



CITY OF SURPRISE
Regular City Council Work Session
16000 N. Civic Center Plaza
Surprise, AZ 85374
Tuesday, February 5, 2019 @ 4:30 PM
COUNCIL CHAMBERS

- A. Call To Order
- B. Roll Call
- C. Pledge of Allegiance
- D. Proclamation and Community Acknowledgements
- E. City Manager Report

- F. City Clerk Report

- G. Call To The Public

INSTRUCTIONS: In order to address the City Council, you will need to fill out a Call to the Public Form available at the front counter, and then turn it in to the City Clerk before the meeting begins.

[Download the Call to the Public form](#) (PDF download requires Adobe Acrobat Reader)

[Fill out the Call to the Public form online](#) If submitting form electronically, please submit to City Clerk at least one hour before the meeting start time.

The Call to the Public form is also available at the front counter.

Note: A.R.S. 38-431.01(H)- During this time members of the public may address City Council only on issues within the jurisdiction of the City Council which are not an item on the agenda. At the conclusion of the open call, City Council may respond to criticism, may ask staff to review the matter or may ask that the matter be put on a future agenda. No discussion or action shall take place on any item raised.

Approval of items on the Consent Agenda – all items with an asterisk (*) are considered to be routine matters and will be enacted by one motion and one roll call vote to the City Council. There will be no separate discussion on these items unless a Councilmember requests, in which event the item will be removed from the consent agenda and considered in its normal sequence on the agenda.

- H. Regular City Council Meeting Agenda

CONSENT AGENDA:

REGULAR AGENDA ITEM - PUBLIC HEARING:

REGULAR AGENDA ITEM - NON-PUBLIC HEARING:

- 1. Citywide Presentation and discussion pertaining to the City's Development Impact Fees. None

Finance

2. Citywide Presentation and discussion pertaining to the city's Census 2020 Outreach Plan. None

City Manager
Office

I. Other Business and Future Agenda Items

J. Mayor/City Council Reports

K. Executive Session

For information Purposes; Upon a public majority vote of a quorum of the City Council, the Council may hold an executive session, which will not be open to the public, but for only the following purposes:

- discussion or consideration of personnel matters (A.R.S. §38-431.03 (A)(1));
- discussion or consideration of records exempt by law from public inspection (A.R.S. §38-401.03 (A)(2));
- discussion or consultation for legal advice with the city's attorneys (A.R.S. §38-431.03 (A)(3));
- discussion or consultation with the city's attorneys regarding the city's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation, or in settlement discussions conducted in order to avoid or resolve litigation (A.R.S. §38-431.03 (a)(4));
- discussion or consultation with designated representatives of the city in order to consider its position and instruct its representatives regarding negotiations with employee organizations (A.R.S. §38-431.03 (A)(5)); or
- discussion, consultation or consideration for international and interstate negotiations or for negotiations by a city or town, or its designated representatives, with members of a tribal council, or its designated representatives, of an Indian reservation located within or adjacent to the city or town. A.R.S. §38-401.03 (A)(6)).
- discussing or consulting with designated representatives of the city in order to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property (A.R.S. §38-431.03 (A)(7)).

Confidentiality Requirements Pursuant to A.R.S. §38-431.03(C)(D): Any person receiving executive session information pursuant to A.R.S. §38-431.02 shall not disclose that information except to the Attorney General or County Attorney by agreement of the City Council, or as otherwise ordered by a court of competent jurisdiction.

The council may vote to hold an executive session for the purpose of obtaining legal advice from the Board's attorney on any matter listed on the agenda pursuant to A.R.S. § 38-431.03(A)(3).

L. Adjournment

SHERRY ANN AGUILAR, CITY CLERK, MMC

POSTED: January 31, 2019 at 11:20 AM

SPECIAL NOTE: PERSONS WITH SPECIAL ACCESSIBILITY NEEDS, INCLUDING LARGE PRINT MATERIALS OR INTERPRETER, SHOULD CONTACT THE CITY CLERK'S OFFICE @ 623.222.1200 OR TTY 623.222.1002, BY NO LATER THAN 24 HOURS IN ADVANCE OF THE REGULAR SCHEDULED MEETING TIME.



CITY OF SURPRISE
Regular City Council Work Session

Council Meeting Date: February 5, 2019
Submitting Department: Finance
Staff Recommendations: None

Contact Person:
District: Citywide

Consent: No Regular: Yes Public Hearing: No Report/Discussion: No

Agenda Wording:

Presentation and discussion pertaining to the City's Development Impact Fees.

Motion:

None; discussion only.

Background:

In accordance with Arizona Revised Statutes (A.R.S.) § 9-436.05, municipalities in Arizona may assess development impact fees (DIF) to offset growth-related infrastructure costs for necessary public services. The development fees must be based on an Infrastructure Improvements Plan (IIP) and Land Use Assumptions (LUA).

On November 20, 2018, staff provided City Council with an overview of the LUA and IIP, after which a series of stakeholder meetings were held. Today's presentation is focused on the development impact fees, which are subject to change up until final adoption.

Objective Analysis:

Updating development impact fees ensures compliance with state mandates and provides the City with resources to meet the demand for public services and infrastructure as the City grows.

Policy Compliant:

This item is consistent with City and Council Policy.

Financial Impact:

None at this time; however, topics covered in this presentation could lead to future actions which may have a financial impact.

Budget Impact:

None at this time; however, topics covered in this presentation could lead to future actions which may have a budgetary impact.

FTE Impact:

This item does not impact the overall full-time equivalent count.

ATTACHMENTS:

1. Surprise IIP & Fees 01.25.19
-

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

**Prepared for:
Surprise, Arizona**

January 25, 2019



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EXECUTIVE SUMMARY

The City of Surprise hired TischlerBise to document land use assumptions, prepare an Infrastructure Improvements Plan (hereinafter referred to as the “IIP”), and update development fees pursuant to Arizona Revised Statutes (“ARS”) § 9-436.05 (hereinafter 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 IIPs for each type of infrastructure are located in each infrastructure type’s corresponding section, and the Land Use Assumptions can be found in the Appendix. The proposed development fees are displayed in the Development Fee Report chapter.

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

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

1. Parks and Recreation
2. Police
3. Fire
4. Street
5. Water
6. Water Resource
7. Wastewater

This plan also 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 neighborhood 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.

Land Use Assumptions

A development fee study must include land use assumptions (growth projections) for each service area. The Enabling Legislation defines land use assumptions 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.” Since the IIP that must be prepared for each service area must identify improvement needs for a period not to exceed 10 years, and the land use assumptions must cover a minimum of 10 years, a 10-year time-frame would seem to be the most appropriate for both the land use assumptions and the IIP. This study uses 2019-2029 as the planning horizon for both land use assumptions and IIP.

The proposed service areas are not the Special Planning Areas (SPAs), but the areas within the SPAs that are either within the city limits or the area served by City utilities, as those areas may be expanded in the future. Consequently, projections of growth by SPA are not the same as projections of service units using City infrastructure by service area. For this update, the land use assumptions are based on U.S. Census data, property assessor data, 2016 Maricopa Association of Governments (MAG) estimates of dwelling units and employment by small areas, and land use projections by SPA prepared by the City. The land use assumptions portion of this report consists of the Land Use Assumptions chapter, including supporting appendices, and the Service Unit sections of the chapters for each facility category.

METHODOLOGY

Development fees for the necessary public services made necessary by future 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 future development for additional infrastructure capacity. Each method 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 methods for calculating development fees and how those methods can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that future 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 future development can take place.

- **Incremental Expansion** (concurrent improvements) - The incremental expansion method 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. Future 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 method 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).

Conceptual Development Fee Calculation

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

EVALUATION OF CREDITS/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/offset is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

Outstanding Debt

The clearest situation that requires an offset is when there is outstanding debt or similar obligations on the facilities that are providing existing development with the level of service that future development will be expected to pay for through development fees. In this case, future development will be paying for the facilities that will serve them, while also paying for a portion of the cost of facilities serving existing development through property or utility rates. Consequently, the development fees should be reduced to avoid this potential double-payment. However, this does not mean that all debt on existing facilities is eligible for an offset. To the extent that the debt is attributable to excess capacity available to serve future development, development fees can be used to retire that debt, and no offset is warranted. This is the case for the City's water, water resource, and wastewater fees.

State/Federal Funding

The need to provide an offset for anticipated State/Federal funding is not clear-cut. Local development activity does not directly generate such funding, although it will generate additional State/Federal tax revenue through State sales taxes and State/Federal motor fuel excise taxes that may come back to the locality through such funding. This update will provide offsets for State/Federal funding where applicable.

General Funds

In general, revenue offsets are not required for local funding sources that are used for capacity-expanding improvements of the type addressed by the development fee. A municipality is not required to use general fund revenue to pay for growth-related improvements. The use of non-development fee revenue for capacity improvements, over and above available development fee revenue, will raise the level of service for both existing and future development. Even though future development will contribute some of the funding, it will receive a proportionate benefit from the overall increase in the level of service.

Excess Construction Tax

Finally, the Enabling Legislation requires municipalities to provide an offset for the excess portion of any construction contracting excise tax. The City's transaction privilege tax rate for building contracting is 3.7 percent, compared to 2.2 percent charged for the majority of the business activity classifications. How the excess construction tax is actually spent does not seem to be a relevant consideration. This language appears to require the excess portion (1.5 percent) of the construction contracting privilege tax be treated as if it were dedicated to fund development fee facilities. The excess amount of construction tax should be allocated among the various fees categories, and this allocation is at the discretion of the City. This report provides a construction tax offset against all fee categories except the grandfathered fees and the proposed new arterial street fee, which may not be adopted (see Appendix G).

ARS § 9-463.05(T)(9) defines “service area” as:

Multiple service areas are not mandated by the Enabling Legislation. As long it can be shown that development located anywhere within the service area will be served by or benefit from improvements in the service area – which is another way of saying that a “substantial nexus” can be demonstrated – a single service area may be permitted.

The current City boundaries incorporate 108 square miles. The City also has planning jurisdiction over a larger Municipal Planning Area (MPA), which encompasses 302 square miles. As shown in Figure 1, the Surprise MPA is divided into six Special Planning Areas (SPAs), delineated by Grand Avenue, the Beardsley Canal, the Central Arizona Project (CAP) Canal, and SR 74. The SPAs are currently used as service areas for the City's water and wastewater fees. The current City limits incorporate most of SPA 1, the majority of SPAs 2 and 3, and portions of SPAs 4 and 5, as summarized in Figure 2.

Figure 2: Acres by Planning Area

SPA	Total Acres	Incorporated Acres	Percent Incorporated
1	27,517	26,114	95%
2	15,352	10,428	68%
3	37,692	20,563	55%
4	30,167	8,782	29%
5	36,863	3,130	8%
6	45,565	0	0%
Total MPA	193,156	69,017	36%

The designation of an appropriate service area must first address the distinction between the incorporated and unincorporated areas that are within the City's planning area. In general, the City only provides services to and collects fees from development within the incorporated area. The incorporated area expands over time as the City enters into annexation agreements with land owners and developers. The City does not provide water and wastewater services to all its incorporated area – some areas are served by private providers, or rely on individual wells and/or septic tanks. The City also may extend service into unincorporated areas prior to annexation.

Estimating existing development and projecting future development by service area is a requirement of the Enabling Legislation. For arterial streets, parks, fire, and police facilities, the development within a service area that is being provided service by City facilities is all development located within the incorporated area, because there are no alternative providers of those facilities operating within the city limits. However, there are alternative providers of water and wastewater within the city limits, and City utility services are sometimes extended to areas outside the incorporated area. Consequently, the utility service area is the area served by the utility system, and the amount of development served reflected in its customer base.

Projecting future development within the service area involves estimates of how much of the projected growth in the planning area will occur within areas subject to future annexation agreements and/or utility system expansions. The recommended service area definition is the incorporated area for the citywide facilities (parks and recreational, police, fire, and street), and the area within the SPAs served by City utilities, as those areas will grow in the future.

CURRENT DEVELOPMENT FEES

The City's current non-utility fees are summarized in Figure 3. Four of the fees are "grandfathered," which means they are not required to comply with current state law because they were adopted before the current statute and were pledged to retire debt for improvements that are no longer authorized. These fees have not been updated since they were adopted in 2006, although they were revised in 2011. The "new" fire fee was adopted in 2014 in compliance with the current development fee statute for municipalities. The City recently repealed a fee for 163rd Avenue improvements. The current non-utility fees are all assessed citywide.

Figure 3: Current Non-Utility Development Fees

Land Use Type	Unit	Grandfathered Fees				New	Total
		Parks	Fire	Police	Govt	Fire	
Single-Family Detached	Dwelling	\$785	\$688	\$371	\$235	\$680	\$2,759
Multi-Family, <10 Units	Dwelling	\$732	\$641	\$346	\$616	\$499	\$2,834
Multi-Family, 10+ Units	Dwelling	\$580	\$508	\$274	\$489	\$499	\$2,350
All Other Housing	Dwelling	\$695	\$609	\$328	\$584	\$499	\$2,715
Hotel	Room	\$0	\$119	\$23	\$97	n/a	n/a
Hotel	1,000 sq. ft.	\$0	n/a	n/a	n/a	\$799	n/a
Commercial, 25,000 sf or less	1,000 sq. ft.	\$0	\$906	\$689	\$740	\$779	\$3,114
Commercial, 25,001-50,000 sf	1,000 sq. ft.	\$0	\$778	\$599	\$636	\$779	\$2,792
Commercial, 50,001-100,000 sf	1,000 sq. ft.	\$0	\$680	\$500	\$556	\$779	\$2,515
Commercial, 100,001-200,000 sf	1,000 sq. ft.	\$0	\$604	\$428	\$493	\$779	\$2,304
Commercial, >200,000 sf	1,000 sq. ft.	\$0	\$544	\$363	\$445	\$779	\$2,131
Office, 10,000 sf or less	1,000 sq. ft.	\$0	\$1,219	\$252	\$996	\$1,247	\$3,714
Office, 10,001-25,000 sf	1,000 sq. ft.	\$0	\$1,129	\$204	\$923	\$1,247	\$3,503
Office, 25,001-50,000 sf	1,000 sq. ft.	\$0	\$1,064	\$174	\$869	\$1,247	\$3,354
Office, 50,001-100,000 sf	1,000 sq. ft.	\$0	\$1,004	\$148	\$821	\$1,247	\$3,220
Office, >100,000 sf	1,000 sq. ft.	\$0	\$911	\$126	\$745	\$1,247	\$3,029
Public/Inst., 10,000 sf or less	1,000 sq. ft.	\$0	\$1,219	\$252	\$996	\$1,247	\$3,714
Public/Inst., 10,001-25,000 sf	1,000 sq. ft.	\$0	\$1,129	\$204	\$923	\$1,247	\$3,503
Public/Inst., 25,001-50,000 sf	1,000 sq. ft.	\$0	\$1,064	\$174	\$869	\$1,247	\$3,354
Public/Inst., 50,001-100,000 sf	1,000 sq. ft.	\$0	\$1,004	\$148	\$821	\$1,247	\$3,220
Public/Inst., >100,000 sf	1,000 sq. ft.	\$0	\$911	\$126	\$745	\$1,247	\$3,029
Business Park	1,000 sq. ft.	\$0	\$860	\$142	\$703	\$519	\$2,224
Light Industrial	1,000 sq. ft.	\$0	\$628	\$77	\$513	\$519	\$1,737
Warehousing	1,000 sq. ft.	\$0	\$348	\$55	\$284	\$519	\$1,206
Manufacturing	1,000 sq. ft.	\$0	\$487	\$42	\$398	\$519	\$1,446

Source: City of Surprise, Development Services Fee Schedule and Resolution No. 2018-105, effective 7/1/2018.

The City's current water, water resource, and wastewater development fees are summarized in Figure 4. The utility fees apply in only two of the six Special Planning Areas (SPAs), because these are the only areas where the City currently provides service. Fees are slightly higher in SPA 2 than in SPA 1. Utility fees are assessed based on water meter size, because potential water and wastewater demand is proportional to the capacity of the meter.

Figure 4: Current Utility Development Fees

Water Meter Size (inches)	SPA 1				SPA 2			
	Water	Water Resource	Waste- water	Total	Water	Water Resource	Waste- water	Total
0.75	\$1,733	\$353	\$3,265	\$5,351	\$2,064	\$353	\$3,361	\$5,778
1.00	\$2,889	\$589	\$5,442	\$8,920	\$3,441	\$589	\$5,601	\$9,631
1.50	\$5,778	\$1,178	\$10,884	\$17,840	\$6,881	\$1,178	\$11,202	\$19,261
2.00	\$9,245	\$1,885	\$17,414	\$28,544	\$11,010	\$1,885	\$17,923	\$30,818
3.00	\$17,335	\$3,534	\$32,651	\$53,520	\$20,644	\$3,534	\$33,606	\$57,784
4.00	\$28,891	\$5,891	\$54,408	\$89,190	\$34,407	\$5,891	\$56,010	\$96,308
6.00	\$57,783	\$11,781	\$108,836	\$178,400	\$68,814	\$11,781	\$112,019	\$192,614
8.00	\$92,452	\$18,850	\$174,138	\$285,440	\$110,102	\$18,850	\$179,231	\$308,183

GRANDFATHERED FEES

The grandfathered parks, fire, police, and general government fees were pledged to repay debt on improvements that are no longer authorized. While they may continue to be charged and used to retire the pledged debt without complying with the current statute, they may not be updated or increased without complying with the Enabling Legislation.

Parks. The grandfathered park fee will be retained until the remaining debt service related to park improvements that are no longer eligible has been retired. This currently amounts to \$733,848 more than the current fund balance. The new park fees will be charged in addition to the grandfathered fee until the remaining debt service is paid.

Fire/EMS. The City currently assesses both a grandfathered fire fee and a new Fire/EMS fee that was adopted in compliance with the Enabling Legislation. The grandfathered fee should be retained only if was used to fund facilities that are ineligible under the new statute for which the fees per pledged to retire debt. The only portion of the grandfathered fire fee's pledged debt for improvements not authorized under the Enabling Legislation is that some administrative vehicles may have been purchased with the pledged debt, but that is likely to be a very small part of the outstanding debt. The consultant's recommendation is to eliminate the grandfathered fee and update the "new" fire/EMS fee. Debt and interfund loan obligations and the fund balance of the grandfathered fee account should be transferred to the updated "new" Fire/EMS fee account.

Police. The City currently assesses only a grandfathered police fee, which is used to retire debt on the police share of the Public Safety Building. The current fund balance is sufficient to repay all the remaining debt service. The grandfathered fee should be replaced with an updated fee that is in compliance with the Enabling Legislation.

General Government. The grandfathered general government fee cannot be updated as part of this report, because general government facilities are not eligible for development fees under the Enabling Legislation. The City has \$45 million in outstanding pledged debt and interfund loans, and may retain the grandfathered general government fee until those obligations have been repaid. The single-family fees were reduced in 2018 to comply with the terms of a settlement agreement with the Home Builders Association of Central Arizona.

PROPOSED DEVELOPMENT FEES

The updated non-utility fees are compared to current fees in Figure 5. The grandfathered “old park” and general government fees are unchanged and will be retained until the applicable pledged debt has been retired. The non-utility fees are all citywide.

Figure 5: Proposed and Current Non-Utility Development Fees

Land Use Type	Unit	Street	Parks and Recreation			Fire/EMS			Police	Gen Govt	Total
			Old	New	Total	Old	New	Total			
Proposed Fees											
Single-Family Detached	Dwelling	\$2,780	\$785	\$1,199	\$1,984	\$0	\$789	\$789	\$392	\$235	\$6,180
Multi-Family	Dwelling	\$2,156	\$580	\$731	\$1,311	\$0	\$481	\$481	\$239	\$489	\$4,676
Mobile Home	Dwelling	\$1,473	\$695	\$671	\$1,366	\$0	\$442	\$442	\$220	\$584	\$4,085
Retail/Commercial	1,000 sq ft	\$3,925	\$0	\$36	\$36	\$0	\$876	\$876	\$435	\$493	\$5,765
Office	1,000 sq ft	\$2,559	\$0	\$84	\$84	\$0	\$497	\$497	\$247	\$745	\$4,132
Industrial	1,000 sq ft	\$1,276	\$0	\$36	\$36	\$0	\$166	\$166	\$82	\$703	\$2,263
Warehouse	1,000 sq ft	\$661	\$0	\$36	\$36	\$0	\$95	\$95	\$47	\$513	\$1,352
Public/Institutional	1,000 sq ft	\$1,448	\$0	\$96	\$96	\$0	\$308	\$308	\$153	\$745	\$2,750
Current Fees											
Single-Family Detached	Dwelling	\$0	\$785	\$0	\$785	\$688	\$680	\$1,368	\$371	\$235	\$2,759
Multi-Family	Dwelling	\$0	\$580	\$0	\$580	\$508	\$499	\$1,007	\$274	\$489	\$2,350
Mobile Home	Dwelling	\$0	\$695	\$0	\$695	\$609	\$499	\$1,108	\$328	\$584	\$2,715
Retail/Commercial	1,000 sq ft	\$0	\$0	\$0	\$0	\$604	\$779	\$1,383	\$428	\$493	\$2,304
Office	1,000 sq ft	\$0	\$0	\$0	\$0	\$911	\$1,247	\$2,158	\$126	\$745	\$3,029
Industrial	1,000 sq ft	\$0	\$0	\$0	\$0	\$628	\$519	\$1,147	\$77	\$703	\$1,927
Warehouse	1,000 sq ft	\$0	\$0	\$0	\$0	\$348	\$519	\$867	\$55	\$513	\$1,435
Public/Institutional	1,000 sq ft	\$0	\$0	\$0	\$0	\$911	\$1,247	\$2,158	\$126	\$745	\$3,029
Percent Change											
Single-Family Detached	Dwelling	n/a	0%	n/a	153%	-100%	16%	-42%	6%	0%	124%
Multi-Family	Dwelling	n/a	0%	n/a	126%	-100%	-4%	-52%	-13%	0%	99%
Mobile Home	Dwelling	n/a	0%	n/a	97%	-100%	-11%	-60%	-33%	0%	50%
Retail/Commercial	1,000 sq ft	n/a	n/a	n/a	n/a	n/a	12%	-37%	2%	0%	150%
Office	1,000 sq ft	n/a	n/a	n/a	n/a	n/a	-60%	-77%	96%	0%	36%
Industrial	1,000 sq ft	n/a	n/a	n/a	n/a	n/a	-68%	-86%	6%	0%	17%
Warehouse	1,000 sq ft	n/a	n/a	n/a	n/a	n/a	-82%	-89%	-15%	0%	-6%
Public/Institutional	1,000 sq ft	n/a	n/a	n/a	n/a	n/a	-75%	-86%	21%	0%	-9%

Note: “Old” fee refers to grandfathered fee; “New” fee is fee adopted in compliance with SB 1525

Source: Current fees from Figure 3 (this comparison uses multi-family with 10+ units, and 100,001 sq. ft. retail, office, and public/institutional building)

10-year revenue projections for the non-utility fees, based on the land use assumptions, are presented in Figure 6 below for updated and current fees. Total non-utility fee revenue over the next 10 years would be about \$111.2 million more than revenue that would be derived from the current fees. Most of this would come from the proposed street fee, much of which would be used for developer credits. Even without the proposed street fee, the updated total revenue would be about \$29.6 million higher than under current fees, due to the increase in park fees. The consultant recommends eliminating the grandfathered fire fee to ensure no overlap with the proposed fire fee. The grandfathered police fee must be updated to comply with the Enabling Legislation, because the current fund balance is sufficient to repay all the pledged debt obligations. No change is recommended for the grandfathered general government fee, which may be retained until all the pledged debt is repaid.

Figure 6: Proposed and Current Non-Utility Fee Revenue, 2019-2029

Facility Type	Proposed Fees	Current Fees	Change	Percent Change
Grandfathered Parks	(\$733,848)	\$1,121,839	(\$1,855,687)	-165%
New Parks	\$24,995,553	\$0	\$24,995,553	n/a
Subtotal, Parks	\$24,261,705	\$1,121,839	\$23,139,866	2063%
Grandfathered Fire *	\$0	\$2,625,981	(\$2,625,981)	-100%
New Fire/EMS	\$21,233,568	\$22,742,188	(\$1,508,620)	-7%
Subtotal, Fire/EMS	\$21,233,568	\$25,368,169	(\$4,134,601)	-16%
Grandfathered Police **	\$0	\$0	\$0	n/a
New Police	\$10,549,504	\$0	\$10,549,504	n/a
Subtotal, Police	\$10,549,504	\$0	\$10,549,504	n/a
Grandfathered General Government	\$11,505,069	\$11,505,069	\$0	0%
Subtotal, Without Street	\$67,549,846	\$37,995,077	\$29,554,769	78%
Street	\$81,612,789	\$0	\$81,612,789	n/a
Total, Non-Utility Fees	\$149,162,635	\$37,995,077	\$111,167,558	293%

*Consultant recommends this fee be discontinued to ensure no overlap between grandfathered and new fire fee.

**Remaining pledged debt to repay is less than fund balance – fee must be updated.

Proposed and current utility fees for the smallest meter size (typically used for a single-family unit and referred to as an Equivalent Dwelling Unit or EDU) are compared in Figure 7. The fees for larger meters would change by the same percentages. Updated water and water resource fees are higher than current fees, while wastewater fees are lower. The total utility fee per EDU would increase by approximately two-thirds or more in SPA 1 and SPA 2. The City does not currently assess utility fees in SPA 3, but will likely acquire the developer-constructed facilities and begin assessing fees over the next 10 years.

Figure 7: Proposed and Current Utility Development Fees

Fee Type*	SPA 1	SPA 2	SPA 3
Proposed Fee per EDU			
Water	\$3,682	\$3,521	\$3,238
Water Resource	\$3,079	\$3,079	\$3,079
Wastewater	\$2,476	\$2,750	n/a
Total	\$9,237	\$9,350	\$6,317
Current Fee per EDU			
Water	\$1,733	\$2,064	n/a
Water Resource	\$353	\$353	n/a
Wastewater	\$3,265	\$3,361	n/a
Total	\$5,351	\$5,778	n/a
Change			
Water	\$1,949	\$1,457	n/a
Water Resource	\$2,726	\$2,726	n/a
Wastewater	(\$789)	(\$611)	n/a
Total	\$3,886	\$3,572	n/a
Percent Change			
Water	112%	71%	n/a
Water Resource	772%	772%	n/a
Wastewater	-24%	-18%	n/a
Total	73%	62%	n/a

* Fee amounts shown are for 0.75-inch meters. Fees for larger meter sizes are obtained by multiplying the above fees by the AWWA capacity ratios (see Figure W2 in the Water Facilities chapter).

The increase in overall utility fee revenue will be much lower than would be indicated by the large increases in water and water resource fee amounts. The City does not provide water service in most of SPA 1, where the majority of future development is projected to occur. Based on projected growth of water and wastewater demand by SPA, translated into EDUs, the updated fees would generate about 19 percent more total utility fee revenue than current fees, as shown in Figure 8.

Figure 8: Proposed and Current Utility Fee Revenue, 2019-2029

Facility Type	SPA 1	SPA 2	SPA 3	Total
New EDUs				
Water/Water Resource	6,281	5,302	634	12,217
Wastewater	34,865	2,862	1,187	38,914
Proposed Fee Revenue				
Water	\$23,126,642	\$18,668,342	\$2,052,892	\$43,847,876
Water Resource	\$19,339,199	\$16,324,858	\$1,952,086	\$37,616,143
Wastewater	\$86,325,740	\$7,870,500	\$0	\$94,196,240
Total, Proposed Fee Revenue	\$128,791,581	\$42,863,700	\$4,004,978	\$175,660,259
Current Fee Revenue				
Water	\$10,884,973	\$10,943,328	\$0	\$21,828,301
Water Resource	\$2,217,193	\$1,871,606	\$0	\$4,088,799
Wastewater	\$113,834,225	\$9,619,182	\$0	\$123,453,407
Total, Current Fee Revenue	\$126,936,391	\$22,434,116	\$0	\$149,370,507
Percent Change				
Water	112%	71%	n/a	101%
Water Resource	772%	772%	n/a	820%
Wastewater	-24%	-18%	n/a	-24%
Total	1%	91%	n/a	18%

PARKS AND RECREATION FACILITIES IIP

The City currently charges a “grandfathered” park fee that was enacted prior to SB 1525. This update proposes to retain the grandfathered fee, but to use the revenues to cover only those costs attributable to improvements that are no longer authorized by the current act. It also proposes to create a new park fee that will cover only costs authorized by SB 1525.

