



**Project:** US-56 Corridor Management Plan  
Land Use Capacity/Demand  
Analysis & Environmental  
Vulnerability Technical  
Memo

**Date:** October 1, 2009

## **OVERVIEW**

This analysis examines Residential/Non-Residential Land Demand and how that compares to the Land Capacity for future development for the Cities of Baldwin City, Edgerton, and Gardner, Kansas. This analysis is the foundation for projections of the amount of land that will be needed to accommodate residential and commercial uses between now and the planning horizon of 2030. Although projections through 2040 are possible and somewhat plausible for low growth areas, projections for high growth areas 30 years in advance produce numbers that are so large as to be unreasonable and indefensible.

The demand analysis examines present and future projections of growth for the three cities in the Corridor, informed by the consultant team's study of regional and local economic market forces that will likely influence future land demand. The capacity analysis is an estimate of the amount of future new dwelling units and non-residential uses that could be developed based on the amount of currently undeveloped, environmentally suitable property.

This analysis also includes an environmental vulnerability analysis to determine sensitive land within the study area that should be avoided by development. When combined with the above demand/capacity analysis, this holistic model can balance environmental and economic factors.

The end result of the demand/capacity and the environmental analysis is a rough estimate of the net acres of land that may be needed for new development compared to the amount of land which is both available and appropriate for development. These factors give direction to locating areas for appropriate land uses and future development.

## METHODOLOGY

The following sections show how the following were calculated over all and for each of the three cities:

- **Residential Demand** based on population projections
- **Non-Residential Demand** based on employment projections
- **Land Capacity and Developable Area** based on:
  - Determining **Sensitive Environmental Areas**
  - Determining **Developable Areas**

### *Residential Demand*

Residential demand was projected on the basis of population growth resulting in new household growth, which in turn gives rise for a demand in new housing units. Baldwin City and Edgerton have only one set of population and employment projections, which show them not to be high growth areas. Gardner, being closer to the Johnson County growth corridor and also the current location of the BNSF Intermodal Facility, is potentially a very high growth area, and has both a lower and higher growth projection. If the Intermodal facility were to be de-annexed by Gardner and annexed by Edgerton, the employment projections would change.

To determine the amount of land needed for new residential development, the model built upon the population projections and then analyzed the types of residential development and density patterns that had been and were occurring in the three cities. The share of housing types (i.e., single family, multi-family) and household size were taken from the 2000 Census. The density of the variety of housing types was derived from the three Cities' Zoning Ordinance/Development Codes, planning standards, and pattern of growth in developing areas.

The specific sources and approaches to population growth projections for the period of 2000 through 2030 for the three cities, which is the base for residential demand, were as follows:

- **Baldwin City Population Projections Sources and Approach:**
  - Population projections are those contained in the Baldwin City Comprehensive Plan and Retail Market Study
  - Population projections were compared to the population as certified to the Secretary of State by Division of the Budget on July 1, 2008
  - Population projections were compared to the population projections as contained in Horizon 2020
- **Edgerton Population Projections Sources and Approach:**
  - Population projections are those contained in the Edgerton Comprehensive Plan, June 2000. (The 2008 Comprehensive Plan Update shows reported population growth through 2006, but does not show further out in the future).
  - Population projections were compared to the population as certified to the Secretary of State by Division of the Budget on July 1, 2008.

- Population projections were compared to Mid America Regional Council's Metrodataline projections of Population History and Forecast by Census Tract last updated February 2006.
- **Gardner Population Projections Sources and Approach for Lower Growth Scenario:**
  - Population projections through 2009 taken from City of Gardner Transportation Master Plan Land Use Assumptions presentation dated March 23, 2009
  - Projected growth based on building permit projections provided by City: average of 350 new single family homes and 150 multifamily units constructed per year and average household size of 2.8 persons per household.
  - Population projections were compared to the population as certified to the Secretary of State by Division of the Budget on July 1, 2008
  - Conferred with Gardner Community Development Director
  - Population projections were compared to Mid America Regional Council's Metrodataline projections of Population History and Forecast by Census Tract last updated February 2006.
- **Gardner Population Projections Sources and Approach for Higher Growth Scenario:**
  - Population projections through 2009 taken from City of Gardner Transportation Master Plan Land Use Assumptions presentation dated March 23, 2009.
  - Population projections are based in part on past experience of Olathe.
  - Projected growth based on scenario that Gardner's population growth rate follows the same cycle as Olathe.
  - Population projections were compared to the population as certified to the Secretary of State by Division of the Budget on July 1, 2008.
  - Conferred with Gardner Community Development Director.
  - Population projections were compared to Mid America Regional Council's Metrodataline projections of Population History and Forecast by Census Tract last updated February 2006.

