



# City of Las Cruces<sup>®</sup>

PEOPLE HELPING PEOPLE

## COUNCIL WORK SESSION SUMMARY ROUTING SLIP

Meeting Date September 28, 2015

TITLE: IMPACT FEE – LAND USE ASSUMPTIONS.

- Are there attachments to the Council Work Session Summary? Yes  No
- Will there be a Video Presentation for this item? Yes  No
- Will there be a PowerPoint Presentation for this item? Yes  No
- If "yes", will a copy of the PowerPoint Presentation be included on the Council Work Session Agenda? Yes  No

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City Manager	<i>[Signature]</i>		9/21/15



# City of Las Cruces<sup>®</sup>

PEOPLE HELPING PEOPLE

## Council Work Session Summary

**Meeting Date:** September 28, 2015

**TITLE:** IMPACT FEE – LAND USE ASSUMPTIONS.

**PURPOSE(S) OF DISCUSSION:**

- Inform/Update
- Direction/Guidance
- Legislative Development/Policy

**BACKGROUND / KEY ISSUES / CONTRIBUTING FACTORS:**

The City of Las Cruces is currently reviewing and developing updated Public Safety Impact Fees. The City has hired TischlerBise, Inc. to update the Land Use Assumptions and recommend new public safety impact fees. At the work session, Dwayne P. Guthrie, PhD of TischlerBise will present the draft Land Use Assumptions and discuss how the Land Use Assumptions were developed.

**SUPPORT INFORMATION:**

1. Attachment "A", third draft of the Land Use Assumptions for Public Safety Impact Fee Update.
2. Attachment "B", Land Use Assumptions for Public Safety Impact Fee PowerPoint.



**3<sup>rd</sup> DRAFT Land Use Assumptions  
for Public Safety Impact Fee Update**

Prepared for:  
City of Las Cruces, New Mexico

September 16, 2015



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## APPENDIX A: LAS CRUCES DEMOGRAPHICS

The population, housing unit, and job data contained in this document will be used to update public safety impact fees. To evaluate the demand for growth-related infrastructure from various types of development, TischlerBise also prepared documentation on floor area by type of nonresidential development and service units by type and size of housing unit. As explained further below, these metrics are the service units that will be used in the impact fee study.

Development impact fees must be proportionate by type of land use and based on the need for growth-related improvements. The demographic data and development projections discussed below will be used to demonstrate proportionality and anticipate the need for future infrastructure. All land use assumptions and projected growth rates are consistent with published plans, such as the City of Las Cruces Comprehensive Plan 2040 (11/18/13) and the draft Dona Ana County Comprehensive Plan (January 2015). In contrast to these comprehensive plans, which are general and long-range, development impact fees require more specific quantitative analysis and have a short-range focus. Typically, impact fee studies look out five to ten years, with the expectation that fees will be periodically updated. For the public safety impact fee update, infrastructure standards will be calibrated using fiscal year 2015-16 data. In the City of Las Cruces the fiscal year begins on July 1<sup>st</sup>.

### Summary of Growth Indicators

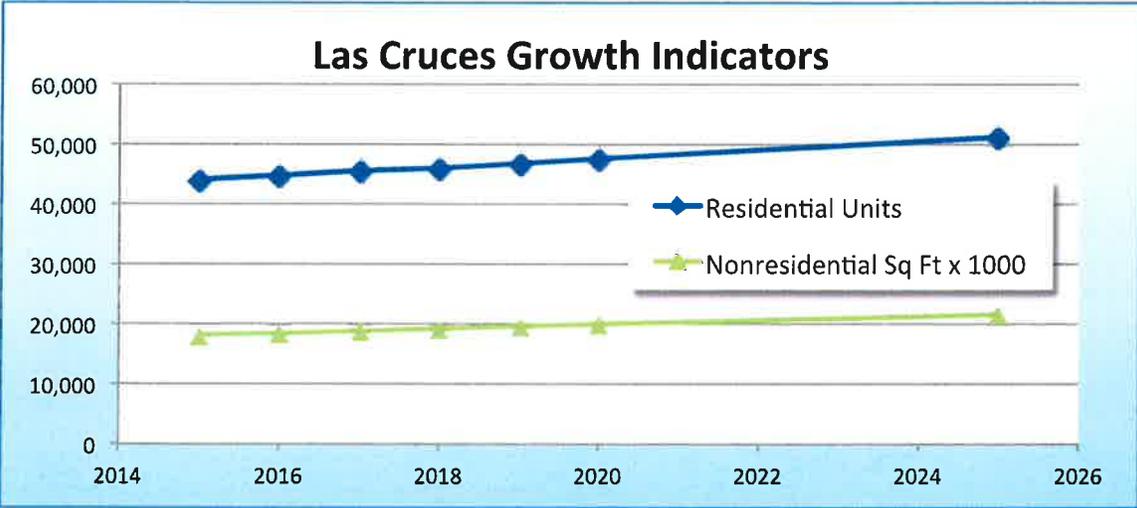
Key development projections for the City of Las Cruces public safety impact fee update are housing units and nonresidential floor area, as shown in Figure A1. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. The goal is to have reasonable projections without being overly concerned with precision. Because impact fees methods are designed to reduce sensitivity to development projections in the determination of the proportionate-share fee amounts, if actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, the City will receive an increase in fee revenue, but will also need to accelerate infrastructure improvements to keep pace with the actual rate of development.

For the housing unit projection, TischlerBise used the 2030 population projection from page 21 of the City's Comprehensive Plan 2040. The compound annual growth rate of 1.52% was derived from the 2014 population estimate of 101,408 (U.S. Census Bureau) and the expectation of 129,182 residents by 2030. Population was converted to housing units using the 2013 ratio of 2.33 persons per housing unit (see Figure A8). During the next five years, the public safety impact fee update assumes an average increase of 694 housing units per year. In comparison, the City of Las Cruces added 504 housing units in calendar year 2013, which includes 107 multifamily units. Due to a nationwide shortage of financing for multifamily units in recent years, there was pent-up demand that partially explains the spike in apartments. In 2014, only 304 dwelling units were permitted, of which 11 were apartments.