ARS § 9-463.05 (T)(7)(g) defines the facilities and assets that can be included in the Parks and Recreation 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 Recreation Facilities IIP includes components for land, amenities, recreation facilities, and the cost of preparing the Parks and Recreation Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the land, amenity, and recreation facility components. A plan-based methodology is used for the Development Fee Report.

Service Area

Surprise plans to provide a uniform level of service and equal access to parks and recreational facilities within the city limits. The parks and recreation programs are structured and provided to make full use of Surprise’s total inventory of facilities. As a result, the service area for the Parks and Recreation Facilities IIP is citywide.

Grandfathered Fee

A grandfathered fee can be retained as long as it does not overlap with a similar fee adopted in compliance with SB 1525. To the extent that they overlap, in the sense of charging for the same types of improvements, the combination of the two should not exceed the cost to maintain the existing level of service. The clearest way to avoid such overlap is to have the grandfathered fee pay only for outstanding debt that is no longer authorized, while adopting a new fee in compliance with SB 1525 that pays only for costs that are currently authorized under SB 1525.

The grandfathered park fee, based on a study prepared in 2006, was calculated to include some improvements that are no longer eligible facilities under the current Enabling Legislation. The improvements for which there are debt pledges include the Surprise Recreation Campus, the Surprise Stadium, and the Aquatic Center. The Recreation Campus and Stadium could be considered ineligible – the Recreation Campus is well over 30 acres in size, and the statute prohibits “arenas.” On the other hand,

it is not clear whether the Aquatic Center would be ineligible under SB 1525, which prohibits “aquatic centers,” but specifically allows “swimming pools.” The City’s Aquatic Center consists of outdoor swimming pools, which could be authorized under SB 1525, but it has been excluded from the fee calculations under the presumption that it is an ineligible facility.

The outstanding debt service attributable to the Recreation Campus and Stadium facilities and the Aquatics Center for which debt is pledged to be retired by the grandfathered park fee amounts to \$2,235,344. The City should discontinue collecting the grandfathered park fee as soon as it has accumulated enough funds to pay this remaining debt service, which is \$733,848 more than the current fund balance, as shown in Figure PR1.

Figure PR1: Grandfathered Parks & Recreation Fee Debt Pledge

Grandfathered Parks and Recreation Fee	Total
Current Fund Balance, FYE 2018	\$1,501,496
– Outstanding Debt Service, FYE 2018	(\$2,235,344)
Remaining Debt Service Obligation	(\$733,848)

Service Units

ARS § 9-463.05(C)(12) states:

“... the fees shall be assessed against commercial, residential and industrial development, except that the municipality may distinguish between different categories of residential, commercial and industrial development in assessing the costs to the municipality of providing necessary public services to future development and in determining the amount of the development fee applicable to the category of development.”

Park development fees are traditionally only assessed on residential development, because there is a much clearer nexus between the number of residents and the demand for park facilities than is the case for nonresidential development. Any additional demand on park facilities attributable to nonresidential development would come from nonresidents who work in the city using parks during their lunch breaks, before or after work, or on company-sponsored events. While this impact is likely to be small, this study calculates park fees for nonresidential uses.

The recommended service unit for the new park development fees is the Equivalent Dwelling Unit, or EDU. An EDU represents the number of people residing in a typical single-family detached dwelling unit. For nonresidential development, the number of employees per unit is adjusted by two factors to estimate equivalent persons per unit. The “occupancy factor” adjusts for the fact that nonresident workers are in Surprise about one-quarter of the total number of hours in a week, assuming a typical 40-hour work week. The “nonresident factor” takes into account the fact that about a third of jobs in Surprise are filled by nonresidents. The resulting park service unit multipliers are presented in Figure PR2.

Figure PR2: Parks and Recreation Service Unit Multipliers

Land Use	Unit	Pop/Emp Per Unit	Occupancy Factor	Nonresident Factor	Equivalent Pop/Unit	EDUs/Unit
Single-Family Detached	Dwelling	2.36	1.00	1.00	2.36	1.00
Multi-Family	Dwelling	1.43	1.00	1.00	1.43	0.61
Mobile Home	Dwelling	1.31	1.00	1.00	1.31	0.56
Retail/Commercial	1,000 sq. ft.	0.84	0.24	0.32	0.06	0.03
Office	1,000 sq. ft.	2.11	0.24	0.32	0.16	0.07
Industrial	1,000 sq. ft.	0.81	0.24	0.32	0.06	0.03
Warehouse	1,000 sq. ft.	0.81	0.24	0.32	0.06	0.03
Public/Institutional	1,000 sq. ft.	2.54	0.24	0.32	0.20	0.08

Source: Nonresidential employees per 1,000 sq. ft. from U.S. Department of Energy, Commercial Buildings Energy Consumption Survey, 2012; occupancy factor for nonresidential is ratio of 40 hour work week to 168 hours in a week; nonresident factor is percent of jobs in Surprise filled by nonresidents derived by subtracting the number of residents who work in Surprise from the 2011-2015 American Community Survey (12,265) from the total number of jobs in Surprise in 2015 from Maricopa Association of Governments (MAG), Socioeconomic Projections of Population, Housing, and Employment, 2016 (18,022), then dividing by the total number of jobs.

Applying the service unit multipliers to the number of existing and projected units over the next 10 years by land use type results in the estimates of 2019 and 2029 park service units shown in Figure PR3.

Figure PR3: Parks and Recreational Service Units, 2019-2029

Land Use Type	Unit	2019 Units	2029 Units	EDUs/Unit	2019 EDUs	2029 EDUs	New EDUs
Single-Family Detached	Dwelling	49,171	67,709	1.00	49,171	67,709	18,538
Multi-Family	Dwelling	5,718	8,027	0.61	3,488	4,896	1,408
Mobile Home	Dwelling	2,751	3,554	0.56	1,541	1,990	449
Retail/Commercial	1,000 sq. ft.	7,009	11,211	0.03	210	336	126
Office	1,000 sq. ft.	1,925	2,874	0.07	135	201	66
Industrial	1,000 sq. ft.	830	1,039	0.03	25	31	6
Warehouse	1,000 sq. ft.	4,390	5,496	0.03	132	165	33
Public/Institutional	1,000 sq. ft.	6,155	8,917	0.08	492	713	221
				Total	55,194	76,041	20,847

Source: 2019 and 2029 Units from 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 and Amenities

The inventory of existing park facilities that is eligible under the Enabling Legislation is presented in Figure PR4. The new definition of necessary public services for parks and recreation facilities includes parks or facilities on real property up to 30 acres in area, or parks and facilities larger than 30 acres if the facilities provide a direct benefit to the development. This analysis includes total acreage for each community and neighborhood park to accurately document the existing level of service, and it excludes pocket parks since these smaller parks have a limited benefit area. Excluded from the inventory are the 96-acre Surprise Recreation Complex, Surprise Stadium, and Aquatics Center.

Figure PR4: Existing Park Land and Amenities

Park Name	Acres	Baseball, Lit	Softball, Unlit	Softball, Lit	Multi-Purpose, Unlit	Multi-Purpose, Lit	Soccer, Lit	Basketball Ct, Lit	Basketball Ct, Unlit	Tennis Court	Pickleball Court	Sand Volleyball Ct	Ramada, Small	Ramada, Large	Ramada, Pavilion	Playground, Small	Playground, Large	Dog Park	Restroom	Restroom/Concession	Splash Pad	Pool	Skate Park	Parking Space
Bicentennial Park/Lizard Run	17.94			1				0.5						2		2			1					74
DreamCatcher Park	4.14	1																1	1					
Gaines Park	5.00			1	1									1		1		1				1		65
Heritage (Marley) Park-North	12.01			2									2	1		1				1	1			66
Heritage (Marley) Park-South	15.61												2	0	1									67
Mark Coronado Park	7.55					8												1						359
Sierra Montana Park	9.42				1				2			2	2			1								58
Surprise Community Park*	23.73							2		16	2	8	4				1	1	1					603
Dick McComb West Park	30.00			4														1						152
Dick McComb East Park	21.94							1				2					2		1		1		1	45
Surprise Tennis/Racquet Complex	22.76								25															130
Veramonte Park	8.58		1		1									1			1	1			1			48
Youth Baseball Complex	4.60	3																	1					250
Asante Community Park	51.94			2	2		2	2				3	2				2	2						140
Total	235.22	4	1	10	5	8	2	5.5	2	25	16	4	19	11	1	5	6	2	8	4	3	1	1	2,057

*Excludes land occupied by the lake, library, and aquatics center.

Source: City of Surprise Parks and Recreation Department, July, 2018.

Based on planned park improvements included in the Capital Improvement Plan (CIP), Surprise spends approximately \$6,500,000 to develop a 25-acre park (\$260,000 per acre). The current cost to acquire park land is \$100,000 per acre, therefore, Surprise spends \$360,000 per acre on park development.

Figure PR5: Park Development Costs

Park Asset	Existing Acres	Cost per Acre*	Total Cost
Park Land	235.22	\$100,000	\$23,522,000
Park Amenities	235.22	\$260,000	\$61,157,200
Total	235.22	\$360,000	\$84,679,200

Source: City of Surprise Parks and Recreation Department, November, 2018.

*Cost per acre based on Prasada Community Park from Surprise CIP 2019-2023.

Recreation Facilities

The definition of necessary public services for parks and recreational facilities excludes community centers greater than 3,000 square feet. The table below includes total square footage for each facility, but the analysis includes only 3,000 eligible square feet for each recreation facility. Excluded from the inventory are the Surprise Recreation Complex, Surprise Stadium, and Aquatics Center.

The current replacement costs of existing recreation facilities are summarized in the middle column of Figure PR6, and the eligible costs, based on 3,000 eligible square feet per facility, are summarized in the far right column. The cost of each facility represents the original construction cost inflated to 2017 dollars (the most recent year available) using Engineering News Record's Construction Cost Index.

Figure PR6: Existing Recreation Facilities

Recreation Facility Name	Total		Eligible	
	Square Feet	Cost*	Square Feet	Cost**
Villanueva Gym	10,100	\$2,066,789	3,000	\$613,898
Tennis and Racquet Complex	9,300	\$3,231,346	3,000	\$1,042,370
Countryside Recreation Center	14,000	\$2,127,657	3,000	\$455,926
Sierra Montana Recreation Center	10,000	\$2,310,427	3,000	\$693,128
Total	43,400	\$9,736,218	12,000	\$2,805,322

Source: City of Surprise Parks and Recreation Department, November, 2018.

*Original construction cost inflated using ENR Construction Cost Index, 2017.

**TischlerBise calculation using total cost per square foot applied to 3,000 square feet.

COST PER EQUIVALENT DWELLING UNIT

The existing parks and recreation cost per equivalent dwelling unit is summarized in Figure PR7. The outstanding developer credits for Heritage Park and Asante Park are deducted from the existing replacement costs, because they can't be counted in the existing level of service, while at the same time being paid for with future development fees. It is also necessary to add the cost of the required Development Fee Report. The total cost per equivalent dwelling unit is \$1,439.

Figure PR7: Parks and Recreational Cost per EDU

Cost per EDU	
Park Land Cost	\$23,522,000
Park Amenity Cost	\$61,157,200
Recreation Facility Cost	\$2,805,322
– Outstanding Obligations	(\$8,162,355)
Net Park and Recreational Cost	\$79,322,167
÷ Existing Park EDUs	55,194
Parks and Recreation Cost per EDU	\$1,437
Report Cost per EDU	\$2
Total Cost per EDU	\$1,439

Source: Report Cost per EDU from Appendix H.

As described in the Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

While there are some outstanding debt and developer credits on existing facilities, those obligations will be retired with park development fees, not other sources of revenue, and have been excluded from the existing cost per service unit and fee calculations. The City has not received any grants from the State for park improvements in the last five years and does not anticipate receiving them in the future.

The City needs to provide an offset for the park share of the excess construction sales tax offset, as described in Appendix G. Subtracting the offset from the cost per service unit yields a net cost of \$1,199 per equivalent dwelling unit (EDU), as shown in Figure PR8.

Figure PR8: Parks and Recreation Net Cost per EDU

Net Cost per EDU	
Parks and Recreation Cost per EDU	\$1,439
– Excess Construction Tax Offset per EDU	(\$240)
Net Cost per EDU	\$1,199

Source: Excess construction sales tax credit from Appendix G.

Net Cost Schedule

Proportionate share Parks and Recreation Development Fees by land use type are determined by multiplying the net cost per service unit calculated in Figure PR8 by the service units represented by a unit of development. The proposed fee schedule in Figure PR9 represents the maximum fees that may be charged by the City of Surprise for park-related capital improvements, based on the data, analysis, and recommendations provided in this report.

Figure PR9: Parks and Recreation Net Cost Schedule

Land Use Type	Unit	Net Cost/ EDU	EDUs/ Unit	Net Cost/ Unit	Grandfath. Fee/ Unit	Total Cost/ Unit
Single-Family Detached	Dwelling	\$1,199	1.00	\$1,199	\$785	\$1,984
Multi-Family	Dwelling	\$1,199	0.61	\$731	\$580	\$1,311
Mobile Home	Dwelling	\$1,199	0.56	\$671	\$695	\$1,366
Retail/Commercial	1,000 sq. ft.	\$1,199	0.03	\$36	n/a	\$36
Office	1,000 sq. ft.	\$1,199	0.07	\$84	n/a	\$84
Industrial	1,000 sq. ft.	\$1,199	0.03	\$36	n/a	\$36
Warehouse	1,000 sq. ft.	\$1,199	0.03	\$36	n/a	\$36
Public/Institutional	1,000 sq. ft.	\$1,199	0.08	\$96	n/a	\$96

If the new Parks and Recreation Development Fees are adopted, the grandfathered park fee can be retained, as long as the revenues are spent only to retire outstanding pledged debt for currently-ineligible facilities. The City should cease collecting the grandfathered fee when sufficient funds have been collected to repay the remaining debt service, which is currently \$733,848 more than the current fund balance.

10-YEAR CAPITAL PLAN

Planned parks and recreational improvements over the next 10 years are summarized in Figure PR10.

Figure PR10: Parks and Recreation Capital Plan, 2019-2029

Project	Description	Fiscal Year	Cost
Prasada Community Park*	New 25-Acre Park	2020-21	\$9,000,000
White Tanks Community Park*	New 25-Acre Park	2023	\$9,000,000
Surprise Community Park	Lighting, Parking, Restrooms	2022-23	\$2,110,000
Tennis & Racquet Complex	Lighting for 8 Tennis Courts	2019	\$300,000
Sierra Montana Park	Restrooms & Lighting	2023	\$770,000
Heritage Park	Developer Credit	2019-29	\$3,153,318
Various Parks	Debt Service	2019-24	\$387,991
Rancho Mercado Nhood Park	New 13-Acre Park	2020-21	\$2,200,000
Community Pool	Community Pool	2022-23	\$6,500,000
Tribly Wash Community Park*	New 25-Acre Park	2028-29	\$9,000,000
Asante Park	Developer Credit	2019-29	\$4,777,882
Two West Community Park*	New 25-Acre Park	2026-27	\$9,000,000
Recreation Facility	Recreation Facility	2019-29	\$10,000,000
Development Fee Report Updates	Fee Updates	2019-29	\$32,521
Total Planned Expenditures			\$66,231,712

Source: CIP projects from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018; debt service from Appendix F; report cost from Appendix H.

*Includes land cost of \$100,000 per acre

The comparison of planned parks and recreation expenditures and projected revenues is provided in Figure PR11. The projected revenues over the next 10 years, based on the Land Use Assumptions, would not be sufficient to fully fund all of the planned expenditures.

Figure PR11: Parks and Recreation Capital Plan Summary, 2019-2029

Description	Total
Park Net Cost per EDU	\$1,199
x New EDUs, 2019-2029	20,847
Projected Revenue, 2019-2029	\$24,995,553
– Planned Expenditures, 2019-2029	(\$66,231,712)
Projected Revenue Surplus / (Deficit)	(\$41,236,159)

POLICE FACILITIES IIP

The City currently charges a “grandfathered” police fee that was adopted in 2007 and revised in 2011, prior to the January 1, 2012 effective date of SB 1525. This update proposes to replace the grandfathered fee with an updated fee that is in full compliance with the Enabling Legislation.

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

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

The Police Facilities IIP includes components for patrol vehicles, equipment, stations, evidence storage facilities, and the cost of preparing the Police Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current LOS, is used to calculate the components for patrol vehicles, equipment, stations, and evidence storage facilities. A plan-based methodology is used for the related Development Fee Report.

Service Area

The current and proposed service area for the Police Facilities Development Fees is citywide. Police protection is provided throughout the city and police facilities support an integrated public safety response system, for which the entire city is the appropriate service area.

Grandfathered Fee

A grandfathered fee can be retained as long as it does not overlap with a similar fee adopted in compliance with the Enabling Legislation. To the extent that they overlap, the combination of the two should not exceed the cost to maintain the existing level of service. The clearest way to avoid such an overlap is to have the grandfathered fee pay for outstanding debt that is no longer authorized, while adopting a new fee that pays for costs that are currently authorized under the Enabling Legislation.

All the grandfathered police fee debt is attributable to the police share of the space in the Public Safety Building. The City has collected sufficient funds to pay the remaining debt service attributable to the shooting range, which is the only portion of the Public Safety Building that is no longer authorized under the Enabling Legislation. The consultant recommends that the City replace the grandfathered police fee with a fee in compliance with the Enabling Legislation. Any surplus fund balance beyond what is needed to retire the debt attributable to the shooting range should be transferred to the new Police Development Fee account and spent in compliance with the Enabling Legislation.

Figure P1: Grandfathered Police Fee Pledge

Grandfathered Police Fee	Total
Current Fund Balance, FYE 2018	\$2,357,189
– Outstanding Debt Service for Police Shooting Range	(\$141,259)
Surplus Fund Balance for Eligible Facilities	\$2,215,930

Source: Fund balance and outstanding debt service as of 6/30/2018 from Appendix F.

Service Units

ARS § 9-463.05(C)(12) states:

“... the fees shall be assessed against commercial, residential and industrial development, except that the municipality may distinguish between different categories of residential, commercial and industrial development in assessing the costs to the municipality of providing necessary public services to future development and in determining the amount of the development fee applicable to the category of development.”

The fee calculations in the 2006 Police Development Fee Report employed a dual service unit – population for residential development and vehicle trips for nonresidential development. Costs were allocated between residential and nonresidential development based on percentage of calls, with the residential costs divided by residential population and the nonresidential cost by nonresidential vehicle trips. The alternative proposed for this update is to use “functional population” as the service unit for the Police Facilities Development Fee. Functional population is a measure of the presence of people at the site of a land use, based on the average number of full-time equivalent people residing, shopping, or visiting the site. The concept of functional population and the calculation of functional population multipliers for various land use types are described in Appendix D.

Figure P2: Police Service Unit Multipliers

Land Use	Unit	Functional Pop/Unit	EDUs/Unit
Single-Family Detached	Dwelling	1.58	1.00
Multi-Family	Dwelling	0.96	0.61
Mobile Home	Dwelling	0.88	0.56
Retail/Commercial	1,000 sq. ft.	1.75	1.11
Office	1,000 sq. ft.	0.99	0.63
Industrial	1,000 sq. ft.	0.33	0.21
Warehouse	1,000 sq. ft.	0.19	0.12
Public/Institutional	1,000 sq. ft.	0.62	0.39

Applying the service unit multipliers to the number of existing and projected units over the next 10 years results in the estimates of 2019 and 2029 police equivalent dwelling units shown in Figure P3.

Figure P3: Police Equivalent Dwelling Units

Land Use Type	Unit	2019 Units	2029 Units	EDUs/Unit	2019 EDUs	2029 EDUs	New EDUs
Single-Family Detached	Dwelling	49,171	67,709	1.00	49,171	67,709	18,538
Multi-Family	Dwelling	5,718	8,027	0.61	3,488	4,896	1,408
Mobile Home	Dwelling	2,751	3,554	0.56	1,541	1,990	449
Retail/Commercial	1,000 sq. ft.	7,009	11,211	1.11	7,780	12,444	4,664
Office	1,000 sq. ft.	1,925	2,874	0.63	1,213	1,811	598
Industrial	1,000 sq. ft.	830	1,039	0.21	174	218	44
Warehouse	1,000 sq. ft.	4,390	5,496	0.12	527	660	133
Public/Institutional	1,000 sq. ft.	6,155	8,917	0.39	2,400	3,478	1,078
				Total	66,294	93,206	26,912

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

ARS § 9-463.05(E)(1) requires:

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

ARS § 9-463.05(E)(2) requires:

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

The inventory of existing police infrastructure that is eligible under the Enabling Legislation is presented in Figure P4. Values represent estimated replacement costs based on the number and current unit cost of patrol vehicles, the inflation-adjusted original amounts paid for existing equipment from fixed asset listings, current building square footage and the cost per square foot of the planned substation and the Property and Evidence Building, an estimated land cost of \$100,000 per acre.

Figure P4: Existing Police Infrastructure

Police Asset	Existing Units	Cost/Unit	Replacement Cost
Patrol Vehicles	75 vehicles	\$65,000	\$4,875,000
Other Equipment	n/a units	\$5,772,889	\$5,772,889
Public Safety Building	42,500 square feet	\$364	\$15,458,383
Police Facility Land	7.82 acres	\$100,000	\$782,000
Property and Evidence Building	8,500 square feet	\$310	\$2,637,931
Total			\$29,526,203

Source: Patrol vehicle cost from Surprise Police Department; equipment costs from fixed asset listings, original costs adjusted by the U.S. Bureau of Labor Statistics, Consumer Price Index (CPI-U), ratio of July 2018 index to annual average index; building square feet and acres from Surprise Police Department; building cost based on planned substation and planned Property and Evidence Building; land cost based on estimated cost of \$100,000 per acre.

COST PER EQUIVALENT DWELLING UNIT

The capital cost per equivalent dwelling unit for existing eligible patrol vehicles, equipment, police facilities, and land is calculated in Figure P5. The net cost adds the current fund balance, after subtracting outstanding debt, interfund loans, and developer credits, and represents the value of the investment that has been made by existing development to provide the existing level of service. It is also necessary to add the cost of the required Development Fee Report. The total cost per equivalent dwelling unit is \$470.

Figure P5: Police Cost per EDU

Cost per EDU	
Patrol Vehicle Cost	\$4,875,000
Police Equipment Cost	\$5,772,889
Police Facility Cost	\$15,458,383
Police Facility Land	\$782,000
Evidence Storage Facility Cost	\$2,637,931
+ Fund Balance after Grandfathered Fee Obligations	\$1,545,356
Net Police Cost	\$31,071,559
÷ Existing Police EDUs	66,294
Police Cost per EDU	\$469
Report Cost per EDU	\$1
Total Cost per EDU	\$470

Source: Fund balance after Grandfathered Fee Obligations from Appendix F.
 Report Cost per EDU from Appendix H.

As described in the Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

While there is some outstanding debt on eligible existing facilities, those obligations can be repaid from the current Police Development Fee fund balance. The fees are based on the existing level of service, so there are no existing deficiencies. The City has not received any State or Federal grant funding for police capital facilities in recent years. The City does assess an excess construction sales tax, and the police share of the offset is described in Appendix G. Deducting the excess construction sales tax offset, the net cost per service unit is \$392 per EDU, as shown in Figure P6.

Figure P6: Police Net Cost per EDU

Net Cost per EDU	
Police Cost per EDU	\$470
– Excess Construction Sales Tax Offset per EDU	(\$78)
Net Cost per EDU	\$392

Source: Excess construction sales tax credit from Appendix G.

Net Cost Schedule

Proportionate share police development fees by land use type are determined by multiplying the net cost per equivalent dwelling unit calculated in Figure P6 by the service units represented by a unit of development. The proposed fee schedule in Figure P7 represents the maximum fees that may be charged by the City of Surprise for police capital improvements, based on the data and analysis provided in this report.

Figure P7: Police Net Cost Schedule by Land Use

Land Use Type	Unit	Net Cost/ EDU	EDUs/ Unit	Net Cost/ Unit
Single-Family Detached	Dwelling	\$392	1.00	\$392
Multi-Family	Dwelling	\$392	0.61	\$239
Mobile Home	Dwelling	\$392	0.56	\$220
Retail/Commercial	1,000 sq ft	\$392	1.11	\$435
Office	1,000 sq ft	\$392	0.63	\$247
Industrial	1,000 sq ft	\$392	0.21	\$82
Warehouse	1,000 sq ft	\$392	0.12	\$47
Public/Institutional	1,000 sq ft	\$392	0.39	\$153

10-YEAR CAPITAL PLAN

One of the police improvements programmed in the City's adopted five-year Capital Improvement Plan is a new and expanded Evidence and Readiness Center. Based on the increase in building square footage, 43.3 percent of the cost is attributable to capacity-expansion, as shown in Figure P8.

Figure P8: Growth Share of Evidence and Readiness Facility

Planned Facility Description	Square Feet	Estimated Cost
New Evidence and Readiness Center	15,000	\$4,655,172
– Existing Property and Evidence Building	-8,500	n/a
Additional Square Feet	6,500	n/a
Capacity-Expanding Share	43.3%	\$2,015,690

Source: Square feet from City of Surprise, June 21, 2017; cost from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018.

Planned police expenditures over the next 10 years are summarized in Figure P9.

Figure P9: Police Capital Plan, 2019-2029

Expenditure Type	Project Description	Fiscal Year	Cost
CIP Project	Evidence and Readiness Center	2020-2022	\$2,015,690
CIP Project	Police Substation Land (3 acres)	2019	\$562,500
CIP Project	Police Substation	2021-2022	\$5,455,900
Debt Service	Public Safety Building	2019-2024	\$811,833
CIP Project	Public Safety Vehicles	2019-2028	\$1,700,000
CIP Project	Public Safety Equipment	2019-2028	\$2,800,000
Fee Updates	Development Fee Report Updates	2019-2028	\$32,620
Total Planned Expenditures			\$13,378,543

Source: CIP projects from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018; debt service from Appendix F; study cost from Appendix H.

The comparison of planned police expenditures and projected revenues is provided in Figure P10. The projected revenues over the next 10 years, based on the Land Use Assumptions, will be sufficient to fund most of the planned expenditures.

Figure P10: Police Capital Plan Summary, 2019-2029

Description	Total
Police Net Cost per EDU	\$392
x New EDUs, 2019-2029	26,912
Projected Revenue, 2019-2029	\$10,549,504
Fund Balance, FYE 2018	\$2,357,189
Available Funds, 2019-2029	\$12,906,693
– Planned Expenditures, 2019-2029	(\$13,378,543)
Projected Revenue Surplus / (Deficit)	(\$471,850)

Source: New EDUs and new units from Appendix D; fund balance from Appendix F.

FIRE FACILITIES IIP

Fire protection, rescue, and emergency medical services (EMS) are provided by the City to all development in the incorporated area. The City currently charges two development fees for fire/EMS facilities – a “grandfathered” fee that was enacted prior to the current Enabling Legislation, and a “new” fee calculated in 2014. This update proposes eliminating the grandfathered fire fee, and moving the associated debt being retired by that fee to the updated new Fire/EMS fee.

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

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

The Fire Facilities IIP includes components for apparatus, facilities, land, evidence storage facilities, and the cost of preparing the Fire Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current LOS, is used to calculate the components for apparatus, facilities, and land. A plan-based methodology is used for evidence storage facilities and the related Development Fee Report.

Service Area

The current and proposed service area for the Fire/EMS development fees is citywide and will be defined as the entire incorporated area. Fire protection, rescue, and emergency medical services (EMS) are provided by the City through a central administrative facility, a warehouse, and apparatus housed in fire stations. Apparatus at each station respond to incidents outside the station’s primary response area when required for coverage or backup. In this way, the Fire/EMS facilities and equipment form an integrated response system, for which the entire city is the appropriate service area.

Grandfathered Fee

A grandfathered fee can be retained as long as it does not overlap with a similar fee adopted in compliance with the Enabling Legislation. To the extent that they overlap, the combination of the two should not exceed the cost to maintain the existing level of service. The clearest way to avoid such overlap is to have the grandfathered fee pay only for outstanding debt that is no longer authorized, while adopting a new fee that pays only for costs that are currently authorized by the Enabling Legislation.

The grandfathered fee should be retained only if it was used to fund improvements that now are ineligible under the Enabling Legislation. The only portion of the debt attributed to the grandfathered fire fee that was for improvements not authorized under the Enabling Legislation is that some administrative vehicles might have been purchased with the pledged debt, but any such expenditure has not been documented, and in any case is likely to be a very small part of the outstanding debt. The consultant’s recommendation is to eliminate the grandfathered fee, and update the “new” Fire/EMS fee based on a standards-based methodology. Debt and interfund loan obligations, as well as the fund balance of the grandfathered fee account, should be transferred to the updated “new” Fire/EMS fee account. The City should discontinue collecting the grandfathered fee with the adoption of the updated fee.