## *Non-Residential Demand*

Non-Residential Demand projections were built upon employment projections that came from a variety of sources and were compared to county, state and national trends. To determine the amount of land needed for each of the non-residential sectors, the model relied upon standards and rules of thumb contained in zoning ordinances and development codes and that are used in analyzing development proposals across the country. The factors calculating the amount of space needed

by land use include the amount of square footage needed per employee by sector and floor area ratios typically required by sector.

A major impact on employment, and therefore Non-Residential Demand, will be the proposed Intermodal Facility. The location of the facility appears to be fixed. Whether it will be within the city limits of Gardner or Edgerton or neither will affect either City's market demand figures but not total demand for non-residential acreage in the Corridor.

The specific sources and approaches to projecting Non-Residential for the three cities are as follows:

- **Baldwin City Employment Projections Sources and Approach:**
  - Employment projections are based upon the Retail Market Study Baldwin City, Kansas dated April 23, 2008. These were used based upon the strength of the population projections.
  - Projections assume that there will be no employment growth through 2009 due to current economic conditions, and after that employment will grow at a rate of 2% per year based on Sperlings Best Places website, April 16, 2009.
  - Sector employment shares are based upon 2000 Census.
  - Evaluated current trends for the county, state and nation. Given size of Baldwin City and uncertainty about employment sector trends in general, defaulted to assumptions that proportion by industry sector will remain relatively constant to that shown in 2000 Census Population projections
- **Edgerton Employment Projections Sources and Approach:**
  - Projections assume that there will be no growth through 2009 due to current economic conditions, and after that employment will grow at a rate of 30% over the next 10 years or 3% per year based on Sperlings Best Places website.
  - Sector employment shares are based upon 2000 Census.
  - Evaluated current trends for the county, state and nation. Given size of Edgerton and uncertainty about employment sector trends in general, defaulted to assumptions that proportion by industry sector will remain relatively constant to that shown in 2000 census
  - Employment projections have been compared with the Mid America Regional Council's Metrodataline projections of Employment History and Forecast by Major Industry by Census Tract.
  - Employment projections will change dramatically if Edgerton annexes the BNSF Intermodal facility.
- **Gardner Employment Projections Sources and Approach:**
  - Employment projections are based upon projections contained in the March 23, 2009 presentation regarding City of Gardner Transportation Master Plan Land Use Assumptions. The employment projections are based upon the number of building permits shown in the 2030 Data Comparison under the column entitled "Gardner Staff Version of 2030 TAZ Data".

- Assumptions were evaluated comparing ReferenceUSA employment figures, MARC projections and information regarding proposed Logistic Hub.
- Sector share is assumed to remain stable and share is based on 2000 Census information for Gardner.
- The projections were compared to information included in the BNSF Railway Presentation regarding the Logistic Park. The projections would barely accommodate projected growth for the Logistic Park.
- De-annexation of the BNSF Intermodal facility would result in lowering the employment projections for Gardner.

### *Land Capacity and Developable Area*

The capacity of land is a measure of how much future development the undeveloped lands of the study area can accommodate. Not all of the undeveloped areas, however, are open to development due to environmental constraints and valuable natural resources. Land capacity, accounting for lands that are not already developed and are not environmentally sensitive, is the base to determine what areas of the Corridor are appropriate for different land uses. This, in turn, will in turn inform the type of transportation needed to serve the land uses.

