DRAFT – Development Fees, Infrastructure Improvements Plan, and Land Use Assumptions

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EXECUTIVE SUMMARY

The City of Maricopa has engaged TischlerBise to update its Infrastructure Improvements Plan and development fees for several categories pursuant to Arizona Revised Statutes 9-463.05. Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality associated with providing necessary public services to a development. The development fees must be based on an Infrastructure Improvements Plan. Development fees cannot be used for, among other things: projects not included in the Infrastructure Improvements Plan, projects related to existing development, or costs related to operations and maintenance.

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

- Library Facilities
- Parks and Recreational Facilities
- Police Facilities
- Fire Facilities
- Streets 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.

Governor Brewer signed SB 1525 into law on April 26, 2011. This update of the City's development fees will be in compliance with all of the new requirements of SB 1525.

NECESSARY PUBLIC SERVICES

The City of Maricopa currently collects development fees for the following infrastructure categories:

- Parks
- Library

- Streets
- Police
- Fire

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 Facilities
- Wastewater Facilities
- Storm Water, Drainage, and Flood Control Facilities
- Library Facilities
- Streets Facilities
- Fire and Police Facilities
- Neighborhood Parks and Recreational Facilities
- 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:

> Element #1: A description of the existing necessary public services in the service area and the cost to update, 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.
>
> Element #2: 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.
>
> Element #3: 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.
>
> Element #4: 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.

Element #5: 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.

Element #6: The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.

Element #7: 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.

SUMMARY OF CURRENT AND PROPOSED DEVELOPMENT FEES

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)
Library		Buildings	
Parks & Recreation	Copper Sky Regional Park	Park Improvements	
Police		Buildings, Vehicles, and Communication Equipment	
Fire		Vehicles and Communication Equipment	Fire Stations
Streets			Lane Miles of Arterials and Intersection Improvements

Maricopa's current development fees are shown in Figure 2.

Figure 2: Current Development Fees

Land Use	Library	Parks and Recreation	Police	Fire	Streets	TOTAL
Residential (per Housing Unit)						
Single Unit	$17	$1,323	$68	$836	$2,589	**$4,833**
2+ Units	$14	$1,062	$55	$672	$1,799	**$3,602**
Nonresidential (per Square Foot)						
Industrial	$0	$0	$0.17	$0.79	$1.16	**$2.12**
Commercial	$0	$0	$0.71	$3.22	$4.30	**$8.23**
Institutional	$0	$0	$0.57	$1.24	$3.77	**$5.58**
Office	$0	$0	$0.57	$1.24	$3.77	**$5.58**
Business Park	$0	$0	$0.32	$1.44	$2.12	**$3.88**
Warehousing	$0	$0	$0.09	$0.40	$0.59	**$1.08**
Manufacturing	$0	$0	$0.10	$0.43	$0.64	**$1.17**
Hotel (per room)	$0	$0	$141	$636	$936	**$1,713**

Figure 3 provides a summary schedule of the proposed development fees for Maricopa. Fees for residential development are per housing unit and fees for nonresidential development are per square foot of floor area.

Figure 3: Proposed Development Fees

Land Use	Library	Parks and Recreation	Police	Fire	Streets	Total
Residential (per Housing Unit)						
Single Unit	$90	$1,080	$300	$650	$3,090	**$5,210**
2+ Units	$60	$770	$210	$460	$2,150	**$3,650**
Nonresidential (per 1000 sq ft of floor area)						
Industrial	$0	$0	$0.02	$0.12	$1.06	**$1.19**
Commercial	$0	$0	$0.07	$0.10	$3.89	**$4.06**
Institutional	$0	$0	$0.02	$0.05	$1.55	**$1.62**
Office	$0	$0	$0.03	$0.17	$1.68	**$1.88**
Business Park	$0	$0	$0.03	$0.16	$0.95	**$1.14**
Warehousing	$0	$0	$0.01	$0.05	$0.27	**$0.32**
Manufacturing	$0	$0	$0.01	$0.09	$0.29	**$0.39**
Hotel (per Room)	$0	$0	$10	$20	$430	**$460**

The table below shows the difference between the current and proposed fees.

Figure 4: Difference Between Current and Proposed Fees

Land Use	Library	Parks and Recreation	Police	Fire	Streets	Total Fees
Residential (per Housing Unit)	Increase/ (Decrease)					
Single Unit	$73	($243)	$232	($186)	$501	$377
2+ Units	$46	($292)	$155	($212)	$351	$48
Nonresidential (per 1000 sq ft of floor area)	Increase/ (Decrease)					
Industrial	$0	$0	($0.15)	($0.67)	($0.10)	($0.93)
Commercial	$0	$0	($0.64)	($3.12)	($0.41)	($4.17)
Institutional	$0	$0	($0.55)	($1.19)	($2.22)	($3.96)
Office	$0	$0	($0.54)	($1.07)	($2.09)	($3.71)
Business Park	$0	$0	($0.29)	($1.28)	($1.17)	($2.74)
Warehousing	$0	$0	($0.08)	($0.35)	($0.32)	($0.76)
Manufacturing	$0	$0	($0.09)	($0.34)	($0.35)	($0.78)
Hotel (per Room)	$0	$0	($131)	($616)	($506)	($1,253)

LIBRARY

OVERVIEW

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

"Library facilities of up to ten thousand square feet that provide a direct benefit to development, not including equipment, vehicles or appurtenances."

The Library Facilities IIP includes components for library facilities and the cost of preparing the Library Facilities IIP and Development Fees. The incremental expansion methodology is used to calculate the library facilities component.

SERVICE AREA

The City has one main library. Given the centralized nature of this facility, the service area for the Library Facilities IIP is citywide.

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 Library Facilities IIP and development fees are assessed only on residential development as this type of development creates 100% of the burden for additional library facilities. Nonresidential development does not create additional burden for library facilities, thus its proportionate share is 0% and is not assessed this IIP and development fees.

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."*

Maricopa has one main library, which opened in 2009, that is 7,645 square feet. Dividing the total square feet by the current population of 46,519 persons results in a level of service of 0.16 square feet per person. The cost of construction for the City Hall Complex, which is a similar structure, was $210 per square foot. Applying this cost to the level of service creates a cost per person of $34.51.

Figure 5: Incremental Expansion – Library Facilities

Site	*Square Feet*
Library	7,645
Total	**7,645**

Cost per Sq Ft[1]	**$210**

1. Cost per Square Foot of City Hall Complex.

2013 Service Units	LOS: Sq Ft per Service Unit	Cost per Service Unit
46,519 Persons	0.16 sq ft per person	**$34.51 per person**

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 6 displays the ratio of a service unit to various types of land uses for residential development

Figure 6: Library Ratio of Service Unit to Land Use

Type	Persons per Housing Unit[1]
Single Unit	2.61
2+ Units	1.85

1. TischlerBise Land Use Assumptions, 8/16/2013.

PROJECTED DEMAND FOR SERVICES AND COSTS

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)(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 Land Use Assumptions projects an additional 22,333 persons over the next ten years. These projected service units are multiplied by the current levels-of-service for library facilities. This new development will demand an additional 3,670 square feet of libraries. This ten-year total of projected library facility demand is multiplied by the cost per square foot to determine the total cost to accommodate the projected demand, which is $770,734.

Figure 7: Projected Demand for Library Facilities

	Facilities	
LOS	0.16	sq feet per person
Cost	$210	per square foot

			Projected Demand
		Projected Demand Units: Persons	Facilities (square feet)
Base	2013	46,519	7,645
1	2014	48,147	7,913
2	2015	49,832	8,190
3	2016	51,577	8,476
4	2017	53,382	8,773
5	2018	55,250	9,080
6	2019	57,736	9,488
7	2020	60,335	9,915
8	2021	63,050	10,362
9	2022	65,887	10,828
10	2023	68,852	11,315
Ten Yr Total		**22,333**	**3,670**
Cost of Facility Improvements			$770,734

Figure 8 displays the funding plan for a new main library in Maricopa. As shown below, the library will cost a total of $15,227,816, and $800,000 of this will come from development fees.

Figure 8: Main Library Construction Funding

Funding Sources	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	FY18-23	Total
Parks Bond	-	-	-	-	-	13,900,000	**$ 13,900,000**
Library DIF	-	-	-	-	-	800,000	**$ 800,000**
General Governmental CIP	-	-	-	-	-	527,816	**$ 527,816**
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 15,227,816**	**$ 15,227,816**

PROPOSED FEE

The proposed development fees for Library Facilities are shown in the figure below.