Over the next five years, Las Cruces expects an average increase of 342,000 square feet of nonresidential floor area per year. The projected increase in floor area is based a compound growth rate of 1.8% per year, derived from the job projection on page 50 of the draft Dona Ana County Comprehensive Plan (RCLCO 2014). Job growth was converted to nonresidential floor area using 2010 data on Las Cruces jobs and nonresidential floor area, as discussed below (see Figures A3 and A4, with related text).

**Figure A1: Summary of Development Projections and Growth Rates**

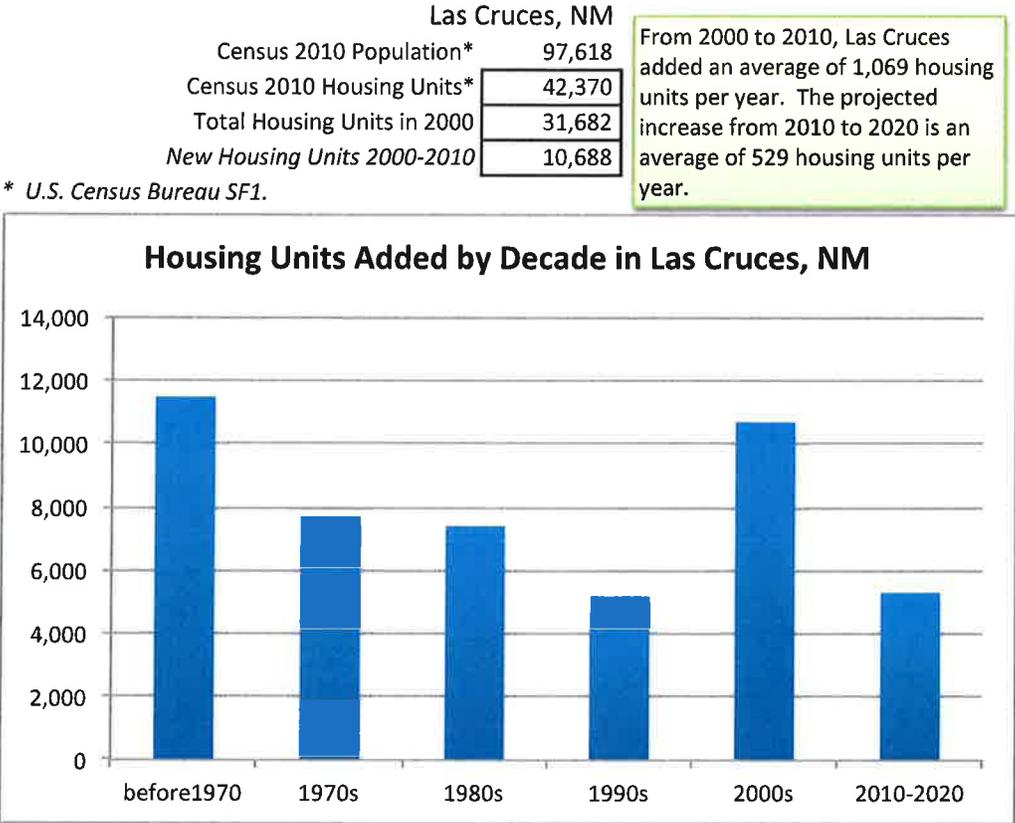
Las Cruces, New Mexico	Year						2015 to 2020 Average Annual		
	2015	2016	2017	2018	2019	2020	2025	Increase	Compound Growth Rate
Residential Units	44,186	44,860	45,544	46,238	46,943	47,658	51,404	694	1.52%
Nonresidential Sq Ft x 1000	18,290	18,620	18,950	19,290	19,640	20,000	21,870	342	1.80%



**Residential Construction**

From 2000 to 2010, Las Cruces increased by an average of 1,069 housing units per year. Figure A2 indicates the estimated number of housing units added by decade in Las Cruces, according to data obtained from the U.S. Census Bureau. Consistent with the nationwide decline in development activity during the Great Recession, residential construction slowed significantly from 2008 to 2010, thus decreasing the number of units added during the past decade. From 2010 to 2020, Las Cruces expects to increase by 529 housing units per, which is significantly less than the increase during the previous decade.

Figure A2: Housing Units by Decade



Source for 1990s and earlier is Table B25034, American Community Survey, 2013, adjusted to yield total units in 2000. Projected units from 2010 to 2020 derived from population projection, Table 1, City of Las Cruces Comprehensive Plan 2040 (11/18/13).

**Nonresidential Development**

In addition to data on residential development, the calculation of impact fees requires data on nonresidential development. TischlerBise uses the term “jobs” to refer to employment by place of work. In Figure A3, gray shading indicates the four development prototypes the will be used by TischlerBise to derive inbound average weekday vehicle trips to nonresidential buildings in Las Cruces, which will be used to allocate capital costs for police facilities. For future **Industrial** development, warehousing (ITE code 150) is a reasonable proxy. As shown in Figure A4, Las Cruces averaging 756 square feet per industrial job. The prototype for future **Commercial** development is an average size shopping center (ITE code 820). Commercial development (i.e. retail and eating/drinking places) in Las Cruces averages 453 square feet per job. For **Institutional** development, such as pubic buildings, schools and churches, the prototype is an elementary school (ITE code 520). Institutional development in Las Cruces averages 561 square feet per job. For **Office & Other Services**, a general office (ITE code 710) is a reasonable prototype for future development. In Las Cruces, offices and other services average of 205 square feet per job.