### *Determining Sensitive Environmental Areas*

The US-56 Corridor study area has significant streams, floodplains, wetlands and regionally and locally significant forest and grasslands. Best management practice recommends eliminating these sensitive lands from future development to minimize future development costs, protect valuable recreation areas, protect water quality, reduce flooding, and provide wildlife habitat.

To produce a map of Environmentally Sensitive Areas, key GIS data from a variety of sources was assembled and weighted, producing a graphic classification of land within the study area ranging from highly suitable for development to suitable only for passive recreation. It also highlights areas of regional and local significance and connections between them that will be important to protect in land use and transportation planning. (See US-56 Environmentally Sensitive Areas Study Map)

The factors that were included in a weighted model resulting in the US-56 Environmentally Sensitive Areas Study map of the areas follow:

- Soils: hydrological soils group (soils classified by how well they drain)
- Hydrology: Streams, wetlands, location of alluvium (where water is underneath the surface), and floodplains
- Land Cover: forest, forest edge, scrub, agriculture, dirt, roofs, paved surfaces
- Slopes: Most slopes in the corridor are less than 8% and have little impact on developability. Slopes Greater than 15% were considered as a sensitive resource.
- Land Use: Including parks and public open spaces.

- Habitat: Includes Threatened or endangered flora and fauna habitat per Kansas Department of Wildlife and Parks, and US Fish and Wildlife Service. Most of these plant and animal habits occur in the western side of the US 56 corridor, and are located in and around the Kansas University Biological Reserve north of Baldwin City, and in the riparian corridor on the west boundary of the City of Baldwin, and the corridor running directly through the City of Baldwin.

The US-56 Environmentally Sensitive Areas Study map, which resulted from the weighted factors, shows which areas are:

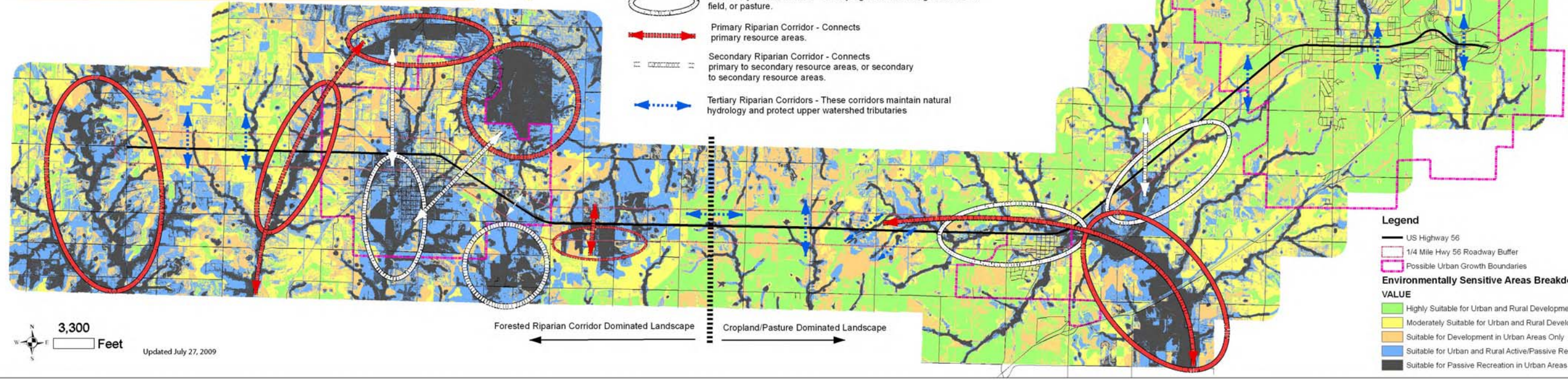
- Highly Suitable for Urban and Rural Development
- Moderately Suitable for Urban and Rural Development
- Suitable for Development in Urban Growth Areas Only
- Suitable for Urban and Rural Active/Passive Recreation Only
- Suitable for Passive Recreation in Urban Areas Only

The data came from the following data sources:

