



## CHAPTER 3 PLANNING ASSUMPTIONS

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The Kern Council of Governments (Kern COG) is the state affiliate data center for Kern County, and oversees transportation plans, programs, and transportation-related projects for its eleven cities: Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. In addition, Kern COG has oversight of similar plans, programs, and projects within the unincorporated areas of Kern County.

In 2001 the Kern COG Board adopted a policy to revisit the regional growth forecast every 3-5 years. ~~The Board has adopted forecasts three times since that policy was implemented. The current forecast was originally adopted in 2005, and re-adopted in October 2009. The population forecast included an assumption for the economic downturn and was found to be within 1/10th of a percent of the observed 2010 census population for Kern County. In December 2011 the household and population distribution was updated using the 2010 Census block data and approved by the Kern COG Transportation Modeling Committee. The next scheduled update to the growth forecast will be after adoption of the 2014 RTP in fall of 2014. To fulfill its responsibilities, Kern COG regularly updates its long-range forecasts. In 2012, it reviewed and reaffirmed its 2005 forecasts. The adopted forecast used for the 2018 RTP represents a good time to reevaluate growth trends. From the early 2000s to 2006, California experienced a housing boom. From 2006 to about 2012, the housing market crashed, and the economy suffered through a major recession, which is well represented in 2010 Census data. The economy began growing again in 2010, and by 2013 the housing market was once again growing. Thus, there are some positive data points on which to base forecasts.~~

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The ~~highly successful~~ forecast and planning assumptions process is implemented by joint subcommittees: the Kern COG Transportation Technical Advisory Committee (TTAC), the Regional Planning Advisory Committee (RPAC) and the Transportation Modeling Committee (TMC). The Kern COG Board set up the TMC in May 2001 with the adoption of the Transportation Modeling Policy and Procedure. This procedure was re-confirmed with the adoption of a Memorandum of Understanding on Transportation Modeling Coordination between Caltrans, City of Bakersfield, Kern County and Kern COG on January 15, 2004.

The TMC consists of the technical staff from Kern COG member agencies planning and public works departments. The committee is also responsible for sub-area distribution of the growth forecast as well as numerous other regional transportation modeling issues. As part of the development of the SCS, the TMC has been meeting jointly with the RPAC.

#### GROWTH TRENDS

Population in the 8,200-square-mile County of Kern has surpassed ~~856,000 (Source: U.S. Census Bureau, 2012 American Community Survey), and Kern County was in the top ten fastest growing counties in California from 2012 to 2013 with the 5<sup>th</sup> fastest growth rate at 1.25%. About one in every 44 people in California lives in Kern County. The Kern region grew by almost 200,000 persons since 2000 and is California's eleventh most populated of 58 counties, recently surpassing San Francisco and Ventura counties. 874,000 (Source: CA department of Finance 2015). Kern County's population increased, on average, by about 17,800 people per year from 2000 to 2010. The forecast indicates that the population growth would average about 21,400 people per year from 2015 to 2035 and about 21,900 people per year over the entire forecast time frame from 2015 to 2050.~~

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### Regional Population, Housing, and Employment Forecasts

The California Department of Finance (DOF) estimated that population in the Kern region increased at an average annual compounded rate of 2.14% between July 2000 and July 2013, more than double the rate for California as a whole (0.9%). Even with the economic slowdown beginning in 2007, the region gained more than 15,000 people annually during this time, up from 12,000 annually during the 1990s.

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Over the next 2624 years, growth in the Kern region could vary widely based on a host of factors, including spillover from Southern California, water availability, employment opportunities, housing costs, interest rates, high-speed rail, air quality regulations, and land availability. The combined general plans within the Kern region designate sufficient land to absorb growth at twice the rate forecasted by 2035, assuming water and urban services are available. Past growth in the region and in Southern California as a whole would indicate that the question is not "if" but "when" Kern's population will double. At current growth rates that will likely not happen until after 2050. As with any forecast beyond 5 years, it is important to revisit the forecast often to adjust for the most recent observed changes in factors affecting trends.

