



# Land Use Assumptions, Infrastructure Improvements Plan, and Development Fee Report

*Prepared for:*

*City of Eloy, Arizona*

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## EXECUTIVE SUMMARY

The City of Eloy hired TischlerBise to document land use assumptions, prepare an Infrastructure Improvements Plan (IIP), and update development fees pursuant to Arizona Revised Statutes 9-436.05. Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan and Land Use Assumptions.

The Development Fee Report begins on page 9, and the proposed development fees are displayed in Figures 2 and 3. The IIP for each type of infrastructure is in the middle section of this document, beginning on page 13. The Land Use Assumptions are in Appendix C.

Development fees are one-time payments used to construct system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements or debt service for growth related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement, or correcting existing deficiencies.

This update of the City's Infrastructure Improvements Plan and associated update to its development fees includes the following necessary public services:

- Parks and Recreational Facilities
- Police Facilities
- Streets Facilities
- Water Facilities
- Wastewater Facilities

This plan also includes all necessary elements required to be in full compliance with SB 1525.

### ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION

Arizona Revised Statutes 9-463.05 (hereafter referred to as "development fee enabling legislation") governs how development fees are calculated for municipalities in Arizona. During the state legislative session of 2011, Senate Bill 1525 (SB 1525) was introduced which significantly amended the development fee enabling legislation. The changes included:

- Amending existing development fee programs by January 1, 2012.
- Abandoning existing development fee programs by August 1, 2014.
- New development fee program structure revolving around a unified Land Use Assumptions document and Infrastructure Improvements Plan.
- New adoption procedures for the Land Use Assumptions, Infrastructure Improvements Plan, and development fees.
- New definitions, including "necessary public services" which defines what categories and types of infrastructure may be funded with development fees.
- Time limitations in development fee collections and expenditures.
- New requirements for credits, "grandfathering" rules, and refunds.

This update of the City's development fees will be in compliance with the requirements of Senate Bill 1525.

## Necessary Public Services

Under the new requirements of the development fee enabling legislation, development fees may be only used for construction, acquisition or expansion of public facilities that are necessary public services. “Necessary public service” means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, drainage, flood control, library, streets, fire and police, and neighborhood parks and recreation. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

1. Development fees were pledged to repay debt service obligations related to the construction of the facility.
2. After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

## Infrastructure Improvements Plan

Development fees must be calculated pursuant to an Infrastructure Improvements Plan (hereafter referred to as the “IIP”). For each necessary public service that is the subject of a development fee, by law, the infrastructure improvements plan shall include the following seven elements:

- A description of the existing necessary public services in the service area and the cost to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed on this state, as applicable.
- An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
- A description of all or the parts of the necessary public services or facility expansion and their costs necessitated by and attributable to development in the service area based on the approved Land Use Assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in the state, as applicable.
- A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.
- The total number of projected service units necessitated by and attributable to new development in the service area based on the approved Land Use Assumptions and calculated pursuant to generally accepted engineering and planning criteria.
- The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
- A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved Land Use Assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

## **Qualified Professionals**

The IIP must be developed by qualified professionals using general accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person’s license, education, or experience.” TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure financing analyses, user fee/cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

## **Conceptual Development Fee Calculation**

In contrast to project-level improvements, development fees fund growth-related infrastructure that will benefit multiple development projects, or the entire service area (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the development fee formula is to determine infrastructure improvement units per service unit, typically called level of service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acres per thousand people. The third step in the development fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish a cost per acre for land acquisition and/ or park improvements.

## **Evaluation of Credits**

Regardless of the methodology, a consideration of “credits” is integral to the development of a legally defensible development fee. There are two types of “credits” that should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the fee calculation, thus reducing the fee amount. The second is a site specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

## DEVELOPMENT FEE REPORT

### METHODOLOGY

Development fees for the necessary public services made necessary by new development must be based on the same level of service provided to existing development in the service area. There are three basic methodologies used to calculate development fees. They examine the past, present, and future status of infrastructure. The objective of evaluating these different methodologies is to determine the best measure of the demand created by new development for additional infrastructure capacity.

- **Cost recovery (past)** is used in instances when a community has oversized a facility or asset in anticipation of future development. This methodology is based on the rationale that new development is repaying the community for its share of the remaining unused capacity.
- **Incremental expansion method (present)** documents the current level of service for each type of public facility. The intent is to use revenue collected to expand or provide additional facilities, as needed to accommodate new development, based on the current cost to provide capital improvements.
- **Plan-based method (future)** utilizes a community’s capital improvement plan and/or other adopted plans or engineering studies to guide capital improvements needed to serve new development.

A summary is provided in Figure 1 showing the methodologies, components and allocations used to calculate the IIP.

**Figure 1: Recommended Calculation Methodologies**

Type of Fee	Cost Recovery (past)	Incremental Expansion (present)	Plan-Based (future)
1. Parks and Recreational Facilities		Park Land Park Improvements Recreational Facilities	
2. Police Facilities		Facilities Vehicles Communication Equip.	
3. Streets Facilities			Street Improvements
4. Water Facilities	Growth-Related Water Debt		Water Improvements
5. Wastewater Facilities	Growth-Related WW Debt		

**PROPOSED DEVELOPMENT FEES**

Proposed non-utility development fees are displayed in Figure 2.

**Figure 2: Proposed Non-Utility Development Fees**

<b>Proposed Non-Utility Development Fees</b>				
<b>Land Use</b>	<b>Parks</b>	<b>Police</b>	<b>Streets</b>	<b>Total</b>
<i><b>Residential (per Housing Unit)</b></i>				
Single Unit	\$895	\$673	\$1,348	<b>\$2,916</b>
2+ Units	\$491	\$370	\$658	<b>\$1,519</b>
<i><b>Nonresidential (per 1000 sq ft of floor area)</b></i>				
Commercial	\$411	\$1,938	\$2,165	<b>\$4,514</b>
Office/ Institutional	\$683	\$758	\$937	<b>\$2,378</b>
Industrial/ Flex	\$368	\$262	\$324	<b>\$954</b>

Proposed utility development fees are shown in Figure 3.

**Figure 3: Proposed Utility Development Fees**

<b>Proposed Utility Development Fees</b>			
<b>Per Meter</b>	<b>Water</b>	<b>Wastewater</b>	<b>Total</b>
0.75	\$1,556	\$906	<b>\$2,462</b>
1.00	\$2,519	\$1,392	<b>\$3,911</b>
1.50	\$4,905	\$2,596	<b>\$7,501</b>
2.00	\$7,780	\$4,048	<b>\$11,828</b>
3.00	\$15,455	\$7,923	<b>\$23,378</b>

**CURRENT DEVELOPMENT FEES**

Eloy’s current non-utility development fees are shown in Figure 4.

**Figure 4: Current Non-Utility Development Fees**

<b>Current Non-Utility Development Fees</b>				
<b>Land Use</b>	<b>Parks</b>	<b>Police</b>	<b>Streets</b>	<b>Total</b>
<i><b>Residential (per Housing Unit)</b></i>				
Single Unit	\$420	\$359	\$0	<b>\$779</b>
2+ Units	\$305	\$260	\$0	<b>\$565</b>
<i><b>Nonresidential (per 1000 sq ft of floor area)</b></i>				
Commercial	\$0	\$434	\$0	<b>\$434</b>
Office/ Institutional	\$0	\$178	\$0	<b>\$178</b>
Industrial/ Flex	\$0	\$77	\$0	<b>\$77</b>

Eloy’s current utility development fees are shown in Figure 5.

**Figure 5: Current Utility Development Fees**

<b>Current Utility Development Fees</b>			
<b>Per Meter</b>	<b>Water</b>	<b>Wastewater</b>	<b>Total</b>
0.75	\$1,522	\$1,167	<b>\$2,689</b>
1.00	\$2,587	\$1,985	<b>\$4,572</b>
1.50	\$5,026	\$3,855	<b>\$8,881</b>
2.00	\$8,037	\$6,164	<b>\$14,201</b>
3.00	\$16,241	\$12,495	<b>\$28,736</b>

## DIFFERENCE BETWEEN PROPOSED AND CURRENT DEVELOPMENT FEES

The differences between the proposed and current non-utility development fees are displayed in Figure 6. All non-utility fees rise.

**Figure 6: Difference Between Proposed and Current Non-Utility Development Fees**

Increase or Decrease					
Land Use	Parks	Police	Streets	Total	% Change
<b>Residential (per Housing Unit)</b>					
Single Unit	\$475	\$314	\$1,348	<b>\$2,137</b>	274%
2+ Units	\$186	\$110	\$658	<b>\$954</b>	169%
<b>Nonresidential (per 1000 sq ft of floor area)</b>					
Commercial	\$411	\$1,504	\$2,165	<b>\$4,080</b>	941%
Office/ Institutional	\$683	\$580	\$937	<b>\$2,200</b>	1234%
Industrial/ Flex	\$368	\$185	\$324	<b>\$877</b>	1139%

The differences between the proposed and current utility development fees are displayed in Figure 7. In contrast to the non-utility fees, utility fees decrease in total.

**Figure 7: Difference Between Proposed and Current Utility Development Fees**

Increase or Decrease				
Per Meter	Water	Wastewater	Total	% Change
0.75	\$34	(\$261)	(\$227)	-8%
1.00	(\$68)	(\$593)	(\$661)	-14%
1.50	(\$121)	(\$1,259)	(\$1,380)	-16%
2.00	(\$257)	(\$2,116)	(\$2,373)	-17%

To obtain the total development fee for a residential unit, utility fees must be added to non-utility fees. Assuming a 0.75 meter for a single residential unit, current and proposed total development fees are shown in Figure 8. Proposed fees for a single residential unit in Eloy increase by 55%.

**Figure 8: Current and Proposed Total Fees for a Single Unit**

Total Fees for Single Unit Residential			
Current	Proposed	\$ Change	% Change
\$3,468	\$5,378	\$1,910	55%

## PARKS AND RECREATIONAL FACILITIES IIP

ARS 9-463.05 (T)(7)(g) defines the facilities and assets which can be included in the Parks and Recreational Facilities IIP:

*“Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools.”*

The Parks and Recreational Facilities IIP includes components for park land, park improvements, recreational facilities, and the cost of professional services for preparing the Parks and Recreational Facilities IIP and development fees. The incremental expansion methodology is used to calculate the components of this development fee.

### Service Area

The City of Eloy plans to provide a uniform level of service based upon the current level of service for citywide parks.

### Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. As shown in Figure 9, TischlerBise recommends daytime population as a reasonable indicator of the potential demand for Parks and Recreational Facilities from residential and nonresidential development. According to the U.S. Census Bureau web application OnTheMap, there were 1,434 inflow commuters, which is the number of persons who have jobs in Eloy but live outside the City. The proportionate share is based on cumulative impact days per year with the number of residents potentially impacting Parks and Recreational Facilities 365 days per year. Inflow commuters potentially impact Parks and Recreational Facilities 250 days per year (5 days per week multiplied by 50 weeks a year). The proportionate share allocates 91% of the cost of Parks and Recreational Facilities to residential development and 9% to nonresidential development.

**Figure 9: Daytime Population in 2011**

Residents	Inflow Commuters	Cumulative Impact Days per Year			Cost Allocation for Parks	
		Residential*	Nonresidential**	Total	Residential	Nonresidential
9,612	1,434	3,508,365	358,500	3,866,865	91%	9%

\* Days per Year = **365**

\*\* 5 Days per Week x 50 Weeks per Year = **250**

Source: Inflow/ Outflow Analysis, OnTheMap web application, U.S. Census Bureau.

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## ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES

---

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

### **Park Land – Incremental Expansion**

The City currently maintains 15.90 acres of parks. The inventory is shown in Figure 10. The current level of service for residential development is 1.4 acres per thousand persons, which is found by multiplying the total number of park acres (15.90) by the residential proportionate share (91%), dividing this total by the current residential population (10,453 persons), and multiplying this total by 1,000. The nonresidential level of service is 0.9 acres per 1,000 jobs, which is found by multiplying the total number of park acres (15.90) by the nonresidential level of service (9%), dividing this total by the current number of jobs (1,599), and multiplying this total by 1,000.

Then, the levels of service are multiplied by the land cost per acre (\$54,032) and divided by 1,000 to determine a park land cost per person of \$74.79 and a park land cost per job of \$48.35.

**Figure 10: Park Land Inventory and LOS**

<i>Park</i>	<i>Acres</i>
Anita Park	0.2
Central (Main Street) Park	1.2
Jones Park	4.5
Maddux Park	0.3
North Toltec Park	1.0
Shumway (North) Park	3.2
Sunland Visitors' Center Park	2.0
Toltec Park	0.4
Toltec Senior Community Park	0.7
Troy Thomas/ Trekell Park	4.3
<b>Total</b>	<b>15.90</b>

**Level of Service (LOS) Standards**

	<i>Residential</i>	<i>Nonresidential</i>
Number of Acres	15.90	
Proportionate Share	91%	9%
2013 Service Units (Resident Population <sup>1</sup> / Jobs)	10,453	1,599
<b>LOS : Acres per 1,000 Persons/ Jobs</b>	<b>1.4</b>	<b>0.9</b>

1. Resident Population does not include 7,299 persons in group quarters.

**Cost Analysis**

	<i>Residential</i>	<i>Nonresidential</i>
Land Cost per Acre <sup>2</sup>	<b>\$54,032</b>	
LOS	1.4	0.9
<b>Park Land Cost per Person/ Job</b>	<b>\$74.79</b>	<b>\$48.35</b>

2. City of Eloy. Updated from 2009 fee study for inflation using CPI.

**Park Improvements – Incremental Expansion**

The inventory of park improvements is displayed in Figure 11. Eloy’s parks have 40 improvements, valued at a total of \$1,724,438. Dividing the total value by the total number of improvements (40) yields an average cost per improvement of \$43,111. The current level of service for residential development is 3.5 improvements per thousand persons, which was obtained by multiplying the number of improvements (40) by the residential proportionate share (91%), dividing this total by the current residential population (10,453), and multiplying this total by 1,000 persons. The nonresidential level of service is 2.3 improvements per 1,000 jobs, which is found by multiplying the number of improvements (40) by the nonresidential proportionate share (9%), dividing this total by the number of jobs (1,599) and multiplying this total by 1,000. Multiplying the average cost per improvement (\$43,111) by the levels of service and dividing this total by 1,000 results in a cost per person of \$150.12 and \$97.05 per job.

**Figure 11: Park Improvements Inventory LOS**

Park	Basketball Courts	Concession Stands	Picnic Area	Play-grounds	Skate Park	Softball Fields	Swimming Pools	TOTAL
Central (Main Street) Park			3					3
Shumway (North) Park	1	1	3	1		1		7
Troy Thomas/ Trekel Park	1		5	1		1		8
Jones Park/ Swimming Pool	1	1	8	1	1	1	1	14
North Toltec Park	0.5		1	1				2.5
Toltec Park	0.5		1	1				2.5
Anita Park			1					1
Maddux Park			1	1				2
<b>Total</b>	<b>4</b>	<b>2</b>	<b>23</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>40</b>

Unit Price <sup>1</sup>	\$43,350	\$75,863	\$32,803	\$89,410	\$162,564	\$54,188	\$108,376	
Units x Cost	\$173,401	\$151,726	\$754,474	\$536,461	\$162,564	\$162,564	\$108,376	<b>\$1,724,438</b>

1. City of Eloy. Updated from 2009 fee study for inflation using CPI.

**Average Cost per Improvement | \$43,111**

Number of Improvements	40
Number of Improved Acres	15.90
Improvements per Acre	2.52

<b>Level of Service (LOS) Standards</b>	Residential	Nonresidential
Proportionate Share	91%	9%
2013 Service Units (Resident Population <sup>1</sup> / Jobs)	10,453	1,599
<b>LOS : Improvements per 1,000 Persons/ Jobs</b>	<b>3.5</b>	<b>2.3</b>

1. Resident Population does not include 7,299 persons in group quarters.

<b>Cost Analysis</b>	Residential	Nonresidential
Average Cost per Improvement	<b>\$43,111</b>	
LOS	3.5	2.3
<b>Park Improvement Cost per Person/ Job</b>	<b>\$150.12</b>	<b>\$97.05</b>

### Recreational Facilities – Incremental Expansion

The City of Eloy has two recreational facilities, shown in Figure 12. The facilities total 8,980 square feet. Eloy is estimating the cost per square foot to build a new facility to be \$121, which is the cost per square foot in Sedona, AZ. The current level of service for residential development is 0.8 square feet per person, which is found by multiplying the total square footage (8,980) by the residential proportionate share (91%) and dividing this total by the residential population (10,453). The nonresidential level of service is 0.5 square feet per job, which is found by multiplying the total square footage (8,980) by the nonresidential proportionate share (9%) and dividing this total by the current number of jobs (1,599). Multiplying the average cost per square foot (\$121) by the levels of service yields a recreational facility cost per person of \$94.59 and a cost per job of \$61.15.

**Figure 12: Recreational Facilities Inventory and LOS**

<i>Recreational Facility</i>	<i>Square Feet</i>
Troy Thomas Center	5,800
Toltec Center	3,180
<b>Total</b>	<b>8,980</b>

Source: City of Eloy.

<b>Average Cost per Square Foot<sup>1</sup></b>	<b>\$121</b>
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1. Average cost per Square foot of recreational facilities in Sedona, AZ (2013).

<b>Level of Service (LOS) Standards</b>	<i>Residential Nonresidential</i>	
	Total Square Feet	8,980
Proportionate Share	91%	9%
2013 Service Units (Resident Population <sup>1</sup> / Jobs)	10,453	1,599
<b>LOS : Sq Ft per Person/ Job</b>	<b>0.8</b>	<b>0.5</b>

1. Resident Population does not include 7,299 persons in group quarters.

<b>Cost Analysis</b>	<i>Residential Nonresidential</i>	
	Average Cost per Square Foot	<b>\$121</b>
LOS	0.8	0.5
<b>Recreational Facility Cost per Person/ Job</b>	<b>\$94.59</b>	<b>\$61.15</b>

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Figure 13 displays the ratio of parks and recreational facilities service units to development units. For residential development, average number of persons per housing unit provides the necessary conversion. Nonresidential development uses employees per KSF as the conversion from service unit to development unit.

**Figure 13: Parks and Recreational Facilities Ratio of Service Unit to Development Unit**

<i>Residential Development per Housing Unit</i>	
<b>Land Use</b>	<b>Persons per Housing Unit</b>
Single Unit	2.79
2+ Units	1.53

Source: TischlerBise Land Use Assumptions, 2013.

<i>Nonresidential Development per KSF</i>	
<b>Land Use</b>	<b>Employees per KSF</b>
Commercial	2.00
Office/ Institutional	3.32
Industrial/ Flex	1.79

Source: Institute of Transportation Engineers, 2012.

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## PROJECTED DEMAND FOR SERVICES AND COSTS

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ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

As shown in Figure 14 and in the Land Use Assumptions, it is projected there will be an additional 3,595 persons and 1,158 jobs over the next ten years.

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

These projected service units are multiplied by the current levels-of-service of each IIP component. New development will demand an additional 6 acres of park land, 15 improvements, and 3,396 square feet of recreational facilities, as displayed in Figure 14.