Figure 9: Proposed Library Facilities Development Fees

Cost per Person	
Incremental Expansion	
Facilities	$34.51
IIP and Dev Fee Study	$1.87
Total Net Cost per Person	**$36.38**

Residential (per housing unit)	*Persons per Housing Unit*	***Proposed Fee***	*Current Fee*	*Increase (Decrease)*
Single Unit	2.61	**$90**	$17	$73
2+ Units	1.85	**$60**	$14	$46

CASH FLOW ANALYSIS

The cash flow summary shown in Figure 10 provides an indication of the development fee revenue and expenditures necessary to meet the demand for eligible Library Facilities.

Figure 10: Library Facilities Cash Flow Summary

Library Facilities	
Development Type	**10 Year Revenue (In Thousands)**
Single Unit	$701
2+ Units	$64
TOTAL REVENUE	**$765**
Capital Costs	**10 Year Expenditures (In Thousands)**
Library Facilities	$771
IIP and Dev. Fee Study	$16
TOTAL EXPENDITURES	**$787**

PARKS AND RECREATIONAL FACILITIES

OVERVIEW

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 Copper Sky Regional Park, park improvements and the cost of preparing the Parks and Recreational Facilities IIP and development fees. The cost recovery methodology is used to calculate the Copper Sky Regional Park portion and the incremental expansion methodology is used to calculate the park improvements portion.

SERVICE AREA

The City of Maricopa plans to provide a uniform level-of-service and equal service for parks and recreational facilities throughout the City.

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 Parks and Recreational IIP and development fees are assessed only on residential development as this type of development creates 100% of the burden for additional parks and recreational facilities. Nonresidential development does not create additional burden for parks and recreational facilities, thus its proportionate share is 0% and is not assessed this IIP and development fees.

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."*

The City of Maricopa issued debt in 2010 to fund the Copper Sky Regional Park, which includes a park, multigenerational center, and an aquatic center. As new development utilizes its proportionate share of the available capacity of Copper Sky Regional Park, the City plans to have new development pay for its share of the remaining debt. Thus, the cost recovery methodology is used, and the growth share is based on projected persons at the end of the bond term in 2030. The growth share of the remaining principal and interest is 50%, which represents new growth's share of the total population in 2030. To calculate the cost per demand unit, the remaining principal and interest is multiplied by the growth share. Then, this amount is divided by the increase in persons and jobs from 2013-2030 to obtain a cost per person of $254.96.

Figure 11: Cost Recovery – Copper Sky Regional Park

Name of Debt Obligation	*Year of Debt Obligation*	*FY of Final Payment*	*Remaining Principal and Interest**	*Growth Share***	*Growth Cost*
Copper Sky Regional Park	2010	2030	$23,889,327	50%	$12,028,726

* Does not include vehicles and equipment.

** formula is 1- [(46,519 residents in 2013)/(93,698 residents in 2030)].

Increase		Cost per Demand Unit	
47,179	**persons**	**$254.96**	**per person**

The City currently maintains one park to serve the population, Pacana Park, which is 28 acres. The inventory is shown below. The current level of serve is 0.60 acres per person. The cost to develop unimproved land for Copper Sky Regional Park, which is currently under construction, is approximately $265,000 per acre. This cost includes design, construction, landscaping, amenities, restrooms, concession stands, and maintenance buildings. It does not include the multi-generational center. Multiplying this cost by the level of service results in a park improvement cost per person of $159.65. The cost to purchase land is not included in the cost per acre because no major land purchases are planned by the City, and future park land will be acquired through development agreements.

Figure 12: Incremental Expansion - Parks Improvements

Improved Citywide Parks	*Total Acres*
Pacana Park	28
TOTAL	**28**

Improvement Cost per Acre[1]	**$265,000**

1. Improvement Cost per Acre of Copper Sky Regional Park.

Level of Service (LOS) Standards

Total Park Acres	28
2013 Maricopa Population	46,519
LOS: Acres per 1,000 Persons	***0.60***

Cost Analysis

LOS	0.60
Park Cost per Person	***$159.65***

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."*

The following table displays the level of service of each parks and recreation facilities element compared to residential land use.

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

Type	Persons per Housing Unit
Single Unit	2.61
2+ Units	1.85

PROJECTED DEMAND FOR SERVICES AND COSTS

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)(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 Land Use Assumptions projects an additional 22,333 persons over the next ten years. This projected service unit is multiplied by the current levels-of-service for the IIP component. New development will demand an additional 13 acres of park improvements. This total multiplied by the respective cost of $265,000 per acre results in a total of $3,565,383 for parks improvements to accommodate projected demand. Park improvements include design and construction of raw land acquired for parks, as well as amenities, restrooms, maintenance buildings, and landscaping.

Figure 14: Projected Demand for Park and Recreational Park Improvements

	Park Improvements	
LOS	0.60	acres per 1000 persons
Cost	$265,000	per acre - improvements

			Projected Demand
		Projected Demand Units: Persons	Park (acres)
Base	2013	46,519	28
1	2014	48,147	29
2	2015	49,832	30
3	2016	51,577	31
4	2017	53,382	32
5	2018	55,250	33
6	2019	57,736	35
7	2020	60,335	36
8	2021	63,050	38
9	2022	65,887	40
10	2023	68,852	41
	Ten Yr Total	**22,333**	**13**
Cost of Park Improvements			$3,562,143

PROPOSED FEE

The proposed development fees for Parks and Recreational Facilities are shown in Figure 15. The development fee is calculated by multiplying the number of persons per housing unit by the total cost per person of each component of the fee.

Figure 15: Proposed Parks and Recreational Facilities Development Fees

Cost per Person		*% of Total*
Cost Recovery for Debt Service		
Copper Sky Regional Park	$261.37	*62%*
Incremental Expansion		
Parks Improvements	$159.65	*38%*
IIP and Dev. Fee Study	$2.26	*1%*
Total Net Cost per Person	**$423.28**	*100%*

Residential (per housing unit)	*Persons per Housing Unit*	***Proposed Fee***	*Current Fee*	*Increase (Decrease)*
Single Unit	2.61	**$1,100**	$1,323	($223)
2+ Units	1.85	**$780**	$1,062	($282)

CASH FLOW ANALYSIS

The cash flow summary shown in Figure 16 provides an indication of the development fee revenue and expenditures necessary to meet the demand for growth-related park facilities. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the development fee revenue and capital costs.

Figure 16: Parks and Recreational Facilities Cash Flow Summary

Parks and Recreational Facilities	
Development Type	**10 Year Revenue (In Thousands)**
Single Unit	$8,416
2+ Units	$818
TOTAL REVENUE	**$9,234**
Capital Costs	**10 Year Expenditures (In Thousands)**
Park Improvements	$3,562
Growth Cost of Debt Service	$12,029
IIP and Dev. Fee Study	$17
TOTAL EXPENDITURES	**$15,608**

POLICE FACILITIES

OVERVIEW

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 and officer equipment, and the cost of preparing the Police Facilities IIP and Development Fees. Incremental expansion is used to calculate the facilities and vehicle and officer equipment elements of the Police Facilities IIP and Development Fees.

SERVICE AREA

The City's networks of police stations are planned and operate as an integrated network. As a result, the Police Facilities IIP is citywide.

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. The Police Facilities IIP and Development Fee uses a functional population concept to allocate the demand between residential and nonresidential development. The demand for police infrastructure is the result of the presence of persons at a land use. The functional population methodology estimates time at home versus time at work and accounts for commuting patterns in Maricopa. According to 2011 Census data, 92% of workers living in the City go to work outside of the City. There is also some in-migration of non-resident workers into the City. According to the functional population analysis, residential development accounts for 98% of the demand for police facilities and assets and nonresidential development accounts for 2% of the infrastructure demand.

Figure 17: Proportionate Share

	Demand Units in 2011		Demand Hours/Day	Person Hours
Residential				
	Population* 44,450			
57%	Residents Not Working	25,320	24	607,680
43%	Resident Workers**	19,130		
5%	Worked in City**	1,020	16	16,320
95%	Worked Outside City**	18,110	16	289,760
			Residential Subtotal	913,760
			Residential Share =>	**98%**
Nonresidential				
	Jobs Located in City**	2,241		
	Residents Working in City**	1020	8	8,160
	Non-Resident Workers (inflow commuters)	1,221	8	9,768
			Nonresidential Subtotal	17,928
			Nonresidential Share =>	**2%**
			TOTAL	931,688

** 2011 count, U.S. Census Bureau.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.*

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."*

The Police Department has 12,000 square feet of facilities, which includes the recently completed City Services Complex. The incremental expansion methodology is used to calculate the facility portion of the fee, with new development maintaining the current infrastructure standards.

The level of service for residential development is 0.25 square feet per person and the nonresidential level of service is 0.01 square feet per vehicle trip (average weekday inbound trip to nonresidential development). This results in a cost of $58.90 per person and $2.49 per trip.

