

DRAFT
Infrastructure Improvements Plan

Prepared for:
City of Yuma North Service Area
Yuma, Arizona

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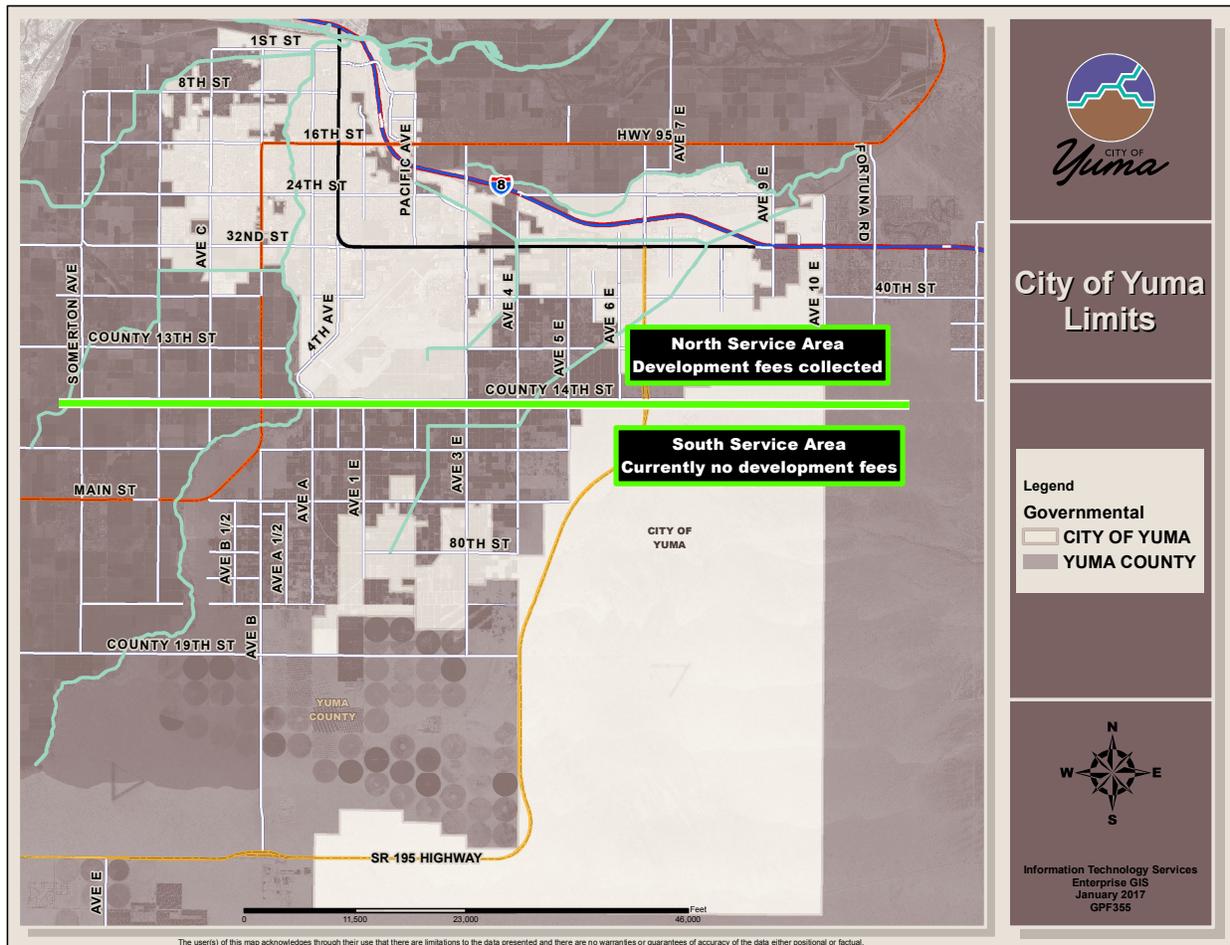
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EXECUTIVE SUMMARY

The City of Yuma, Arizona, contracted with TischlerBise to update the Infrastructure Improvements Plan (IIP) for new development and resulting development fees within the City of Yuma North Service Area. The updated IIP includes (1) Parks, (2) Police, (3) Fire, (4) General Government, and (5) Streets. Development fees are collected from new construction at the time a building permit is issued for the purpose of constructing system improvements needed to accommodate new development. A development fee represents new growth's proportionate share of capital facility needs. Development fees do have limitations and should not be regarded as the total solution for infrastructure funding. Rather, they are one component of a comprehensive funding strategy to ensure provision of adequate public facilities. Development fees may only be used for capital improvements or debt service for growth-related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement of infrastructure, or correcting existing deficiencies.

Figure 1: City of Yuma North Service Area



LEGAL REQUIREMENTS

Both state and federal courts have recognized the imposition of development fees on development as a legitimate form of land use regulation, provided the fees meet standards intended to protect against regulatory takings. Land use regulations, development exactions, and development fees are subject to the Fifth Amendment prohibition on taking of private property for public use without just compensation. To comply with the Fifth Amendment, development regulations must be shown to substantially advance a legitimate governmental interest. In the case of development fees, that interest is in the protection of public health, safety, and welfare by ensuring development is not detrimental to the quality of essential public services. The means to this end are also important, requiring both procedural and substantive due process. The process followed to receive community input (i.e. stakeholder meetings, work sessions, and public hearings) provides opportunities for comments and refinements to the development fees.

There is little federal case law specifically dealing with development fees, although other rulings on other types of exactions (e.g., land dedication requirements) are relevant. In one of the most important exaction cases, the U. S. Supreme Court found that a government agency imposing exactions on development must demonstrate an “essential nexus” between the exaction and the interest being protected (see *Nollan v. California Coastal Commission*, 1987). In a more recent case (*Dolan v. City of Tigard*, OR, 1994), the Court ruled that an exaction also must be “roughly proportional” to the burden created by development. However, the Dolan decision appeared to set a higher standard of review for mandatory dedications of land than for monetary exactions such as development fees.

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

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

The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the Dolan case and is logically necessary to establish a proper nexus.

Proportionality is established through the procedures used to identify development-related facility costs, and in the methods used to calculate impact fees for various types of facilities and categories of development. The demand for facilities is measured in terms of relevant and measurable attributes of development (e.g. a typical housing unit's average weekday vehicle trips).

A sufficient benefit relationship requires that development fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. Development fees must be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, benefit may extend to a general area including multiple real estate developments. Procedures for the earmarking and expenditure of fee revenues are discussed near the end of this study. All of these procedural, as well as, substantive issues are intended to ensure that new development benefits from the impact fees they are required to pay. The authority and procedures to implement development fees is separate from and complementary to the authority to require improvements as part of subdivision or zoning review.

Arizona Revised Statutes (ARS) 9-463.05 authorizes a city to impose development impact fees (see Appendix B). In accordance with state law, this report includes Capital Improvements Plans for Parks, Police, Fire, and Transportation that are needed to accommodate new development. As documented in this report, Yuma has complied with applicable legal precedents. Development fees are proportionate and reasonably related to the capital improvement demands of new development, with the projects identified in this study reflected in Yuma's Capital Improvements Plan (CIP). Specific costs have been identified using local data and current dollars. With input from city staff, TischlerBise determined demand indicators for each type of infrastructure and calculated proportionate share factors to allocate costs by type of development. This report documents the formulas and input variables used to calculate the development fees for each type of public facility. Development fee methodologies also identify the extent to which new development is entitled to various types of credits to avoid potential double payment of growth-related capital costs.

CONCEPTUAL FEE CALCULATION

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

GENERAL METHODS

There are three general methods for calculating development fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. 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 new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion method documents current level-of-service (LOS) standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based 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).
- **Credits** - Regardless of the methodology, a consideration of credits is integral to the development of a legally defensible development fee methodology. There are two types of credits with specific characteristics, both of which should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the development fee calculation, thus reducing the fee amount. The second is a site-specific credit, or developer reimbursement, for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program.

UPDATED DEVELOPMENT FEES

Figure 2 summarizes service areas, methodology, and infrastructure cost components for each development fee. Because Yuma plans to provide a uniform level of service for all types of infrastructure included in this infrastructure improvements plan, the service area for all fee components is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street (Figure 1).

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

<i>Fee Type</i>	<i>Service Area</i>	<i>Incremental Expansion</i>	<i>Plan-Based</i>	<i>Cost Recovery</i>	<i>Cost Allocation</i>
<i>Parks</i>	City of Yuma North Service Area	Regional & Community Park Improvements, Neighborhood Park Improvements, Bike Paths	N/A	N/A	Peak Population
<i>Police</i>	City of Yuma North Service Area	Facilities, Vehicles, Equipment, Fleet Services	N/A	N/A	Peak Population, Nonresidential Trips
<i>Fire</i>	City of Yuma North Service Area	Facilities, Apparatus, Ambulances, Fleet Services	N/A	N/A	Peak Population, Jobs
<i>General Government</i>	City of Yuma North Service Area	N/A	CIP Software	City Hall	Peak Population, Jobs
<i>Streets</i>	City of Yuma North Service Area	Arterials, Intersections, Bike Lanes	N/A	N/A	Vehicle Miles of Travel

PARKS INFRASTRUCTURE IMPROVEMENTS PLAN

Development fees for parks are one of the infrastructure categories allowed under Arizona law (Appendix B). Parks development fees include 1) regional and community park improvements, 2) neighborhood park improvements, and 3) bike paths. Park improvements do not include the cost of land; however, Yuma’s inventory of undeveloped regional and community park acreage is sufficient for development of park improvements identified in this report. Yuma expects developers to provide land for stormwater detention, which is jointly used for neighborhood parks, so the purchase of neighborhood park land is excluded from the calculation of park fees. State law requires Yuma to have an adopted infrastructure improvements plan (IIP) in order to assess development fees. The service area for all parks fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

METHODOLOGY

Parks development fees use an incremental expansion methodology and allocate capital costs to residential development based on peak population. Residential development accounts for 100 percent of the demand for parks infrastructure, so nonresidential development is not assessed a parks development fee. This methodology allows Yuma to maintain the current LOS standard as growth occurs. Development fee revenue collected using this methodology may not be used to replace or rehabilitate existing improvements.

