

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

**Prepared for:
Glendale, Arizona**

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EXECUTIVE SUMMARY

The City of Glendale, Arizona, contracted with TischlerBise to document land use assumptions, prepare the Infrastructure Improvements Plan (hereinafter referred to as the “IIP”), and update development fees pursuant to Arizona Revised Statutes (“ARS”) § 9-463.05 (hereafter referred to as the “Enabling Legislation”). 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 IIP for each type of infrastructure is in the middle section of this document. The proposed development fees are displayed in the Development Fee Report in the next section.

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 Glendale’s Infrastructure Improvements Plan and associated update to its development fees includes the following necessary public services:

1. Fire Facilities
2. Library Facilities
3. Parks and Recreational Facilities
4. Police Facilities

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

ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION

The Enabling Legislation governs how development fees are calculated for municipalities in Arizona.

Necessary Public Services

Under the requirements of the Enabling Legislation, development fees may only be 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, library, street, fire, police, and parks and recreational. 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 IIP. For each necessary public service that is the subject of a development fee, by law, the IIP shall include the following seven elements:

1. A description of the existing necessary public services in the service area and the costs to 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.
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.
3. 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.
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.
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.
6. The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
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 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.” 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 amenities.

Evaluation of Credits/Offsets

Regardless of the methodology, a consideration of credits/offsets is integral to the development of a legally defensible development fee. There are two types of credits/offsets that should be addressed in development fee studies and ordinances. The first is a revenue credit/offset 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/offset 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.

INTRODUCTION TO DEVELOPMENT FEES

Development fees are one-time payments used to fund capital improvements necessitated by future development. Development fees have been utilized by local governments in various forms for at least fifty years. Development fees do have limitations and should not be regarded as the total solution for infrastructure financing needs. Rather, they should be considered one component of a comprehensive portfolio to ensure adequate provision of public facilities with the goal of maintaining current levels of service in a community. Any community considering facility fees should note the following limitations:

- 1) Fees can only be used to finance capital infrastructure and cannot be used to finance ongoing operations and / or maintenance and rehabilitation costs.
- 2) Fees cannot be deposited in the General Fund. The funds must be accounted for separately in individual accounts and earmarked for the capital expenses for which they were collected.
- 3) Fees cannot be used to correct existing infrastructure deficiencies unless there is a funding plan in place to correct the deficiency for all current residents and businesses in the community.

REQUIRED FINDINGS

There are three reasonable relationship requirements for development fees that are closely related to “rational nexus” or “reasonable relationship” requirements enunciated by a number of state courts. Although the term “dual rational nexus” is often used to characterize the standard by which courts evaluate the validity of development fees under the U. S. Constitution, we prefer a more rigorous formulation that recognizes three elements: “impact or need,” “benefit,” and “proportionality.” The dual rational nexus test explicitly addresses only the first two, although proportionality is reasonably implied, and was specifically mentioned by the U.S. Supreme Court in the *Dolan* case. The reasonable relationship language of the statute is considered less strict than the rational nexus standard used by many courts. Individual elements of the nexus standard are discussed further in the following paragraphs.

Demonstrating an Impact. All future development in a community creates additional demands on some, or all, public facilities provided by local government. If the supply of facilities is not increased to satisfy that additional demand, the quality or availability of public services for the entire community will deteriorate. Development fees may be used to recover the cost of development-related facilities, but only to the extent that the need for facilities is a consequence of development that is subject to the fees. The *Nollan* decision reinforced the principle that development exactions may be used only to mitigate conditions created by the developments upon which they are imposed. That principle clearly applies to development fees. In this study, the impact of development on improvement needs is analyzed in terms of quantifiable relationships between various types of development and the demand for specific facilities, based on applicable level-of-service standards.

Demonstrating a Benefit. A sufficient benefit relationship requires that development fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. Fees must be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, nothing in the U.S. Constitution or the State enabling Act authorizing development fees requires that facilities funded with fee revenues be available *exclusively* to development paying the fees. In other words, existing development may benefit from these improvements as well.

Procedures for the earmarking and expenditure of fee revenues are typically mandated by the State Enabling Legislation, as are procedures to ensure that the fees are expended expeditiously or refunded. All requirements are intended to ensure that developments benefit from the fees they are required to pay. Thus, an adequate showing of benefit must address procedural as well as substantive issues.

Demonstrating Proportionality. The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the *Dolan* case (although the relevance of that decision to development fees has been debated) and is logically necessary to establish a proper nexus. Proportionality is established through the procedures used to identify development-related facility costs, and in the methods used to calculate development fees for various types of facilities and categories of development. The demand for facilities is measured in terms of relevant and measurable attributes of development.

DEVELOPMENT FEE REPORT

Development fees for the necessary public services made necessary by new development must be based on the same level of service (LOS) 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. Each methodology has advantages and disadvantages in a particular situation and can be used simultaneously for different cost components.

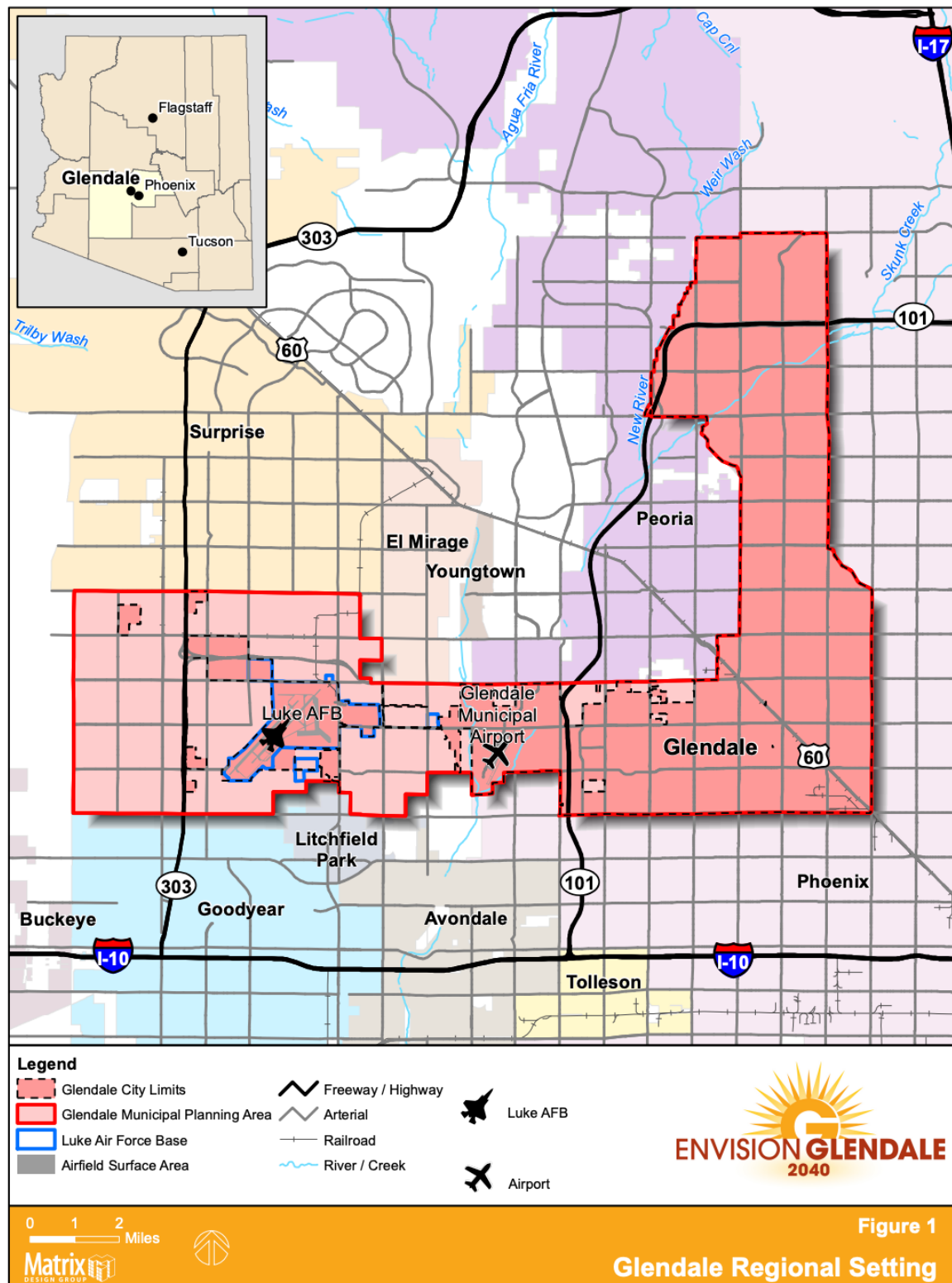
Reduced to its simplest terms, the process of calculating development fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss basic methodologies for calculating development fees and how those methodologies can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion methodology documents current LOS standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based methodology allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

SERVICE AREA

Shown below in Figure 1, the proposed development fees use a citywide service area.

Figure 1: Development Fee Service Area



DEVELOPMENT FEE COMPONENTS

Shown below, Figure 1 summarizes service areas, methodologies, and infrastructure cost components for the proposed fees.

Figure 2: Proposed Development Fee Service Areas, Methodologies, and Cost Components

Necessary Public Service	Service Area	Cost Recovery	Incremental Expansion	Plan-Based	Cost Allocation
Fire Facilities	Citywide	N/A	Fire Facilities, Fire Apparatus	Development Fee Report	Population, Vehicle Trips
Library Facilities	Citywide	N/A	Library Facilities	Development Fee Report	Population, Jobs
Parks and Recreational Facilities	Citywide	N/A	Park Amenities	Development Fee Report	Population, Jobs
Police Facilities	Citywide	N/A	Police Facilities, Police Vehicles, Police Equipment	Development Fee Report	Population, Vehicle Trips

Calculations throughout this report are based on an analysis conducted using Excel software. Most results are discussed in the report using two, three, and four decimal places, which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).

CURRENT DEVELOPMENT FEES

Current development fees are assessed per housing unit for residential development and per 1,000 square feet of floor area for nonresidential development.

Figure 3: Current Development Fees

Residential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Current Fees
Single Family	Housing Unit	\$655	\$195	\$936	\$719	\$2,505
Multi-Family	Housing Unit	\$433	\$129	\$618	\$475	\$1,655

Nonresidential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Current Fees
Industrial	1,000 Sq Ft	\$106	\$9	\$48	\$117	\$280
Commercial	1,000 Sq Ft	\$789	\$19	\$97	\$867	\$1,772
Office & Other Services	1,000 Sq Ft	\$308	\$24	\$123	\$339	\$794
Institutional	1,000 Sq Ft	\$408	\$7	\$38	\$448	\$901

PROPOSED DEVELOPMENT FEES

Proposed development fees will be assessed per housing unit for residential development. For nonresidential development, proposed development fees will be assessed per 1,000 square feet of floor area, per bed, or per room based on the development type. The proposed fees represent the maximum allowable fees. Glendale may adopt fees that are less than the amounts shown; however, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital improvements, and/or a decrease in level-of-service standards. All costs in the Development Fee Report represent current dollars with no assumed inflation over time. If costs change significantly over time, development fees should be recalculated.

Figure 4: Proposed Development Fees

Residential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Proposed Fees
Single Family	Housing Unit	\$850	\$355	\$1,194	\$702	\$3,101
Multi-Family	Housing Unit	\$575	\$240	\$808	\$475	\$2,098

Nonresidential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Proposed Fees
Industrial	1,000 Sq Ft	\$140	\$21	\$70	\$115	\$346
Commercial	1,000 Sq Ft	\$1,010	\$38	\$129	\$834	\$2,011
Office & Other Services	1,000 Sq Ft	\$448	\$58	\$198	\$370	\$1,074
Institutional	1,000 Sq Ft	\$616	\$54	\$184	\$509	\$1,363
Assisted Living	Bed	\$108	\$11	\$37	\$89	\$245
Lodging	Room	\$331	\$10	\$34	\$273	\$648

DIFFERENCE BETWEEN PROPOSED AND CURRENT DEVELOPMENT FEES

The differences between the proposed and current development fees are displayed below in Figure 5.

Figure 5: Difference Between Proposed and Current Development Fees

Residential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Difference
Single Family	Housing Unit	\$195	\$160	\$258	(\$17)	\$596
Multi-Family	Housing Unit	\$142	\$111	\$190	\$0	\$443

Nonresidential Fees per Development Unit						
Development Type	Development Unit	Fire	Library	Parks & Recreational	Police	Difference
Industrial	1,000 Sq Ft	\$34	\$12	\$22	(\$2)	\$66
Commercial	1,000 Sq Ft	\$221	\$19	\$32	(\$33)	\$239
Office & Other Services	1,000 Sq Ft	\$140	\$34	\$75	\$31	\$280
Institutional	1,000 Sq Ft	\$208	\$47	\$146	\$61	\$462
Assisted Living	Bed	N/A	N/A	N/A	N/A	N/A
Lodging	Room	N/A	N/A	N/A	N/A	N/A

LAND USE ASSUMPTIONS

Arizona's Development Fee Act requires the preparation of Land Use Assumptions, which are defined in Arizona Revised Statutes § 9-463.05(T)(6) as:

“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.”