ARS 9-463.05(E)(3) requires:

*“A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

The additional parks and recreational facilities demanded by new development multiplied by their respective costs results in a total of \$324,192 for park land, \$646,665 in improvements, and \$410,916 in recreational facilities to accommodate projected demand.

**Figure 14: Projected Demand for Parks, Improvements and Recreational Facilities**

	Parks		Improvements		Recreational Facilities	
<b>Res LOS</b>	1.4	acres per 1,000 persons	3.5	improvements per 1,000 persons	0.8	sq ft per person
<b>Nonres LOS</b>	0.9	acres per 1,000 jobs	2.3	improvements per 1,000 jobs	0.5	sq ft per job
<b>Cost</b>	\$54,032 per acre		\$43,111 per improvement		\$121 per square ft	

		Projected Demand				
		Service Unit: Residents	Service Unit: Jobs	Parks (Acres)	Improvements	Recreational Facilities (Sq Ft)
Base	2013	10,453	1,599	16	40	8,980
1	2014	10,767	1,689	16	41	9,270
2	2015	11,090	1,783	17	43	9,571
3	2016	11,423	1,883	17	44	9,881
4	2017	11,765	1,989	18	45	10,202
5	2018	12,118	2,100	19	47	10,535
6	2019	12,482	2,217	19	48	10,878
7	2020	12,856	2,342	20	50	11,234
8	2021	13,242	2,473	21	52	11,602
9	2022	13,639	2,611	21	53	11,982
10	2023	14,049	2,758	22	55	12,376
<b>Ten-Yr Total</b>		<b>3,595</b>	<b>1,158</b>	<b>6</b>	<b>15</b>	<b>3,396</b>
Cost of Park Land				\$324,192		
Cost of Improvements					\$646,665	
Cost of Recreational Facilities						\$410,916
<b>Total Cost of Improvements and Expansions to Accommodate New Growth</b>						<b>\$1,381,773</b>

Figure 15 lists growth-related Parks and Recreational Facilities projects that are eligible to be funded using development fees. These are projects the City is considering to accommodate new development over the next 10 years. Actual projects will be determined by where and when development occurs. Identified projects under consideration include \$84,500 worth of land for new parks, playground shade coverings, playgrounds, a ramada, restroom improvements, and other improvements. Additionally, Eloy hopes to fund a Sports Complex and Multi-Use Fields, which will include land, improvements, and recreational facility space. Development fee revenues could fund a portion of this project.

**Figure 15: Parks and Recreational Facilities IIP**

<b>Project</b>	<b>10-Yr Total</b>
<i>Park Land</i>	
Land - Shumway Park	\$84,500
<i>Park Improvements</i>	
Playground Shade Coverings	\$40,000
Shumway Park Shade Structures Installation	\$20,000
Playgrounds	\$45,000
Ramada	\$54,000
Trekell Park Restroom Improvements	\$100,000
<i>Land, Improvements, and Recreational Facilities</i>	
Sports Complex and Multi-Use Fields	\$4,700,000
<b>Total</b>	<b>\$5,043,500</b>

Source: City of Eloy 2013 CIP.

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## PARKS AND RECREATIONAL FACILITIES DEVELOPMENT FEES

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### Revenue Credit

Included in the maximum supportable development fees is a *Revenue Credit* of 1.3% percent. The unadjusted Parks and Recreational Facilities development fees per service unit would generate more revenue over the next ten years, based on the approved land use assumptions, than the identified growth cost of improvements of \$1,392,143. To ensure that no more fee revenue is collected than the City plans to spend, the potential gross cost per service unit is reduced by the revenue credit to calculate the net capital cost per service unit. Based on the gross capital costs per service unit, the projected development fee revenue would equal \$1,409,336. To formula to calculate the *Revenue Credit* is as follows:  $(\$1,409,336 - \$1,392,143) / \$1,392,143 = 1.3$  percent (rounded).

### Development Fees

Infrastructure standards and cost factors for Parks and Recreational Facilities, including park land, improvements, recreational facilities, and the professional services cost for the IIP and Development Fee Study are summarized in the portions above the proposed development fees in Figure 16. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in table below (as required by ARS 9-463.05(E)(4)). Updated development fees for Parks and Recreational Facilities are shown in the column with green shading, and the current development fees are highlighted in yellow.

**Figure 16: Proposed Parks and Recreational Facilities Development Fees**

<b>Cost per Person</b>	
Park Land	\$74.79
Park Improvements	\$150.12
Recreational Facilities	\$94.59
Professional Services	\$5.67
Revenue Credit	(\$4.23)
<b>Net Cost per Service Unit</b>	<b>\$320.93</b>

1.3%

**Residential Development Fees per Housing Unit**

Development Type	Persons per Housing Unit	Proposed Fee	Current Fee	Increase (Decrease)	% Change
Single Unit	2.79	\$895	\$420	\$475	113%
2+ Units	1.53	\$491	\$305	\$186	61%

<b>Cost per Job</b>	
Park Land	\$48.35
Park Improvements	\$97.05
Recreational Facilities	\$61.15
Professional Services	\$1.86
Revenue Credit	(\$2.71)
<b>Net Cost per Service Unit</b>	<b>\$205.71</b>

1.3%

**Nonresidential Development Fees per 1,000 Square Feet of Floor Area**

Development Type	Employees per KSF	Proposed Fee	Current Fee	Increase (Decrease)
Commercial	2.00	\$411	\$0	\$411
Office/ Institutional	3.32	\$683	\$0	\$683
Industrial/ Flex	1.79	\$368	\$0	\$368

**FORECAST OF REVENUES**

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

**Parks and Recreational Facilities Development Fee Revenue**

The top of Figure 17 summarizes the growth related cost of infrastructure in Eloy over the next ten years (approximately \$1,392,143 for Parks and Recreational Facilities.) Eloy should receive approximately \$1,390,931 in Parks and Recreational Facilities development fee revenue over the next ten years, if actual development matches the Land Use Assumptions.

**Figure 17: Projected Parks and Recreational Facilities Development Fee Revenue**

*Ten-Year Growth-Related Costs for Parks and Recreational Facilities*

Park Land	\$324,192
Park Improvements	\$646,665
Recreational Facilities	\$410,916
Professional Services	\$10,370
<b>Total</b>	<b>\$1,392,143</b>

		<i>Single Unit</i>	<i>2+ Units</i>	<i>Commercial</i>	<i>Office/ Institutional</i>	<i>Industrial/ Flex</i>
		\$895	\$491	\$411	\$683	\$368
		per housing unit	per housing unit	per 1000 Sq Ft	per 1000 Sq Ft	per 1000 Sq Ft
	<i>Year</i>	<i>Hsg Units</i>	<i>Hsg Units</i>	<i>KSF</i>	<i>KSF</i>	<i>KSF</i>
Base	2013	3,271	864	151	243	271
1	2014	3,369	890	160	257	286
2	2015	3,469	917	169	271	302
3	2016	3,574	944	178	286	319
4	2017	3,681	972	188	303	337
5	2018	3,791	1,002	199	320	356
6	2019	3,905	1,032	210	337	376
7	2020	4,022	1,063	222	356	397
8	2021	4,143	1,095	234	376	419
9	2022	4,267	1,128	247	397	443
10	2023	4,396	1,161	261	420	467
<i>Ten-Yr Increase</i>		<i>1,125</i>	<i>297</i>	<i>110</i>	<i>177</i>	<i>196</i>
<b>Projected Fees =&gt;</b>		<b>\$1,006,875</b>	<b>\$145,827</b>	<b>\$45,210</b>	<b>\$120,891</b>	<b>\$72,128</b>
<b>Total Projected Revenues</b>		<b>\$1,390,931</b>				
<b>Cumulative Net Surplus/ Deficit</b>		<b>(\$1,212)</b>				

## POLICE FACILITIES IIP

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Police Facilities IIP:

*“Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training police and firefighters from more than one station or substation.”*

The Police Facilities IIP and Development Fees includes components for facilities, vehicles, communication equipment, and the cost of professional services for preparing the Police Facilities IIP and Development Fees. Incremental expansion is used to calculate all elements of the Police Facilities IIP and Development Fees.

### Service Area

The City provides police services and facilities as one integrated network. As a result, the service area is City-wide.

### Proportionate Share

The development fee for Police Facilities is calculated on a per capita basis for residential development. For nonresidential development, the fee methodology allocates the capital cost of infrastructure on a per trip basis.

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. In Eloy, Police Facilities development fees are based on both residential and nonresidential development. As shown in Figure 18, functional population was used to allocate police costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls “daytime population” by accounting for people living and working in a jurisdiction. Residents that are unemployed or do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Eloy are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2010 functional population data for Eloy, the cost allocation for residential development is 82% while nonresidential development accounts for 18% of the demand for Police Facilities infrastructure.

**Figure 18: Police Facilities Proportionate Share**

<u>Service Units in 2011</u>			<b>Demand Hours/Day</b>	<b>Person Hours</b>
<b>Residential</b>				
Population*	9,612			
64% Residents Not Working	6,137		20	122,739
36% Resident Workers**	3,475			
14% Worked in City**	487		14	6,818
86% Worked Outside City**	2,988		14	41,832
			<b>Residential Subtotal</b>	<b>171,389</b>
			<b>Residential Share =&gt;</b>	<b>82%</b>
<b>Nonresidential</b>				
Non-Working Residents	6,137		4	24,548
Jobs Located in City**	1,434			
Residents Working in City**	487		10	4,870
Non-Resident Workers (inflow commuters)	947		10	9,470
			<b>Nonresidential Subtotal</b>	<b>38,888</b>
			<b>Nonresidential Share =&gt;</b>	<b>18%</b>
			<b>TOTAL</b>	<b>210,277</b>

\* 2011 Fee Population, TischlerBise Land Use Assumptions  
 \*\* Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.

Nonresidential development fees are calculated using trips as the service unit. TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for police infrastructure from nonresidential development.

**ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES**

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

**Police Facilities – Incremental Expansion**

The Police Department is situated in a 4,844 square foot station. The incremental expansion methodology is used to calculate the facility portion of the fee, with new development maintaining the current infrastructure standards.

As shown in Figure 19, the current level of service for residential development is 0.38 square feet per person and the current nonresidential level of service is 0.22 square feet per trip (average weekday inbound vehicle trip to nonresidential development). This is found by applying the proportionate shares to the total square footage of the police station to separate between residential and nonresidential development, and then dividing each total by its respective number of service units. For instance, the residential cost per service unit is found by multiplying the proportionate share (82%) by 4,844 square feet, then dividing this total by the current population (10,453), which equals 0.38 square feet per person. The cost per square foot is \$233, which is based on the recently completed police facility in Maricopa. Multiplying this cost by the levels of service results in a cost of \$88.53 per person and \$50.97 per trip.

**Figure 19: Police Facilities Inventory and LOS**

<i>Building</i>	<i>Sq. Ft</i>
Police Station	4,844
<b>Total</b>	<b>4,844</b>

**Cost per Square Foot<sup>1</sup> | \$233**

1. Police Portion of City Services Complex in Maricopa, AZ.

	<b>Proportionate Share</b>	<b>2013 Service Units (Resident Population/ Trips)</b>	<b>LOS: Square Feet per Service Unit</b>	<b>Cost per Service Unit</b>
<b>Residential</b>	82%	10,453 persons <sup>1</sup>	0.38 sq ft per person	<b>\$88.53 per person</b>
<b>Nonresidential</b>	18%	3,985 trips	0.22 sq ft per trip	<b>\$50.97 per trip</b>

1. Resident Population does not include 7,299 persons in group quarters.

**Police Vehicles – Incremental Expansion**

The City plans to maintain the current level of service for police vehicles; thus the incremental expansion methodology is used to calculate this component of the police IIP and development fees.

The City currently has 37 police vehicles, as shown in Figure 20. The current residential level of service is 2.9 vehicles per thousand persons, which is found by multiplying the number of vehicles (37) by the residential proportionate share (82%), dividing this total by the current population (10,453), and multiplying this total by 1,000. The average cost per vehicle is \$37,750. Multiplying this cost by the residential level of service (2.9 vehicles per thousand persons) and dividing by 1,000 results in a vehicle cost per person of \$109.57. The same methodology is applied to nonresidential development to determine a current level of service of 1.7 vehicles per thousand trips and a cost per of \$63.08.

**Figure 20: Police Vehicles Inventory and LOS**

Item	#	Vehicle Cost	Total
Truck	2	\$55,000	\$110,000
Chevy Tahoe	2	\$58,244	\$116,488
Police Interceptor	3	\$51,545	\$154,635
SUV	4	\$47,000	\$188,000
Dodge Charger	3	\$44,326	\$132,978
Ford Crown Victoria	8	\$42,980	\$343,840
Ford Pickup	2	\$42,841	\$85,682
Ford Ranger	1	\$33,142	\$33,142
Ford Taurus	1	\$25,848	\$25,848
Chevrolet Impala	7	\$23,900	\$167,300
Nissan Altima	1	\$20,884	\$20,884
Radar Trailer	1	\$8,872	\$8,872
Polaris	1	\$7,500	\$7,500
Utility Trailer	1	\$1,628	\$1,628
<b>Total</b>	<b>37</b>		<b>\$1,396,797</b>
<b>Average Vehicle Cost</b>	<b>\$37,750</b>		

Source: City of Eloy Police Department.

**Level of Service (LOS) Standards**

	Residential	Nonresidential
Total Vehicles	37	
Proportionate Share	82%	18%
2013 Service Units (Resident Population <sup>1</sup> / Trips)	10,453	3,985
<b>LOS: Vehicles per 1,000 Persons / Trips</b>	<b>2.9</b>	<b>1.7</b>

1. Resident Population does not include 7,299 persons in group quarters.

**Cost Analysis**

	Residential	Nonresidential
Average Vehicle Cost	\$37,750	
LOS	2.9	1.7
<b>Vehicle Cost per Person / Trip</b>	<b>\$109.57</b>	<b>\$63.08</b>

**Police Communication Equipment – Incremental Expansion**

The incremental expansion methodology is also used to calculate the communication equipment portion of the Police Facilities IIP and Fees. There are a total of 76 communication equipment units which cost a total of \$550,436. The average cost per unit is \$7,242. Using similar methodologies described above, the current level of service of 6.0 units per 1,000 persons and 3.4 units per 1,000 trips. Using the average cost per unit (\$7,242), the cost for communication equipment is \$43.17 per person and \$24.86 per trip. This is displayed in Figure 21.

**Figure 21: Police Communication Equipment Inventory and LOS**

<i>Item</i>	<i>#</i>	<i>Cost</i>	<i>Total</i>
Tower	1	\$226,206	\$226,206
Voice Recorder	1	\$40,000	\$40,000
Base Station	2	\$17,190	\$34,380
Vehicle Radios	27	\$3,920	\$105,840
Handheld Radios	45	\$3,200	\$144,000
<b>Total</b>	<b>76</b>		<b>\$550,426</b>
<b>Average Unit Cost</b>	<b>\$7,242</b>		

Source: Eloy Police Department.

**Level of Service (LOS) Standards**

	<i>Residential</i>	<i>Nonresidential</i>
Number of Units	76	
Proportionate Share	82%	18%
2013 Service Units (Resident Population <sup>1</sup> / Trips)	10,453	3,985
<b>LOS : Units per 1,000 Persons/ Trips</b>	<b>6.0</b>	<b>3.4</b>

1. Resident Population does not include 7,299 persons in group quarters.

**Cost Analysis**

	<i>Residential</i>	<i>Nonresidential</i>
Average Unit Cost	\$7,242	
LOS	6.0	3.4
<b>Unit Cost per Person/ Trip</b>	<b>\$43.17</b>	<b>\$24.86</b>

**RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT**

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Figure 22 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. The residential development table displays the persons per housing unit for single unit residential and residential structures with two or more units.

As described above, nonresidential development fees are calculated using trips as the service unit. TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial development. Office trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for police from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, police development fees would be too high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, police development fees would be too high for industrial development.

Trip generation rates are from the reference book *Trip Generation* published by the Institute of Transportation Engineers (ITE 9th Edition 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%.

For commercial development, the trip adjustment factor is less than 50% because retail development and some services attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 33% of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

**Figure 22: Police Facilities Ratio of Service Unit to Land Use**

<b>Residential Development per Housing Unit</b>	
<b>Land Use</b>	<b># of Persons per Housing Unit</b>
Single Unit	2.79
2+ Units	1.53

<b>Nonresidential Development per KSF</b>			
<b>Land Use</b>	<b>Weekday Trip Ends (a)<sup>1</sup></b>	<b>Trip Adjustment (b)<sup>2</sup></b>	<b>Inbound Vehicle Trips (a X b)</b>
Commercial	42.70	33%	14.1
Office/ Institutional	11.03	50%	5.5
Industrial/ Flex	3.82	50%	1.9

1. Trip Generation, Institute of Transportation Engineers, 2012.

2. On an average weekday, half of all trip ends are inbound. Commercial and institutional include 34% pass-by adjustment (i.e. 66% are primary trips.)

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**PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES**

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ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

The Land Use Assumptions projects an additional 3,595 persons and 2,901 trips over the next ten years, as shown in Figure 23.

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

This new development will demand an additional 2,001 square feet of police facilities, 15 vehicles and 31 communication equipment units.

ARS 9-463.05(E)(3) requires:

*“A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

The ten-year totals of the projected demand for each existing public service category are multiplied by their respective costs to determine the total cost of each to accommodate the projected demand over the next ten years. For example, the projected demand requires approximately 15 additional vehicles. This is multiplied by the average cost of \$37,750 per vehicle to determine the total cost of vehicles to be approximately \$566,250. This calculation was repeated to determine an approximate 10 year cost of \$466,233 in facilities and \$224,502 in communication equipment. The components total \$1,256,985.

**Figure 23: Projected Demand for Police Facilities, Vehicles and Units**

	Facilities		Vehicles		Comm. Equipment Units	
<b>Res LOS</b>	0.38	square feet per person	2.9	vehicles per 1,000 persons	6.0	units per 1,000 persons
<b>Nonres LOS</b>	0.22	square feet per trip	1.7	vehicles per 1,000 trips	3.4	units per 1,000 trips
<b>Cost</b>	\$233	per square foot	\$37,750	per vehicle	\$7,242	per unit

		Projected Demand				
		Service Unit: Residents	Service Unit: Trips	Facility (sq ft)	Vehicles	Comm. Equipment Units
Base	2013	10,453	3,985	4,844	37	76
1	2014	10,767	4,218	5,014	38	79
2	2015	11,090	4,453	5,188	40	81
3	2016	11,423	4,695	5,367	41	84
4	2017	11,765	4,964	5,557	42	87
5	2018	12,118	5,249	5,753	44	90
6	2019	12,482	5,536	5,954	45	93
7	2020	12,856	5,850	6,165	47	97
8	2021	13,242	6,171	6,382	49	100
9	2022	13,639	6,516	6,608	50	104
10	2023	14,049	6,886	6,845	52	107
<b>Ten-Yr Total</b>		<b>3,595</b>	<b>2,901</b>	<b>2,001</b>	<b>15</b>	<b>31</b>
Cost of Facilities				\$466,233		
Cost of Vehicles					\$566,250	
Cost of Communication Equipment Units						\$224,502
<b>Total Cost of Improvements and Expansions to Accommodate New Growth</b>						<b>\$1,256,985</b>

Figure 24 lists growth-related Police Facilities projects that are eligible to be funded using development fees. These are projects the City is considering to accommodate new development over the next ten years. Actual projects will be determined by where and when development occurs. Identified projects under consideration include a storage unit, additional facility space, vehicles, and various communication equipment purchases. These projects total \$1,388,600.