Service Units

ARS § 9-463.05(C)(12) states:

“... the fees shall be assessed against commercial, residential and industrial development, except that the municipality may distinguish between different categories of residential, commercial and industrial development in assessing the costs to the municipality of providing necessary public services to future development and in determining the amount of the development fee applicable to the category of development.”

The fee calculations in the 2014 Fire/EMS Development Fee Report used a dual service unit – population for residential and employees for nonresidential. Costs were allocated between residential development and nonresidential development based on percentage of calls, with the residential costs divided by population and the nonresidential cost by employees.

The alternative proposed for this update is to use “functional population” as the basis for the Fire Facilities Development Fee. Functional population is a measure of the presence of people at the site of a land use, based on the average number of full-time equivalent people residing, shopping, or visiting the site. Functional population more accurately represents the demand for service at nonresidential land uses by taking more than employees into consideration. Functional population multipliers are then converted into equivalent dwelling units (EDUs), which is the recommended service unit for Fire Facilities Development Fees. The concept of functional population, the calculation of functional population multipliers for various land use types, and the number of existing and projected service units, are shown in Appendix D. Applying the service unit multipliers to the number of existing and projected units over the next 10 years results in the estimates of 2019 and 2029 Fire/EMS equivalent dwelling units shown in Figure F1.

Figure F1: Fire/EMS Equivalent Dwelling Units

Land Use Type	Unit	2019 Units	2029 Units	EDUs/Unit	2019 EDUs	2029 EDUs	New EDUs
Single-Family Detached	Dwelling	49,171	67,709	1.00	49,171	67,709	18,538
Multi-Family	Dwelling	5,718	8,027	0.61	3,488	4,896	1,408
Mobile Home	Dwelling	2,751	3,554	0.56	1,541	1,990	449
Retail/Commercial	1,000 sq. ft.	7,009	11,211	1.11	7,780	12,444	4,664
Office	1,000 sq. ft.	1,925	2,874	0.63	1,213	1,811	598
Industrial	1,000 sq. ft.	830	1,039	0.21	174	218	44
Warehouse	1,000 sq. ft.	4,390	5,496	0.12	527	660	133
Public/Institutional	1,000 sq. ft.	6,155	8,917	0.39	2,400	3,478	1,078
				Total	66,294	93,206	26,912

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

ARS § 9-463.05(E)(1) requires:

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

ARS § 9-463.05(E)(2) requires:

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

The capital facilities and equipment required to support Fire/EMS service include apparatus, fire stations, administrative and warehouse space, land, and specialized equipment. Current unit costs for new Fire/EMS apparatus, excluding administrative vehicles, are shown in Figure F2. The total replacement cost of existing apparatus is about \$16.71 million.

Figure F2: Existing Fire/EMS Apparatus

Apparatus Description	Existing Units	Replacement Cost/Unit	Replacement Cost
Engine	11	\$770,000	\$8,470,000
Ladder Truck	2	\$1,400,000	\$2,800,000
Staff Vehicle	14	\$60,000	\$840,000
Brush Truck	2	\$450,000	\$900,000
Tanker	1	\$350,000	\$350,000
Support Vehicle	4	\$65,000	\$260,000
Utility Truck	1	\$525,000	\$525,000
Ambulance	5	\$315,000	\$1,575,000
BC Response Vehicle	2	\$95,000	\$190,000
HazMat Vehicle	1	\$800,000	\$800,000
Total	43	\$388,605	\$16,710,000

Source: Existing units and replacement cost per unit from City of Surprise, November 7, 2018.

Current unit costs for new Fire/EMS facilities and land are shown in Figure F3. Costs represent estimated replacement costs, based on the cost per square foot of new fire stations and the current unit costs to acquire additional land. The total replacement cost of existing facilities is about \$42.0 million, and the total cost of land is approximately \$4.0 million.

Figure F3: Existing Fire/EMS Facilities and Land

Facility Description	Address	Existing Sq. Ft.	Existing Acres	Building Cost	Land Cost	Total Cost
Fire Station 301	16750 N Village Dr E	15,531	1.98	\$7,299,570	\$371,250	\$7,670,820
Fire Station 302	18600 N Reems Rd	7,000	3.00	\$3,290,000	\$562,500	\$3,852,500
Fire Station 303	15440 N Cotton Ln	13,632	2.57	\$6,407,040	\$481,875	\$6,888,915
Fire Station 304	24900 N 163rd Ave	n/a	2.99	n/a	\$560,625	\$560,625
Fire Station 305	15517 N Parkview Pl	16,472	2.72	\$7,741,840	\$510,000	\$8,251,840
Fire Station 306	16645 W Clearview Blvd	10,145	2.11	\$4,768,150	\$395,625	\$5,163,775
Fire Station 307	16171 W Cactus Rd	10,145	1.52	\$4,768,150	\$285,000	\$5,053,150
Public Safety Admin. *	142500 W Statler Plaza, Ste 101	16,500	4.51	\$7,755,000	\$845,625	\$8,600,625
Total		89,425	21.40	\$42,029,750	\$4,012,500	\$46,042,250

* share of Public Safety Building square feet occupied, and share of acres based on square feet occupied

Source: Existing square feet, acres, and replacement cost per unit from City of Surprise, November 7, 2018.

One of the Fire/EMS improvements programmed in the City's adopted five-year Capital Improvement Plan is a new Evidence and Readiness Center with 14,000 square feet of floor area. Once complete, Surprise's Fire/EMS storage facilities will total 15,350 square feet of floor area. Based on the increase in fire service units, 49.7 percent of the cost is attributable to future development, as shown in Figure F4. Existing development's share of planned Fire/EMS storage facilities is 8,398 square feet with a replacement cost of approximately \$2.6 million. This includes the existing warehouse totaling 1,350 square feet of floor area with a replacement cost of \$418,966 and the remaining 50.3 percent of the Evidence and Readiness Center. Existing development's contribution required to raise the existing level of service is \$2,187,445 (\$4,344,828 Evidence and Readiness Center total cost - \$2,157,383 future development share).

Figure F4: Growth Share of Evidence and Readiness Facility

Planned Facility Description	Square Feet	Estimated Cost
New Evidence and Readiness Center	14,000	\$4,344,828
+ Existing Warehouse	1,350	\$418,966
Planned Square Feet	15,350	\$4,763,794
Existing Development Share	8,398	\$2,606,411
Future Development Share	6,952	\$2,157,383
Capacity-Expanding Share	49.7%	\$2,157,383

Source: Square feet from City of Surprise, June 21, 2017; cost from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018.

COST PER EQUIVALENT DWELLING UNIT

The capital cost per equivalent dwelling unit for existing eligible apparatus, facilities, land, evidence storage facilities is calculated in Figure F5 to be \$947 per service unit (EDU). Costs represent estimated replacement costs, based on the cost per square foot of new fire stations and the current unit costs to acquire additional land or purchase additional Fire/EMS apparatus.

The net Fire/EMS cost, after subtraction of outstanding net obligations, represents the value of the planned level of service. This value includes existing development's share of the planned Evidence and Readiness Center needed to increase the existing level of service. Future development will need to make the same investment per service unit, either through development fees or other taxes or fees, if the existing level of service is to be maintained without placing an additional burden on existing development.

Figure F5: Fire/EMS Cost per EDU

Cost per EDU	
Fire Apparatus Cost	\$16,710,000
Fire Facility Cost	\$42,029,750
Fire Facility Land	\$4,012,500
Fire Storage Facility Cost	\$2,606,410
– Outstanding Obligation	(\$2,625,981)
Net Fire/EMS Cost	\$62,732,679
÷ Existing Fire EDUs	66,294
Fire/EMS Cost per EDU	\$946
Report Cost per EDU	\$1
Total Cost per EDU	\$947

Source: Fund balance after Grandfathered Fee Obligations from Appendix F.
 Report Cost per EDU from Appendix H.

As described in the Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

While there is some outstanding debt and there are interfund loans on existing facilities, those obligations will be repaid with Fire/EMS development fees, not other sources of revenue, and have been excluded from the fee calculations. The fees have been calculated based on the existing level of service, so there are no deficiencies. The City has not received any grants over the last eight years for anything other than replacement equipment or operations, and does not anticipate receiving growth-related grants in the future.

The City needs to provide an offset for the Fire/EMS share of the excess construction sales tax offset, as described in Appendix G. Subtracting the excess construction sales tax offset from the cost per service unit yields a net cost of \$789 per EDU, as shown in Figure F6.

Figure F6: Fire/EMS Net Cost per EDU

Net Cost per EDU	
Fire/EMS Cost per EDU	\$947
– Excess Construction Sales Tax Offset per EDU	(\$158)
Net Cost per EDU	\$789

Source: Excess construction sales tax credit from Appendix G.

Net Cost Schedule

Proportionate share Fire Facilities Development Fees by land use type are determined by multiplying the net cost per service unit calculated in Figure F6 by the service units represented by a unit of development. The proposed fee schedule in Figure F7 represents the maximum fees that may be charged by the City of Surprise for Fire/EMS capital improvements, based on the data and analysis provided in this report.

Figure F7: Fire/EMS Net Cost Schedule

Land Use Type	Unit	Net Cost/ EDU	EDUs/ Unit	Net Cost/ Unit
Single-Family Detached	Dwelling	\$789	1.00	\$789
Multi-Family	Dwelling	\$789	0.61	\$481
Mobile Home	Dwelling	\$789	0.56	\$442
Retail/Commercial	1,000 sq ft	\$789	1.11	\$876
Office	1,000 sq ft	\$789	0.63	\$497
Industrial	1,000 sq ft	\$789	0.21	\$166
Warehouse	1,000 sq ft	\$789	0.12	\$95
Public/Institutional	1,000 sq ft	\$789	0.39	\$308

10-YEAR CAPITAL PLAN

The City's planned fire/EMS expenditures over the next ten years are summarized in Figure FE7.

Figure F8: Fire/EMS Capital Plan, 2019-2029

Expenditure Type	Project Description	Fiscal Year	Cost
CIP Project	District Fire Station 304	2019-2021	\$8,598,400
CIP Project	Fire Station 308	2019-2022	\$7,098,600
CIP Project	Fire Station 309	2021-2022	\$7,098,600
CIP Project	Fire Station Land (3 acres)	2019	\$562,500
CIP Project	Evidence & Readiness Center	2020-2022	\$2,157,383
CIP Project	Type 3 Fire Engine	2020	\$560,000
CIP Project	Ambulance #4	2019	\$375,500
CIP Project	Ambulance #5	2019	\$375,500
CIP Project	Ambulance #6	2020	\$357,300
CIP Project	Ambulance #7	2022	\$357,300
CIP Project	Utility Truck	2021	\$600,000
CIP Project	Water Tender	2020	\$300,000
Debt Service	Public Safety Bldg (fire share)	2019-2024	\$420,109
Debt Service	Fire Station #3	2019-2024	\$40,335
Interfund Loan	Public Safety Bldg (fire share)	2019-2028	\$333,452
Interfund Loan	Fire Station #5	2019-2028	\$1,151,811
Interfund Loan	Fire Station #6	2019-2028	\$871,701
Interfund Loan	Fire Station #7	2019-2028	\$1,127,289
Interfund Loan	Misc. Equipment	2019-2028	\$94,246
Developer Credits	3-Acre Asante Site	2019-2028	\$144,211
Fee Updates	Development Fee Report Updates	2019-2028	\$32,620
Total			\$32,656,857

The comparison of planned Fire/EMS expenditures and projected revenues is provided in Figure F9. The City has more than enough planned expenditures to use all the revenue that would be collected over the next 10 years, based on the Land Use Assumptions.

Figure F9: Fire/EMS Capital Plan Summary, 2019-2029

Description	Total
Fire/EMS Net Cost per EDU	\$789
x New EDUs, 2019-2029	26,912
Projected Revenue, 2019-2029	\$21,233,568
Fund Balance, FYE 2018	\$1,557,173
Available Funds, 2019-2029	\$22,790,741
– Planned Expenditures, 2019-2029	(\$32,656,857)
Projected Revenue Surplus / (Deficit)	(\$9,866,116)

STREET FACILITIES IIP

This chapter calculates a Street Facilities Development Fee that complies with the requirements of SB 1525. The City recently repealed its 163rd Avenue road development fee. A new citywide Street Facilities Development Fee would supplement the City's current requirements that developers improve streets on which they have frontage or pay a fee in lieu of such construction. If Street Facilities Development Fees are adopted, the City would provide credit against the fees for the value of arterial street frontage improvements or right-of way dedications made by developers that are related to projects in the City's 10-year development fee capital plan.

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

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

The Street Facilities IIP includes components for arterial street improvements and the cost of professional services for preparing the Street Facilities IIP and related Development Fee Report. The incremental expansion methodology is used for arterial street improvements, and the plan-based methodology is used for the related Development Fee Report.

Service Area

The proposed fee would be restricted to City arterial street improvements. Because arterial streets are designed to move traffic over long distances, a citywide service area is appropriate.

Service Units

ARS § 9-463.05(C)(12) states:

"... the fees shall be assessed against commercial, residential and industrial development, except that the municipality may distinguish between different categories of residential, commercial and industrial development in assessing the costs to the municipality of providing necessary public services to future development and in determining the amount of the development fee applicable to the category of development."

A service unit creates the link between supply (roadway capacity) and demand (traffic generated by new development). An appropriate service unit basis for Street Facilities Development Fees is vehicle miles of travel (VMT). Vehicle miles is a combination of the number of vehicles traveling during a given time period and the distance (in miles) these vehicles travel.

The time periods most often used in traffic analysis are the 24-hour day (average daily trips or ADT) and the single hour of the day with the highest traffic volume (peak hour trips or PHT). Because available traffic counts are in terms of ADT, daily VMT will be used as the service unit for the Street Facilities Development Fees. The VMT generated by a specific land use is a product of three factors: 1) trip generation, 2) percent primary trips and 3) average trip length.

Trip Generation. Trip generation rates are based on information published in the most recent edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. Trip generation rates represent trip ends, or driveway crossings at the site of a land use. A single, one-way trip from home to work counts as one trip end for the residence and one trip end for the work place, for a total of two trip ends. To avoid over-counting, all trip rates have been divided by two. This divides responsibility for a trip equally between the origin and destination.

Primary Trip Factor. Trip rates must also be adjusted by a "primary trip factor" to exclude pass by and diverted-linked trips. This adjustment is intended to reduce the possibility of over counting by only including primary trips generated by the development. Pass by trips are those trips that are already on a primary route for a different purpose and simply stop at a development on that route. For example, a stop at a convenience store on the way home from the office is a pass by trip for the convenience store. A pass by trip does not create an additional burden on the street system and therefore should not be counted in the assessment of development fees. Diverted-linked trips are similar to pass by trips, but a small diversion is made from the primary trip route. The primary trip factor excludes both pass by and diverted-linked trips.

Average Trip Length. For the incremental expansion methodology, it is necessary to determine the average length of a trip on the City's arterial street system. The point of departure in developing local trip lengths is to utilize national data. The U.S. Department of Transportation's *National Household Travel Survey* identifies average trips lengths for specific trip purposes. While these trip lengths should be representative of the relative length of trips by land use, they are unlikely to be representative of travel on the City's arterial street system, which does not include travel on State roads, collectors, local streets, or any portion of a trip that occurs outside the City limits. An adjustment factor for local trip lengths can be derived by dividing VMT that is actually observed on the City's arterial system by the VMT that would be expected using national average trip lengths and trip generation rates.

The first step is to estimate the total VMT that would be expected to be generated by existing development in Surprise based on national travel demand characteristics. This can be accomplished by multiplying existing development in each land use category by the appropriate national trip generation rates, primary trip factors and trip lengths, as shown in Figure S1. The expected VMT is considerably higher than the actual estimated VMT on the City's major roadway system. Consequently, it is necessary to develop an adjustment factor to account for this variation. The local adjustment factor is the ratio of actual to projected VMT on the major roadway system. The national average trip length for each land use type should be multiplied by a local adjustment factor of 0.348.

Figure S1: Local Trip Length Adjustment Factors

Land Use Type	ITE Code	Unit	2017 Units	Trip Rate	Primary Trips	Daily Trips	Length (miles)	Daily VMT
Single-Family Detached	210	Dwelling	47,700	4.72	100%	225,144	8.75	1,970,010
Multi-Family	220	Dwelling	5,372	3.66	100%	19,662	8.75	172,043
Mobile Home	240	Dwelling	2,623	2.50	100%	6,558	8.75	57,383
Retail/Commercial	820	1,000 sq ft	6,499	18.87	44%	53,960	7.03	379,339
Office	710	1,000 sq ft	1,791	4.87	80%	6,978	9.76	68,105
Industrial	130	1,000 sq ft	767	1.68	100%	1,289	11.28	14,540
Warehouse	150	1,000 sq ft	4,058	0.87	100%	3,530	11.28	39,818
Public/Institutional	620	1,000 sq ft	5,810	3.32	100%	19,289	6.48	124,993
Total Expected VMT								2,826,231
÷ Total Actual VMT								982,792
Ratio of Actual to Total VMT								0.348

Source: Trip lengths are national averages from the U.S. Department of Transportation in Figure S2; actual citywide VMT from Appendix C.

National average trip lengths derived from the U.S. Department of Transportation's *National Household Travel Survey* are available for a variety of trip types and purposes. These have been adjusted downward by the local adjustment factor, as shown in Figure S2.

Figure S2: Average Trip Lengths

Land Use	Trip Type	National Trip Length	Local Adjustment Factor	Local Trip Length
Residential	Average	8.75	0.348	3.04
Retail/Commercial	Shopping	7.03	0.348	2.44
Office	Medical/Dental	9.76	0.348	3.39
Industrial/Warehouse	To or From Work	11.28	0.348	3.92
Public/Institutional	School/Church	6.48	0.348	2.25

Source: National average trip lengths from U.S. Department of Transportation, National Household Travel Survey, 2017.

The result of combining trip generation rates, primary trip factors, and localized average trip lengths is a travel demand schedule that establishes the daily VMT during the average weekday on the major roadway system generated by various land use types per unit of development. The recommended travel demand schedule is presented in Figure S3.

Figure S3: Street Service Unit Multipliers

Land Use Type	ITE Code	Unit	Trip Rate	Primary Trips	Length (miles)	VMT/ Unit
Single-Family Detached	210	Dwelling	4.72	100%	3.04	14.34
Multi-Family	220	Dwelling	3.66	100%	3.04	11.12
Mobile Home Park	240	Space	2.50	100%	3.04	7.60
Retail/Commercial	820	1,000 sq ft	18.87	44%	2.44	20.25
Office	710	1,000 sq ft	4.87	80%	3.39	13.20
Industrial	140	1,000 sq ft	1.68	100%	3.92	6.58
Warehouse	150	1,000 sq ft	0.87	100%	3.92	3.41
Public/Institutional	620	1,000 sq ft	3.32	100%	2.25	7.47

Source: Trip rates (one-half daily trip ends during a weekday) and retail primary trip percentage from Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th ed., 2017 (office primary trip percentage estimated).

The arterial street service units are expressed in terms of vehicle-miles of travel (VMT). VMT projections for the 2019-2029 planning period by service area are shown in Figure S4.

Figure S4: Street Service Units, 2019-2029

Land Use Type	Unit	Units		VMT/ Unit	VMT		
		2019	2029		2019	2029	New
Single-Family Detached	Dwelling	49,171	67,709	14.34	705,112	970,947	265,835
Multi-Family	Dwelling	5,718	8,027	11.12	63,584	89,260	25,676
Mobile Home	Dwelling	2,751	3,554	7.60	20,908	27,010	6,102
Retail/Commercial	1,000 sq ft	7,009	11,211	20.25	141,932	227,023	85,091
Office	1,000 sq ft	1,925	2,874	13.20	25,410	37,937	12,527
Industrial	1,000 sq ft	830	1,039	6.58	5,461	6,837	1,376
Warehouse	1,000 sq ft	4,390	5,496	3.41	14,970	18,741	3,771
Public/Institutional	1,000 sq ft	6,155	8,917	7.47	45,978	66,610	20,632
Total Service Units					1,023,355	1,444,365	421,010

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.”

A core principle of development fees is that the fees should not charge future development for a higher level of service (LOS) than is currently provided to existing development. In the incremental expansion methodology, LOS is quantified as the existing system-wide ratio of vehicle miles of capacity (VMC) to vehicle miles of travel (VMT).

The capacity of an individual roadway is the maximum volume at the desired roadway level of service (LOS). According to the General Plan, the City has a goal of LOS C on its arterial streets, but will accept LOS D. Maximum volumes at varying levels of service are shown in Figure S5. At LOS D, maximum capacities range from 7,650 vehicles per day for a 2-lane road up to 54,720 vehicles per day for a 6-lane road.

Figure S5: Road Capacities by Level of Service

Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
2	5,100	5,950	6,800	7,650	8,500
3	12,960	15,120	17,280	19,440	21,600
4	21,540	25,130	28,720	32,310	35,900
5	30,480	35,560	40,640	45,720	50,800
6	36,480	42,560	48,640	54,720	60,800

Source: City of Surprise, General Plan 2035, 2013, Table 3.4.

A detailed inventory of the City's existing arterial network was prepared as part of this report (see Appendix C). For each roadway segment, information was gathered on segment length in miles, number of through lanes, current volume based on recent traffic counts, and current capacity at LOS D. The VMC provided by each segment was determined by multiplying the length of the segment by the daily capacity of the segment. The VMC of all road segments was summed to determine the total capacity provided by the City's arterial system. Similarly, the existing demand on each roadway segment was quantified in terms of VMT by multiplying the length of the segment by the current daily traffic volume, and summed for the arterial system.

The results of the existing LOS analysis are shown in Figure S6. While some individual road segments are operating at a worse level of service than LOS D, the appropriate level of service measurement for a consumption-based methodology is the overall ratio of capacity to demand. As shown below, existing level of service is a ratio of just over two VMC per VMT. For this study, it is recommended that the City use a level of service of 1.50, which is midway between the VMC/VMT ratio of 1.00 used in the standard

consumption-based approach and the existing ratio. This acknowledges that there is likely to be excess capacity in the existing system beyond what may be necessary and sustainable over the long term.

Figure S6: Existing and Recommended Arterial Street LOS

Street LOS Analysis	
Existing Vehicle Miles of Capacity (VMC)	2,003,963
÷ Existing Vehicle Miles of Travel (VMT)	982,792
Existing VMC/VMT Ratio	2.04
Recommended VMC/VMT Ratio	1.50

Source: VMC and VMT from Appendix C.

COST PER EQUIVALENT DWELLING UNIT

The average cost per service unit is based on the City's planned improvements that add vehicular travel lanes. Of course, roadway systems do not solely consist of travel lanes. Intersection improvements, signals, and signalization timing infrastructure, rights-of-way, and ancillary facilities (such as lighting, signage, landscaping, sidewalks, bike lanes, and drainage) are other critical components of vehicular capacity. While such stand-alone improvements are more difficult to measure in terms of added VMC, these component costs are typically included in improvements that add vehicular lanes.

The average cost per service unit is derived from the capacity-expanding arterial street improvements planned to accommodate anticipated growth over the next 10 years. Project descriptions and cost estimates are detailed in Figure S7. There are additional planned projects that are capacity-expanding, but do not add lanes, and these are excluded from the calculation of the average cost per vehicle mile of capacity because the capacity added by these projects is more difficult to quantify in terms of VMC added. The average cost of capacity added by the planned projects is approximately \$129 per VMC.

Figure S7: Street Cost per Vehicle Mile of Capacity

Arterial Street	Segment	Miles	Imp. Type	Cost	New VMC	Cost/VMC
Bullard Ave	Cholla-Gab. Mini-Storage	0.300	3-4 Lanes	\$800,000	3,861	\$207.20
Cactus Rd	Litchfield-RR	0.495	2-4 Lanes	\$2,050,000	12,207	\$167.94
Cactus Rd	Cotton-Reems	1.914	2-4 Lanes	\$7,410,000	47,199	\$156.99
Cotton Ln	Greenway-Cactus	1.999	3-6 Lanes	\$7,833,800	70,525	\$111.08
Greenway Rd	Sarival-Cotton	0.999	2-4 Lanes	\$5,033,100	24,635	\$204.31
Greenway Rd	Cotton-Verde Vista	0.339	2-4 Lanes	\$2,660,000	8,360	\$318.18
Greenway Rd	Verde Vista-179th	0.663	2-4 Lanes	\$4,335,300	16,350	\$265.16
Litchfield	Waddell-Desert Cove	1.748	2-4 Lanes	\$3,355,400	43,106	\$77.84
Happy Valley Rd	163rd Ave-E City Limit	3.000	New 4-Lane	\$9,990,000	164,160	\$60.86
Peoria Ave	Cotton-Sarival	0.800	2-6 Lanes	\$3,660,000	37,656	\$97.20
Sarival Ave	Greenway-Waddell	1.000	2-4 Lanes	\$6,943,900	24,660	\$281.59
Waddell Rd	Loop 303-Sarival Ave	0.498	3-6 Lanes	\$3,905,000	17,569	\$222.27
Waddell Rd	Sarival-Reems	0.907	3-6 Lanes	\$6,908,200	31,999	\$215.89
Total				\$64,884,700	502,287	\$129.18

Source: Planned improvements and estimated costs from City of Surprise, FY 2019 Capital Improvements Plan.

The average cost per VMC calculated above must be converted to a cost per VMT by multiplying by the VMC/VMT ratio identified in the LOS analysis. It is necessary to add the cost of the required Development Fee Report. As shown in Figure S8 below, the cost per service unit is approximately \$194 per VMT.

Figure S8: Street Cost per Service Unit

Cost per VMT Calculation	
Improvement Cost per VMC	\$129.18
x VMC/VMT Ratio	1.50
Improvement Cost per VMT	\$193.77
Report Cost per VMT	\$0.08
Total Cost per VMT	\$193.85

As noted in the Executive Summary, development fees should be reduced (or “offset”) in order to account for other types of revenues that will be generated by new development and used to fund capacity-expanding improvements of the same type as those to be funded by the development fees. The calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

Because the potential development fees are based on a level of service lower than provided by existing facilities, there are no existing deficiencies. The City has no debt or interfund loans related to past arterial street capacity improvements. The City has no dedicated source of revenue to fund growth-related arterial street improvements. The regional transportation improvement program for the next five years does not include funding for any City arterial street capacity improvements, nor is any funding anticipated in the future. The excess construction sales tax offset has been allocated among the other fee types, because the adoption of a new Street Facilities Development Fee is not assured. Consequently, no offsets are required, and the net cost per service unit is the same as the cost per service unit calculated above.

Net Cost Schedule

The Street Facilities Development Fee that may be adopted by the City based on this report are the product of the number of service units (VMT) generated by a unit of development and the net cost per service unit calculated above. The resulting net cost schedule is presented in Figure S9.

Figure S9: Street Net Cost Schedule

Land Use Type	Unit	VMT/ Unit	Net Cost/ VMT	Net Cost/ Unit
Single-Family Detached	Dwelling	14.34	\$193.85	\$2,780
Multi-Family	Dwelling	11.12	\$193.85	\$2,156
Mobile Home	Dwelling	7.60	\$193.85	\$1,473
Retail/Commercial	1,000 sq ft	20.25	\$193.85	\$3,925
Office	1,000 sq ft	13.20	\$193.85	\$2,559
Industrial	1,000 sq ft	6.58	\$193.85	\$1,276
Warehouse	1,000 sq ft	3.41	\$193.85	\$661
Public/Institutional	1,000 sq ft	7.47	\$193.85	\$1,448

10-YEAR CAPITAL PLAN

Planned street improvements over the next 10 years are summarized in Figure S10.