- Kansas Data Access and Support Center (DASC)
- Kansas Department of Wildlife and Parks
- US Fish and Wildlife Service
- Kansas Department of Transportation Environmental Services
- Cities of Baldwin City, Edgerton, and Gardner
- Douglas County
- Johnson County AIMS TranSystems
- Patti Banks Associates



# US-56 Environmentally Sensitive Areas Study



- Primary Resource Area - Regionally significant forest and grassland.
- Secondary Resource Area - Locally significant forest, grassland, old field, or pasture.
- Primary Riparian Corridor - Connects primary resource areas.
- Secondary Riparian Corridor - Connects primary to secondary resource areas, or secondary to secondary resource areas.
- Tertiary Riparian Corridors - These corridors maintain natural hydrology and protect upper watershed tributaries

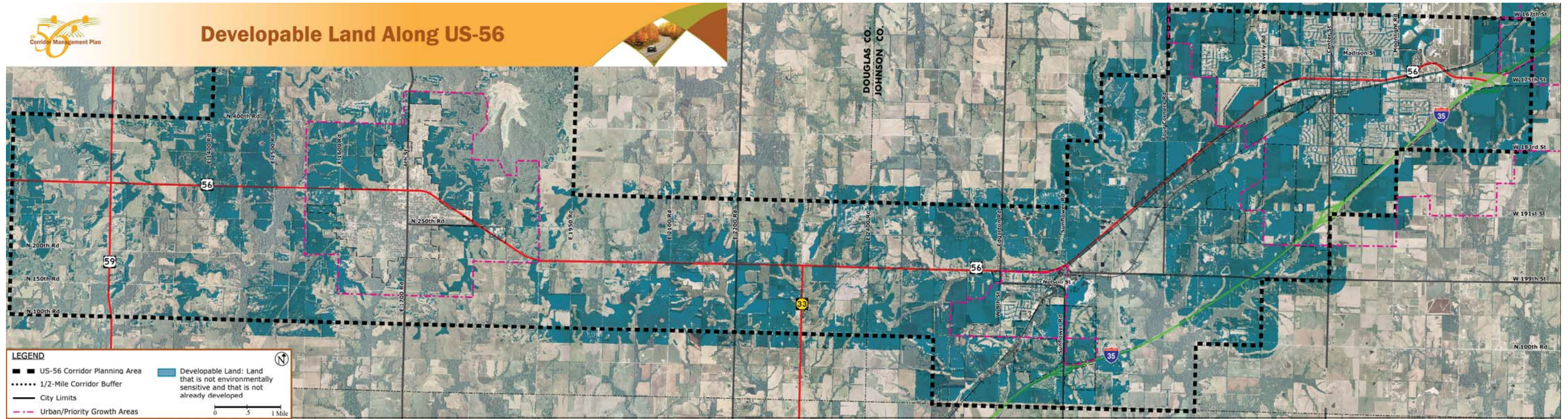
- Legend**
- US Highway 56
  - 1/4 Mile Hwy 56 Roadway Buffer
  - Possible Urban Growth Boundaries
- Environmentally Sensitive Areas Breakdown VALUE**
- Highly Suitable for Urban and Rural Development
  - Moderately Suitable for Urban and Rural Development
  - Suitable for Development in Urban Areas Only
  - Suitable for Urban and Rural Active/Passive Recreation
  - Suitable for Passive Recreation in Urban Areas Only

← Forested Riparian Corridor Dominated Landscape      Cropland/Pasture Dominated Landscape →

3,300 Feet Updated July 27, 2009



# Developable Land Along US-56



## Determining Developable Area

The Developable Land along US-56 (see facing map) is a composite area map excluding land that is already developed and all vulnerable natural resources. This represents the most progressive natural resource and conservation based strategy for defining the future land development envelope (shown in blue). The total developable land within the study area equals around 23,400 acres, or close to 37 square miles. Around 7,300 acres, over 11 square miles, are within the Urban Growth Boundaries of the three cities. The developable area within the Urban Growth Boundaries of the three cities excludes the two most sensitive categories of land on the map:

- Areas Suitable for Urban and Rural Active/Passive Recreation Only
- Areas Suitable for Passive Recreation in Urban Areas Only