REGIONAL AND COMMUNITY PARK IMPROVEMENTS

To provide capacity for new development throughout the city, Yuma plans to maintain its current level of service for developed (improved) regional and community parks. This component of the parks development fee will be used to maintain the 2016 level of service – the year in which the Pacific Avenue Athletic Complex (PAAC) is completed. All other components of the parks development fee use the base year (2015) level of service.

Yuma’s 2016 regional and community parks inventory, shown in Figure P1, includes 270.1 developed acres serving a projected peak population of 107,583. The definition of necessary public services defined in the Arizona Revised Statutes excludes wetlands and includes “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.” The developed acres total for West Wetlands Park excludes the portion of the park that includes wetlands. Although West Wetlands Park and the PAAC include more than 30 acres, their unique characteristics and amenities provide a direct benefit to development; therefore, total acreage—excluding wetlands—is included for both parks.

Figure P1: 2016 Regional and Community Parks Inventory

<i>Regional & Community Parks</i>	<i>Developed Acres</i>
James P. Deyo Regional Park	
Caballero Park	27.0
Friendship Park	3.0
Ray Kroc Athletic Complex	25.0
Riverfront Regional Park	
West Wetlands Park	51.7
Gateway Park	13.4
Riverside Park	1.9
Colorado River Levee Linear Park	12.2
Carver Park Complex	
Sanguinetti Athletic	5.0
Carver Park	7.0
Joe Henry Park Complex	
Joe Henry Memorial Park	11.0
Joe Henry Athletic	5.0
Kennedy Park Complex	
Kennedy Memorial Park	18.0
Keegan Athletic	4.0
PAAC	44.8
Smucker Memorial Park	22.0
Yuma Valley Park	19.1
TOTAL	270.1

Level of Service

Based on the 2016 inventory of developed regional and community park acreage and projected 2016 peak population, the level of service for regional and community parks is 2.511 developed acres per 1,000 persons (270.1 acres / (107,583 / 1,000)). Cost estimates for regional and community park improvements, shown below in Figure P2, total \$29.94 million and include 183.6 acres with an average cost of \$163,100 per developed acre (\$29.94 million / 183.6 acres). As discussed above, park improvement costs are allocated 100 percent to residential development.

Figure P2: Cost Allocation for Regional and Community Parks

Allocation Factors for Regional & Community Parks

2016 Peak Population	107,583
Existing Developed Acres	270.1

Level-of-Service (LOS) Standards

LOS: Developed Acres per 1,000 Persons	2.511
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Cost Basis from Planned Projects

<i>Project*</i>	<i>Acres*</i>	<i>Cost per Acre</i>	<i>Total Cost*</i>
West Wetlands Park	67.0	\$31,045	\$2,080,000
Riverside Park	7.7	\$158,031	\$1,220,000
PAAC (Phase 1)	44.8	\$316,964	\$14,200,000
PAAC (Phase 2)	4.2	\$316,667	\$1,330,000
East Wetlands Park	3.8	\$221,053	\$840,000
Smucker Memorial Park	2.5	\$380,000	\$950,000
Yuma Valley Park (Phase 2)	0.9	\$1,077,778	\$970,000
South Mesa Community Park	25.6	\$159,969	\$4,100,000
North Mesa Community Park	27.0	\$157,407	\$4,250,000
	183.6	\$163,100	\$29,940,000

Cost Allocation

Average Cost per Acre	\$163,100
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Cost per Person	\$410.08
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*Source: Parks & Recreation Department, City of Yuma.

Projected Need

Shown in Figure P3, peak population is projected to equal 124,208 in 2025—an increase of 16,625 from 2016. When applied to the 2016 LOS, new residential development will demand 41.8 additional developed acres of regional and community parks (2.511 LOS X (16,625 peak population increase / 1,000) = 41.8). Based on the average cost per acre of \$163,100, the growth-related expenditure on regional and community park improvements is \$6.82 million (41.8 acres X \$163,100 = \$6,817,580), and the cost per person is \$410.08 (\$6,817,580 / 16,625 peak population increase = \$410.08).

Figure P3: Projected Demand for Park Infrastructure

Parks Infrastructure Level-of-Service Standards

Type of Infrastructure	Level of Service	Demand Unit	Average Cost
Regional & Community Parks	2.511 Dev. Acres	1,000 Persons	\$163,100
Neighborhood Parks	0.672 Dev. Acres	1,000 Persons	\$40,000
Bike Paths	0.143 Miles	1,000 Persons	\$475,000

Need for Parks Infrastructure					
	Year	Peak Population	Regional & Community (Acres)	Neighborhood (Acres)	Bike Paths (Miles)
Base	2015	106,641		71.7	15.2
Year 1	2016	107,583	270.1	72.3	15.3
Year 2	2017	108,656	272.8	73.0	15.5
Year 3	2018	109,866	275.9	73.8	15.7
Year 4	2019	111,218	279.3	74.7	15.9
Year 5	2020	112,719	283.0	75.7	16.1
Year 6	2021	114,479	287.5	76.9	16.3
Year 7	2022	116,509	292.6	78.3	16.6
Year 8	2023	118,822	298.4	79.8	16.9
Year 9	2024	121,435	304.9	81.6	17.3
Year 10	2025	124,208	311.9	83.5	17.7
<i>Ten-Yr Increase</i>		17,567	41.8	11.8	2.5
Growth-Related Expenditures =>			\$6,817,580	\$472,000	\$1,187,500
Growth-Related Expenditure on Parks Infrastructure					\$8,477,080

NEIGHBORHOOD PARK IMPROVEMENTS

Parks development fees also include a cost component for neighborhood park improvements. Neighborhood park improvements are allocated on a per acre basis. As shown in Figure P4, the base year inventory of neighborhood parks includes 71.7 developed acres.

Figure P4: 2015 Neighborhood Parks Inventory and Cost Allocation

Neighborhood Parks	Developed Acres
Barkley Ranch Park	3.1
Desert Ridge Park	3.0
Joe Henry Optimist Park	1.5
Kiwanis Park	15.0
Las Casitas Park	2.5
Marcus Park	2.0
Netwest Park	3.5
Ocotillo Park	4.9
Parkway Place Park	2.3
Ponderosa Park	3.6
Saguaro Park	4.8
Sanguinetti Memorial Park	5.0
Sunrise Optimist Park	6.0
Terraces Park	3.0
Victoria Meadows Park	5.5
Winsor Rotary Park	6.0
TOTAL	71.7

Allocation Factors for Neighborhood Parks

2015 Peak Population	106,641
Existing Developed Acres	71.7

Level-of-Service (LOS) Standards

LOS: Developed Acres per 1,000 Persons	0.672
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Cost Allocation

Cost per Acre*	\$40,000
Cost per Person	\$26.87

*Source: Parks & Recreation Department, City of Yuma.

Level of Service

Based on the 2015 inventory of developed neighborhood park acreage, and the 2015 peak population, the level of service for neighborhood parks is 0.672 developed acres per 1,000 persons (71.1 acres / (106,641 / 1,000)). Cost estimates for neighborhood park improvements, shown above in Figure P4, average \$40,000 per developed acre and exclude the cost of land. Yuma expects developers to provide land for stormwater detention, which is jointly used for neighborhood parks, so the purchase of land for neighborhood parks is excluded from the calculation of park fees. Therefore, there is no need to credit developers for donated neighborhood park land. Residential development assumes 100 percent of costs for neighborhood park improvements.

Projected Need

Shown in Figure P3, peak population is projected to equal 124,208 in 2025—an increase of 17,567 from the base year. When applied to the 2015 LOS, new residential development will demand 11.8 additional developed acres of neighborhood parks (0.672 LOS X (17,567 peak population increase / 1,000) = 11.8). Based on the average cost per acre of \$40,000, the growth-related expenditure on neighborhood parks is \$472,000 (11.8 acres X \$40,000 = \$472,000), and the cost per person is \$26.87 (\$472,000 / 17,567 peak population increase = \$26.87).

BIKE PATHS

Parks development fees also include a cost component for bike paths. Yuma’s existing inventory of bike paths is 15.2 miles and does not include bike lanes found within a street right-of-way.

Level of Service

Based on the 2015 inventory of bike paths and the 2015 peak population, the level of service for bike paths is 0.1426 miles per 1,000 persons (15.2 acres / (106,641 / 1,000)). Cost estimates for bike paths average \$475,000 per mile with 100 percent of costs allocated to residential development.

Figure P5: Cost Allocation for Bike Paths

Allocation Factors for Bike Paths

2015 Peak Population	106,641
Existing Miles of Bike Paths	15.2

Level-of-Service (LOS) Standards

LOS: Miles per 1,000 Persons	0.1426
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Cost Basis from Planned Projects

<i>Eligible Projects</i>	<i>Miles</i>	<i>Total Cost*</i>
Pacific Avenue - 12th Street to Levee	0.8	\$356,250
Thacker Lateral - W Main Canal to 32nd St	4.0	\$1,900,000
TOTAL	4.8	\$2,256,250

Cost Allocation

Cost per Mile: Bike Paths	\$475,000
Cost per Person	\$67.60

*Yuma Engineering Department.

Projected Need

Shown in Figure P3, peak population is projected to equal 124,208 in 2025—an increase of 17,567 from the base year. When applied to the 2015 LOS, new residential development will demand 2.5 additional miles of bike paths (0.143 LOS X (17,567 peak population increase / 1,000) = 2.5). Based on the average cost per mile of \$475,000, the growth-related expenditure on bike paths is \$1.19 million (2.5 miles X \$475,000 = \$1,187,500), and the cost per person is \$67.60 (\$1,187,500 / 17,567 peak population increase = \$67.60).

IIP AND DEVELOPMENT FEE REPORT

The cost to prepare the Parks IIP and development fees totals \$17,800. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential development from the *Land Use Assumptions*, the cost per person is \$2.93.