**Figure 24: Police Facilities IIP**

Project	10-Yr Total
<b>Facilities</b>	
Modular Climate Controlled Storage Unit	\$30,000
Other Facilities	\$400,000
<b>Vehicles</b>	
Patrol Vehicles (approximately 11)	\$479,650
Animal Control Truck	\$55,000
Laptops for Police Vehicles	\$95,000
<b>Equipment</b>	
Police GPS-AIMS System	\$28,950
Police Radios	\$220,000
Cisco Mapping Upgrade	\$50,000
Electronic Ticket Writer and Software	\$30,000
<b>Total</b>	<b>\$1,388,600</b>

Source: City of Eloy 2013 CIP.

## POLICE FACILITIES DEVELOPMENT FEES

### Revenue Credit

Included in the maximum supportable development fees is a *Revenue Credit* of 2 percent. The unadjusted Police Facilities development fees per service unit would generate more revenue over the next ten years, based on the approved Land Use Assumptions, than the identified growth cost of improvements of \$1,267,355. To ensure that no more fee revenue is collected than the City plans to spend, the potential gross cost per service unit is reduced by the revenue credit to calculate the net capital cost per service unit. Based on the gross capital costs per service unit, the projected development fee revenue would equal \$1,292,247. To formula to calculate the *Revenue Credit* is as follows:  $(\$1,292,247 - \$1,267,355) / \$1,267,355 = 2$  percent (rounded).

### Development Fee

The proposed development fees for Police Facilities are shown in Figure 25. The conversion of infrastructure costs per service unit into a cost per development unit is also shown in the table below (as required by ARS 9-463.05(E)(4)). The development fee is calculated by multiplying the service units per development unit (number of persons per housing unit for residential and inbound vehicle trips per 1,000 square feet for nonresidential) by the total cost per service unit (persons for residential and trips for trips for nonresidential) of each component of the fee. The proposed development fees are shown in dark green and the current fees are highlighted in yellow.

**Figure 25: Proposed Police Facilities Development Fees**

<b>Cost per Person</b>		
Facilities	\$88.53	
Vehicles	\$109.57	
Communication Equipment	\$43.17	
Professional Services	\$5.11	
Revenue Credit	(\$4.93)	2.0%
<b>Net Cost Per Service Unit</b>	<b>\$241.45</b>	

**Residential Development Fees per Housing Unit**

Unit Type	Persons per Housing Unit	Proposed Fee	Current Fee	Increase (Decrease)	% Change
Single Unit	2.79	\$673	\$359	\$314	87%
2+ Units	1.53	\$370	\$260	\$110	42%

<b>Cost per Trip</b>		
Facilities	\$50.97	
Vehicles	\$63.08	
Communication Equipment	\$24.86	
Professional Services	\$1.48	
Revenue Credit	(\$2.81)	2.0%
<b>Net Cost Per Service Unit</b>	<b>\$137.58</b>	

**Nonresidential Development Fees per 1,000 Sq Ft of Floor Area**

Development Type	Inbound Vehicle Trips per KSF <sup>1</sup>	Proposed Fee	Current Fee <sup>2</sup>	Increase (Decrease)	% Change
Commercial	14.1	\$1,938	\$434	\$1,504	347%
Office/ Institutional	5.5	\$758	\$178	\$580	325%
Industrial/ Flex	1.9	\$262	\$77	\$185	240%

1. Trip Generation, Institute of Transportation Engineers, 2012.
2. Current fees are average of fees provided for range of floor areas.

**FORECAST OF REVENUES**

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

**Police Facilities Development Fee Revenue**

The top of Figure 26 summarizes the growth related cost of infrastructure in Eloy over the next ten years (approximately \$1,267,355 for Police Facilities.) Eloy should receive approximately \$1,265,713 in Police Facilities development fee revenue over the next ten years, if actual development matches the Land Use Assumptions.

**Figure 26: Projected Police Facilities Development Fee Revenue**

*Ten-Year Growth-Related Costs for Police Facilities*

Facilities	\$466,233
Vehicles	\$566,250
Communication Equipment	\$224,502
Professional Services	\$10,370
<b>Total</b>	<b>\$1,267,355</b>

		<i>Single Unit</i>	<i>2+ Units</i>	<i>Commercial</i>	<i>Office/ Institutional</i>	<i>Industrial/ Flex</i>
		<b>\$673</b>	<b>\$370</b>	<b>\$1,938</b>	<b>\$758</b>	<b>\$262</b>
		<b>per housing unit</b>	<b>per housing unit</b>	<b>per 1000 Sq Ft</b>	<b>per 1000 Sq Ft</b>	<b>per 1000 Sq Ft</b>
	<i>Year</i>	<i>Hsg Units</i>	<i>Hsg Units</i>	<i>KSF</i>	<i>KSF</i>	<i>KSF</i>
Base	2013	3,271	864	151	243	271
1	2014	3,369	890	160	257	286
2	2015	3,469	917	169	271	302
3	2016	3,574	944	178	286	319
4	2017	3,681	972	188	303	337
5	2018	3,791	1,002	199	320	356
6	2019	3,905	1,032	210	337	376
7	2020	4,022	1,063	222	356	397
8	2021	4,143	1,095	234	376	419
9	2022	4,267	1,128	247	397	443
10	2023	4,396	1,161	261	420	467
<b>Ten-Yr Increase</b>		<b>1,125</b>	<b>297</b>	<b>110</b>	<b>177</b>	<b>196</b>
<b>Projected Fees =&gt;</b>		<b>\$757,125</b>	<b>\$109,890</b>	<b>\$213,180</b>	<b>\$134,166</b>	<b>\$51,352</b>

<b>Total Projected Revenues</b>	<b>\$1,265,713</b>
<b>Cumulative Net Surplus/ Deficit</b>	<b>(\$1,642)</b>

## STREET FACILITIES IIP

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Street Facilities IIP:

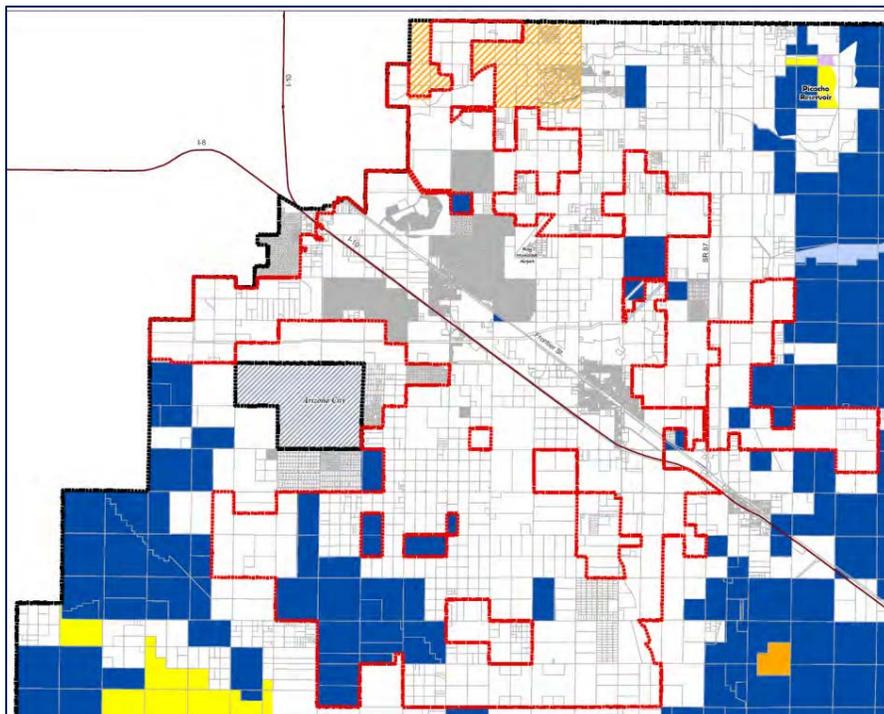
*“Street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon.”*

The Street Facilities IIP includes components for street improvements and the cost of preparing the Street Facilities IIP and Development Fees.

### Service Area

The service area for the Street Facilities IIP is Citywide, because all planned projects in the infrastructure improvements plan are within the city limits. A map of the Eloy City limit boundary is shown below.

**Figure 27: Map of City of Eloy Service Area**



### Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. Trip generation rates and trip adjustment factors are used to determine the proportionate impact of residential, commercial, office, and industrial land uses on the City's streets network.

**ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES**

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

**Inventory**

The map below was created for the City of Eloy’s 2010 Small Area Transportation Study. It displays the road network and the functional classification of each road.

**Figure 28: Eloy Roadway Inventory and Functional Classification**

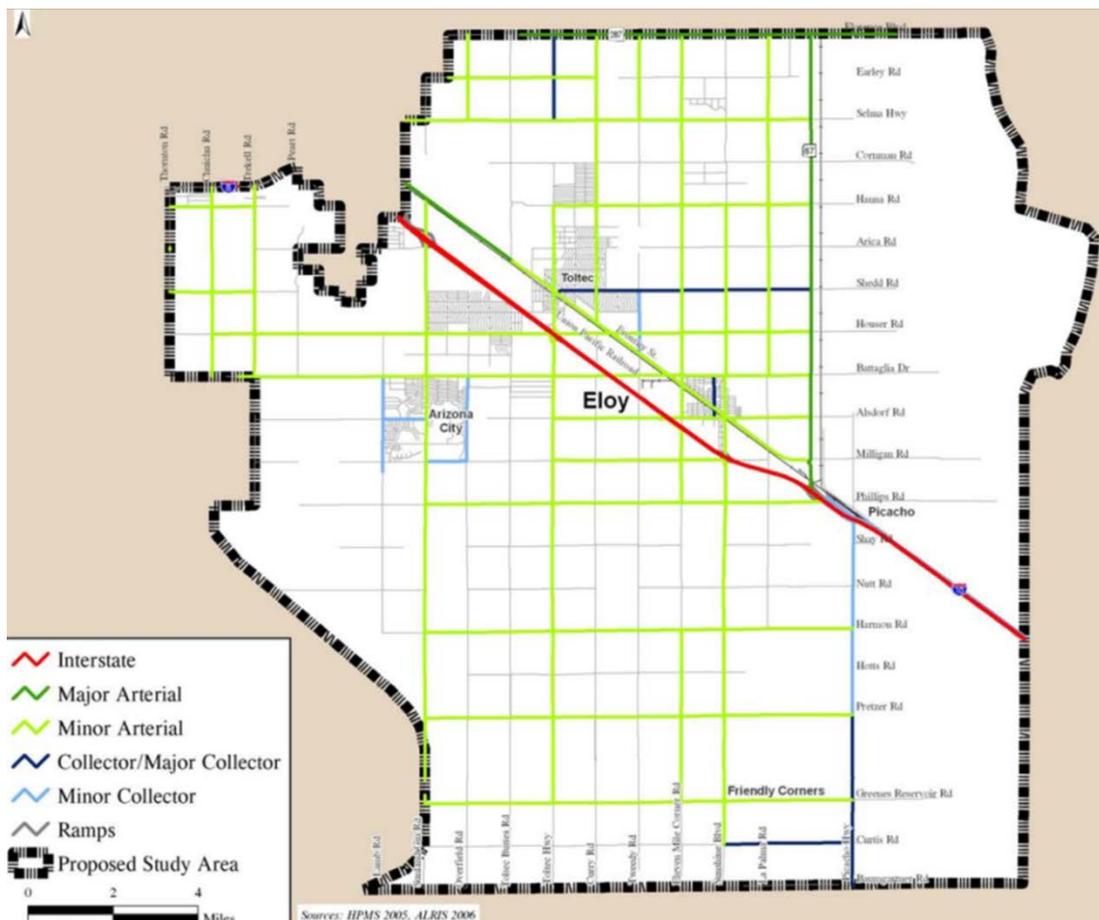


Figure 29 displays an estimated road inventory of arterials in Eloy based on the map in Figure 27, but adjusted to the city limits as shown in Figure 28. In total, there are approximately 274.4 lane miles of arterials in the Eloy service area.

**Figure 29: Road Inventory**

Road	Segment	Classification	Lanes	Length (miles)	Lane Miles
Earley Road	S Signal Peak Rd to Curry Rd	Minor Arterial	2	1	2
Selma Hwy	South Roughcut Dr to Curry Rd	Minor Arterial	2	2.5	5
Hanna Rd	Sunshine Blvd to AZ 87, Toltec Hwy to Tweedy Rd	Minor Arterial	2	4	8
Houser Rd	AZ 87 to Fast Track Rd, Chuichu Rd to La Palma Rd	Minor Arterial	2	15	30
Battaglia Rd	Trekkel Rd to AZ 87	Minor Arterial	2	13	26
Alsldorf Rd	Toltec Hwy to AZ 87	Minor Arterial	2	6	12
Milligan Rd	Toltec Hwy to Sunshine Blvd	Minor Arterial	2	4	8
Phillips Rd	Sunland Gin Rd to AZ 87	Minor Arterial	2	9	18
Harmon Rd	Sunland Gin Rd to Picacho Hwy	Minor Arterial	2	10	20
Pretzer Rd	Sunland Gin Rd to Picacho Hwy	Minor Arterial	2	10	20
Chuichu Rd	Battaglia Rd to Houser Rd	Minor Arterial	2	1	2
Trekell Rd	Battaglia Rd to Shedd	Minor Arterial	2	2	4
Sunland Gin Rd	Pretzer Rd to Frontier St	Minor Arterial	2	12	24
Overfield Rd	Selma Hwy to AZ 287	Minor Arterial	2	2	4
Toltec Hgwy	Pretzer Rd to Hanna Rd	Minor Arterial	2	12	24
Curry Rd	Frontier to AZ 287	Minor Arterial	2	6.7	13.4
Tweedy Rd	Selma Hwy to AZ 287	Minor Arterial	2	2	4
Eleven Mile Corner Rd	Pretzer to Harmon Rd, Phillips Rd to Hanna Rd	Minor Arterial	2	9	18
Sunshine Blvd	Pretzer Rd to Hanna Rd	Minor Arterial	2	12	24
La Palma Rd	Battaglia Rd to Hanna Rd	Minor Arterial	2	4	8

**Total Lane Miles 274.4**

## Lane Capacity

All arterials in Eloy have a level of service of “A” or “B” except for Interstate 10, according to the [Eloy Small Area Transportation Study](#) and City of Eloy staff. This indicates a free flow condition, which means that traffic in Eloy should be flowing at the posted speed limits. (A roadway level of service measures how well it operates. A level of service of A means that vehicles are rarely impeded in their ability to maneuver, and LOS F indicates extremely low speeds with long delays and extensive queuing .)

According to the [Pinal County Transportation Plan](#), the daily per-lane capacity of a minor arterial is 8,700. Because this study is based on arterial improvements, the minor arterial classification standard is used.

**Figure 30: Daily Vehicle Capacity Per-Lane**

Lane Capacity Standards	
Interstate/ Freeway	16,375
Principal/ Major Arterial	8,700
Minor Arterial	8,700
Major Collector	7,500
Minor Collector	7,500

Source: Pinal County Transportation Plan, 2000 Update, Table 15.

## DESCRIPTION OF NECESSARY EXPANSIONS AND COSTS ATTRIBUTABLE TO DEVELOPMENT

ARS 9-463.05(E)(3) requires:

*“A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

The plan-based methodology is used to calculate the Street Facilities IIP and Fee, which bases the fee on planned growth-related streets capital projects. Figure 31 displays growth-related road projects in Eloy’s Capital Improvement Plan that will be paid for using development fees. The total cost of system improvements, including intersections, is estimated to be approximately \$2,529,850. The lane miles on the road segments prior to the improvements total 9.3 lane miles.

**Figure 31: Street Facilities IIP**

Project	Segment	Length (miles)	Lanes	Lane Miles	Capacity Increase	New Lane Miles	Increase in Lane Miles	Total Cost
Shedd Road	Estrella to Tumbleweed	1	2	2	2 to 4 lanes	4	2	\$1,275,147
Sunland Gin	Houser to Arica	2	2	4	2 to 4 lanes	8	4	\$213,654
Sunshine Blvd	Milligan to Phillips	0.9	2	1.8	2 to 4 lanes	3.6	1.8	\$103,888
Sunshine Blvd	Milligan to Truck Wash	0.25	2	0.5	2 to 4 lanes	1	0.5	\$324,475
Sunshine Blvd	Hotts to Pretzer	0.5	2	1	2 to 4 lanes	2	1	\$112,686
2 Traffic Signals	TBD	n/a	n/a	n/a	n/a	n/a	n/a	\$500,000
<b>Total</b>		<b>4.65</b>		<b>9.3</b>		<b>18.6</b>	<b>9.3</b>	<b>\$2,529,850</b>

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## RATIO OF SERVICE UNIT TO LAND USE

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ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Eloy Street Facilities Development Fees are based on average weekday vehicle trip ends, adjusted for commuting patterns and pass-by trips and weighted by trip length.

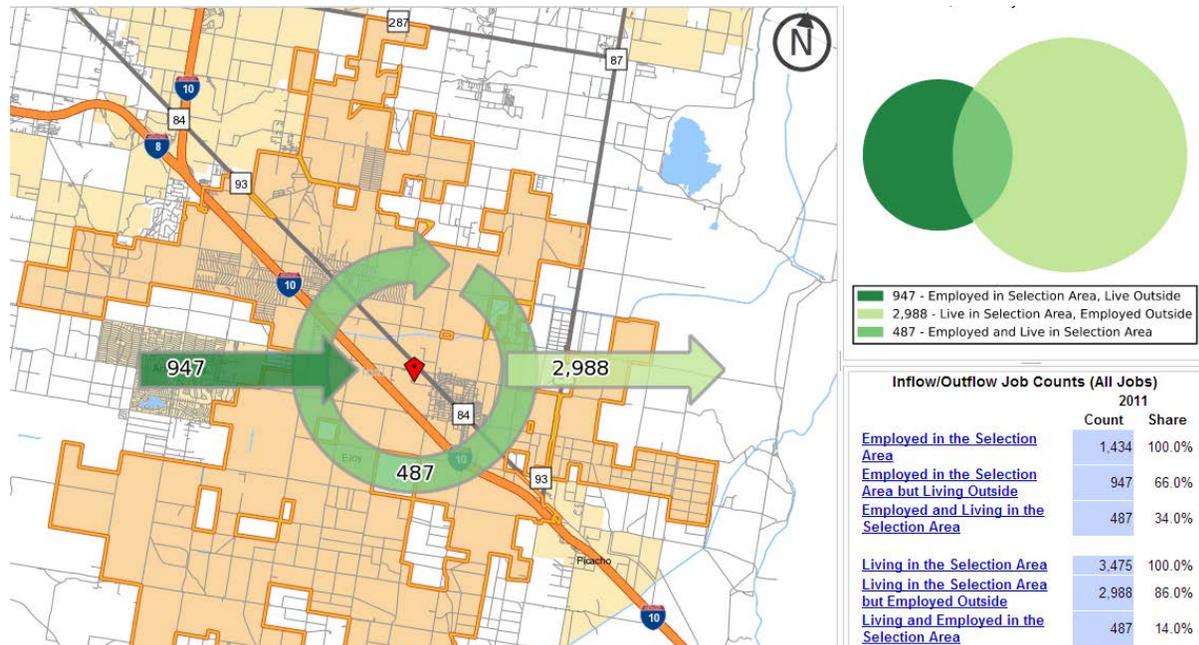
### ***Trip Generation Rates***

Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate Street Facilities Development Fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%. As discussed further below, the development fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

### ***Adjustments for Commuting Patterns and Pass-By Trips***

Residential development has a larger trip adjustment factor of 63% to account for commuters leaving Eloy for employment. According to the 2009 National Household Travel Survey, weekday work trips are typically 31% of production trips (i.e., all out-bound trips, which are 50% of all trip ends). As shown in Figure 32, the Census Bureau’s web application OnTheMap indicates that 86% of resident workers traveled outside the city for work in 2011. In combination, these factors ( $0.31 \times 0.50 \times 0.86 = .13$ ) support the additional 13% allocation of trips to residential development.