Figure 18: Incremental Expansion –Facilities

Site	*Square Feet*	*Total Cost* [1]
City Services Complex - Police	12,000	$2,800,000

1. Police Portion of City Services Complex.

Cost Per Square Foot[1]	**$233**

	Proportionate Share	**2013 Service Units**	**LOS: Square Feet per Service Unit**	**Cost per Service Unit**
Residential	98%	46,519 persons	0.25 sq ft per person	**$58.90 per person**
Nonresidential	2%	22,448 vehicle trips to nonres dev.	0.01 sq ft per trip	**$2.49 per trip**

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

The City currently has 183 units of police vehicles and communication equipment for officers. Based on the current inventory, the proportionate share factors, and current development, the existing LOS for police units is 3.86 units per thousand persons and 0.16 units per thousand vehicle trips to nonresidential development. The average cost of a police unit is $14,800. Using this average cost, the cost per person of a police unit is $57.06 and the cost per vehicle trip to nonresidential development of a police unit is $2.41, as shown in Figure 19.

Figure 19: Incremental Expansion – Police Vehicles and Officer Equipment

*Item**	#	*Unit Cost*	*Total*
Marked SUV	9	$40,000	$360,000
Unmarked SUV	3	$35,000	$105,000
Marked Cars	35	$30,000	$1,050,000
Unmarked Cars	5	$25,000	$125,000
Motorcycles	5	$18,000	$90,000
Live Scan Fingerprinter	1	$37,333	$37,333
Interface - Dispatch	1	$11,222	$11,222
Dispatching Console	1	$34,410	$34,410
Comm. and Officer Equipment	123	$7,296	$897,400
Total	**183**		**$2,710,365**
Average Unit Cost	**$14,800**		

*Items do not include those used for administrative purposes.

Source: Maricopa Police Department Staff.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	98%		2%	
2013 Service Units	46,519	persons	22,448	vehicle trips to nonres dev.
Infrastructure per Service Unit	**3.86**	**units per 1000 persons**	**0.16**	**units per 1000 trips**
Vehicle and Officer Equipment Cost per Service Unit	**$57.06**	**per person**	**$2.41**	**per trip**

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 20 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.

Nonresidential development fees are calculated using trips as the demand 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/warehouse 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 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 retain 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 20: Police Ratio of Service Unit to Land Use

Residential Development	
Land Use	**Persons per Housing Unit**
Single Unit	2.61
2+ Units	1.85

Nonresidential Development per KSF			
Land Use	**Weekday Trip Ends (a)[2]**	**Trip Adjustment (b)[3]**	**Inbound Vehicle Trips (a X b)**
Industrial	6.97	50%	3.49
Commercial	42.70	33%	14.09
Institutional	15.43	33%	5.09
Office	11.03	50%	5.52
Business Park	12.44	50%	6.22
Warehousing	3.56	50%	1.78
Manufacturing	3.82	50%	1.91
Hotel (per room)	5.63	50%	2.82

(a) Trip Generation, Institute of Transportation Engineers, 2012.

(b) 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.)

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."*

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 Land Use Assumptions projects an additional 22,333 persons and 11,081 trips over the next ten years. This new development will demand an additional 5,764 square feet of police facilities and 28 units of vehicles and officer equipment. 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 28 additional units of vehicles and officer equipment. This is multiplied by the average cost of $14,600 per unit to determine the total cost of vehicle and officer equipment improvements to be $1,262,060. This calculation was repeated for to determine a 10 year cost of $1,343,040 in facilities.

Figure 21: Projected Demand for Police Facilities and Units

	Facility Square Feet		Vehicles and Equipment	
Res LOS	0.25	square feet per person	3.86	units per 1000 persons
Nonres LOS	0.01	square feet per trip	0.16	units per 1000 trips
Cost	$233	average cost per sq ft	$14,800	average cost per unit

		Projected Demand Units		*Projected Demand*	
	Year	Population	Trips	Facility Square Feet	Units
Base	2013	46,519	22,448	12,000	183
1	2014	48,147	23,354	12,421	189
2	2015	49,832	24,271	12,857	196
3	2016	51,577	25,208	13,308	203
4	2017	53,382	26,165	13,775	210
5	2018	55,250	27,127	14,257	217
6	2019	57,736	28,359	14,899	227
7	2020	60,335	29,621	15,569	237
8	2021	63,050	30,912	16,269	248
9	2022	65,887	32,210	17,001	259
10	2023	68,852	33,528	17,764	271
Ten Yr Total		**22,333**	**11,081**	**5,764**	**88**
Cost of Facilities				$1,343,040	
Cost of Vehicles and Equipment					$1,300,960

Lastly, the necessary police improvements and expansions are listed in Figure 22. The planned police department substation is 12,000 square feet. Development Fees will cover around slightly less than half of this to accommodate new development (which demands 5,764 square feet, costing $1,343,040.)

Figure 22: Necessary Police Improvements and Expansions

Project	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	FY18-23	Total
Facilities							
Maricopa Police Department Substation at Regional Park	$3,500,000	$0	$0	$0	$0	$0	**$3,500,000**
Vehicles and Communication Equipment							
Police Regional Wireless Cooperative Repeater Station	$100,000	$1,400,000	$0	$0	$0	$0	**$1,500,000**
Police Vehicles	$119,000	$33,000	$33,000	$33,000	$33,000	$135,000	**$386,000**
Total	**$3,719,000**	**$1,433,000**	**$33,000**	**$33,000**	**$33,000**	**$135,000**	**$5,386,000**

PROPOSED FEE

The proposed development fees for Police Facilities are shown in the figure below.

Figure 23: Proposed Police Facilities Development Fees

Cost Per Person	
Incremental Expansion	
Facilities	$58.90
Vehicles and Equipment	$57.06
IIP and Dev. Fee Study	$1.21
Net Cost per Demand Unit	**$117.17**

Residential Impact Fees per Housing Unit

Unit Type	Persons per Housing Unit	**Proposed Fee**	Current Fee	Increase (Decrease)
Single Unit	2.61	**$300**	$68	$232
2+ Units	1.85	**$210**	$55	$155

Cost Per Trip	
Incremental Expansion	
Facilities	$2.49
Vehicles and Equipment	$2.41
IIP and Dev. Fee Study	$0.05
Net Cost per Demand Unit	**$4.90**

Nonresidential Impact Fees per Square Foot of Floor Area

Development Type	Inbound Vehicle Trips	**Proposed Fee**	Current Fee	Increase (Decrease)
Industrial	3.49	**$0.02**	$0.17	($0.15)
Commercial	14.09	**$0.07**	$0.71	($0.64)
Institutional	5.09	**$0.02**	$0.57	($0.55)
Office	5.52	**$0.03**	$0.57	($0.54)
Business Park	6.22	**$0.03**	$0.32	($0.29)
Warehousing	1.78	**$0.01**	$0.09	($0.08)
Manufacturing	1.91	**$0.01**	$0.10	($0.09)
Hotel (per room)	2.82	**$10**	$141	($131)

CASH FLOW ANALYSIS

The cash flow summary shown in the figure below provides an indication of the development fee revenue and expenditures necessary to meet the demand for growth-related police facilities.

Figure 24: Police Facilities Cash Flow Summary

Police Facilities	
Development Type	**10 Year Revenue (In Thousands)**
Single Unit	$2,338
2+ Units	$223
Industrial	$4
Commercial	$21
Institutional	$20
Office	$8
TOTAL REVENUE	**$2,614**
Capital Costs	**10 Year Expenditures (In Thousands)**
Facilities	$1,343
Vehicles and Units	$1,301
IIP and Dev. Fee Study	$11
TOTAL EXPENDITURES	**$2,644**

FIRE FACILITIES

OVERVIEW

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Fire 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 Fire Facilities IIP and Development Fees includes components for facilities, vehicles and equipment, and the cost of preparing the Fire IIP and development fees. Incremental expansion is used to calculate the facilities, vehicle and equipment elements of the Fire Facilities IIP and Development Fees.

SERVICE AREA

The City's networks of police stations are planned and operate as an integrated network. As a result, the Fire Facilities IIP is citywide.

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. The Fire Facilities IIP Fee will use the functional population methodology, which was discussed in the Police Facilities section. (See Figure 15.) This methodology allocates 98% of fire demand to residential development and 2% of fire demand to 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."*

The plan-based methodology is used to calculate the facility portion of the fee, which entails new development paying for planned facilities. In total there are planned fire facilities costing $2,716,700 for the next 10 years. These facilities are displayed below in Figure 25.