**Figure A3: National Trip Rates and Employee to Building Area Ratios**

ITE Code	Land Use / Size	Demand Unit	Wkdy Trip Ends Per Dmd Unit*	Wkdy Trip Ends Per Employee*	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

\* *Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).*

Figure A4 indicates 2010 estimates of jobs and nonresidential floor area located in Las Cruces. Job estimates, by type of nonresidential, are from the Las Cruces Work Area Profile, published by the U.S. Census Bureau's online web application known as "OnTheMap". The number of jobs in Las Cruces is based on quarterly workforce reports supplied by employers. With 43,652 jobs and almost 16.72 million square feet of nonresidential building space in 2010, Las Cruces averages 383 square feet of nonresidential floor area for each job.

**Figure A4: Las Cruces Jobs and Nonresidential Floor Area Estimates**

	2010 Jobs (1)		Sq Ft per Job	2010 Floor Area (2)	Jobs per 1000 Sq Ft
Industrial (3)	5,645	12.93%	756	4,268,000	1.32
Commercial (4)	12,097	27.71%	453	5,477,000	2.21
Institutional (5)	4,675	10.71%	561	2,624,000	1.78
Office & Other Services (6)	21,235	48.65%	205	4,349,000	4.88
<b>TOTAL</b>	<b>43,652</b>	<b>100.00%</b>	<b>383</b>	<b>16,718,000</b>	<b>2.61</b>

(1) *OnTheMap Work Area Profile, U.S. Census Bureau*

(2) *Table 10, Las Cruces Land Use Assumptions, Duncan Associates, 2010.*

(3) *Major sectors are construction and manufacturing.*

(4) *Major sectors are retail and food services.*

(5) *Major sectors are public administration and educational services.*

(6) *Major sectors are health care, social assistance, professional, scientific, and technical services.*

## Detailed Land Use Assumptions

Demographic data shown in Figure A5 are key inputs for the public safety impact fee update. Cumulative data are shown at the top and projected annual increases, by type of development, are shown at the bottom of the table. As indicated by the slight increase in the jobs-housing ratio over time, Las Cruces will remain a strong employment center.

Given the expectation that impact fees are updated every five years, TischlerBise did not evaluate long-term demographic trends such as declining household size (i.e. the average number of persons in an occupied dwelling). As discussed further below, TischlerBise recommends the use of persons per housing unit to derive impact fees. The projected increase in population through 2030 maintains a constant ratio of 2.33 persons per housing unit.

The projected population shown below is less than the projected population of 117,488 by 2020, used in the 2013 Land Use Assumptions LUA) for Water and Wastewater Impact Fees. The 2013 study assumed population would increase at 1.87% per year, compared to 1.52% annual population growth in the updated LUA.

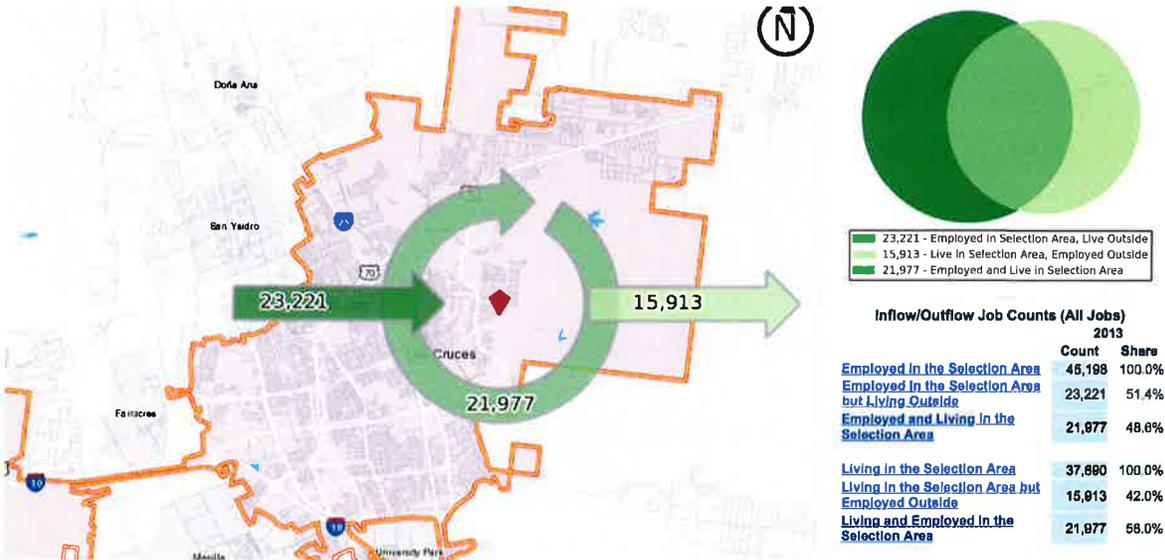
**Figure A5: Annual Land Use Assumptions**

Las Cruces, NM	2014	2015	2016	2017	2018	2019	2020	2025	2030
FY begins July 1st	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	FY25-26	FY30-31
	Base Yr	1	2	3	4	5	10	15	
<b>Total Population</b>									
Las Cruces	101,408	102,954	104,523	106,117	107,734	109,377	111,044	119,770	129,182
<b>Dwelling Units</b>									
Las Cruces	43,523	44,186	44,860	45,544	46,238	46,943	47,658	51,404	55,443
Persons per Hsg Unit	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
<b>Jobs in Las Cruces</b>									
Industrial	6,063	6,173	6,284	6,397	6,513	6,630	6,750	7,381	8,071
Commercial	12,994	13,228	13,466	13,709	13,956	14,208	14,464	15,817	17,295
Institutional	5,021	5,112	5,204	5,298	5,394	5,491	5,590	6,112	6,684
Office & Other Services	22,809	23,220	23,639	24,065	24,499	24,941	25,391	27,764	30,360
Total Jobs	46,887	47,733	48,593	49,470	50,362	51,270	52,195	57,074	62,409
Jobs to Housing Ratio =>	1.08	1.08	1.08	1.09	1.09	1.09	1.10	1.11	1.13
<b>Las Cruces Nonresidential Floor Area (square feet in thousands)</b>									
Industrial	4,580	4,670	4,750	4,840	4,920	5,010	5,100	5,580	6,100
Commercial	5,890	5,990	6,100	6,210	6,320	6,440	6,550	7,170	7,830
Institutional	2,820	2,870	2,920	2,970	3,030	3,080	3,140	3,430	3,750
Office & Other Services	4,680	4,760	4,850	4,930	5,020	5,110	5,210	5,690	6,220
Total KSF	17,970	18,290	18,620	18,950	19,290	19,640	20,000	21,870	23,900
Avg Sq Ft Per Job	383	383	383	383	383	383	383	383	383
Avg Jobs per KSF	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
<b>Annual Increase</b>									
	7/14-7/15	7/15-7/16	7/16-7/17	7/17-7/18	7/18-7/19	7/19-7/20	7/20-7/21	<b>2015-2025 Avg Anl</b>	
Total Population	1,546	1,569	1,593	1,618	1,642	1,667	1,693	1,682	
Dwelling Units	663	674	684	694	705	715	727	722	
Jobs	846	861	876	892	908	925	941	934	
Industrial KSF	90	80	90	80	90	90	90	91	
Commercial KSF	100	110	110	110	120	110	120	118	
Institutional KSF	50	50	50	60	50	60	50	56	
Office & Other Serv KSF	80	90	80	90	90	100	90	93	
Total Nonres KSF/Yr =>	320	330	330	340	350	360	350	358	