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~~In October 2009, Kern COG reanalyzed, reviewed, and readopted the July 2005 forecast. Distribution of the 2009 forecast forecasts. In 2015, Kern COG commissioned PlaceWorks to develop a comprehensive update to the 2005 forecasts. The final report was completed and adopted by the Kern COG Board in December 2014. November 2015 for use in developing the 2018 RTP. The forecast anticipates population to increase by approximately 67.62% or 577,100,539,000 persons by 2040. When adopted, the forecast assumed a rebound from the economic downturn beginning in 2010. Kern regained all the jobs lost during the economic downturn by 2012 and recovery continues. The latest DOF projections released in 2013 assume that the population will rebound and surpass the Kern adopted forecast by 2015. Again, the regional growth forecast is reviewed and revised every three to five years.~~

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In the near term, natural increases will continue to fuel the bulk of the population growth; Kern's population consists of more than 50% Hispanic/Latino ethnicity (Source: US Census Bureau, 2012 American Community Survey). At the same time, a huge "baby boomer" population group is retiring and has set the stage for conversion of existing vacation homes in the mountain areas to primary residences. The increase of telecommuting workers will also allow more remote locations to become primary residences. At some point, significant spillover from the Southland will be felt first in the Rosamond and Frazier Park areas. Centennial - a new proposed community of 23,000 housing units on Tejon Ranch in northern Los Angeles County - may siphon some of the anticipated growth from southern Kern as the development comes online; however, this project will likely have growth-inducing effects in the Frazier Park area as well. The most recent forecast assumes that growth's positive and negative factors will ultimately cancel each other out, causing long-term growth to reflect historic boom/bust trends.

According to the California Employment Development Department (EDD) Kern County gained 7574,000 jobs since 2000 to 2014 and experienced a forecast indicates that total employment would increase in by 5,500 jobs per capita income. However, the year from 2014 to 2035. The increase is due to the 2010 comparison year that represents a recession-influenced low. The unemployment rate in the Kern region in 2012 (13.3%) remains consistently higher than the state average (10.5%).

~~The jobs/housing balance, which has historically fluctuated around as a whole. The unemployment in the Kern region in 2016 ranged from a low of 9.1-1 and 1.3 jobs per household, is anticipated to continue to vary based on several factors. First, fluctuations to a high of 11.6% as compared to the state range of 4.7% to 5.9%.~~

~~In 2000, there were about 1.17 jobs per household in Kern County. In 2010, that decreased to 1.08, reflecting the recessionary impact on the number of jobs. The estimates for 2014 indicate the ration has increased to 1.22, reflecting the particularly strong recovery in employment that Kern County has experienced. Going forward, however, the retirement of the baby boom generation is expected to result in~~

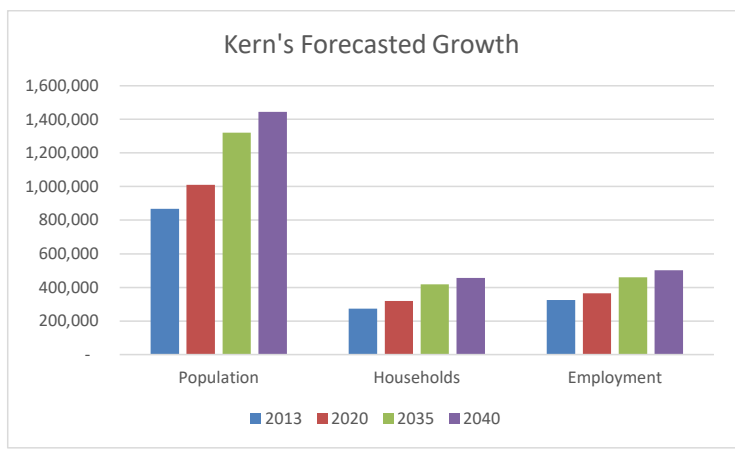
long-term decreases in the labor force participation rate. It is not just the retirement of the baby boom generation that will affect this rate. For example female participation in the labor force, which increased from about 33 percent in 1950, reached a peak in 2000, and since then has slowly declined. As of June 2015, the female participation rate was 56.7%. A lower labor force participation rate equates to fewer workers per household.

The forecast indicates that Kern County will experience a slight reduction in the number of jobs per household, declining to 1.13 in 2035 and 1.06 in 2050. This is proportional to the decline in labor force participation expected nationally. First, fluctuations in the number of out-of-county commuter households affect the jobs housing balance. Second, when employment levels do not keep up with baby booms - like the echo boomer generation now entering the workforce - the jobs housing balance goes down as unemployment goes up and/or out-migration increases. The third factor affecting the jobs housing balance is Kern's latent supply of second homes in the mountain communities. As the baby boomers retire we anticipate an increase in households that will be supported by a pension/retirement savings rather than a job in the region, lowering high vacancy rates in the mountain communities. This trend factor is difficult to detect because no building permit is required to convert a second home to a primary residence. ~~Over the long term we anticipate the jobs/housing balance to settle down to 1.1.~~ Total Employment is anticipated to grow to just over 500,000 by forecast year 2040.