**Figure 32: Inflow/ Outflow Analysis**



For commercial development, the trip adjustment factor is less than 50% because retail development and some services attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 33% of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

**Trip Length Weighting Factor by Type of Land Use**

The Street Facilities Development Fees methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. The residential trip length adjustment factor includes data on home-base work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.

**Service Units**

Eloy will use average weekday miles of travel as the service units for documenting existing infrastructure standards and allocating the cost of future improvements. TischlerBise created an aggregate travel model to convert development units within Eloy to vehicle trips and vehicle miles of travel. Figure 33 summarizes the input variables for the travel model. Trip generation rates, expressed as average weekday vehicle trip ends, for residential development were calculated specifically for Eloy and are discussed in the Land Use Assumptions. Trip generation rates for nonresidential development are from

the Institute of Transportation Engineers (ITE). HU is an abbreviation for housing unit. KSF is an abbreviation for square feet of nonresidential floor area, expressed in thousands.

Knowing the amount of planned lane miles in Eloy (9.3), the average trip length of 8.6 miles was found using a series of spreadsheet iterations.

**Figure 33: Input Variables for Travel Demand Model**

	Dev Type	Weekday VTE	Dev Unit	Trip Adj	Trip Length	VMT per Dev Unit
	Single Unit	7.60	HU	63%	121%	49.8
	2+ Units	3.71	HU	63%	121%	24.3
	Commercial	42.70	KSF	33%	66%	80.0
	Office/ Institutional	11.03	KSF	50%	73%	34.6
	Industrial/ Flex	3.82	KSF	50%	73%	12.0
<b>Avg Trip Length (miles)</b>	<b>8.6</b>					
<b>Capacity Per Lane</b>	<b>8,700</b>					

**PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES**

ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

The relationship between development in Eloy and the need for system improvements is shown in Figure 34. At the top of the table are both existing and projected development units in Eloy. The table includes annual calculations, but years 6-9 are hidden from view. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips, as shown in the middle section of the table. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of development fees, to the following question, “What is the average trip length on system improvements (i.e., facilities funded by development fees)?”

At the bottom of Figure 34 are Vehicle Miles of Travel (VMT) which is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the

average trip length.<sup>1</sup> Existing infrastructure standards in Eloy are 1.1 lane miles of arterials per 10,000 VMT. To maintain existing infrastructure standards, Eloy would need an additional 9.3 lane miles of arterials over the next ten years on a system that function at LOS A.

**Figure 34: Projected Travel Demand**

	2013	2014	2015	2016	2017	2018	2023	10-Year Increase
	Base	1	2	3	4	5	10	
Single Unit	3,271	3,369	3,469	3,574	3,681	3,791	4,396	1,125
2+ Units	864	890	917	944	972	1,002	1,161	297
Commercial KSF	151	160	169	178	188	199	261	110
Office/ Institutional KSF	243	257	271	286	303	320	420	177
Industrial/ Flex KSF	271	286	302	319	337	356	467	196
<i>Single Unit Trips</i>	15,661	16,130	16,611	17,111	17,622	18,153	21,046	5,386
<i>2+ Unit Trips</i>	2,020	2,081	2,143	2,207	2,273	2,341	2,715	695
<i>Commercial Trips</i>	2,128	2,255	2,381	2,508	2,649	2,804	3,678	1,550
<i>Office/ Institutional Trips</i>	1,340	1,417	1,495	1,577	1,671	1,765	2,316	976
<i>Industrial/ Flex Trips</i>	518	546	577	609	644	680	892	374
Total Vehicle Trips	21,666	22,429	23,206	24,013	24,859	25,743	30,647	8,981
<b>Vehicle Miles of Travel (VMT)</b>	<b>207,723</b>	<b>214,624</b>	<b>221,672</b>	<b>228,988</b>	<b>236,599</b>	<b>244,524</b>	<b>288,270</b>	<b>80,547</b>
<b>Lane Miles</b>	23.9	24.7	25.5	26.3	27.2	28.1	33.1	9.3
<b>Annual Lane Miles</b>		0.79	0.81	0.84	0.87	0.91	1.08	
<b>Lane Miles per 10,000 VMT</b>	1.1	1.1	1.1	1.1	1.1	1.1	1.1	

<sup>1</sup> Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire urban area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of development fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip lengths calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external-external trips, and travel on roads that are not system improvements.

**STREET FACILITIES DEVELOPMENT FEES**

**Cost Factors for Development Fees**

Figure 35 displays the cost factors used to calculate the development fees. A growth share is applied to the total cost of the street improvement projects, which represents the amount of the project that is attributable to new growth. Then, the cost of professional services for the IIP and fee study is added to this to determine a total cost. This cost is divided by the total increase in lane miles (9.3) to determine an average cost per lane mile of \$235,516.

**Figure 35: Cost Factors for Development Fees**

Project	Increase in Lane Miles	Total Cost	Growth Share <sup>1</sup>	Growth Cost
Shedd Road	2	\$1,275,147	100%	\$1,275,147
Sunland Gin	4	\$213,654	100%	\$213,654
Sunshine Blvd	1.8	\$103,888	100%	\$103,888
Sunshine Blvd	0.5	\$324,475	100%	\$324,475
Sunshine Blvd	1	\$112,686	100%	\$112,686
2 Traffic Signals	n/a	\$500,000	28%	\$139,708
Professional Services	n/a	\$20,740	100%	\$20,740
<b>Total</b>	<b>9.3</b>	<b>\$2,550,590</b>		<b>\$2,190,298</b>

Source: City of Eloy CIP and staff.

1. Growth share is 100% for road projects because capacity is increasing 100%.  
 Formula for traffic signal is 1 - [207,723 VMT in 2013/288,270 VMT in 2023.]

Increase in Lane Miles	9.3
<b>Avg Cost per Lane Mile</b>	<b>\$235,516</b>

**Revenue Credit**

A revenue credit is not necessary for the Street Facilities development fees because 10-year growth costs exceed the amount of revenue that is projected to be generated by development fees according to the Land Use Assumptions.

**Development Fees**

Input variables for the road impact fee are shown in the upper section of Figure 36. Attraction trips by type of development are multiplied by the capacity cost per average length vehicle trip to yield the street facilities development fees. As determined above, the cost per lane mile is \$235,516.

The input variables discussed above yield the proposed impact fees shown in the lower section of Figure 36. For example, the road impact fee formula for a Single Unit house is 7.60 x 0.63 x 8.6 x 1.21 x \$235,516 / 8,700 = \$1,348 per unit.

The text below from Trip Generation (Institute of Transportation Engineers 9th Edition 2012) supports TischlerBise’s recommendation to use ITE 820 Shopping Center as a reasonable proxy for all commercial development. The shopping center trip generation rates are based on 302 studies with an r-squared

value of 0.79. The latter is a goodness of fit indicator with values ranging from 0 to 1. Higher values indicate the independent variable (floor area) provides a better prediction of the dependent variable (average weekday vehicle trip ends). If the r-squared value is less than 0.50, ITE does not publish the value because factors other than floor area provide a better prediction of trip rates. In Eloy’s current fee schedule, most of the restaurant and retail categories are based on a limited number of studies with no published r-squared value.

“A shopping center is an integrated group of commercial establishments. Shopping centers, including neighborhood, community, regional, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, and health clubs. Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include out parcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied include peripheral buildings, it can be assumed that some of the data show their effect.”

**Figure 36: Proposed Street Facilities Development Fees**

<i>Infrastructure Standards</i>	
Average Miles per Vehicle Trip	8.6
System Improvements Cost per Lane Mile	\$235,516
Lane Capacity (vehicles per day)	8,700

<i>Residential (per Housing Unit)</i>						
<i>Development Type</i>	<i>Weekday Vehicle Trip Ends</i>	<i>Trip Rate Adjustment Factors</i>	<i>Trip Length Weighting Factors</i>	<i>Proposed Fee</i>	<i>Current Fee</i>	<i>Increase (Decrease)</i>
Single Unit	7.60	63%	121%	\$1,348	\$0	\$1,348
2+ Units	3.71	63%	121%	\$658	\$0	\$658

<i>Nonresidential (per 1,000 sq ft)</i>						
<i>Development Type</i>	<i>Weekday Vehicle Trip Ends</i>	<i>Trip Rate Adjustment Factors</i>	<i>Trip Length Weighting Factors</i>	<i>Proposed Fee</i>	<i>Current Fee</i>	<i>Increase (Decrease)</i>
Commercial	42.70	33%	66%	\$2,165	\$0	\$2,165
Office/ Institutional	11.03	50%	73%	\$937	\$0	\$937
Industrial/ Flex	3.82	50%	73%	\$324	\$0	\$324

**FORECAST OF REVENUES**

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

**Development Fee Revenue for Street Facilities**

Revenue projections shown in Figure 37 assume implementation of the proposed Street Facilities development fees and that development over the next ten years is consistent with the Land Use Assumptions. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the development fee revenue.

**Figure 37: Projected Street Facilities Development Fee Revenue**

*Ten-Year Growth-Related Costs for Street Facilities*

Street Improvements	\$2,190,298
Professional Services	\$20,740
<b>Total</b>	<b>\$2,211,038</b>

		<i>Single Unit</i>	<i>2+ Units</i>	<i>Commercial</i>	<i>Office/ Institutional</i>	<i>Industrial/ Flex</i>
		<b>\$1,348</b>	<b>\$658</b>	<b>\$2,165</b>	<b>\$937</b>	<b>\$324</b>
		<b>per housing unit</b>	<b>per housing unit</b>	<b>per 1000 Sq Ft</b>	<b>per 1000 Sq Ft</b>	<b>per 1000 Sq Ft</b>
	<i>Year</i>	<i>Hsg Units</i>	<i>Hsg Units</i>	<i>KSF</i>	<i>KSF</i>	<i>KSF</i>
Base	2013	3,271	864	151	243	271
1	2014	3,369	890	160	257	286
2	2015	3,469	917	169	271	302
3	2016	3,574	944	178	286	319
4	2017	3,681	972	188	303	337
5	2018	3,791	1,002	199	320	356
6	2019	3,905	1,032	210	337	376
7	2020	4,022	1,063	222	356	397
8	2021	4,143	1,095	234	376	419
9	2022	4,267	1,128	247	397	443
10	2023	4,396	1,161	261	420	467
<b>Ten-Yr Increase</b>		<b>1,125</b>	<b>297</b>	<b>110</b>	<b>177</b>	<b>196</b>
<b>Projected Fees =&gt;</b>		<b>\$1,516,500</b>	<b>\$195,426</b>	<b>\$238,150</b>	<b>\$165,849</b>	<b>\$63,504</b>

<b>Total Projected Revenues</b>	<b>\$2,179,429</b>
<b>Cumulative Net Surplus/ Deficit</b>	<b>(\$31,609)</b>



The Water Facilities IIP and development fees are assessed on both residential and nonresidential development as both types of development create a burden for additional water facilities. Yearly customers by land use are used to determine the proportionate share of this burden. In 2012, approximately 90% of water customers in Eloy were residents, accounting for 61% of the average daily demand. Approximately 10% were non-residential customers, accounting for 39% of the average daily demand.

## ANALYSIS OF COSTS, CAPACITY, AND USAGE OF EXISTING PUBLIC SERVICES

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

### Capacity

Eloy has two pump stations. Pump Station #1 has a capacity of 2 million gallons per day and Pump Station #2 has a capacity of 1 million gallons per day. In total, there are 3 million gallons per day of capacity which accommodates the average day demand of approximately 1.13 million gallons per day.

**Figure 39: Water Plant Capacity**

Location	Capacity (MGD)	Total Capacity (MGD)	Average Day Demand	Remaining
Pump Station #1	2.00	3.00	1.13	1.87
Pump Station #2	1.00			

### Level of Service

In Eloy, there are currently 2,469 residential customers (connections) and 273 nonresidential customers. Residential usage averages 691,236 gallons per day and nonresidential usage averages 440,247 gallons per day, which totals an average of 1,131,483 gallons per day.

Level of service for water is based on gallons per connection per day. The current level-of-service for residential development for water service is 280 gallons per connection per day, which is found by dividing the average residential gallons per day in 2012 (691,236) by the number of residential connections in 2012 (2,469). For nonresidential connections, water demand averages 1,613 gallons per day. In 2012, each nonresidential water connection averaged 6 jobs. The projected increase in jobs drives the demand for water capacity from nonresidential development.

**Figure 40: Water Level of Service**

	Avg Gallons per Day	2012 Connections
Residential	691,236	2,469
Nonresidential	440,247	273
<b>TOTAL</b>	<b>1,131,483</b>	<b>2,742</b>

Source: City of Eloy Water Billing and Usage Records, 2012.

**Level of Service (LOS) Standards**

	<i>Residential</i>
Average Residential Gallons Per Day	691,236
2012 Service Units (residential connections)	2,469
<b>Level of Service: Gallons per Connection per Day</b>	<b>280</b>

	<i>Nonresidential</i>
Average Nonresidential Gallons Per Day	440,247
2012 Service Units (nonresidential connections)	273
<b>Level of Service: Gallons per Connection per Day</b>	<b>1,613</b>

**RATIO OF SERVICE UNIT TO LAND USE**

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Residential water development fees are assessed on a per unit basis, based on average daily gallons of usage per customer. Nonresidential development fees are assessed by size and type of water meter needed to serve the development. The nonresidential water development fees are calculated by multiplying the number of gallons per unit by the capacity ratio for the corresponding size and type of water meter multiplied by the cost per gallon, shown in Figure 41.

**Figure 41: Water Facilities Ratio of Service Unit to Land Use**

<b>Residential Development</b>	
<b>Land Use</b>	<b>Average Daily Gallons per Connection</b>
Residential Unit	280

<b>Nonresidential Development</b>		
<b>Meter Size (inches)</b>		<b>Capacity Ratio<sup>1</sup></b>
0.75	Displacement	1.00
1.00	Displacement	1.67
1.50	Displacement	3.33
2.00	Compound	5.33
3.00	Compound	10.67

1. AWWA. (2012). M6 Water Meters–Selection, Installation, Testing and Maintenance, Fifth Edition.

**PROJECTED SERVICE UNITS**

ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

According to City of Eloy staff, most residential development in Eloy over the next ten years will occur outside the Eloy water service area. It is estimated that there will be no new residential development in the water service area over the next five years. Figure 42 shows projections of residential water customers and usage over the next 10 years. In this projection, the number of residential water customers is held at 2,469 (which is the number of residential water customers in 2012) from 2013 to 2017. Then, 50% of the projected housing units documented in the Land Use Assumptions are expected to occur within the Eloy water service area and become a City water customer. This results in a 10-year increase of 539 customers and an increase of .15 million gallons a day of water usage.

**Figure 42: Residential Water Customers and Usage, 2013 to 2023**

	Year	Annual Increase in Housing Units <sup>1</sup>	Residential Connections <sup>2</sup>	Residential MGD <sup>3</sup>
Base	2013	121	2,469	0.69
1	2014	124	2,469	0.69
2	2015	127	2,469	0.69
3	2016	132	2,469	0.69
4	2017	135	2,469	0.69
5	2018	140	2,552	0.71
6	2019	144	2,638	0.74
7	2020	148	2,727	0.76
8	2021	153	2,818	0.79
9	2022	157	2,912	0.82
10	2023	162	3,008	0.84
<b>Ten Yr Increase</b>		<b>1,543</b>	<b>539</b>	<b>0.15</b>

1. Source: TischlerBise Land Use Assumptions. Cells highlighted in grey are years used to estimate the number of residential connections.

2. Years 2013 to 2017 held at 2012 connections. Years 2018 to 2023 found by multiplying 50% of new housing units by standard of .62 connections per housing unit.

3. Residential MGD found by multiplying residential connections by 2012 level of service of 280 gallons per residential connection and dividing by 1 million gallons.

Nonresidential water customers and usage from 2013 to 2023 are shown in Figure 43. These were calculated by multiplying the 2012 standard of 0.18 connections per job by the total number of jobs each year. Nonresidential usage was determined by dividing the number of customers each year by the level of service of 1,613 gallons per nonresidential connection.

**Figure 43: Nonresidential Water Customers and Usage, 2013 to 2023**

	Year	Jobs <sup>1</sup>	Nonres. Connections <sup>2</sup>	Nonres. MGD <sup>3</sup>
Base	2013	1,599	288	0.46
1	2014	1,689	304	0.49
2	2015	1,783	321	0.52
3	2016	1,883	339	0.55
4	2017	1,989	358	0.58
5	2018	2,100	379	0.61
6	2019	2,217	400	0.64
7	2020	2,342	422	0.68
8	2021	2,473	446	0.72
9	2022	2,611	471	0.76
10	2023	2,758	497	0.80
<b>Ten Yr Increase</b>		<b>1,158</b>	<b>209</b>	<b>0.34</b>

1. Source: TischlerBise Land Use Assumptions.

2. Nonresidential connections found by multiplying total jobs by standard of .18 connections per job.

3. Nonresidential MGD found by multiplying residential connections by 2012 level of service of 1,613 gallons per residential connection and dividing by 1 million gallons.

The projections for residential and nonresidential water customers and usage were added together to determine the total projections shown in Figure 44. By 2023, it is estimated that there will be 3,506 water customers that use 1.64 million gallons per day, which is due to a ten year increase of 748 customers and .49 million gallons of usage per day.