Figure P6: IIP and Development Fee Report

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>FY2015</i>	<i>FY2020</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks	\$17,800	Residential	100%	Peak Population	106,641	112,719	6,078	\$2.93
Police	\$13,350	Residential	61%	Peak Population	106,641	112,719	6,078	\$1.34
		Nonresidential	39%	Nonres. Trips	207,689	224,857	17,168	\$0.30
Fire	\$13,350	Residential	45%	Peak Population	106,641	112,719	6,078	\$0.99
		Nonresidential	55%	Jobs	48,654	52,673	4,019	\$1.83
General Government	\$8,900	Residential	73%	Peak Population	106,641	112,719	6,078	\$1.07
		Nonresidential	27%	Jobs	48,654	52,673	4,019	\$0.60
Streets	\$35,600	Residential Nonresidential	100%	VMT	543,995	583,119	39,124	\$0.91
TOTAL	\$89,000							

POLICE INFRASTRUCTURE IMPROVEMENTS PLAN

Police development fees are one of the infrastructure categories allowed under Arizona law (Appendix B). Police development fees include facilities, vehicles, equipment, and the police share of fleet services. State law requires Yuma to have an adopted infrastructure improvements plan (IIP) in order to assess development fees. The service area for all police fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

METHODOLOGY

To meet the proportionality requirement, police development fees allocate capital costs to residential and nonresidential development based on non-traffic calls for service. Figure PO1 shows the calls for service for residential and nonresidential development in Yuma from October 2013 through September 2015. According to the proportionate share analysis, residential development accounts for 61 percent of the demand for police infrastructure, and nonresidential development accounts for the remaining 39 percent of the police infrastructure demand. Police development fees use an incremental expansion methodology.

Figure PO1: Police Calls for Service

<i>Development Type</i>	<i>Calls for Service</i>	<i>Share</i>
Residential	68,319	61%
Nonresidential	43,691	39%
	112,010	

Source: Yuma Police Department, October 2013 - September 2015.

POLICE FACILITIES

Police development fees contain a cost component for facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure PO2, the Police Department currently uses 168,121 square feet.

Figure PO2: 2015 Police Facilities Inventory

<i>Facility</i>	<i>Square Feet</i>
Police Station 1st Avenue	93,500
1st Avenue Parking Garage	46,000
Police Storage - Kayla	4,620
Police Storage - ALSCO	20,001
Araby Road Substation	4,000
TOTAL	168,121

Level of Service

The current level of service is based on the residential and nonresidential shares of police calls for service and the 2015 demand units—peak population of 106,641 for residential development and nonresidential trips totaling 207,689 for nonresidential development. Therefore, the current residential level of service is 0.9617 square feet per person (168,121 X 61 percent residential share / 106,641 peak population), and the nonresidential level of service equals 0.3157 square feet per nonresidential trip (168,121 square feet X 39 percent nonresidential share / 207,689 nonresidential trips). Cost estimates for planned projects, shown below in Figure PO3, total \$5.0 million and include 62,000 square feet with an average cost of \$81 per square foot (\$5.0 million / 62,000 square feet).

Figure PO3: Cost Allocation for Police Facilities

Allocation Factors for Police Facilities

2015 Peak Population	106,641
2015 Nonres. Trips	207,689
Existing Police Facility Square Feet	168,121
Residential Share	61%
Nonresidential Share	39%

Level-of-Service (LOS) Standards

LOS: Square Feet per Person	0.9617
LOS: Square Feet per Nonres. Trip	0.3157

Cost Basis from Planned Projects

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Storage Facility: Vehicle (Indoor)	50,000	\$70	\$3,500,000
Storage Facility: Evidence	8,000	\$100	\$800,000
Evidence Processing (Covered)	4,000	\$175	\$700,000
	62,000	\$81	\$5,000,000

Cost Allocation

Average Cost per Square Foot	\$81
Cost per Person	\$79.26
Cost per Nonres. Trip	\$24.90

*Source: City of Yuma.

Projected Need

Shown in Figure P04, peak population is projected to increase by 17,567 persons by 2035, and nonresidential vehicle trips will increase by 35,749 trips during the same period. When applied to the 2015 LOS, future development will demand 28,179 square feet of police facilities $[(0.9617 \text{ LOS} \times 17,567 \text{ peak population increase}) + (0.3157 \text{ LOS} \times 35,749 \text{ nonresidential trip increase}) = 28,179 \text{ square feet}]$. Based on the average cost of \$81 per square foot, the growth-related expenditure on police facilities is \$2.28 million $(21,179 \text{ square feet} \times \$81 = \$2,282,499)$. The cost per person is \$79.26 $(\$2,282,499 \times 61 \text{ percent residential share} / 17,567 \text{ peak population increase} = \$79.26)$, and the cost per nonresidential vehicle trip is \$24.90 $(\$2,282,499 \times 39 \text{ percent nonresidential share} / 35,749 \text{ nonresidential vehicle increase} = \$24.90)$.

Figure PO4: Projected Demand for Police Infrastructure

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Facilities	Residential	0.9617	Square Feet	\$81 per SF
	Nonresidential	0.3157		
Vehicles	Residential	0.00097	Vehicles	\$52,600 per Vehicle
	Nonresidential	0.00032		
Equipment	Residential	0.00007	Units	\$7,500 per Unit
	Nonresidential	0.00002		
Fleet Services	Residential	0.03468	Square Feet	\$360 per SF
	Nonresidential	0.01139		

Need for Police Infrastructure							
	Year	Peak Population	Nonres. Trips	Facilities (SF)	Vehicles	Equipment	Fleet Services (SF)
Base	2015	106,641	207,689	168,121	169	12	6,063
Year 1	2016	107,583	211,008	170,075	171	12	6,133
Year 2	2017	108,656	214,392	172,175	173	12	6,209
Year 3	2018	109,866	217,827	174,423	175	13	6,290
Year 4	2019	111,218	221,313	176,824	178	13	6,377
Year 5	2020	112,719	224,857	179,386	180	13	6,469
Year 6	2021	114,479	228,451	182,213	183	13	6,571
Year 7	2022	116,509	232,111	185,321	186	13	6,683
Year 8	2023	118,822	235,828	188,718	190	14	6,806
Year 9	2024	121,435	239,599	192,422	193	14	6,939
Year 10	2025	124,208	243,438	196,300	197	14	7,079
<i>Ten-Yr Increase</i>		17,567	35,749	28,179	28	2	1,016
Growth-Related Expenditures =>				\$2,282,499	\$1,472,800	\$15,000	\$365,760
Growth-Related Expenditure on Police Infrastructure							\$4,136,059

POLICE VEHICLES

Development fees will be used to expand Yuma’s inventory of police vehicles. Figure PO5 lists the current vehicles used by Yuma’s Police Department—169 vehicles representing a capital investment of approximately \$8.90 million. The average cost is approximately \$52,600 per vehicle (\$8,895,000 / 169 vehicles).

Figure PO5: 2015 Police Vehicles Inventory and Cost Allocation

Type	Units	Vehicle Cost	Total Cost
Ford Utility Interceptors (Marked)	22	\$65,000	\$1,430,000
Ford Utility Interceptors (Unmarked)	8	\$55,000	\$440,000
Ford Crown Victoria (Marked)	40	\$60,000	\$2,400,000
Ford Crown Victoria (Unmarked)	27	\$55,000	\$1,485,000
Ford Fusion	4	\$30,000	\$120,000
Ford Taurus	9	\$25,000	\$225,000
Ford F150	2	\$50,000	\$100,000
Ford F250	7	\$55,000	\$385,000
Ford Escape	2	\$55,000	\$110,000
Ford Expeditions	5	\$65,000	\$325,000
Ford Ranger	1	\$30,000	\$30,000
Ford F550	1	\$250,000	\$250,000
Chevy Tahoe (Marked)	2	\$45,000	\$90,000
Chevy Tahoe (Unmarked)	2	\$45,000	\$90,000
Chevy Impala	17	\$30,000	\$510,000
Dodge Ram	1	\$40,000	\$40,000
Toyota Camry	5	\$35,000	\$175,000
Harley Davidson MC	12	\$30,000	\$360,000
Victory MC	1	\$30,000	\$30,000
Freightliner Command Van (HNT)	1	\$300,000	\$300,000
TOTAL	169	\$52,600	\$8,895,000

Allocation Factors for Police Vehicles

Existing Vehicles	169
Cost per Unit	\$52,600
2015 Peak Population	106,641
2015 Nonres. Trips	207,689
Residential Share	61%
Nonresidential Share	39%

Level-of-Service (LOS) Standards

LOS: Units per Person	0.00097
LOS: Units per Nonres. Trip	0.00032

Cost Allocation

Cost per Person	\$51.14
Cost per Nonres. Trip	\$16.07

Level of Service

Non-traffic police calls for service are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.00097 vehicles per person (169 vehicles X 61 percent residential share / 106,641 peak population). The nonresidential infrastructure standard is 0.00032 vehicles per nonresidential trip (169 vehicles X 39 percent nonresidential share / 207,689 nonresidential vehicle trips).

Projected Need

Shown in Figure P04, peak population is projected to increase by 17,567 persons by 2035, and nonresidential vehicle trips will increase by 35,749 trips during the same period. Future development will demand 28 additional police vehicles [(0.00097 LOS X 17,567 peak population increase) + (0.00032 LOS X 35,749 nonresidential trip increase) = 28 vehicles). The growth-related expenditure on police vehicles is \$1.47 million (28 vehicles X \$52,600 per vehicle = \$1,472,800) with a cost per person of \$51.14 (\$1,472,800 X 61 percent residential share / 17,567 peak population increase = \$51.14) and a cost per nonresidential vehicle trip of \$16.07 (\$1,472,800 X 39 percent nonresidential share / 35,749 nonresidential vehicle increase = \$16.07).

POLICE EQUIPMENT

Development fees will be used to expand Yuma’s inventory of police equipment. Figure PO6 lists the current equipment used by Yuma’s police department. Yuma currently has 12 units of police equipment representing a capital investment of approximately \$90,000. The weighted average cost is approximately \$7,500 per unit (\$90,000 / 12).