**Commuting Patterns and Functional Population**

As shown in Figure A6, the Census Bureau’s web application OnTheMap indicates that Las Cruces received a significant inflow of 23,221 workers on an average weekday in 2013. In addition to these non-resident workers, another 21,977 persons lived and worked in Las Cruces in 2013. As explained further in the next two sections, TischlerBise accounts for commuting patterns in the allocation of infrastructure costs to residential and nonresidential development.

**Figure A6: Inflow/Outflow Analysis**



For police impact fees, TischlerBise recommends functional population to establish the relative demand for infrastructure from both residential and nonresidential development. As shown in Figure A7, functional population accounts for people living and working in Las Cruces. Residents who don’t work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in Las Cruces are assigned 14 hours per day to residential development and 10 hours per day to nonresidential development. Residents who work outside Las Cruces are assigned 14 hours per day to residential development. Inflow commuters are assigned 10 hours per day to nonresidential development. Based on 2013 functional population data for Las Cruces, the recommended cost allocation for residential development is 72%, while nonresidential development accounts for 28% of the demand for police infrastructure.

Figure A7: Functional Population

Functional Population Cost Allocation for Public Safety			
	<u>Demand Units in 2013</u>	<u>Demand Hours/Day</u>	<u>Person Hours</u>
<b>Residential</b>			
Population*	101,181		
63% Residents Not Working	63,291	20	1,265,820
37% Resident Workers**	37,890		
58% Worked in City**	21,977	14	307,678
42% Worked Outside City**	15,913	14	222,782
	<b>Residential Subtotal</b>		<b>1,796,280</b>
	<b>Residential Share =&gt;</b>		<b>72%</b>
<b>Nonresidential</b>			
Non-working Residents	63,291	4	253,164
Jobs Located in City**	45,198		
49% Residents Working in City**	21,977	10	219,770
51% Non-Resident Workers (inflow commuters)	23,221	10	232,210
	<b>Nonresidential Subtotal</b>		<b>705,144</b>
	<b>Nonresidential Share =&gt;</b>		<b>28%</b>
	<b>TOTAL</b>		<b>2,501,424</b>

\* 2013 U.S. Census Bureau population estimate.  
 \*\* 2013 Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.

**Persons per Housing Unit**

The 2010 census did not obtain detailed information using a “long-form” questionnaire. Instead, the U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which is limited by sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). Part of the rationale for deriving fees by bedroom range, as discussed further below, is to address this ACS data limitation. Because townhouses and mobile homes generally have fewer bedrooms than detached units, fees by bedroom range ensure proportionality and facilitate construction of affordable units.

If there is a legislative policy decision to not impose fees by dwelling size, TischlerBise will recommend updated public safety fees for two residential categories, as shown in Figure A8. According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Development fees often use per capita standards and persons per housing unit, or persons per household, to derive proportionate-share fee amounts. TischlerBise recommends that fees for residential development in Las Cruces be imposed according to the number of year-round residents per housing unit. As shown below, the U.S. Census Bureau estimates Las Cruces had 43,554 housing units in 2013. Dwellings with a single unit per structure (detached, attached, and mobile homes) averaged 2.45 persons per housing

unit. Even though townhouses are attached, each unit is on an individual parcel and is considered to be a single unit. Dwellings in structures with two or more units averaged 1.84 year-round residents per unit. This category includes duplexes, which have two dwellings on a single land parcel. The overall average, including persons on group quarters, was 2.33 year-round residents per housing unit in 2013.

**Figure A8: Year-Round Persons per Unit by Type of Housing**

**2013 Summary by Type of Housing**

Units in Structure	Persons	Households	Persons per Household	Housing Units	Persons per Housing Unit	Housing Mix	Vacancy Rate
Single Unit <sup>1</sup>	78,064	29,132	2.68	31,853	2.45	73%	9%
2+ Units	21,494	10,167	2.11	11,701	1.84	27%	13%
Subtotal	99,558	39,299	2.53	43,554	2.29		10%
Group Quarters	1,759						
<b>TOTAL</b>	<b>101,317</b>				<b>2.33</b>		

Source: U.S. Census Bureau, 2013 American Community Survey, 1-Year Estimates, Tables B25024, B25032, B25033, and B26001.

[1] Single unit includes detached, attached, and mobile homes.