Figure S10: Street Capital Plan, 2019-2029

Arterial Street	Segment	Year	Imp. Type	Cost
163rd Ave	Grand Ave-Jomax	FY 2022-23	ROW/Design	\$682,500
Bullard Ave	Cholla-Peoria	FY 2023	Widening	\$800,000
Cactus Rd	Litchfield-RR	FY 2022	Widening	\$2,050,000
Cactus Rd	st BNSF RR Crossing	FY 2020-21	RR Xing	\$1,550,000
Cactus Rd	Cotton-Reems	FY 2020-23	Widening	\$7,410,000
Cotton Ln	Greenway-Cactus	FY 2020-22	Widening	\$7,833,800
Greenway Rd	Sarival-Cotton	FY 2019-21	Widening	\$5,033,100
Greenway Rd	Cotton-Verde Vista	FY 2021-23	Widening	\$2,660,000
Greenway Rd	Verde Vista-179th	FY 2021-22	Widening	\$4,335,300
Greenway Rd	179th-Perryville Rd	FY 2023	T/L, etc.	\$600,000
Litchfield	Waddell-Peoria	FY 2019-23	Widening	\$3,355,400
Litchfield	Lp 303 Interch. Design	FY 2019	Interchange	\$100,000
Happy Valley Rd	163rd Ave-E Limit	FY 2022-23	Widening	\$9,990,000
Peoria Ave	Cotton-Sarival	FY 2020-22	Widening	\$3,660,000
Reems Rd	Hearn-380' north	FY 2022-23	Culvert	\$429,800
Sarival Ave	Greenway-Waddell	FY 2020-21	Widening	\$6,943,900
Sarival Ave	Bell-Greenway	FY 2019-20	Median/TL	\$815,000
Waddell Rd	Loop 303-Sarival Ave	FY 2020	Widening	\$3,905,000
Waddell Rd	Sarival-Reems	FY 2019-20	Widening	\$6,908,200
White Tanks Fwy	Corridor Study	FY 2019	Design	\$250,000
Reems Rd	Dev. Credit - Sun City	FY 2018-27	Credit	\$95,625
Roads and ROW	Dev. Credit - Surp. Pt.	FY 2018-27	Credit	\$3,268,183
Development Fee Report Updates	n/a	FY 2019-28	Studies	\$32,620
Total				\$72,708,428

Source: Planned projects from City of Surprise Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018, project detail sheets; developer credits from Appendix F.

Assuming the proposed fees are adopted at 100 percent, projected development fee revenues over the next 10 years, based on future development anticipated by the land use assumptions, are summarized in Figure S11.

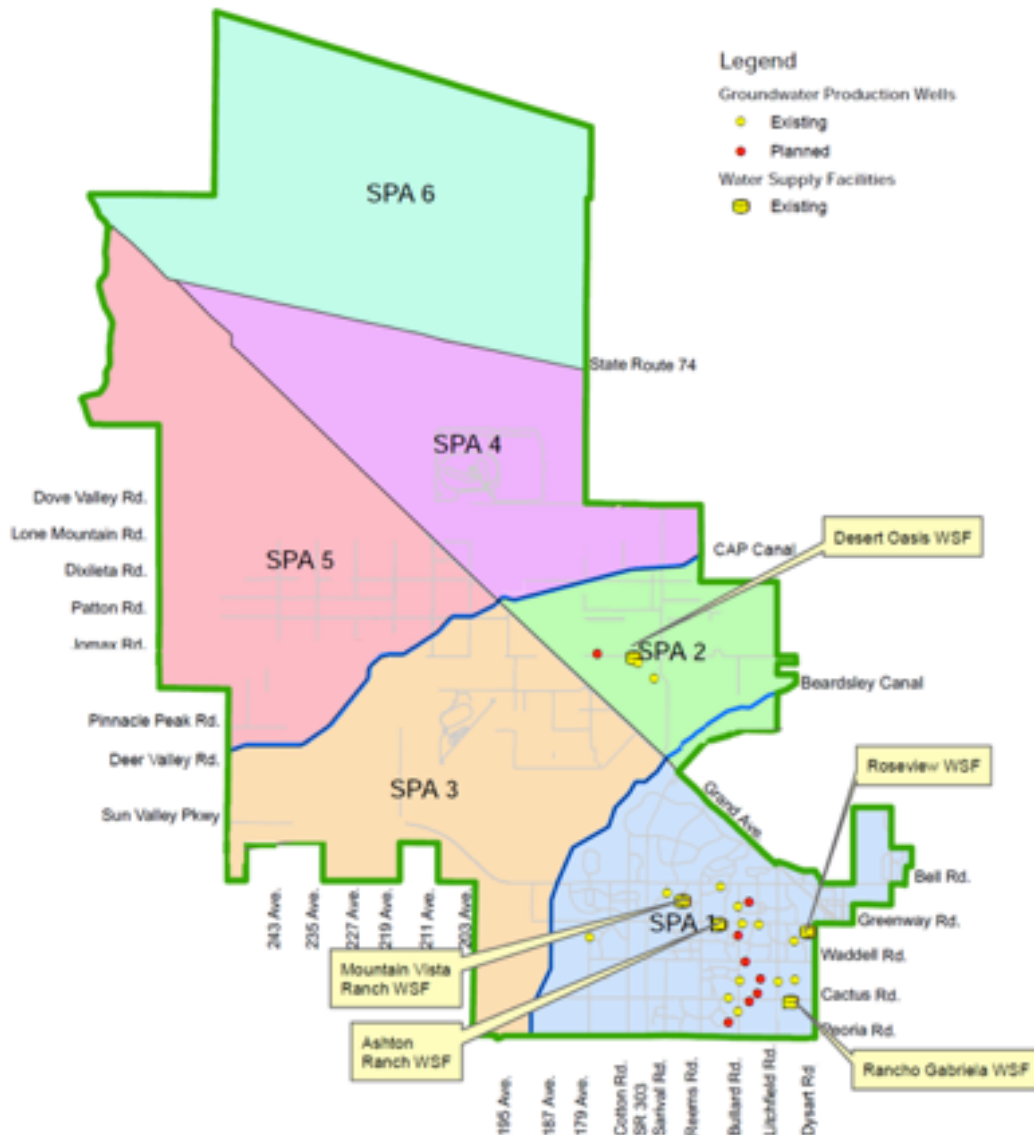
Figure S11: Capital Plan Summary, 2019-2029

	Total
Street Net Cost per VMT	\$193.85
x New VMT, 2019-2029	421,010
Projected Revenue, 2019-2029	\$81,612,789
Fund Balance, FYE 2018	\$2,641,040
Available Funds, 2009-2029	\$84,253,829
– Planned Expenditures, 2019-2029	(\$72,708,428)
Funding Surplus (Deficit)	\$11,545,401

WATER FACILITIES IIP

This chapter updates the City's Water Facilities Development Fees in compliance with the Enabling Legislation. The location of existing water facilities is illustrated in Figure W1.

Figure W1: Existing Water Facilities



ARS § 9-463.05 (T)(7)(a) defines facilities and assets that can be included in the Water Facilities IIP:

“Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities.”

The Water Facilities IIP includes components for existing water facilities, planned water facilities, and the cost of preparing the Water Facilities IIP and development fees. The cost recovery methodology is used for the existing water facilities component. The plan-based methodology is used for the planned water facilities and the Development Fee Report.

Service Area

The City's Municipal Planning Area (MPA) is divided into six Special Planning Areas (SPAs). The SPAs are separated by major geographic barriers - Grand Avenue/BNSF Railroad line, the Beardsley Canal, the Central Arizona Project (CAP) Canal, and SR 74. The SPA borders form natural boundaries for the water service areas.

The City's existing water and water facilities basically consist of two separate systems located in SPA 1 and SPA 2 with limited potential for interconnection. The two existing service areas are acceptable for these facilities as they are defined as the incorporated area, or City utility service area, and may be expanded in the future within the respective SPAs. The City also has planned facilities over the next 10 years in SPA 3.

The City's water system relies on groundwater, which is pumped to the surface by wells. The wells are connected by transmission lines that convey the water to a water supply facility (WSF), where the water is treated, stored in tanks, and pumped into a system of pressurized distribution lines. The WSFs are interconnected within SPAs where practical to provide emergency backup. It is reasonable to use the SPAs as water service areas.

The City is not the only water provider in its planning area. In addition to individual developments that rely on on-site wells and do not connect to the City's distribution system, there are also several private water providers. In particular, EPCOR serves much of SPA 1 (see Figure WR1).

Service Units

To calculate water and wastewater fees, the demand associated with different types of customers must be expressed in a common unit of measurement, called a service unit. The service unit for the City's water and wastewater fees is an equivalent dwelling unit (EDU). An EDU is a single-family dwelling unit or its equivalent in terms of water demand, defined as the potential demand resulting from a 0.75-inch diameter or smaller meter.

The number of water service units associated with a nonresidential customer is determined by the capacity of the water meter relative to the capacity of a 0.75-inch meter. Figure W2 presents EDU multipliers for various meter sizes based on meter capacities from the American Water Works Association.

Figure W2: Meter Capacity Ratios

Meter Size (inches)	EDUs/Unit Ratio*
0.75	1.00
1.00	1.67
1.50	3.33
2.00	5.33
3.00	10.67
4.00	16.67
6.00	33.33
8.00	53.33

* AWWA Manual of Water Supply Practices
M1, 7th Edition.

The number of existing water service units are estimated based on the number of current City water customers and the service unit multipliers described in Figure W2. As shown in Figure W3, the City's current water customer base amounts to 18,167 service units (EDUs). The majority (92 percent) of existing service units are in SPA 1.

Figure W3: Existing Water Service Units

Meter Size (inches)	Customers		EDUs/Unit	Equivalent Dwelling Units		
	SPA 1	SPA 2		SPA 1	SPA 2	Total
0.75	11,240	733	1.00	11,240	733	11,973
1.00	2,307	343	1.67	3,853	573	4,426
1.50	119	8	3.33	396	27	423
2.00	196	13	5.33	1,045	69	1,114
3.00	6	0	10.67	64	0	64
4.00	6	0	16.67	100	0	100
6.00	2	0	33.33	67	0	67
Total	13,876	1,097		16,765	1,402	18,167

Source: City of Surprise Finance Department, July 19, 2017.

The number of service units should increase proportionately with the increase in water demand. As shown in Figure W4, system-wide total average daily water demand and service units are projected to increase by about 61 percent over the next 10 years.

Figure W4: Water Demand and Service Units, 2019-2029

	Year	Average Daily Demand (mgd)				Service Units (EDUs)			
		SPA 1	SPA 2	SPA 3	Total	SPA 1	SPA 2	SPA 3	Total
Actual	2013	6.35	0.39	0.00	6.74	n/a	n/a	n/a	n/a
	2014	6.46	0.45	0.00	6.91	n/a	n/a	n/a	n/a
	2015	6.39	0.43	0.00	6.82	n/a	n/a	n/a	n/a
	2016	7.06	0.56	0.00	7.62	n/a	n/a	n/a	n/a
	2017	6.54	0.60	0.00	7.14	16,765	1,402	0	18,167
Projected	2018	6.74	0.80	0.00	7.54	17,278	1,869	0	19,147
	2019	6.95	0.96	0.00	7.91	17,816	2,243	0	20,059
	2020	7.17	1.15	0.00	8.32	18,380	2,687	0	21,067
	2021	7.39	1.38	0.20	8.97	18,944	3,224	509	22,677
	2022	7.62	1.66	0.21	9.49	19,534	3,878	534	23,946
	2023	7.86	1.83	0.21	9.90	20,149	4,275	534	24,958
	2024	8.10	2.01	0.22	10.33	20,764	4,695	559	26,018
	2025	8.35	2.21	0.23	10.79	21,405	5,162	584	27,151
	2026	8.61	2.43	0.24	11.28	22,072	5,676	609	28,357
	2027	8.88	2.67	0.24	11.79	22,764	6,237	609	29,610
	2028	9.16	2.94	0.24	12.34	23,482	6,868	609	30,959
	2029	9.40	3.23	0.25	12.88	24,097	7,545	634	32,276
10-Year Change		2.45	2.27	0.25	4.97	6,281	5,302	634	12,217

Source: City of Surprise Water Resource Management, May 11, 2018.

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.”

Level of service (LOS) generally refers to the ratio of capacity to demand. One of the principles of development fee analysis is that future development should not be required to pay for a higher LOS than existing development currently receives. Consequently, it is important to determine the existing LOS.

For water facilities, the capacity of water production facilities is generally used as reflective of the capacity of the entire water system. However, some components of the system may have more or less capacity than needed for full utilization of production facilities. The City’s water system consists of wells, water supply facilities (WSFs) consisting of pumping stations, storage tanks, and water treatment facilities serving a group of wells, transmission lines from wells to WSFs, distribution lines from WSFs to customers, and land for wells and WSFs.

Wells

Existing well production capacity is summarized in Figure W5. Total capacity of individual wells is shown in gallons per minute (GPM) and millions of gallons per day (MGD). The City’s design criteria indicate the capacity of a system of wells should be measured in terms of firm capacity (total capacity less the capacity of the largest well), to account for the eventuality that a well may be out of service. Firm capacity is determined at the level of the group of wells served by a water supply facility, and is shown in MGD.

The use of firm capacity to determine the existing well capacity in SPA 2 and SPA 3, however, may not be appropriate. These water systems are in the very early stages of development, and it takes more wells to provide firm capacity than in a more mature area like SPA 1. For example, a system with only two identically-sized wells will be able to count only one well as firm capacity, whereas an additional third well would add its full capacity to firm capacity.

To analyze this effect, the ratio of firm to total well capacity is computed in Figure W6. SPA 2 has only two existing wells, one of which has significantly more capacity than the other. With the larger well out of service, firm capacity is only 34 percent of total capacity, compared to 68 percent for the SPA 1 system. Two additional wells are planned over the next 10 years in the SPA 2 Desert Oasis WSF, which will bring the firm-to-total capacity ratio of that WSF to 74 percent, which is virtually identical to the system-wide ratio in SPA 1. Still, for SPA 2 as a whole, the planned ratio with three new wells, will only be 58 percent (the new Rancho Mercado WSF will only have one well, which adds nothing to firm capacity). The planned ratio would be similar in SPA 3, which will have only two wells over the next 10 years.

Figure W5: Existing Well Production Capacity

Site Name	Total Capacity		Firm Capacity (mgd)
	(gpm)	(mgd)	
Mountain Vista Ranch Water Supply Facility			
Mountain Vista Ranch 1	1,260	1.81	1.81
Mountain Vista Ranch 2	1,350	1.94	n/a
Subtotal, Mountain Vista Ranch WSF	2,610	3.75	1.81
Ashton Ranch Water Supply Facility			
Ashton Ranch 1	1,180	1.70	1.70
Orchards	1,780	2.56	n/a
Surprise Center	1,700	2.45	2.45
Royal Ranch	1,470	2.12	2.12
Sierra Verde	1,270	1.83	1.83
Subtotal, Ashton Ranch WSF	7,400	10.66	8.10
Roseview Water Supply Facility			
Roseview	1,900	2.74	n/a
Litchfield Manor	800	1.15	1.15
Subtotal, Roseview WSF	2,700	3.89	1.15
Rancho Gabriela Water Supply Facility			
Rancho Gabriela 1	1,250	1.80	1.80
Rancho Gabriela 2	1,270	1.83	1.83
Surprise Pointe	1,390	2.00	n/a
Summit	1,270	1.83	1.83
Marley Park 1	1,150	1.66	1.66
Marley Park 2	1,150	1.66	1.66
Subtotal, Rancho Gabriela WSF	7,480	10.78	8.78
Total, SPA 1	32,900	29.08	19.84
Desert Oasis Water Supply Facility			
Desert Oasis 1	1,400	2.02	n/a
Desert Oasis 2	900	1.30	1.30
Total, SPA 2	2,300	3.86	1.30
System Total	35,200	32.94	21.14

Source: City of Surprise Water Resource Management, August 11, 2018.

Figure W6: Ratio of Firm to Total Well Capacity

	SPA 1 (existing)	SPA 2 (existing)	SPA 2 Desert Oasis WSF (planned)	SPA 2 Total (planned)	SPA 3 (planned)
Well Firm Capacity (mgd)*	19.84	1.30	6.02	6.02	2.02
÷ Well Total Capacity (mgd)	29.08	3.86	8.18	10.34	4.04
Ratio of Firm to Total Capacity	68%	34%	74%	58%	50%

*Firm capacities for SPA 2 and SPA 3 based on approach described above.

Over time, the ratio of firm to total capacity in the SPA 2 and SPA 3 will increase to approximately the existing ratio in SPA 1. To reflect longer-term costs, existing long-term firm capacity in SPA 2 and planned firm capacity in SPA 3 will be determined using the existing 68 percent ratio of firm-to-total capacity for the more developed SPA 1 system, as shown in Figure W7. It is worth noting the City's design criteria prior to the 2009 water master plan update did not use firm capacity, but instead required a minimum 1.25 ratio of capacity to demand, which would be equivalent to an 80 percent ratio of firm to total capacity.

Figure W7: Long-Term Firm Well Capacity

	SPA 1 (existing)	SPA 2 (existing)	SPA 2 (planned)	SPA 3 (planned)
Total Capacity (mgd)	29.08	3.86	10.34	4.04
x Firm to Total Capacity Ratio, SPA 1	68%	68%	68%	68%
Long-Term Firm Capacity	19.84	2.62	7.03	2.75

Long-term firm capacity deals with the reliability of the well system to produce water. That capacity must be adequate to accommodate periods of peak water demand. The City's water design criteria require firm capacity be adequate to accommodate two times average day demand. The existing levels of service for wells in SPA 1 and SPA 2 are summarized in Figure W8. Both SPAs have enough capacity to accommodate current peak day demand. The fees, however, are based on average day demand.

Figure W8: Existing Well Level of Service

	SPA 1	SPA 2	Total
Annual Average Day Demand (mgd), 2017	6.54	0.60	7.14
x Peaking Factor*	2.00	2.00	2.00
Peak Day Demand (mgd)	13.08	1.20	14.28
Long-Term Firm Capacity (mgd)	19.84	2.62	22.46
– Peak Day Demand (mgd)	(13.08)	(1.20)	(14.28)
Excess Capacity (mgd)	6.76	1.42	8.18
Excess Capacity (mgd)	6.76	1.42	8.18
÷ Total Production Capacity (mgd)	19.84	2.62	22.46
Percent Excess Capacity	34.1%	54.2%	36.4%

*Peaking factor from Malcolm Pirnie, Integrated Water Master Plan – Water Infrastructure, July 2009, Table A-1.

Other System Components

SPA 1 is the service area with the most developed water system, while SPA 2 has a very small system, and SPA 3 has an even smaller initial planned system that has been partially built by the developer (wells have been drilled) but not yet turned over to the City. In SPA 1, all components should generally be in balance, and well capacity should be reasonably representative of the capacity of the other components of the water system. To evaluate whether long-term firm capacity of the wells is a reasonable measure of the capacity of other components of the SPA 2 and SPA 3 system, the quantities of different components per MGD of well capacity can be compared to those in the more mature SPA 1 system.

In Figure W9, quantities for different components of the existing water systems in the three SPAs are shown (line costs per foot generally increase proportionally with the inches of pipe diameter, making inch-feet a reasonable summary unit for comparison). The quantities are then converted into quantities per MGD of well capacity. The final two columns compute the ratio of quantities per MGD of well capacity in SPA 2 and SPA 3 to the quantity per MGD in SPA 1. The ratios of SPA 2 and SPA 3 component quantities per MGD to those of SPA 1 are indicative of the amounts by which those components in SPA 2 and SPA 3 have more or less capacity relative to their well systems.

In the existing SPA 2 system, pump stations are somewhat undersized for existing well capacity, while storage, lines, and land are oversized. In SPA 3, there is more land relative to the well capacity, while other components are undersized. These ratios will be used to determine the equivalent well capacities of these components in computing the cost per gallon per day of water capacity. Arsenic treatment has been omitted from this analysis, because the need for treatment varies by location.

Figure W9: Level of Service Analysis for Non-Well Components, SPA 2 and SPA 3

System Component	Unit	Existing Quantity			Quantity per Well MGD			SPA 2/ SPA 1	SPA 3/ SPA 1
		SPA 1	SPA 2	SPA 3	SPA 1	SPA 2	SPA 3		
Wells	mgd	19.84	2.62	2.75	1.00	1.00	1.00	1.00	1.00
Pump Stations	mgd	18.24	2.16	1.00	0.92	0.82	0.36	0.89	0.39
Storage Tanks	mg	11.10	1.75	1.50	0.56	0.67	0.55	1.20	0.98
Water Lines	in.-ft (000s)	5,644	1,525	255	284	582	93	2.05	0.33
Land	acres	31.56	5.05	5.00	1.59	1.93	1.82	1.21	1.14

Source: Existing quantities from City of Surprise Water Resource Management, August 11, 2017.

COST PER EQUIVALENT DWELLING UNIT

This report uses the cost recovery, or buy-in, methodology for water, because the existing system has significant excess capacity available to serve new customers. Existing water facilities in the three SPAs are summarized in Figure W10. Current unit costs for the different system components are based on estimates in the City's 2009 water master plan, adjusted by changes in the construction cost index to August 2018 (current land and arsenic treatment cost from Water Resource Management Department). Current replacement cost is the product of existing quantity times the unit cost.

Figure W10: Replacement Costs of Existing Water Facilities

Water System Component	Unit	Existing Quantity			Aug. 2018 Unit Cost	Replacement Cost		
		SPA 1	SPA 2	SPA 3		SPA 1	SPA 2	SPA 3
Wells	each	15	2	2	\$2,838,084	\$42,571,260	\$5,676,168	\$5,676,168
Arsenic Treatment	gpm	13,400	1,200	0	\$1,416	\$18,974,400	\$1,699,200	\$0
Pump Stations	mgd	18.24	2.16	1.00	\$468,124	\$8,538,582	\$1,011,148	\$468,124
Storage Tanks, <2.5 mg	mg	7.60	1.75	1.50	\$1,961,662	\$14,908,631	\$3,432,909	\$2,942,493
Storage Tanks, 2.5-<4.0 mg	mg	3.50	0	0	\$1,726,031	\$6,041,109	\$0	\$0
Storage Tanks, 4.0-<7.5 mg	mg	0.00	0	0	\$1,333,474	\$0	\$0	\$0
Water Lines, 10"	linear ft.	22,695	2,644	20	\$219	\$4,970,205	\$579,036	\$4,380
Water Lines, 12"	linear ft.	217,035	38,358	108	\$263	\$57,080,205	\$10,088,154	\$28,404
Water Lines, 16"	linear ft.	89,911	63,934	9,343	\$351	\$31,558,761	\$22,440,834	\$3,279,393
Water Lines, 20"	linear ft.	39,032	0	0	\$510	\$19,906,320	\$0	\$0
Water Lines, 24"	linear ft.	14,521	659	4,080	\$542	\$7,870,382	\$357,178	\$2,211,360
Water Lines, 30"	linear ft.	8,178	0	192	\$671	\$5,487,438	\$0	\$128,832
Land	acres	31.56	5.05	5.00	\$90,000	\$2,840,400	\$454,500	\$450,000
Total Replacement Cost						\$220,747,693	\$45,739,127	\$15,189,154

Source: Unit costs from Malcom Pirmie, Integrated Water Master Plan - Water Infrastructure, July 2009, Appendix G, adjusted to current cost based on August 2018 Engineering-News Record Construction Cost Index, except for arsenic treatment and land, which are from the City of Surprise Water Resource Management Department, August, 2017.

With the cost recovery methodology, the cost per service unit is calculated as system replacement costs divided by the capacity of the facilities. Replacement costs in Figure W11 are from Figure W10. Well capacity for other components is well capacity times the adjustment factor calculated earlier. The final three columns compute the costs per gallon per day of well capacity for each of the three SPAs.

Figure W11: Water Cost per Gallon per Day

Water System Component	Replacement Cost			Well Capacity (mgd)			Cost per Gallon		
	SPA 1	SPA 2	SPA 3	SPA 1	SPA 2	SPA 3	SPA 1	SPA 2	SPA 3
Wells	\$42,571,260	\$5,676,168	\$5,676,168	19.84	2.62	2.75	\$2.15	\$2.17	\$2.06
Arsenic Treatment	\$18,974,400	\$1,699,200	\$0	19.84	2.62	2.75	\$0.96	\$0.65	\$0.00
Pump Stations	\$8,538,582	\$1,011,148	\$468,124	19.84	2.34	1.08	\$0.43	\$0.43	\$0.43
Storage Tanks	\$20,949,740	\$3,432,909	\$2,942,493	19.84	3.13	2.70	\$1.06	\$1.10	\$1.09
Water Lines	\$126,873,311	\$33,465,202	\$5,652,369	19.84	5.37	0.90	\$6.39	\$6.23	\$6.28
Land	\$2,840,400	\$454,500	\$450,000	19.84	3.18	3.15	\$0.14	\$0.14	\$0.14
Total	\$220,747,693	\$45,739,127	\$15,189,154	n/a	n/a	n/a	\$11.13	\$10.72	\$10.00

Average water demand per service unit is determined by dividing average day water demand by existing water service units (EDUs). The result is 393 gallons per day per service unit, as shown in Figure W12.

Figure W12: Water Demand per Service Unit

Demand per Service Unit Calculation	
Total Average Day Demand (gpd), 2017	7,140,000
÷ Total Equivalent Dwelling Units (EDUs), 2017	18,167
Average Day Demand per EDU (gpd)	393

The cost per service unit is the product of cost per gallon per day of capacity and average day demand per service unit (EDU). The cost per service unit is relatively similar among the three systems, ranging from a low of \$3,935 in SPA 3 to a high of \$4,379 in SPA 1, as shown in Figure W13.

Figure W13: Water Cost per Service Unit

	SPA 1	SPA 2	SPA 3
Cost per gpd of Water System Capacity	\$11.13	\$10.72	\$10.00
x Average Day Demand per EDU (gpd)	393	393	393
Improvement Cost per EDU	\$4,374	\$4,213	\$3,930
Update Study Cost per EDU	\$5	\$5	\$5
Cost per EDU	\$4,379	\$4,218	\$3,935

As described in the Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

The City has no bond debt related to water facilities, but the SPA 1 and SPA 2 water development fee funds have outstanding developer credits for some wells, water supply facilities, and lines. As shown in Figure W14, outstanding obligations amount to less than 6 percent of the total replacement cost of existing facilities in the each of these two service areas. Using well capacity as a reasonable proxy for total water system capacity, the excess capacity percentages in both SPAs are higher than the obligation percentages. This indicates that the outstanding obligations can be entirely attributed to excess capacity, and do not warrant a revenue offset.

Figure W14: Water Excess Capacity Analysis

	SPA 1	SPA 2
Outstanding Net Obligations on Existing Facilities	\$9,832,636	\$2,683,947
÷ Existing Water Facility Replacement Cost	\$220,747,693	\$45,739,127
Net Obligations as Percent of Existing Facility Cost	4.5%	5.9%
Existing Excess Well Capacity (mgd)	6.76	1.42
÷ Total Existing Well Capacity (mgd)	19.84	2.62
Excess Capacity Percentage	34.1%	54.2%

There are no existing deficiencies because the water costs per service unit are based on the existing level of service. State/Federal funding for capacity improvements has not historically been available to the City, and no future funding is anticipated. The City does assess an excess construction sales tax, and the offset for this is subtracted from the cost per service unit. The net cost per service unit is shown in Figure W15 for each of the three SPAs.

Figure W15: Water Net Cost per Service Unit

	SPA 1	SPA 2	SPA 3
Cost per EDU	\$4,379	\$4,218	\$3,935
– Excess Construction Tax Offset per EDU*	(\$697)	(\$697)	(\$697)
Net Cost per EDU	\$3,682	\$3,521	\$3,238

* Excess construction tax offset from Appendix G.

Net Cost Schedule

The net cost schedules for the Water Facilities Development Fees are determined by multiplying the service units (EDUs) for each meter size by the net cost per service unit in each SPA. The resulting fee schedules are presented in Figure W16.

Figure W16: Water Facilities Development Fees

Meter Size (inches)	EDUs/ Meter	Development Fees		
		SPA 1	SPA 2	SPA 3
Net Cost per EDU		\$3,682	\$3,521	\$3,238
0.75	1.00	\$3,682	\$3,521	\$3,238
1.00	1.67	\$6,149	\$5,880	\$5,407
1.50	3.33	\$12,261	\$11,725	\$10,783
2.00	5.33	\$19,625	\$18,767	\$17,259
3.00	10.67	\$39,287	\$37,569	\$34,549
4.00	16.67	\$61,379	\$58,695	\$53,977
6.00	33.33	\$122,721	\$117,355	\$107,923
8.00	53.33	\$196,361	\$187,775	\$172,683

10-YEAR CAPITAL PLAN

Planned water infrastructure improvements over the next 10 years are summarized in Figure W17. Planned improvements for SPA 3 represent existing improvements that have been partially completed by the developer but not yet dedicated to the City per the developer agreement in return for developer credits.