Outside of the Urban Growth Boundaries of the three cities, the developable area excludes the following, which represent all but the top two categories:

- Areas Suitable for Development in Urban Growth Areas Only
- Areas Suitable for Urban and Rural Active/Passive Recreation Only
- Areas Suitable for Passive Recreation in Urban Areas Only

To calculate the capacity of land in the Corridor study area, the total amount of land was calculated and then all of the environmentally sensitive land, according to the categories above for inside/outside Growth Boundaries was subtracted. In addition, the land that is already developed, as determined by parcels identified through data provided by Partners that had a designated non-agricultural existing land use, was also subtracted. The result is that of the total 57,700 acres within the study area, after subtracting areas already developed and environmentally sensitive areas, 23,400 acres are expected to be available for future development, almost a third of which are in urban growth areas within US-56 Corridor Study Area boundaries. It should be noted that 40 to 50 percent of the land within Gardner's growth boundaries are not within the Study Area.

The Developable Land map serves as the initial development envelope for the growth of US-56 Corridor. The protection of the natural drainage ways and forested land will:

- Help protect water quality and reduce flooding,
- Provide connections for trails, animal and plant species that will help assure that the unique, irreplaceable qualities of the Corridor remain,
- Provide for quality recreational areas near urban areas,
- Provide high quality natural settings for new residential development, and
- Provide more than ample developable land for future development.

# ANALYSIS RESULTS SUMMARY

## *Environmental Sensitivity:*

### **Baldwin City:**

- Baldwin City is built on a major local riparian (stream) resource that should be connected to other resources to provide human, animal, vegetation, and water quality/stormwater corridors. North of Baldwin City in the parks and reserves are rare species that have a much better survival rate if they are connected to other habitat areas, including those south of US-56. Riparian Corridor Viaducts or Wildlife Underpasses can provide connections under roadways that do not disrupt natural systems.
- High quality subdivisions such as Cedar Creek and The Wilderness in Johnson County are built around sensitive natural areas.

### **Edgerton:**

- Big Bull Creek is on the north side of US-56. The Creek drains to Hillsdale Lake, which is a major recreational resource. Development in Edgerton can affect the water quality of the lake. Edgerton could take advantage of its proximity to this major recreational resource by providing camping, bait and bike shops and other supportive services for outdoor recreation in the area. Maintaining US-56 as a barrier to help preserve the sensitive Big Bull Creek floodplain and riparian could help direct development to more suitable areas to the south and southwest or to the northeast. Federal regulations make it very expensive to build in a floodplain.

### **Gardner:**

- Gardner has minimal adjacent high quality natural resources, compared to Baldwin City or Edgerton. Because of its proximity to Johnson County development, it has already gone through the cycle of natural area to agricultural area to urbanized area. Development has caused clearing very close to the streams. Three locations are suggested for fish, wildlife and human passages in conjunction with stormwater management and riparian restoration opportunities that could in the long term improve water quality.

## *Developable Acres:*

Within each City's growth boundaries:

- **Baldwin City:** 1,700 net refined developable acres remain available for development
  - **Developed and Environmentally Vulnerable Acres: 3,700**
- **Edgerton:** 800 net refined developable acres remain available for development
  - **Developed and Environmentally Vulnerable Acres: 600**
- **Gardner:** 4,900 net refined developable acres remain available for development
  - **Developed and Environmentally Vulnerable Acres: 4,600**

## *Residential Capacity*

Baldwin City and Edgerton have far more residential capacity than projected demand by the year 2030. Gardner may need to build more densely or to expand their growth area to meet residential demand.

An industry rule of thumb is to multiply the demand by two to three times in projecting land use. For Baldwin City and Edgerton, even three times the demand for residential and non-residential acreage could still be accommodated within their current growth boundaries. For Gardner, accommodating two to three times the projected demand would require building at greater densities or expanding growth boundaries.