**Figure 44: Total Water Customers and Usage, 2013 to 2023**

		Service Units: Connections			MGD		
		Res Connections	Nonres Connections	Total Connections	Res MGD	Nonres MGD	Total MGD
Base	2013	2,469	288	2,757	0.69	0.46	1.16
1	2014	2,469	304	2,773	0.69	0.49	1.18
2	2015	2,469	321	2,790	0.69	0.52	1.21
3	2016	2,469	339	2,808	0.69	0.55	1.24
4	2017	2,469	358	2,827	0.69	0.58	1.27
5	2018	2,552	379	2,931	0.71	0.61	1.32
6	2019	2,638	400	3,038	0.74	0.64	1.38
7	2020	2,727	422	3,149	0.76	0.68	1.44
8	2021	2,818	446	3,264	0.79	0.72	1.51
9	2022	2,912	471	3,383	0.82	0.76	1.57
10	2023	3,008	497	3,506	0.84	0.80	1.64
<b>Ten Yr Increase</b>		<b>539</b>	<b>209</b>	<b>748</b>	<b>0.15</b>	<b>0.34</b>	<b>0.49</b>

**PROJECTED COSTS AND DEMAND FOR SERVICES**

ARS 9-463.05(E)(3) requires:

*“A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

Eloy plans to fund two new reservoirs that will add a daily average of 2 million gallons of capacity to the system. The City also plans to add a new well with a planned production rate of 1,000 GPM. The City also plans to upgrade and add new water lines that will loop the system which is necessary to accommodate adequate fire flows for new development. These projects cost a total of \$7,815,753. Dividing this total by the increase in capacity (2,000,000 gallons) results in a cost per gallon of \$3.91.

**Figure 45: IIP for Storage, Water Wells, and Distribution Lines**

Project	Total Cost
Water Campus, Pump Station #1 - 1 MG Reservoir	\$1,650,000
Pump Station #2 - 1 MG Reservoir	\$750,000
New Well - Location TBD (1,000 GPM)	\$950,000
Houser Toltec Water Line Improvements (WIFA)	\$2,000,000
Houser Toltec Water Line Improvements (Gen)	\$940,000
Houser Toltec Water Line Improvements (Gen)	\$560,000
Shedd Road - Estrella to Frontier New Water Lines	\$433,001
Shedd Road - Estrella to Tumbleweed New Water Lines	\$532,752
<b>Total</b>	<b>\$7,815,753</b>

Source: City of Eloy CIP.

Increase in Average Day Gallons of Capacity	2,000,000
<b>Capital Cost per Gallon of Capacity</b>	<b>\$3.91</b>

**COST RECOVERY OF WATER FACILITIES**

Eloy is currently paying off two debt obligations that increased capacity, which are shown in Figure 46.

- The WIFA 2010 obligation financed the installation of approximately 18,000 linear feet of new 12” water mains, as well as water production facility that consists of a one million gallon storage tank and booster station. This was an ARRA funded project that had forgivable proceeds of approximately \$2,800,000.
- The WIFA 2012 obligation paid for the construction of the Houser/ Toltec water line and pump station 2 improvements.

Including principal and interest, the remaining payments for the two debt obligations total \$2,813,236. To determine a cost per gallon, a growth share was calculated for each obligation, which represents new development’s projected share of total gallon usage for the remainder of the debt schedule. The growth cost for each obligation is divided by the gallon increase over the period of time to determine a growth cost per additional gallon. In total, the two debt obligations amount to a cost of \$1.23 per gallon of capacity.

**Figure 46: Cost Recovery for Water Facilities and Improvements**

<i>Year Debt Issued or Refinanced</i>	<i>Name of Debt Obligation</i>	<i>Growth Share*</i>	<i>FY of Final Payment</i>	<i>Remaining Principal and Interest</i>	<i>Growth Cost</i>	<i>Gallon Increase</i>	<i>Growth Cost per Additional Gallon</i>
2010	WIFA 2010	45.8%	2029	\$476,584	\$218,448	977,988	\$0.22
2012	WIFA 2012	50.4%	2031	\$2,336,652	\$1,177,767	1,174,503	\$1.00
<b>Total</b>				<b>\$2,813,236</b>	<b>\$1,396,215</b>		<b>\$1.23</b>

\*WIFA 10 Growth Share (45.8%) is 1 - (1.16 gallons in 2013/ 2.13 gallons in 2029).

\*WIFA 12 Growth Share (50.4%) is 1 - (1.16 gallons in 2013/ 2.33 gallons in 2031).

**WATER FACILITIES DEVELOPMENT FEE**

**Revenue Credit**

A revenue credit is not necessary for the Water Facilities development fee because ten year growth costs for water facilities exceed the projected revenue.

**Development Fee**

The proposed development fees for Water Facilities are shown in Figure 47. The residential development fee is derived from the average daily water flow per residential unit (280), multiplied by the plan based cost per gallon of capacity (\$3.91) added to the cost recovery cost per gallon (\$1.23). Also, each new customer pays the cost of professional services for preparing the IIP and development fee (\$119.17). The nonresidential development fee multiplies the average daily water flow by the cost per gallon of capacity as well as the capacity ratio for each meter size.

**Figure 47: Proposed Water Facilities Development Fees**

*Standards:*

<i>Demand Indicators</i>	
ERU Gallons per Average Day	280
<i>Cost Factors per Gallon of Capacity</i>	
Plan Based Cost per Gallon - Reservoir	\$3.91
Cost Recovery Cost per Gallon	\$1.23
<i>Cost Factors per Customer</i>	
Professional Services	\$119.17

<i>Maximum Supportable Water Facilities Charge</i>					
<b>Residential</b>					
Residential (per dwelling unit)	\$1,556				
<b>Nonresidential</b>					
<i>Meter Size (inches)</i>	<i>Capacity Ratio</i> <sup>1</sup>	<i>Per Meter</i>	<i>Current Fees</i>	<i>Increase (Decrease)</i>	<i>% Change</i>
0.75	Displacement	\$1,556	\$1,522	\$34	2%
1.00	Displacement	\$2,519	\$2,587	(\$68)	-3%
1.50	Displacement	\$4,905	\$5,026	(\$121)	-2%
2.00	Compound	\$7,780	\$8,037	(\$257)	-3%
3.00	Compound	\$15,455	\$16,241	(\$786)	-5%

1. AWWA. (2012). M6 Water Meters—Selection, Installation, Testing and Maintenance, Fifth Edition.

**FORECAST OF REVENUES**

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

**Water Facilities Development Fee Revenue**

The top of Figure 48 summarizes the growth related cost of infrastructure in Eloy over the next ten years (approximately \$2,525,120 for Water Facilities.) Eloy should receive approximately \$1,863,715 in Water Facilities development fee revenue over the next ten years, if actual development matches the Land Use Assumptions.

**Figure 48: Projected Water Facilities Development Fee Revenue**

*Ten-Year Growth-Related Costs for Water Facilities\**

Water Projects	\$1,906,266
Cost Recovery of Water Debt	\$598,114
Professional Services	\$20,740
<b>Total</b>	<b>\$2,525,120</b>

		<i>Single Unit</i> <b>\$1,556</b> per connection	<i>Nonresidential</i> <b>\$4,905</b> per 1.5" connection
<i>Year</i>		<i>Connections</i>	<i>Connections</i>
Base	2013	2,469	288
1	2014	2,469	304
2	2015	2,469	321
3	2016	2,469	339
4	2017	2,469	358
5	2018	2,552	379
6	2019	2,638	400
7	2020	2,727	422
8	2021	2,818	446
9	2022	2,912	471
10	2023	3,008	497
<i>Ten-Yr Increase</i>		539	209

<b>Projected Fees =&gt;</b>	<b>\$839,369</b>	<b>\$1,024,346</b>
<b>Total Projected Revenues</b>	<b>\$1,863,715</b>	
<b>Cumulative Net Surplus/ Deficit</b>	<b>(\$661,404)</b>	

\*Ten-Year growth costs are costs per gallon multiplied by 10-year projected increase in water demand.

## WASTEWATER FACILITIES IIP

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Wastewater Facilities IIP:

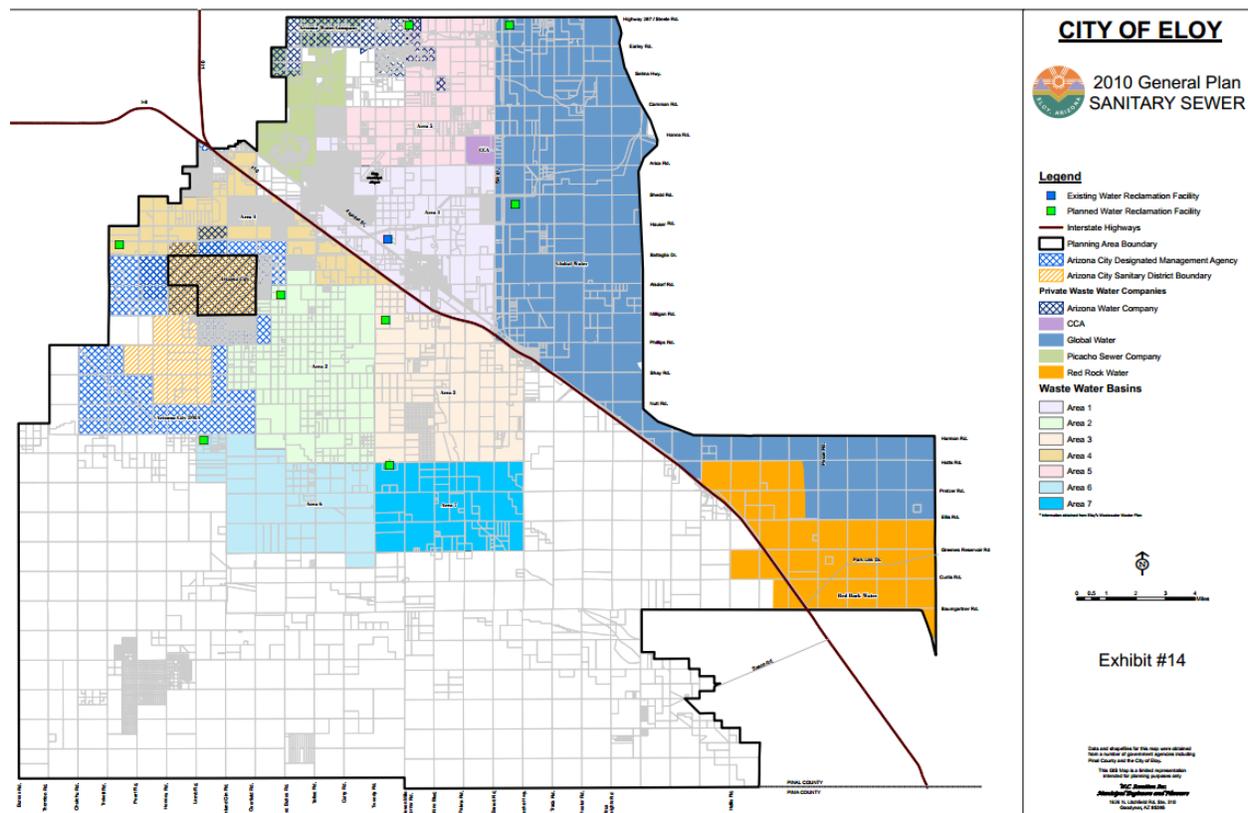
“Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities.”

The Wastewater Facilities IIP includes components for the cost recovery of growth-related wastewater improvements and the cost of preparing the Wastewater Facilities IIP and development fees.

### Service Area

The Wastewater Service Area is shown in Figure 49. Eloy’s wastewater basins are shown below, along with areas serviced by other private wastewater companies.

Figure 49: Wastewater Service Area



### Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development.

The Wastewater Facilities IIP and development fees are assessed on both residential and nonresidential development as both types of development create a burden for additional wastewater facilities. Customers by land use are used to determine the proportionate share of this burden. In 2012,

approximately 89% of wastewater customers in Eloy were residents, accounting for 62% of the average daily demand. Approximately 11% were nonresidential customers, accounting for 38% of the average daily demand.

**ANALYSIS OF COSTS, CAPACITY, AND USAGE OF EXISTING PUBLIC SERVICES**

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

**Capacity**

Eloy has one wastewater treatment plant that has a capacity of 2 million gallons. The average day demand is approximately .46 million gallons, leaving 1.54 million gallons of capacity remaining.

**Figure 50: Wastewater Plant Capacity**

Total Capacity (MGD)	Average Day Demand	Remaining
2.00	0.46	1.54

Source: City of Eloy.

### Level of Service

Level of service for wastewater is based on gallons per connection per day. The current level-of-service for residential development for wastewater service is 187 gallons per connection per day. For nonresidential connections, wastewater demand averages 906 gallons per day. In 2012, each nonresidential wastewater connection averaged 8 jobs. The projected increase in jobs drives the demand for wastewater capacity from nonresidential development.

**Figure 51: Wastewater Level of Service**

	Avg Gallons per Day <sup>1</sup>	2012 Connections <sup>2</sup>
Residential	287,702	1,542
Nonresidential	172,654	191
<b>TOTAL</b>	<b>460,356</b>	<b>1,733</b>

1. Total average daily gallons based on total sewage entering treatment plant in 2012. Division between residential and nonresidential based on portions of City of Eloy water usage from January to March 2012.

2. City of Eloy 2012 Wastewater Billing and Usage Records.

<b>Level of Service (LOS) Standards</b>		<i>Residential</i>
Average Residential Gallons Per Day		287,702
2012 Service Units (residential connections)		1,542
<b>Level of Service: Gallons per Connection per Day</b>		<b>187</b>
		<i>Nonresidential</i>
Average Nonresidential Gallons Per Day		172,654
2012 Service Units (nonresidential connections)		191
<b>Level of Service: Gallons per Connection per Day</b>		<b>906</b>

**RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT**

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Residential wastewater facilities development fees are assessed on a per unit basis, based on average daily gallons of usage per customer. Nonresidential development fees are assessed by size and type of meter needed to serve the development. However, a new residential unit requiring a 1-inch or greater meter would be assessed a development fee based upon meter size. The nonresidential wastewater development fees are calculated by multiplying the number of gallons per unit by the capacity ratio for the corresponding size and type of meter multiplied by the cost per gallon, as shown in Figure 52.

**Figure 52: Wastewater Facilities Ratio of Service Unit to Land Use**

<i>Residential Development</i>	
Land Use	Average Daily Gallons per Connection
Residential Unit	187

<i>Nonresidential Development</i>		
Meter Size (inches)		Capacity Ratio <sup>1</sup>
0.75	Displacement	1.00
1.00	Displacement	1.67
1.50	Displacement	3.33
2.00	Compound	5.33
3.00	Compound	10.67

1. AWWA. (2012). M6 Water Meters–Selection, Installation, Testing and Maintenance, Fifth Edition.

**PROJECTED SERVICE UNITS, DEMAND, AND COSTS FOR SERVICES**

ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

The wastewater projections have the same assumptions as water, in which no new residential development is projected within the wastewater service area over the next five years. Figure 53 shows projections of residential wastewater customers and usage over the next 10 years. In this projection the number of wastewater customers is held at 1,542, which is the number of wastewater customers in 2012, from 2013 to 2017. Assuming that one half of the projected housing units will occur within the Eloy wastewater service area results in a 10 year increase of 337 customers, which translates into an increase of .06 million gallons a day of wastewater usage.

**Figure 53: Residential Wastewater Customers and Usage, 2013 to 2023**

	Year	Annual Increase in Housing Units <sup>1</sup>	Residential Connections <sup>2</sup>	Residential MGD <sup>3</sup>
Base	2013	121	1,542	0.29
1	2014	124	1,542	0.29
2	2015	127	1,542	0.29
3	2016	132	1,542	0.29
4	2017	135	1,542	0.29
5	2018	140	1,594	0.30
6	2019	144	1,648	0.31
7	2020	148	1,703	0.32
8	2021	153	1,760	0.33
9	2022	157	1,819	0.34
10	2023	162	1,879	0.35
<b>Ten Yr Increase</b>		<b>1,543</b>	<b>337</b>	<b>0.06</b>

1. Source: TischlerBise Land Use Assumptions. Cells highlighted in grey are years used to estimate the number of residential connections.

2. Years 2013 to 2017 held at 2012 connections. Years 2018 to 2023 found by multiplying 50% of new housing units by standard of .38 connections per housing unit.

3. Residential MGD found by multiplying residential connections by 2012 level of service of 187 gallons per residential connection and dividing by 1 million gallons.

Nonresidential wastewater customers and usage from 2013 to 2023 are shown in Figure 54. These were calculated by multiplying the 2012 standard of 0.13 connections per job by the total number of jobs each year. Nonresidential usage was determined by dividing the number of customers each year by the level of service of 906 gallons per nonresidential connection. There is an expected increase of 146 wastewater connections and .13 million gallons per day of usage.

**Figure 54: Nonresidential Wastewater Customers and Usage, 2013 to 2023**

	Year	Jobs <sup>1</sup>	Nonres. Connections <sup>2</sup>	Nonres. MGD <sup>3</sup>
Base	2013	1,599	201	0.18
1	2014	1,689	213	0.19
2	2015	1,783	224	0.20
3	2016	1,883	237	0.21
4	2017	1,989	250	0.23
5	2018	2,100	264	0.24
6	2019	2,217	279	0.25
7	2020	2,342	295	0.27
8	2021	2,473	311	0.28
9	2022	2,611	329	0.30
10	2023	2,758	347	0.31
<b>Ten Yr Increase</b>		<b>1,158</b>	<b>146</b>	<b>0.13</b>

1. Source: TischlerBise Land Use Assumptions.

2. Nonresidential connections found by multiplying total jobs by standard of .13 connections per job.

3. Nonresidential MGD found by multiplying nonresidential connections by 2012 level of service of 906 gallons per nonresidential connection and dividing by 1 million gallons.

The projections for residential and nonresidential wastewater customers and usage were added together to determine the total projections shown in Figure 55. By 2023, it is estimated that there will be 2,226 wastewater customers that use .66 million gallons per day.

**Figure 55: Total Wastewater Customers and Usage, 2013 to 2023**

		Service Unit: Connections			MGD		
		Res Connections	Nonres Connections	Total Connections	Res MGD	Nonres MGD	Total MGD
1	2014	1,542	213	1,755	0.29	0.19	0.48
2	2015	1,542	224	1,767	0.29	0.20	0.49
3	2016	1,542	237	1,779	0.29	0.21	0.50
4	2017	1,542	250	1,793	0.29	0.23	0.51
5	2018	1,594	264	1,858	0.30	0.24	0.54
6	2019	1,648	279	1,927	0.31	0.25	0.56
7	2020	1,703	295	1,998	0.32	0.27	0.58
8	2021	1,760	311	2,071	0.33	0.28	0.61
9	2022	1,819	329	2,148	0.34	0.30	0.64
10	2023	1,879	347	2,226	0.35	0.31	0.66
<b>Ten Yr Increase</b>		<b>337</b>	<b>146</b>	<b>483</b>	<b>0.06</b>	<b>0.13</b>	<b>0.19</b>

**COST RECOVERY OF WASTEWATER DEBT**

ARS 9-463.05(E)(3) requires:

*“A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

Eloy is currently paying off a debt obligation that financed growth-related wastewater improvements, which is shown in Figure 56. The WIFA 2009 debt obligation totaled \$8,841,350 in principal and interest, and funded the refinancing of the WIFA 2002 loan and the construction of a head works facility at the wastewater treatment plant. The WIFA 2002 loan paid for the construction of new lift stations, a 10 inch force main and a 16 inch force main. The WIFA 2002 loan was 47% of the total WIFA 2009 obligation, which is \$3,209,940. Because the WIFA 2002 loan financed growth-related projects, this portion of the 2009 loan is eligible to be paid back for through development fees.