Figure W17: Water Capital Plan, 2019-2029

Improvement/Expenditure	Fiscal Year	Cost
CIP Project, Water Transmission Line, Ashton Ranch/Roseview	2018-2020	\$2,750,000
CIP Project, Arsenic Treatment, Rancho Gabriela	2019	\$2,000,000
CIP Project, SPA 1 WRF Disinfection Contact Tank Cover	2020-2021	\$950,000
CIP Project, Surprise Downtown Waterline Loop	2020	\$1,150,000
CIP Project, Operations Expansion*	2020-2023	\$1,132,863
CIP Project, SPA1 Drinking Water Well	2022-2023	\$3,000,000
SPA 1 Developer Obligation for Well (Marley Park #3)	2018-2027	\$2,500,000
SPA 1 Developer Obligation for WSF Expansion 2B (Shared)	2019-2028	\$1,785,998
SPA 1 Developer Obligation for Sec. 15 Arsenic (Shared)	2019-2028	\$4,773,515
SPA 1 Developer Obligation for Well, WSF Exp., Lines (Surprise Pt)	2019-2028	\$5,780,501
SPA 1 Share of Two Development Fee Reports	2019-2028	\$33,521
SPA 1 Total Planned Expenditures, 2019-2029		\$25,856,398
CIP Project, Arsenic Treatment, Desert Oasis WSF	2019	\$200,000
CIP Project, SPA 2 Rancho Mercado WSF	2019	\$8,700,000
CIP Project, SPA 2 Rancho Mercado Well	2019-2028	\$3,000,000
CIP Project, Operations Expansion*	2020-2023	\$956,287
SPA 2 Developer Credits for WSF, 2 Wells (Desert Oasis)	2019-2028	\$2,683,874
SPA 2 Interfund Loan for WSF, 2 Wells (Desert Oasis)	2019-2028	\$73
SPA 2 Share of Two Development Fee Reports	2019-2028	\$28,296
SPA 2 Total Planned Expenditures, 2019-2029		\$15,568,530
CIP Project, Operations Expansion*	2020-2023	\$114,350
SPA 3 Developer Credits for WSF, Wells, Lines	2019-2028	\$12,000,000
SPA 3 Share of Two Development Fee Reports	2019-2028	\$3,384
SPA 3 Total Planned Expenditures, 2019-2029		\$12,117,734

*Total cost of \$4.407 million split evenly between water and wastewater; water share allocated among SPAs based on projected new EDUs from Figure W4.

Source: CIP projects from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018.

Projected growth in water service units over the next 10 years is expected to generate the amounts of revenue in each SPA shown in Figure W18, assuming the proposed fees are adopted at the maximum rates calculated in this report. Comparing projected revenues to planned expenditures indicates that SPA 1 and SPA 2 will generate more revenue than the planned expenditures over the next 10 years.

Figure W18: Water Capital Plan Summary, 2019-2029

	SPA 1	SPA 2	SPA 3
Net Cost per EDU	\$3,682	\$3,521	\$3,238
x Projected New EDUs, 2019-2029	6,717	5,466	609
Projected Revenue, 2019-2029	\$24,731,994	\$19,245,786	\$1,971,942
Fund Balance, FYE 2018	\$2,664,922	\$0	\$0
Available Funds, 2019-2029	\$27,396,916	\$19,245,786	\$1,971,942
– Planned Expenditures, 2019-2029	(\$25,856,398)	(\$15,568,530)	(\$12,117,734)
Funding Surplus (Deficit)	\$1,540,518	\$3,677,256	(\$10,145,792)

WATER RESOURCE FACILITIES IIP

This chapter updates the City's Water Resource Facilities Development Fees in compliance with the Enabling Legislation. Prior to mid-2017, the water resource fee covered the cost of both water wells and water rights. Currently, it addresses only water rights.

ARS § 9-463.05 (T)(7)(a) defines facilities and assets that can be included in the Water Resource Facilities IIP:

“Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities.”

The Water Resource Facilities IIP includes components for water resources and the cost of preparing the Water Resource Facilities IIP and development fees. The cost recovery methodology is used for the water resources and the plan-based methodology is used for and the Development Fee Report.

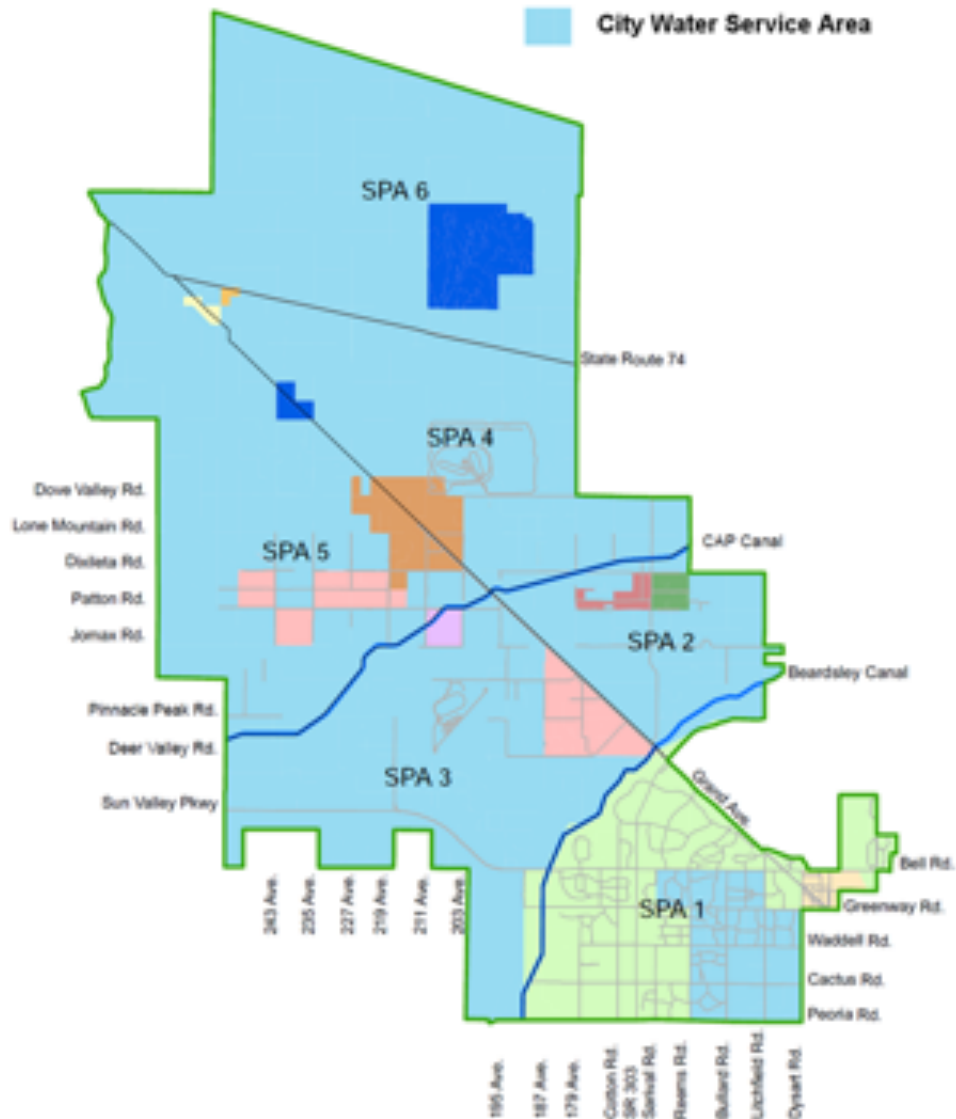
Service Area

The City of Surprise is an assured water service provider within its water service area, which is shown in Figure WR1. The City is allowed to treat and deliver no more than its total demonstrated 100-year supply. Because this requirement applies to the entire area served by the City water system, a single, citywide service area is appropriate for its Water Resource Facilities Development Fee. Although the City currently earmarks water resource fees in SPA 1 and SPA 2, the entire area served by the City will be the service area for the updated Water Resource Facilities Development Fees.

Service Units

The service unit for the Water Resources Development Fee is the Equivalent Dwelling Unit (EDU), as described and quantified in the Water chapter.

Figure WR1: Water Resource Service Area



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.”

In Arizona, a utility must prove that it has the right to specific types and amounts of water to deliver service to its customers. These water rights must be from renewable sources, as dictated by the 1980 Groundwater Management Act. As a municipal utility, the City of Surprise is required to follow the Designation of Assured Water Supply (DAWS) requirements. This Designation identifies the City's available renewable water supplies. The City is allowed to treat and deliver no more than its total supply of resources. The DAWS forecasts the City's water supplies for 100 years, and this is evaluated and adjusted every 10 years based on portfolio assets and current and projected growth demands.

Its current Designation of Assured Water Supply was signed by the Arizona Department of Water Resources on September 29, 2010. The Designation recognized that Surprise demonstrated that after withdrawing an average of 16,718 acre-feet per year (AFY) of groundwater and stored water recovered outside the area of hydrologic impact over 100 years, the depth to static water level within Surprise's service area is not expected to exceed 1,000 feet below land surface. The City's current long-term water supply portfolio considerably exceeds current and committed water demand by 2020, as summarized in Figure WR2 in both AFY and millions of gallons per day (MGD).

Figure WR2: Existing Water Supply

Water Supply Source	Acre-Feet per Year	MGD
Groundwater	1,032	0.92
Surface Water	0	0.00
CAP Water	10,249	9.15
Reclaimed Water	5,403	4.82
Long-Term Storage Credits	33	0.03
Total Available Supply	16,718	14.92
÷ Existing and Committed Demand	11,513	10.28
Capacity/Demand Ratio	1.45	1.45

Source: Arcadis-US, Inc. Integrated Water Master Plan, Water Resources Update, June 2015 (data as of September 2010).

The sole source of wet water for the City of Surprise is groundwater. In order to use groundwater as its potable source, the City must utilize its credits or its renewable water supplies as recharge to offset the water mined from the ground. The City has determined that at build out it will need to have a DAWS of approximately 145,000 AFY of water to meet its demand. Current demand projections show that Surprise will have a shortfall of approximately 49,000 AFY.

COST PER EQUIVALENT DWELLING UNIT

This report uses the cost recovery, or buy-in, approach for the Water Resource Facilities Development Fee, because the City has excess capacity available to serve new customers. Future development places demand on the City's available supplies. However, some of the water used by new customers is returned to the City in the form of wastewater influent flows to its water reclamation facilities (WRFs). The City plans to ultimately reclaim all the treated effluent for either direct reuse, for recharge, or for long-term storage credits. City Water Resource Management staff estimates 45 percent of water use is returned in the form of wastewater influent, with the remainder used for irrigation or other uses. The percent of water returned to the City and able to be reclaimed or recharged is the ratio of influent to effluent flows. The product of these two factors is the estimate that 40.5 percent of water use can be reclaimed or recharged, as shown in Figure WR3. The remaining 59.5 percent of water use that is not recoverable for reuse or recharge is used to determine the water resource demand of a new customer.

Figure WR3: Water Recovery Factor

	Total
Percent of Water Demand Returned as Wastewater Influent	45.0%
x Efficiency Factor (Effluent/Influent Ratio)	90.0%
Percent of Water Demand Reclaimed/Recharged	40.5%
Percent of Water Demand Not Reclaimed/Recharged	59.5%
Total Water Use	100.0%

Source: Returned water percentage from City of Surprise Water Resource Management; efficiency factor based on 2016 influent and effluent flows from City of Surprise Water Resource Management Department, June 7, 2017.

Current demand per service unit for water resources is estimated in Figure WR4.

Figure WR4: Water Resource Demand per Service Unit

	Total
Average Daily Water Demand per EDU (gpd)	393
x Percent of Water Use Not Reclaimed/Recharged	59.5%
Average Daily Water Resource Demand per EDU (gpd)	234
x Days per Year	365
Annual Water Resource Demand per EDU (gpd)	85,410
÷ Gallons per Acre-Foot	325,851
Annual Water Resource Demand per EDU (AFY)	0.2621

The water resource cost per service unit depends on the definition of long-term in number of years. To deliver water, the City must be able to demonstrate sufficient 100-year renewable supply to accommodate existing and 10-year demand. The City currently has a demonstrated 100-year supply for current customers, as well as some excess capacity, but will need to dramatically expand its water resource portfolio in the future to accommodate growth. If growth is to pay for its share of water resources, new customers will pay a development fee sufficient to acquire their own 100-year supply. However, the City's adopted Water Acquisition Policy states that "To ensure enough reserves are in place to meet present and future water demands ... the City will maintain a minimum balance ... equal to 20 years of net demand." Based on the City's adopted policy, the water resource fees will be based on the cost of a 20-year water supply, which is \$3,695 per EDU, as shown in Figure WR5.

Figure WR5: Water Resource Cost per Service Unit

Cost per EDU	
Annual Water Resource Demand per EDU (AFY)	0.2621
x Years	20
Long-Term Water Resource Demand per EDU (AF)	5.242
x Current CAGR D Replenishment Rate per AF	\$704
Water Rights Cost per EDU	\$3,690
Report Cost per EDU	\$5
Water Resource Cost per EDU	\$3,695

Source: current cost per AF from CAGR D, Final 2017/18 – 2020-22 Rate Schedule.

As described in Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

The City has no bond debt related to water resources, but the SPA 1 water resource development fee fund has an outstanding interfund load of about \$1.6 million for an earlier Central Arizona Project (CAP) investment. However, a revenue offset is not required, because the amount of the obligation on existing assets does not exceed the value of existing excess capacity, as shown in Figure WR6. Because these obligations represent a portion of the excess capacity available to serve future customers, these obligations are eligible expenditures of the water resource development fee fund.

Figure WR6: Water Resource Capacity Analysis

Excess Capacity Calculations	
Outstanding Net Obligations	\$1,617,263
÷ Current Cost per Acre-Foot/Year (AFY)*	\$70,400
Outstanding Obligations in AFY	23
÷ Existing Excess AFY	5,205
Obligations as Percent of Excess Capacity Cost	0.4%

*Current cost per AFY is cost per AF from Figure WR5 times 100-year supply.

There are no existing deficiencies in water rights, because the City has more than enough to provide a 100-year water supply for existing customers. The City has not historically received State/Federal funding for water resource acquisition, and does not anticipate receiving such funding in the future. The City does have an excess construction sales tax, and the offset for this is subtracted from the cost per service unit, as shown in Figure WR7.

Figure WR7: Water Resource Net Cost per Service Unit

Net Cost per EDU	
Cost per Equivalent Dwelling Unit (EDU)	\$3,695
– Excess Construction Sales Tax Offset per EDU*	(\$616)
Net Cost per EDU	\$3,079

*Excess construction tax offset from Appendix G.

Net Cost Schedule

The net cost schedule for the water resource fee is determined by multiplying the net cost per service unit presented in Figure WR8 by the service units (EDUs) for each meter size.

Figure WR8: Water Resource Facilities Development Fees

Meter Size (inches)	Net Cost/ EDU	EDUs/ Meter	Net Cost/ Meter
0.75	\$3,079	1.00	\$3,079
1.00	\$3,079	1.67	\$5,142
1.50	\$3,079	3.33	\$10,253
2.00	\$3,079	5.33	\$16,411
3.00	\$3,079	10.67	\$32,853
4.00	\$3,079	16.67	\$51,327
6.00	\$3,079	33.33	\$102,623
8.00	\$3,079	53.33	\$164,203

10-YEAR CAPITAL PLAN

The bulk of the existing water resource portfolio is in the form of Central Arizona Project (CAP) water rights, which it was able to acquire at relatively low cost. Additional CAP water rights are difficult to acquire, and the marginal cost of expanding the water portfolio is very high. The City estimates that it will have a shortfall of 49,000 acre-feet per year at buildout. In addition to planned expenditures on expanding the portfolio, the City has some outstanding obligations on existing water rights, and will need to update its Development Fee Report every five years. Total planned expenditures, net of the current fund balance, equal approximately \$52.9 million over the next 10 years, as summarized in Figure WR9.

Figure WR9: Water Resource Capital Plan, 2019-2029

Improvement/Expenditure	Fiscal Year	Cost
CIP Project, Water Acquisitions	2020-2023	\$2,738,600
CIP Project, Circle City Water Acquisition	2019	\$16,034,300
Long Term Storage Credit Purchase	2019-2028	\$14,000,000
Wet Water Recharge Basins	2020-2021	\$2,200,000
Wet Water Recharge Basins	2025-2026	\$2,200,000
Wet Water Leases	2020-2028	\$14,000,000
Total Planned Improvement Cost	2019-2028	\$51,172,900
Interfund Loan for Central Arizona Project	2019-2028	\$1,617,263
Development Fee Report Cost	2019-2028	\$65,200
Total Planned Expenditures, 2019-2029		\$52,855,363

Assuming the updated fees are adopted at the maximum rates calculated in this study, projected growth in water service units over the next 10 years would generate about \$37.6 million of revenue, as shown in Figure WR10. This projected revenue would only cover part of the planned expenditures.

Figure WR10: Water Resource Capital Plan Summary, 2019-2029

Description	Total
Net Cost per EDU	\$3,079
x Projected New EDUs, 2019-2029	12,217
Projected Revenue, 2019-2029	\$37,616,143
Current Fund Balance, FYE 2018	\$0
Available Funds, 2019-2029	\$37,616,143
– Planned Expenditures, 2019-2029	(\$52,855,363)
Projected Revenue Surplus / (Deficit)	(\$15,239,220)

WASTEWATER FACILITIES IIP

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

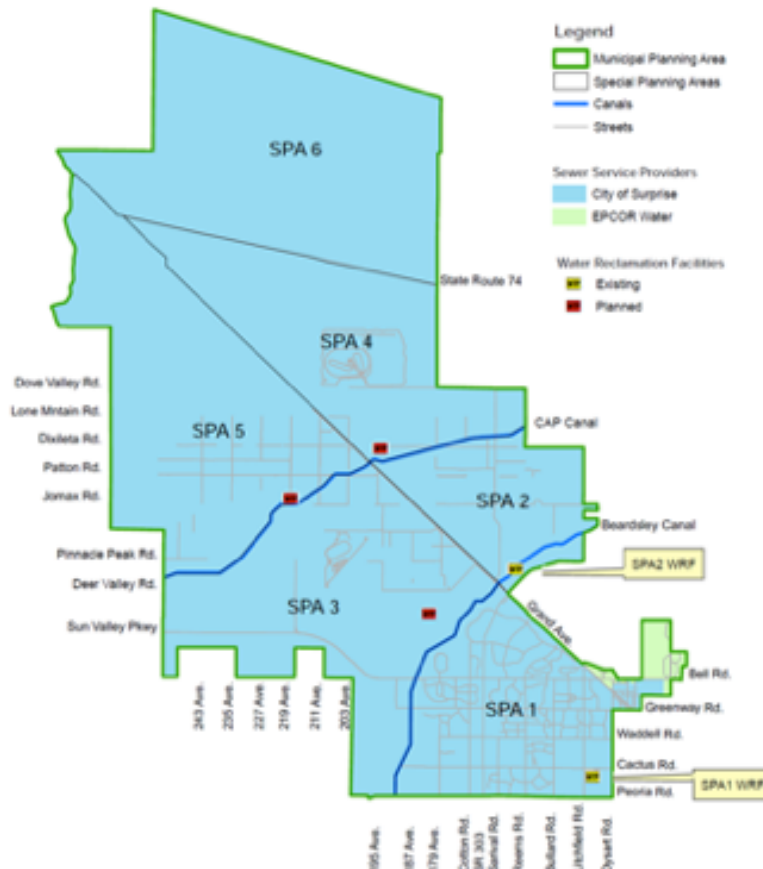
“Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities”

The Wastewater Facilities IIP includes components for water reclamation, collection, recharge, and the cost of preparing the Wastewater Facilities IIP and development fees. The plan-based methodology is used for the Development Fee Report, and the cost recovery methodology is used for all other components.

Service Areas

The City is the primary service provider for all its Municipal Planning Area (MPA), except for a small area that is served by EPCOR, a private utility (see Figure WW1). Surprise currently provides wastewater service to most of the developed areas of SPA 1 and SPA 2. The City entered into an annexation development agreement with a developer in SPA 3. The developer built a wastewater treatment plant that has not yet been dedicated to the City and is currently inactive due to lack of sufficient demand. Based on the terms of the annexation development agreement, parties subject to the agreement will not pay development fees related to wastewater infrastructure. Since there is no other wastewater infrastructure in SPA 3, the analysis does not include a wastewater development fee for SPA 3.

Figure WW1: Wastewater Service Areas



The six SPAs are separated by major geographic barriers - Grand Avenue/BNSF Railroad line, the Beardsley Canal, the Central Arizona Project (CAP) Canal, and SR 74. The SPA borders are topographic boundaries as well, making them well-suited for designation as the wastewater development fee service areas.

Service Units

To calculate Wastewater Facilities Development Fees, the demand associated with different types of customers must be expressed in a common unit of measurement, called a service unit. The service unit for the City's wastewater fees is an equivalent dwelling unit (EDU). An EDU is a single-family dwelling unit or its equivalent in terms of wastewater flows, which designated to be the potential flows associated with a 0.75-inch diameter or smaller water meter.

The number of water service units associated with a customer is determined by the capacity of the water meter relative to the capacity of a 0.75-inch meter. EDU multipliers for various meter sizes based on meter capacities from the American Water Works Association are presented in Figure W2 in the Water chapter.

Existing wastewater service units are estimated based on the number of existing City wastewater customers and the service unit multipliers described in the Water section of this report. As shown in Figure WW2, the City's current wastewater customer base amounts to 54,563 service units (EDUs). The majority (97 percent) of existing service units are in SPA 1.

Figure WW2: Existing Wastewater Service Units

Meter Size (inches)	Customers		EDU Multiplier	Equivalent Dwelling Units		
	SPA 1	SPA 2		SPA 1	SPA 2	Total
0.75	11,186	732	1.00	11,186	732	11,918
1.00	2,291	341	1.67	3,826	569	4,395
1.50	111	8	3.33	370	27	397
2.00	192	13	5.33	1,023	69	1,092
3.00	3	0	10.67	32	0	32
4.00	5	0	16.67	83	0	83
6.00	2	0	33.33	67	0	67
Metered	13,790	1,094	1.21	16,587	1,397	17,984
Non-Metered	30,216	15	1.21	36,561	18	36,579
Total	44,006	1,109		53,148	1,415	54,563

Source: Customers from Utility Billing, Surprise Finance Department, July 19, 2017; EDUs for customers without water meters estimated based on average EDU multiplier for metered customers.

The number of service units should increase proportionately with the increase in wastewater flows. As shown in Figure WW3, system-wide total average daily wastewater flows and service units are projected to increase by 38,914 EDUs over the next 10 years. Most of the new service units will be in SPA 1.

Figure WW3: Wastewater Demand and Service Units, 2019-2029

	Year	WRF Influent Flows (mgd)				Service Units (EDUs)			
		SPA 1	SPA 2	SPA 3	Total	SPA 1	SPA 2	SPA 3	Total
Actual	2013	7.990	0.110	--	8.100	n/a	n/a	n/a	n/a
	2014	8.070	0.130	--	8.200	n/a	n/a	n/a	n/a
	2015	8.340	0.140	--	8.480	n/a	n/a	n/a	n/a
	2016	8.100	0.159	--	8.259	n/a	n/a	n/a	n/a
	2017	8.200	0.170	0.020	8.390	53,148	1,415	131	54,694
Projected	2018	8.761	0.201	0.024	8.986	56,784	1,673	157	58,614
	2019	9.111	0.218	0.029	9.358	59,053	1,814	190	61,057
	2020	9.476	0.234	0.035	9.745	61,419	1,947	229	63,595
	2021	9.855	0.253	0.043	10.151	63,876	2,105	281	66,262
	2022	10.249	0.274	0.053	10.576	66,430	2,280	346	69,056
	2023	10.659	0.299	0.064	11.022	69,087	2,488	418	71,993
	2024	11.085	0.327	0.078	11.490	71,848	2,721	509	75,078
	2025	11.529	0.361	0.095	11.985	74,726	3,004	620	78,350
	2026	11.990	0.399	0.116	12.505	77,714	3,320	757	81,791
	2027	12.470	0.445	0.142	13.057	80,822	3,703	927	85,452
	2028	13.490	0.499	0.173	14.162	87,436	4,152	1,129	92,717
	2029	14.490	0.562	0.211	15.263	93,918	4,676	1,377	99,971
	10-Year Change	5.379	0.344	0.182	5.91	34,865	2,862	1,187	38,914

Source: Historical and projected demand from Surprise Water Resource Management, July 24, 2017 and May 12, 2018; 2017 service units for SPA 3 based on estimated demand and system-wide average day gpd per EDU from Figure WW5.

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.”

Level of service (LOS) generally refers to the ratio of capacity to demand. One of the principles of development fee analysis is that future development should not pay for a higher LOS than existing development receives. Consequently, it is important to determine the existing LOS.

The capacity of wastewater treatment facilities (the City calls its treatment plants water reclamation facilities, or WRFs) is generally used as reflective of the capacity of the entire wastewater system. However, other components of the system may have more or less capacity than needed for full utilization of treatment facilities, and will be evaluated separately. The capacities of the existing water reclamation facilities are summarized in Figure WW4. The SPA 3 facility has been constructed by the developer, but has not been accepted by the City because it is not yet sufficiently utilized.

Figure WW4: Existing Water Reclamation Facilities

Facility	Status	Capacity (mgd)
Plant 11	Existing (Inactive)	0.8
Plant 21	Existing (Inactive)	2.7
Plant 3	Existing	4.8
Plant 4	Existing	4.0
Plant 5	Existing	4.0
Plant 6	Planned	TBD
Plant 7	Planned	TBD
Total, SPA 1 Water Reclamation Facility		16.3
Plant 1	Existing	1.2
Plant 2	Existing	2.0
Total, SPA 2 Water Reclamation Facility		3.2
Plant 1	Existing (Inactive)	1.8
Total, SPA 3 Water Reclamation Facility		1.8

Source: City of Surprise, Integrated Water Master Plan – Water Resources Update, June 2015, Table 4-2.

The existing LOS for water reclamation facilities in SPA 1 and SPA 2 are summarized in Figure WW5. Both SPAs have enough wastewater treatment capacity to accommodate current average day flows. Average day flows per service unit for the two SPAs combined is 153 gallons per day per equivalent dwelling unit.

Figure WW5: Existing Water Reclamation Facility LOS

	SPA 1	SPA 2	Total
Existing Treatment Capacity (mgd)	16.30	3.20	19.50
– Average Day Influent Flow (mgd), 2017	(8.20)	(0.17)	(8.37)
Excess Capacity (mgd)	8.10	3.03	11.13
Excess Capacity (mgd)	8.10	3.03	11.13
÷ Total Treatment Capacity (mgd)	16.30	3.20	19.50
Percent Excess Capacity	49.7%	94.7%	57.1%
Average Day Flows (gpd)	8,200,000	170,000	8,370,000
÷ 2017 EDUs	53,148	1,415	54,563
Wastewater Flows per EDU (gpd)	154	120	153

SPA 1 is the service area with the most developed wastewater system. Only a small portion (about 5 percent) of the capacity of the SPA 2 WRF is currently utilized. In SPA 1, all components should generally be in balance, and treatment capacity should be reasonably representative of the capacity of the other components of the wastewater system. To evaluate whether the capacity of the WRFs is a reasonable measure of the capacity of other components of the SPA 2 system, the quantities of different components per MGD of WRF capacity can be compared to those in the more mature SPA 1 system.

In Figure WW6, quantities for water reclamation facilities and non-WRF components are shown for SPA 1 and SPA 2. Line costs per foot generally increase proportionally with the inches in diameter of the pipe, making inch-feet a reasonable summary unit for comparison. The component quantities are then converted into quantities per MGD of WRF capacity. The final column computes the ratio of the quantities of other components per MGD of WRF capacity in SPA 2 to the quantity per MGD in SPA 1. These ratios are indicative of the amounts by which those components in SPA 2 have more or less than long-term capacity relative to their treatment plants.

Figure WW6: LOS Analysis for Non-WRF Components, SPA 2 and SPA 3

System Component	Unit	Existing Quantity		Quantity per WRF mgd		SPA 2/ SPA 1
		SPA 1	SPA 2	SPA 1	SPA 2	
WRFs	mgd	16.30	3.20	1.00	1.00	1.00
WRF land	acres	174.45	23.94	11	7	0.64
Wastewater Lines	1,000 in.-ft	8,593	1,209	527	378	0.72
Reclaimed Lines	1,000 in.-ft	1709	476	105	149	1.42
Recharge Basins	acres	23.00	2.33	1.41	0.73	0.52

Source: Existing quantities from City of Surprise Water Resource Management Department, August 11, 2017.

In the existing SPA 2 system, WRF land, wastewater collection lines, and recharge basins are somewhat undersized for full utilization of existing WRF capacity, while reclaimed lines are oversized. These ratios will be used to determine the equivalent WRF capacities of these other components in computing the cost per gallon per day of wastewater system capacity.