- **Residential Demand for Baldwin City**
  - The estimated number of residents by the Year 2030 - approximately 6,400.
  - There is an estimated demand for approximately 1,200 new dwelling units by the Year 2030 (290 acres)
- **Residential Demand for Edgerton**
  - The estimated number of residents by the Year 2030 - approximately 2,800.
  - There is an estimated demand for approximately 500 new dwelling units by the Year 2030 (100 acres)
- **Residential Demand for Gardner**
  - The estimated number of residents by the Year 2030, approximately 47,800.
  - There is an estimated demand for approximately 14,300 new dwelling units by the Year 2030 (3,600 acres)

## *Non-Residential Capacity*

Baldwin City and Edgerton have far more non-residential capacity than projected demand by the year 2030. Gardner may need to build more densely in residential land to free up non-residential land or to expand their growth area to meet demand.

- **Non-Residential Demand for Baldwin City**
  - The estimated number of new employees is 600 by the Year 2030, approximately.
  - There is an estimated demand for approximately 40 acres of non-residential land by the Year 2030.
- **Non-Residential Demand for Edgerton**
  - The estimated number of new employees is 200 by the Year 2030, approximately.
  - There is an estimated demand for approximately 20 acres of non-residential land by the Year 2030.
- **Non-Residential Demand for Gardner**
  - The estimated number of new employees is 11,600 by the Year 2030, approximately, including the BNSF Intermodal facility.

- There is an estimated demand for approximately 1,300 acres of non-residential land by the Year 2030, including the BNSF Intermodal facility.

### *Demand Detail - Tables*

The following pages provide details on residential and non-residential demand for the three cities.

**RESIDENTIAL LAND USE DEMAND -- SUMMARY**  
**CITY OF BALDWIN CITY, KANSAS - U.S. 56 CORRIDOR PROJECT**  
3-Jun-09

	2000	2010	2020	2030		Total
<b>POPULATION FORECAST</b>	3,460	5,153	5,734	6,350		
<b>SINGLE FAMILY</b>						
New Households		545	187	198		931
New Dwelling Units		557	191	203		952
<b>Total Acres Consumed</b>		159.3	54.7	57.9		271.9
100% @ 3.5 du/acre		159.3	54.7	57.9		271.9
<b>MULTI-FAMILY</b>						
New Households		108	37	39		184
New Dwelling Units		118	40	43		201
<b>Total Acres Consumed</b>		9.8	3.4	3.6		16.7
100% @ 12 du/acre		9.8	3.4	3.6		16.7
<b>TOTAL NEW HOUSEHOLDS</b>		653	224	238	-	1,115
<b>TOTAL NEW DWELLING UNITS</b>		675	232	246	-	1,153
<b>TOTAL ACRES CONSUMED</b>		169.1	58.0	61.5	-	288.6

**NON-RESIDENTIAL LAND USE DEMAND -- SUMMARY**  
**CITY OF BALDWIN CITY, KANSAS - U.S. 56 CORRIDOR PROJECT**

	2000	2010	2020	2030		TOTAL
<b>SERVICE/OFFICE</b>						
Employment projections	819	794	967	1,179		
Employment Increase		(25)	174	212		360
Rate of Employment Growth		-3%	22%	22%		44%
Built Floor Area Generated (SF)		-	43,447	52,962		96,409
Land Area (SF)		-	255,573	311,542		567,114
<b>Net Acres Consumed</b>		0.0	5.9	7.2		13.0
<b>RETAIL</b>						
Employment projections	130	126	153	187		
Employment Increase		(4)	28	34		57
Rate of Employment Growth		-3%	22%	22%		43%
Built Floor Area Generated (SF)		-	13,094	15,962		29,056
Land Area (SF)		-	50,362	61,391		111,753
<b>Net Acres Consumed</b>		-	1.2	1.4		2.6
<b>MANUFACTURING</b>						
Employment projections	289	274	334	407		
Employment Increase		(15)	60	73		118
Rate of Employment Growth		-5%	22%	22%		41%
Built Floor Area Generated (SF)		-	89,891	109,577		199,468
Land Area (SF)		-	449,455	547,884		997,339
<b>Net Acres Consumed</b>		-	10.3	12.6		22.9
<b>WAREHOUSING</b>						
Employment projections	71	68	83	102		
Employment Increase		(2)	15	18		31
Rate of Employment Growth		-3%	22%	22%		43%
Built Floor Area Generated (SF)		-	11,985	14,610		26,596