Figure 25: Fire Facility CIP

Project	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	FY18-23	Total
Facilities							
Chief Donald N. Pearce Fire Station #575	$500,000	$0	$0	$0	$0	$0	**$500,000**
Fire Station #572 - Phase 2 Construction	$216,700	$0	$0	$0	$0	$0	**$216,700**
HQ Facility	$0	$0	$0	$0	$0	$2,000,000	**$2,000,000**
Total	**$716,700**	**$0**	**$0**	**$0**	**$0**	**$2,000,000**	**$2,716,700**

The respective proportionate shares and increases in service units over the next 10 years for residential and nonresidential development are displayed in Figure 26. The total facility cost is allocated between residential and nonresidential development based on their proportionate shares. Then, these amounts are divided by the ten-year increase in service unit. This results in a cost per person of $119.21 and a cost per job of $17.00.

Figure 26: Fire Facilities Cost Allocation

	Residential	Nonresidential
Proportionate Share	98%	2%
Ten-Year Increase in Service Units	22,333 persons	3,196 job
Cost per Additional Service Unit	**$119.21 per person**	**$17.00 per job**

The City plans to maintain the current LOS for fire vehicles and equipment and will use the incremental expansion methodology to calculate this component of the Fire Facilities IIP and development fee.

Maricopa currently has 17 items in use by the fire department. Based on the size of the current inventory, the proportionate share factors, and current development base, the current LOS for fire vehicles and equipment is 0.36 units per thousand persons and 0.09 units per thousand trips. The average cost of a unit is $45,400. Using this average cost, the cost per person is $129.12 and the cost per job of a fire unit is $33.63.

Figure 27: Incremental Expansion – Fire Vehicles and Equipment

*Item**	*#*	*Unit Cost*	*Total*
Ladder Truck	1	$1,300,000	$1,300,000
Engines	5	$485,000	$2,425,000
Water Tender	1	$304,000	$304,000
Brush Truck	1	$259,000	$259,000
Ford F250	4	$90,000	$360,000
SCBA Trailer	1	$60,000	$60,000
Ford Expedition	1	$50,000	$50,000
Cars and Trucks	2	$35,000	$70,000
Comm. Equipment	119	$10,891	$1,295,985
Total	**135**		**$6,123,985**
Average Unit Cost	**$45,400**		

*Items do not include those used for administrative purposes.

Source: Maricopa Fire Department Staff.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	98%		2%	
2013 Service Units	46,519	persons	3,645	jobs
Infrastructure per Service Unit	**2.84**	**units per 1000 persons**	**0.74**	**units per 1000 jobs**
Vehicle and Equipment Cost per Service Unit	**$129.12**	**per person**	**$33.63**	**per job**

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 28 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.

Nonresidential development fees are calculated using jobs as the demand unit. The multiplier for each land use, which is employees per thousand square feet, is shown below.

Figure 28: Fire Ratio of Service Unit to Land Use

Residential Development	
Land Use	**Persons per Housing Unit**
Single Unit	2.61
2+ Units	1.85

Nonresidential Development per KSF	
Land Use	**Employees per KSF**
Industrial	2.31
Commercial	2.00
Institutional	0.98
Office	3.32
Business Park	3.08
Warehousing	0.92
Manufacturing	1.79
Hotel (per room)	0.44

Source: Institute of Transportation Engineers, 2012.

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."*

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 Land Use Assumptions projects an additional 22,333 persons and 3,196 jobs over the next ten years. This new development will demand an additional 16,160 square feet of facilities and 8 vehicles and equipment units. 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 8 additional vehicles and equipment units. This is multiplied by the average cost of $45,400 per unit to determine the total cost of vehicle and equipment improvements to be $2,991,020. This calculation was repeated for to determine a 10 year cost of $6,457,860 in facilities.

Figure 29: Projected Demand for Fire Facilities and Units

	Vehicles and Equipment	
Res LOS	2.8	units per 1000 persons
Nonres LOS	0.74	units per 1000 jobs
Cost	$45,400	average cost per unit

				Projected Demand
		Projected Demand Units		
	Year	Population	Jobs	Units
Base	2013	46,519	3,645	135
1	2014	48,147	3,863	140
2	2015	49,832	4,095	145
3	2016	51,577	4,341	150
4	2017	53,382	4,601	155
5	2018	55,250	4,877	161
6	2019	57,736	5,219	168
7	2020	60,335	5,584	176
8	2021	63,050	5,975	184
9	2022	65,887	6,393	192
10	2023	68,852	6,840	201
Ten Yr Total		**22,333**	**3,196**	**66**
Cost of Vehicles and Equipment				$2,991,020

Lastly, the necessary fire improvements and expansions for vehicles and equipment are listed in Figure 30.

Figure 30: Necessary Fire Improvements and Expansions

Project	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	FY18-23	Total
Vehicles and Communication Equipment							
Radio Infrastructure Expansion	$0	$0	$0	$0	$0	$5,000,000	**$5,000,000**
End-User Radios	$56,600	$56,600	$56,600	$56,600	$56,600	$0	**$283,000**
Ladder Truck	$0	$0	$0	$1,100,000	$0	$0	**$1,100,000**
Haz-Mat/Special Ops Response Vehicle	$0	$0	$0	$0	$0	$1,400,000	**$1,400,000**
Total	**$56,600**	**$56,600**	**$56,600**	**$1,156,600**	**$56,600**	**$6,400,000**	**$7,783,000**

PROPOSED FEE

The proposed development fees for Fire Facilities are shown in the figure below.

Figure 31: Proposed Fire Facilities Development Fees

Cost Per Person		*% of Total*
Plan Based		
Facilities	$119.21	*48%*
Incremental Expansion		
Vehicles and Equipment	$129.12	*52%*
IIP and Dev Fee Study	$1.56	*1%*
Net Cost per Demand Unit	**$249.89**	*100%*

Residential Impact Fees per Housing Unit

Unit Type	Persons per Housing Unit	**Proposed Fee**	Current Fee	Increase (Decrease)
Single Unit	2.61	**$650**	$68	$582
2+ Units	1.85	**$460**	$55	$405

Cost per Job		*% of Total*
Plan Based		
Facilities	$17.00	*33%*
Incremental Expansion		
Vehicles and Equipment	$33.63	*66%*
IIP and Dev Fee Study	$0.23	*0%*
Net Cost per Demand Unit	**$50.86**	*100%*

Nonresidential Impact Fees per 1,000 Square Feet of Floor Area

Development Type	Employees per Demand Unit	**Proposed Fee**	Current Fee	Increase (Decrease)
Industrial	2.31	**$0.12**	$0.79	($0.67)
Commercial	2.00	**$0.10**	$3.22	($3.12)
Institutional	0.98	**$0.05**	$1.24	($1.19)
Office	3.32	**$0.17**	$1.24	($1.07)
Business Park	3.08	**$0.16**	$1.44	($1.28)
Warehousing	0.92	**$0.05**	$0.40	($0.35)
Manufacturing	1.79	**$0.09**	$0.43	($0.34)
Hotel (per room)	0.44	**$20**	$636	($616)

CASH FLOW ANALYSIS

The cash flow summary shown in the figure below provides an indication of the development fee revenue and expenditures necessary to meet the demand for growth-related fire facilities.

Figure 32: Fire Facilities Cash Flow Summary

Fire Facilities	
Development Type	**10 Year Revenue (In Thousands)**
Single Unit	$5,065.06
2+ Units	$488.80
Industrial	$75.24
Commercial	$66.91
Institutional	$40.70
Office	$178.04
TOTAL REVENUE	**$5,915**
Capital Costs	**10 Year Expenditures (In Thousands)**
Facilities	$2,717
Vehicles	$2,991
IIP and Dev. Fee Study	$14
TOTAL EXPENDITURES	**$5,722**

STREET FACILITIES

OVERVIEW

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 arterial street improvements and the cost of preparing the Street Facilities IIP and Development Fees.

SERVICE AREA

Since only arterials streets are included in the Streets IIP and Development Fees and given these characteristics of how the City plans and designs its arterial street network, the service area for the Street Facilities IIP is Citywide.

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."*

Maricopa has 532 lane miles of roads, which includes 102 lane miles of arterials that are considered system improvements to be funded by development fees.

Figure 33: Road Inventory

Lane Miles	
Locals	295
Collectors	117
Arterials (not including state highgways)	102
State Highways	18
Total	**532**

Source: City of Maricopa.

Maricopa also has six city-funded improved intersections.

Figure 34: Improved Intersection Inventory

Traffic Signals/ Roundabouts (Arterials and Collectors)			
Location	**Meter #**	**Owner**	**% Funded by City**
17300 N Porter Rd & M/CG Hwy	3-54369	City	100%
42196 M/CG Hwy & Stonegate	3-56279	City	100%
41480 Honeycutt Rd & Porter RD	3-4999	City	100%
Smith Enke & Porter Rd	3-11448	City	100%
347 & Hathaway Ave	3-4230	City	100%
White/Parker & M/CG Hwy	3-51608	City	100%

Total number of city-funded signals	**6**

According to the Pinal County Transportation Plan, the daily per-lane capacity of a major or minor arterial is 8,700.