**Service Units by Bedroom Range**

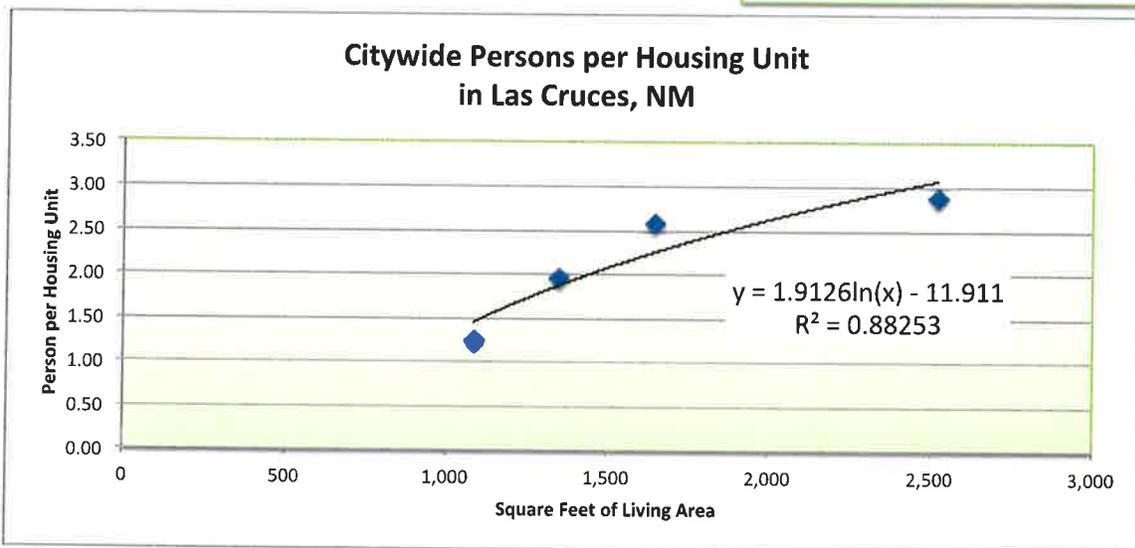
Impact fees must be proportionate to the demand for infrastructure. Because the average number of persons per housing unit has a strong, positive-correlation to the number of bedrooms, TischlerBise recommends residential fee schedules that increase by dwelling size. Custom tabulations of demographic data by bedroom range can be created from individual survey responses provided by the U.S. Census Bureau, in files known as Public Use Micro-data Samples (PUMS). PUMS files are only available for areas of at least 100,000 persons, with the City of Las Cruces included in Public Use Micro-data Area (PUMA) 1002. As shown in Figure A9, TischlerBise derived average persons per housing unit by bedroom range, from un-weighted PUMS data. The recommended multipliers by bedroom range (shown below) are for all types of housing units, adjusted to the control total of 2.33 persons per housing unit in Las Cruces (see Figure A8).

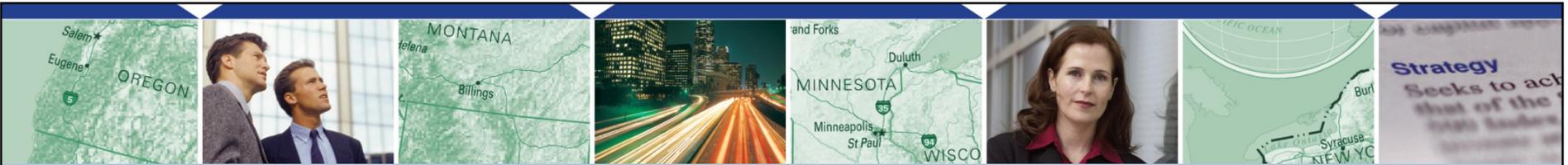
paid by an average-size single unit. If Las Cruces continues a “one-size-fits-all” approach, small dwellings will be required to pay more than their proportionate share while large dwellings will pay less than their proportionate share. A blended average fee for all house sizes makes small dwellings less affordable and essentially subsidizes large dwellings.

**Figure A10: Persons by Square Feet of Living Space**

Survey of Construction Square Feet	Actual Averages per Hsg Unit			Fitted-Curve Values	
	Bedrooms	Square Feet	Persons	Sq Ft Range	Persons
1,081	0-1	1,081	1.23	900 or less	1.10
1,809	2	1,348	1.95	901 to 1300	1.80
2,204	3	1,642	2.57	1301 to 1700	2.32
3,382	4+	2,520	2.89	1701 to 2100	2.72
2,675	<=Wt Avg=>	1,993		2101 or more	2.89

Average square feet of dwellings by bedroom range from U.S. Census Bureau 2014 Survey of Construction microdata was adjusted downward to match the weighted average dwelling size obtained from Las Cruces building permit records, reduced by 400 square feet to account for garage space. Average persons per housing unit is from 2013 ACS PUMS for PUMA 1002 (Las Cruces).