COST PER EQUIVALENT DWELLING UNIT

This report uses the cost recovery, or buy-in, approach, because the existing wastewater system has excess capacity available to serve new customers. Existing facilities for SPA 1 and SPA 2 are summarized in Figure WW7. Current unit costs for the different system components are based on estimates in the City's 2009 wastewater master plan, adjusted by changes in the construction cost index to 2018. Current replacement cost is the product of existing quantity times unit cost.

Figure WW7: Replacement Costs of Existing Wastewater Facilities

Improvement Type	Unit	Existing Quantity		Aug. 2018 Unit Cost	Replacement Cost	
		SPA 1	SPA 2		SPA 1	SPA 2
WRFs, <7 mgd	mgd	0.00	3.20	\$9,650,000	\$0	\$30,880,000
WRFs, 7<13 mgd	mgd	0.00	0.00	\$8,590,000	\$0	\$0
WRFs, 13<18 mgd	mgd	16.30	0.00	\$7,450,000	\$121,435,000	\$0
Lift Stations	mgd	4.70	0.00	\$1,453,408	\$6,831,018	\$0
WRF Land	acres	174.45	23.94	\$90,000	\$15,700,500	\$2,154,600
Wastewater Lines, 10"	lin. ft.	111,230	7,351	\$175	\$19,465,250	\$1,286,425
Wastewater Lines, 12"	lin. ft.	125,705	5,605	\$207	\$26,020,935	\$1,160,235
Wastewater Lines, 15"	lin. ft.	81,631	12,157	\$243	\$19,836,333	\$2,954,151
Wastewater Lines, 18"	lin. ft.	45,970	9,329	\$290	\$13,331,300	\$2,705,410
Wastewater Lines, 21"	lin. ft.	16,195	0	\$344	\$5,571,080	\$0
Wastewater Lines, 24"	lin. ft.	48,572	11,679	\$373	\$18,117,356	\$4,356,267
Wastewater Lines, 27"	lin. ft.	23,196	0	\$409	\$9,487,164	\$0
Wastewater Lines, 30"	lin. ft.	30,656	13,921	\$445	\$13,641,920	\$6,194,845
Wastewater Lines, 36"	lin. ft.	4,843	558	\$517	\$2,503,831	\$288,486
Wastewater Lines, 42"	lin. ft.	10,645	0	\$588	\$6,259,260	\$0
Wastewater Lines, 48"	lin. ft.	5,138	0	\$660	\$3,391,080	\$0
Reclaimed Lines, 10"	lin. ft.	554	0	\$168	\$93,072	\$0
Reclaimed Lines, 12"	lin. ft.	20,483	12,813	\$199	\$4,076,137	\$2,549,807
Reclaimed Lines, 16"	lin. ft.	21,593	20,158	\$233	\$5,031,169	\$4,696,767
Reclaimed Lines, 18"	lin. ft.	33,488	0	\$279	\$9,343,236	\$0
Reclaimed Lines, 24"	lin. ft.	12,273	0	\$359	\$4,406,043	\$0
Reclaimed Lines, 30"	lin. ft.	7,169	0	\$428	\$3,068,161	\$0
Reclaimed Booster Stations, 1-3	mgd	3.00	0.00	\$468,124	\$1,404,372	\$0
Vadose Zone Wells	each	20	5	\$350,000	\$7,000,000	\$1,750,000
Monitoring Well	each	2	2	\$150,000	\$300,000	\$300,000
Recharge Basins	acre	23.00	2.33	\$132,920	\$3,057,160	\$309,704
Total Replacement Cost					\$319,371,376	\$61,586,697

Source: Existing quantities from City of Surprise Water Resource Management Department, August 11, 2017; unit costs from Malcolm Pirnie, Integrated Water Master Plan - Water Infrastructure, July 2009, Appendix G, adjusted to current cost based on August 2018 Engineering-News Record Construction Cost Index; land cost from City of Surprise Water Resource Management Department, August 11, 2017.

With the cost recovery methodology used for this update, the cost per service unit is calculated as system replacement costs divided by the capacity of the facilities. Replacement costs in the first two columns of Figure WW9 are from Figure WW8. Capacities for other components are current WRF capacity multiplied by the adjustment factors calculated in the previous Level of Service section. The final two columns compute the costs per gallon per day of wastewater system capacity for both of the SPAs.

Figure WW8: Wastewater Cost per Gallon per Day

Wastewater System Component	Replacement Cost		WRF Capacity (mgd)		Cost per gpd	
	SPA 1	SPA 2	SPA 1	SPA 2	SPA 1	SPA 2
WRFs	\$121,435,000	\$30,880,000	16.30	3.20	\$7.45	\$9.65
WRF land	\$15,700,500	\$2,154,600	16.30	2.04	\$0.96	\$1.06
Wastewater Lines	\$137,625,509	\$18,945,819	16.30	2.30	\$8.44	\$8.24
Reclaimed Lines	\$26,017,817	\$7,246,574	16.30	4.54	\$1.60	\$1.60
Recharge Basins	\$3,057,160	\$309,704	16.30	1.66	\$0.19	\$0.19
Other*	\$15,535,390	\$2,050,000	16.30	3.20	\$0.95	\$0.64
Total	\$319,371,376	\$61,586,697	n/a	n/a	\$19.59	\$21.38

*Includes lift stations, reclaimed booster stations, and zone/monitoring wells.

Source: WRF capacity used for all SPA 1 system components; for other components in SPA 2, WRF capacity is multiplied by the ratios in the last two columns of Figure WW6; cost per gpd is replacement cost divided by capacity.

The cost per service unit (EDU) is the product of the cost per gallon per day of capacity and average day flows per EDU, plus the cost per EDU of the Development Fee Reports. The cost per service unit is relatively similar among both systems, ranging from \$2,999 in SPA 1 to \$3,273 in SPA 2, as shown in Figure WW9.

Figure WW9: Wastewater Cost per Service Unit

	SPA 1	SPA 2
Cost per gallon of Wastewater System Capacity	\$19.59	\$21.38
x Average Day Flows per EDU (gpd)	153	153
Improvement Cost per EDU	\$2,997	\$3,271
Report Cost per EDU	\$2	\$2
Total Cost per EDU	\$2,999	\$3,273

Source: Report Cost per EDU from Appendix H.

As described in the Executive Summary, fee calculations need to include revenue offsets for (1) outstanding debt, interfund loans, and other types of obligations related to existing facilities that serve existing development, (2) existing deficiencies, (3) State/Federal funding, and (4) the excess portion of the construction sales tax.

There are no existing deficiencies because the wastewater costs per service unit are based on the existing level of service. The City has bond debt related to the SPA 1 water reclamation facility, as well as interfund loans and developer credits for existing wastewater facilities in both SPA 1 and SPA 2. As shown in Figure WW10, outstanding obligations amount to less than half of the total replacement cost of existing facilities in the each of these two service areas.

More than half of the existing capacity in both SPAs is excess capacity that will serve future customers. This indicates that the outstanding obligations can be entirely attributed to excess capacity, and do not warrant a revenue offset.

Figure WW10: Wastewater Excess Capacity Analysis

	SPA 1	SPA 2
Outstanding Net Obligations on Existing Facilities	\$92,020,600	\$26,347,600
÷ Existing Water Facility Replacement Cost	\$319,371,376	\$61,586,697
Net Obligations as % of Existing Facility Replacement Cost	28.8%	42.8%
Existing Excess Water Reclamation Facility Capacity (mgd)	8.10	3.03
÷ Total Existing Water Reclamation Facility Capacity (mgd)	16.30	3.20
Excess Capacity Percentage	49.7%	94.7%

The City has an excess construction sales tax, and the offset amount applicable to the wastewater fee is calculated in Appendix G. Subtracting the offset yields the net costs per service unit shown in Figure WW11.

Figure WW11: Wastewater Net Cost per Service Unit

	SPA 1	SPA 2
Total Cost per EDU	\$2,999	\$3,273
– Excess Construction Sales Tax Offset per EDU	(\$523)	(\$523)
Net Cost per EDU	\$2,476	\$2,750

Source: Excess construction tax offset from Appendix G.

Net Cost Schedule

The net cost schedules for the Wastewater Facilities Development Fees are determined by multiplying the service units (EDUs) for each meter size by the net cost per service unit in each SPA. The updated fee schedules are presented in Figure WW12.

Figure WW12: Wastewater Facilities Development Fees

Meter Size (inches)	EDUs/ Meter	Development Fees	
		SPA 1	SPA 2
Net Cost per EDU		\$2,476	\$2,750
0.75	1.00	\$2,476	\$2,750
1.00	1.67	\$4,135	\$4,593
1.50	3.33	\$8,245	\$9,158
2.00	5.33	\$13,197	\$14,658
3.00	10.67	\$26,419	\$29,343
4.00	16.67	\$41,275	\$45,843
6.00	33.33	\$82,525	\$91,658
8.00	53.33	\$132,045	\$146,658

10-YEAR CAPITAL PLAN

Planned capacity-expanding wastewater infrastructure improvements and other growth-related expenditures over the next 10 years are summarized in Figure WW13.

Figure WW13: Wastewater Capital Plan, 2019-2029

Description	Fiscal Year	Cost
CIP Project, Digester Modifications	2019-2020	\$2,994,100
CIP Project, SPA 1 WRF Disinfection Tank Cover	2019-2020	\$950,000
Debt Service on SPA 1 WRF	2019-2028	\$41,259,841
Interfund Loan for WRF Debt Service	2019-2028	\$35,358,667
Interfund Loan for SPA 1 WRF 8 MGD Expansion	2019-2028	\$1,046,326
Interfund Loan for 16" Reclaimed Line, Statler-Bell	2019-2028	\$1,279,084
Interfund Loan for SPA 1 Sewer Developer Reimbursements	2019-2028	\$1,185,388
Interfund Loan for SPA 1 Wastewater Improvements	2019-2028	\$1,347,273
Developer Obligations for Surprise Pte Sewer/Reclaimed Lines	2019-2028	\$856,676
SPA 1 Share of Two Development Fee Reports	2019-2028	\$60,254
SPA 1 Total Planned Expenditures		\$86,337,609
CIP Project, SPA 2 Connecting Influent Pipeline	2023	\$250,000
CIP Project, SPA 2 Additional Land	2022	\$3,288,500
Interfund Loan for SPA 2 Water Reclamation Facility	2019-2028	\$22,656
Developer Obligations for SPA 2 WRF (Shared Agreement)	2019-2028	\$26,620,391
SPA 2 Share of Two Development Fee Reports	2018-2027	\$4,946
SPA 2 Total Planned Expenditures		\$30,186,493

Source: CIP projects from City of Surprise, Adopted Budget, Fiscal Year 2019, Capital Improvement Plan, June 2018; debt service due over next 10 years, interfund loans, and developer credits from Appendix F.

Projected growth in wastewater service units over the next 10 years will generate the revenue in each SPA shown in Figure WW14, assuming the proposed fees are adopted at the maximum rates calculated in this study. Projected revenues do not exceed planned expenditures in any service area.

Figure WW14: Wastewater Capital Plan Summary, 2019-2029

Description	SPA 1	SPA 2
Net Cost per EDU	\$2,476	\$2,750
x Projected New EDUs, 2019-2029	27,674	2,288
Projected Revenue, 2019-2029	\$68,520,824	\$6,292,000
Fund Balance, FYE 2018	\$0	(\$295,447)
Available Funding, 2019-2029	\$68,520,824	\$5,996,553
Planned Expenditures, 2019-2029	(\$86,337,609)	(\$30,186,493)
Projected Revenue Surplus / (Deficit)	(\$17,816,785)	(\$24,189,940)

LAND USE ASSUMPTIONS

The Enabling Legislation requires the preparation of land use assumptions (growth projections) for each service area. The statute defines land use assumptions 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.” Since the IIP for each service area must identify improvement needs for a period not to exceed 10 years, and the land use assumptions must cover a minimum of 10 years, a 10-year time-frame would seem to be the most appropriate for both the land use assumptions and the IIP. For this update, the land use assumptions will be based on the 2019-2029 period.

In this update, the proposed service areas are a combination of incorporated area, utility service areas, and Special Planning Areas (SPAs). The service area for arterial streets, parks, fire, and police fees is the City’s total incorporated area. The service areas for water and wastewater fees are the areas served by the City utilities within SPAs 1, 2, and 3. The service area for the water resources fee is the entire utility service area.

The service areas largely correspond with the incorporated area of the City, broken down by planning area for SPAs 1-3 for water and wastewater. Most utility customers are in the incorporated area, although some portions of the incorporated area, particularly for water in SPA 1, are served by private providers. However, it is not necessary to develop separate population and land use projections for the utility service areas, because utility customer data and water/wastewater demand projections are better sources of information on future growth in utility service units.

Projections into the future are always difficult, because there are so many factors that cannot be predicted with any certainty. Fortunately, the calculation of development fees does not depend on the accuracy of these projections. The projections are used in this study only to ensure that the City has enough planned improvements over the next ten years to be able to spend the revenues that will be generated if the projections prove to be accurate.

INCORPORATED AREA SHARES

Growth projections for the planning areas, including development within and outside the City limits, are presented in Appendix A. This section estimates the distribution of development in the planning areas attributable to incorporated and unincorporated areas. To develop projections for the incorporated area, it is necessary (at least for residential) to estimate how much of existing development is located within the current City limits. The percentage of incorporated development by land use in each SPA was estimated using Maricopa Association of Government (MAG) estimates of 2015 dwelling units and retail, office, industrial, and public/institutional employment by small area. The small areas are referred to as Traffic Analysis Zones (TAZs).

The first step was to overlay the TAZ map (see Figure LU1 below) and the current City limit map, and visually estimate the percentage of the land area in each TAZ that is within the City limits. The TAZ percentages were then multiplied by each of the land uses for the TAZ, the total and incorporated amounts were summed by SPA, and the SPA incorporated area portion was divided by the total to develop the percentages summarized in Figure LU2 below.

Figure LU1: Traffic Analysis Zones

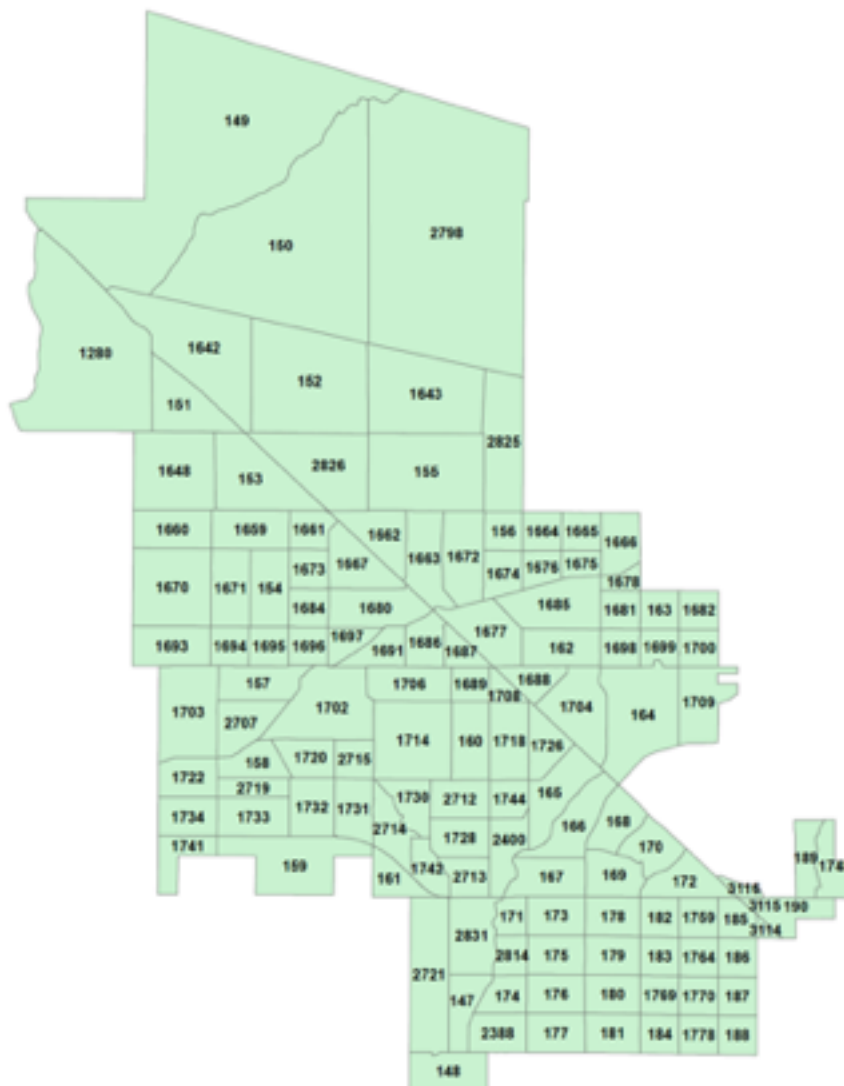


Figure LU2: Share of Development in Incorporated Area by Land Use, 2015

SPA	Units	Retail	Office	Indust.	Public
1	98.1%	97.8%	99.6%	99.8%	99.2%
2	68.4%	60.9%	54.4%	50.0%	72.5%
3	67.2%	93.5%	97.9%	100.0%	0.0%
4	10.9%	23.5%	3.6%	0.0%	51.8%
5	0.8%	0.0%	0.0%	0.0%	0.0%
6	0.0%	0.0%	0.0%	0.0%	0.0%
Total	91.5%	97.2%	96.1%	98.0%	96.1%

Source: TischlerBise, utilizing 2015 estimates of residential units and retail, office, industrial and public/institutional employment by traffic analysis zones from Maricopa Association of Governments (MAG), *Socioeconomic Projections of Population, Housing, and Employment*, 2016, city limits map, and map of traffic analysis zones.

EXISTING DEVELOPMENT

This section documents existing development in the incorporated area. Unlike growth projections, the amount of existing development is a factor that is critical to the development fee calculations for the non-utility fees. This is because of the central role of the existing level of service in development fee analysis.

Residential

Starting with residential development, authoritative data sources include the 2010 census (which provides a 100% count of total dwelling units in the City in 2010), the Census's most recent 5% survey of housing units (which provides information on the mix of existing dwelling units by housing type), and the City's building permit records (which provide the number of dwelling units by housing type added over the last 7 years. These data can be used to develop the most reliable estimates of existing total city-wide dwelling units by housing type.

Let's begin by reviewing the City's recent building permit history. Over the last seven years, the City has issued permits for the construction of 3,109 new dwelling units. The vast majority of permits have been in SPA 1, while a modest number has been in SPA 2, virtually none were in SPA 3, and none were in SPAs 4-6, as summarized in Figure LU3.

Figure LU3: Residential Building Permits, 2010-2016

Housing Type	SPA 1	SPA 2	SPA 3	Total
Single-Family Detached	2,523	370	4	2,897
Multi-Family	166	0	0	166
Mobile Home	46	0	0	46
Total	2,735	370	4	3,109

Source: City of Surprise, Community Development Department, May, 2017.

The 2010 U.S. Census provides a 100% count of the total number of dwelling units in Surprise seven years ago. Estimates of the number of 2010 units by housing type are based on 5%-sample Census data on the distribution of units by housing type. Adding the number of residential permits by housing type over the last seven years should provide a reasonably accurate estimate of existing city-wide dwelling units by housing type, as shown in Figure LU4.

Figure LU4: Citywide Housing Units by Type, 2017

Housing Type	% of Units	2010 Units	2010-16 Permits	2017 Units
Single-Family Detached	85.2%	44,803	2,897	47,700
Multi-Family	9.9%	5,206	166	5,372
Mobile Home	4.9%	2,577	46	2,623
Total	100.0%	52,586	3,109	55,695

Source: Percent of units from U.S. Census, 2011-2015 American Community Survey for City of Surprise; total 2010 units from 2010 U.S. Census; 2010 units by housing type based on percentage distribution.

Figure LU5 presents estimates of existing dwelling units within the City limits, by housing type and SPA. The estimates were developed using data from U.S. Census Bureau, the Maricopa Association of Government, and the planning area projections prepared for the City.

Figure LU5: Incorporated Housing Units by Type and Planning Area, 2017

	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	Total
Total Dwelling Units in MPA	53,549	1,963	1,398	538	2,421	164	60,033
x % Incorporated	98.1%	68.4%	67.2%	10.9%	0.8%	0.0%	91.4%
Total Dwelling Units in City	52,532	1,343	939	59	19	0	54,892
Adjusted Incorp. Dwelling Units	53,300	1,363	953	60	19	0	55,695
x % Single-Family Detached	86.0%	77.2%	74.7%	100%	100%	100%	85.6%
Single-Family Units in City	45,857	1,052	712	60	19	0	47,700
Adjusted Incorp. Dwelling Units – Single-Family Units in City	53,300 -45,857	1,363 -1,052	953 -712	60 -60	19 -19	0 0	55,695 -47,700
Multi-Family/Mobile Home Units in City	7,443	311	241	0	0	0	7,995
Multi-Family Units in City	5,372	0	0	0	0	0	5,372
Mobile Home Units in City	2,071	311	241	0	0	0	2,623

Source: percent single-family for SPAs 2-6 derived from Appendix A (SPA 1 and city-wide simply represent the ratio of incorporated to total units); all non-single-family in SPAs 2-6 assumed to be mobile homes, SPA 1 is remainder.

An important residential characteristic for the park, fire, and police development fee calculations is the number of residents per dwelling unit by housing type. Based on the most recent data available from the U.S. Census Bureau, dwelling units in Surprise have the number of persons per unit by housing type shown in Figure LU6.

Persons per unit should not be confused with average household size, which is the average number of persons in occupied units. Persons per unit takes into consideration that some units are unoccupied at any time, and is calculated as the ratio of household population to total units.

Figure LU6: Person per Unit by Housing Type

Housing Type	Household Population	Total Units	Persons/Unit	Adjusted Pop./Unit
Single-Family Detached	113,402	47,431	2.39	2.36
Multi-Family	6,513	4,483	1.45	1.43
Mobile Home	3,561	2,671	1.33	1.31
Total	123,476	54,585	2.26	2.23

Source: U.S. Census Bureau, American Community Survey (weighted 5% sample data for the City of Surprise collected in 2011-2015); total adjusted persons/unit from 2010 U.S. Census.

Nonresidential

Information from the Maricopa Assessor's Office on existing nonresidential building square feet within the incorporated area by land use type and planning area is summarized in Figure LU7. No existing nonresidential development is currently within the City limits in SPA 5, and no part of SPA 6 has yet been annexed.

LU7: Incorporated Nonresidential Square Feet by Type and Planning Area, 2017

Land Use	SPA 1	SPA 2	SPA 3	SPA 4	City-Wide
Retail/Commercial	6,402,776	7,462	49,804	39,293	6,499,335
Office	1,790,686	0	0	0	1,790,686
Industrial	766,441	0	614	0	767,055
Warehousing	4,055,963	0	2,448	0	4,058,411
Public/Institutional	5,593,511	208,478	7,672	0	5,809,661
Total	18,609,377	215,940	60,538	39,293	18,925,148

Source: Maricopa Assessor's Office tax parcel data provided by City of Surprise Community Development Department, May 8, 2017.

SUMMARY OF GROWTH PROJECTIONS

This section summarizes the growth projections that will be used in the development fee analysis. Annual growth projections in the incorporated area for population, units by housing type, and nonresidential square feet by land use, can be found in Appendix B, broken down by planning area.

Residential growth projections by housing type for the incorporated area by planning area are summarized in Figure LU8. The projections were developed based on 2017 units and the projected increase in the number of single-family and multi-family units by SPA prepared for the City by Applied Economics (see Appendix A), adjusting for the percent of the growth expected to occur within the incorporated area.

LU8: Summary of Residential Growth, 2019-2029

Housing Type/ Planning Area	2017 Units	2019 Units	2029 Units	New Units	Percent Increase
Single-Family Detached	45,857	46,748	53,969	7,221	15%
Multi-Family	5,372	5,718	8,027	2,309	40%
Mobile Home	2,071	2,199	2,466	267	12%
Total, SPA 1	53,300	54,665	64,462	9,797	18%
Single-Family Detached	1,052	1,450	8,219	6,769	467%
Multi-Family	0	0	0	0	n/a
Mobile Home	311	311	585	274	88%
Total, SPA 2	1,363	1,761	8,804	7,043	400%
Single-Family Detached	712	894	4,127	3,233	362%
Multi-Family	0	0	0	0	n/a
Mobile Home	241	241	503	262	109%
Total, SPA 3	953	1,135	4,630	3,495	308%
Single-Family Detached	79	79	97	18	23%
Multi-Family	0	0	0	0	n/a
Mobile Home	0	0	0	0	n/a
Total, SPA 4-6	79	79	97	18	23%
Single-Family Detached	47,700	49,171	66,412	17,241	35%
Multi-Family	5,372	5,718	8,027	2,309	40%
Mobile Home	2,623	2,751	3,554	803	29%
Total, City-Wide	55,695	57,640	77,993	20,353	35%

Source: 2019 and 2029 units from Appendix B.

Nonresidential growth projections by land use type are summarized in Figure LU9. Detailed projections by planning area are provided in Appendix B. The projections have been developed by increasing the 2017 square footage in the incorporated area by the growth rates derived from the nonresidential planning area projections of growth in square footage by land use type.

Figure LU9: Summary of Nonresidential Growth, 2019-2029

Land Use Type/ Planning Area	2017 Sq. Feet	2019 Sq. Feet	2029 Sq. Feet	New Sq. Feet	Percent Increase
Retail/Commercial	6,402,776	6,887,394	9,912,785	3,025,391	44%
Office	1,790,686	1,925,439	2,874,418	948,979	49%
Industrial	766,441	828,985	1,056,840	227,855	27%
Warehouse	4,055,963	4,386,941	5,592,731	1,205,790	27%
Public/Institutional	5,593,511	5,891,463	7,662,775	1,771,312	30%
Total, SPA 1	18,609,377	19,920,222	27,099,549	7,179,327	36%
Retail/Commercial	7,462	14,869	754,554	739,685	4975%
Office	0	0	0	0	n/a
Industrial	0	0	0	0	n/a
Warehouse	4,386,941	0	0	0	n/a
Public/Institutional	5,891,463	253,393	1,187,051	933,658	368%
Total, SPA 2	10,285,866	268,262	1,941,605	1,673,343	624%
Retail/Commercial	49,804	64,768	443,001	378,233	584%
Office	0	0	0	0	n/a
Industrial	614	755	2,807	2,052	272%
Warehouse	2,448	3,013	11,202	8,189	272%
Public/Institutional	253,393	9,879	66,924	57,045	577%
Total, SPA 3	306,259	78,415	523,934	445,519	568%
Retail/Commercial	6,499,335	7,009,422	11,210,854	4,201,432	60%
Office	1,790,686	1,925,439	2,874,418	948,979	49%
Industrial	767,055	829,740	1,059,647	229,907	28%
Warehouse	4,058,411	4,389,954	5,603,933	1,213,979	28%
Public/Institutional	5,809,661	6,154,735	8,916,750	2,762,015	45%
Total, City-Wide	18,925,148	20,309,290	29,665,602	9,356,312	46%

Source: 2019 and 2029 sq. ft. from Appendix B.

APPENDIX A: PLANNING AREA PROJECTIONS

This appendix provides development projections by planning area. Because the unincorporated area and utility service areas will expand over time as the City annexes and extends utility service to new areas, growth projections for the Municipal Planning Area (MPA), broken down by Special Planning Area (SPA), are a necessary starting point for developing growth projections for the service areas.

Growth projections for the MPA, broken down by SPA, have been prepared for the City by Applied Economics. The firm analyzed recent local and regional development trends, tax assessor and development permit data, regional forecasts, and a variety of other sources in preparing the projections. The projections are summarized in the following tables. They are important inputs into the Land Use Assumptions.

Figure A1: Population by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	124,984	5,289	3,950	1,277	5,682	412	141,594
2018	126,773	6,010	4,224	1,283	5,694	411	144,395
2019	129,207	6,747	4,665	1,292	5,706	411	148,028
2020	131,872	7,981	5,504	1,296	5,725	410	152,788
2021	134,128	9,876	6,738	1,293	5,734	409	158,178
2022	136,224	12,347	8,120	1,296	5,741	408	164,136
2023	138,623	15,247	9,540	1,301	5,774	408	170,893
2024	141,439	18,643	11,033	1,303	5,811	407	178,636
2025	144,048	21,929	12,756	1,300	5,849	406	186,288
2026	146,421	25,120	14,557	1,305	5,880	405	193,688
2027	148,513	28,716	16,289	1,305	5,887	404	201,114
2028	150,473	32,802	17,968	1,705	5,891	403	209,242
2029	152,457	36,825	19,703	2,225	5,905	403	217,518

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-1.

