectively to assist in the financing of key portions of the adjacent local street network. The statutory scheme allows for a good deal of flexibility in how the boundaries of the district are established, so long as all included property owners agree. For that reason, the community partners should keep this tool on the list of the ones that should be considered for funding, particularly in those instances where a property owner or several property owners want to develop a section of land at an access point with sales tax generating properties.

   Jurisdiction: Local.

4. Transportation Utility Fee - A transportation utility fee is a fee collected on residences and businesses within a city's corporate limits tied to the use and consumption of the transportation system. While this approach has only recently been applied to transportation services, utility charges have been used for years "to finance not only public water and wastewater systems but also such diverse facilities and services as electricity, telephone or telegraph services, gas, and a cotton gin."[2] There are a number of benefits to TUFs:

   > *Utility rates and fees provide a steady revenue stream that may be used for maintenance and operations costs, as well as facilities construction and are not required to meet the direct benefit test applicable to special assessments. Also, utility charges are generally not subject to voter approval, as are many taxes.*[3]

   And perhaps most applicable to the current circumstances, "[t]he development of a transportation utility is a particularly attractive option in states with strong home rule powers, such as Colorado, Florida, and California."[4]

   Utility fees are collected from all development, both existing and new (as it "hooks-in" to the existing system). Charges are based on usage estimates of trips by land use and project budgets. The transportation utility fee is typically added to an existing county or utility collected tax or rate bill.

   The uses to which revenues from a utility can be used are limited only by the restrictions placed on their use in the enabling authority. Generally, however, the revenues would be placed into a separate fund and earmarked or dedicated to the purposes stated in the enabling authority and to no other purpose.

   There is no specific legislative authority for transportation utility fees in Kansas. Local governments will need to look to home rule to authorize this financing mechanism. The key to the successful employment of this technique is crafting an ordinary ordinance or resolution that establishes a system of charges that will not be found to be a "tax," while at the same time ensuring that the ordinance or resolution is not in conflict with existing state statutes, such as, by example, K.S.A. 12-6a01 et seq., authorizing special assessment districts.

[2] 64 Am. Jur.2d Public Utilities § 1 (1972) (cited in Susan Schoettle & David Richardson, Nontraditional Uses of the Utility Concept to Fund Public Facilities, 25 URB. LAW. 519 (1993).
[3] Id. at 525.

In the leading case on transportation utility fees, Bloom v. City of Fort Collins,5 the Colorado Supreme Court reached the following conclusion:

> *We hold that a transportation utility fee is not a property tax but rather is a special fee imposed upon owners or occupants of developed lots fronting city streets and that such fee . . . is reasonably related to the expenses incurred by the city in carrying out its legitimate goal of maintaining an effective network of city streets.*

The Fort Collins transportation utility fee was adopted to address maintenance issues. Nothing, however, would prohibit the utility fee from being designed to fund construction-related costs. The Fort Collins fee was calculated based on: "the amount of frontage in linear feet that each lot or parcel has on the right-of-way of an accepted street; the base rate maintenance cost of each foot of frontage; and the developed use of the property (which includes the amount of vehicular traffic generated by the property)".6 The fee was billed monthly. The Colorado Supreme Court found that the transportation utility fee qualified as a fee and not a direct tax. "Unlike a tax, a special fee is not designed to raise revenues to defray the general expenses of government, but rather is a charge imposed upon persons or property for the purpose of defraying the cost of a particular governmental service."

Although this technique has a lot of potential as a viable alternative funding strategy, careful coordination with legal counsel will be necessary to ensure the precise structure developed is legally defensible.

Jurisdiction: Local

5. Tax Increment Financing - Tax increment financing (K.S.A. 12-1770 et seq.) is a tool used by local governments to capture the future increases in property tax and all or a portion of the revenues received by the city from transient guest, use, local sales taxes collect from taxpayers doing business within the district (county sales tax revenue with county approval) and increased franchise fees, and to make revenues realized therefrom available as an incentive to development, by using the revenue to pay for, generally, public infrastructure necessary to implement a redevelopment project plan (K.S.A. 12-170a (o)). Project costs may not include costs related to a structure to be owned by or leased to a developer.

   TIF funding can provide funds to the City either as collected (pay-as-you-go) or through special obligation tax increment bonds repaid over twenty years.

   While there is specific enabling authority for the use of TIF, it is limited to "eligible" areas that fall within one of the following categories and the boundaries of which are designated by the local government as a redevelopment district :

   - Blighted
   - Blighted and in a 100-year flood-plain
   - Intermodal transportation area
   - Major commercial entertainment and tourism area
   - Conservation (becoming blighted)
   - Major tourism area
   - Historic theater
   - Enterprise zone, or
   - Environmentally contaminated area

   Therefore, not all property within a local government's jurisdictional boundaries may qualify to be included in a redevelopment area.

   Eligible project costs most certainly will include all transportation network public infrastructure identified in the Corridor Management Plan.

   Jurisdiction: Local

6. Sales Tax and Revenue Bond Districts - This mechanism (K.S.A. 12-17, 160 et seq.) is the big brother/sister of tax increment financing. It's "Super TIF," if you will. The entire mechanism works almost exactly like tax increment financing, except the districts are called STAR bond project districts and the individual projects in the district are called STAR bond projects. Each project must be approved by the Secretary of Commerce and include at least a $50,000,000 of capital investment and evidence $50,000,000 in project gross annual sales or, if outside a MSA, met the requirements of K.S.A 12-17,162 (w). It is the heightened level of incentives authorized in these districts that is key. Once a district is established and a project plan is approved, the approving city may issue special obligation bonds. Importantly, those bonds may be repaid from the portion of the county sales and use tax collected from taxpayers within the city portion of the district AND the sales tax increment revenues received from any state sales taxes collected from taxpayers in that district. This is in addition to the property tax increment and local sales, use and franchise fee that can be pledged to repayment of the special obligation bonds issued in a traditional tax increment financing project. The Secretary can set a limit on the amount of bonds that may be issued to pay eligible project costs.

C. INTERLOCAL COOPERATION

Through the exercise of home rule, by entering into an interlocal cooperation agreement, pursuant to K.S.A. 12-2901 et seq., and by utilizing powers granted to cities and counties by Kansas statutes, significant opportunities exist for cities and counties to cooperate with each other in the creation of corridor-wide financing strategies for the mainline highway enhancements and city connectors and local road projects within the corridor. There is potential for such cooperation in the use of both the traditional and the alternative financing mechanisms described above.

K.S.A. 12-2901 et seq. authorizes all public agencies of the state (including KDOT) to jointly cooperate in the exercise of any power, or privileges, or authority exercised or capable of exercise by such agency, including economic development and public improvements, pursuant to an agreement in the form therein provided. See also, K.S.A. 75-5023.

Wherever possible, these opportunities should be investigated by KDOT and each local community to ascertain if a multi-jurisdictional approach will be beneficial to all parties, by providing better opportunities to successfully implement the goals of the Management Plan.

Jurisdiction: *KDOT/Local.*

[4] *Id.*
[5] *784 P.2d 304, 305 (Colo. 1989).*
[6] *Id. at 306.*