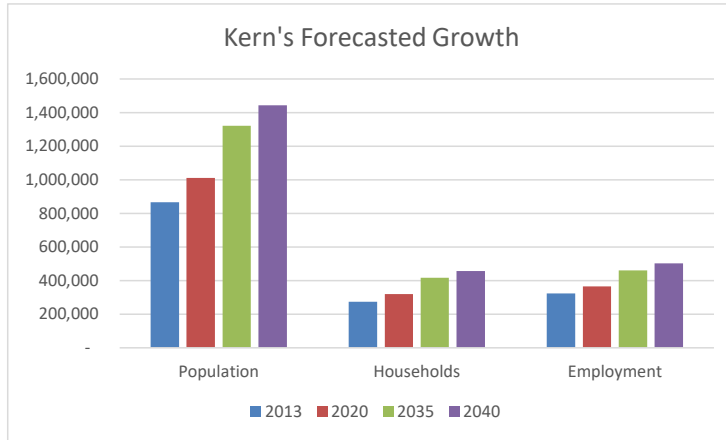
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Figure 3.1 depicts forecasted population, household and employment growth to 2040. Additional growth forecast data and modeling assumptions are available in Appendix G.

Figure 3-1: Kern's Forecasted Growth



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### Sub Regional Forecast Distributions

Over the past decade, growth has concentrated in Metropolitan Bakersfield and the communities of Delano, Wasco, Ridgecrest, California City, Arvin, Shafter, Tehachapi, McFarland and the unincorporated communities around Tehachapi, Rosamond and Frazier Park. In addition, strategic growth occurred at Kern's southern gateway to Los Angeles County involving the Tejon Ranch Commerce Center and related development that supports transportation, logistics, commercial, tourism and other sustainable uses important to the region's economy.

In Metropolitan Bakersfield, approximately 80% of the new housing has been built on the west side, with approximately 40% north of the Kern River and another 40% in the southwest. The northeast has begun to see activity with completion of a new water delivery system.

After 2035, an increase in population growth in Southeast Kern is expected to begin to absorb spillover from the Palmdale/Lancaster market area. This coincides with a planned Metrolink station in Rosamond and potential completion of a high speed rail station in Palmdale. The growth is anticipated to syphon off some of the demand for housing in other areas of the County, consistent with existing long term forecasts.

Over the past two decades, Kern workers commuting to Los Angeles County (3%) have kept pace with the county's growth rate, reflecting Kern's self-contained labor market. If you live in Kern, you work in Kern. Of those who commute out of county, most commute to Los Angeles County from communities along the southern edge of the county, such as Rosamond, Tehachapi, and Frazier Park. However, more commuters live in Los Angeles County and work in Kern than the reverse. Most of the imported workers commute to Edwards AFB, Kern's largest employer with over 10,000 jobs.

Much of Kern's employment is dispersed. Consequently, the Metropolitan Bakersfield area experiences a "reverse commute" whereby a segment of workers commute to outlying areas such as farm fields, food processing facilities, warehousing, wind farms, oil fields, prisons, power plants, and government installations. Historically, this reverse commute created a centrifugal force on Metropolitan Bakersfield's housing development where purchasing housing on the urban fringe often reduces a commuter's trip, even though it may increase trip lengths for other purposes such as shopping and services. For those working in the metropolitan area, growth in the suburban areas may also be fueled by the attractiveness of newer and perceived better schools.



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Table 3-1 provides anticipated population and housing forecasts distribution for the county and its incorporated cities through 2040.

Employment distribution used EDD, InfoUSA data and the U.S. Census Longitudinal Employer-Household Dynamics (LEHD). Both employment and household distributions use the latest planning assumptions from local governments in Kern, including local general plan data shown in Figure 3-2.