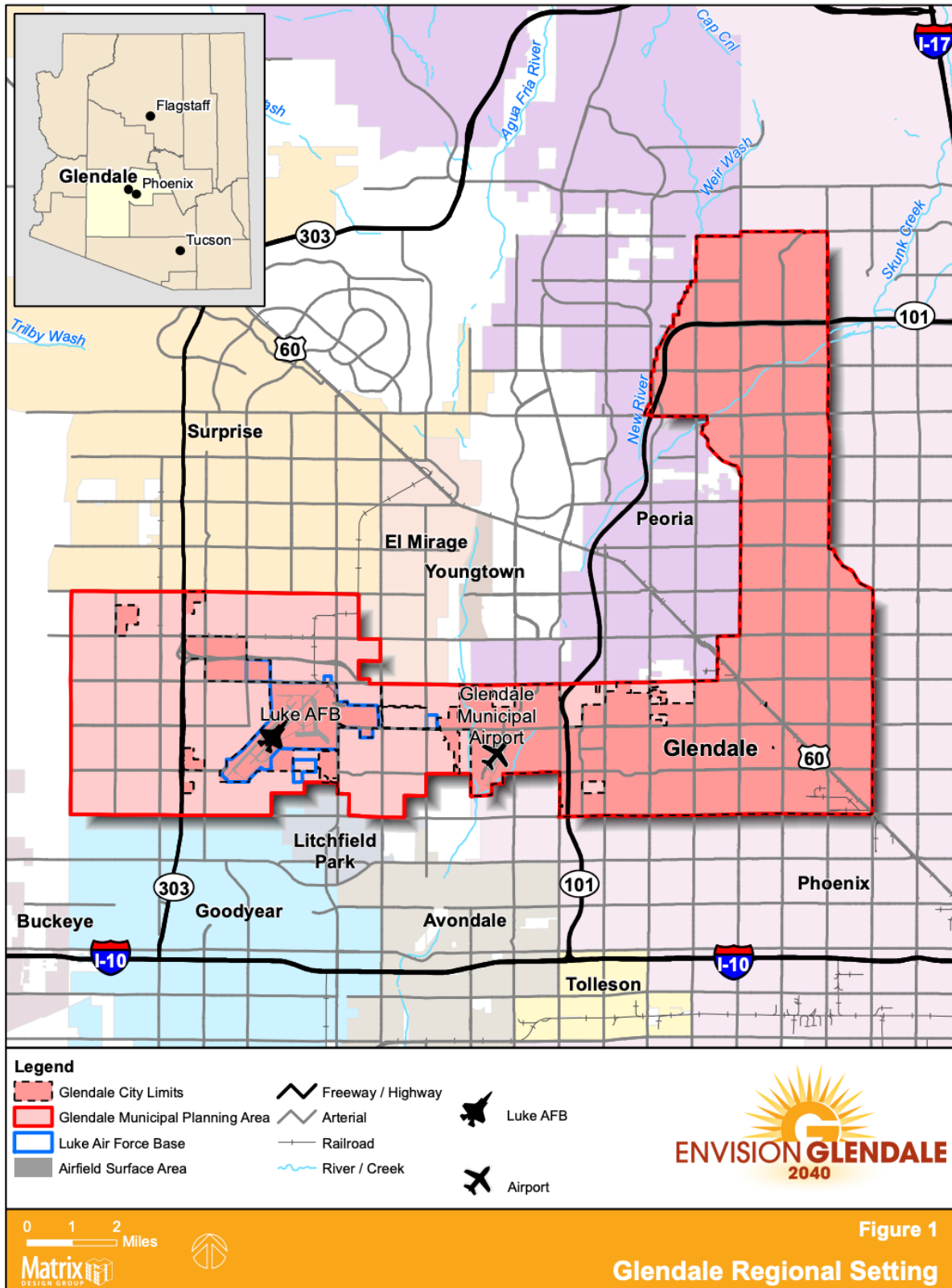
The estimates and projections of residential and nonresidential development in this Land Use Assumptions document are for all areas within Glendale. The current demographic estimates and future development projections will be used in the Infrastructure Improvements Plan (IIP) and in the calculation of development fees. Current demographic data estimates for 2024 are used in calculating levels of service (LOS) provided to existing development in Glendale. Arizona's Enabling Legislation requires fees to be updated at least every five years and limits the IIP to a maximum of 10 years.

SUMMARY OF GROWTH INDICATORS

Key land use assumptions include population, housing units, and employment projections. TischlerBise projects development using on a combination of data published by the Maricopa Association of Governments (MAG) and recommendations from Glendale staff based on recent and planned development. Development projections are summarized in Figure L11. These projections will be used to estimate fee revenue and to indicate the anticipated need for growth-related infrastructure. However, development fee methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate share fee amounts. If actual development occurs at a slower rate than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development occurs at a faster rate than anticipated, fee revenue will increase, but Glendale will also need to accelerate infrastructure improvements to keep pace with the actual rate of development. During the next 10 years, residential development projections indicate a population increase of 17,504 persons in 7,395 housing units, and nonresidential development projections indicate an employment increase of 24,474 jobs in approximately 14,970,000 square feet of floor area.

SERVICE AREA

Figure L1: Development Fee Service Area



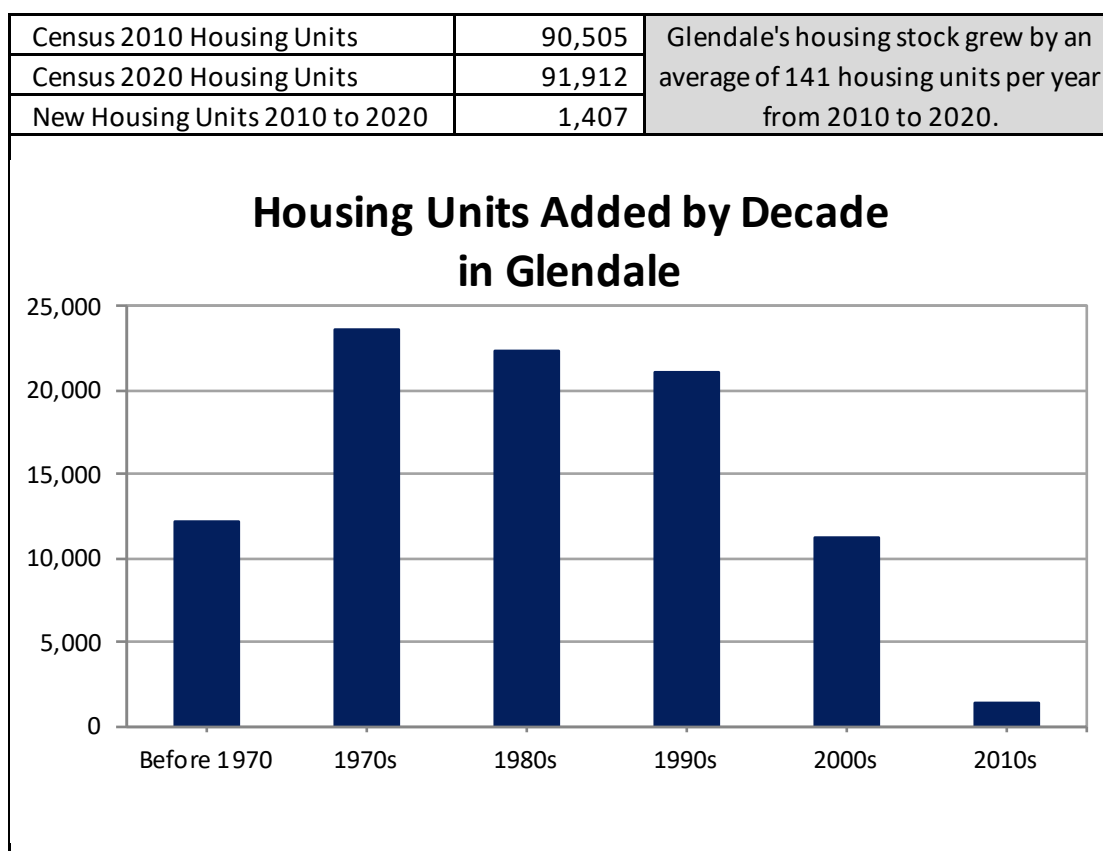
RESIDENTIAL DEVELOPMENT

This section details current estimates and future projections of residential development including population and housing units.

Recent Residential Construction

Development fees require an analysis of current levels of service. For residential development, current levels of service are determined using estimates of population and housing units. Shown below, Figure L2 indicates the estimated number of housing units added by decade according to data obtained from the U.S. Census Bureau. In the previous decade, Glendale's housing stock grew by an average of 141 housing units per year.

Figure L2: Housing Units by Decade



Source: U.S. Census Bureau, Census 2020 Summary File 1, Census 2010 Summary File 1, 2018-2022 5-Year American Community Survey (for 2000s and earlier, adjusted to yield total units in 2010).

Occupancy Factors

According to the U.S. Census Bureau, a household is a housing unit occupied by year-round residents. Development fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the development fee methodology assumes a higher percentage of 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 be imposed according to the number of persons per housing unit.

Occupancy calculations require data on population and the types of units by structure. 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, which share a common sidewall, but are constructed on an individual parcel of land). For development fees in Glendale, detached units, attached units, and mobile home units are included in the “Single-Family” category. The second residential category includes duplexes, all structures with two or more units on an individual parcel of land, recreational vehicles, and all other units.

Figure L3 below shows the occupancy estimates for Glendale based on 2018-2022 American Community Survey 5-Year Estimates. Single-family units averaged 2.97 persons per housing unit and multi-family units averaged 2.01 persons per housing unit. The estimates shown below are used only to calculate occupancy factors and may not match population and housing unit estimates shown throughout this report.

Figure L3: Occupancy Factors

Housing Type	Persons	Households	Persons per Household	Housing Units	Persons per Housing	Housing Mix	Vacancy Rate
Single-Family ¹	189,072	61,136	3.09	63,612	2.97	70.1%	3.89%
Multi-Family ²	54,425	24,243	2.24	27,099	2.01	29.9%	10.54%
Total	243,497	85,379	2.85	90,711	2.68	100.0%	5.88%

Source: U.S. Census Bureau, 2018-2022 American Community Survey 5-Year Estimates.

1. Includes detached, attached (i.e., townhouses), and mobile home units.
2. Includes dwellings in structures with two or more units or a boat, RV, van, etc.

Residential Estimates

For 2020, data published by the U.S. Census Bureau includes 244,198 persons living in 91,912 housing units citywide. Using data published by the Maricopa Association of Governments (MAG), the 2024 population estimate includes 261,600 persons. Converting additional population to housing units using the occupancy factors shown in Figure L3 results in a 2024 housing unit estimate of 96,875 units. For this study, the analysis assumes the occupancy factors shown in Figure L3 will remain constant throughout the 10-year projection period.

Residential Projections

Population and housing unit projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease.

TischlerBise projects future residential development using a combination of data published by MAG and staff recommendations. MAG population projections released in 2023 include a 2024 population of 261,600 and a 2034 population of 283,000. Converting the population increase to housing units using the occupancy factors shown in Figure L3 and the housing mix based on MAG data results in an increase of 8,707 housing unit—4,062 single-family units and 4,645 multi-family units. Based on input from Glendale’s Development Services Department, the analysis includes fewer single-family units to more accurately reflect the amount of land available for future single-family development.

The revised housing unit projections, shown below, include 2,750 single-family units and 4,645 multi-family units for a 10-year increase of 7,395 units. Applying the occupancy factors shown in Figure L3 to the housing unit projections results in 10-year population increase of 17,504 persons ((2,750 single-family units X 2.97 persons per housing unit) + (4,645 multi-family units X 2.01 persons per housing unit)).

Figure L4: Residential Projections

Glendale, Arizona	2024	2025	2026	2027	2028	2029	2034	10-Year
	Base Year	1	2	3	4	5	10	Increase
Population	261,600	263,766	265,545	266,860	269,026	271,115	279,104	17,504
Housing Units								
Single Family	67,500	67,947	68,315	68,586	69,034	69,465	70,249	2,750
Multi-Family	29,376	29,792	30,134	30,387	30,803	31,205	34,021	4,645
Total	96,875	97,739	98,449	98,973	99,837	100,670	104,270	7,395

NONRESIDENTIAL DEVELOPMENT

This section details current estimates and future projections of nonresidential development including jobs and nonresidential floor area.