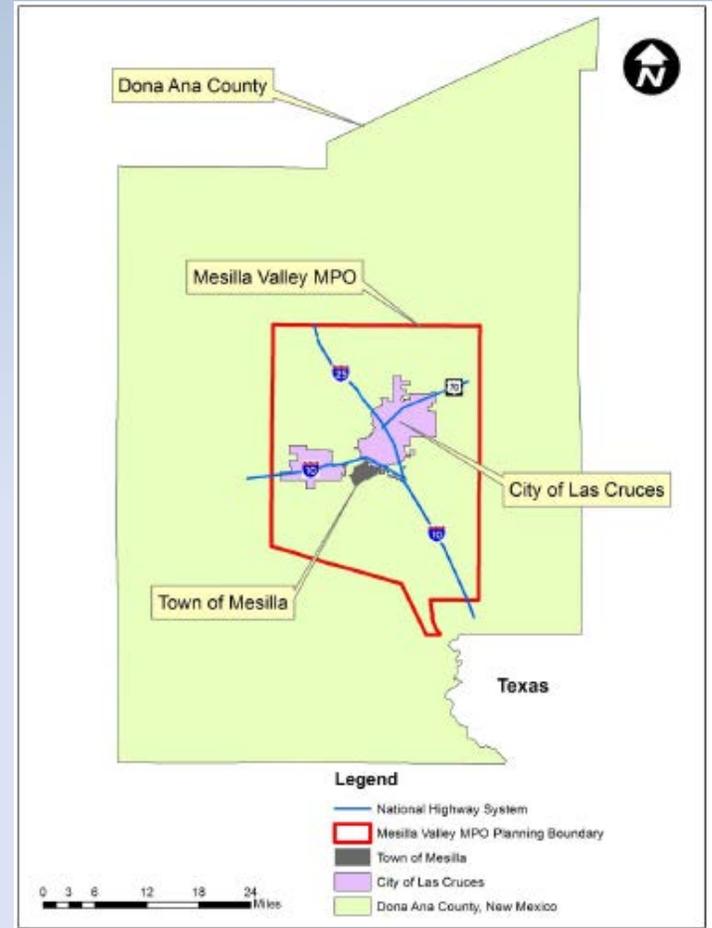


# Land Use Assumptions for Public Safety Impact Fees



September 28, 2015

**TischlerBise**  
FISCAL | ECONOMIC | PLANNING



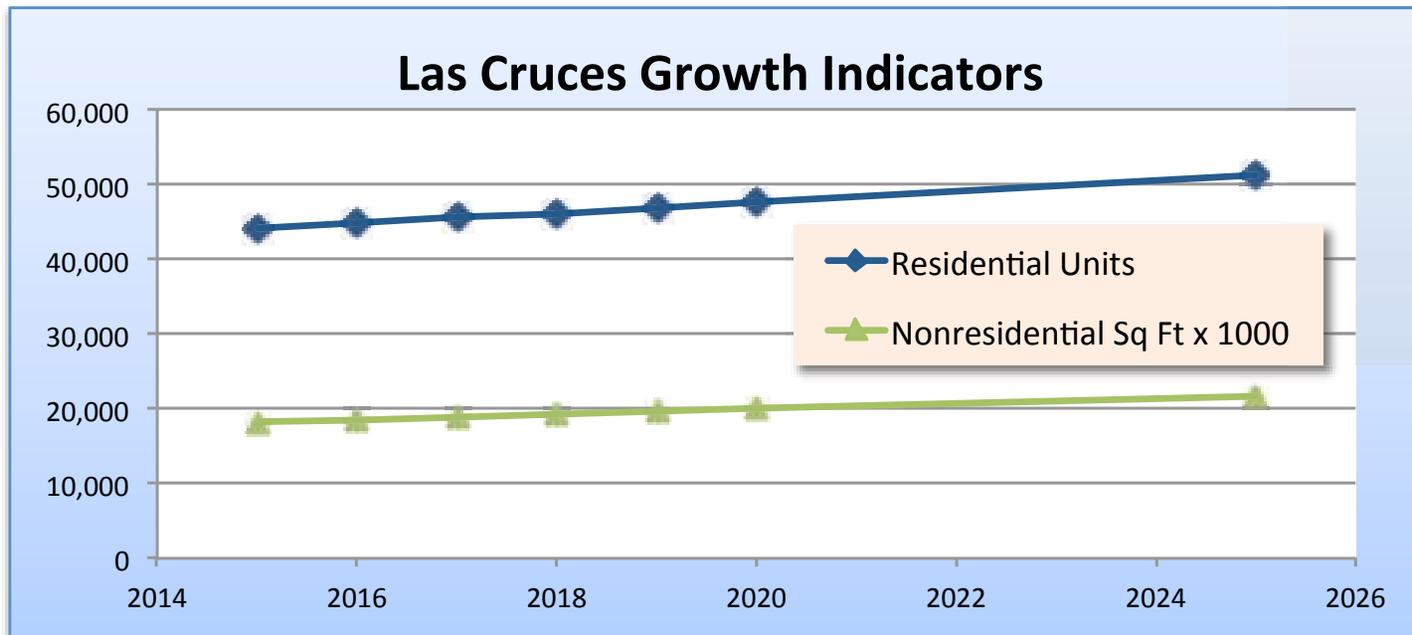
# Development Projections and Growth Rates

Las Cruces, New Mexico

	Year							2015 to 2020 Average Annual	
	2015	2016	2017	2018	2019	2020	2025	Increase	Compound Growth Rate
Residential Units	44,186	44,860	45,544	46,238	46,943	47,658	51,404	694	1.52%
Nonresidential Sq Ft x 1000	18,290	18,620	18,950	19,290	19,640	20,000	21,870	342	1.80%

Previous study assumed 983 dwellings per year, a residential growth rate of 2.0% and a nonresidential growth rate of 2.4% per year.

### Las Cruces Growth Indicators



Housing units based on population projection from Las Cruces Comprehensive Plan 2040 (11/18/13 page 21). Nonresidential floor area based on growth rate derived from job projection in Dona Ana County Comprehensive Plan (RCLCO 2014 page 50).