**Table 3-1: Growth Trends for Kern County**

										1980-2010 Historic/ Growth		2010-2040 Forecast Growth	
										Average Annual		Average Annual	
	Year	Census 1980	Census 1990	Census 2000	Census 2010	Forecast 2020	Forecast 2030	Forecast 2035	Forecast 2040	Rate	Increase	Rate	Increase
Kern County	Population	403,089	543,477	661,653	839,600	1,010,800	1,208,200	1,321,000	1,444,100	2.4%	14,550	1.8%	20,150
	Households	139,881	181,480	208,655	254,610	319,200	381,600	417,200	456,100	2.0%	3,824	1.9%	6,716
Metro Bakersfield	Population	228,000	329,100	409,800	533,500	640,500	764,900	848,500	939,700	2.8%	10,183	1.9%	13,540
	Households	89,500	120,000	134,100	168,400	203,800	244,700	269,800	297,200	2.1%	2,630	1.9%	4,293
Arvin	Population	6,863	9,286	12,956	19,304	23,800	29,300	32,500	36,000	3.4%	415	2.1%	557
	Households	1,946	2,385	3,010	4,228	5,300	6,700	7,500	8,400	2.6%	76	2.3%	139
Bakersfield	Population	105,611	174,820	247,057	347,483	443,500	566,000	639,400	719,500	3.9%	8,062	2.4%	12,401
	Households	39,602	62,516	83,441	111,132	143,900	186,300	212,000	240,100	3.4%	2,384	2.5%	4,299
California City	Population	2,743	5,955	8,385	14,120	17,300	21,300	23,600	26,100	5.3%	379	2.0%	399
	Households	990	2,119	3,067	4,102	5,200	6,700	7,500	8,400	4.6%	104	2.4%	143
Delano	Population	16,491	22,762	38,824	53,041	60,100	68,100	72,500	77,300	3.8%	1,218	1.2%	809
	Households	4,912	6,236	8,409	10,260	11,600	13,000	13,800	14,700	2.4%	178	1.2%	148
Maricopa	Population	946	1,193	1,111	1,154	1,170	1,190	1,200	1,210	0.7%	7	0.2%	2
	Households	338	416	404	414	410	420	420	420	0.7%	3	0.0%	0
McFarland	Population	5,151	7,005	9,618	12,707	14,600	16,800	18,000	19,300	3.0%	252	1.4%	220
	Households	1,399	1,685	1,990	2,599	2,900	3,100	3,300	3,500	2.0%	40	1.0%	30
Ridgecrest	Population	15,929	28,295	24,927	27,616	30,500	33,600	35,500	37,600	1.8%	390	1.0%	333
	Households	5,762	10,349	9,826	10,781	12,000	13,400	14,200	15,100	2.1%	167	1.1%	144
Shafter	Population	7,010	8,409	12,731	16,988	23,700	33,100	39,900	47,300	2.9%	333	3.4%	1,010