Figure 35: 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.

Maricopa 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 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 62% to account for commuters leaving Maricopa for work. 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 the figure below, the Census Bureau's web application OnTheMap indicates that 92% of resident workers traveled outside the city for work in 2010. In combination, these factors (0.31 X 0.50 X 0.92 = .14) support the additional 14% allocation of trips to residential development.

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.

LEVEL OF SERVICE AND 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."*

Summary of Demand Model Inputs

Figure 36 summarizes the input variables described above used to determine the average trip length on planned system improvements. In the table below HU means housing units, KSF means square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, and VTE means vehicle trip ends.

With 102 lane miles of system improvements and a lane capacity standard of 8,700 vehicles per lane, the development fee road network has approximately 887,400 vehicle miles of capacity (ie, 8,700 vehicles per lane traveling the entire 102 miles). To derive the average utilization (i.e., average trip length expressed in miles) of the system improvements, we divide vehicle miles of travel by the vehicle trips attracted to development in Maricopa. Development in Maricopa currently attracts 130,758 average weekday vehicle trips. Dividing 887,400 vehicle miles of capacity by 130,758 average weekday vehicle trips yields an unweighted average trip length of approximately 6.79 miles. However, the calibration of average trip length includes the same adjustment factors used in the development fee calculations (i.e., journey-to-work commuting, commercial pass-by adjustment and average trip length adjustment by type of land use). Using a series of spreadsheet iterations, TischlerBise determined the weighted-average trip length to be approximately 6.05 miles.

The VMT per development unit results are found by multiplying the average trip length by the relative weekday vehicle trip ends, trip adjustment factor, and trip length weighting factor for each type of land use.

Figure 36: Travel Demand Model Inputs

Dev Type	Weekday VTE	Dev Unit	Trip Adj	Trip Length Wt Factor	VMT per Dev Unit
Single Unit	9.52	HU	64%	121%	44.6
2+ Units	6.65	HU	64%	121%	31.2
Industrial	6.97	KSF	50%	73%	15.4
Commercial	42.70	KSF	33%	66%	56.3
Institutional	15.43	KSF	33%	73%	22.5
Office/ Other	11.03	KSF	50%	73%	24.4

Avg Trip Length (miles)	**6.05**
Capacity Per Lane	**8,700**

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."*

Projected development in Maricopa over the next 10 years, and the corresponding need for additional lane miles and improved intersections, is shown in Figure 37. Trip generation rates and trip adjustment factors convert project development into average weekday vehicle trips. 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. The

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 vehicle trip length on development fee system improvements (i.e., major roads listed in the CIP)?"

Figure 37: Projected Travel Demand

	2013	2014	2015	2016	2017	2018	2023	10-Year
	Base	1	2	3	4	5	10	Increase
Single Unit	16,231	16,799	17,387	17,995	18,625	19,277	24,023	7,792
2+ Units	2,213	2,291	2,371	2,454	2,540	2,629	3,276	1,063
Industrial KSF	291	309	327	347	368	390	547	256
Commercial KSF	801	830	859	887	915	942	1,104	303
Institutional KSF	1,866	1,933	2,000	2,069	2,139	2,210	2,697	831
Office/ Other KSF	117	134	153	175	199	225	423	306
Single Unit Trips	98,891	102,354	105,936	109,641	113,480	117,453	146,368	47,478
2+ Unit Trips	9,420	9,750	10,091	10,444	10,809	11,188	13,942	4,522
Industrial Trips	1,014	1,077	1,140	1,209	1,282	1,359	1,906	892
Commercial Trips	11,287	11,696	12,104	12,499	12,893	13,274	15,556	4,270
Institutional Trips	9,501	9,843	10,184	10,535	10,892	11,253	13,733	4,231
Office/ Other Trips	645	739	844	965	1,097	1,241	2,333	1,688
Total Vehicle Trips	130,758	135,458	140,298	145,293	150,454	155,767	193,839	63,080.7
Vehicle Miles of Travel (VMT)	**887,246**	**918,846**	**951,441**	**985,117**	**1,019,954**	**1,055,897**	**1,315,041**	**427,795**
Lane Miles	102.0	105.6	109.4	113.2	117.2	121.4	151.2	49.2
Lane Miles per 10,000 VMT	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Improved Intersections	6.0	6.2	6.4	6.7	6.9	7.1	8.9	2.9

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 38 displays growth-related road projects in Maricopa'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 $29,640,820.

Dividing the growth cost of system improvements by the total increase in vehicle miles of travel determined earlier indicates an average cost of $69.29 per VMT.

Figure 38: Maricopa Streets Capital Projects

Project	Total
Honeycutt Rd - Porter to White & Parker (7 Ranches) Half Street Improvements	**$3,000,000**
Smith Enke & Porter Road Intersection Improvements	**$750,000**
Bowlin Rd, SR347 & MLK Blvd	**$675,000**
White & Parker Rd - S. of Honeycutt to Cowpath (7 Ranches) Half Street Improvements	**$2,500,000**
White & Parker - City Hall Property Frontage Half Street Improvements	**$2,750,000**
Hartman Road - MCG Hwy to Bowlin Road Pavement	**$2,500,000**
Garvey Avenue Extension - Connecting Garvey Ave to SR238	**$2,587,500**
Bowlin Road - Hartman to Murphy (Tortosa) Half Street Improvements	**$2,750,000**
Hartman Road - Honeycutt to Bowlin (Tortosa) Half Street Improvements	**$2,750,000**
Murphy Road - Honeycutt to Bowlin (Tortosa) Half Street Improvements	**$2,250,000**
Honeycutt Rd Bridge @ Santa Cruz Wash	**$3,750,000**
Honeycutt Rd - White & Parker to Santa Cruz Wash Road Widening	**$3,350,000**
IIP and Dev. Fee Study	**$28,320**
Total	**$29,640,820**

Total Increase in VMT 2013-2023	**427,795**
Cost per VMT	**$69.29**

PROPOSED FEE

Input variables for the road impact fee are shown in the upper section of Figure 39. Attraction trips by type of development are multiplied by the capacity cost per average length vehicle trip to yield the road impact fees. As determined above, the capital cost is $69.29 per VMT.

The input variables discussed above yield the proposed impact fees shown in the lower section of Figure 39. For example, the road impact fee formula for a Single Unit house is 9.52 x 0.64 x 6.05 x 1.21 x $69.29 = $3,070 per unit (truncated). Fees for nonresidential development are listed per 1,000 square feet of floor area, or unique demand indicators such as the number of rooms in a hotel/motel. For example, the road fee for commercial development is 42.70 x 0.33 x 6.05 x 0.66 x $69.29 = $3.89 (truncated) per square foot of floor area.

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 Maricopa'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 39: Proposed Streets Development Fees

Infrastructure Standards	
Average Miles per Vehicle Trip	6.05
Lane Capacity (vehicles per day)	8,700
Cost per VMT	$69.29

Residential (per Housing Unit)						
Development Type	Weekday Vehicle Trip Ends	Trip Rate Adjustment Factors	Trip Length Weighting Factors	**Proposed Street Impact Fee**	*Current Fee*	*Increase / (Decrease)*
Single Unit	9.52	64%	121%	**$3,090**	$2,589	$501
2+ Units	6.65	64%	121%	**$2,150**	$1,799	$351

Nonresidential (per 1,000 sq ft)						
Industrial	6.97	50%	73%	**$1.06**	$1.16	($0.10)
Commercial	42.70	33%	66%	**$3.89**	$4.30	($0.41)
Institutional	15.43	33%	73%	**$1.55**	$3.77	($2.22)
Office/ Other	11.03	50%	73%	**$1.68**	$3.77	($2.09)
Business Park	6.22	50%	73%	**$0.95**	$2.12	($1.17)
Warehousing	1.78	50%	73%	**$0.27**	$0.59	($0.32)
Manufacturing	1.91	50%	73%	**$0.29**	$0.64	($0.35)
Hotel (per Room)	2.82	50%	73%	**$430**	$936	($506.00)

CASH FLOW ANALYSIS

The cash flow summary shown in Figure 40 provides an indication of the development fee revenue and expenditures necessary to meet the demand for growth-related streets facilities.

Figure 40: Street Facilities Cash Flow Summary

Street Facilities	
Development Type	**10 Year Revenue (In Thousands)**
Single Unit	$24,079
2+ Units	$2,285
Industrial	$271
Commercial	$1,179
Institutional	$1,288
Office	$514
TOTAL REVENUE	**$29,615**
Project	**10 Year Expenditures (In Thousands)**
Road Projects	$29,613
IIP and Dev. Fee Study	$28
TOTAL EXPENDITURES	**$29,641**

IIP AND DEVELOPMENT FEE REPORT COSTS

The table below displays each section of the IIP and Development Fee Study. Each necessary public service is attributed a cost, followed by the proportion that is assessed against residential and nonresidential. Then, it displays the demand units, the number of these units in 2012 and 2017, and finally the cost per demand unit to be assessed. (Because development fees are updated at least every five years, the cost is assessed against the demand units for only 5 years.)