Nonresidential Demand Factors

TischlerBise uses the term jobs to refer to employment by place of work. In Figure L5, gray shading indicates the nonresidential development prototypes used to derive employment densities. For nonresidential development, TischlerBise uses data published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). The prototype for industrial development is Industrial Park (ITE 130) with 864 square feet of floor area per employee. For office development, the proxy is General Office (ITE 710) with 307 square feet of floor area per employee. Institutional development uses Government Office (ITE 730) with 330 square feet of floor area per employee. The prototype for commercial development is Shopping Center (ITE 820) with 471 square feet of floor area per employee.

Figure L5: Nonresidential Demand Units

ITE Code	Land Use / Size	Demand Unit	Wkdy Trip Ends Per Dmd Unit ¹	Wkdy Trip Ends Per Employee ¹	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	4.87	3.10	1.57	637
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	4.75	2.51	1.89	528
150	Warehousing	1,000 Sq Ft	1.71	5.05	0.34	2,953
254	Assisted Living	bed	2.60	4.24	0.61	na
610	Hospital	1,000 Sq Ft	10.77	3.77	2.86	350
620	Nursing Home	bed	3.06	3.31	0.92	na
710	General Office (avg size)	1,000 Sq Ft	10.84	3.33	3.26	307
720	Medical-Dental Office	1,000 Sq Ft	36.00	8.71	4.13	242
730	Government Office	1,000 Sq Ft	22.59	7.45	3.03	330
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	37.01	17.42	2.12	471

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Nonresidential Estimates

To estimate 2024 employment, the analysis applies a straight-line projection between MAG 2020 employment estimate and 2030 employment projections. Shown below, 2024 employment estimates include 88,741 jobs. The analysis applies the employment density multipliers shown in Figure L5 to the employment estimates shown below to estimate nonresidential floor area. For industrial, the analysis includes actual square feet constructed in recent warehouse development. For 2024, existing nonresidential floor area includes 51,680,669 square feet.

Shown in the bottom on Figure L6 is the 2024 jobs and nonresidential floor area estimate.

Figure L6: Nonresidential Estimates

Nonresidential Category	2024 Jobs ¹	Square Feet per Job ²	2024 Estimated Floor Area ³
Industrial ⁴	17,924	864	25,198,954
Commercial ⁵	27,453	471	12,930,575
Office & Other Service ⁶	32,985	307	10,126,531
Institutional ⁷	10,378	330	3,424,608
Total	88,741		51,680,669

1. TischlerBise calculation based on Maricopa Association of Governments (MAG) Socioeconomic Projections, 2023.

2. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

3. TischlerBise calculation (2024 jobs X square feet per job). Industrial estimate includes recent warehouse development.

4. Includes MAG industrial employment.

5. Includes MAG retail employment.

6. Includes MAG office and other employment.

7. Includes MAG public employment.

Nonresidential Projections

Employment and floor area projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease.

TischlerBise projects nonresidential development using employment data published by MAG in the 2023 Socioeconomic Projections document. Projected employment growth over the next 10 years includes an additional 24,474 jobs.

To convert employment to nonresidential floor area, the analysis applies employment density multipliers shown in Figure L5 to the employment projections shown below. For example, the 10-year increase of 12,435 industrial jobs multiplied by 864 square feet per industrial job equals approximately 10,744,000 square feet of industrial development. Based on these assumptions, the 10-year projections include an increase of approximately 14,970,000 square feet.

Figure L7: Nonresidential Projections

Glendale, Arizona	2024	2025	2026	2027	2028	2029	2034	10-Year
	Base Year	1	2	3	4	5	10	Increase
Employment								
Industrial	22,292	23,837	25,382	26,927	28,471	30,016	34,727	12,435
Commercial	27,841	28,259	28,676	29,093	29,510	29,927	30,858	3,017
Office & Other Services	30,230	30,970	31,710	32,450	33,191	33,931	37,712	7,482
Institutional	10,378	10,570	10,762	10,955	11,147	11,340	11,918	1,540
Total	90,741	93,636	96,530	99,425	102,319	105,214	115,215	24,474
Nonres. Floor Area (x1,000)								
Industrial	28,946	30,281	31,616	32,951	34,285	35,620	39,690	10,744
Commercial	13,113	13,310	13,506	13,703	13,899	14,096	14,534	1,421
Office & Other Services	9,281	9,508	9,735	9,962	10,190	10,417	11,578	2,297
Institutional	3,425	3,488	3,552	3,615	3,679	3,742	3,933	508
Total	54,765	56,587	58,409	60,231	62,052	63,874	69,735	14,970

AVERAGE WEEKDAY VEHICLE TRIPS

Glendale will use average weekday vehicle trips (AWVT) for fire facilities fees and police facilities fees. Components used to determine AWVT include average weekday vehicle trip generation rates, adjustments for commuting patterns, and adjustments for pass-by trips.

Residential Trip Generation Rates

For residential development, TischlerBise uses trip generation rates published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). For single-family development, the proxy is Single Family Detached Housing (ITE 210), and this type of development generates 9.43 average weekday vehicle trip ends per unit. For multi-family development, the proxy is Multifamily Housing Low-Rise (ITE 220), and this type of development generates 6.74 average weekday vehicle trip ends per unit.

Nonresidential Trip Generation Rates

For nonresidential development, TischlerBise uses trip generation rates published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). The prototype for industrial development is Industrial Park (ITE 130) which generates 3.37 average weekday vehicle trip ends per 1,000 square feet of floor area. The prototype for commercial development is Shopping Center (ITE 820) which generates 37.01 average weekday vehicle trips per 1,000 square feet of floor area. For office & other services development, the proxy is General Office (ITE 710), and it generates 10.84 average weekday vehicle trip ends per 1,000 square feet of floor area. Institutional development uses Government Office (ITE 730) and generates 22.59 average weekday vehicle trip ends per 1,000 square feet of floor area.

Figure L8: Average Weekday Vehicle Trip Ends by Land Use

ITE Code	Land Use / Size	Demand Unit	Wkdy Trip Ends Per Dmd Unit ¹	Wkdy Trip Ends Per Employee ¹	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	4.87	3.10	1.57	637
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
150	Warehousing	1,000 Sq Ft	1.71	5.05	0.34	2,953
254	Assisted Living	bed	2.60	4.24	0.61	na
310	Hotel	room	7.99	14.34	0.56	na
610	Hospital	1,000 Sq Ft	10.77	3.77	2.86	350
710	General Office (avg size)	1,000 Sq Ft	10.84	3.33	3.26	307
720	Medical-Dental Office	1,000 Sq Ft	36.00	8.71	4.13	242
730	Government Office	1,000 Sq Ft	22.59	7.45	3.03	330
750	Office Park	1,000 Sq Ft	11.07	3.54	3.13	320
820	Shopping Center (avg size)	1,000 Sq Ft	37.01	17.42	2.12	471

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Trip Rate Adjustments

To calculate fire and police facilities 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 percent. As discussed further in this section, the development fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

Commuter Trip Adjustment

Residential development has a larger trip adjustment factor of 64 percent to account for commuters leaving Glendale for work. According to the 2009 National Household Travel Survey (Table 30) weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure L9, the U.S. Census Bureau's OnTheMap web application indicates 89 percent of resident workers traveled outside of Glendale for work in 2021. In combination, these factors ($0.31 \times 0.50 \times 0.89 = 0.14$) support the additional 14 percent allocation of trips to residential development.

Figure L9: Commuter Trip Adjustment

Trip Adjustment Factor for Commuters	
Employed Residents	103,409
Residents Living and Working in Glendale	11,591
Residents Commuting Outside Glendale for Work	91,818
Percent Commuting out of Glendale	89%
Additional Production Trips ¹	14%
Residential Trip Adjustment Factor	64%

Source: U.S. Census Bureau, OnTheMap Application (version 6.24.1) and LEHD Origin-Destination Employment Statistics,

1. According to the National Household Travel Survey (2009)*, published in December 2011 (see Table 30), home-based work trips are typically 30.99 percent of "production" trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, LED OnTheMap data from 2021 indicate that 89 percent of Glendale's workers travel outside the city for work. In combination, these factors ($0.3099 \times 0.50 \times 0.89 = 0.14$) account for 14 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 (14 percent of production trips) for a total of 64 percent.

*<http://nhts.ornl.gov/publications.shtml> ; Summary of Travel Trends - Table "Daily Travel Statistics by Weekday vs. Weekend"

Adjustment for Pass-By Trips

For commercial and institutional development, the trip adjustment factor is less than 50 percent because these types of development 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, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent 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 percent multiplied by 50 percent, or 33 percent of the trip ends.

Average Weekday Vehicle Trips

Shown below in Figure L10, multiplying average weekday vehicle trip ends and trip adjustment factors (discussed on the previous page) by Glendale's existing development units provides the average weekday vehicle trips generated by existing development. As shown below, Glendale's existing citywide development generates 818,850 vehicle trips on an average weekday.

Figure L10: Average Weekday Vehicle Trips by Land Use

Development Type	Development Unit	ITE Code	Avg Wkday VTE	Trip Adjustment	2024 Dev Units	2024 Veh Trips
Single Family	HU	210	9.43	64%	67,500	407,373
Multi-Family	HU	220	6.74	64%	29,376	126,716
Industrial	KSF	130	3.37	50%	28,946	48,775
Commercial	KSF	820	37.01	33%	13,113	160,157
Office & Other Services	KSF	710	10.84	50%	9,281	50,301
Institutional	KSF	730	22.59	33%	3,425	25,529
Total						818,850

DEVELOPMENT PROJECTIONS

Provided below is a summary of development projections used in the Development Fee Report. Base year estimates for 2024 are used in the fee calculations. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands.

Figure L11: Development Projections Summary

Glendale, Arizona	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	10-Year
	Base Year	1	2	3	4	5	6	7	8	9	10	Increase
Population	261,600	263,766	265,545	266,860	269,026	271,115	272,256	274,363	276,294	277,875	279,104	17,504
Housing Units												
Single Family	67,500	67,947	68,315	68,586	69,034	69,465	69,577	69,784	69,974	70,129	70,249	2,750
Multi-Family	29,376	29,792	30,134	30,387	30,803	31,205	31,607	32,350	33,031	33,588	34,021	4,645
Total	96,875	97,739	98,449	98,973	99,837	100,670	101,184	102,134	103,004	103,717	104,270	7,395
Employment												
Industrial	22,292	23,837	25,382	26,927	28,471	30,016	31,561	32,353	33,144	33,936	34,727	12,435
Commercial	27,841	28,259	28,676	29,093	29,510	29,927	30,344	30,473	30,601	30,730	30,858	3,017
Office & Other Services	30,230	30,970	31,710	32,450	33,191	33,931	34,671	35,431	36,191	36,952	37,712	7,482
Institutional	10,378	10,570	10,762	10,955	11,147	11,340	11,532	11,629	11,725	11,822	11,918	1,540
Total	90,741	93,636	96,530	99,425	102,319	105,214	108,108	109,885	111,661	113,438	115,215	24,474
Nonres. Floor Area (x1,000)												
Industrial	28,946	30,281	31,616	32,951	34,285	35,620	36,955	37,639	38,322	39,006	39,690	10,744
Commercial	13,113	13,310	13,506	13,703	13,899	14,096	14,292	14,353	14,413	14,474	14,534	1,421
Office & Other Services	9,281	9,508	9,735	9,962	10,190	10,417	10,644	10,877	11,111	11,344	11,578	2,297
Institutional	3,425	3,488	3,552	3,615	3,679	3,742	3,806	3,837	3,869	3,901	3,933	508
Total	54,765	56,587	58,409	60,231	62,052	63,874	65,696	66,706	67,715	68,725	69,735	14,970

Average Weekday Vehicle Trips

Provided below is a summary of vehicle trip projections used in the Development Fee Report. Base year estimates for 2024 are used in the fee calculations. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands. TischlerBise uses the projections shown below for nonresidential fire and police fees.