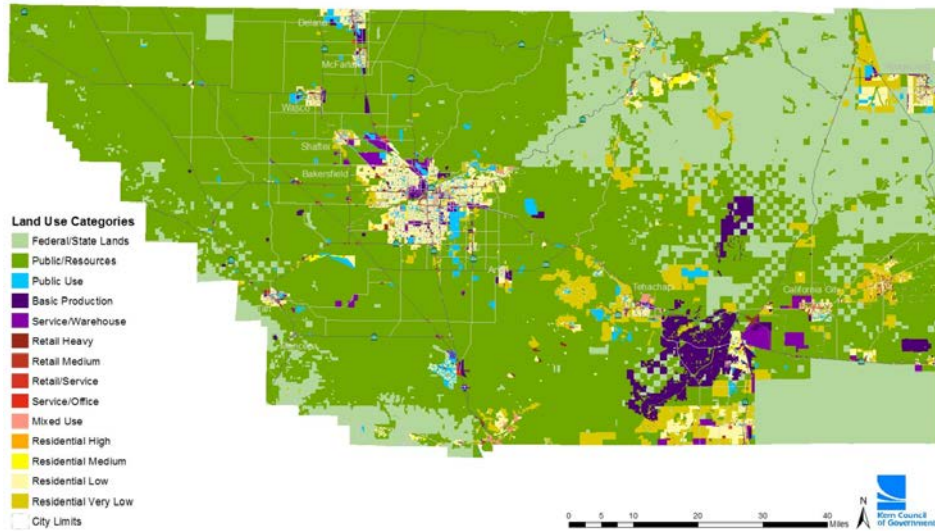


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										1980-2010 Historic/ Growth Average Annual		2010-2040 Forecast Growth Average Annual	
										Rate	Increase	Rate	Increase
Year	1980	1990	2000	2010	2020	2030	2035	2040	2040	Rate	Increase	Rate	Increase
Households	2,284	2,558	3,292	4,230	6,100	8,700	10,600	12,700	2.0%	65	3.6%	282	
	Population	5,316	5,902	6,400	9,327	10,900	12,800	14,000	15,300	1.9%	134	1.6%	199
Households	2,096	2,209	2,233	2,254	2,400	2,700	2,800	2,900	0.2%	5	0.8%	22	
	Population	4,126	5,791	10,957	14,414	16,000	17,800	18,900	20,100	4.1%	343	1.1%	190
Households	1,534	2,335	2,533	3,121	3,600	4,200	4,600	5,000	2.3%	53	1.6%	63	
	Population	9,613	12,412	21,263	25,545	31,200	38,100	42,600	47,500	3.2%	531	2.0%	732
Households	3,001	3,471	3,971	5,131	6,500	8,200	9,300	10,500	1.8%	71	2.4%	179	
	Population	223,290	261,647	264,111	297,901	338,030	370,110	382,900	396,890	1.0%	2,487	1.0%	3,300
Households	75,947	85,201	86,474	96,358	119,290	128,180	131,180	134,380	0.8%	680	1.1%	1,267	

Sources: 1980-2010 (April) data from US Bureau of the Census; 2010 forecast based on 2009 California Department of Finance E-5 Report (2010 Census not yet available); 2020-35 (July) Kern COG growth forecast by Regional Statistical Areas (RSA), adopted October 2009; Note: City trends subject to periodic annexation and de-annexation activity, population includes prisons; see local jurisdictions for most recently adopted local forecasts.

FIGURE 3-2: GENERALIZED KERN COUNTY REGIONAL LAND USE MAP



DEMOGRAPHICS

The Kern region has a slight ethnic majority with Hispanics/Latinos making up 50.3% of the total population. Non-Hispanic Whites account for 37.4% of the population, down from 50% in 2000. The rise and shift in population makeup in the Kern region is primarily because of births along with an influx of new immigrants. The African American, Asian, and American Indian populations make up 5.1%, 4.7% and .7% of the population respectively. Population growth in Kern mirrors the rest of the state, which is one of the most diverse in the nation. Population growth results from large net increases in three population groups: aging baby boomers, their young children - the echo-boomers - and immigrants, mostly from Mexico and Central America. Net migration (people moving to the county minus those moving away) accounted for most of the population gain between 2000 and 2010, i.e. 54%. Nearly 30% of the net migration was the result of immigration from outside the United States. Natural increase (births minus deaths) accounted for 45% of the population gain.

Housing, Households, and Group Quarters

Nearly 52,800 housing units were added between 2000 and 2010. This brought the housing stock in the Kern region up to 280,400 units. Population growth exceeded household growth, and the average persons per unit increased from 3.03 in 2000 to 3.15 in 2010. This was in sharp contrast to a decade-to-decade drop in household size experienced by the nation overall.

Contrary to a decreasing trend at the national level, the percentage of housing considered crowded increased in the Kern region over the past decade. Almost 9% of the households lived in crowded housing in 2006–10, compared to only 8% in 1990. Nationally, overcrowding was at 3% in 2006–10. Kern still maintains the most affordable housing stock for any Metropolitan Statistical Area in California; however,

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high unemployment and relatively low-paying jobs appear to be fueling an increase in overcrowded conditions.

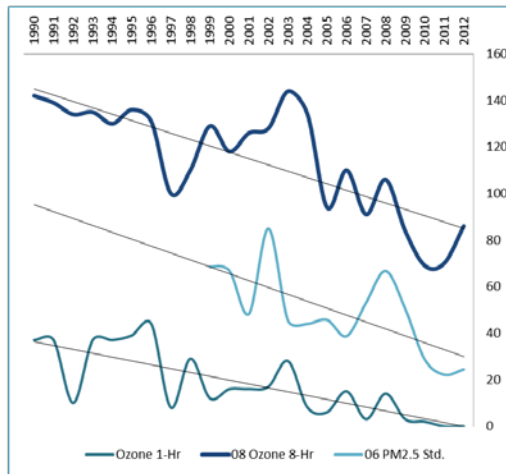
Eleven percent of Kern's population growth was in group quarters between 2000 and 2010. This growth was fueled by the opening and/or expansion of eight federal, state, and privately operated prisons in the outlying communities of Delano, California City, McFarland, Shafter, Taft, Tehachapi, and Wasco. Since 2010 several of the private prisons lost their contracts to house prisoners; however, it is anticipated that as the state budget improves, these contracts will be re-instated. Group-quartered residents grew from 3% to nearly 5% of Kern's total population. Even with this population increase in the outlying communities, the Metropolitan Bakersfield planning area grew from 62% to 64% of the total county population during the same period. Also included in group quarters growth is an increased nursing home and dormitory population.