Figure PO6: 2015 Police Equipment Inventory and Cost Allocation

Type	Units	Unit Cost	Total Cost
Wells Fargo Trailer	1	\$4,000	\$4,000
Hmd 19'	1	\$4,500	\$4,500
Carson	1	\$5,500	\$5,500
Wells Fargo Trailer 14'	1	\$5,500	\$5,500
Pace Am (Cargo Trailer)	1	\$4,000	\$4,000
Seat Belt Demo Trailer	1	\$13,000	\$13,000
Speed Awareness Trailer	1	\$7,000	\$7,000
Pace Box (Traffic Trailer)	1	\$4,500	\$4,500
Haulmark	1	\$4,500	\$4,500
Speed Awareness Trailer	1	\$7,000	\$7,000
Scissor Lift Trailer	1	\$27,500	\$27,500
Parker (Atv Trailer)	1	\$3,000	\$3,000
TOTAL	12	\$7,500	\$90,000

Allocation Factors for Police Equipment	
Existing Units	12
Cost per Unit	\$7,500
2015 Peak Population	106,641
2015 Nonres. Trips	207,689
Residential Share	61%
Nonresidential Share	39%

Level-of-Service (LOS) Standards	
LOS: Units per Person	0.00007
LOS: Units per Nonres. Trip	0.00002

Cost Allocation	
Cost per Person	\$0.52
Cost per Nonres. Trip	\$0.16

Level of Service

Police equipment costs are allocated according to non-traffic police calls for service—61 percent to residential development and 39 percent to nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.00007 units per person based on the 2015 peak population of 106,641 (12 units X 61 percent residential share / 106,641 peak population). The nonresidential infrastructure standard, based on 2015 nonresidential trips of 207,689, is 0.00002 units per nonresidential trip (12 units X 39 percent nonresidential share / 207,689).

Projected Need

As shown in Figure PO4, peak population and nonresidential trips drive the need for police equipment. Based on the development projections in the *Land Use Assumptions* (see Appendix A), Yuma will need approximately 2 additional units of police equipment over the next ten years ([0.00007 LOS X 17,567] + [0.00002 LOS X 35,749]). The ten-year, growth-related capital cost associated with these additional units of police equipment is \$15,000 (2 units X \$7,500). Each additional person requires a capital cost of \$0.52 (\$7,500 X 61 percent / 17,567). Similarly, each additional trip to nonresidential development requires a capital cost of \$0.16 (\$7,500 X 39 percent / 35,749).

FLEET SERVICES

To meet the proportionality requirement, development fees allocate capital costs to the Police Department and the Fire Department based on each department’s usage of the Fleet Services Facilities. According to the proportionate share analysis shown in Figure PO7, the Police Department accounts for 28 percent of the demand for fleet services, and the Fire Department accounts for three percent of fleet services demand.

Figure PO7: Fleet Services Usage and Inventory

Services Used

	Total Services	Police	Fire
2013-14	3,479	977	105
2014-15	3,386	946	100
TOTAL	6,865	1,923	205

	Square Feet
Fleet Shop	14,195
Fleet Warehouse	7,457
TOTAL	21,652

Share of Services

	Police	Fire
2013-14	28%	3%
2014-15	28%	3%
SHARE	28%	3%

Share of Fleet Services Square Footage

	Police	Fire
Fleet Shop	3,975	426
Fleet Warehouse	2,088	224
TOTAL SF	6,063	650

Existing Inventory

Police development fees contain a cost component for fleet services facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure PO10, existing fleet services facilities total 21,652 square feet. The Police Department’s proportionate share is 6,063 square feet (21,652 square feet X 28 percent share).

Level of Service

The current level of service is based on the residential and nonresidential shares of police calls for service and the 2015 demand units—peak population of 106,641 for residential development and nonresidential trips totaling 207,689 for nonresidential development. Therefore, the current residential level of service is 0.0347 square feet per person (6,063 X 61 percent residential share / 106,641 peak population), and the nonresidential level of service equals 0.0114 square feet per nonresidential trip (6,063 square feet X 39 percent nonresidential share / 207,689 nonresidential trips). Cost estimates for the Fleet Services Facility, shown below in Figure PO8, total approximately \$14.41 million for a 40,000-square-foot facility with an average cost of approximately \$360 per square foot (\$14,406,692 / 40,000 square feet).

Figure PO8: Cost Allocation for Fleet Services – Police Share

Allocation Factors for Fleet Services Facilities

2015 Peak Population	106,641
2015 Nonres. Trips	207,689
Existing Square Feet	6,063
Residential Share	61%
Nonresidential Share	39%

Level-of-Service (LOS) Standards

LOS: Square Feet per Person	0.0347
LOS: Square Feet per Nonres. Trip	0.0114

Cost Basis from Planned Projects

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Fleet Services	40,000	\$360	\$14,406,692

<i>Average Cost per Square Foot</i>	<i>\$360</i>
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Cost Allocation

Cost per Person	\$12.70
Cost per Nonres. Trip	\$3.99

*Source: City of Yuma.

Projected Need

Shown in Figure P04, peak population is projected to increase by 17,567 persons by 2035, and nonresidential vehicle trips will increase by 35,749 trips during the same period. When applied to the 2015 LOS, future development will demand 1,016 square feet of fleet services facilities $[(0.03468 \text{ LOS} \times 17,567 \text{ peak population increase}) + (0.01139 \text{ LOS} \times 35,749 \text{ nonresidential trip increase}) = 1,016 \text{ square feet}]$. Based on the average cost of \$360 per square foot, the growth-related expenditure on fleet services facilities is \$365,760 $(1,016 \text{ square feet} \times \$360 = \$365,760)$. The cost per person is \$12.70 $(\$365,760 \times 61 \text{ percent residential share} / 17,567 \text{ peak population increase} = \$12.70)$, and the cost per nonresidential vehicle trip is \$3.99 $(\$365,760 \times 39 \text{ percent nonresidential share} / 35,749 \text{ nonresidential vehicle increase} = \$3.99)$.

IIP AND DEVELOPMENT FEE REPORT

The cost to prepare the Police IIP and development fees totals \$13,350. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$1.34 and per job is \$0.30.

Figure PO12: IIP and Development Fee Report

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>FY2015</i>	<i>FY2020</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks	\$17,800	Residential	100%	Peak Population	106,641	112,719	6,078	\$2.93
Police	\$13,350	Residential	61%	Peak Population	106,641	112,719	6,078	\$1.34
		Nonresidential	39%	Nonres. Trips	207,689	224,857	17,168	\$0.30
Fire	\$13,350	Residential	45%	Peak Population	106,641	112,719	6,078	\$0.99
		Nonresidential	55%	Jobs	48,654	52,673	4,019	\$1.83
General Government	\$8,900	Residential	73%	Peak Population	106,641	112,719	6,078	\$1.07
		Nonresidential	27%	Jobs	48,654	52,673	4,019	\$0.60
Streets	\$35,600	Residential Nonresidential	100%	VMT	543,995	583,119	39,124	\$0.91
TOTAL								\$89,000

FIRE INFRASTRUCTURE IMPROVEMENTS PLAN

Fire development fees are one of the infrastructure categories allowed under Arizona law (Appendix B). Fire development fees include fire stations, apparatus, ambulances, and fleet services. State law requires Yuma to have an adopted infrastructure improvements plan (IIP) in order to assess development fees. The service area for all fire fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

FIRE COSTS

To meet the proportionality requirement, fire development fees allocate capital cost to residential and nonresidential development based on non-traffic calls for service. Figure F1 shows the calls for service for residential and nonresidential development in Yuma. According to the proportionate share analysis, residential development accounts for 45 percent of the demand for fire infrastructure, and nonresidential development accounts for the remaining 55 percent of the fire infrastructure demand.

Figure F1: Fire Calls for Service

<i>Development Type</i>	<i>Calls for Service</i>
Residential	45%
Nonresidential	55%

Source: Yuma Fire Department.

FIRE FACILITIES

Fire development fees contain a cost component for facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure F2, Fire Department facilities currently total 64,440 square feet.

Figure F2: 2015 Fire Facilities Inventory

<i>Station</i>	<i>Square Feet</i>
Fire Station #1	16,121
Fire Station #2	11,910
Fire Station #3	9,800
Fire Station #4	6,500
Fire Station #5	11,910
Fire Station #6	8,199
TOTAL	64,440

Level of Service

The current level of service is based on the residential and nonresidential shares of fire calls for service and the 2015 demand units—peak population of 106,641 for residential development and jobs totaling 48,654 for nonresidential development. Therefore, the current residential level of service is 0.2719 square feet per person (64,440 X 45 percent residential share / 106,641 peak population), and the nonresidential level of service equals 0.7285 square feet per job (64,440 square feet X 55 percent nonresidential share / 48,654 jobs). Cost estimates for planned fire stations, shown below in Figure F3, total \$7.11 million and include 24,199 square feet with an average cost of \$294 per square foot (\$7,110,338 million / 24,199 square feet).

Figure F3: Cost Allocation for Fire Facilities

2015 Peak Population	106,641
2015 Jobs	48,654
Residential Share	45%
Nonresidential Share	55%

Level-of-Service (LOS) Standards

LOS: Square Feet per Person	0.2719
LOS: Square Feet per Job	0.7285

Cost Basis from Planned Projects

Project*	Square Feet*	Cost per SF	Total Cost*
Fire Station #7	8,199	\$318	\$2,610,338
Fire Station #8	16,000	\$281	\$4,500,000
	24,199	\$294	\$7,110,338

Cost Analysis

Average Cost per Square Foot	\$294
Cost per Person	\$81.89
Cost per Job	\$210.08

*Source: City of Yuma.

Projected Need

Shown in Figure F4, peak population is projected to increase by 17,567 persons by 2035, and jobs are projected to increase by 8,369 jobs during the same period. When applied to the 2015 LOS, future development will demand 10,873 square feet of fire facilities [(0.2719 LOS X 17,567 peak population increase) + (0.7285 LOS X 8,369 jobs increase) = 10,873 square feet]. Based on the average cost of \$294 per square foot, the growth-related expenditure on fire facilities is \$3.20 million (10,873 square feet X \$294 = \$3,196,662). The cost per person is \$81.89 (\$3,196,662 X 45 percent residential share / 17,567 peak population increase = \$81.89), and the cost per job is \$210.08 (\$3,196,662 X 55 percent nonresidential share / 8,369 jobs increase = \$210.08).