Figure L12: Average Weekday Vehicle Trips Summary

Glendale, Arizona	Base	1	2	3	4	5	6	7	8	9	10	10-Year Increase
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Single Family Units	67,500	67,947	68,315	68,586	69,034	69,465	69,577	69,784	69,974	70,129	70,249	2,750
Multi-Family Units	29,376	29,792	30,134	30,387	30,803	31,205	31,607	32,350	33,031	33,588	34,021	4,645
Industrial KSF	28,946	30,281	31,616	32,951	34,285	35,620	36,955	37,639	38,322	39,006	39,690	10,744
Commercial KSF	13,113	13,310	13,506	13,703	13,899	14,096	14,292	14,353	14,413	14,474	14,534	1,421
Office & Other Services KSF	9,281	9,508	9,735	9,962	10,190	10,417	10,644	10,877	11,111	11,344	11,578	2,297
Institutional KSF	3,425	3,488	3,552	3,615	3,679	3,742	3,806	3,837	3,869	3,901	3,933	508
Single Family Trips	407,373	410,074	412,292	413,932	416,633	419,237	419,913	421,161	422,305	423,240	423,968	16,595
Multi-Family Trips	126,716	128,512	129,987	131,077	132,873	134,605	136,340	139,545	142,482	144,885	146,754	20,038
Residential Trips	534,089	538,586	542,279	545,009	549,506	553,842	556,254	560,705	564,786	568,125	570,722	36,633
Industrial Trips	48,775	51,024	53,273	55,522	57,771	60,020	62,269	63,421	64,573	65,726	66,878	18,103
Commercial Trips	160,157	162,556	164,955	167,355	169,754	172,153	174,553	175,292	176,031	176,770	177,510	17,353
Office & Other Services Trips	50,301	51,532	52,764	53,996	55,227	56,459	57,690	58,955	60,220	61,485	62,750	12,450
Institutional Trips	25,529	26,003	26,476	26,949	27,423	27,896	28,369	28,607	28,844	29,081	29,319	3,789
Nonresidential Trips	284,761	291,115	297,468	303,821	310,175	316,528	322,881	326,275	329,669	333,063	336,456	51,695
Total Vehicle Trips	818,850	829,700	839,747	848,831	859,681	870,370	879,135	886,981	894,455	901,188	907,179	88,328

FIRE FACILITIES

ARS § 9-463.05 (T)(7)(f) defines the eligible facilities and assets for 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 firefighters or officers from more than one station or substation.”

The Fire Facilities IIP includes components for fire facilities, fire apparatus, and the cost of preparing the Fire Facilities IIP and related development fee report. The incremental expansion methodology is used for fire facilities and fire apparatus. The plan-based methodology is used for the development fee report.

SERVICE AREA

Glendale’s Fire Department strives to provide a uniform response time within the city limits; therefore, there is a citywide service area for the Fire Facilities IIP.

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 and development fees allocate the cost of fire services between residential and nonresidential development based on functional population. Based on 2021 estimates from the U.S. Census Bureau's OnTheMap web application, residential development accounts for approximately 76 percent of functional population and nonresidential development accounts for the remaining 24 percent.

Figure F1: Proportionate Share

Demand Units in 2021				
Residential			Demand Hours/Day	Person Hours
Population	250,585			
Residents Not Working	147,176		20	2,943,520
Employed Residents	103,409			
Employed in Glendale		11,591	14	162,274
Employed outside Glendale		91,818	14	1,285,452
Residential Subtotal				4,391,246
Residential Share				76%
Nonresidential				
Non-working Residents	147,176		4	588,704
Jobs Located in Glendale	82,315			
Residents Employed in Glendale		11,591	10	115,910
Non-Resident Workers (inflow commuters)		70,724	10	707,240
Nonresidential Subtotal				1,411,854
Nonresidential Share				24%
Total				5,803,100

Source: Arizona Office of Economic Opportunity (population), U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, Version 6.24.1 (employment).

The proportionate share of costs attributable to residential development are allocated to population and then converted to an appropriate amount by type of housing unit. TischlerBise recommends using vehicle trips as the demand indicator for nonresidential demand for fire infrastructure. 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 fire infrastructure from nonresidential development.

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 F2 displays the service units for residential and nonresidential land uses. For residential development, the table displays the number of persons per housing unit. For nonresidential development, the table displays the number of average weekday vehicle trips per development unit.

Figure F2: Ratio of Service Unit to Development Unit

Residential Development				
Development Type	Development Unit	Persons per Dev. Unit ¹		
Single Family	Housing Unit	2.97		
Multi-Family	Housing Unit	2.01		

Nonresidential Development				
Development Type	Development Unit	Avg Weekday Veh Trip Ends ¹	Trip Rate Adjustment	Vehicle Trips per Dev. Unit ¹
Industrial	1,000 Sq Ft	3.37	50%	1.69
Commercial	1,000 Sq Ft	37.01	33%	12.21
Office & Other Services	1,000 Sq Ft	10.84	50%	5.42
Institutional	1,000 Sq Ft	22.59	33%	7.45
Assisted Living	Bed	2.60	50%	1.30
Lodging	Room	7.99	50%	4.00

1. See Land Use Assumptions

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.”

Fire Facilities – Incremental Expansion

Glendale currently provides 113,278 square feet of fire facilities to existing development, and Glendale plans to construct additional fire facilities to serve future development.

Figure F3: Existing Fire Facilities

Description	Square Feet
Station 151	15,429
Station 152	12,622
Station 153	7,400
Station 154	9,470
Station 155	6,058
Station 156	6,738
Station 157	16,000
Station 158	11,900
Station 159	14,400
Fire Resource Center	13,261
Total	113,278

Source: Glendale Engineering Department

Glendale plans to construct the Airport Area Station to serve future development. According to estimates from the Glendale Engineering Department, the Airport Area Station includes 11,500 square feet of floor area and the total construction cost estimate is \$12,500,000. Funding sources include bond funds of \$5,954,000 and development fee funds of \$6,546,000. Instead of calculating a separate bond credit to prevent future development from funding fire facilities one time through development fees and a second time through future bond payments, the analysis excludes bond funds from the cost calculation. Based on the share of development fee funds for the Airport Area Station, the development fee share is \$569 per square foot ($\$6,546,000 / 11,500$ square feet). Glendale will likely fund construction of future fire facilities with a similar mix of funding sources, so the analysis uses \$569 per square foot as a proxy for future growth-related fire facilities costs.

Figure F4: Construction Cost Factors

Cost Factors	
Airport Area Station Cost	\$12,500,000
Bond Funds	\$5,954,000
Development Fee Funds	\$6,546,000
Square Feet	11,500
Cost per Square Foot	\$569

Source: Glendale Engineering Department

To allocate the proportionate share of demand for fire facilities to residential and nonresidential development, this analysis uses functional population shown in Figure F1. Glendale's existing level of service for residential development is 0.3291 square feet per person (113,278 square feet X 76 percent residential share / 261,600 persons). The nonresidential level of service is 0.0955 square feet per vehicle trip (113,278 square feet X 24 percent nonresidential share / 284,761 vehicle trips). For fire facilities, the cost is \$187.33 per person (0.3291 square feet per person X \$569 per square foot) and \$54.34 per vehicle trip (0.0955 square feet per vehicle trip X \$569 per square foot).

Figure F5: Existing Level of Service

Level-of-Service (LOS) Standards	
Existing Square Feet	113,278
Residential	
Residential Share	76%
2024 Population	261,600
Square Feet per Person	0.3291
Cost per Person	\$187.33
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Square Feet per Vehicle Trip	0.0955
Cost per Vehicle Trip	\$54.34

Source: Glendale Fire Department

Fire Apparatus – Incremental Expansion

Glendale currently serves existing development with 26 fire apparatus, and Glendale plans to acquire additional fire apparatus to serve future development. The replacement cost of the existing fleet is \$33,540,000. To allocate the proportionate share of demand for fire apparatus to residential and nonresidential development, this analysis uses functional population outlined in Figure F1. Glendale's existing level of service for residential development is 0.00008 units per person (26 units X 76 percent residential share / 261,600 persons). The nonresidential level of service is 0.00002 units per vehicle trip (26 units X 24 percent nonresidential share / 284,761 vehicle trips).

Based on the existing fleet, the weighted average cost for a new fire apparatus is \$1,290,000 per unit (\$33,540,000 total cost / 26 units), and the analysis uses this cost as a proxy for future fire apparatus costs. For fire apparatus, the cost is \$97.44 per person (0.00008 units per person X \$1,290,000 per unit) and \$28.27 per vehicle trip (0.00002 units per vehicle trip X \$1,290,000 per unit).

Figure F6: Existing Level of Service

Description	Vehicles	Unit Cost	Total Cost
Pumper	17	\$1,200,000	\$20,400,000
Ladder	4	\$2,200,000	\$8,800,000
Tender	3	\$1,000,000	\$3,000,000
Hazmat	2	\$670,000	\$1,340,000
Total	26	\$1,290,000	\$33,540,000

Cost Factors	
Weighted Average per Vehicle	\$1,290,000

Level-of-Service (LOS) Standards	
Existing Units	26
Residential	
Residential Share	76%
2024 Population	261,600
Units per Person	0.00008
Cost per Person	\$97.44
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Units per Vehicle Trip	0.00002
Cost per Vehicle Trip	\$28.27

Source: Glendale Fire Department

Development Fee Report – Plan-Based

The cost to prepare the Fire Facilities IIP and related development fee report totals \$16,213. Glendale plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of future development from the *Land Use Assumptions* document, the cost is \$1.29 per person and \$0.12 per vehicle trip.

Figure F7: IIP and Development Fee Report

Necessary Public Service	Cost	Proportionate Share		Service Unit	5-Year Change	Cost per Service Unit
Fire	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Library	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Parks and Recreational	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Police	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Total	\$64,490					

PROJECTED DEMAND FOR SERVICES AND COSTS

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.”

As shown in the *Land Use Assumptions* document, projected development during the next 10 years includes residential growth of 17,504 persons and nonresidential growth of 51,695 vehicle trips. To maintain existing levels of service, Glendale needs to construct approximately 10,696 square feet of fire facilities and expand the apparatus fleet by approximately 2.5 units over the next 10 years. The following pages include a more detailed projection of demand for services and costs for the Fire Facilities IIP.

Fire Facilities – Incremental Expansion

Glendale plans to maintain its existing level of service for fire facilities over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands approximately 5,760 square feet of fire facilities (17,504 additional persons X 0.3291 square feet per person). With projected nonresidential vehicle trip growth of 51,695 vehicle trips, future nonresidential development demands approximately 4,935 square feet of fire facilities (51,695 additional vehicle trips X 0.0955 square feet per vehicle trip). Future development demands approximately 10,696 square feet of fire facilities at a cost of \$6,088,249 (10,695.8 square feet X \$569 per square foot).

Figure F8: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Fire Facilities	0.3291 Square Feet	per Person	\$569
	0.0955 Square Feet	per Vehicle Trip	

Demand for Fire Facilities					
Year	Population	Vehicle Trips	Square Feet		
			Residential	Nonresidential	Total
2024	261,600	284,761	86,091.3	27,186.7	113,278.0
2025	263,766	291,115	86,804.1	27,793.3	114,597.4
2026	265,545	297,468	87,389.6	28,399.8	115,789.4
2027	266,860	303,821	87,822.3	29,006.4	116,828.7
2028	269,026	310,175	88,535.1	29,613.0	118,148.1
2029	271,115	316,528	89,222.5	30,219.5	119,442.0
2030	272,256	322,881	89,598.1	30,826.1	120,424.2
2031	274,363	326,275	90,291.5	31,150.1	121,441.6
2032	276,294	329,669	90,927.1	31,474.1	122,401.2
2033	277,875	333,063	91,447.2	31,798.1	123,245.3
2034	279,104	336,456	91,851.7	32,122.1	123,973.8
10-Yr Increase	17,504	51,695	5,760.4	4,935.4	10,695.8

Growth-Related Expenditures	\$3,278,920	\$2,809,329	\$6,088,249
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Fire Apparatus – Incremental Expansion

Glendale plans to maintain the existing level of service for fire apparatus over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands approximately 1.3 fire apparatus (17,504 additional persons X 0.00008 units per person). With projected nonresidential vehicle trip growth of 51,695 vehicle trips, future nonresidential development demands approximately 1.1 fire apparatus (51,695 trips X 0.00002 units per vehicle trip). Future development demands approximately 2.5 fire apparatus at a cost of \$3,166,881 (2.5 units X \$1,290,000 per unit).

Figure F9: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Fire Apparatus	0.00008 Units	per Person	\$1,290,000
	0.00002 Units	per Vehicle Trip	

Demand for Fire Apparatus					
Year	Population	Vehicle Trips	Units		
			Residential	Nonresidential	Total
2024	261,600	284,761	19.8	6.2	26.0
2025	263,766	291,115	19.9	6.4	26.3
2026	265,545	297,468	20.1	6.5	26.6
2027	266,860	303,821	20.2	6.7	26.8
2028	269,026	310,175	20.3	6.8	27.1
2029	271,115	316,528	20.5	6.9	27.4
2030	272,256	322,881	20.6	7.1	27.6
2031	274,363	326,275	20.7	7.1	27.9
2032	276,294	329,669	20.9	7.2	28.1
2033	277,875	333,063	21.0	7.3	28.3
2034	279,104	336,456	21.1	7.4	28.5
10-Yr Increase	17,504	51,695	1.3	1.1	2.5

Growth-Related Expenditures	\$1,705,572	\$1,461,308	\$3,166,881
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FIRE FACILITIES DEVELOPMENT FEES

Revenue Credit/Offset

A revenue credit/offset is not necessary for development fees, because Glendale's construction transaction privilege tax rate is equal to the amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

Fire Facilities Development Fees

Infrastructure components and cost factors for fire facilities are summarized in the upper portion of Figure F10. The cost per service unit for fire facilities is \$286.06 per person and \$82.73 per vehicle trip.