**FIGURE 3-3: NUMBER OF DAYS EXCEEDING FEDERAL AIR STANDARDS IN KERN COUNTY 1990-2012**

### MOBILITY AND AIR QUALITY

From 1998 to 2009, the region's congestion as measured by passenger vehicle travel has increased at a faster rate (40%) than the population (25%) and maintained road miles (6.8%). During the same period, the average annual growth in passenger vehicle travel increased from 500,000 miles traveled per year to 580,000 miles traveled per year. In 2006–2008, transit commuters averaged a modest 1.1% of all workers, a decrease from 1.4% in the 2000 Census. The overall mode choice to work revealed a 1% increase in those who commuted alone to work.

Since the 1990s, the Kern region achieved consistent improvements in the number of days exceeding federal or state standards for ozone and particulate matter, generally defined as "fine dust." The San Joaquin Valley Air Basin exceeded the federal one-hour ozone standard for 37 days in 2003, dropping to 13 days in 2007. While the Air Basin exceeded the federal  $PM_{10}$  standard for 60 days in 1990, it dropped to 8 days in 2002. A region cannot have more than three exceedances per year for three consecutive years to comply with the standard. New 8-hour ozone and  $PM_{2.5}$  standards were released by the federal government that may be more difficult for the Valley to achieve in light of the current growth forecast. These new standards will pose an issue for the mountain and desert areas of the region as well.



Note: In this air quality graph, lower  $PM_{2.5}$  and ozone numbers are equivalent to better air quality. Source: CARB iADAM data.

On-road mobile sources create approximately 30% of the ozone-precursor emissions and 40% of the  $PM_{10}$  emissions in Kern County. Cleaner-burning fuels and zero-emission vehicles will likely significantly reduce ozone emission from mobile sources, but not for several decades.  $PM_{10}$  and  $PM_{2.5}$ , however, are more potentially problematic. As passenger vehicle travel increases, so does on-road dust, especially after a rainstorm when dirt is washed onto the roadway and eventually dries. One of Kern's long-range air quality challenges will be to sustain the forecast population and employment growth while controlling fine dust particles in order to meet the evolving federal standards.





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### LAND USE NEXUS

The Metropolitan Bakersfield General Plan Land Use Element contains a program that encourages infill development and designates key transportation corridors that support land use intensification, thereby allowing transit-compatible development. The livable communities component identifies specific incentives to encourage infill development and a more flexible mix of land uses that reduces the overall number of vehicle trips as well as the average length of trips. The element also distinguishes geographic limits (i.e., service area boundaries) that Golden Empire Transit serves in the metropolitan area.

Sprawling low-density development, with widely separated land uses, creates extra vehicular trip-making and longer trip lengths for all trip categories. For the most part, residents in these low-density areas are unable to walk to shopping, recreation, or entertainment; they must use their automobiles for these trips. This extra travel also has detrimental effects on the community's air quality and livability. Residents will spend more time in traffic and have less time for more enjoyable activities.

Many of Kern COG's member agencies' land use elements have incorporated policies and programs that support development and forecasted development patterns which maximize the efficient use of land and promote reduced vehicle trips by encouraging: balanced jobs and housing, walkable spaces, infill development, mixed use development, and/or development along transit routes.

#### **Sustainable Communities Strategy**

The Kern Region's Sustainable Communities Strategy (SCS) supports a forecasted development pattern and corresponding transportation network that encourages the location of housing near jobs and transportation corridors to reduce regional passenger vehicle travel and resulting emissions while providing sufficient and affordable housing options to accommodate a growing population and preserving Kern County's agricultural economic base, sensitive habitats, and resource areas. This strategy is focused on changing the character of traditional low-density sprawl to create community centers throughout the region composed of targeted mixes of housing and employment. For additional discussion, see Chapter 4, Sustainable Communities Strategy.