To determine a cost per gallon for this obligation, a growth share was calculated, which represents new development’s projected share of total gallon usage for the remainder of the debt schedule. The growth cost (\$1,382,669) is divided by the projected gallon increase (355,438) over the remaining time of the debt schedule to determine a growth cost per additional gallon of \$3.89.

**Figure 56: Cost Recovery for Growth-Related Wastewater Improvements**

<i>Year Debt Issued or Refinanced</i>	<i>Name of Debt Obligation</i>	<i>FY of Final Payment</i>	<i>Remaining Principal and Interest</i>	<i>% WIFA 2002 Refinance</i>	<i>Remaining WIFA 2002 Refinance</i>
2009	WIFA 2009	2028	\$6,829,661	47%	\$3,209,940

<i>Growth Share*</i>	<i>Growth Cost</i>	<i>Gallon Increase</i>	<i>Growth Cost per Additional Gallon</i>
43.1%	\$1,382,669	355,438	<b>\$3.89</b>

\*WIFA 2009 Growth Share (43.1%) is 1 - (0.47 gallons in 2013/ 0.83 gallons in 2028).

**WASTEWATER FACILITIES DEVELOPMENT FEE**

**Revenue Credit**

A revenue credit is not necessary for the Wastewater Facilities development fees because 10-year growth costs exceed the amount of revenue that is projected to be generated by development fees according to the Land Use Assumptions.

**Development Fees**

The proposed development fees for Wastewater Facilities are shown in Figure 57. The development fee is derived from the average daily wastewater flow per residential unit (187 gallons), multiplied by the cost per gallon of debt (\$3.89). Also, each new customer pays the cost of professional services for preparing the IIP and development fee (\$180.51.)

**Figure 57: Proposed Wastewater Facilities Development Fees**

*Standards:*

<i>Demand Indicators</i>	
ERU Gallons per Average Day	187
<i>Cost Factors per Gallon of Capacity</i>	
Cost Recovery Cost per Gallon	\$3.89
<i>Cost Factors per Customer</i>	
Professional Services	\$180.51

<i>Maximum Supportable Water Facilities Charge</i>						
Residential						
Residential (per dwelling unit)			<b>\$906</b>			
Nonresidential						
Meter Size (inches)		Capacity Ratio <sup>1</sup>	Per Meter	Current Fees	Increase Decrease	% Change
0.75	Displacement	1.00	<b>\$906</b>	\$1,167	(\$261)	-22%
1.00	Displacement	1.67	<b>\$1,392</b>	\$1,985	(\$593)	-30%
1.50	Displacement	3.33	<b>\$2,596</b>	\$3,855	(\$1,259)	-33%
2.00	Compound	5.33	<b>\$4,048</b>	\$6,164	(\$2,116)	-34%
3.00	Compound	10.67	<b>\$7,923</b>	\$12,495	(\$4,572)	-37%

1. AWWA. (2012). M6 Water Meters–Selection, Installation, Testing and Maintenance, Fifth Edition.

**FORECAST OF REVENUES**

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

**Wastewater Facilities Development Fee Revenue**

The top of Figure 58 summarizes the growth related cost of infrastructure in Eloy over the next ten years (approximately \$779,042 for Wastewater Facilities.) Eloy should receive approximately \$633,704 in Wastewater Facilities development fee revenue over the next ten years, if actual development matches the Land Use Assumptions.

**Figure 58: Projected Wastewater Facilities Development Fee Revenue**

<i>Ten-Year Growth-Related Costs for Wastewater Facilities*</i>		
	Cost Recovery of WW Debt	\$758,302
	Professional Services	\$20,740
	<b>Total</b>	<b>\$779,042</b>

		<i>Single Unit</i> <b>\$906</b> <i>per connection</i>	<i>Nonresidential</i> <b>\$2,596</b> <i>per 1.5" connection</i>
<i>Year</i>		<i>Connections</i>	<i>Connections</i>
Base	2013	1,542	191
1	2014	1,542	201
2	2015	1,542	213
3	2016	1,542	224
4	2017	1,542	237
5	2018	1,594	250
6	2019	1,648	264
7	2020	1,703	279
8	2021	1,760	295
9	2022	1,819	311
10	2023	1,879	329
<i>Ten-Yr Increase</i>		<i>337</i>	<i>138</i>
<b>Projected Fees =&gt;</b>		<b>\$305,301</b>	<b>\$358,402</b>
<b>Total Projected Revenues</b>		<b>\$663,704</b>	
<b>Cumulative Net Surplus/ Deficit</b>		<b>(\$115,338)</b>	

\*10 Year cost is cost per gallon multiplied by the projected gallon increase in WW demand.

## APPENDIX A: FORECAST OF REVENUES OTHER THAN FEES

ARS 9-463.05.E.7 requires “A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved Land Use Assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section.”

The required forecast of non-development fee revenue that might be used for growth-related capital costs is shown in Figure A1. General Fund revenues are highlighted in light purple. Highway user taxes are highlighted in green and Water and Sewer revenues are highlighted in light blue. The forecast of revenues for FY2014-15 was provided by City of Eloy. FY2015-16 to FY2018-19 was derived from a linear regression analysis. Historical revenue data for the past ten years, obtained from City of Eloy budget documents were correlated to the growth in population and jobs in Eloy. Projected population plus jobs, from the Land Use Assumptions, is the independent variable that drives each revenue forecast.

**Figure A1: 5-Year Revenue Forecast**

### Forecast of Revenues in Nominal Dollars

	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19
Sales Tax (except construction)	\$4,500,000	\$3,695,250	\$4,331,963	\$4,200,617	\$4,064,543	\$3,923,553
Construction Sales Tax	\$1,120,900	\$988,962	\$852,304	\$710,741	\$564,081	\$412,125
Urban Revenue Sharing	\$1,855,435	\$1,900,000	\$1,730,992	\$1,762,054	\$1,794,235	\$1,827,578
State Sales Tax	\$1,437,045	\$1,465,785	\$1,327,159	\$1,350,020	\$1,373,704	\$1,398,243
<b>Total General Fund Revenues</b>	<b>\$8,913,380</b>	<b>\$8,049,997</b>	<b>\$8,242,417</b>	<b>\$8,023,432</b>	<b>\$7,796,563</b>	<b>\$7,561,500</b>
HURF Revenue	\$1,081,110	\$1,102,730	\$1,016,957	\$1,016,752	\$1,016,539	\$1,016,319
Water Revenue	\$1,827,400	\$1,936,670	\$1,886,478	\$1,883,369	\$1,880,147	\$1,876,809
Sewer Revenue	\$1,070,565	\$1,184,250	\$1,082,696	\$1,094,514	\$1,106,757	\$1,119,443

Source: FY2013-14 from Eloy FY2013-14 Budget. FY2014-15 from planned FY2014-15 budget. FY2015-16 to FY2018-19 projected using linear regression analysis based on FY2004-05 to 2014-15 actual revenues collected and budgets.

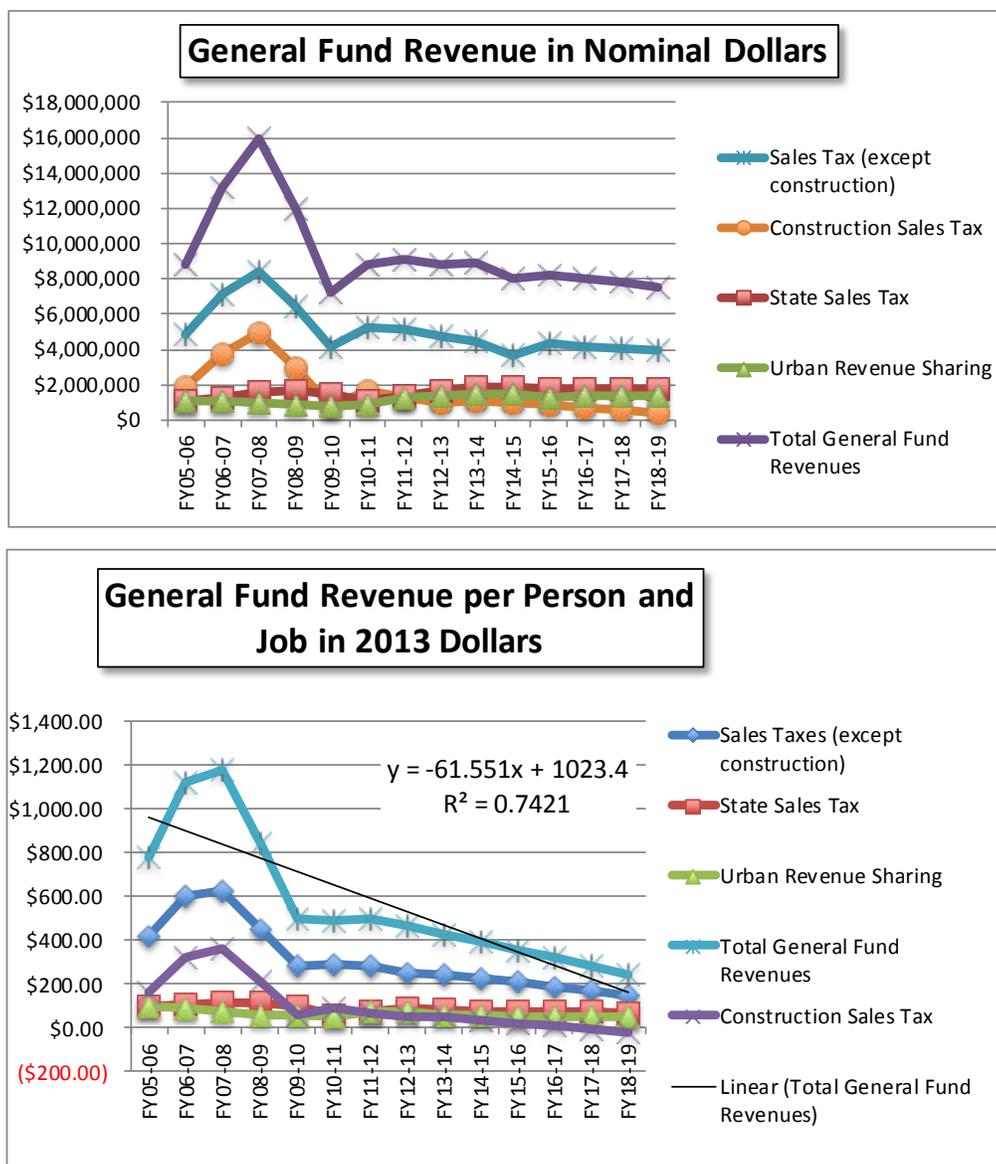
\*Water and Sewer Revenue are Water and Sewer Fund revenue except for transfers from General Fund.

**Overall, projected General Fund, HURF, and utilities will offset by an increase in operating, maintenance, and replacement capital costs, so they will not be available to fund capital projects to**

accommodate new growth, except for the required excess portion of the construction contracting sales tax.

The graph at the top of Figure A3 shows that that General Fund revenues are expected to remain constant over the next five years. When nominal dollars are converted to constant 2013 dollars, to account for inflation, and then divided by persons plus jobs in Eloy, to “normalize” the amounts for population and job growth, the results show a decline in revenue. As shown in the lower portion of Figure A2, projected revenues in constant 2013 dollars are projected to decline relative to population and job growth. The projected General Fund revenue will be offset by an increase in operating, maintenance, and replacement capital costs. In other words, there is no General Fund surplus available for growth-related capital improvements. However, as discussed above, the construction sales tax differential will be applied to growth projects.

Figure A2: General Fund Revenues



The methodology described above was also applied to Highway User Tax revenue, with the results graphed in A3. These revenues are also expected to decline in nominal dollars. HURF revenue is devoted to highway operation and maintenance. The projected HURF revenue will be devoted to this purpose and not to capital projects to accommodate new growth.

**Figure A3: Highway User Fund Taxes**

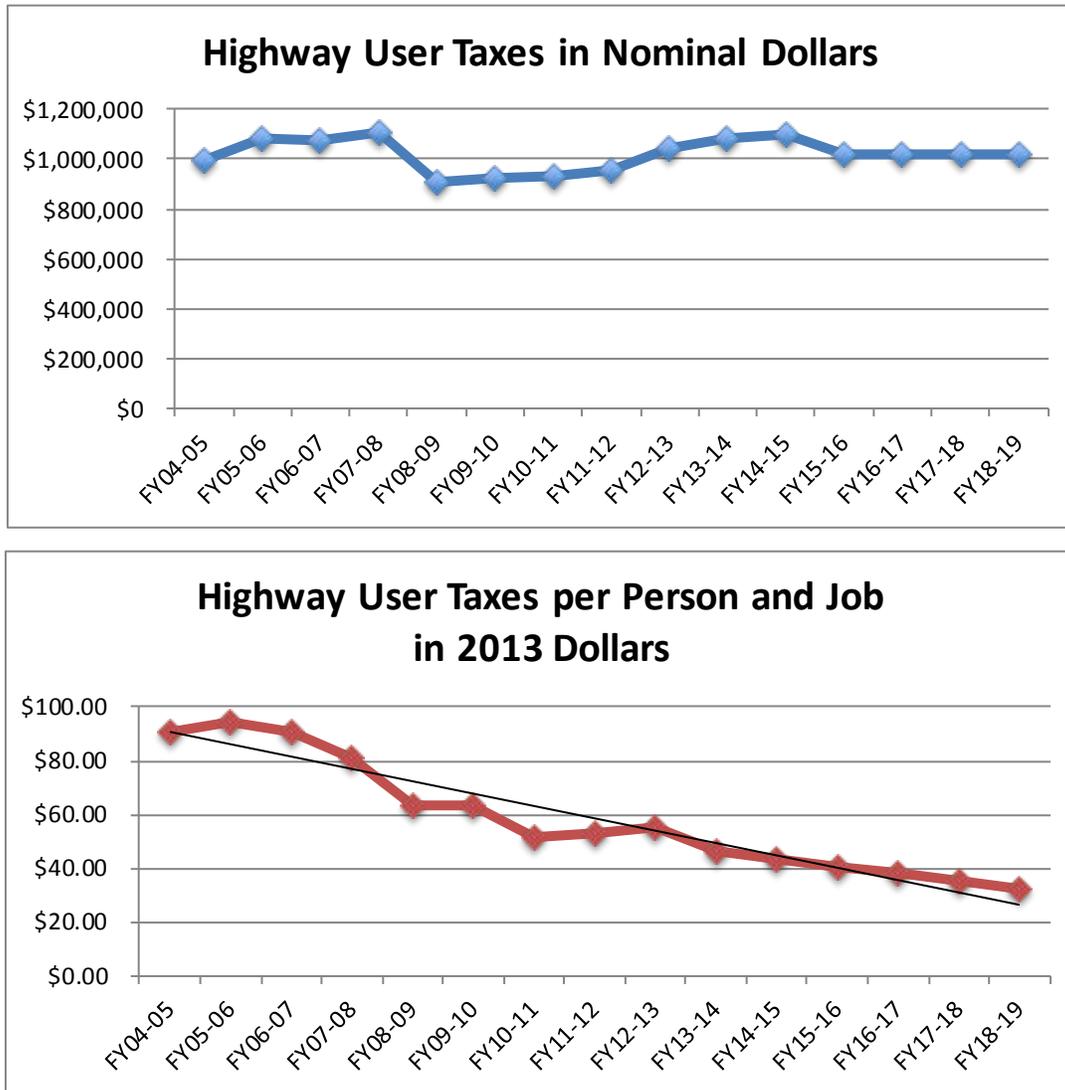
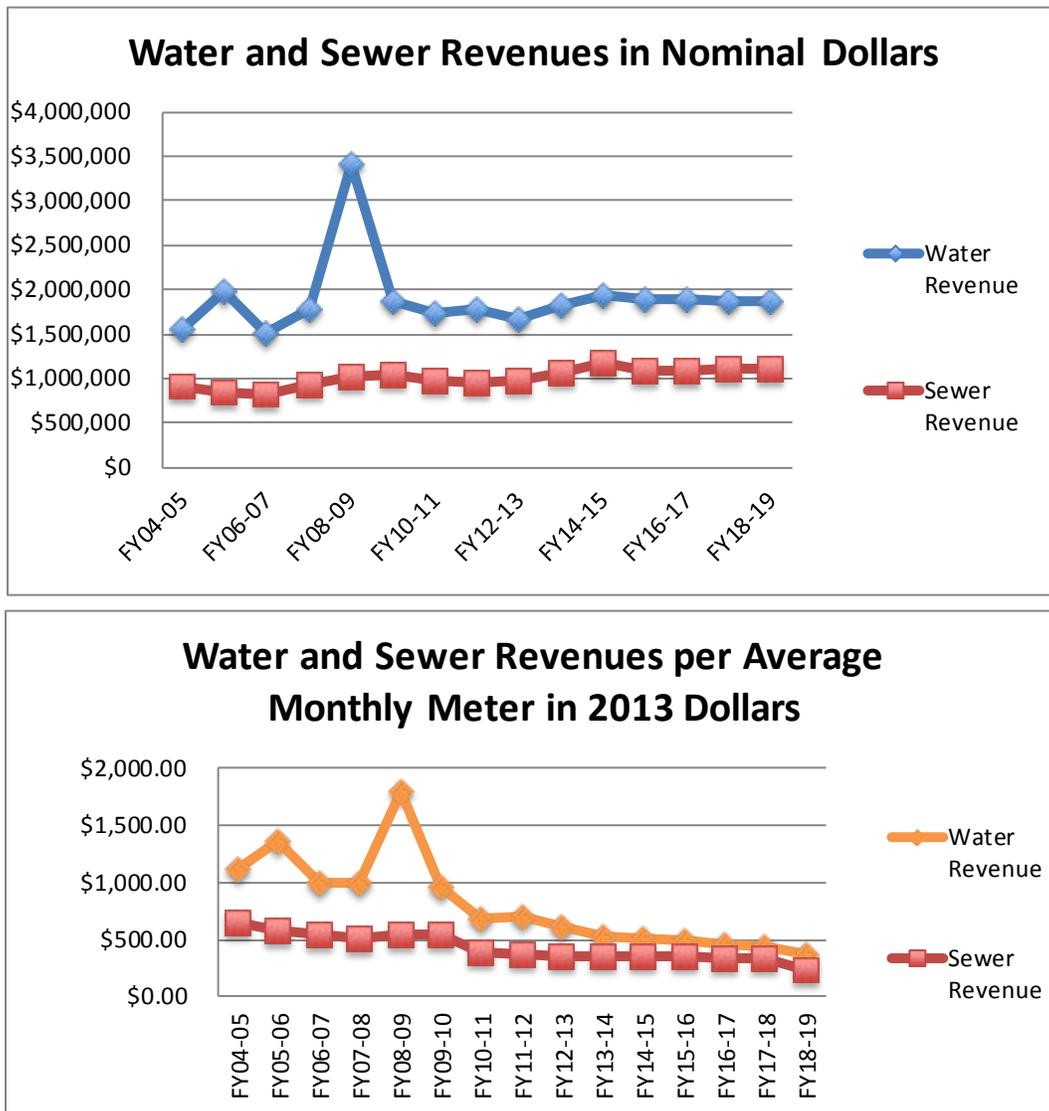


Figure A4 displays past and projected Water and Sewer Fund revenues in nominal dollars, as well as the projected balance per monthly meter in 2013 dollars. These balances are expected to remain constant in nominal dollars and decline slightly when compared to average monthly meter in 2013 dollars. Projected revenues will be used to fund operations and maintenance.