Figure 41: IIP and Development Fee Report

Necessary Public Service	Cost	Assessed Against	Proportionate Share	Units	FY2013	FY2018	Change	Cost per Demand Unit
Libraries	$16,320	Residential	100%	Population	46,519	55,250	8,731	$1.87
Parks and Recreat	$17,400	Residential	100%	Population	46,519	55,250	8,731	$1.99
Police	$10,760	Residential	98%	Population	46,519	55,250	8,731	$1.21
		Nonresidential	2%	Nonres Trips	22,448	27,127	4,679	$0.05
Fire	$13,920	Residential	98%	Population	46,519	55,250	8,731	$1.56
		Nonresidential	2%	Jobs	3,645	4,877	1,233	$0.23
Streets	$28,320	Residential	89%	VMT	789,500	940,753	151,253	$0.17
		Nonresidential	11%	VMT	97,746	116,472	18,726	$0.17
Total	**$86,720**							

APPENDIX A: LAND USE ASSUMPTIONS

INTRODUCTION

For municipalities in Arizona, the state enabling legislation now requires supporting documentation on land use assumptions, a plan for infrastructure improvements, and development fee calculations. This document contains the land use assumptions for the City of Maricopa 2013 development fee update. Development fees must be updated every five years, making short-range projections the critical time frame. The Infrastructure Improvements Plan (IIP) is limited to ten years, thus a very long-range "build-out" analysis may not be used to derive development fees.

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 prepared current demographic ***estimates*** and future development ***projections*** for both residential and nonresidential development that will be used in the IIP and calculation of the development fees. Demographic data for FY13-14 (beginning July 1, 2013) are used in calculating levels-of-service (LOS) provided to existing development in the City of Maricopa. Although long-range projections are necessary for planning infrastructure systems, a shorter time frame of five to ten years is critical for the impact fees analysis. Due to the slow recovery from the Great Recession, TischlerBise used compound growth rates to produce conservative initial projections that increase over time. The basic methodology converts population projections to housing units and job projections to nonresidential floor area.

SUMMARY OF GROWTH INDICATORS

Development projections and growth rates are summarized in Figure A1. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, impact fees 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, impact fees 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 impact fee revenue, but will also need to accelerate capital improvements to keep pace with development.

During the next five years, the development fee study assumes an average increase of 692 housing units per year (compound annual growth rate of 3.5%). In comparison, Maricopa issued building permits for 312 housing units in calendar year 2012. From 2012 to 2017 the impact fee study expects Maricopa to add nonresidential floor area averaging 138,000 square feet per year (compound annual increase of 4.1%). The City of Maricopa will closely monitor actual development each year. If needed, development fees can be updated prior to the required five-year cycle.

Note: KSF = Square Feet of nonresidential floor area in thousands

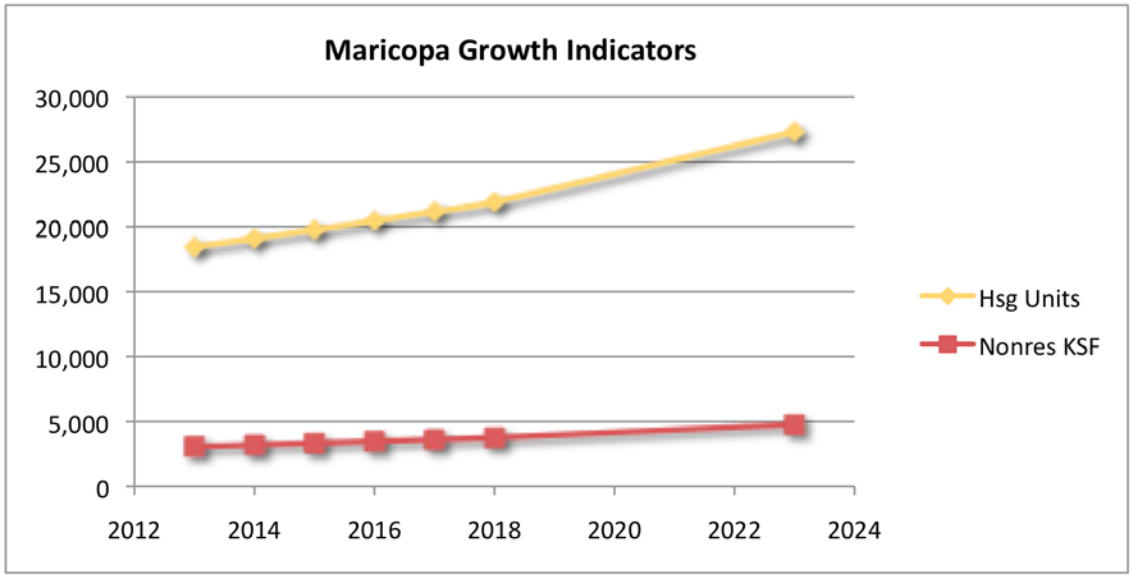
Figure A1 – Summary of Maricopa Projections and Growth Rates

Maricopa, Arizona

Year	Cumulative (July 1st) Hsg Units	Nonres KSF
2013	18,444	3,075
2014	19,090	3,206
2015	19,758	3,339
2016	20,449	3,478
2017	21,165	3,621
2018	21,906	3,767
2023	27,299	4,771

	2013 to 2018 Average Annual Increase	Compound Growth Rate	Past Five Years	Future Five Years EDP&Co
Residential Units	692	3.5%	386	730
Nonresidential Sq Ft x 1000	138	4.1%	31	

Timeframe	Annual Increase Single Family Permits	Nonres Sq Ft x 1000
2008 CY permits	913	25
2009 CY permits	400	108
2010 CY permits	186	8
2011 CY permits	120	0
2012 CY permits	312	13
7/13-7/14	646	131
7/14-7/15	668	133
7/15-7/16	691	139
7/16-7/17	716	143
7/17-7/18	741	146



SERVICE AREA

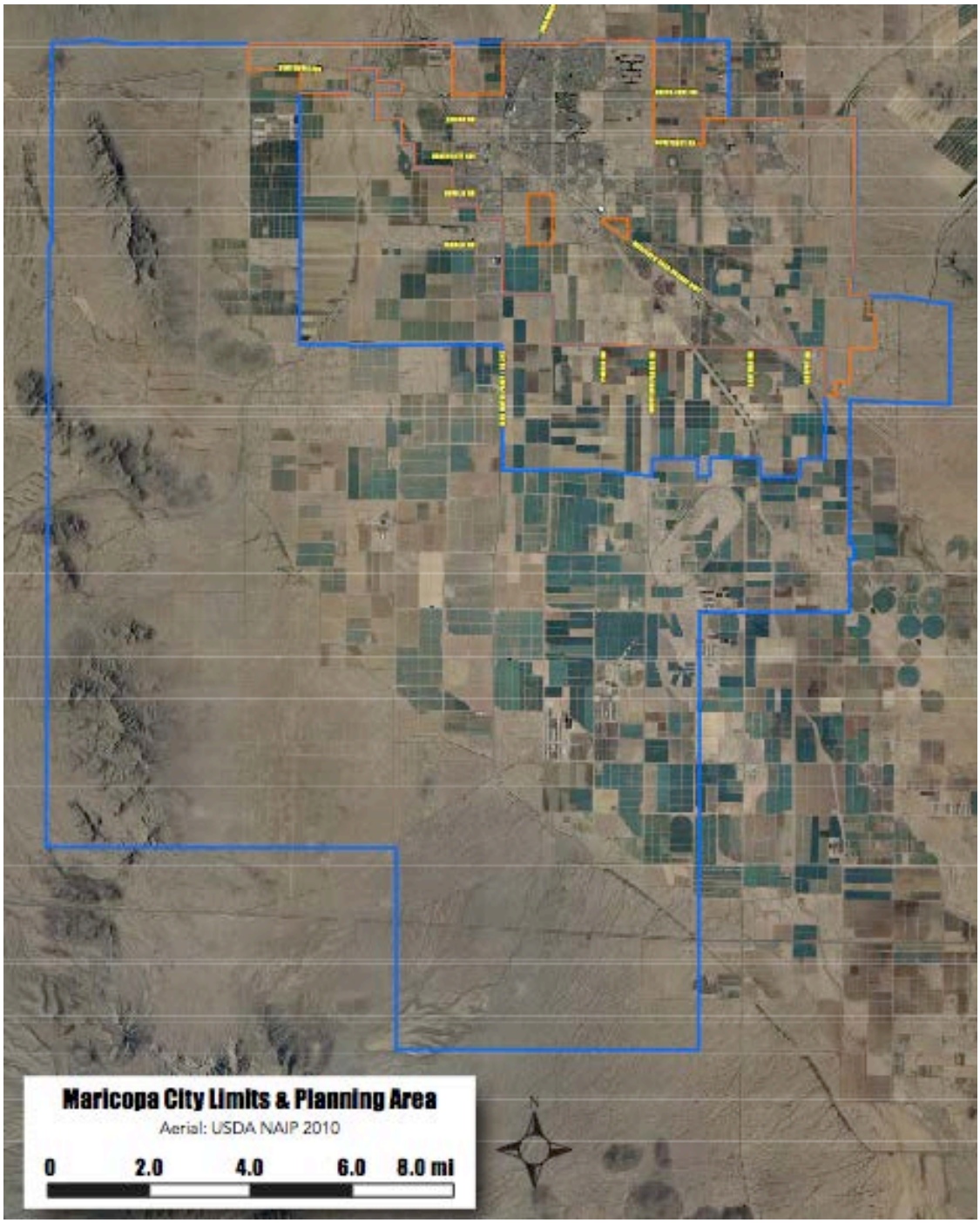
Arizona's development fee legislation includes detailed definitions of the types of infrastructure that are considered to be "necessary public services." In the City of Maricopa, development fees are currently imposed citywide for parks and recreation, library, streets, police, fire. TischlerBise recommends continuation of this approach.