	2000	2010	2020	2030	TOTAL
Land Area (SF)		-	51,002	62,171	113,173
<b>Net Acres Consumed</b>		-	1.2	1.4	2.6
<b>TOTAL</b>					
Employment projections	1,309	1,262	1,538	1,875	
Employment Increase		(48)	276	337	565
Rate of Employment Growth		-4%	22%	22%	43%
Built Floor Area Generated (SF)		-	158,418	193,111	351,529
Land Area (SF)		-	806,392	982,987	1,789,379
<b>Net Acres Consumed</b>		-	18.5	22.6	41.1

**RESIDENTIAL LAND USE DEMAND -- SUMMARY**  
**CITY OF EDGERTON, KANSAS - U.S. 56 CORRIDOR PROJECT**  
**DRAFT**  
3-Jun-09

	2000	2010	2020	2030	TOTAL
<b>POPULATION FORECAST</b>	1,440	1,872	2,211	2,777	
<b>SINGLE FAMILY</b>					
New Households		138	108	181	427
Additional Dwelling Units		141	111	185	437
<b>Total Acres Consumed</b>		40.3	31.6	52.9	124.8
100% @ 3.5 du/acre		40.3	31.6	52.9	124.8
<b>MULTI-FAMILY</b>					
New Households		5	4	6	14
Additional Dwelling Units		5	4	6	15
<b>Total Acres Consumed</b>		0.4	0.3	0.5	1.2
100% @ 12 du/acre		0.4	0.3	0.5	1.2
<b>TOTAL NEW HOUSEHOLDS</b>					
		143	112	187	441
<b>TOTAL NEW DWELLING UNITS</b>					
		146	115	191	452
<b>TOTAL ACRES CONSUMED</b>					
		40.7	32.0	53.4	126.1

**NON-RESIDENTIAL LAND USE DEMAND -- SUMMARY**  
**CITY OF EDGERTON, KANSAS - U.S. 56 CORRIDOR PROJECT**

	2000	2010	2020	2030	TOTAL
<b>SERVICE/OFFICE</b>					
Employment projections	148	136	176	229	
Employment Increase		(12)	41	53	82
Rate of Employment Growth		-8%	30%	30%	55%
Built Floor Area Generated (SF)		-	10,148	13,182	23,331
Land Area (SF)		-	59,697	77,543	137,240
<b>Net Acres Consumed</b>		-	1.4	1.8	3.2
<b>RETAIL</b>					
Employment projections	55	51	66	86	
Employment Increase		(4)	15	20	30
Rate of Employment Growth		-8%	30%	30%	55%
Built Floor Area Generated (SF)		-	7,211	9,367	16,578
Land Area (SF)		-	27,735	36,027	63,762
<b>Net Acres Consumed</b>		-	0.6	0.8	1.5
<b>MANUFACTURING</b>					
Employment projections	126	116	151	196	
Employment Increase		(10)	35	45	70
Rate of Employment Growth		-8%	30%	30%	55%
Built Floor Area Generated (SF)		-	51,980	67,519	119,499
Land Area (SF)		-	259,900	337,594	597,494
<b>Net Acres Consumed</b>		-	6.0	7.8	13.7
<b>WAREHOUSING</b>					
Employment projections	45	41	54	70	
Employment Increase		(4)	12	16	25
Rate of Employment Growth		-8%	30%	30%	55%
Built Floor Area Generated (SF)		-	9,857	12,804	22,661
Land Area (SF)		-	41,944	54,483	96,428
<b>Net Acres Consumed</b>		-	1.0	1.3	2.2

	2000	2010	2020	2030		TOTAL
<b>TOTAL</b>						
Employment projections	374	344	446	580		
Employment Increase		(30)	103	133		206
Rate of Employment Growth		-8%	30%	30%		55%
Built Floor Area Generated (SF)		-	79,196	102,872		182,068
Land Area (SF)		-	389,276	505,647		894,923
<b>Net Acres Consumed</b>		-	8.9	11.6		20.5