Figure A2: Housing Units by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	53,549	1,963	1,398	538	2,421	164	60,033
2018	54,095	2,249	1,502	539	2,421	164	60,970
2019	54,940	2,544	1,668	541	2,421	164	62,278
2020	55,834	3,032	1,982	541	2,424	164	63,977
2021	56,814	3,751	2,444	541	2,427	164	66,141
2022	57,718	4,686	2,962	543	2,429	164	68,502
2023	58,738	5,780	3,495	546	2,442	164	71,165
2024	59,997	7,057	4,056	548	2,457	164	74,279
2025	61,194	8,288	4,708	548	2,472	164	77,374
2026	62,320	9,479	5,392	551	2,484	164	80,390
2027	63,273	10,817	6,067	552	2,486	164	83,359
2028	64,203	12,366	6,719	715	2,487	164	86,654
2029	65,168	13,884	7,382	927	2,492	164	90,017

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-2.

Figure A3: Single Family Increase by Planning Area, 2019-2029

Fiscal Yr.	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA
2017/18	390	286	104	1	0	0	781
2018/19	518	295	166	2	0	0	981
2019/20	660	488	314	0	3	0	1,465
2020/21	834	719	462	0	3	0	2,018
2021/22	804	935	518	2	2	0	2,261
2022/23	920	1,094	533	3	13	0	2,563
2023/24	921	1,277	561	2	15	0	2,776
2024/25	810	1,231	626	0	15	0	2,682
2025/26	686	1,191	648	3	12	0	2,540
2026/27	713	1,338	546	1	2	0	2,600
2027/28	610	1,349	552	163	1	0	2,675
2028/29	570	1,331	628	212	5	0	2,746

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-2A.

Figure A4: Multi-Family Increase by Planning Area, 2019-2029

Fiscal Yr.	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA
2017/18	156	0	0	0	0	0	156
2018/19	327	0	0	0	0	0	327
2019/20	234	0	0	0	0	0	234
2020/21	146	0	0	0	0	0	146
2021/22	100	0	0	0	0	0	100
2022/23	100	0	0	0	0	0	100
2023/24	338	0	0	0	0	0	338
2024/25	387	0	26	0	0	0	413
2025/26	440	0	36	0	0	0	476
2026/27	240	0	129	0	0	0	369
2027/28	320	200	100	0	0	0	620
2028/29	320	200	100	0	0	0	620

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-2A.

Figure A5: Retail Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	5,102,699	7,462	57,507	7,903	38,178	6026	5,219,775
2018	5,279,585	10,598	64,533	8,201	41,144	6026	5,410,087
2019	5,488,916	14,869	74,785	8,526	44,341	6026	5,637,463
2020	5,714,538	21,983	92,594	8,830	47,846	6026	5,891,817
2021	5,928,953	33,998	118,950	9,099	51,535	6026	6,148,561
2022	6,142,425	53,121	150,433	9,412	55,486	6026	6,416,903
2023	6,376,004	81,983	185,468	9,754	60,014	6026	6,719,249
2024	6,636,066	125,280	225,077	10,089	64,964	6026	7,067,502
2025	6,894,049	184,170	273,081	10,396	70,320	6026	7,438,042
2026	7,148,243	263,674	327,037	10,773	76,022	6026	7,831,775
2027	7,395,848	376,711	384,014	11,122	81,849	6026	8,255,570
2028	7,643,795	537,788	444,525	15,003	88,088	6,026	8,735,225
2029	7,900,006	754,554	511,515	20,217	94,957	6,026	9,287,275

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-6.

Figure A6: Office Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	1,310,464	22,499	13,985	4,350	9,235	1525	1,362,058
2018	1,355,198	26,972	15,299	4,418	9,531	1552	1,412,970
2019	1,409,079	31,956	17,286	4,496	9,842	1580	1,474,239
2020	1,468,071	39,916	20,866	4,559	10,186	1610	1,545,208
2021	1,525,234	52,180	26,134	4,598	10,529	1639	1,620,314
2022	1,583,323	68,953	32,225	4,656	10,889	1668	1,701,714
2023	1,647,899	90,045	38,739	4,723	11,322	1698	1,794,426
2024	1,720,795	116,489	45,842	4,783	11,791	1729	1,901,429
2025	1,794,799	145,049	54,235	4,824	12,289	1760	2,012,956
2026	1,869,612	175,987	63,338	4,894	12,804	1791	2,128,426
2027	1,944,648	213,190	72,528	4,947	13,297	1824	2,250,434
2028	2,021,872	258,194	81,876	6,533	13,816	1,858	2,384,149
2029	2,103,562	307,489	91,885	8,618	14,391	1,892	2,527,837

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-7.

Figure A7: Industrial Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	3,551,949	0	81,373	0	0	0	3,633,322
2018	3,711,550	0	89,773	0	0	0	3,801,323
2019	3,841,798	0	100,141	0	0	0	3,941,939
2020	3,949,070	0	111,647	0	0	0	4,060,717
2021	4,044,448	0	124,584	0	0	0	4,169,032
2022	4,142,298	0	140,703	0	0	0	4,283,001
2023	4,234,544	0	158,652	0	0	0	4,393,196
2024	4,324,742	0	178,963	0	0	0	4,503,705
2025	4,425,704	0	204,867	0	0	0	4,630,571
2026	4,532,187	0	235,616	0	0	0	4,767,803
2027	4,621,713	0	264,424	0	0	0	4,886,137
2028	4,804,554	0	332,650	0	0	0	5,137,204
2029	4,897,749	0	372,353	0	0	0	5,270,102

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-8.

Figure A8: Public/Institutional Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	MPA Total
2017	4,965,042	208,477	25,186	152,252	19,416	0	5,370,373
2018	5,083,169	231,114	28,115	152,297	19,536	0	5,514,231
2019	5,229,517	253,392	32,433	152,360	19,656	0	5,687,358
2020	5,387,972	293,097	40,002	152,388	19,848	0	5,893,307
2021	5,532,488	355,123	51,223	152,369	19,938	0	6,111,141
2022	5,672,961	435,324	64,618	152,385	20,004	0	6,345,292
2023	5,828,749	527,902	79,518	152,420	20,334	0	6,608,923
2024	6,005,151	634,879	96,382	152,435	20,712	0	6,909,559
2025	6,175,953	735,795	116,870	152,417	21,090	0	7,202,125
2026	6,339,795	831,997	139,965	152,451	21,398	0	7,485,606
2027	6,494,423	940,620	164,455	152,451	21,466	0	7,773,415
2028	6,646,126	1,064,744	190,603	155,251	21,510	0	8,078,234
2029	6,801,810	1,187,050	219,725	158,892	21,650	0	8,389,127

* as of July 1.

Source: Applied Economics, City of Surprise Land Use Assumptions, Final Report, August 14, 2017, Figure B-9 and B-10.

APPENDIX B: INCORPORATED AREA PROJECTIONS

Figure B1: Incorporated Household Population by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	118,617	2,890	1,996	142	45	0	123,690
2018	119,735	3,353	2,161	142	45	0	125,436
2019	121,383	3,829	2,426	142	45	0	127,825
2020	123,232	4,618	2,924	142	45	0	130,961
2021	125,364	5,779	3,655	142	45	0	134,985
2022	127,363	7,289	4,476	142	45	0	139,315
2023	129,633	9,054	5,321	142	45	0	144,195
2024	132,234	11,115	6,211	142	45	0	149,747
2025	134,647	13,102	7,227	142	45	0	155,163
2026	136,849	15,025	8,285	142	45	0	160,346
2027	138,833	17,185	9,265	142	45	0	165,470
2028	140,693	19,542	10,228	184	45	0	170,692
2029	142,076	20,163	10,399	184	45	0	172,867

* as of July 1.

Source: Residential units from Figures B2 through B4, multiplied by persons per unit from Appendix A.

Figure B2: Incorporated Single Family Units by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	45,857	1,052	712	60	19	0	47,700
2018	46,240	1,248	782	60	19	0	48,349
2019	46,748	1,450	894	60	19	0	49,171
2020	47,395	1,784	1,105	60	19	0	50,363
2021	48,213	2,276	1,415	60	19	0	51,983
2022	49,002	2,916	1,763	60	19	0	53,760
2023	49,905	3,664	2,121	60	19	0	55,769
2024	50,809	4,537	2,498	60	19	0	57,923
2025	51,604	5,379	2,919	60	19	0	59,981
2026	52,277	6,194	3,354	60	19	0	61,904
2027	52,976	7,109	3,721	60	19	0	63,885
2028	53,574	8,032	4,092	78	19	0	65,795
2029	53,969	8,219	4,127	78	19	0	66,412

* as of July 1.

Source: projections based on annual single-family increases from Appendix A, adjusted for the percentages of units in the incorporated area by SPA from the Land Use Assumptions.

Figure B3: Incorporated Multi-Family Units by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	5,372	0	0	0	0	0	5,372
2018	5,482	0	0	0	0	0	5,482
2019	5,718	0	0	0	0	0	5,718
2020	5,895	0	0	0	0	0	5,895
2021	6,008	0	0	0	0	0	6,008
2022	6,087	0	0	0	0	0	6,087
2023	6,167	0	0	0	0	0	6,167
2024	6,442	0	0	0	0	0	6,442
2025	6,771	0	0	0	0	0	6,771
2026	7,164	0	0	0	0	0	7,164
2027	7,390	0	0	0	0	0	7,390
2028	7,702	0	0	0	0	0	7,702
2029	8,027	0	0	0	0	0	8,027

* as of July 1.

Source: projections based on annual multi-family increases from Appendix A, adjusted for the percentages of units in the incorporated area by SPA from the Land Use Assumptions.

Figure B4: Incorporated Mobile Home Units by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	2,071	311	241	0	0	0	2,623
2018	2,114	311	241	0	0	0	2,666
2019	2,199	311	241	0	0	0	2,751
2020	2,252	311	241	0	0	0	2,804
2021	2,282	311	241	0	0	0	2,834
2022	2,301	311	241	0	0	0	2,853
2023	2,319	311	241	0	0	0	2,871
2024	2,376	311	241	0	0	0	2,928
2025	2,427	311	258	0	0	0	2,996
2026	2,466	311	282	0	0	0	3,059
2027	2,475	311	369	0	0	0	3,155
2028	2,477	448	436	0	0	0	3,361
2029	2,466	585	503	0	0	0	3,554

* as of July 1.

Source: projections based on annual multi-family increases from Appendix A, adjusted for the percentages of units in the incorporated area by SPA from the Land Use Assumptions.

Figure B5: Incorporated Retail Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	6,402,776	7,462	49,804	39,293	0	0	6,499,335
2018	6,624,729	10,598	55,889	40,775	0	0	6,731,991
2019	6,887,394	14,869	64,768	42,391	0	0	7,009,422
2020	7,170,500	21,983	80,192	43,902	0	0	7,316,577
2021	7,439,544	33,998	103,018	45,239	0	0	7,621,799
2022	7,707,405	53,121	130,284	46,795	0	0	7,937,605
2023	8,000,496	81,983	160,626	48,495	0	0	8,291,600
2024	8,326,817	125,280	194,930	50,161	0	0	8,697,188
2025	8,650,529	184,170	236,504	51,687	0	0	9,122,890
2026	8,969,487	263,674	283,233	53,561	0	0	9,569,955
2027	9,280,177	376,711	332,578	55,296	0	0	10,044,762
2028	9,591,296	537,788	384,984	74,591	0	0	10,588,659
2029	9,912,785	754,554	443,001	100,514	0	0	11,210,854

* as of July 1.

Source: projections based on percent increase in projected retail square feet by SPA from Appendix A.

Figure B6: Incorporated Office Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	1,790,686	0	0	0	0	0	1,790,686
2018	1,851,813	0	0	0	0	0	1,851,813
2019	1,925,439	0	0	0	0	0	1,925,439
2020	2,006,049	0	0	0	0	0	2,006,049
2021	2,084,160	0	0	0	0	0	2,084,160
2022	2,163,536	0	0	0	0	0	2,163,536
2023	2,251,776	0	0	0	0	0	2,251,776
2024	2,351,385	0	0	0	0	0	2,351,385
2025	2,452,508	0	0	0	0	0	2,452,508
2026	2,554,736	0	0	0	0	0	2,554,736
2027	2,657,269	0	0	0	0	0	2,657,269
2028	2,762,792	0	0	0	0	0	2,762,792
2029	2,874,418	0	0	0	0	0	2,874,418

* as of July 1.

Source: projections based on percent increase in projected square feet by SPA from Appendix A.

Figure B7: Incorporated Industrial Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	766,441	0	614	0	0	0	767,055
2018	800,880	0	677	0	0	0	801,557
2019	828,985	0	755	0	0	0	829,740
2020	852,132	0	842	0	0	0	852,974
2021	872,713	0	940	0	0	0	873,653
2022	893,827	0	1,062	0	0	0	894,889
2023	913,732	0	1,197	0	0	0	914,929
2024	933,195	0	1,350	0	0	0	934,545
2025	954,981	0	1,545	0	0	0	956,526
2026	977,958	0	1,777	0	0	0	979,735
2027	997,276	0	1,994	0	0	0	999,270
2028	1,036,730	0	2,508	0	0	0	1,039,238
2029	1,056,840	0	2,807	0	0	0	1,059,647

* as of July 1.

Source: projections based on percent increase in projected square feet by SPA from Appendix A.

Figure B8: Incorporated Warehouse Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	4,055,963	0	2,448	0	0	0	4,058,411
2018	4,238,211	0	2,701	0	0	0	4,240,912
2019	4,386,941	0	3,013	0	0	0	4,389,954
2020	4,509,435	0	3,359	0	0	0	4,512,794
2021	4,618,347	0	3,748	0	0	0	4,622,095
2022	4,730,082	0	4,233	0	0	0	4,734,315
2023	4,835,418	0	4,773	0	0	0	4,840,191
2024	4,938,415	0	5,384	0	0	0	4,943,799
2025	5,053,703	0	6,163	0	0	0	5,059,866
2026	5,175,296	0	7,088	0	0	0	5,182,384
2027	5,277,526	0	7,955	0	0	0	5,285,481
2028	5,486,312	0	10,008	0	0	0	5,496,320
2029	5,592,731	0	11,202	0	0	0	5,603,933

* as of July 1.

Source: projections based on percent increase in projected square feet by SPA from Appendix A.

Figure B9: Incorporated Public/Institutional Square Feet by Planning Area, 2019-2029

Year*	SPA 1	SPA 2	SPA 3	SPA 4	SPA 5	SPA 6	City Total
2017	5,593,511	208,478	7,672	0	0	0	5,809,661
2018	5,726,590	231,115	8,564	0	0	0	5,966,269
2019	5,891,463	253,393	9,879	0	0	0	6,154,735
2020	6,069,975	293,098	12,184	0	0	0	6,375,257
2021	6,232,784	355,124	15,602	0	0	0	6,603,510
2022	6,391,038	435,325	19,682	0	0	0	6,846,045
2023	6,566,545	527,903	24,220	0	0	0	7,118,668
2024	6,765,276	634,880	29,357	0	0	0	7,429,513
2025	6,957,698	735,796	35,597	0	0	0	7,729,091
2026	7,142,279	831,998	42,631	0	0	0	8,016,908
2027	7,316,480	940,621	50,090	0	0	0	8,307,191
2028	7,487,385	1,064,745	58,054	0	0	0	8,610,184
2029	7,662,775	1,187,051	66,924	0	0	0	8,916,750

* as of July 1.

Source: projections based on percent increase in projected square feet by SPA from Appendix A.

APPENDIX C: EXISTING ARTERIAL STREET INVENTORY

Figure C1: Existing Arterial Street Inventory

Street Name	From	To	Lns	Miles	Cap.	VMC	ADT	VMT
N 163 Ave	Grand Ave	Pinnacle Pea Rd	4	0.712	32,310	23,005	11,038	7,859
N 163 Ave	Pinnacle Pea Rd	Asante Blvd	4	0.499	32,310	16,123	10,079	5,029
N 163 Ave	Asante Blvd	Happy Valley Rd	4	0.473	32,310	15,283	6,619	3,131
N 163 Ave	Happy Valley Rd	Jomax Rd	2	1.013	7,650	7,749	6,619	6,705
N 163 Ave	Jomax Rd	Dynamite Blvd	2	0.962	7,650	7,359	n/a	4,100
N 163 Ave	Dynamite Blvd	Dixileta Dr	2	0.996	7,650	7,619	n/a	4,245
N 203 Ave	Grand Ave	Lone Mountain Rd	2	0.823	7,650	6,296	n/a	3,508
N 203 Ave	Lone Mountain Rd	Dove Valley Rd	2	1.004	7,650	7,681	n/a	4,279
N Bullard Ave	Peoria Ave	Gabriela Mini-Stor	4	0.200	32,310	6,462	4,452	890
N Bullard Ave	Gabriela Mini-Storage	Cholla St	3	0.300	19,440	5,832	4,452	1,336
N Bullard Ave	Cholla St	Cactus Rd	4	0.500	32,310	16,155	4,452	2,226
N Bullard Ave	Cactus Rd	Waddell Rd	4	0.996	32,310	32,181	7,452	7,422
N Bullard Ave	Waddell Rd	Greenway Rd	4	1.000	32,310	32,310	7,126	7,126
N Bullard Ave	Greenway Rd	Bell Rd	4	1.024	32,310	33,085	7,628	7,811
N Citrus Rd	Cactus Rd	Waddell Rd	2	1.000	7,650	7,650	n/a	4,262
N Cotton Ln	Peoria Ave	Cactus Rd	2	1.000	7,650	7,650	4,007	4,007
N Cotton Ln	Cactus Rd	Waddell Rd	2	1.000	7,650	7,650	5,183	5,183
N Cotton Ln	Waddell Rd	Acoma Dr	3	0.523	19,440	10,167	n/a	2,229
N Cotton Ln	Acoma Dr	Greenway Rd	3	0.476	19,440	9,253	11,416	5,434
N Cotton Ln	Greenway Rd	Bell Rd	2	1.007	7,650	7,704	8,329	8,387
N Dysart Rd	Greenway Rd	Bell Rd	5	1.041	45,720	47,595	16,791	17,479
N El Mirage Rd	City Limits	Bell Rd	5	0.981	45,720	44,851	n/a	10,431
N Litchfield Rd	Peoria Ave	Desert Cove Rd	4	0.247	32,310	7,981	3,847	950
N Litchfield Rd	Desert Cove Rd	Cactus Rd	2	0.751	7,650	5,745	3,847	2,889
N Litchfield Rd	Cactus Rd	Waddell Rd	2	0.997	7,650	7,627	8,161	8,137
N Litchfield Rd	Waddell Rd	Greenway Rd	5	1.003	45,720	45,857	10,331	10,362
N Litchfield Rd	Greenway Rd	Statler Blvd	4	0.350	32,310	11,309	20,235	7,082
N Litchfield Rd	Bell Rd	Sun Village Pkwy	5	0.375	45,720	17,145	n/a	3,987
N Reems Rd	Peoria Ave	Cactus Rd	4	1.001	32,310	32,342	8,266	8,274
N Reems Rd	Cactus Rd	Waddell Rd	5	1.000	45,720	45,720	16,046	16,046
N Reems Rd	Waddell Rd	Greenway Rd	5	1.000	45,720	45,720	20,258	20,258
N Reems Rd	Greenway Rd	Bell Rd	5	1.007	45,720	46,040	n/a	10,707
N Reems Rd	Bell Rd	Grand Ave	6	1.817	54,720	99,426	n/a	40,641
N Sarival Ave	Peoria Ave	Cholla St	4	0.500	32,310	16,155	4,286	2,143
N Sarival Ave	Cholla St	Cactus Rd	2	0.499	7,650	3,817	4,286	2,139
N Sarival Ave	Cactus Rd	Waddell Rd	2	1.054	7,650	8,063	1,135	1,196
N Sarival Ave	Waddell Rd	Greenway Rd	2	1.000	7,650	7,650	2,838	2,838
W Bell Rd	Citylimits	115 Ave	6	0.360	54,720	19,699	66,214	23,837
W Bell Rd	115 Ave	El Mirage Rd	6	0.991	54,720	54,228	61,909	61,352
W Bell Rd	El Mirage Rd	Dysart Rd	6	0.999	54,720	54,665	54,409	54,355
W Bell Rd	Dysart Rd	Litchfield Rd	6	0.997	54,720	54,556	45,258	45,122
W Bell Rd	Litchfield Rd	Bullard Ave	6	1.000	54,720	54,720	43,568	43,568
W Bell Rd	Bullard Ave	Reems Rd	6	0.999	54,720	54,665	39,938	39,898
W Bell Rd	Reems Rd	Sarival Ave	6	0.880	54,720	48,154	40,910	36,001
W Bell Rd	Sarival Ave	SR 303	6	0.498	54,720	27,251	41,881	20,857
W Bell Rd	SR 303	Cotton Ln	6	0.503	54,720	27,524	42,168	21,211
W Bell Rd	Cotton Ln	Citrus Rd	6	1.010	54,720	55,267	n/a	22,591
W Bell Rd	Citrus Rd	184 Dr	6	0.654	54,720	35,787	n/a	14,628

Continued on next page

Figure C1: Existing Arterial Street Inventory (continued)

Street Name	From	To	Lns	Miles	Cap.	VMC	ADT	VMT
W Bell Rd	184 Dr	Beardsley Canal	4	0.024	32,310	775	n/a	141
W Bell Rd	Beardsley Canal	Sun Valley Pkwy	4	0.209	32,310	6,753	n/a	1,227
W Cactus Rd	Dysart Rd	Santa Fe RR	6	0.495	54,720	27,086	8,476	4,196
W Cactus Rd	Santa Fe RR	Litchfield Rd	2	0.495	7,650	3,787	8,476	4,196
W Cactus Rd	Litchfield Rd	Bullard Ave	4	1.001	32,310	32,342	11,802	11,814
W Cactus Rd	Bullard Ave	Reems Rd	5	0.998	45,720	45,629	12,370	12,345
W Cactus Rd	Reems Rd	Sarival Ave	2	0.919	7,650	7,030	11,347	10,428
W Cactus Rd	Sarival Ave	SR 303	3	0.497	19,440	9,662	10,323	5,131
W Cactus Rd	SR 303	Cotton Ln	2	0.498	7,650	3,810	5,480	2,729
W Cactus Rd	Cotton Ln	175 Ave	2	0.500	7,650	3,825	n/a	2,131
W Cactus Rd	175 Ave	Citrus Rd	2	0.501	7,650	3,833	5,183	2,597
W Deer Valley Rd	Grand Ave	185 Ave	2	2.320	7,650	17,748	n/a	9,888
W Dove Valley Rd	187 Ave	203 Ave	2	1.000	7,650	7,650	n/a	4,262
W Dove Valley Rd	203 Ave	211 Ave	2	0.980	7,650	7,497	n/a	4,177
W Greenway Rd	Grand Ave	Dysart Rd	3	0.643	32,310	20,775	n/a	3,774
W Greenway Rd	Dysart Rd	Litchfield Rd	5	0.994	45,720	45,446	19,553	19,436
W Greenway Rd	Litchfield Rd	Bullard Ave	4	0.999	32,310	32,278	19,597	19,577
W Greenway Rd	Bullard Ave	Reems Rd	5	0.997	45,720	45,583	21,693	21,628
W Greenway Rd	Reems Rd	Sarival Ave	5	0.897	45,720	41,011	24,099	21,617
W Greenway Rd	Sarival Ave	SR 303	2	0.494	19,440	9,603	22,850	11,288
W Greenway Rd	SR 303	Cotton Ln	2	0.505	19,440	9,817	21,075	10,643
W Greenway Rd	Cotton Ln	Verde Vista Dr	2	0.339	7,650	2,593	17,578	5,959
W Greenway Rd	Verde Vista Dr	Beardsley Canal	2	1.480	7,650	11,322	n/a	6,308
W Happy Valley Rd	Grand Ave	183 Ave	2	0.421	7,650	3,221	n/a	1,794
W Jomax Rd	133 Ave	147 Ave	5	1.500	45,720	68,580	n/a	15,950
W Jomax Rd	Grand Ave	189 Ave	2	0.397	7,650	3,037	2,829	1,123
W Peoria Ave	Dysart Rd	Milgard Way	4	0.298	32,310	9,628	3,819	1,138
W Peoria Ave	Milgard Way	Litchfield Rd	3	0.696	19,440	13,530	3,819	2,658
W Peoria Ave	Litchfield Rd	Bullard Ave	2	1.000	7,650	7,650	5,504	5,504
W Peoria Ave	Bullard Ave	Reems Rd	2	0.998	7,650	7,635	3,004	2,998
W Peoria Ave	Reems Rd	Greer Ranch Pkwy	3	0.500	19,440	9,720	4,329	2,165
W Peoria Ave	Greer Ranch Pkwy	Sarival Ave	4	0.419	32,310	13,538	4,329	1,814
W Peoria Ave	Sarival Ave	SR 303	2	0.498	7,650	3,810	4,662	2,322
W Peoria Ave	SR 303	Cotton Ln	2	0.498	7,650	3,810	5,025	2,502
W Peoria Ave	171 Dr	173 Ave	2	0.154	7,650	1,178	538	83
W Peoria Ave	Citrus Rd	183 Ave	2	0.499	7,650	3,817	860	429
W Peoria Ave	183 Ave	Perryville Rd	4	0.502	32,310	16,220	860	432
W Waddell Rd	Dysart Rd	133 Ave	4	0.249	32,310	8,045	19,386	4,827
W Waddell Rd	133 Ave	Litchfield Rd	7	0.744	54,720	40,712	19,386	14,423
W Waddell Rd	Litchfield Rd	La Cometa	2	0.766	7,650	5,860	20,750	15,895
W Waddell Rd	La Cometa	Bullard Ave	4	0.233	32,310	7,528	20,750	4,835
W Waddell Rd	Bullard Ave	Reems Rd	7	0.997	54,720	54,556	15,944	15,896
W Waddell Rd	Reems Rd	Sarival Ave	3	0.907	19,440	17,632	14,011	12,708
W Waddell Rd	Sarival Ave	SR 303	3	0.498	19,440	9,681	15,085	7,512
W Waddell Rd	SR 303	Cotton Ln	4	0.996	32,310	32,181	14,841	14,782
W Waddell Rd	Cotton Ln	174 Ave	2	0.510	7,650	3,902	11,351	5,789
W Waddell Rd	174 Ave	Citrus Rd	4	0.491	32,310	15,864	11,351	5,573
Total				71.578		2,003,963		982,792

Source: Through lanes, miles, and average daily traffic (ADT) from City of Surprise, May 9 and 24, 2017; cap; where ADT not available, VMT estimated based on average volume on roads with traffic counts and same number of through lanes.

APPENDIX D: FUNCTIONAL POPULATION

The two most common methodologies used in calculating public safety service units and development fees are the “calls-for-service” approach and the “functional population” approach. This study utilizes the “functional population” approach to calculate and assess the fire and police development fees. This approach is a generally-accepted methodology for these development fee types and is based on the observation that demand for public safety facilities tends to be proportional to the presence of people at the site of a land use.

Functional population is analogous to the concept of “full-time equivalent” employees. It represents the number of “full-time equivalent” people present at the site of a land use, and it is used to estimate the impact of a particular development on the need for facilities. For residential development, functional population is simply the number of residents times the percent of time people spend at home. For nonresidential development, functional population is based on a formula that factors trip generation rates, average vehicle occupancy and average number of hours spent by visitors at a land use.

RESIDENTIAL FUNCTIONAL POPULATION

For residential land uses, the impact of a dwelling unit on the need for capital facilities is generally proportional to the number of persons residing in the dwelling unit. Determining residential functional population multipliers is considerably simpler than the nonresidential component. It is estimated that people, on average, spend 16 hours, or 67 percent, of each 24-hour day at their place of residence and the other 33 percent away from home. The functional population per unit for these uses is shown in Figure D1.

Figure D1: Functional Population per Unit for Residential Uses

Housing Type	Unit	Persons/ Unit	Occupancy Factor	Func. Pop./Unit
Single-Family Detached	Dwelling	2.36	0.67	1.58
Multi-Family	Dwelling	1.43	0.67	0.96
Mobile Home	Dwelling	1.31	0.67	0.88

Source: Average household size from Land Use Assumptions; residential occupancy factor estimated.

NONRESIDENTIAL FUNCTIONAL POPULATION

The functional population methodology for nonresidential land uses is based on trip generation data utilized in developing the transportation demand schedule prepared for the updated transportation development fee update. Functional population per 1,000 square feet is derived by dividing the total number of hours spent by employees and visitors during a week day by 24 hours. Employees are estimated to spend 8 hours per day at their place of employment, and visitors are estimated to spend one hour per visit. The formula used to derive the nonresidential functional population estimates is summarized in Figure D2.