# Housing Units by Decade

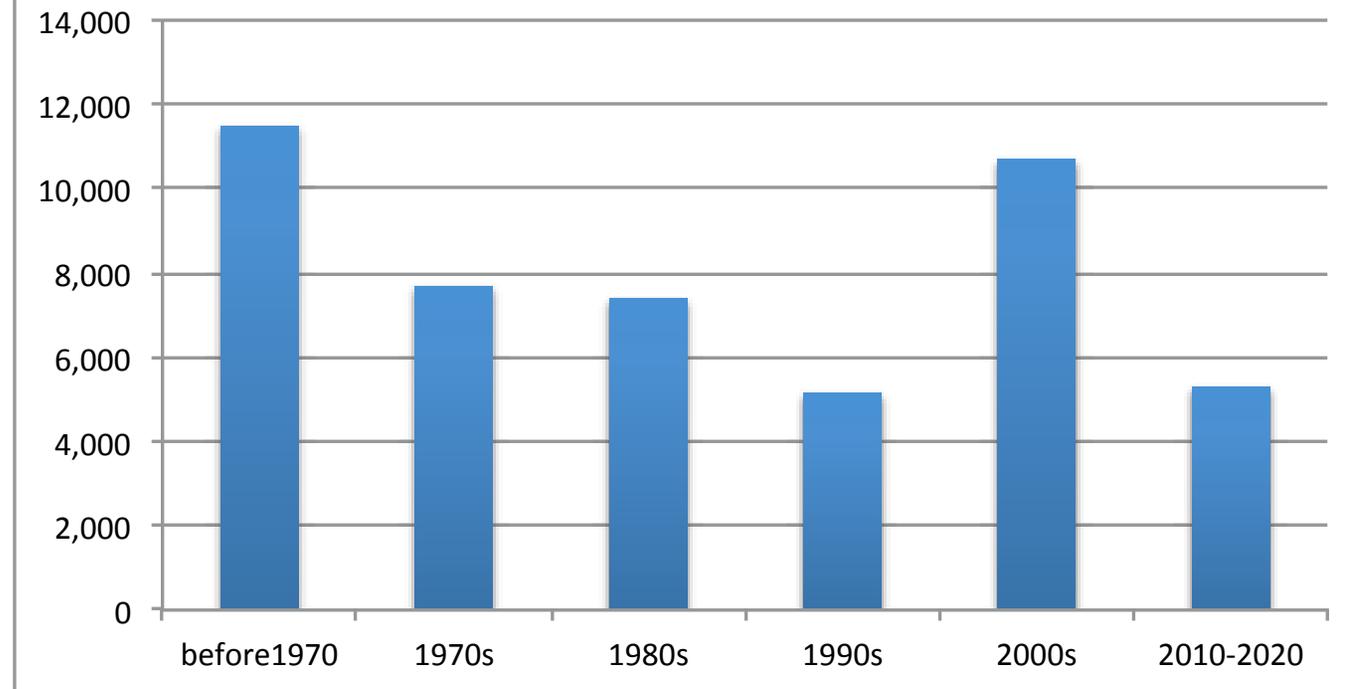
## Las Cruces, NM

Census 2010 Population*	97,618
Census 2010 Housing Units*	42,370
Total Housing Units in 2000	31,682
New Housing Units 2000-2010	10,688

From 2000 to 2010, Las Cruces added an average of 1,069 housing units per year. The projected increase from 2010 to 2020 is an average of 529 housing units per year.

\* U.S. Census Bureau SF1.

### Housing Units Added by Decade in Las Cruces, NM



Source for 1990s and earlier is Table B25034, American Community Survey, 2013, adjusted to yield total units in 2000. Projected units from 2010 to 2020 derived from population projection, Table 1, City of Las Cruces Comprehensive Plan 2040 (11/18/13).

# Las Cruces Jobs and Nonresidential Floor Area

	2010 Jobs (1)		Sq Ft per Job	2010 Floor Area (2)	Jobs per 1000 Sq Ft
Industrial (3)	5,645	12.93%	756	4,268,000	1.32
Commercial (4)	12,097	27.71%	453	5,477,000	2.21
Institutional (5)	4,675	10.71%	561	2,624,000	1.78
Office & Other Services (6)	21,235	48.65%	205	4,349,000	4.88
<b>TOTAL</b>	<b>43,652</b>	<b>100.00%</b>	<b>383</b>	<b>16,718,000</b>	<b>2.61</b>

Local data from property tax records.

- (1) OnTheMap Work Area Profile, U.S. Census Bureau
- (2) Table 10, Las Cruces Land Use Assumptions, Duncan Associates, 2010.
- (3) Major sectors are construction and manufacturing.
- (4) Major sectors are retail and food services.
- (5) Major sectors are public administration and education.
- (6) Major sectors are health care, social assistance, professional and technical services.

Average weekday trip generation rates will be used to allocate public safety infrastructure costs to nonresidential development types.

ITE Code	Land Use / Size	Demand Unit	Wkdy Trip Ends Per Dmd Unit*	Wkdy Trip Ends Per Employee*	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

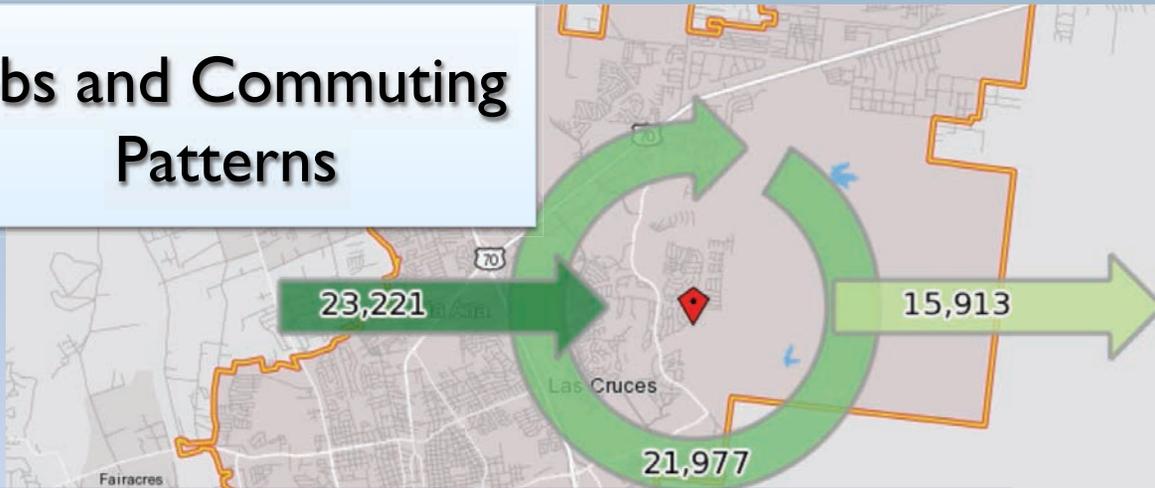
\* Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).