Figure F4: Projected Demand for Fire Infrastructure

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Facilities	Residential	0.2719	Square Feet	\$294 per SF
	Nonresidential	0.7285		
Apparatus	Residential	0.00006	Units	\$725,000 per Unit
	Nonresidential	0.00016		
Ambulances	Residential	0.00004	Units	\$230,000 per Unit
	Nonresidential	0.00010		
Fleet Services	Residential	0.00274	Square Feet	\$360 per SF
	Nonresidential	0.00735		

Need for Fire Infrastructure							
	Year	Peak Population	Jobs	Facilities (SF)	Apparatus	Ambulances	Fleet Services (SF)
Base	2015	106,641	48,654	64,440	14.0	9.0	650
Year 1	2016	107,583	49,432	65,263	14.2	9.1	658
Year 2	2017	108,656	50,223	66,131	14.3	9.3	667
Year 3	2018	109,866	51,027	67,045	14.5	9.4	676
Year 4	2019	111,218	51,843	68,007	14.8	9.5	686
Year 5	2020	112,719	52,673	69,020	15.0	9.7	696
Year 6	2021	114,479	53,515	70,112	15.2	9.8	707
Year 7	2022	116,509	54,372	71,288	15.5	10.0	719
Year 8	2023	118,822	55,241	72,550	15.7	10.1	732
Year 9	2024	121,435	56,125	73,905	16.0	10.3	746
Year 10	2025	124,208	57,023	75,313	16.3	10.5	760
Ten-Yr Increase		17,567	8,369	10,873	2.3	1.5	110
Growth-Related Expenditures =>				\$3,196,662	\$1,667,500	\$345,000	\$39,600
Growth-Related Expenditure on Fire Infrastructure							\$5,248,762

FIRE APPARATUS

Development fees will be used to expand Yuma’s inventory of fire apparatus. Figure F5 lists the current apparatus used by Yuma’s Fire Department—14 apparatus representing a capital investment of approximately \$10.15 million. The average cost is approximately \$725,000 per apparatus (\$10,150,000 / 14 apparatus).

Figure F5: 2015 Fire Apparatus Inventory

<i>Type</i>	<i>Unit Cost</i>	<i>Equipment Cost</i>	<i>Total Cost</i>
2009 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
1994 Pierce Arrow Platform 100'	\$1,000,000	\$125,000	\$1,125,000
2006 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2014 Pierce Arrow Platform 100'	\$1,000,000	\$125,000	\$1,125,000
2007 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2006 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2003 Pierce Quantum	\$650,000	\$125,000	\$775,000
1998 Pierce Quantum Telesqurt 50'	\$650,000	\$125,000	\$775,000
1995 Pierce Arrow	\$650,000	\$125,000	\$775,000
2016 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2016 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2007 Pierce Contender (Water Tender)	\$350,000	\$125,000	\$475,000
2015 Ford F250 4x4 Crew Cab	\$100,000	\$125,000	\$225,000
2008 Ford F250 4x4 Extended Cab	\$100,000	\$125,000	\$225,000
TOTAL	\$8,400,000	\$1,750,000	\$10,150,000

Level of Service

As previously discussed, non-traffic fire calls for service (Figure F1) are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.00006 apparatus per person (based on the 2015 peak population of 106,641 (14 apparatus X 45 percent residential share / 106,641 peak population). The nonresidential infrastructure standard, based on 2015 jobs of 48,654, is 0.00016 apparatus per job (14 apparatus X 55 percent nonresidential share / 48,654).

Figure F6: Cost Allocation for Fire Apparatus

Allocation Factors for Fire Apparatus

Existing Apparatus	14
Cost per Unit	\$725,000
2015 Peak Population	106,641
2015 Jobs	48,654
Residential Share	45%
Nonresidential Share	55%

Level-of-Service (LOS) Standards

LOS: Units per Person	0.00006
LOS: Units per Job	0.00016

Cost Analysis

Cost per Person	\$42.72
Cost per Job	\$109.59

Projected Need

Shown in Figure F4, peak population is projected to increase by 17,567 persons by 2035, and jobs are projected to increase by 8,369 during the same period. Using the 2015 LOS, future development will demand 2.3 additional apparatus [(0.00006 LOS X 17,567 peak population increase) + (0.00016 LOS X 8,369 jobs increase) = 2.3 apparatus]. Based on the average cost of \$725,000 per apparatus, the growth-related expenditure on apparatus is \$1.67 million (2.3 apparatus X \$725,000 = \$1,667,500). The apparatus cost per person is \$42.72 (\$1,667,500 X 45 percent residential share / 17,567 peak population increase = \$42.72), and the cost per job is \$109.59 (\$1,667,500 X 55 percent nonresidential share / 8,369 jobs increase = \$109.59).

AMBULANCES

Yuma plans to use development fees to expand its inventory of ambulances. Figure F7 lists the current ambulances used by Yuma’s Fire Department—9 ambulances representing a capital investment of approximately \$2.07 million. The average cost is approximately \$230,000 per ambulance (\$2,070,000 / 9 ambulances).

Figure F7: 2015 Ambulance Inventory

Type	Unit Cost	Equipment Cost	Total Cost
2012 Dodge North Star Ambulance	\$160,000	\$70,000	\$230,000
2008 Dodge Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2012 Dodge North Star Ambulance	\$160,000	\$70,000	\$230,000
2008 Dodge Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2015 Ford North Star Ambulance	\$160,000	\$70,000	\$230,000
2000 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2006 Ford Medtec Ambulance	\$160,000	\$70,000	\$230,000
2000 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2001 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
TOTAL	\$1,440,000	\$630,000	\$2,070,000

Level of Service

As previously discussed, non-traffic fire calls for service (Figure F1) are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.00004 ambulances per person (based on the 2015 peak population of 106,641 (9 ambulances X 45 percent residential share / 106,641 peak population). The nonresidential infrastructure standard, based on 2015 jobs of 48,654, is 0.00010 ambulances per job (9 ambulances X 55 percent nonresidential share / 48,654).

Figure F8: Cost Allocation for Ambulances

Allocation Factors for Ambulances

Existing Ambulances	9
Cost per Unit	\$230,000
2015 Peak Population	106,641
2015 Jobs	48,654
Residential Share	45%
Nonresidential Share	55%

Level-of-Service (LOS) Standards

LOS: Units per Person	0.00004
LOS: Units per Job	0.00010

Cost Analysis

Cost per Person	\$8.84
Cost per Job	\$22.67

Projected Need

Shown in Figure F4, peak population is projected to increase by 17,567 persons by 2035, and jobs are projected to increase by 8,369 during the same period. Using the 2015 LOS, future development will demand 1.5 additional ambulances [(0.00004 LOS X 17,567 peak population increase) + (0.00010 LOS X 8,369 jobs increase) = 1.5 ambulances). Based on the average cost of \$230,000 per ambulance, the growth-related expenditure on ambulances is \$345,000 (1.5 ambulances X \$230,000 = \$345,000). The ambulance cost per person is \$8.84 (\$345,000 X 45 percent residential share / 17,567 peak population increase = \$8.84), and the cost per job is \$22.67 (\$345,000 X 55 percent nonresidential share / 8,369 jobs increase = \$22.67).

FLEET SERVICES

To meet the proportionality requirement, development fees allocate capital costs to the Police Department and the Fire Department based on each department’s usage of the Fleet Services Facilities. According to the proportionate share analysis shown in Figure F10, the Fire Department accounts for 28 percent of the demand for fleet services, and the Fire Department accounts for three percent of fleet services demand.

Figure F10: Fleet Services Usage

<i>Services Used</i>			
	<i>Total Services</i>	<i>Police</i>	<i>Fire</i>
2013-14	3,479	977	105
2014-15	3,386	946	100
TOTAL	6,865	1,923	205

<i>Share of Services</i>		
	<i>Police</i>	<i>Fire</i>
2013-14	28%	3%
2014-15	28%	3%
SHARE	28%	3%

Existing Inventory

Fire development fees contain a cost component for fleet services facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure F11, existing fleet services facilities total 21,652 square feet. The Fire Department’s proportionate share is 650 square feet (21,652 square feet X three percent share).

Figure F11: 2015 Fleet Services Inventory

	<i>Square Feet</i>	
Fleet Shop	14,195	
Fleet Warehouse	7,457	
	21,652	

<i>Share of Fleet Services Square Footage</i>		
	<i>Police</i>	<i>Fire</i>
Fleet Shop	3,975	426
Fleet Warehouse	2,088	224
TOTAL SF	6,063	650

Level of Service

The current level of service is based on the residential and nonresidential shares of non-traffic fire calls for service and the 2015 demand units—peak population of 106,641 for residential development and jobs totaling 48,654 for nonresidential development. Therefore, the current residential level of service is 0.0027 square feet per person (650 X 45 percent residential share / 106,641 peak population), and the nonresidential level of service equals 0.0073 square feet per job (650 square feet X 55 percent nonresidential share / 48,654). Cost estimates for the Fleet Services Facility, shown below in Figure PO11, total approximately \$14.41 million for a 40,000-square-foot facility with an average cost of approximately \$360 per square foot (\$14,406,692 / 40,000 square feet).

Figure F12: Cost Allocation for Fleet Services – Fire Share

2015 Peak Population	106,641
2015 Jobs	48,654
Existing Square Feet	650
Residential Share	45%
Nonresidential Share	55%

Level-of-Service (LOS) Standards

LOS: Square Feet per Person	0.0027
LOS: Square Feet per Job	0.0073

Cost Basis from Planned Projects

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Fleet Services	40,000	\$360	\$14,406,692

Cost Analysis

Average Cost per Square Foot	\$360
Cost per Person	\$1.01
Cost per Job	\$2.60

*Source: City of Yuma.

Projected Need

Shown in Figure F4, peak population is projected to increase by 17,567 persons by 2035, and jobs are projected to increase by 8,369 during the same period. When applied to the 2015 LOS, future development will demand 110 square feet of fleet services facilities $[(0.0027 \text{ LOS} \times 17,567 \text{ peak population increase}) + (0.0073 \text{ LOS} \times 8,369 \text{ jobs increase}) = 110 \text{ square feet}]$. Based on the average cost of \$360 per square foot, the growth-related expenditure on fleet services facilities is \$39,600 $(110 \text{ square feet} \times \$360 = \$39,600)$. The cost per person is \$1.01 $(\$39,600 \times 45 \text{ percent residential share} / 17,567 \text{ peak population increase} = \$1.01)$, and the cost per job is \$2.60 $(\$39,600 \times 55 \text{ percent nonresidential share} / 8,369 \text{ jobs increase} = \$2.60)$.

IIP AND DEVELOPMENT FEE REPORT

The cost to prepare the Fire IIP and development fees totals \$13,350. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$0.99 and per job is \$1.83.