Figure D2: Nonresidential Functional Population Formula

$$\text{FUNCPOP/UNIT} = (\text{employee hours}/1000 \text{ sf} + \text{visitor hours}/1000 \text{ sf}) \div 24 \text{ hours/day}$$

Where:

$$\text{Employee hours}/1000 \text{ sf} = \text{employees}/1000 \text{ sf} \times 8 \text{ hours/day}$$

$$\text{Visitor hours}/1000 \text{ sf} = \text{visitors}/1000 \text{ sf} \times 1 \text{ hour/visit}$$

$$\text{Visitors}/1000 \text{ sf} = \text{weekday ADT}/1000 \text{ sf} \times \text{avg. vehicle occupancy} - \text{employees}/1000 \text{ sf}$$

$$\text{Weekday ADT}/1000 \text{ sf} = \text{one-way avg. daily trips (total trip ends} \div 2)$$

Using this formula and information on trip generation rates, vehicle occupancy rates from the National Household Travel Survey and other sources, nonresidential functional population estimates per 1,000 square feet of gross floor area are calculated in Figure D3.

Figure D3: Functional Population per Unit for Nonresidential Uses

Land Use	Unit	Trip Rate	Persons/ Trip	Employee/ Unit	Visitors/ Unit	Functional Pop./ Unit
Retail/Commercial	1,000 sq. ft.	18.87	1.91	0.84	35.20	1.75
Office	1,000 sq. ft.	4.87	1.84	2.11	6.85	0.99
Industrial	1,000 sq. ft.	1.68	1.27	0.81	1.32	0.33
Warehouse	1,000 sq. ft.	0.87	1.27	0.49	0.61	0.19
Public/Institutional	1,000 sq. ft.	3.32	2.54	0.91	7.52	0.62

Source: Trip rates based on one-half of average daily trip rate from ITE, Trip Generation, 10th ed., 2017 (retail/commercial based on shopping center, institutional based on nursing home, industrial based on manufacturing); persons/trip is average vehicle occupancy from Federal Highway Administration, Nationwide Household Travel Survey, 2017; employees/unit from U.S. Department of Energy, Commercial Buildings Energy Consumption Survey, 2012.

FUNCTIONAL POPULATION SUMMARY

The functional population multipliers for residential and nonresidential land use categories are summarized in Figure D4. They have been converted into equivalent dwelling units (EDUs) based on the ratio to a single-family detached unit.

Figure D4: Functional Population Multipliers

Land Use	Unit	Functional	EDUs/
		Pop./Unit	Unit
Single-Family, Detached	Dwelling	1.58	1.00
Multi-Family	Dwelling	0.96	0.61
Mobile Home/RV Park	Pad	0.88	0.56
Shopping Center/Commercial	1,000 sq. ft.	1.75	1.11
Office	1,000 sq. ft.	0.99	0.63
Industrial	1,000 sq. ft.	0.33	0.21
Warehouse	1,000 sq. ft.	0.19	0.12
Public/Institutional	1,000 sq. ft.	0.62	0.39

Existing and projected fire and police service units (EDUs) are based on the land use assumptions and are shown in Figure D5.

Figure D5: Fire & Police Service Units, 2019-2029

Land Use Type	Unit	Units		EDUs/ Unit	Equivalent Dwelling Units		
		2019	2029		2019	2029	New
Single-Family Detached	Dwelling	49,171	66,412	1.00	49,171	66,412	17,241
Multi-Family	Dwelling	5,718	8,027	0.61	3,488	4,896	1,408
Mobile Home	Dwelling	2,751	3,554	0.56	1,541	1,990	449
Retail/Commercial	1,000 sq ft	7,009	11,211	1.11	7,780	12,444	4,664
Office	1,000 sq ft	1,925	2,874	0.63	1,213	1,811	598
Industrial	1,000 sq ft	830	1,060	0.21	174	223	49
Warehouse	1,000 sq ft	4,390	5,604	0.12	527	672	145
Public/Institutional	1,000 sq ft	6,155	8,917	0.39	2,400	3,478	1,078
Total Service Units					66,294	91,926	25,632

APPENDIX E: PUBLIC SAFETY BUILDING

The City of Surprise Public Safety Building is occupied by fire/EMS, police, and general government functions. The square footage of the building occupied by each function is used to allocate costs between the three development fee funds. These percentage allocations are shown in Figure E1.

Figure E1: Public Safety Building Occupancy

Service Area	Facility Component	Building Sq. Feet	Share
Fire & EMS	Offices	9,000	9.38%
Fire & EMS	Meeting Rooms	7,500	7.81%
Subtotal, Fire/EMS		16,500	17.19%
Police	Indoor Shooting Range	3,500	3.65%
Subtotal, Grandfathered Police		3,500	3.65%
Police	Offices	35,000	36.45%
Police	Meeting Rooms	7,500	7.81%
Subtotal, New Police		42,500	44.26%
Gen Govt	Court	22,000	22.92%
Gen Govt	Prosecution	5,500	5.73%
Gen Govt	Surprise 11 Broadcast Center	6,000	6.25%
Subtotal, General Government		33,500	34.90%
Total		96,000	100.00%

Source: Malcolm Pirnie, Development Fee and MPC Bond Fund Analysis, February 2011, Table 4-1 (percentages sum to more than 100% due to rounding).

The land attributable to the fire and police portions of the Public Safety Building are based on the land directly occupied by the building shares and associated parking, as well as a proportional share of the open space in the Surprise Civic Center based on acreage directly occupied, as shown in Figure E2.

Figure E2: Fire and Police Public Safety Building Land

Use of Property	Total Acres	Fire Acres	Police Acres
Courts	0.765		
Courts Parking Lots	1.540		
Police Dept. (excl. indoor shooting range)	0.984		0.984
Police Indoor Shooting Range	0.088		*
Police Outdoor Shooting Range	0.099		*
Police Parking Lots	2.150		2.150
Fire Administration	0.865	0.865	
Fire Parking	0.940	0.940	
City Hall	1.061		
Parking Structure	0.876		
CUP	0.123		
Ottawa and Ottawa Parking	1.727		
Chamber	0.046		
WV Arts	0.013		
Chamber & WV Arts Parking	2.150		
Civic Center Open Space**	20.083	2.700	4.688
Total Acreage Civic Center	33.510	4.505	7.822

* ineligible per SB 1525

** allocated proportional to eligible acres directly occupied

Source: Total acres by use from City of Surprise, July 21, 2017.

APPENDIX F: DEVELOPMENT FEE OBLIGATIONS

This appendix identifies the outstanding amounts owed by the development fee funds for existing facilities that have excess capacity to accommodate new development. These obligations include portions of the debt service for the 2007 revenue and 2015 refunding issues of Municipal Property Corporation (MPC) bonds, loans from other City funds, and developer credits. These are offset by the outstanding balances of the development fee funds to determine the net obligation attributable to each fund.

The outstanding net obligations of the individual development fee funds at the end of FY 2017 are the sum of debt, interfund loan, and developer credit obligations, less the current fund balance, as summarized in Figure F1 below. Details on capital projects funded by debt, interfund loans, and developer credits are provided on the following pages.

Figure F1: Outstanding Net Obligations, FYE 2018

Development Fee Fund	Debt Service	Interfund Loans	Developer Credits	Total Obligations	Fund Balance	Net Obligations
Roads	\$0	\$0	\$3,363,808	\$3,363,808	\$2,641,040	\$722,768
Parks, Grandfathered	\$2,235,344	\$0	\$159,761	\$2,395,105	\$1,501,496	\$893,609
Parks, SPA 1 (new)	\$387,991	\$0	\$3,153,318	\$3,541,309	\$0	\$3,541,309
Parks, SPA 2 (new)	\$0	\$0	\$4,621,046	\$4,621,046	\$0	\$4,621,046
Library	\$0	\$0	\$0	\$0	\$4,652,559	(\$4,652,559)
Fire/EMS	\$460,444	\$3,578,499	\$144,211	\$4,183,154	\$1,557,173	\$2,625,981
Police (new)	\$811,833	\$0	\$0	\$811,833	\$2,357,189	(\$1,545,356)
Water, SPA 1	\$0	\$0	\$12,497,558	\$12,497,558	\$2,664,922	\$9,832,636
Water, SPA 2	\$0	\$73	\$2,683,874	\$2,683,947	\$0	\$2,683,947
Water Resource	\$0	\$1,617,263	\$0	\$1,617,263	\$0	\$1,617,263
Wastewater, SPA 1	\$50,947,186	\$40,216,738	\$856,676	\$92,020,600	\$0	\$92,020,600
Wastewater, SPA 2	\$0	\$22,656	\$26,620,391	\$26,643,047	\$295,447	\$26,347,600
General Government	\$2,201,501	\$42,451,206	\$0	\$44,652,707	\$428,297	\$44,224,410
Total	\$57,044,299	\$87,886,435	\$54,100,643	\$199,031,377	\$16,098,123	\$182,933,254

Source: Fund balance as of June 30, 2018 from City of Surprise Finance Department, July 27, 2018 (roads is sum of 163rd Avenue and regional signal funds).

Figure F2: Outstanding MPC Debt, Series 2007 and 2015, FYE 2018

Development Fee Fund	Improvement	Original Principal	Percent	Outstanding on FYE 2018	
				Principal	Total
New Fire	Fire Station #3	\$94,005	8.76%	\$35,140	\$40,335
New Fire	Public Safety Bldg. (Fire Share)	\$978,692	91.24%	\$366,001	\$420,109
Total, Fire		\$1,072,697	100.00%	\$401,141	\$460,444
Parks, SPA 1 New	SPA 1 Parks – Average Approach	\$1,603,144	14.79%	\$330,632	\$387,991
Subtotal, Parks, SPA 1		\$1,603,144		\$330,632	\$387,991
Grandfathered Parks	Surprise Recreation Campus	\$4,051,637	37.39%	\$835,857	\$980,864
Grandfathered Parks	Aquatics Center	\$3,906,083	36.04%	\$805,679	\$945,451
Grandfathered Parks	Stadium	\$1,276,263	11.78%	\$263,343	\$309,029
Subtotal, Grandfathered Parks		\$9,233,983		\$1,904,879	\$2,235,344
Total, Parks		\$10,837,127	100.00%	\$2,235,512	\$2,623,335
General Government	Public Safety Building (Court)	\$3,174,409	34.90%	\$654,738	\$768,324
General Government	Surprise Center	\$5,345,491	58.76%	\$1,102,361	\$1,293,602
General Government	County Court Infrastructure	\$576,783	6.34%	\$118,941	\$139,575
Total, General Government		\$9,096,683	100.00%	\$1,876,039	\$2,201,501
Wastewater, SPA 1	SPA 1 WRF (MPC 2015 Refunding)	\$19,896,294	100.00%	\$4,103,413	\$4,815,286
Wastewater, SPA 1	SPA 1 WRF (MPC 2007 Revenue)	\$50,675,000	100.00%	\$33,770,000	\$46,131,900
Total, Wastewater, SPA 1				\$37,873,413	\$50,947,186
Grandfathered Police	Public Safety Bldg. (Shooting Range Share)	\$584,823	17.40%	\$120,376	\$141,259
Police	Public Safety Bldg. (Other Police Share)	\$2,768,022	82.60%	\$571,439	\$670,574
Total, Police		\$3,352,845	100.00%	\$691,815	\$811,833

Source: Original debt cost allocation from Red Oak Consulting, “MPC Bond Fund Analysis,” p. A-1 of Malcolm Pirnie, Development Fee and MPC Bond Fund Analysis, February 2011.

Figure F3: Debt Service, 2015 MPC Refunding Bonds

Date	General Government		Police		Parks and Recreation		Fire/EMS		Wastewater, SPA 1	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1/1/19	\$0	\$42,558	\$0	\$15,694	\$0	\$50,713	\$0	\$7,755	\$0	\$93,087
7/1/19	\$282,132	\$42,558	\$104,040	\$15,694	\$336,192	\$50,713	\$51,408	\$7,755	\$617,100	\$93,087
1/1/20	\$0	\$36,916	\$0	\$13,613	\$0	\$43,989	\$0	\$6,727	\$0	\$80,745
7/1/20	\$293,196	\$36,916	\$108,120	\$13,613	\$349,376	\$43,989	\$53,424	\$6,727	\$641,300	\$80,745
1/1/21	\$0	\$32,518	\$0	\$11,991	\$0	\$38,749	\$0	\$5,925	\$0	\$71,125
7/1/21	\$302,185	\$32,518	\$111,435	\$11,991	\$360,088	\$38,749	\$55,062	\$5,925	\$660,963	\$71,125
1/1/22	\$0	\$24,963	\$0	\$9,206	\$0	\$29,746	\$0	\$4,549	\$0	\$54,601
7/1/22	\$316,707	\$24,963	\$116,790	\$9,206	\$377,392	\$29,746	\$57,708	\$4,549	\$692,725	\$54,601
1/1/23	\$0	\$17,045	\$0	\$6,286	\$0	\$20,312	\$0	\$3,106	\$0	\$37,283
7/1/23	\$332,611	\$17,045	\$122,655	\$6,286	\$396,344	\$20,312	\$60,606	\$3,106	\$727,513	\$37,283
1/1/24	\$0	\$8,730	\$0	\$3,219	\$0	\$10,403	\$0	\$1,591	\$0	\$19,095
7/1/24	\$349,207	\$8,730	\$128,775	\$3,219	\$416,120	\$10,403	\$63,630	\$1,591	\$763,813	\$19,095
Total	\$1,876,039	\$325,461	\$691,815	\$120,018	\$2,235,512	\$387,824	\$341,838	\$59,303	\$4,103,413	\$711,873

Source: City of Surprise Finance Department, Series 2015 Pledged Revenue Obligations- Amortization Table by Fund Source.

Figure F4: Debt Service, 2007 MPC Wastewater Utility Revenue Bonds

Date	Principal	Interest	Total
10/1/18	\$2,045,000	\$818,595	\$2,863,595
4/1/19	\$0	\$770,538	\$770,538
10/1/19	\$2,140,000	\$770,538	\$2,910,538
4/1/20	\$0	\$720,248	\$720,248
10/1/20	\$2,240,000	\$720,248	\$2,960,248
4/1/21	\$0	\$667,608	\$667,608
10/1/21	\$2,345,000	\$667,608	\$3,012,608
4/1/22	\$0	\$612,500	\$612,500
10/1/22	\$1,990,000	\$612,500	\$2,602,500
4/1/23	\$0	\$563,745	\$563,745
10/1/23	\$2,085,000	\$563,745	\$2,648,745
4/1/24	\$0	\$512,663	\$512,663
10/1/24	\$2,195,000	\$512,663	\$2,707,663
4/1/25	\$0	\$458,885	\$458,885
10/1/25	\$2,300,000	\$458,885	\$2,758,885
4/1/26	\$0	\$402,535	\$402,535
10/1/26	\$2,420,000	\$402,535	\$2,822,535
4/1/27	\$0	\$343,245	\$343,245
10/1/27	\$2,540,000	\$343,245	\$2,883,245
4/1/28	\$0	\$281,015	\$281,015
10/1/28	\$2,660,000	\$281,015	\$2,941,015
Total, FY 2019-2028	\$24,960,000	\$11,484,555	\$36,444,555
4/1/29	\$0	\$215,845	\$215,845
10/1/29	\$2,795,000	\$215,845	\$3,010,845
4/1/30	\$0	\$147,368	\$147,368
10/1/30	\$2,935,000	\$147,368	\$3,082,368
4/1/31	\$0	\$75,460	\$75,460
10/1/31	\$3,080,000	\$75,460	\$3,155,460
Total	\$33,770,000	\$12,361,900	\$46,131,900

Source: City of Surprise, Finance Department, Municipal Property Corporation
 Wastewater Utility Revenue Bonds, Series 2007, Amortization Schedule.

Figure F5: Outstanding Interfund Loans, FYE 2018

Development Fee Fund	Improvement	Amount
Wastewater, SPA 1	SPA 1 WRF 8 MGD Expansion-Plants 4 & 5	\$1,046,326
Wastewater, SPA 1	SPA 1 16" Reclaimed Line, Statler-Bell Rd Lake	\$1,279,084
Wastewater, SPA 1	SPA 1 Sewer Developer Reimbursements	\$1,185,388
Wastewater, SPA 1	Debt Service Related to SPA 1 WRF Expansion	\$35,358,667
Wastewater Dev't Fee	SPA 1 Wastewater Improvements	\$1,347,273
Subtotal, SPA 1 Wastewater		\$40,216,738
Fire/EMS	Public Safety Building	\$333,452
Fire/EMS	Fire Station 5	\$1,151,811
Fire/EMS	Fire Station 6	\$871,701
Fire/EMS	Fire Station 7	\$1,127,289
Fire/EMS	Misc. Fire/EMS Projects	\$94,246
Subtotal, Fire/EMS		\$3,578,499
General Government	Infrastructure Technology Unit	\$50,424
General Government	Public Safety Building - Courts	\$2,781,054
General Government	Central Plant	\$4,243,092
General Government	City Hall	\$32,871,706
General Government	Streetscape	\$2,439,958
General Government	Mobile Solutions	\$64,971
Subtotal, General Government		\$42,451,206
Water, SPA 2	Desert Oasis Wells and Water Supply Facility	\$73
Wastewater, SPA 2	SPA 2 Water Reclamation Facility	\$22,656
Water Resource	Central Arizona Project	\$1,617,263
Total		\$87,886,435

Source: Total amounts outstanding by fund from City of Surprise Finance Department, July 27, 2018; costs allocated by project based on original amounts by project from City of Surprise Finance Department, Annual Report for Impact Fees for the fiscal year ended June 30, 2017, Note 5.

Figure F6: Outstanding Developer Credits, FYE 2018

Development Fee Fund	Improvement	Agreement	Amount
Water, SPA 1	1 Well	Marley Park	\$157,544
Water, SPA 1	WSF Expansion 2B	Shared Agreement	\$1,785,998
Water, SPA 1	Section 15 Arsenic Treatment	Shared Agreement	\$4,773,515
Water, SPA 1	Well, WSF exp, lines	Surprise Pointe	\$5,780,501
Subtotal, SPA 1 Water			\$12,497,558
Roads	Reems Rd Improvements	Del Webb/Sun City	\$95,625
Roads	Roads and ROW	Surprise Pointe	\$3,268,183
Subtotal, Roads			\$3,363,808
Parks, SPA 1	Heritage Park Construction	Marley Park	\$3,153,318
Parks, SPA 2	Asante Park	Asante	\$4,621,046
Subtotal, Parks			\$7,774,364
Fire/EMS	Fire Station (3-acre site)	Asante	\$144,211
Water, SPA 2	Desert Oasis WSF & 2 wells	Desert Oasis	\$2,683,874
Wastewater, SPA 1	Sewer and Reclaimed Water Lines	Surprise Pointe	\$856,676
Wastewater, SPA 2	SPA 2 WRF	Shared Agreement	\$26,620,391
Total			\$53,796,671

Source: City of Surprise Finance Department, October 6, 2017.

APPENDIX G: EXCESS CONSTRUCTION SALES TAX

The City of Surprise currently assesses an excess construction sales tax, as defined by SB 1525. While most types of goods and services transactions are subject to a sales tax rate of 2.2 percent, building contracting is assessed 3.7%, so the excess construction sales tax rate is 1.5 percent. The offset for the excess construction sales tax is based on the average tax collected in recent years from a new single-family detached unit or its equivalent, which is the service unit for all the fee categories except arterial streets – referred to as an equivalent dwelling unit (EDU). The amount of excess construction sales tax paid for a new single-family home based on a review of recent single-family building permits is \$2,312. This is the amount that will be used to offset the City’s development fees per service unit. The offset is allocated among all the fees, other than the grandfathered fees and the proposed arterial street fee (which may not be adopted) proportional to the cost per service unit. The offsets by fee category are shown in Figure G1.

Figure G1: Excess Construction Sales Tax Offset

Fee Category	Cost/EDU	Offset/EDU
Water	\$4,177	\$697
Water Resource	\$3,695	\$616
Wastewater	\$3,136	\$523
Parks	\$1,439	\$240
Fire	\$947	\$158
Police	\$470	\$78
Total	\$13,864	\$2,312

Source: total offset is average excess sales tax per new single-family unit from data provided by City of Surprise Finance Department, June 11,

APPENDIX H: DEVELOPMENT FEE STUDY COST

The cost of studies to update the fees every five years, as required by SB 1525, is a cost that is attributable entirely to future development. The future update costs are based on the actual cost of the current update. Given SB 1525's requirement that the fees be updated at least every five years, a minimum of two updates will be required over the next 10 years. The update study costs are summarized in Figure H1.

Figure H1: Update Study Costs per Service Unit

Fee Type	Service Unit	Current Report Cost	10-Year Cost	New Service Units	Cost/ Service Unit
Water System	EDU	\$32,600	\$65,200	12,792	\$5.10
Water Resource	EDU	\$32,600	\$65,200	12,792	\$5.10
Wastewater	EDU	\$32,600	\$65,200	29,962	\$2.18
Roads	VMT	\$16,310	\$32,620	421,010	\$0.08
Parks and Recreation	EDU	\$16,310	\$32,620	20,847	\$1.56
Fire/EMS	EDU	\$16,310	\$32,620	26,912	\$1.21
Police	EDU	\$16,310	\$32,620	26,912	\$1.21
Total		\$163,040	\$326,080		

Source: Current total update cost from City of Surprise purchase order 217006579, dated June 12, 2017; 10-year cost is twice current cost.

APPENDIX I: GROWTH REVENUE FORECAST

The Enabling Legislation requires that the infrastructure improvements plan include:

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.E.7)

The projected revenue from these sources that may be attributed to new development over the next ten years is based on the land use assumptions. Several simplifying assumptions were used to develop the projections: total revenue growth attributable to new development is based on projected population growth, revenue by type will increase consistent with the trend over the last seven years, and revenue growth will be linear over the 10-year period. As shown in Figure I1, new development is projected to generate about \$14.5 million in total revenue over the next 10 years. Not all the revenue increase attributable to new development activity is available for capacity-expanding capital improvements. Most of it will be needed to pay for increases in annual operations and maintenance costs.

Figure I1: Revenues Attributable to Growth, FY 2018-2027

Revenue Source	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Property Tax	\$109,200	\$109,200	\$109,200	\$109,200	\$109,200
City Sales Tax*	\$711,700	\$711,700	\$711,700	\$711,700	\$711,700
State Sales Tax	\$538,500	\$538,500	\$538,500	\$538,500	\$538,500
State Revenue Sharing	\$81,600	\$81,600	\$81,600	\$81,600	\$81,600
Charges for Services	\$12,800	\$12,800	\$12,800	\$12,800	\$12,800
Total	\$1,453,800	\$1,453,800	\$1,453,800	\$1,453,800	\$1,453,800

Revenue Source	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Property Tax	\$109,200	\$109,200	\$109,200	\$109,200	\$109,200
City Sales Tax*	\$711,700	\$711,700	\$711,700	\$711,700	\$711,700
State Sales Tax	\$538,500	\$538,500	\$538,500	\$538,500	\$538,500
State Revenue Sharing	\$81,600	\$81,600	\$81,600	\$81,600	\$81,600
Charges for Services	\$12,800	\$12,800	\$12,800	\$12,800	\$12,800
Total	\$1,453,800	\$1,453,800	\$1,453,800	\$1,453,800	\$1,453,800

Revenue Source	Total
Property Tax	\$1,092,000
City Sales Tax*	\$7,117,000
State Sales Tax	\$5,385,000
State Revenue Sharing	\$816,000
Charges for Services	\$128,000
Total	\$14,538,000

* includes construction sales tax

Source: Based on FY 2010-2017 revenue from City of Surprise Finance Department.

As discussed in greater detail in the Legal Framework chapter, offsets against development fees are warranted in the following cases: (1) new development will be paying taxes or fees used to retire debt on existing facilities serving existing development; (2) new development will be paying taxes or fees used to fund an existing deficiency, (3) new development will be paying taxes or fees that are dedicated for growth-related improvements, or (4) the City assesses a construction contracting sales tax rate that is higher than the rate charged for the majority of sales tax categories (excess construction sales tax). In this study, offsets against the fees have been accounted for in the following manner:

Outstanding Debt. Only debt for past capacity-expanding improvements that are currently authorized to be funded with development fees needs to be considered. For all the facility types, the eligible debt is attributable to existing excess capacity available for future development. Consequently, the eligible debt amount has been excluded from the calculation of the existing level of service, and has been included in the calculation of 10-year and buildout costs per service unit.

Existing Deficiencies. The fees are based on the existing level of service (LOS) for the service area. These fees comply the requirement of SB 1525 that fees be based on the existing LOS, and there are no existing deficiencies that need to be addressed.

Dedicated Future Funding. There is no local funding source that is dedicated for growth-related capacity improvements. No State or Federal funding is anticipated to be available to fund the growth-related capacity improvements that will be needed over the next ten years. Consequently, no offset has been provided for dedicated funding.



CITY OF SURPRISE Regular City Council Work Session

Council Meeting Date: February 5, 2019
Submitting Department: City Manager Office
Staff Recommendations: None

Contact Person:
District: Citywide

Consent: No Regular: No Public Hearing: No Report/Discussion: Yes

Agenda Wording:

Presentation and discussion pertaining to the city's Census 2020 Outreach Plan.

Motion:

Discussion only.

Background:

Every 10 years the federal government conducts the Census to update the country's population. It is a legal requirement that all people living in the United States on Census Day April 1, 2020 complete a survey in the city or county in which they are living on that date. Census 2020 will be the first time that people can fill out the survey online, by phone or by mail.

Objective Analysis:

Why is an accurate census count so important?

- It determines how many representatives each state gets in Congress
 - Communities rely on census statistics to plan for resident needs including new roads, schools and emergency services
 - Businesses use census data to help decide where to locate; therefore providing more local jobs and places to shop
-

Policy Compliant:

This item is compliant with City and Council Policy.

Financial Impact:

The information received through the census helps determine how more than \$675 billion of federal funding each year will be spent on infrastructure, programs and services around the country. In Arizona, each person counted represents approximately \$1,979 in new federal dollars coming into our state.

Budget Impact:

As a member of the Maricopa Association of Governments (MAG), the city of Surprise is required to share in the regional marketing costs of Census 2020. The dollar amount is based on the city's Census 2010 population and would be approximately \$27,000. That one-time cost would be included in the FY2020 budget. The city's local Census 2020 marketing/outreach efforts will be funded through the existing Marketing and Communications budget.

FTE Impact:

No FTE impact.

ATTACHMENTS:

1. 20190205 Census 2020
-



CENSUS BACKGROUND



- US Constitution requires the Census be taken every 10 years; going back to 1790
- Provides accurate population count across the country
- Surprise population-
 - **Census 2000:** 30,848
 - **Census 2010:** 117,517 (281% increase) *70% Census response rate
 - 2017 estimates: 134,085

CENSUS 2020: What's new?



- For the first time ever, the Census will be available to take online, by phone or by mail
 - People will receive a mailed postcard with a personal code to enter their information online
 - Residents can also call to take the survey
 - Paper surveys will be mailed if online submissions are not entered

IMPORTANCE OF CENSUS



- **Federal Funding**
 - Every counted resident equals approx. \$1,979 per person per year
 - \$ supports Public Safety, Transportation improvements, medical facilities & education
- **Strengthens our voice in Washington DC**
 - Population increase results in additional AZ seats in US House of Representatives
- **Redistricting**
 - Used to draw new district boundaries to ensure equal representation
- **Assists in Planning Efforts**

CENSUS TIMELINE



- **Fall 2018:** MAG, Census and City/County Reps Begin Outreach Planning
- **Winter 2019:** Begin Promoting Resident Participation
- **Feb. 2020 – Jun. 2020:** Group Quarters Counts (assisted living/college dorms)
- **Mar. 23, 2020 – Jun. 2020:** Call to Action for Residents to Respond
 - Online & phone response opens March 23 (*first time online!*)
 - Census Day is April 1, 2020
- **Mid-Apr. – Jul. 2020:** Non-Response Follow-up; Census offices close in Aug
- **Dec. 31, 2020:** Census Count delivered to the President of the U.S.

OUTREACH METHODS



Surprise is Part of a Regional Census Ad Campaign

(comprehensive media strategy including commercials, social media, etc.)

We will also customize messaging at a local level:

- City Census Website
- Social Media
- PSA
- Print Ads
- Press Releases
- Magazine Articles
- Event Booths
- Large Banner at City Hall
- Trash Truck Ads
- Dysart/Chamber partnerships



QUESTIONS?