# Annual Land Use Assumptions

Las Cruces, NM	2014	2015	2016	2017	2018	2019	2020	2025
FY begins July 1st	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	FY25-26
		Base Yr	1	2	3	4	5	10
<b>Total Population</b>								
Las Cruces	101,408	102,954	104,523	106,117	107,734	109,377	111,044	119,770
<b>Dwelling Units</b>								
Las Cruces	43,523	44,186	44,860	45,544	46,238	46,943	47,658	51,404
Persons per Hsg Unit	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
<b>Jobs in Las Cruces</b>								
Industrial	6,063	6,173	6,284	6,397	6,513	6,630	6,750	7,381
Commercial	12,994	13,228	13,466	13,709	13,956	14,208	14,464	15,817
Institutional	5,021	5,112	5,204	5,298	5,394	5,491	5,590	6,112
Office & Other Services	22,809	23,220	23,639	24,065	24,499	24,941	25,391	27,764
Total Jobs	46,887	47,733	48,593	49,470	50,362	51,270	52,195	57,074
Jobs to Housing Ratio =>	1.08	1.08	1.08	1.09	1.09	1.09	1.10	1.11
<b>Las Cruces Nonresidential Floor Area (square feet in thousands)</b>								
Industrial	4,580	4,670	4,750	4,840	4,920	5,010	5,100	5,580
Commercial	5,890	5,990	6,100	6,210	6,320	6,440	6,550	7,170
Institutional	2,820	2,870	2,920	2,970	3,030	3,080	3,140	3,430
Office & Other Services	4,680	4,760	4,850	4,930	5,020	5,110	5,210	5,690
Total KSF	17,970	18,290	18,620	18,950	19,290	19,640	20,000	21,870
Avg Sq Ft Per Job	383	383	383	383	383	383	383	383
Avg Jobs per KSF	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
<b>Annual Increase</b>								
	7/14-7/15	7/15-7/16	7/16-7/17	7/17-7/18	7/18-7/19	7/19-7/20	7/20-7/21	<b>2015-2025 Avg Anl</b>
Total Population	1,546	1,569	1,593	1,618	1,642	1,667	1,693	1,682
Dwelling Units	663	674	684	694	705	715	727	722
Jobs	846	861	876	892	908	925	941	934
Industrial KSF	90	80	90	80	90	90	90	91
Commercial KSF	100	110	110	110	120	110	120	118
Institutional KSF	50	50	50	60	50	60	50	56
Office & Other Serv KSF	80	90	80	90	90	100	90	93
Total Nonres KSF/Yr =>	320	330	330	340	350	360	350	358

Previous was 116,704 persons and 21.14 million square feet by 2020.

# Jobs and Commuting Patterns



**Inflow/Outflow Job Counts (All Jobs) 2013**

	Count	Share
<b>Employed in the Selection Area</b>	45,198	100.0%
<b>Employed in the Selection Area but Living Outside</b>	23,221	51.4%
<b>Employed and Living in the Selection Area</b>	21,977	48.6%
<b>Living in the Selection Area</b>	37,890	100.0%
<b>Living in the Selection Area but Employed Outside</b>	15,913	42.0%
<b>Living and Employed in the Selection Area</b>	21,977	58.0%

## Functional Population Cost Allocation for Public Safety

	<u>Demand Units in 2013</u>	<u>Demand Hours/Day</u>	<u>Person Hours</u>
<b>Residential</b>			
Population*	101,181		
63% Residents Not Working	63,291	20	1,265,820
37% Resident Workers**	37,890		
58% Worked in City**	21,977	14	307,678
42% Worked Outside City**	15,913	14	222,782
<b>Residential Subtotal</b>			1,796,280
<b>Residential Share =&gt;</b>			<b>72%</b>
<b>Nonresidential</b>			
Non-working Residents	63,291	4	253,164
Jobs Located in City**	45,198		
49% Residents Working in City**	21,977	10	219,770
51% Non-Resident Workers (inflow commuters)	23,221	10	232,210
<b>Nonresidential Subtotal</b>			705,144
<b>Nonresidential Share =&gt;</b>			<b>28%</b>
<b>TOTAL</b>			<b>2,501,424</b>

\* 2013 U.S. Census Bureau population estimate.  
 \*\* 2013 Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.

# Average Number of Persons per Dwelling by Units in Structure

## 2013 Summary by Type of Housing

Units in Structure	Persons	Households	Persons per Household	Housing Units	Persons per Housing Unit	Housing Mix	Vacancy Rate
Single Unit <sup>1</sup>	78,064	29,132	2.68	31,853	2.45	73%	9%
2+ Units	21,494	10,167	2.11	11,701	1.84	27%	13%
Subtotal	99,558	39,299	2.53	43,554	2.29		10%
Group Quarters	1,759						
<b>TOTAL</b>	<b>101,317</b>				<b>2.33</b>		

Source: U.S. Census Bureau, 2013 American Community Survey, 1-Year Estimates, Tables B25024, B25032, B25033, and B26001.

[1] Single unit includes detached, attached, and mobile homes.

Recommended alternative is to impose fees by dwelling size because:

- 1) Single Unit now combines single family detached and attached (i.e. townhouses)
- 2) Eliminates administrative decisions regarding condos, manufactured housing, and accessory dwellings.

Previous was 2.72 for Single-Family and 1.98 for Multifamily (based on 2000 data).

# Persons by Square Feet of Living Space

Survey of Construction Square Feet	Actual Averages per Hsg Unit			Fitted-Curve Values	
	Bedrooms	Square Feet	Persons	Sq Ft Range	Persons
1,081	0-1	1,081	1.23	900 or less	1.10
1,809	2	1,348	1.95	901 to 1300	1.80
2,204	3	1,642	2.57	1301 to 1700	2.32
3,382	4+	2,520	2.89	1701 to 2100	2.72
2,675	<=Wt Avg=>	1,993		2101 or more	2.89

Average square feet of dwellings by bedroom range from U.S. Census Bureau 2014 Survey of Construction microdata was adjusted downward to match the weighted average dwelling size obtained from Las Cruces building permit records, reduced by 400 square feet to account for garage space. Average persons per housing unit is from 2013 ACS PUMS for PUMA 1002 (Las Cruces).

**Citywide Persons per Housing Unit  
in Las Cruces, NM**