Fire facilities development fees for residential development are assessed according to the number of persons per housing unit. The fee of \$850 for a single-family unit is calculated using a cost per service unit of \$286.06 per person multiplied by a demand unit of 2.97 persons per housing unit.

Nonresidential development fees are calculated using average weekday vehicle trips as the service unit. The fee of \$140 per development unit (1,000 square feet) of industrial development is calculated using a cost per service unit of \$82.73 per vehicle trip multiplied by a demand unit of 1.69 average weekday vehicle trips per 1,000 square feet.

Figure F10: Fire Facilities Development Fees

Fee Component	Cost per Person	Cost per Trip
Fire Facilities	\$187.33	\$54.34
Fire Apparatus	\$97.44	\$28.27
Development Fee Report	\$1.29	\$0.12
Total	\$286.06	\$82.73

Residential Fees per Development Unit					
Development Type	Development Unit	Persons per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Single Family	Housing Unit	2.97	\$850	\$655	\$195
Multi-Family	Housing Unit	2.01	\$575	\$433	\$142

Nonresidential Fees per Development Unit					
Development Type	Development Unit	Vehicle Trips per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Industrial	1,000 Sq Ft	1.69	\$140	\$106	\$34
Commercial	1,000 Sq Ft	12.21	\$1,010	\$789	\$221
Office & Other Services	1,000 Sq Ft	5.42	\$448	\$308	\$140
Institutional	1,000 Sq Ft	7.45	\$616	\$408	\$208
Assisted Living	Bed	1.30	\$108	N/A	N/A
Lodging	Room	4.00	\$331	N/A	N/A

1. See Land Use Assumptions

FIRE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS § 9-463.05(E)(7)). In accordance with state law, this report includes an IIP for fire facilities needed to accommodate future development. Projected fee revenue shown in Figure F11 is based on the development projections in the *Land Use Assumptions* document and the updated fire facilities development fees. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease, along with development fee revenue. Projected development fee revenue equals \$9,270,727 and projected expenditures equal \$9,271,252.

Figure F11: Fire Facilities Development Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Fire Facilities	\$6,088,249	\$0	\$6,088,249
Fire Apparatus	\$3,166,881	\$0	\$3,166,881
Development Fee Report	\$16,123	\$0	\$16,123
Total	\$9,271,252	\$0	\$9,271,252

		Single Family \$850 per unit	Multi-Family \$575 per unit	Industrial \$140 per 1,000 sq ft	Commercial \$1,010 per 1,000 sq ft	Office & Other \$448 per 1,000 sq ft	Institutional \$616 per 1,000 sq ft
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	67,500	29,376	28,946	13,113	9,281	3,425
Year 1	2025	67,947	29,792	30,281	13,310	9,508	3,488
Year 2	2026	68,315	30,134	31,616	13,506	9,735	3,552
Year 3	2027	68,586	30,387	32,951	13,703	9,962	3,615
Year 4	2028	69,034	30,803	34,285	13,899	10,190	3,679
Year 5	2029	69,465	31,205	35,620	14,096	10,417	3,742
Year 6	2030	69,577	31,607	36,955	14,292	10,644	3,806
Year 7	2031	69,784	32,350	37,639	14,353	10,877	3,837
Year 8	2032	69,974	33,031	38,322	14,413	11,111	3,869
Year 9	2033	70,129	33,588	39,006	14,474	11,344	3,901
Year 10	2034	70,249	34,021	39,690	14,534	11,578	3,933
10-Year Increase		2,750	4,645	10,744	1,421	2,297	508
Projected Revenue		\$2,333,154	\$2,663,483	\$1,497,386	\$1,434,574	\$1,029,200	\$312,930

Projected Fee Revenue	\$9,270,727
Total Expenditures	\$9,271,252

LIBRARY FACILITIES IIP

ARS § 9-463.05 (T)(7)(d) defines the facilities and assets that 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 related Development Fee Report. The incremental expansion methodology is used for library facilities, and the plan-based methodology is used for the Development Fee Report.

SERVICE AREA

Glendale provides library services to all development within the city limits; therefore, there is a citywide service area for the Library Facilities IIP.

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 Library Facilities IIP and development fees allocate the cost of necessary public services between residential and nonresidential development based on functional population. The Arizona Office of Economic Opportunity estimates Glendale’s 2021 population equal to 250,585 persons. Based on 2021 estimates from the U.S. Census Bureau’s OnTheMap web application, 70,724 inflow commuters traveled to Glendale for work in 2021. The proportionate share is based on cumulative impact hours per year with a resident potentially impacting library facilities 8,760 hours per year and an inflow commuter potentially impacting library facilities 1,600 hours per year. Based on these estimates, Glendale’s functional population is 95 percent residential and five percent nonresidential.

Figure LF1: Proportionate Share

Development Type	Service Unit	Impact Days per Year	Total Impact Hours per Year	Proportionate Share
Residential	250,585 residents ¹	8,760 hours	2,195,124,600	95%
Nonresidential	70,724 inflow commuters ²	1,600 hours	113,158,400	5%
Total			2,308,283,000	100%

1. Arizona Office of Economic Opportunity, 2021.

2. U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2021.

Residential Impact: 8,760 hours per year (24 hours per day X 365 days per year)

Nonresidential Impact: 1,600 hours per year (8 hours per day X 4 days per week X 50 weeks per year)

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 LF2 displays the demand indicators for residential and nonresidential land uses. For residential development, the table displays the number of persons per housing unit. For nonresidential development, the table displays the number of employees per development unit.

Figure LF2: Ratio of Service Unit to Development Unit

Residential Development		
Development Type	Development Unit	Persons per Dev. Unit ¹
Single Family	Housing Unit	2.97
Multi-Family	Housing Unit	2.01

Nonresidential Development		
Development Type	Development Unit	Jobs per Dev. Unit ¹
Industrial	1,000 Sq Ft	1.16
Commercial	1,000 Sq Ft	2.12
Office & Other Services	1,000 Sq Ft	3.26
Institutional	1,000 Sq Ft	3.03
Assisted Living	Bed	0.61
Lodging	Room	0.56

1. See Land Use Assumptions

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.”

Library Facilities – Incremental Expansion

The Enabling Legislation limits library facilities to “ten thousand square feet that provide a direct benefit to development.” The City of Glendale has four libraries with a total floor area of 121,160 square feet, but the analysis includes 37,500 eligible square feet to comply with the Enabling Legislation. To allocate the proportionate share of demand for library facilities to residential and nonresidential development, this analysis uses the proportionate share shown in Figure LF1. Glendale’s eligible level of service for residential development is 0.1362 eligible square feet per person (37,500 eligible square feet X 95 percent residential share / 261,600 persons). The nonresidential level of service is 0.0207 eligible square feet per job (37,500 eligible square feet X five percent nonresidential share / 90,741 jobs).

The cost to construct Heroes Park Library was \$867 per square foot, and the analysis uses this cost as a proxy for future library facilities needed to serve future development. For library facilities, the cost is \$118.02 per person (0.1362 eligible square feet per person X \$867 per square foot) and \$17.91 per job (0.0207 eligible square feet per job X \$867 per square foot).

Figure LF3: Existing Level of Service

Description	Total Square Feet	Eligible Square Feet
Main Library	64,166	10,000
Velma Teague Library	15,994	10,000
Heroes Park Library	7,500	7,500
Foothills Library	33,500	10,000
Total	121,160	37,500

Cost Factors	
Cost per Square Foot	\$867

Level-of-Service (LOS) Standards	
Eligible Square Feet	37,500
Residential	
Residential Share	95%
2024 Population	261,600
Eligible Square Feet per Person	0.1362
Cost per Person	\$118.02
Nonresidential	
Nonresidential Share	5%
2024 Jobs	90,741
Eligible Square Feet per Job	0.0207
Cost per Job	\$17.91

Source: Glendale Engineering Department

Development Fee Report – Plan-Based

The cost to prepare the Library Facilities IIP and development fees equals \$16,123. Glendale plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of future development from the *Land Use Assumptions* document, the cost is \$1.61 per person and \$0.06 per job.

Figure LF4: IIP and Development Fee Report

Necessary Public Service	Cost	Proportionate Share		Service Unit	5-Year Change	Cost per Service Unit
Fire	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Library	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Parks and Recreational	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Police	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Total	\$64,490					

PROJECTED DEMAND FOR SERVICES AND COSTS

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.”

As shown in the *Land Use Assumptions* document, projected development during the next 10 years includes residential growth of 17,504 persons and nonresidential growth of 24,474 jobs. To maintain the existing eligible level of service, Glendale needs to construct approximately 2,889 square feet of library facilities during the next 10 years. The following page includes a more detailed projection of demand for services and costs for the Library Facilities IIP.

Library Facilities – Incremental Expansion

Glendale plans to maintain its eligible level of service for library facilities over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands approximately 2,384 square feet of library facilities (17,504 additional persons X 0.1362 eligible square feet per person). With projected employment growth of 24,474 jobs, future nonresidential development demands approximately 506 square feet of library facilities (24,474 additional jobs X 0.0207 eligible square feet per job). Future development demands approximately 2,889 square feet of library facilities at a cost of \$2,504,138 (2,889.4 square feet X \$867 per square foot).

Figure LF5: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Library Facilities	0.1362 Square Feet	per Person	\$867
	0.0207 Square Feet	per Job	

Demand for Library Facilities					
Year	Population	Jobs	Square Feet		
			Residential	Nonresidential	Total
2024	261,600	90,741	35,625.0	1,875.0	37,500.0
2025	263,766	93,636	35,920.0	1,934.8	37,854.8
2026	265,545	96,530	36,162.2	1,994.6	38,156.9
2027	266,860	99,425	36,341.3	2,054.4	38,395.8
2028	269,026	102,319	36,636.3	2,114.2	38,750.5
2029	271,115	105,214	36,920.7	2,174.0	39,094.7
2030	272,256	108,108	37,076.1	2,233.9	39,310.0
2031	274,363	109,885	37,363.1	2,270.6	39,633.6
2032	276,294	111,661	37,626.1	2,307.3	39,933.4
2033	277,875	113,438	37,841.3	2,344.0	40,185.3
2034	279,104	115,215	38,008.7	2,380.7	40,389.4
10-Yr Increase	17,504	24,474	2,383.7	505.7	2,889.4

Growth-Related Expenditures	\$2,065,858	\$438,280	\$2,504,138
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LIBRARY FACILITIES DEVELOPMENT FEES

Revenue Credit/Offset

A revenue credit/offset is not necessary for development fees, because Glendale's construction transaction privilege tax rate is equal to the amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

Library Facilities Development Fees

Figure LF6 includes infrastructure components and cost factors for library facilities development fees. The cost per service unit is \$119.63 per person and \$17.97 per job.

Library facilities fees for residential development are assessed according to the number of persons per housing unit. The fee of \$355 for a single-family unit is calculated using a cost per service unit of \$119.63 per person multiplied by a demand unit of 2.97 persons per housing unit.

Nonresidential development fees are calculated using jobs as the service unit. The fee of \$21 per development unit (1,000 square feet) of industrial development is calculated using a cost per service unit of \$17.97 per job multiplied by a demand unit of 1.16 jobs per 1,000 square feet.

Figure LF6: Library Facilities Development Fees

Fee Component	Cost per Person	Cost per Job
Library Facilities	\$118.02	\$17.91
Development Fee Report	\$1.61	\$0.06
Total	\$119.63	\$17.97

Residential Fees per Development Unit					
Development Type	Development Unit	Persons per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Single Family	Housing Unit	2.97	\$355	\$195	\$160
Multi-Family	Housing Unit	2.01	\$240	\$129	\$111

Nonresidential Fees per Development Unit					
Development Type	Development Unit	Jobs per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Industrial	1,000 Sq Ft	1.16	\$21	\$9	\$12
Commercial	1,000 Sq Ft	2.12	\$38	\$19	\$19
Office & Other Services	1,000 Sq Ft	3.26	\$58	\$24	\$34
Institutional	1,000 Sq Ft	3.03	\$54	\$7	\$47
Assisted Living (per bed)	Bed	0.61	\$11	N/A	N/A
Lodging (per room)	Room	0.56	\$10	N/A	N/A

1. See Land Use Assumptions

LIBRARY FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)). In accordance with state law, this report includes an IIP for library facilities needed to accommodate new development. Projected fee revenue shown in Figure LF7 is based on the development projections in the *Land Use Assumptions* document and the updated library facilities development fees shown in Figure LF6. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease, along with development fee revenue. Projected development fee revenue equals \$2,520,260 and projected expenditures equal \$2,520,260.