Figure F13: IIP and Development Fee Report

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>FY2015</i>	<i>FY2020</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks	\$17,800	Residential	100%	Peak Population	106,641	112,719	6,078	\$2.93
Police	\$13,350	Residential	61%	Peak Population	106,641	112,719	6,078	\$1.34
		Nonresidential	39%	Nonres. Trips	207,689	224,857	17,168	\$0.30
Fire	\$13,350	Residential	45%	Peak Population	106,641	112,719	6,078	\$0.99
		Nonresidential	55%	Jobs	48,654	52,673	4,019	\$1.83
General Government	\$8,900	Residential	73%	Peak Population	106,641	112,719	6,078	\$1.07
		Nonresidential	27%	Jobs	48,654	52,673	4,019	\$0.60
Streets	\$35,600	Residential Nonresidential	100%	VMT	541,603	579,945	38,341	\$0.93
TOTAL								\$89,000

GENERAL GOVERNMENT INFRASTRUCTURE IMPROVEMENTS PLAN

General government development fees are not one of the infrastructure categories allowed under Arizona law (see Appendix B). However, facilities which have been debt financed can be included in the IIP and development fees. Since Yuma’s development fee for the repayment of City Hall debt was adopted before January 1, 2012 and the debt was issued before June 1, 2011, Yuma may continue to collect development fees to repay City Hall debt. The service area for all general government fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

METHODOLOGY

To meet the proportionality requirement, general government development fees allocate capital costs to residential and nonresidential development based on functional population (see Appendix A).

CITY HALL

To provide capacity for new development, Yuma debt-financed the 2010 improvements to City Hall. This development fee will be used to cover new development’s share of City Hall debt service payments.

City Hall encompasses 150,000 square feet and was oversized to serve new development. Based on the current number of employees and average square feet per work station, Yuma’s Engineering Department estimates the facility is currently at 70 percent capacity. Using 2015 estimates of peak population and jobs from the *Land Use Assumptions* and the proportionate share allocation it is possible to determine how much additional development City Hall can serve before reaching capacity. Using residential development, the current estimate of peak population of 106,641 is divided by the current capacity being utilized, which results in a total population at 100 percent capacity of 152,860 persons (106,641 peak population / 70 percent = 152,860). Therefore, City Hall has capacity to serve an additional 46,219 persons (152,860 capacity – 106,641 peak population). This calculation is repeated for nonresidential development resulting in an additional 19,941 jobs to be served by City Hall.

Total debt service for City Hall, as shown in Figure G1, is approximately \$41.16 million. The debt was issued in 2010 and will be retired in 2025. Remaining capacity is used to distribute costs to all users. To derive the cost per service unit, 73 percent of the debt service is allocated to residential development and 27 percent is allocated to nonresidential development. The cost per person is \$196.56 ($\$41,159,077$ total debt X 73 percent residential share / 152,860 maximum capacity) and the cost per job is \$162.01 ($\$41,159,077$ total debt X 27 percent nonresidential share / 68,595 maximum capacity).

Figure G1: Cost Allocation for City Hall

Facility	Total Debt	Current Capacity*	Remaining Capacity	Type of Development	Currently Served	Maximum Capacity	Remaining Capacity
City Hall	\$41,159,077	70%	30%	Residential	106,641	152,860	46,219
				Nonresidential	48,654	68,595	19,941

Cost Allocation		
Residential (per person)	73%	\$196.56
Nonresidential (per job)	27%	\$162.01

* City of Yuma, Engineering Department.

DEBT SERVICE CREDIT

The debt service associated with City Hall is being paid through property and sales tax revenues. Thus, these contributions from new development should be used in the IIP to determine the extent of the burden imposed by new development. The figure below calculates a credit for future property and sales tax contributions that will be applied to the cost of serving new development. A net present value calculation is used to account for the value of future revenues in current dollars.

Figure G2: Revenue Credit for City Hall

Year	Principal	Interest	TOTAL	Residential Share	Peak Population	Credit per Person	Nonresidential Share	Jobs	Credit per Job
2015	\$1,465,000	\$1,057,331	\$2,522,331	\$1,841,302	106,641	\$17.27	\$681,029	48,654	\$14.00
2016	\$1,840,000	\$1,013,381	\$2,853,381	\$2,082,968	107,583	\$19.36	\$770,413	49,432	\$15.59
2017	\$1,910,000	\$939,781	\$2,849,781	\$2,080,340	108,656	\$19.15	\$769,441	50,223	\$15.32
2018	\$2,010,000	\$844,282	\$2,854,282	\$2,083,626	109,866	\$18.97	\$770,656	51,027	\$15.10
2019	\$2,110,000	\$743,781	\$2,853,781	\$2,083,260	111,218	\$18.73	\$770,521	51,843	\$14.86
2020	\$2,210,000	\$638,281	\$2,848,281	\$2,079,245	112,719	\$18.45	\$769,036	52,673	\$14.60
2021	\$2,305,000	\$549,881	\$2,854,881	\$2,084,063	114,479	\$18.20	\$770,818	53,515	\$14.40
2022	\$2,400,000	\$454,800	\$2,854,800	\$2,084,004	116,509	\$17.89	\$770,796	54,372	\$14.18
2023	\$2,500,000	\$352,800	\$2,852,800	\$2,082,544	118,822	\$17.53	\$770,256	55,241	\$13.94
2024	\$2,610,000	\$240,300	\$2,850,300	\$2,080,719	121,435	\$17.13	\$769,581	56,125	\$13.71
2025	\$2,730,000	\$122,850	\$2,852,850	\$2,082,581	124,208	\$16.77	\$770,270	57,023	\$13.51
TOTAL	\$24,090,000	\$6,957,468	\$31,047,468			\$199.44			\$159.21

Discount Rate	4.00%	Discount Rate	4.00%
Credit	\$159.39	Credit	\$127.29

CIP SOFTWARE

Yuma plans to purchase software for developing and updating its Capital Improvement Plan. According to Yuma staff, the software’s estimated cost is \$100,000. Based on a 2025 projected peak population of 124,208 and employment of 57,023, future development’s share (growth share) of the CIP software is 14.3 percent $(1 - (106,641 \text{ peak population} + 48,654 \text{ jobs}) / (124,208 \text{ peak population} + 57,023 \text{ jobs}))$. When allocated to future development, the total cost of \$100,000 yields a growth cost of \$14,300 $(\$100,000 \times 14.3 \text{ percent growth share})$. The growth cost is then allocated to the increase in population and jobs. For residential development, the cost per person is \$0.59 $(\$14,300 \times 73 \text{ percent residential share} / 17,567 \text{ peak population increase})$, and the cost per job is \$0.46 $(\$14,300 \times 27 \text{ percent nonresidential share} / 8,369 \text{ jobs increase})$ for nonresidential development.

Figure G3: Cost Allocation for CIP Software

<i>Item</i>	<i>Cost</i>	<i>Growth Share*</i>	<i>Growth Cost</i>
CIP Software	\$100,000	14.3%	\$14,300

Cost Allocation for CIP Software

2015-2025 Peak Population Increase	17,567
2015-2025 Job Increase	8,369
Residential Share	73%
Nonresidential Share	27%

Cost per Person	\$0.59
Cost per Job	\$0.46

*Growth Share = 1 - (2015 Peak Population and Jobs / 2025 Peak Population and Jobs)

IIP AND DEVELOPMENT FEE REPORT

The cost to prepare the General Government IIP and development fees totals \$8,900. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$1.07 and per job is \$0.60.

Figure G4: IIP and Development Fee Report

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>FY2015</i>	<i>FY2020</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks	\$17,800	Residential	100%	Peak Population	106,641	112,719	6,078	\$2.93
Police	\$13,350	Residential	61%	Peak Population	106,641	112,719	6,078	\$1.34
		Nonresidential	39%	Nonres. Trips	207,689	224,857	17,168	\$0.30
Fire	\$13,350	Residential	45%	Peak Population	106,641	112,719	6,078	\$0.99
		Nonresidential	55%	Jobs	48,654	52,673	4,019	\$1.83
General Government	\$8,900	Residential	73%	Peak Population	106,641	112,719	6,078	\$1.07
		Nonresidential	27%	Jobs	48,654	52,673	4,019	\$0.60
Streets	\$35,600	Residential Nonresidential	100%	VMT	541,603	579,945	38,341	\$0.93
TOTAL	\$89,000							

STREET INFRASTRUCTURE IMPROVEMENTS PLAN

Street development fees are one of the infrastructure categories allowed under Arizona law (see Appendix B). Yuma will collect Street development fees for arterial streets, intersections, bike paths, and bike lanes. State law requires Yuma to have an adopted infrastructure improvements plan (IIP) in order to assess development fees. The service area for all street fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

STREET COMPONENTS

Development fees for streets are derived using an incremental approach for growth-related arterial, intersection, and bike lane improvements with vehicle miles of travel as the demand units. Each component used to derive vehicle miles of travel is described in Appendix A.

Yuma Travel Demand

The relationship between the amount of development in Yuma and growth-related system improvements is documented below. Figure S1 summarizes the input variables used to determine the average trip length on arterial improvements. In the table below HU means housing units, KSF means square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, VTE means vehicle trip ends, and VMT means vehicle miles of travel. Trip generation rates by type of housing unit are documented in Figure A11 and related text.

Projected development in Yuma over the next ten years, and the corresponding need for additional lane miles, is shown in the middle section of Figure S1. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of development fees, to the following question, “What is the average vehicle trip length on development fee system improvements?”

A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of daily traffic on a roadway segment (vehicle trips) multiplied by the length of that segment. A lane mile is a rectangular area of pavement, one lane wide and one mile long. The segment length in this study reflects the “consumption” or utilization of the roadway system and is calibrated to the current and planned arterial network of lane miles and a lane capacity standard of 9,700 vehicles per lane.

Figure S1 shows the calibration of existing development to Yuma’s current arterial network. Knowing the current arterial lane miles (204.7) TischlerBise determined the weighted-average miles per trip on the current arterial network is 5.57 miles.