ARS 9-463.05(T)(9) defines "service area" as follows:

> *"Any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan. "*

The City of Maricopa will continue to annex land as development occurs, with the incorporated area expanding over time to eventually approximate the Municipal Planning Area MPA, as shown in Figure A2.

Figure A2 - Map of Current City Limits and Municipal Planning Area



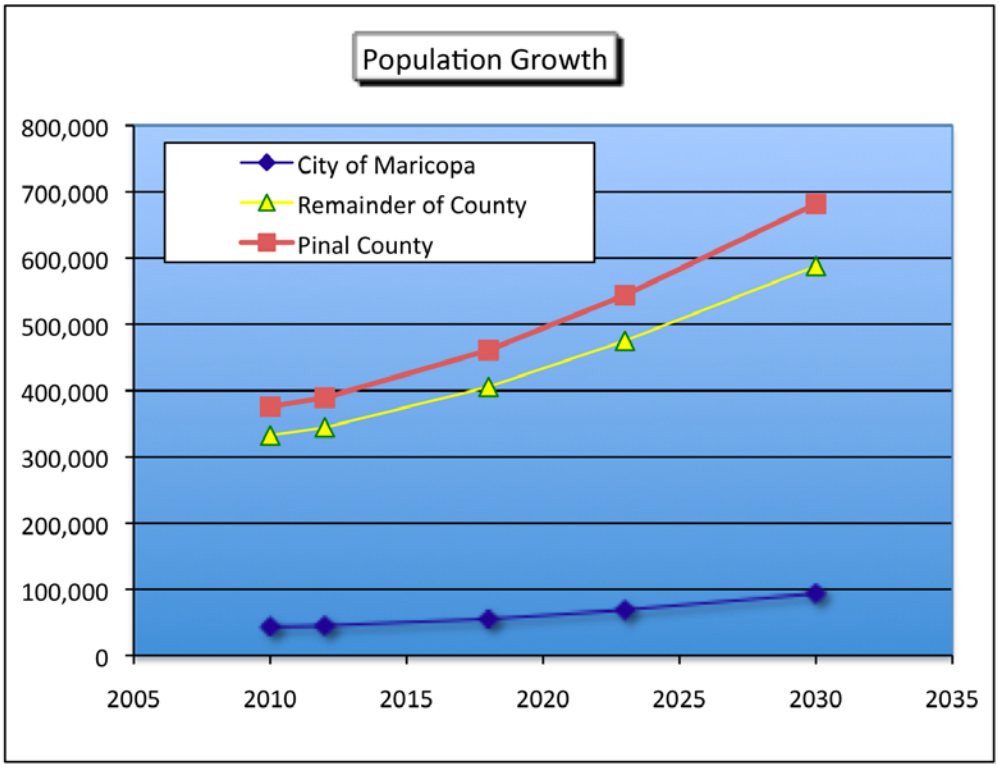
RESIDENTIAL DEVELOPMENT

To provide context for population and job growth in the City of Maricopa, TischlerBise prepared comparisons to Pinal County projections. The Arizona Department of Administration expects 681,578 persons in Pinal County by 2030 (see County Medium Series, Office of Employment and Population Statistics, December 2012). Figure A3 indicates the City's share of countywide population over time. The City population projection for 2018 assumes a 3.5% compound growth rate, which yields a housing unit increase similar to the recent baseline forecast prepared for the City of Maricopa by Elliott D. Pollack & Company. To provide more conservative short-range projections, TischlerBise used an exponential growth formula to derive annual population through 2030, with a more conservative growth rate during the first six years. Maricopa expects to gain population share over time, increasing from 11.5% of Pinal County in 2012 to 13.7% by 2030.

Figure A3 – City of Maricopa Population Share

	2010	2012	2018	2023	2030
Pinal County	375,770	389,192	460,919	543,986	681,578
City of Maricopa	43,482	44,946	55,250	68,852	93,698
Remainder of County	332,288	344,246	405,669	475,134	587,880
City Share	11.6%	11.5%	12.0%	12.7%	13.7%

Source: County Medium Series, Arizona Department of Administration, Office of Employment and Population Statistics (12/07/12). City projection for 2018, 2023, and 2030 derived from an exponential growth formula, with a more conservative growth rate for the first six years.



PERSONS PER HOUSING UNIT

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses).

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Impact 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 impact 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 impact fees for residential development in the City of Maricopa be imposed according to the number of year-round residents per housing unit.

Given the current lack in diversity of housing types in Maricopa, TischlerBise has compiled ACS data for Maricopa and three neighboring cities and towns in Arizona (Case Grande, Coolidge, and Florence) to determine a more accurate number to represent persons per household. This compilation is shown in the first table in Figure A4. Then, proportionate shares for single units and 2 or more units were applied to the 2010 Census totals for Maricopa to determine persons per housing unit for the City. As shown in the lower table in Figure A4, Census data indicates Maricopa had 17,240 housing units in 2010, averaging 2.52 year-round residents per unit. There is an average of 2.61 persons per household in a single unit and 1.85 in a structure with 2 or more units. Approximately 17% of the housing stock was vacant or used by seasonal residents.

Figure A4 – Year-Round Persons per Unit by Type of Housing

2009 Summary by Type of Housing from American Community Survey						
	Renter & Owner					
Units in Structure	*Persons*	*House-holds*	*Persons per Household*	*Housing Units*	***Persons per Housing Unit***	*Housing Mix*
Single Unit*	93,343	34,885	2.68	42,647	*2.19*	88%
2+ Units	8,741	3,951	2.21	5,633	*1.55*	12%
TOTAL	102,084	38,836	2.63	48,280	*2.11*	

*Single-family includes detached, attached, and mobile homes.

Source: Tables B25024, B25032, and B25033 of Maricopa, Coolidge, Casa Grande, and Florence. 2007-2011 American Community Survey, U.S. Census Bureau.

2010 Census Maricopa						
Single Unit*	39,759	12,898	3.08	15,229	***2.61***	*Vacant or*
2+ Units	3,723	1,461	2.55	2,011	***1.85***	*Seasonal*
Subtotal	43,482	14,359	3.03	17,240	***2.52***	17%
Group Quarters	0					
TOTAL	43,482					

* Single unit includes detached, attached, and mobile homes.

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

NONRESIDENTIAL DEVELOPMENT

In addition to data on residential development, the infrastructure improvements plan and development fees require data on nonresidential development in Maricopa. Current estimates and future projections of nonresidential development are detailed in this section, including jobs and floor area by type. TischlerBise uses the term "jobs" to refer to employment by place of work.