**RESIDENTIAL LAND USE DEMAND -- SUMMARY**  
**CITY OF GARDNER, KANSAS - U.S. 56 CORRIDOR PROJECT**  
**Scenario Based on Building Permit Information Contained in Transportation Master Plan**  
**Update Land Use Assumptions, March 23, 2009**

3-Jun-09

	2000	2010	2020	2030	TOTAL
<b>POPULATION FORECAST</b>	9,396	19,753	33,753	47,753	
<b>SINGLE FAMILY</b>					
New Households		3,144	4,250	4,250	11,644
Additional Dwelling Units		3,238	4,377	4,377	11,992
<b>Total Acres Consumed</b>		925	1,251	1,251	3,426
100% @ 3.5 du/acre		925	1,251	1,251	3,426
<b>MULTI-FAMILY</b>					
New Households		559	755	755	2,069
Additional Dwelling Units		615	831	831	2,278
<b>Total Acres Consumed</b>		36	49	49	134
100% @ 17 du/acre		36	49	49	134
<b>TOTAL NEW HOUSEHOLDS</b>		3,699	5,000	5,000	13,699
<b>TOTAL NEW DWELLING UNITS</b>		3,853	5,208	5,208	14,270
<b>TOTAL ACRES CONSUMED</b>		961.3	1,299.5	1,299.5	3,560.3

**NON-RESIDENTIAL LAND USE DEMAND – SUMMARY**  
**Scenario Based on Building Permit Information Contained in Transportation Master Plan Update**  
**Land Use Assumptions, March 23, 2009**

**CITY OF GARDNER, KANSAS - U.S. 56 CORRIDOR PROJECT**

	2000	2010	2020	2030	TOTAL
<b>SERVICE/OFFICE</b>					
Employment projections	2,025	2,481	3,208	3,936	
Employment Increase		456	727	727	1,911
Rate of Employment Growth		23%	29%	23%	94%
Built Floor Area Generated (SF)		114,021	181,830	181,830	477,681
Land Area (SF)		670,712	1,069,588	1,069,588	2,809,888
<b>Net Acres Consumed</b>		15.4	24.6	24.6	64.5
<b>RETAIL</b>					
Employment projections	553	1,459	2,442	3,426	
Employment Increase		906	984	984	2,873
Rate of Employment Growth		23%	29%	23%	94%
Built Floor Area Generated (SF)		430,245	467,240	467,240	1,364,725
Land Area (SF)		1,654,788	1,797,077	1,797,077	5,248,942
<b>Net Acres Consumed</b>		38.0	41.3	41.3	120.5
<b>MANUFACTURING</b>					
Employment projections	1,297	1,336	1,465	1,595	
Employment Increase		39	130	130	298
Rate of Employment Growth		3%	10%	9%	23%
Built Floor Area Generated (SF)		58,302	194,340	194,340	446,982
Land Area (SF)		291,510	971,700	971,700	2,234,910
<b>Net Acres Consumed</b>		7	22	22	51
<b>WAREHOUSING</b>					
Employment projections	533	1,478	4,269	7,059	
Employment Increase		945	2,791	2,791	6,526
Rate of Employment Growth		177%	189%	65%	1224%
Built Floor Area Generated (SF)		1,577,807	4,660,670	4,660,670	10,899,147
Land Area (SF)		6,714,072	19,832,638	19,832,638	46,379,349
<b>Net Acres Consumed</b>		154	455	455	1,065

	2000	2010	2020	2030		TOTAL
<b>TOTAL</b>						
Employment projections	4,408	6,754	11,385	16,016		
Employment Increase		2,346	4,631	4,631		11,608
Rate of Employment Growth		53%	69%	41%		263%
Built Floor Area Generated (SF)		2,180,375	5,504,080	5,504,080		13,188,535
Land Area (SF)		9,331,083	23,671,003	23,671,003		56,673,089
<b>Net Acres Consumed</b>		214.2	543.4	543.4		1,301.0