Figure LF7: Library Facilities Development Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Library Facilities	\$2,504,138	\$0	\$2,504,138
Development Fee Report	\$16,123	\$0	\$16,123
Total	\$2,520,260	\$0	\$2,520,260

		Single Family \$355 per unit	Multi-Family \$240 per unit	Industrial \$21 per 1,000 sq ft	Commercial \$38 per 1,000 sq ft	Office & Other \$58 per 1,000 sq ft	Institutional \$54 per 1,000 sq ft
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	67,500	29,376	28,946	13,113	9,281	3,425
Year 1	2025	67,947	29,792	30,281	13,310	9,508	3,488
Year 2	2026	68,315	30,134	31,616	13,506	9,735	3,552
Year 3	2027	68,586	30,387	32,951	13,703	9,962	3,615
Year 4	2028	69,034	30,803	34,285	13,899	10,190	3,679
Year 5	2029	69,465	31,205	35,620	14,096	10,417	3,742
Year 6	2030	69,577	31,607	36,955	14,292	10,644	3,806
Year 7	2031	69,784	32,350	37,639	14,353	10,877	3,837
Year 8	2032	69,974	33,031	38,322	14,413	11,111	3,869
Year 9	2033	70,129	33,588	39,006	14,474	11,344	3,901
Year 10	2034	70,249	34,021	39,690	14,534	11,578	3,933
10-Year Increase		2,750	4,645	10,744	1,421	2,297	508
Projected Revenue		\$973,180	\$1,107,806	\$223,300	\$54,189	\$134,139	\$27,646

Projected Fee Revenue	\$2,520,260
Total Expenditures	\$2,520,260

PARKS AND RECREATIONAL FACILITIES IIP

ARS § 9-463.05 (T)(7)(g) defines the facilities and assets that 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, park amenities, and the cost of preparing the Parks and Recreational Facilities IIP and related Development Fee Report. The incremental expansion methodology is used for park amenities. The plan-based methodology is used for the Development Fee Report.

SERVICE AREA

Glendale provides parks and recreation facilities to all development within the city limits; therefore, there is a citywide service area for the Parks and Recreational Facilities IIP.

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 Parks and Recreational Facilities IIP and development fees allocate the cost of necessary public services between residential and nonresidential development based on functional population. The Arizona Office of Economic Opportunity estimates Glendale’s 2021 population equal to 250,585 persons. Based on 2021 estimates from the U.S. Census Bureau’s OnTheMap web application, 70,724 inflow commuters traveled to Glendale for work in 2021. The proportionate share is based on cumulative impact hours per year with a resident potentially impacting parks and recreational facilities 8,760 hours per year and an inflow commuter potentially impacting parks and recreational facilities 1,600 hours per year. Based on these estimates, Glendale’s functional population is 95 percent residential and five percent nonresidential.

Figure PR1: Proportionate Share

Development Type	Service Unit	Impact Days per Year	Total Impact Hours per Year	Proportionate Share
Residential	250,585 residents ¹	8,760 hours	2,195,124,600	95%
Nonresidential	70,724 inflow commuters ²	1,600 hours	113,158,400	5%
Total			2,308,283,000	100%

1. Arizona Office of Economic Opportunity, 2021.

2. U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2021.

Residential Impact: 8,760 hours per year (24 hours per day X 365 days per year)

Nonresidential Impact: 1,600 hours per year (8 hours per day X 4 days per week X 50 weeks per year)

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 PR2 displays the demand indicators for residential and nonresidential land uses. For residential development, the table displays the number of persons per housing unit. For nonresidential development, the table displays the number of employees per demand unit.

Figure PR2: Ratio of Service Unit to Development Unit

Residential Development		
Development Type	Development Unit	Persons per Dev. Unit ¹
Single Family	Housing Unit	2.97
Multi-Family	Housing Unit	2.01

Nonresidential Development		
Development Type	Development Unit	Jobs per Dev. Unit ¹
Industrial	1,000 Sq Ft	1.16
Commercial	1,000 Sq Ft	2.12
Office & Other Services	1,000 Sq Ft	3.26
Institutional	1,000 Sq Ft	3.03
Assisted Living	Bed	0.61
Lodging	Room	0.56

1. See Land Use Assumptions

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

Glendale currently provides 422.8 acres of park land to existing development. To allocate the proportionate share of demand for park land to residential and nonresidential development, this analysis uses the proportionate share shown in Figure PR1. Glendale’s existing LOS for residential development is 0.00154 acres per person (422.8 acres X 95 percent residential share / 261,600 persons). For nonresidential development, the existing LOS is 0.00023 acres per job (422.8 acres X five percent nonresidential share / 90,741 jobs).

As Glendale approaches buildout, there are few undeveloped parcels suitable for future park sites. Based on discussions with staff, the analysis excludes park land acquisition from the Parks and Recreational Facilities IIP.

Figure PR3: Existing Level of Service

Description	Acres
Community Parks	171.1
Neighborhood Parks	251.7
Total	422.8

Level-of-Service (LOS) Standards	
Existing Acres	422.8
Residential	
Residential Share	95%
2024 Population	261,600
Acres per Person	0.00154
Nonresidential	
Nonresidential Share	5%
2024 Jobs	90,741
Acres per Job	0.00023

Source: Glendale Parks and Recreation Department

Park Amenities – Incremental Expansion

Glendale currently provides 562 park amenities in its existing parks and plans to construct additional park amenities to serve future development. Based on costs provided by Glendale’s Parks and Recreation Department to construct recent park amenities, the total cost of Glendale’s existing park amenities is \$110,268,280. The weighted average cost of existing park amenities is \$196,207 per unit, and the analysis uses this cost as a proxy for future park amenities costs.

Figure PR4: Existing Park Amenities

Description	Units	Unit Cost	Total Cost
Aquatics, Spray Pad	4	\$1,000,000	\$4,000,000
Basketball Court	54	\$85,000	\$4,590,000
Basketball, Practice	3	\$85,000	\$255,000
Diamond Field	14	\$475,000	\$6,650,000
Diamond Field Practice	17	\$325,000	\$5,525,000
Disc Golf	3	\$25,000	\$75,000
Dog Park	3	\$500,000	\$1,500,000
Fitness Course	11	\$120,000	\$1,320,000
Game Court	12	\$85,000	\$1,020,000
Loop Walk	27	\$295,860	\$7,988,220
Natural Area	1	\$125,000	\$125,000
Open Turf	61	\$152,460	\$9,300,060
Playground, Local	59	\$500,000	\$29,500,000
Rectangular Field, Large	16	\$650,000	\$10,400,000
Restroom	24	\$450,000	\$10,800,000
Shelter, Large	34	\$80,000	\$2,720,000
Shelter, Small	128	\$35,000	\$4,480,000
Tennis Court	34	\$220,000	\$7,480,000
Trail, Multi-Use	3	\$20,000	\$60,000
Pickleball Court	10	\$160,000	\$1,600,000
Volleyball Court	44	\$20,000	\$880,000
Total	562	\$196,207	\$110,268,280

Source: Glendale Parks and Recreation Department

To allocate the proportionate share of demand for park amenities to residential and nonresidential development, this analysis uses the proportionate share shown in Figure PR1. Glendale's existing LOS for residential development is 0.0020 units per person (562 units X 95 percent residential share / 261,600 persons). For nonresidential development, the existing LOS is 0.0003 units per job (562 units X five percent nonresidential share / 90,741 jobs).

The weighted average cost of existing park amenities is \$196,207 per unit (\$110,268,280 total cost / 562 units), and the analysis uses this cost as a proxy for future park amenities costs. For park amenities, the cost is \$400.44 per person (0.0020 units per person X \$196,207 per unit) and \$60.76 per job (0.0003 units per job X \$196,207 per unit).

Figure PR5: Existing Level of Service

Cost Factors	
Weighted Average per Unit	\$196,207

Level-of-Service (LOS) Standards	
Existing Units	562
Residential	
Residential Share	95%
2024 Population	261,600
Units per Person	0.0020
Cost per Person	\$400.44
Nonresidential	
Nonresidential Share	5%
2024 Jobs	90,741
Units per Job	0.0003
Cost per Job	\$60.76

Source: Glendale Parks and Recreation Department

Development Fee Report – Plan-Based

The cost to prepare the Parks and Recreational Facilities IIP and development fees totals \$16,123. Glendale plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new development from the *Land Use Assumptions* document, the cost is \$1.61 per person and \$0.06 per job.

Figure PR6: IIP and Development Fee Report

Necessary Public Service	Cost	Proportionate Share		Service Unit	5-Year Change	Cost per Service Unit
Fire	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Library	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Parks and Recreational	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Police	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Total	\$64,490					

PROJECTED DEMAND FOR SERVICES AND COSTS

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.”

As shown in the *Land Use Assumptions* document, projected development during the next 10 years includes residential growth of 17,504 persons and nonresidential growth of 24,474 jobs. To maintain the existing levels of service, Glendale needs to construct approximately 43 park amenities. The following pages include a more detailed projection of demand for services and costs for the Parks and Recreational Facilities IIP.

Park Amenities – Incremental Expansion

Glendale plans to maintain its existing level of service for park amenities over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands an additional 35.7 park amenities (17,504 additional persons X 0.0020 units per person). With projected employment growth of 24,474 jobs, future nonresidential development demands an additional 7.6 park amenities (24,474 additional jobs X 0.0003 units per job). Future development demands 43.3 additional park amenities at a cost of \$8,500,360 (43.3 amenities X \$196,207 per unit).

Figure PR7: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Park Amenities	0.0020 Units	per Person	\$196,207
	0.0003 Units	per Job	

Demand for Park Amenities					
Year	Population	Jobs	Units		
			Residential	Nonresidential	Total
2024	261,600	90,741	533.9	28.1	562.0
2025	263,766	93,636	538.3	29.0	567.3
2026	265,545	96,530	542.0	29.9	571.8
2027	266,860	99,425	544.6	30.8	575.4
2028	269,026	102,319	549.1	31.7	580.7
2029	271,115	105,214	553.3	32.6	585.9
2030	272,256	108,108	555.6	33.5	589.1
2031	274,363	109,885	559.9	34.0	594.0
2032	276,294	111,661	563.9	34.6	598.5
2033	277,875	113,438	567.1	35.1	602.2
2034	279,104	115,215	569.6	35.7	605.3
10-Yr Increase	17,504	24,474	35.7	7.6	43.3

Growth-Related Expenditures	\$7,009,188	\$1,491,172	\$8,500,360
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PARKS AND RECREATIONAL FACILITIES DEVELOPMENT FEES

Revenue Credit/Offset

A revenue credit/offset is not necessary for development fees, because Glendale's construction transaction privilege tax rate is equal to the amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

Parks and Recreational Facilities Development Fees

Infrastructure components and cost factors for parks and recreational facilities are summarized in the upper portion of Figure PR8. The cost per service unit is \$402.05 per person and \$60.82 per job.

Parks and recreational facilities fees for residential development are assessed according to the number of persons per housing unit. The fee of \$1,194 for a single-family unit is calculated using a cost per service unit of \$402.05 per person multiplied by a demand unit of 2.97 persons per housing unit.

Nonresidential development fees are calculated using jobs as the service unit. The fee of \$70 per development unit (1,000 square feet) of industrial development is calculated using a cost per service unit of \$60.82 per job multiplied by a demand unit of 1.16 jobs per 1,000 square feet.

Figure PR8: Parks and Recreational Facilities Development Fees

Fee Component	Cost per Person	Cost per Job
Park Amenities	\$400.44	\$60.76
Development Fee Report	\$1.61	\$0.06
Total	\$402.05	\$60.82

Residential Fees per Development Unit					
Development Type	Development Unit	Persons per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Single Family	Housing Unit	2.97	\$1,194	\$936	\$258
Multi-Family	Housing Unit	2.01	\$808	\$618	\$190

Nonresidential Fees per Development Unit					
Development Type	Development Unit	Jobs per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Industrial	1,000 Sq Ft	1.16	\$70	\$48	\$22
Commercial	1,000 Sq Ft	2.12	\$129	\$97	\$32
Office & Other Services	1,000 Sq Ft	3.26	\$198	\$123	\$75
Institutional	1,000 Sq Ft	3.03	\$184	\$38	\$146
Assisted Living (per bed)	Bed	0.61	\$37	N/A	N/A
Lodging (per room)	Room	0.56	\$34	N/A	N/A

1. See Land Use Assumptions

PARKS AND RECREATIONAL FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)). In accordance with state law, this report includes an IIP for parks and recreational facilities needed to accommodate new development. Projected fee revenue shown in Figure PR9 is based on the development projections in the *Land Use Assumptions* document and the updated development fees for parks and recreational facilities shown in Figure PR8. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease, along with development fee revenue. Projected development fee revenue equals \$8,512,433 and projected expenditures equal \$8,516,483.