**Figure A4: Water and Sewer Revenues**



ARA 9-463.05.B.12 states, “The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the

entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection.”

The sections quoted above are among the most difficult to interpret, resulting in a range of approaches by municipalities. Set forth below is the method TischlerBise utilized to comply with its understanding of the statutory sections.

Section B.12 modifies and restricts the forecast of contributions to “revenue derived from the property owner.” However, contractors paying the construction excise tax are not typically the long-term property owners. TischlerBise recommends that a practical method for Eloy to comply with the requirements in Sections E.7 and B.12 is to set aside a portion of the City’s construction sales tax revenue to be used exclusively for the capital cost of necessary public services. Therefore, the excess portion is 33% of the total construction sales tax revenue (i.e. 1 minus 3 divided by 4.5). If Eloy annually deposits the excess portion into a separate fund and only uses the money for the capital cost of necessary public services, the City will ensure compliance with Arizona’s enabling legislation. **The City’s policy is to dedicate these funds to street reconstruction and overlay.**

As specified in the last phrase of Section B.12, TischlerBise maintains that Eloy does not need to further reduce development fees because “the excess portion was already taken into account for such purpose” as documented by the following attributes of the City’s 2014 development fee study.

First, the proposed development fees for parks and recreation exclude parks over 30 acres and trails. Accordingly, the future revenues to be derived from the property owner are already factored into the recreation development fees such that further reduction under Section B.12 is not required.

Second, police development fees are conservatively based on existing infrastructure standards, even though Eloy has a low level of service for police facility square footage when compared to other municipalities in the area (such as Coolidge and Casa Grande.)

Third, Eloy has taken a conservative approach by using the plan-based methodology for street development fees. Eloy has a high number of lane miles of arterials and collectors, and using the incremental expansion method would have projected the need for a higher number of lane miles than what is included in the Street Facilities IIP. The Street Facilities IIP currently includes funding for 9.3 lane miles of improvements and 2 traffic signals. Additionally the street development fees are further restricted because a growth share of 28% was applied to the traffic signals, which means that future growth will fund 28% of the cost, as opposed to the entire project.

Fourth, the water development fees apply growth shares of 50% and 46% to the two water debt obligations. The growth shares represent new development’s projected share of total gallon usage for the remainder of the debt schedule. Thus the future revenues to be derived from the property owner are already factored into the water development fees such that further reduction under Section B.12 is not required.

Lastly, the wastewater fees are composed of one debt obligation that has a growth share of 43% applied to it. Again, future revenues have already been included pursuant to Section B.12.

## APPENDIX B: PROFESSIONAL SERVICES

As stated in Arizona’s development fee enabling legislation, “a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan” (see 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience”.

**Figure B1: Cost of Professional Services**

Necessary Public Service	Cost	Assessed Against	Prop. Share	Units	FY2013	FY2018	Change	Cost per Service Unit
Parks and Recreation	\$10,370	Residential	91%	Persons	10,453	12,118	1,665	\$5.67
		Nonresidential	9%	Jobs	1,599	2,100	501	\$1.86
Police	\$10,370	Residential	82%	Persons	10,453	12,118	1,665	\$5.11
		Nonresidential	18%	Nonres Trips	3,985	5,249	1,263	\$1.48
Streets	\$20,740	All Development	100%	Trips	21,666	25,743	4,077	\$5.09
Water	\$20,740	All Development	100%	Customers	2,757	2,931	174	\$119.17
Wastewater	\$20,740	All Development	100%	Customers	1,744	1,858	115	\$180.51
<b>Total</b>	<b>\$82,960</b>							

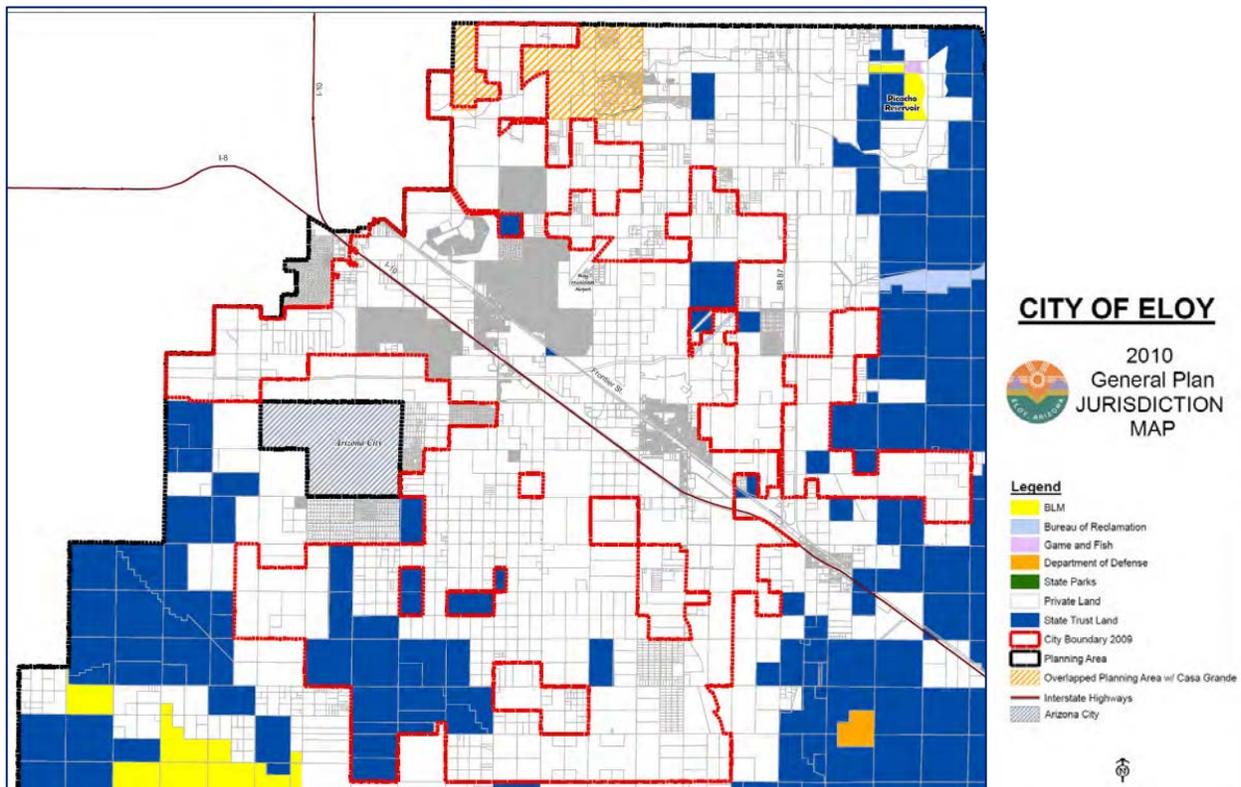
# APPENDIX C: LAND USE ASSUMPTIONS

## INTRODUCTION

### Service Area

The estimates and projections of residential and nonresidential development in this *Land Use Assumptions* document are for areas within the boundaries of the City of Eloy. The map below illustrates the area within the City’s boundaries, shown in red.

Figure C1: Map of City of Eloy Service Area



## SUMMARY OF GROWTH INDICATORS

Arizona Revised Statutes (ARS) 9-463.05 (T)(6) requires the preparation of a *Land Use Assumptions* document which shows:

*“projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality.”*

TischlerBise has prepared this *Land Use Assumptions* document which details current demographic **estimates** and future development **projections** for both residential and nonresidential development that will be used in the infrastructure improvement plan (IIP) and calculation of the development fees. The development projections are used for calculating the level of service to be provided to future development by planned capital projects or existing infrastructure that was oversized in anticipation of

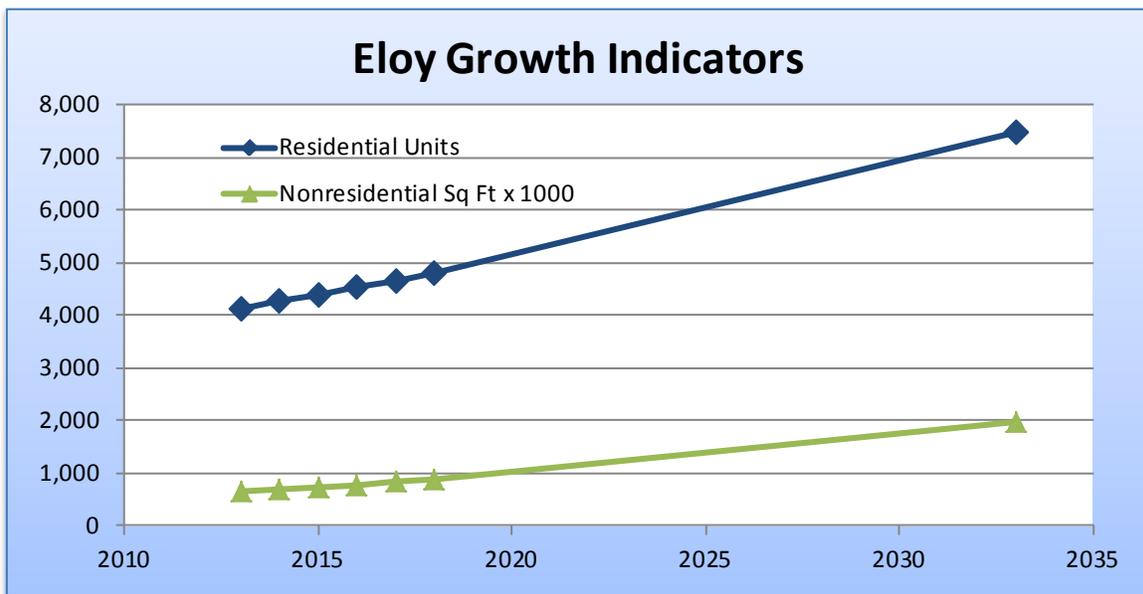
new development. The development projections are also used in forecasting the amount and cost of infrastructure required by new development that will be documented in the cash flow analysis.

Development fee methodologies are designed to reduce sensitivity to accurate development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, development fee revenues will also 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 development fee revenue, but will also need to accelerate the capital improvements program to keep pace with development.

Development projections and growth rates are summarized in Figure C2. Eloy specific base data for the demographic analysis and development projections include 2010 Census calculations of population and housing units and American Community Survey tables. The projected increase in housing units and nonresidential development is based on State of Arizona projections for Pinal County, as well as conversations with City of Eloy staff. The Arizona Revised Statutes (ARS) 9-463.05 requires that “a municipality shall update the land use assumptions and infrastructure improvements plan at least every five years.” Therefore, the development fee study did not vary the persons per housing unit ratio over time, nor assume any change to the residential vacancy rate in Eloy. For housing units, the development fee study assumes a compound annual growth rate of 3.0%. For nonresidential development, the development fee study assumes a compound annual growth rate of 5.6%

**Figure C2: Development Projections and Growth Rates**

	Year							2013 to 2018 Average Annual	
	2013	2014	2015	2016	2017	2018	2033	Increase	Compound Growth Rate
Residential Units	4,135	4,259	4,386	4,518	4,653	4,793	7,467	132	3.0%
Nonresidential Sq Ft x 1000	665	703	742	783	828	875	1,980	42	5.6%



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## RESIDENTIAL DEVELOPMENT

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Current estimates and future projections of residential development are detailed in this section, including housing units by type and peak population.

### Current Estimates of Residential Development

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 in areas with relatively few residents. For cities like Eloy, data on detached housing units are now combined with attached single units (commonly known as townhouses). One way to address this limitation is to derive fees by housing unit size, as discussed further below, is to address this ACS data limitation. Because townhouses and mobile homes generally have less floor area than detached units, fees by housing size would ensure proportionality and may facilitate construction of affordable units.

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. When persons per housing unit are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household are used in the fee calculations, the development fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that development fees for residential development in the City of Eloy be imposed according to the number of year-round residents per housing unit.

Census data indicates that Eloy had 3,691 housing units in 2010. As shown in Figure C3, in 2010, dwellings with a single unit per structure (detached, attached, and mobile homes) averaged 2.79 persons per housing unit. Dwellings in structures with two or more units (including boats, RVs, and vans) averaged 1.53 year-round residents per unit. The total persons per housing unit, including all single and multiple family units, not including persons in group quarters, is 2.53.

**Figure C3: Person per Housing Unit by Type of Housing Unit**

**2007-2011 American Community Survey**

Type	Persons	Households	Housing Units
Single Unit <sup>1</sup>	9,939	3,196	3,777
2+ Units <sup>2</sup>	1,444	673	998
<b>TOTAL</b>	<b>11,383</b>	<b>3,869</b>	<b>4,775</b>

1. Single Unit includes detached, attached, and mobile homes.

2. 2+ Units includes structures with 2 or more units, boats, vans and RVs.

Source: Tables B25024, B25032, and B25033.

2007-2011 American Community Survey, U.S. Census Bureau.

**2010 Census**

Type	Persons	Households	Housing Units	Persons per Housing Unit
Single Unit	8,148	2,465	2,920	<b>2.79</b>
2+ Units	1,184	519	771	<b>1.53</b>
Subtotal	9,332	2,984	3,691	<b>2.53</b>
Group Quarters	7,299			
<b>TOTAL</b>	<b>16,631</b>	<b>2,984</b>	<b>3,691</b>	

1. Single Unit includes detached, attached, and mobile homes.

2. 2+ Units includes structures with 2 or more units, boats, vans and RVs.

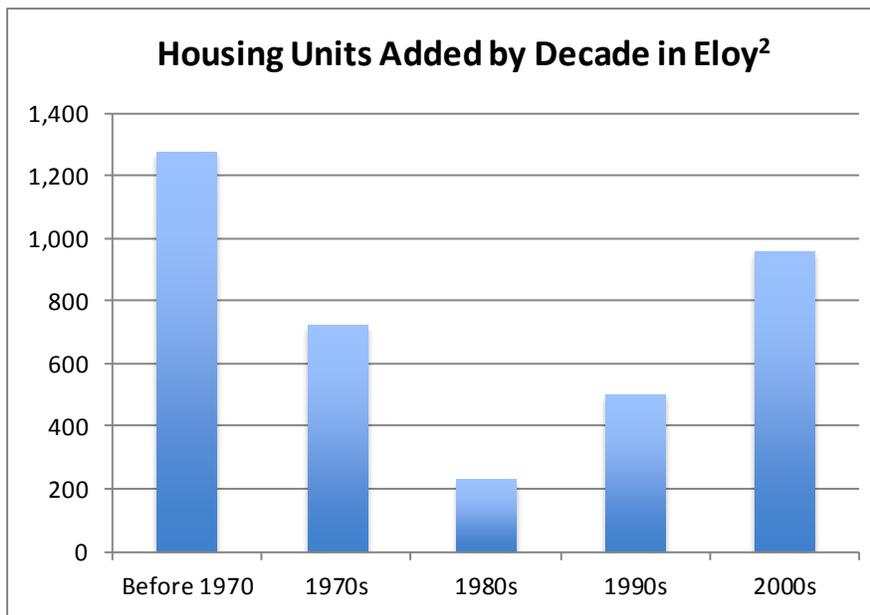
Source: Totals from Summary File 1, U.S. Census.

### Recent Residential Construction

From 2000-2010, Eloy has increased by an average of 96 housing units per year. The chart at the bottom of Figure C4 indicates the estimated number of housing units added by decade in Eloy. Housing units per decade saw a large increase during the 2000’s.

**Figure C4: Housing Units by Decade**

2010 Population <sup>1</sup>	16,631	From 2000 to 2010, Eloy added an average of 96 housing units per year.
2010 Housing Units <sup>1</sup>	3,691	
Total Housing Units in 2000 <sup>1</sup>	2,734	
New Housing Units	957	



1. Census SF1.

2. Source for 1990s and earlier is Table B25034, American Community Survey (2007-2011) scaled to equal total housing units in 2000.

### Population Forecast

To provide context for population and job growth in Eloy, TischlerBise prepared comparisons to Pinal County projections. Using population projections from the Arizona Department of Administration, it is estimated that there will be 733,201 persons in Pinal County in 2033. Because Eloy has a large prison population, the non-prison population as well as total population is shown. The non-prison population will also be referred to as the fee population, because this is what will be used to calculate the development fees.

Eloy 2010 for both categories is from the U.S. Census. Growth of non-prison population uses a 3% exponential growth rate, based on conversations with City of Eloy staff, and is similar to projected growth to Pinal County. The total population is the non-prison population plus 7,299 persons for each year, which was the prison population in 2010. The City share, which includes the prison population, is

displayed at the bottom of the table, which declines over time. (The percentages are rounded, so if applied to the county total will not result in the exact City of Eloy total population.)

**Figure C5: City of Eloy Population Share**

	2010	2012	2013	2015	2020	2025	2030	2033
Pinal County <sup>1</sup>	375,770	387,365	395,624	424,333	493,950	574,990	669,325	733,201
City of Eloy Non-Prison Population (Fee Population) <sup>2</sup>	9,332	10,149	10,453	11,090	12,856	14,904	17,278	18,880
City of Eloy Total Population <sup>2</sup>	16,631	17,448	17,752	18,389	20,155	22,203	24,577	26,179
Remainder of County	359,139	369,917	377,871	405,944	473,795	552,787	644,748	707,022
City Share*	4.43%	4.50%	4.49%	4.33%	4.08%	3.86%	3.67%	3.57%

1. Pinal County estimates from 2012-2050 State and County Population Projections- Medium Series, Arizona Department of Administration, Office of Employment and Population Statistics. An exponential growth formula derived population for years between 2013 and 2033.

2. City of Eloy 2010 and 2012 from U.S. Census. An exponential growth formula assuming 3% growth was used to calculate 2013-2033 non-prison population. The 3% growth rate was determined based on conversations from Eloy City Staff, and aligns with Pinal County growth. The total population is Eloy's projected non-prison population added to a prison population of 7,299, the number of persons in group quarters in 2010.

\*Percentages are rounded. City Share includes prison population.