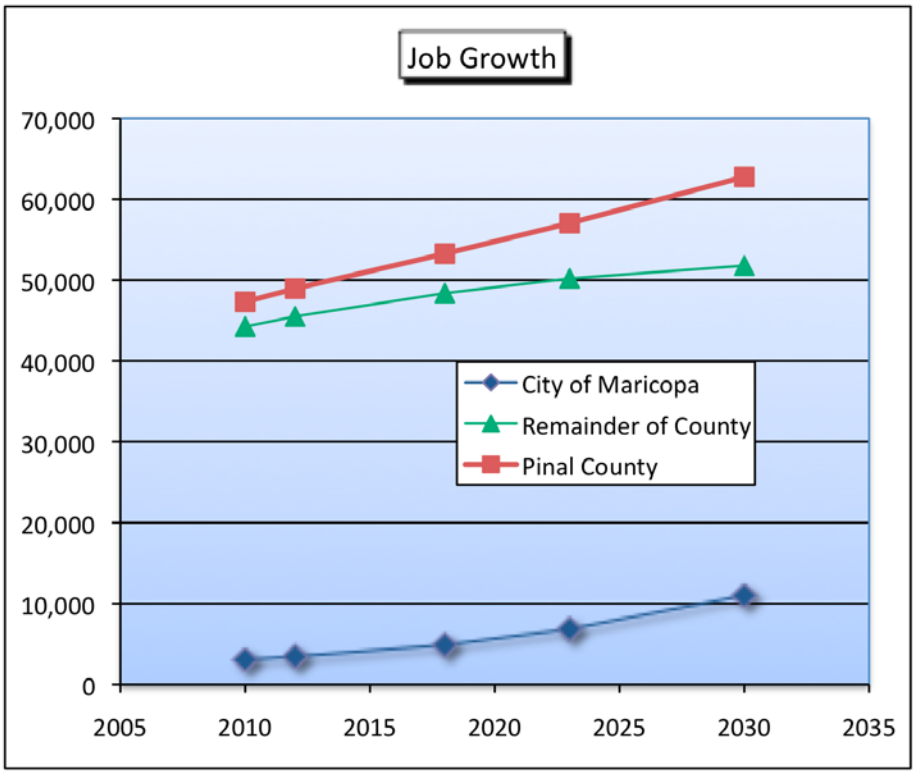
Similar to the population share evaluation discussed above, countywide jobs are shown in Figure A5 along with the City of Maricopa job share. Pinal County and Maricopa jobs in 2010 are from OnTheMap, the U.S. Census Bureau's web application. OnTheMap estimates journey-to-work jobs used to analyze commuting patterns. Countywide jobs in 2030 are from Woods & Poole Economics (2011), scaled by the ratio of OnTheMap to W&P jobs in 2010. For the City of Maricopa, TischlerBise used an exponential growth formula, with a compound annual growth rate of 6% through 2018 and 7% from 2018 to 2030. This approach provides more conservative short-range projections.

Similar to the increase in population capture ratio over time, the City hopes to increase the job capture ratio from 6.5% of County jobs in 2010 to 17.5% of County jobs in 2030. Maricopa's jobs-to-housing ratio is expected to increase from 0.18 jobs for every housing unit in 2010 to 0.30 jobs for every housing unit in 2030. Even with the optimistic job forecast, the projected jobs-housing ratio in Maricopa remains below current ratios in comparable communities (i.e. Queen Creek = 0.37, Buckeye = 0.35, and Goodyear = 0.72). To ensure sustainability of the community, economic development staff recommends that Maricopa achieve 0.40 jobs for every housing unit.

Figure A5 – City of Maricopa Job Share

	2010	2012	2018	2023	2030
Pinal County	47,315	48,945	53,262	57,033	62,766
City of Maricopa	3,060	3,438	4,877	6,840	10,984
Remainder of County	44,255	45,506	48,384	50,193	51,782
City Share	6.5%	7.0%	9.2%	12.0%	17.5%

Sources: County and City data for all jobs in 2010 are from OnTheMap, U.S. Census Bureau web application. County projections are from Woods & Poole Economics (2011), scaled by the ratio of OnTheMap to W&P jobs in 2010. Projected Maricopa jobs 2018-2030 assumes a significant increase in job share.



JOBS BY TYPE OF NONRESIDENTIAL DEVELOPMENT

Figure A6 indicates Maricopa's 2010 job estimate and nonresidential floor area, provided by the Economic Development Department. General land use types are based on two-digit industry sectors, with the percentage distribution of jobs by type of nonresidential development from the U.S. Census Bureau's OnTheMap web application. Dividing floor area by jobs yields the average square feet per job. Jobs per 1,000 square feet was determined by dividing the total floor area by the number of jobs.

Figure A6 – Jobs and Floor Area Estimates

	2010 Jobs (1)	% of Total	Sq Ft per Job	Floor Area (2)	Jobs per 1,000 Sq Ft
Industrial (3)	590	19.3%	414	244,000	2.42
Commercial (4)	481	15.7%	1,457	701,000	0.69
Institutional (5)	1,639	53.6%	1,000	1,639,000	1.00
Office (6)	350	11.4%	234	82,000	4.27
TOTAL	**3,060**	**100.0%**	**871**	**2,666,000**	**1.15**

(1) Source: Jobs by NAICS Sector, U.S. Census Bureau, OnTheMap web application, 2010 all jobs.
(2) For industrial, commercial, and office, floor area estimates were provided by the City of Maricopa Economic Development Department. For institutional, floor area was estimated using a square feet per job multiplier derived from Trip Generation Institute of Transportation Engineers (2012), rounded to hundreds.
(3) Includes construction, utilities, and warehousing.
(4) Includes retail, accommodation and food services.
(5) Includes educational services and public administration.
(6) Major sectors are Health Care, Administration & Support, and Professional/Scientific/Technical Services

EMPLOYEES PER SQUARE FOOT OF NONRESIDENTIAL DEVELOPMENT

In Figure A7, gray shading indicates four nonresidential development prototypes that will be used by TischlerBise to derive vehicle trips for the IIP and development fee analysis. Average weekday vehicle trip generation rates are from the Institute of Transportation Engineers (ITE 2012). The prototype development for industrial jobs is "Light Industrial". The prototype for commercial (i.e., Retail, Food & Accommodation Services) is an average-size shopping center. The prototype for institutional development is an elementary school. For office development, the prototype is an average-size general office building.

Figure A7 – 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
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
151	Mini-Warehouse	1,000 Sq Ft	2.50	61.90	0.04	24,760
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

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

In 2010 Maricopa was struggling with the effects of the Great Recession. One of the impacts was a significant increase in vacant commercial space, as shown by the unusually high average of 1,457 square feet of commercial floor space per job. In even annual increments, the land use assumptions assume Maricopa will average 500 square feet per commercial job by 2030.

As shown in Figure A8, the land use assumptions also assume a gradual shift in the job mix over time. Maricopa currently has a high percentage of institutional jobs (i.e. education and government jobs). Although the absolute number of institutional jobs increases over time, the share is expected to decline as more commercial and office jobs are attracted to the community.

Figure A8 - Expected Change in Job Mix and Square Feet per Job

Type of Nonresidential Development	Job Mix 2010	Job Mix 2030	Sq Ft per Job in 2010	Sq Ft per Job in 2030
Industrial	19.3%	20.0%	414	400
Commercial	15.7%	20.0%	1457	500
Institutional	53.6%	30.0%	1000	1000
Office	11.4%	30.0%	234	300

DETAILED DEVELOPMENT PROJECTIONS

Demographic data shown in Figure A9 provide key inputs for updating development fees in the City of Maricopa. Cumulative data are shown at the top and projected annual increases, by type of development, are shown at the bottom of the table.

Figure A9 – Annual Demographic Data

Maricopa, Arizona		*FY13-14*							
	2010	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2023*	*2030*
Cumulative		*Base Yr*	*1*	*2*	*3*	*4*	*5*	*10*	*17*
Year-Round Population	43,482	46,519	48,147	49,832	51,577	53,382	55,250	68,852	93,698
Jobs	3,060	3,645	3,863	4,095	4,341	4,601	4,877	6,840	10,984
Housing Units	17,240	18,444	19,090	19,758	20,449	21,165	21,906	27,299	37,150
Jobs to Housing Ratio	0.18	0.20	0.20	0.21	0.21	0.22	0.22	0.25	0.30
Persons per Hsg Unit	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
Nonres Sq Ft in thousands (KSF)									
Industrial	244	291	309	327	347	368	390	547	879
Commercial	701	801	830	859	887	915	942	1,104	1,098
Institutional	1,639	1,866	1,933	2,000	2,069	2,139	2,210	2,697	3,295
Office	82	117	134	153	175	199	225	423	989
Total	2,666	3,075	3,206	3,339	3,478	3,621	3,767	4,771	6,261
Avg Sq Ft Per Job	871	844	830	815	801	787	772	697	570

Annual Increase	13-14	14-15	15-16	16-17	17-18	22-23	***2013-2030 Avg Anl***
Population	1,628	1,685	1,744	1,805	1,868	2,965	2,775
Jobs	219	232	246	260	276	448	432
Housing Units	646	668	691	716	741	1,176	1,100
Industrial KSF	18	18	20	21	22	36	35
Commercial KSF	29	29	28	28	27	29	17
Institutional KSF	67	67	69	70	71	101	84
Office KSF	17	19	22	24	26	49	51
Total Nonresidential KSF/Yr =>	131	133	139	143	146	215	187