Figure PR9: Parks and Recreational Facilities Development Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Park Amenities	\$8,500,360	\$0	\$8,500,360
Development Fee Report	\$16,123	\$0	\$16,123
Total	\$8,516,483	\$0	\$8,516,483

		Single Family \$1,194 per unit	Multi-Family \$808 per unit	Industrial \$70 per 1,000 sq ft	Commercial \$129 per 1,000 sq ft	Office & Other \$198 per 1,000 sq ft	Institutional \$184 per 1,000 sq ft
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	67,500	29,376	28,946	13,113	9,281	3,425
Year 1	2025	67,947	29,792	30,281	13,310	9,508	3,488
Year 2	2026	68,315	30,134	31,616	13,506	9,735	3,552
Year 3	2027	68,586	30,387	32,951	13,703	9,962	3,615
Year 4	2028	69,034	30,803	34,285	13,899	10,190	3,679
Year 5	2029	69,465	31,205	35,620	14,096	10,417	3,742
Year 6	2030	69,577	31,607	36,955	14,292	10,644	3,806
Year 7	2031	69,784	32,350	37,639	14,353	10,877	3,837
Year 8	2032	69,974	33,031	38,322	14,413	11,111	3,869
Year 9	2033	70,129	33,588	39,006	14,474	11,344	3,901
Year 10	2034	70,249	34,021	39,690	14,534	11,578	3,933
10-Year Increase		2,750	4,645	10,744	1,421	2,297	508
Projected Revenue		\$3,279,662	\$3,744,606	\$756,438	\$183,537	\$454,539	\$93,650

Projected Fee Revenue	\$8,512,433
Total Expenditures	\$8,516,483

POLICE FACILITIES IIP

ARS § 9-463.05 (T)(7)(f) defines the eligible facilities and assets for 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 firefighters or officers from more than one station or substation.”

The Police Facilities IIP includes components for police facilities, police vehicles, police equipment, and the cost of preparing the Police Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used for police facilities, police vehicles, and police equipment. The plan-based methodology is used for the Development Fee Report.

SERVICE AREA

Glendale’s Police Department strives to provide a uniform response time within the city limits; therefore, there is a citywide service area for the Police Facilities IIP.

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 fees allocate the cost of police services between residential and nonresidential development based on functional population. Based on 2021 estimates from the U.S. Census Bureau's OnTheMap web application, residential development accounts for approximately 76 percent of functional population and nonresidential development accounts for the remaining 24 percent.

Figure P1: Proportionate Share

Demand Units in 2021				
Residential			Demand Hours/Day	Person Hours
Population	250,585			
Residents Not Working	147,176		20	2,943,520
Employed Residents	103,409			
Employed in Glendale		11,591	14	162,274
Employed outside Glendale		91,818	14	1,285,452
Residential Subtotal				4,391,246
Residential Share				76%
Nonresidential				
Non-working Residents	147,176		4	588,704
Jobs Located in Glendale	82,315			
Residents Employed in Glendale		11,591	10	115,910
Non-Resident Workers (inflow commuters)		70,724	10	707,240
Nonresidential Subtotal				1,411,854
Nonresidential Share				24%
Total				5,803,100

Source: Arizona Office of Economic Opportunity (population), U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, Version 6.24.1 (employment).

The proportionate share of costs attributable to residential development are allocated to population and then converted to an appropriate amount by type of housing unit. TischlerBise recommends using vehicle trips as the demand indicator for nonresidential demand for police infrastructure. 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.

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 P2 displays the service units for residential and nonresidential land uses. For residential development, the table displays the number of persons per housing unit. For nonresidential development, the table displays the number of average weekday vehicle trips per development unit.

Figure P2: Ratio of Service Unit to Development Unit

Residential Development				
Development Type	Development Unit	Persons per Dev. Unit ¹		
Single Family	Housing Unit	2.97		
Multi-Family	Housing Unit	2.01		

Nonresidential Development				
Development Type	Development Unit	Avg Weekday Veh Trip Ends ¹	Trip Rate Adjustment	Vehicle Trips per Dev. Unit ¹
Industrial	1,000 Sq Ft	3.37	50%	1.69
Commercial	1,000 Sq Ft	37.01	33%	12.21
Office & Other Services	1,000 Sq Ft	10.84	50%	5.42
Institutional	1,000 Sq Ft	22.59	33%	7.45
Assisted Living	Bed	2.60	50%	1.30
Lodging	Room	7.99	50%	4.00

1. See Land Use Assumptions

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

Glendale currently provides 142,556 square feet of police facilities to existing development, and Glendale plans to construct additional police facilities to serve future development. To allocate the proportionate share of demand for police facilities to residential and nonresidential development, this analysis uses proportionate share shown in Figure P1. Glendale’s existing level of service for residential development is 0.4142 square feet per person (142,556 square feet X 76 percent residential share / 261,600 persons). The nonresidential level of service is 0.1201 square feet per vehicle trip (142,556 square feet X 24 percent nonresidential share / 284,761 trips).

Figure P3: Existing Police Facilities

Description	Square Feet
Main Station	89,982
Foothills Station	18,728
Gateway Station	20,346
911 Emergency Call Center	6,300
Advocacy Center	7,200
Total	142,556

Level-of-Service (LOS) Standards	
Existing Square Feet	142,556
Residential	
Residential Share	76%
2024 Population	261,600
Square Feet per Person	0.4142
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Square Feet per Vehicle Trip	0.1201

Source: Glendale Police Department

To maintain the existing level of service over the next 10 years, Glendale must construct approximately 13,460 square feet of police facilities to serve future development.

Figure P4: Projected Demand for Police Facilities

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Police Facilities	0.4142 Square Feet	per Person	N/A
	0.1201 Square Feet	per Vehicle Trip	

Demand for Police Facilities					
Year	Population	Vehicle Trips	Square Feet		
			Residential	Nonresidential	Total
2024	261,600	284,761	108,342.6	34,213.4	142,556.0
2025	263,766	291,115	109,239.6	34,976.8	144,216.4
2026	265,545	297,468	109,976.4	35,740.1	145,716.5
2027	266,860	303,821	110,521.0	36,503.4	147,024.5
2028	269,026	310,175	111,418.1	37,266.8	148,684.8
2029	271,115	316,528	112,283.0	38,030.1	150,313.1
2030	272,256	322,881	112,755.7	38,793.4	151,549.2
2031	274,363	326,275	113,628.4	39,201.2	152,829.6
2032	276,294	329,669	114,428.3	39,609.0	154,037.2
2033	277,875	333,063	115,082.8	40,016.7	155,099.5
2034	279,104	336,456	115,591.8	40,424.5	156,016.3
10-Yr Increase	17,504	51,695	7,249.2	6,211.0	13,460.3

As shown below in Figure P5, Glendale plans to construct a police station in the west area during the next 10 years. The total construction cost for 4,000 square feet of police facilities is \$5,000,000, but the analysis includes a credit of \$804,208 for the existing police DIF fund balance. The analysis uses the net construction cost is \$4,195,729 (\$5,000,000 total construction cost - \$804,208 police DIF fund balance).

Figure P5: Planned Police Facilities

Description	Cost	Square Feet	Cost per Sq Ft
Police Station - West Area	\$5,000,000	4,000	\$1,250
DIF Fund Balance	(\$804,208)	N/A	N/A
Total	\$4,195,792	4,000	\$1,049

Source: Glendale Engineering Department

Adjusted Level of Service

Since Glendale plans to construct 4,000 square feet of police facilities, but the existing level-of-service projections shown in Figure P4 supports construction of approximately 14,460 square feet, the analysis uses an adjustment factor of approximately 29.7 percent (4,000 planned square feet / 13,460 projected square feet) to calculate the adjusted level of service. The level-of-service standards shown below include 42,363 adjusted square feet (142,556 square feet X 29.7 percent adjustment factor). To allocate the proportionate share of demand for police facilities to residential and nonresidential development, this analysis uses the proportionate share shown in Figure P1. Glendale's adjusted level of service for residential development is 0.1231 square feet per person (42,363 adjusted square feet X 76 percent residential share / 261,600 persons). The adjusted nonresidential level of service is 0.0357 square feet per vehicle trip (42,363 adjusted square feet X 24 percent nonresidential share / 284,761 vehicle trips).

Based on the analysis shown in Figure P5, the analysis uses a net construction cost is \$1,049 per square foot (\$4,195,792 net construction cost / 4,000 square feet). For police facilities, the cost is \$129.10 per person (0.1231 square feet per person X \$1,049 per square foot) and \$37.45 per vehicle trip (0.0357 square feet per vehicle trip X \$1,049 per square foot).

Figure P6: Adjusted Level of Service

Cost Factors	
Cost per Square Foot	\$1,049

Level-of-Service (LOS) Standards	
Existing Square Feet	142,556
Adjustment Factor	29.7%
Adjusted Square Feet	42,363
Residential	
Residential Share	76%
2024 Population	261,600
Square Feet per Person	0.1231
Cost per Person	\$129.10
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Square Feet per Vehicle Trip	0.0357
Cost per Vehicle Trip	\$37.45

Source: Glendale Police Department

Police Vehicles – Incremental Expansion

Glendale has 226 patrol vehicles with a total cost of \$17,348,470, and Glendale plans to acquire additional vehicles to serve future development. To allocate the proportionate share of demand for police vehicles to residential and nonresidential development, this analysis uses the proportionate share outlined in Figure P1. Glendale’s existing level of service for residential development is 0.0007 units per person (226 vehicles X 76 percent residential share / 261,600 persons). The nonresidential level of service is 0.0002 units per vehicle trip (226 vehicles X 24 percent nonresidential share / 284,761 trips).

Based on the existing fleet of patrol vehicles, the weighted average cost is \$76,763 per unit (\$17,348,470 total cost / 226 vehicles), and the analysis uses this cost as a proxy for future police vehicle costs. For police vehicles, the cost is \$50.40 per person (0.0007 units per person X \$76,763 per vehicle) and \$14.62 per vehicle trip (0.0002 units per vehicle trip X \$76,763 per vehicle).

Figure P7: Existing Level of Service

Description	Units	Unit Cost	Total Cost
Patrol SUV	181	\$81,182	\$14,693,942
Patrol Pickup	23	\$79,934	\$1,838,482
Patrol Motorcycle	22	\$37,093	\$816,046
Total	226	\$76,763	\$17,348,470

Cost Factors	
Weighted Average per Vehicle	\$76,763

Level-of-Service (LOS) Standards	
Existing Units	226
Residential	
Residential Share	76%
2024 Population	261,600
Vehicles per Person	0.0007
Cost per Person	\$50.40
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Units per Vehicle Trip	0.0002
Cost per Vehicle Trip	\$14.62

Source: Glendale Police Department

Police Equipment – Incremental Expansion

Glendale has 441 sworn officers, and the equipment cost is \$43,460 per officer. Glendale plans to maintain the existing level of service and will acquire additional units to serve future development. To allocate the proportionate share of demand for police equipment to residential and nonresidential development, this analysis uses the proportionate share outlined in Figure P1. Glendale’s existing level of service for residential development is 0.0013 units per person (441 units X 76 percent residential share / 261,600 persons). The nonresidential level of service is 0.0004 units per vehicle trip (441 units X 24 percent nonresidential share / 284,761 trips).

Based on estimates provided by the Glendale Police Department, the equipment cost is \$43,460 per officer (\$19,165,860 total cost / 441 units), and the analysis uses this cost as a proxy for future police equipment costs. For police equipment, the cost is \$55.68 per person (0.0013 units per person X \$43,460 per unit) and \$16.15 per vehicle trip (0.0004 units per vehicle trip X \$43,460 per unit).

Figure P8: Existing Level of Service

Description	Count	Cost per Officer	Total Cost
Sworn Officers (Equipment)	441	\$43,460	\$19,165,860

Cost Factors	
Weighted Average per Unit	\$43,460

Level-of-Service (LOS) Standards	
Existing Units	441
Residential	
Residential Share	76%
2024 Population	261,600
Units per Person	0.0013
Cost per Person	\$55.68
Nonresidential	
Nonresidential Share	24%
2024 Vehicle Trips	284,761
Units per Vehicle Trip	0.0004
Cost per Vehicle Trip	\$16.15

Source: Glendale Police Department

Development Fee Report – Plan-Based

The cost to prepare the Police Facilities IIP and related Development Fee Report totals \$16,123. Glendale plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is \$1.29 per person and \$0.12 per vehicle trip.