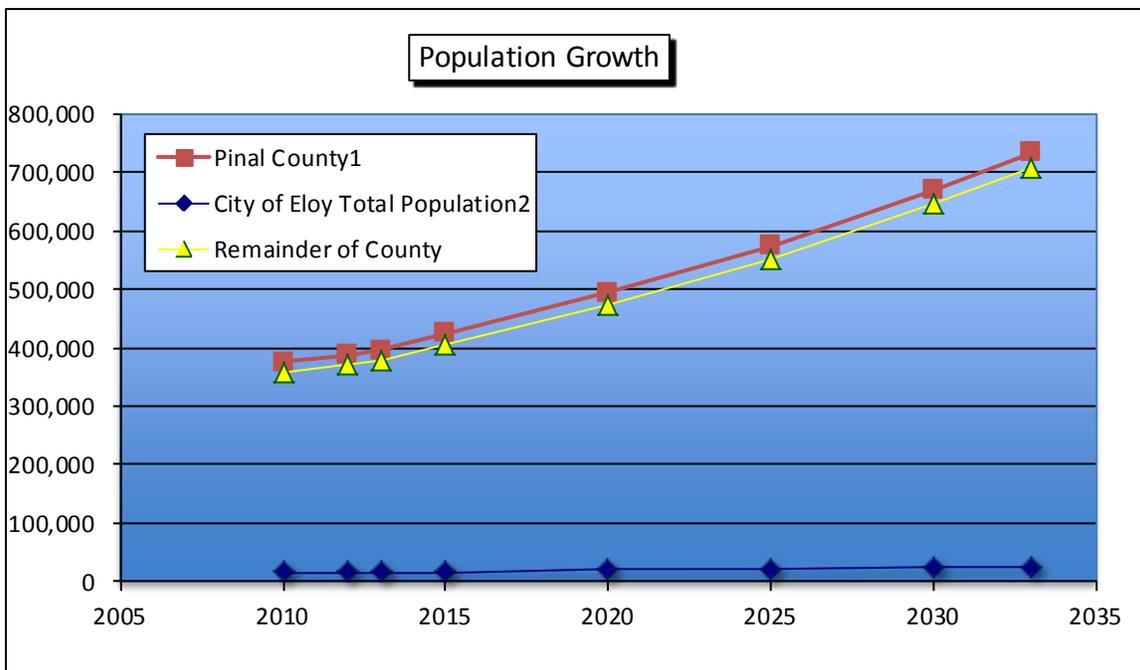


Figure C6 shows the current estimate of housing units in the City of Eloy as well as projected units to 2033. The total number of housing units in 2010 was obtained from the 2010 Census. The division between single units and two or more unit residences is based on the housing unit breakdown in the 2007 – 2011 American Community Survey. Future housing units were found by dividing the projected population by the persons per housing unit in 2010 (2.53).

**Figure C6: City of Eloy Housing Unit Increase**

	2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2033
	Base Yr	1	2	3	4	5	6	7	8	9	10	20	
Non-Prison Population	9,332	10,453	10,767	11,090	11,423	11,765	12,118	12,482	12,856	13,242	13,639	14,049	18,880
Total Population	16,631	17,752	18,066	18,389	18,722	19,064	19,417	19,781	20,155	20,541	20,938	21,348	26,179
<b>Housing Units<sup>1</sup></b>	<b>3,691</b>	<b>4,135</b>	<b>4,259</b>	<b>4,386</b>	<b>4,518</b>	<b>4,653</b>	<b>4,793</b>	<b>4,937</b>	<b>5,085</b>	<b>5,238</b>	<b>5,395</b>	<b>5,557</b>	<b>7,467</b>
Single Unit (79.1%) <sup>2</sup>	2,920	3,271	3,369	3,469	3,574	3,681	3,791	3,905	4,022	4,143	4,267	4,396	5,906
2+ Units (20.9%)	771	864	890	917	944	972	1,002	1,032	1,063	1,095	1,128	1,161	1,561
Persons per Hsg Unit	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
<b>Annual Increase</b>		<b>121</b>	<b>124</b>	<b>127</b>	<b>132</b>	<b>135</b>	<b>140</b>	<b>144</b>	<b>148</b>	<b>153</b>	<b>157</b>	<b>162</b>	<b>217</b>

1. Total housing units in 2010 from U.S. Census. Increase in housing units is based on projected population growth, assuming 2.53 persons per housing unit.
2. Breakdown between units based on division of housing units in 2007-2011 ACS.

**NON-RESIDENTIAL DEVELOPMENT**

**Jobs Forecast**

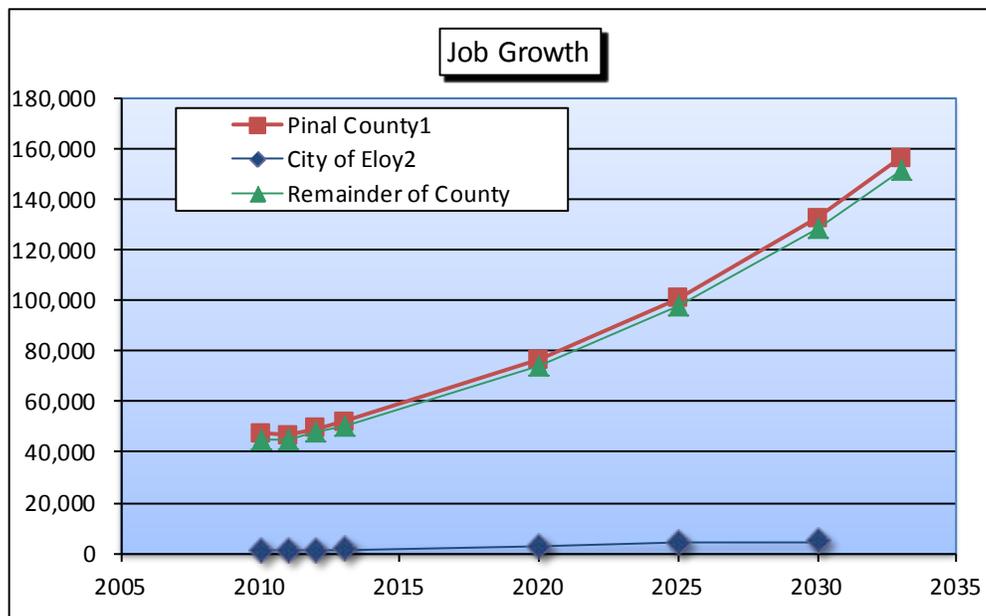
In addition to data on residential development, the calculation of development fees requires data on nonresidential development. TischlerBise uses the term “jobs” to refer to employment by place of work. Similar to the population share evaluation discussed above, countywide jobs are shown in Figure C7 along with the City of Eloy’s share. County data for 2010 and 2011 are from OnTheMap, the U.S. Census Bureau’s web application. OnTheMap estimates journey-to-work jobs used to analyze commuting patterns. Countywide jobs from 2013-2033 are based on a growth rate of 5.6%, which is derived from the AZ Statewide Transportation Planning Framework Study projection for Pinal County. City jobs for 2010 and 2011 also found through OnTheMap. City projections assume the same growth rate as Pinal County. The City share is displayed at the bottom of the table, which declines over time. (The percentages are rounded, so if applied to the county total will not result in the exact City of Eloy job total.)

**Figure C7: City of Eloy Job Share**

	2010	2011	2012	2013	2020	2025	2030	2033
Pinal County <sup>1</sup>	47,315	46,692	49,327	52,111	76,531	100,706	132,518	156,246
City of Eloy <sup>2</sup>	1,985	1,434	1,514	1,599	2,342	3,075	4,038	4,755
Remainder of County	45,330	45,258	47,813	50,512	74,189	97,631	128,480	151,491
City Share*	4.20%	3.07%	3.07%	3.07%	3.06%	3.05%	3.05%	3.04%

1. County 2010 and 2011 from OnTheMap, U.S. Census Bureau web application. Pinal County assumes an exponential growth rate of 5.6%, based on Arizona Statewide Transportation Planning Framework Study, 2010, projection for Pinal County.
2. City of Eloy 2010 and 2011 from OnTheMap, U.S. Census Bureau web application. An exponential growth formula based on Pinal County's growth rate of 5.6% derives the projected jobs to 2033.

\*Percentages are rounded.



### Jobs by Type of Nonresidential Development

Figure C8 indicates the City's 2011 job estimate and nonresidential floor area, estimated using square feet per employee multipliers obtained from the Institute of Transportation Engineers (ITE 2012). The prototype for Commercial is an average-size shopping center. For Office/ Institutional, the development prototype is an average-sized office. The prototype development for Industrial/ Flex jobs is manufacturing. General land use types are based on two-digit industry sectors, with the percentage distribution of jobs by type of development from U.S. Census Bureau's OnTheMap web application.

**Figure C8: Jobs and Floor Area Estimate**

	<i>2011 Jobs</i>	<i>% of Total</i>	<i>Sq Ft per Job</i>	<i>Floor Area</i>
Commercial	272	18.97%	<b>500</b>	136,000
Office/ Institutional	726	50.63%	<b>301</b>	218,526
Industrial/ Flex	436	30.40%	<b>558</b>	243,288
<b>Total</b>	<b>1,434</b>	<b>100%</b>		<b>597,814</b>

\*Percentages are rounded.

In Figure C9, gray shading indicates the nonresidential development prototypes used by TischlerBise to estimate floor area in Eloy.

**Figure C9: Employee and 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
<b>Commercial / Shopping Center</b>						
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500
<b>General Office</b>						
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
<b>Other Nonresidential</b>						
770	Business Park***	1,000 Sq Ft	12.44	4.04	3.08	325
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
565	Day Care	student	4.38	26.73	0.16	na
550	University/College	student	1.71	8.96	0.19	na
540	Community College	student	1.23	15.55	0.08	na
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
254	Assisted Living	bed	2.66	3.93	0.68	na
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
320	Motel	room	5.63	12.81	0.44	na
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	<b>Manufacturing</b>	<b>1,000 Sq Ft</b>	<b>3.82</b>	<b>2.13</b>	<b>1.79</b>	<b>558</b>
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093

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

\*\* Employees per demand unit calculated from trip rates, except for Shopping Center data, which are derived from Development Handbook and Dollars and Cents of Shopping Centers, published by the Urban Land Institute.

\*\*\* According to ITE, a Business Park is a group of flex-type buildings served by a common roadway system. The tenant space includes a variety of uses with an average mix of 20-30% office/commercial and 70-80% industrial/warehousing.

## AVERAGE DAILY VEHICLE TRIPS

### Residential Vehicle Trip Rates

As an alternative to simply using the national average trip generation rate for residential development, the Institute of Transportation Engineers (ITE) publishes regression curve formulas that may be used to derive custom trip generation rates using local demographic data. Key independent variables needed for the analysis (i.e., vehicles available, housing units, households, and persons) are available from the U.S. Census Bureau American Community Survey (ACS) 2010 data for the City of Eloy. This data was used to derive custom average weekday vehicle trip ends by type of housing, as shown in Figure C10. A vehicle trip end represents a vehicle either entering or exiting development, as if a traffic counter were placed across a driveway.

Figure C10: Average Weekday Vehicle Trip Ends by Housing Type in City of Eloy

	Vehicles Available <sup>1</sup>	Households <sup>2</sup>			Vehicles per Household by Tenure
		Single Unit	2+ Units	Total	
Owner-occupied	5,028	2,641	0	2,641	1.90
Renter-occupied	1,001	555	673	1,228	0.82
TOTAL	6,029	3,196	673	3,869	1.56
Housing Units (6) =>		3,777	998	4,775	

Units per Structure	Persons <sup>3</sup>	Trip Ends <sup>4</sup>	Vehicles by Type of Housing	Trip Ends <sup>5</sup>	Average Trip Ends	Trip Ends per Housing Unit
Single Unit	9,939	25,744	5,480	31,675	28,710	<b>7.60</b>
2+ Units	1,444	4,946	549	2,455	3,701	<b>3.71</b>
TOTAL	11,383	30,691	6,029	34,130	32,410	6.79

1. Vehicles available by tenure from Table B25046, American Community Survey, 2007-2011.
2. Households by tenure and units in structure from Table B25032, American Community Survey, 2007-2011.
3. Persons by units in structure from Table B25033, American Community Survey, 2007-2011.
4. Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2012). For single unit housing (ITE 210), the fitted curve equation is  $EXP(0.91 * LN(\text{persons}) + 1.52)$ . To approximate the average population of the ITE studies, persons were divided by 18 and the equation result multiplied by 18. For 2+ unit housing (ITE 220), the fitted curve equation is  $(3.47 * \text{persons}) - 64.48$ .
5. Vehicle trip ends based on vehicles available using formulas from Trip Generation (ITE 2012). For single unit housing (ITE 210), the fitted curve equation is  $EXP(0.99 * LN(\text{vehicles}) + 1.81)$ . To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 21 and the equation result multiplied by 21. For 2+ unit housing (ITE 220), the fitted curve equation is  $(3.94 * \text{vehicles}) + 293.58$ .
6. Housing units from Table B25024, American Community Survey, 2007-2011.

### Nonresidential Vehicle Trip Rates

Vehicle trips rates for nonresidential development are from the reference book, *Trip Generation* published by the Institute of Transportation Engineers (ITE) in 2012.

### Trip Rate Adjustments

Trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed below, additional

adjustments are made to ensure the fees are proportionate to the infrastructure demand for particular types of development.

**Adjustment for Journey-To-Work Commuting**

Residential development in the City has a larger trip adjustment factor of 63 percent to account for commuters leaving Eloy for work. According to the National Household Travel Survey, home-based work trips are typically 31 percent of “production” trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, data from the US Census Bureau indicates that 86 percent of Eloy’s workers travel outside the City for work. In combination, these factors (0.31 x 0.50 x 0.86 = 0.13) account for 13 percent of additional production trips. The total adjustment factor for residential includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (13 percent of production trips) for a total of 63 percent. This is shown in Figure C11.

**Figure C11: Adjustment for Journey-to Work Commuting**

<b>Trip Adjustment Factor for Commuters</b>	
Employed Eloy Residents (2011)	3,475
Eloy Residents Working in City (2011)	487
Eloy Residents Commuting Outside City for Work	2,988
<b>Percent Commuting out of the City</b>	<b>86%</b>
Additional Production Trips	13%
<b>Residential Trip Adjustment Factor</b>	<b>63%</b>

Source: U.S. Census, OnTheMap Application (version 6.1)  
 Longitudinal-Employer Household Dynamics (LEHD) Program; ITE

According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of “production” trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, Census Bureau's web application "OnTheMap" indicates that 86 percent of Eloy's workers travel outside the City for work. In combination, these factors (0.31 x 0.50 x 0.86 = 0.13) account for 13 percent of additional production trips. The total adjustment factor for residential includes attraction trips (50% of trip ends) plus the journey-to-work commuting adjustment (13% of production trips) for a total of 63 percent.

**Adjustment for Pass-By Trips**

The basic trip adjustment factor of 50 percent is applied to the Industrial, Office and Institutional categories. The Retail category has a trip factor of less than 50 percent because this type of development attracts vehicles as they pass-by on arterial and collector roads. For an average size shopping center, the ITE manual indicates that an average size shopping center has a pass-by rate of 34 percent.

**Estimated Vehicle Trips in Eloy**

As shown in Figure C12, there is an average of 21,666 vehicle trips generated by existing development in the City of Eloy on an average weekday. As the table indicates, residential development is estimated to

generate 17,680 vehicle trips compared to 3,985 vehicle trips generated by nonresidential development. An example of the calculation is as follows for detached units: 3,271 single units x 7.60 vehicle trips per day per unit x 63% adjustment factor = 15,661 total vehicle trips per day from single units in the City.

**Figure C12: Average Daily Trips**

<b>2013 Residential Vehicle Trips Average Weekday</b>			
<b>Residential Units</b>		Assumptions	
Single Unit		3,271	
2+ Units		864	
<b>Average Weekday Vehicle Trip Ends per Unit</b>		<i>Trip Rate</i>	<i>Adj. Factor</i>
Single Unit		7.60	63%
2+ Units		3.71	63%
<b>Residential Vehicle Trip Ends Average Weekday</b>			
Single Unit		15,661	
2+ Units		2,020	% of total
<b>Total Residential Trips</b>		<b>17,680</b>	<b>82%</b>
<b>2013 Nonresidential Vehicle Trips Average Weekday</b>			
<b>Nonresidential Gross Floor Area (1,000 sq. ft.)</b>		Assumptions	
Commercial		151	
Office/ Institutional		243	
Industrial/ Flex		271	
<b>Average Weekday Vehicle Trips Ends per 1,000 Sq. Ft. <sup>1</sup></b>		<i>Trip Rate</i>	<i>Adj. Factor</i>
Commercial		42.70	33%
Office/ Institutional		11.03	50%
Industrial/ Flex		3.82	50%
<b>Nonresidential Vehicle Trips Average Weekday</b>			
Commercial		2,128	
Office/ Institutional		1,340	
Industrial/ Flex		518	% of total
<b>Total Nonresidential Trips</b>		<b>3,985</b>	<b>18%</b>
<b>TOTAL TRIPS</b>		<b>21,666</b>	

1. Trip rates are from the Institute of Transportation Engineers (ITE) Trip Generation Manual (2012).

**DETAILED DEVELOPMENT PROJECTIONS**

Demographic data shown in Figure C13 provides key inputs for updating development fees in the City of Eloy. Cumulative data are shown at the top and projected annual increases by type of development are shown at the bottom of the table. As discussed earlier, TischlerBise recommends the use of persons per housing unit to derive development fees. Therefore, vacancy rates and number of households are not essential to the demographic analysis.

**Figure C13: Annual Demographic Data**

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2033
	Base Yr	1	2	3	4	5	6	7	8	9	10	20
Total Population (inc. prison)	17,752	18,066	18,389	18,722	19,064	19,417	19,781	20,155	20,541	20,938	21,348	26,179
Fee (non-prison) Population	10,453	10,767	11,090	11,423	11,765	12,118	12,482	12,856	13,242	13,639	14,049	18,880
Jobs	1,599	1,689	1,783	1,883	1,989	2,100	2,217	2,342	2,473	2,611	2,758	4,755
Housing Units	4,135	4,259	4,386	4,518	4,653	4,793	4,937	5,085	5,238	5,395	5,557	7,467
<i>Single Unit</i>	3,271	3,369	3,469	3,574	3,681	3,791	3,905	4,022	4,143	4,267	4,396	5,906
<i>2+ Units</i>	864	890	917	944	972	1,002	1,032	1,063	1,095	1,128	1,161	1,561
Jobs to Housing Ratio	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.50	0.64
Persons per Hsg Unit	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
<b>Nonres Sq Ft in thousands (KSF)</b>												
Commercial	151	160	169	178	188	199	210	222	234	247	261	450
Office/ Institutional	243	257	271	286	303	320	337	356	376	397	420	724
Industrial/ Flex	271	286	302	319	337	356	376	397	419	443	467	806
Total	665	703	742	783	828	875	923	975	1,029	1,087	1,148	1,980
Avg Sq Ft Per Job	416	416	416	416	416	417	416	416	416	416	416	416
												<b>2013-33</b>
<b>Annual Increase</b>	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	<b>Avg Anl</b>
Population	304	314	323	333	343	353	364	374	386	397	409	401
Jobs	85	90	95	100	105	111	118	124	131	138	146	150
Housing Units	121	124	127	132	135	140	144	148	153	157	162	159
Commercial KSF	8	9	9	9	10	11	11	12	12	13	14	14
Office/ Institutional KSF	13	14	14	15	17	17	17	19	20	21	23	23
Industrial/ Flex KSF	15	15	16	17	18	19	20	21	22	24	24	25
		38	39	41	45	47	48	52	54	58	61	63