The methodology is as follows:

- With an existing inventory of 204.7 lane miles of arterials and an average daily lane capacity standard of 9,700 vehicles per lane, the arterial network can accommodate 1,985,404 vehicle miles of travel (i.e., 9,700 vehicles per day traveling the entire 204.7 lane miles).
- To derive the average utilization (expressed in miles per trip) of the existing system improvements, we divide vehicle miles of travel by the aggregate number of vehicle trips associated with development in Yuma. Existing development in Yuma currently generates an estimated 386,570 vehicle trips on an average day. Based on 1,985,404 vehicle miles of travel that can be accommodated on the existing arterial network, and 386,570 average day vehicle trips, the average utilization of the arterial network is approximately 5.14 miles per trip.
- However, to be consistent with the methodology used in the development fee calculations, TischlerBise further refined the average utilization through a series of iterations using spreadsheet software. This refinement is necessary because the calibration of average utilization includes the same adjustment factors used in the development fee calculations (i.e., residential commuting adjustment, commercial pass-by adjustment, and average trip length adjustment by type of land use as discussed below). With these additional refinements, TischlerBise determined the average utilization on the arterial network to be 5.57 miles per trip, as shown in Figure S1.

Figure S1: Yuma Travel Demand and Trip Length Calibration

<i>Dev Type</i>	<i>ITE Code</i>	<i>Weekday VTE</i>	<i>Dev Unit</i>	<i>Trip Adj</i>	<i>Trip Length Wt Factor</i>
Single Family	210	9.36	HU	56%	121%
Multi-Family	220	7.09	HU	56%	121%
All Other Types of Housing	240	5.81	HU	56%	121%
Commercial/Retail	820	42.70	KSF	33%	66%
Office/Institutional	710	11.03	KSF	50%	73%
Industrial/Flex	110	6.97	KSF	50%	73%

Avg Trip Length (miles) 5.57
Vehicle Capacity Per Lane 9,700

	<i>Base</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>10</i>	<i>10-Year Increase</i>
	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2025</i>	
Single Family	21,427	21,649	21,902	22,187	22,506	22,860	25,569	4,142
Multi-Family	7,494	7,582	7,682	7,795	7,922	8,062	9,135	1,641
All Other Types of Housing	11,315	11,387	11,470	11,563	11,668	11,784	12,672	1,357
Commercial/Retail KSF	11,904	12,094	12,288	12,485	12,685	12,888	13,953	2,049
Office/Institutional KSF	4,908	4,987	5,067	5,148	5,230	5,314	5,753	845
Industrial/flex KSF	3,698	3,757	3,817	3,878	3,940	4,003	4,334	636
<i>Single Family Trips</i>	112,314	113,475	114,802	116,295	117,967	119,823	134,022	21,708
<i>Multi-Family Trips</i>	29,754	30,104	30,501	30,949	31,454	32,009	36,270	6,516
<i>All Other Types of Housing Trips</i>	36,814	37,049	37,319	37,621	37,963	38,340	41,230	4,416
<i>Commercial/Retail Trips</i>	167,732	170,410	173,143	175,919	178,737	181,598	196,605	28,872
<i>Office/Institutional Trips</i>	27,070	27,506	27,947	28,393	28,846	29,309	31,730	4,660
<i>Industrial/Flex Trips</i>	12,887	13,093	13,302	13,514	13,730	13,950	15,103	2,216
Total Vehicle Trips	386,570	391,635	397,012	402,693	408,697	415,029	454,960	68,390
Vehicle Miles of Travel (VMT)	1,985,404	2,009,633	2,035,770	2,063,797	2,093,855	2,125,955	2,339,620	354,216
ARTERIAL LANE MILES	204.7	207.2	209.9	212.8	215.9	219.2	241.2	36.5
IMPROVED INTERSECTIONS	28.0	28.3	28.7	29.1	29.5	30.0	33.0	5.0
BIKE LANES (MILES)	12.4	12.6	12.7	12.9	13.1	13.3	14.6	2.2
Ten-Year VMT Increase =>								15.1%

To maintain this level of service, Yuma needs to construct 36.5 lane miles over the next 10 years to serve growth. Development projections are multiplied by the input variables at the top of Figure S1 to yield average weekday travel demand on arterials in Yuma. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips, shown with light blue shading. For example, in 2015 the 21,427 single-family housing units produce 112,314 average weekday trips (21,427 single-family units X 9.36 average weekday vehicle trip ends X 56 percent trip adjustment). Similarly, office and institutional development in 2015 generates 27,070 average weekday vehicle trips (4,908 KSF X 11.03 average weekday vehicle trips per 1,000 square feet X 50 percent trip adjustment).

Although the travel demand model projects the need for 36.5 lane miles of arterials, Yuma plans to construct fewer lane miles during this period. Yuma’s Capital Improvement Plan and subsequent analysis updating and refining projects from the plan identify **10.0 new lane miles needed through 2025**.

To ensure future development does not pay for a higher level of service than will be built and provided by Yuma, the travel demand factors are therefore calibrated to the amount of **planned arterial improvements**. This adjusts the input factors accordingly and is used to calculate the road improvement component of the impact fee. No adjustment is required for improved intersections or bike lanes as the current level of service will be maintained given the planned projects over the next ten years. Figure S2 provides the adjusted average utilization of 1.52 miles and adjusted vehicle miles of travel.

Figure S2: Yuma Revised Travel Demand and Trip Length Calibration

Dev Type	ITE Code	Weekday VTE	Dev Unit	Trip Adj	Trip Length Wt Factor
Single Family	210	9.36	HU	56%	121%
Multi-Family	220	7.09	HU	56%	121%
All Other Types of Housing	240	5.81	HU	56%	121%
Commercial/Retail	820	42.70	KSF	33%	66%
Office/Institutional	710	11.03	KSF	50%	73%
Industrial/Flex	110	6.97	KSF	50%	73%

	Avg Trip Length (miles)		Vehicle Capacity Per Lane						10-Year Increase
	Base	1	2	3	4	5	10		
	2015	2016	2017	2018	2019	2020	2025		
Single Family	21,427	21,649	21,902	22,187	22,506	22,860	25,569	4,142	
Multi-Family	7,494	7,582	7,682	7,795	7,922	8,062	9,135	1,641	
All Other Types of Housing	11,315	11,387	11,470	11,563	11,668	11,784	12,672	1,357	
Commercial/Retail KSF	11,904	12,094	12,288	12,485	12,685	12,888	13,953	2,049	
Office/Institutional KSF	4,908	4,987	5,067	5,148	5,230	5,314	5,753	845	
Industrial/flex KSF	3,698	3,757	3,817	3,878	3,940	4,003	4,334	636	
<i>Single Family Trips</i>	112,314	113,475	114,802	116,295	117,967	119,823	134,022	21,708	
<i>Multi-Family Trips</i>	29,754	30,104	30,501	30,949	31,454	32,009	36,270	6,516	
<i>All Other Types of Housing Trips</i>	36,814	37,049	37,319	37,621	37,963	38,340	41,230	4,416	
<i>Commercial/Retail Trips</i>	167,732	170,410	173,143	175,919	178,737	181,598	196,605	28,872	
<i>Office/Institutional Trips</i>	27,070	27,506	27,947	28,393	28,846	29,309	31,730	4,660	
<i>Industrial/Flex Trips</i>	12,887	13,093	13,302	13,514	13,730	13,950	15,103	2,216	
Total Vehicle Trips	386,570	391,635	397,012	402,693	408,697	415,029	454,960	68,390	
Vehicle Miles of Travel (VMT)	541,603	548,213	555,343	562,988	571,188	579,945	638,231	96,628	
ARTERIAL LANE MILES	204.7	205.4	206.2	206.9	207.8	208.7	214.7	10.0	
IMPROVED INTERSECTIONS	28.0	28.3	28.7	29.1	29.5	30.0	33.0	5.0	
BIKE LANES (MILES)	12.4	12.5	12.7	12.9	13.1	13.3	14.6	2.2	
Ten-Year VMT Increase =>								15.1%	

The calibrated level-of-service standard, based on 10 additional lane miles, is 3.78 lane miles per 10,000 vehicle miles of travel (204.7 lane miles / [541,603 VMT / 10,000 VMT]), 0.52 improved intersections per 10,000 VMT, and 0.23 miles of bike lanes per 10,000 VMT. By Year 10, the level of service will be 3.36 lane miles per 10,000 vehicle miles of travel, 0.52 improved intersections per 10,000 VMT, and 0.23 miles of bike lanes per 10,000 VMT.

ARTERIALS

Based on 2015 vehicle miles of travel of 541,603 and 204.7 arterial lane miles, the existing level-of-service standard in Yuma is 3.78 lane miles per 10,000 VMT (204.7 lane miles / [541,603 VMT / 10,000]) and the planned level of service is 3.36 lane miles per 10,000 VMT (214.7 lane miles / [638,231 VMT / 10,000]). Shown below in Figure S3, the average cost of approximately \$989,970 per arterial lane mile (\$46,004,013 / 46.47) is based on projects from Yuma’s CIP.

As discussed above, maintaining the current level of service requires construction of 36.5 lane miles of arterials over the next ten years, but Yuma expects to construct ten lane miles of arterials during that period. This IIP includes 46.47 lane miles of eligible arterial improvements across all areas of the city. Including many projects and using the average cost of these projects allows the construction of arterial improvements in areas where growth occurs. Previously, if a large development caused the need for arterial improvements not listed in the IIP, Yuma would have been required to update its IIP and development fees to include the improvement. This hybrid approach gives Yuma the flexibility to identify a wide range of potential improvements and construct specific improvements in the areas of Yuma experiencing growth.