Figure P9: IIP and Development Fee Report

Necessary Public Service	Cost	Proportionate Share		Service Unit	5-Year Change	Cost per Service Unit
Fire	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Library	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Parks and Recreational	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Police	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Total	\$64,490					

PROJECTED DEMAND FOR SERVICES AND COSTS

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.”

As shown in the *Land Use Assumptions* document, projected development during the next 10 years includes residential growth of 17,504 persons and nonresidential growth of 51,695 vehicle trips. To maintain the adjusted level of service over the next 10 years, Glendale will construct 4,000 square feet of police facilities. To maintain the existing levels of service, Glendale will acquire approximately 21 vehicles and approximately 42 units of equipment over the next 10 years. The following pages include a more detailed projection of demand for services and costs for the Police Facilities IIP.

Police Facilities – Incremental Expansion

Glendale plans to maintain its adjusted level of service for police facilities over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands approximately 2,154 square feet of police facilities (17,504 additional persons X 0.1231 square feet per person). With projected growth of 51,695 vehicle trips, future nonresidential development demands approximately 1,846 square feet of police facilities (51,695 additional vehicle trips X 0.0357 square feet per vehicle trip). Future development demands 4,000 square feet of police facilities at a cost of \$4,195,792 (4,000 square feet X \$1,049 per square foot).

Figure P10: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Police Facilities	0.1231 Square Feet	per Person	\$1,049
	0.0357 Square Feet	per Vehicle Trip	

Demand for Police Facilities					
Year	Population	Vehicle Trips	Square Feet		
			Residential	Nonresidential	Total
2024	261,600	284,761	32,196.2	10,167.2	42,363.5
2025	263,766	291,115	32,462.8	10,394.1	42,856.9
2026	265,545	297,468	32,681.8	10,620.9	43,302.7
2027	266,860	303,821	32,843.6	10,847.7	43,691.4
2028	269,026	310,175	33,110.2	11,074.6	44,184.8
2029	271,115	316,528	33,367.2	11,301.4	44,668.6
2030	272,256	322,881	33,507.7	11,528.3	45,036.0
2031	274,363	326,275	33,767.0	11,649.4	45,416.5
2032	276,294	329,669	34,004.7	11,770.6	45,775.3
2033	277,875	333,063	34,199.2	11,891.8	46,091.0
2034	279,104	336,456	34,350.5	12,013.0	46,363.5
10-Yr Increase	17,504	51,695	2,154.3	1,845.7	4,000.0

Growth-Related Expenditures	\$2,259,708	\$1,936,084	\$4,195,792
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Police Vehicles – Incremental Expansion

Glendale plans to maintain its existing level of service for police vehicles over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands an additional 11.5 vehicles (17,504 additional persons X 0.0007 units per person). With projected growth of 51,695 vehicle trips, future nonresidential development demands an additional 9.8 vehicles (51,695 additional vehicle trips X 0.0002 units per vehicle trip). Future development demands approximately 21 police vehicles at a cost of \$1,638,060 (21.3 units X \$76,763 per unit).

Figure P11: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Police Vehicles	0.0007 Units	per Person	\$76,763
	0.0002 Units	per Vehicle Trip	

Demand for Police Vehicles					
Year	Population	Vehicle Trips	Units		
			Residential	Nonresidential	Total
2024	261,600	284,761	171.8	54.2	226.0
2025	263,766	291,115	173.2	55.5	228.6
2026	265,545	297,468	174.4	56.7	231.0
2027	266,860	303,821	175.2	57.9	233.1
2028	269,026	310,175	176.6	59.1	235.7
2029	271,115	316,528	178.0	60.3	238.3
2030	272,256	322,881	178.8	61.5	240.3
2031	274,363	326,275	180.1	62.1	242.3
2032	276,294	329,669	181.4	62.8	244.2
2033	277,875	333,063	182.4	63.4	245.9
2034	279,104	336,456	183.3	64.1	247.3
10-Yr Increase	17,504	51,695	11.5	9.8	21.3

Growth-Related Expenditures	\$882,202	\$755,858	\$1,638,060
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Police Equipment – Incremental Expansion

Glendale plans to maintain its existing level of service for police equipment over the next 10 years. Based on a projected population increase of 17,504 persons, future residential development demands an additional 22.4 units (17,504 additional persons X 0.0013 units per person). With projected growth of 51,695 vehicle trips, future nonresidential development demands an additional 19.2 units (51,695 additional vehicle trips X 0.0004 units per vehicle trip). Future development demands approximately 42 units at a cost of \$1,807,936 (41.6 units X \$43,460 per unit).

Figure P12: Projected Demand

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Police Equipment	0.0013 Units	per Person	\$43,460
	0.0004 Units	per Vehicle Trip	

Demand for Police Equipment					
Year	Population	Vehicle Trips	Units		
			Residential	Nonresidential	Total
2024	261,600	284,761	335.2	105.8	441.0
2025	263,766	291,115	337.9	108.2	446.1
2026	265,545	297,468	340.2	110.6	450.8
2027	266,860	303,821	341.9	112.9	454.8
2028	269,026	310,175	344.7	115.3	460.0
2029	271,115	316,528	347.3	117.6	465.0
2030	272,256	322,881	348.8	120.0	468.8
2031	274,363	326,275	351.5	121.3	472.8
2032	276,294	329,669	354.0	122.5	476.5
2033	277,875	333,063	356.0	123.8	479.8
2034	279,104	336,456	357.6	125.1	482.6
10-Yr Increase	17,504	51,695	22.4	19.2	41.6

Growth-Related Expenditures	\$973,504	\$834,432	\$1,807,936
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POLICE FACILITIES DEVELOPMENT FEES

Revenue Credit/Offset

A revenue credit/offset is not necessary for development fees, because Glendale's construction transaction privilege tax rate is equal to the amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

Police Facilities Development Fees

Infrastructure components and cost factors for police facilities are summarized in the upper portion of Figure P13. The cost per service unit for police facilities is \$236.47 per person and \$68.34 per vehicle trip.

Police facilities development fees for residential development are assessed according to the number of persons per housing unit. The fee of \$702 for single-family unit is calculated using a cost per service unit of \$236.47 per person multiplied by a demand unit of 2.97 persons per housing unit.

Nonresidential development fees are calculated using average weekday vehicle trips as the service unit. The fee of \$115 per development unit (1,000 square feet) of industrial development is calculated using a cost per service unit of \$68.34 per vehicle trip multiplied by a demand unit of 1.16 average weekday vehicle trips per 1,000 square feet.

Figure P13: Police Facilities Development Fees

Fee Component	Cost per Person	Cost per Trip
Police Facilities	\$129.10	\$37.45
Police Vehicles	\$50.40	\$14.62
Police Equipment	\$55.68	\$16.15
Development Fee Report	\$1.29	\$0.12
Total	\$236.47	\$68.34

Residential Fees per Development Unit					
Development Type	Development Unit	Persons per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Single Family	Housing Unit	2.97	\$702	\$719	(\$17)
Multi-Family	Housing Unit	2.01	\$475	\$475	\$0

Nonresidential Fees per Development Unit					
Development Type	Development Unit	Vehicle Trips per Dev. Unit ¹	Proposed Fees	Current Fees	Difference
Industrial	1,000 Sq Ft	1.69	\$115	\$117	(\$2)
Commercial	1,000 Sq Ft	12.21	\$834	\$867	(\$33)
Office & Other Services	1,000 Sq Ft	5.42	\$370	\$339	\$31
Institutional	1,000 Sq Ft	7.45	\$509	\$448	\$61
Assisted Living	Bed	1.30	\$89	N/A	N/A
Lodging	Room	4.00	\$273	N/A	N/A

1. See Land Use Assumptions

POLICE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains revenue forecasts required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)). Projected fee revenue shown in Figure P14 is based on the development projections in the *Land Use Assumptions* document and the updated police facilities development fees. If development occurs faster than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Projected development fee revenue equals \$7,657,906 and projected expenditures equal \$7,657,911.

Figure P14: Police Facilities Development Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Police Facilities	\$4,195,792	\$0	\$4,195,792
Police Vehicles	\$1,638,060	\$0	\$1,638,060
Police Equipment	\$1,807,936	\$0	\$1,807,936
Development Fee Report	\$16,123	\$0	\$16,123
Total	\$7,657,911	\$0	\$7,657,911

		Single Family \$702 per unit	Multi-Family \$475 per unit	Industrial \$115 per 1,000 sq ft	Commercial \$834 per 1,000 sq ft	Office & Other \$370 per 1,000 sq ft	Institutional \$509 per 1,000 sq ft
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	67,500	29,376	28,946	13,113	9,281	3,425
Year 1	2025	67,947	29,792	30,281	13,310	9,508	3,488
Year 2	2026	68,315	30,134	31,616	13,506	9,735	3,552
Year 3	2027	68,586	30,387	32,951	13,703	9,962	3,615
Year 4	2028	69,034	30,803	34,285	13,899	10,190	3,679
Year 5	2029	69,465	31,205	35,620	14,096	10,417	3,742
Year 6	2030	69,577	31,607	36,955	14,292	10,644	3,806
Year 7	2031	69,784	32,350	37,639	14,353	10,877	3,837
Year 8	2032	69,974	33,031	38,322	14,413	11,111	3,869
Year 9	2033	70,129	33,588	39,006	14,474	11,344	3,901
Year 10	2034	70,249	34,021	39,690	14,534	11,578	3,933
10-Year Increase		2,750	4,645	10,744	1,421	2,297	508
Projected Revenue		\$1,928,169	\$2,200,488	\$1,240,010	\$1,180,718	\$850,051	\$258,469

Projected Fee Revenue	\$7,657,906
Total Expenditures	\$7,657,911

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.”

ARS § 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.”

REVENUE PROJECTIONS

Glendale does not have a higher-than-normal construction excise tax rate; therefore, the required offset described above is not applicable. Shown in Figure A1 is the required forecast of non-development fee revenue from identified sources that can be attributed to future development over a period of five years. These funds are available for capital investments; however, the City of Glendale directs these revenues to non-development fee eligible capital needs including maintenance, repair, and replacement.

Figure A1: Revenue Projections

Source	Forecast Years				
	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
City Sales Tax	\$170,813,029	\$165,227,970	\$167,696,449	\$170,837,339	\$174,150,234
Property Tax	\$6,618,577	\$6,684,763	\$6,751,611	\$6,819,127	\$6,887,318
State Sales & Income Tax	\$127,841,555	\$119,995,679	\$124,205,609	\$126,462,004	\$129,271,205
Other Fees	\$58,714,906	\$108,140,260	\$49,838,218	\$49,629,675	\$49,515,602
Subtotal, General Fund	\$363,988,067	\$400,048,672	\$348,491,887	\$353,748,145	\$359,824,359

Source: Glendale FY25 Budget Book

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 ARS § 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	Proportionate Share		Service Unit	5-Year Change	Cost per Service Unit
Fire	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Library	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Parks and Recreational	\$16,123	Residential	95%	Population	9,515	\$1.61
		Nonresidential	5%	Jobs	14,473	\$0.06
Police	\$16,123	Residential	76%	Population	9,515	\$1.29
		Nonresidential	24%	Vehicle Trips	31,766	\$0.12
Total	\$64,490					

APPENDIX C: LAND USE DEFINITIONS

RESIDENTIAL DEVELOPMENT

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. Development fees will be assessed to all new residential units. One-time development fees are determined by site capacity (i.e., number of residential units).

Single Family:

1. Single-family detached is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached if the building has open space on all four sides.
2. Single-family attached (townhouse) is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.
3. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added. Mobile homes used only for business purposes, or for extra sleeping space, and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

Multi-Family:

1. Includes units in structures containing two or more housing units, further categorized as units in structures with "2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments."
2. Includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

NONRESIDENTIAL DEVELOPMENT

The proposed general nonresidential development categories (defined below) can be used for all new construction. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

Assisted Living: Establishments primarily providing either routine general protective oversight, assistance with activities necessary for independent living to mentally or physically limited persons, or establishments providing care for persons who are unable to care for themselves. By way of example, assisted living includes assisted living facilities, nursing homes, rest homes, chronic care homes, and convalescent homes.

Commercial: Establishments primarily selling merchandise, eating/drinking places, entertainment, and lodging uses. By way of example, commercial includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters.

Industrial: Establishments primarily engaged in the processing or production of goods, along with warehousing, transportation, communications, and utilities. By way of example, industrial includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.

Institutional: Public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, institutional includes schools, universities, churches, and public buildings

Lodging: Establishments providing sleeping accommodations that may include supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops. By way of example, lodging includes hotels, motels, resorts, and hostels.

Office and Other Services: Establishments providing management, administrative, professional, or business services; personal and health care services. By way of example, office and other services includes offices, health care, and business services.