Figure S3: Existing Standards for Arterials

Arterial Lane Miles	204.7
2015 VMT	541,603

Level-of-Service (LOS) Standards

LOS: Arterial Lane Miles per 10,000 VMT	3.7800
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Arterial Improvement Cost Factors

<i>Eligible Projects</i>	<i>New Lane Miles*</i>	<i>Cost per Lane Mile</i>	<i>Total Cost*</i>
Avenue 9E - 28th Street to N. Frontage Rd	1.00	\$912,500	\$912,500
28th Street - 45th Avenue to Avenue C	1.00	\$912,500	\$912,500
40th Street - Avenue 3E to Avenue 6E	6.00	\$912,500	\$5,475,000
40th Street - Avenue 6 3/4E to Avenue 8E	5.00	\$912,500	\$4,562,500
40th Street - Avenue 8E to Avenue 10E	8.00	\$912,500	\$7,300,000
Avenue 3 1/2E - Avenue 3E to 48th Street	8.00	\$912,500	\$7,300,000
12th Street - Pacific Avenue to Avenue 3E	2.00	\$912,500	\$1,825,000
32nd Street - Avenue B to Avenue B 1/3	0.67	\$908,415	\$608,638
16th Street - C 1/2 (45th) to 46th Drive	0.50	\$912,500	\$456,250
Giss Parkway - WB Off-Ramp to 8th Street to Pacific Avenue to 12th Street	2.25	\$912,500	\$2,053,125
Avenue 9E - 24th Street to 28th Street	1.00	\$912,500	\$912,500
Avenue 10E - S. Frontage Road to 40th St	2.50	\$912,500	\$2,281,250
Avenue 10E - 40th Street to 48th Street	4.00	\$912,500	\$3,650,000
Avenue 10E - 48th Street to 56th Street	4.00	\$912,500	\$3,650,000
40th St & HWY 195 (Bridge Design)	0.23	\$8,647,826	\$1,989,000
48th St & HWY 195 (Bridge Design)	0.15	\$8,840,000	\$1,326,000
7E & B Canal (Bridge Design)	0.10	\$4,738,500	\$473,850
48th St & B Canal (Bridge Design)	0.07	\$4,512,857	\$315,900
TOTAL	46.47	\$989,970	\$46,004,013

Cost Analysis

Average Cost per Lane Mile	\$989,970
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Cost per VMT	\$102.45
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*Yuma Engineering Department.

IMPROVED INTERSECTIONS

Similar to arterials, level-of-service standards for improved intersections also use vehicle miles of travel. Yuma’s streets infrastructure includes 28 improved intersections, and when allocated per 10,000 VMT, the level of service is 0.5169 improved intersections per 10,000 VMT. City staff identified 16 eligible intersection improvement projects from the most recent CIP to determine an average cost per improved intersection of approximately \$638,750 (\$10,220,000 / 16).

Figure S4: Existing Standards for Signalized Intersections

Improved Intersections	28
2015 VMT	541,603

Level-of-Service (LOS) Standards

LOS: Sig. Intersections per 10,000 VMT	0.5169
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Intersection Improvement Cost Factors

Eligible Projects	Total Cost*
18th Street & Avenue C	\$370,000
32nd Street & Big Curve	\$600,000
Giss Parkway & 2nd Ave Roundabout	\$450,000
2nd Ave & Orange Ave Roundabout	\$300,000
24th Street & Avenue B	\$3,400,000
24th Street & Avenue C	\$90,000
32nd Street & Avenue B	\$910,000
32nd Street & Pacific Avenue	\$930,000
16th Street & Pacific Avenue	\$350,000
Avenue B & 16th Street	\$350,000
24th Street & Arizona Avenue	\$580,000
24th Street & 1st Avenue	\$730,000
32nd Street & Avenue 7E	\$200,000
32nd Street & Avenue 5E	\$400,000
32nd Street & Avenue 8E	\$200,000
32nd Street & Arizona Avenue	\$360,000
TOTAL	\$10,220,000

Cost Analysis

Average Cost per Intersection	\$638,750
Cost per VMT	\$33.05

*Yuma Engineering Department.

BIKE LANES

The City of Yuma Transportation Master Plan identifies the need for bike lanes. To ensure new development pays for only its share of improvements, an incremental expansion methodology is used for this component. Figure S5 lists the 2015 inventory of bike lanes, located within a street right-of-way, at 12.4 miles.

Bike lanes are allocated per 10,000 VMT for residential and nonresidential development. Based on the 2015 VMT of 541,603, the existing level of service is 0.2289 miles per 10,000 VMT (12.4 miles / [541,603 / 10,000]). The weighted average cost is approximately \$175,000 per mile (\$5,761,000 / 32.92 miles). This cost is based on 14 eligible bike lane projects included in the fiscal year 2014-2015 CIP.

Figure S5: Existing Standards Bike Lanes

Bike Lane Miles	12.4
2015 VMT	541,603

Level-of-Service (LOS) Standards

LOS: Miles of Bike Lanes per 10,000 VMT	0.2289
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Bike Lane Improvement Cost Factors

<i>Eligible Projects</i>	<i>New Bike Lane Miles*</i>	<i>Cost per Bike Lane Mile</i>	<i>Total Cost*</i>
Avenue 9E - 28th Street to N. Frontage Rd	1.00	\$175,000	\$175,000
28th Street - 45th Avenue to Avenue C	1.00	\$175,000	\$175,000
40th Street - Avenue 3E to Avenue 6E	6.00	\$175,000	\$1,050,000
40th Street - Avenue 6 3/4E to Avenue 8E	2.50	\$175,000	\$437,500
40th Street - Avenue 8E to Avenue 10E	4.00	\$175,000	\$700,000
Avenue 3 1/2E - Avenue 3E to 48th Street	6.00	\$175,000	\$1,050,000
12th Street - Pacific Avenue to Avenue 3E	2.00	\$175,000	\$350,000
32nd Street - Avenue B to Avenue B 1/3	0.67	\$175,000	\$117,250
16th Street - C 1/2 (45th) to 46th Drive	0.50	\$175,000	\$87,500
Giss Pkwy - WB Off-Ramp to 8th Street to Pacific Avenue to 12th Street	2.25	\$175,000	\$393,750
Avenue 9E - 24th Street to 28th Street	1.00	\$175,000	\$175,000
Avenue 10E - S. Frontage Road to 40th St	2.00	\$175,000	\$350,000
Avenue 10E - 40th Street to 48th Street	2.00	\$175,000	\$350,000
Avenue 10E - 48th Street to 56th Street	2.00	\$175,000	\$350,000
TOTAL	32.92	\$175,000	\$5,761,000

Cost Analysis

Average Cost per Mile: Bike Lanes	\$175,000
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Cost per VMT	\$3.98
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*Yuma Engineering Department.

Projected Need

As shown in Figure S6, projected VMT drives the need for arterial improvements, improved intersections, and bike lanes. Over the next ten years, Yuma will need 36.5 additional lane miles of arterials to maintain the current level of service. Yuma staff, however, estimates the construction of 10.0 lane miles is likely during the study period at a cost of approximately \$9.9 million (10.0 lane miles X \$989,970 per lane mile). The cost per VMT for arterial improvements is \$102.45 (\$9,899,700 / 96,628).

Additionally, new development will demand five improved intersections at a cost of approximately \$3.2 million (5.0 improved intersections X \$638,750 per intersection), or \$33.05 per VMT (\$3,193,750 / 96,628). Finally, new development will demand and additional 2.2 miles of bike lanes over the next ten years. The total cost for bike lanes is \$385,000 (2.2 miles X \$175,000 per mile), or \$3.98 per VMT (\$385,000 / 96,628). In combination, Yuma anticipates capital costs of approximately \$13.48 million for growth-related street infrastructure over the next ten years.

Figure S6: Growth-Related Need for Streets Infrastructure

Type of Infrastructure	Level of Service	Demand Unit	Average Cost
Arterials	3.3644 Lane Miles	per 10,000 VMT	\$989,970
Improved Intersections	0.5170 Intersections	per 10,000 VMT	\$638,750
Bike Lanes	0.2289 Miles	per 10,000 VMT	\$175,000

Need for Streets Infrastructure					
	Year	VMT	Arterials (Lane Miles)	Improved Intersections	Bike Lanes (Miles)
Base	2015	541,603	204.7	28.0	12.4
Year 1	2016	548,213	205.4	28.3	12.5
Year 2	2017	555,343	206.2	28.7	12.7
Year 3	2018	562,988	206.9	29.1	12.9
Year 4	2019	571,188	207.8	29.5	13.1
Year 5	2020	579,945	208.7	30.0	13.3
Year 6	2021	589,636	209.7	30.5	13.5
Year 7	2022	600,327	210.8	31.0	13.7
Year 8	2023	612,034	212.0	31.6	14.0
Year 9	2024	624,824	213.3	32.3	14.3
Year 10	2025	638,231	214.7	33.0	14.6
<i>Ten-Yr Increase</i>		96,628	10.0	5.0	2.2
Growth-Related Expenditures =>			\$9,899,700	\$3,193,750	\$385,000
Total Growth-Related Expenditure on Streets Infrastructure					\$13,478,450

IIP AND DEVELOPMENT FEE REPORT

The cost to prepare the Streets IIP and development fees totals \$35,600. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per VMT is \$0.93.

Figure S7: IIP and Development Fee Report

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>FY2015</i>	<i>FY2020</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks	\$17,800	Residential	100%	Peak Population	106,641	112,719	6,078	\$2.93
Police	\$13,350	Residential	61%	Peak Population	106,641	112,719	6,078	\$1.34
		Nonresidential	39%	Nonres. Trips	207,689	224,857	17,168	\$0.30
Fire	\$13,350	Residential	45%	Peak Population	106,641	112,719	6,078	\$0.99
		Nonresidential	55%	Jobs	48,654	52,673	4,019	\$1.83
General Government	\$8,900	Residential	73%	Peak Population	106,641	112,719	6,078	\$1.07
		Nonresidential	27%	Jobs	48,654	52,673	4,019	\$0.60
Streets	\$35,600	Residential Nonresidential	100%	VMT	541,603	579,945	38,341	\$0.93
TOTAL	\$89,000							

APPENDIX A: LAND USE ASSUMPTIONS

Arizona Revised Statutes (ARS) 9-463.05 (T)(7) requires the preparation of a Land Use Assumptions document, which shows:

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

TischlerBise prepared current demographic **estimates** and future development **projections** for both residential and nonresidential development that will be used in the Infrastructure Improvements Plan (IIP) and calculation of the development fees. Current demographic data estimates for 2015 are used in calculating levels of service (LOS) provided to existing development in the City of Yuma North Service Area—referred to as “Yuma” or “City of Yuma” throughout this document. Although long-range projections are necessary for planning infrastructure systems, a shorter time frame of five to ten years is critical for the development fee analysis.

Arizona’s Development Fee Act requires fees to be updated at least every five years and limits the IIP to a maximum of ten years. Therefore, the use of a very long-range “build-out” analysis is no longer acceptable for deriving development fees in Arizona municipalities.

SUMMARY OF GROWTH INDICATORS

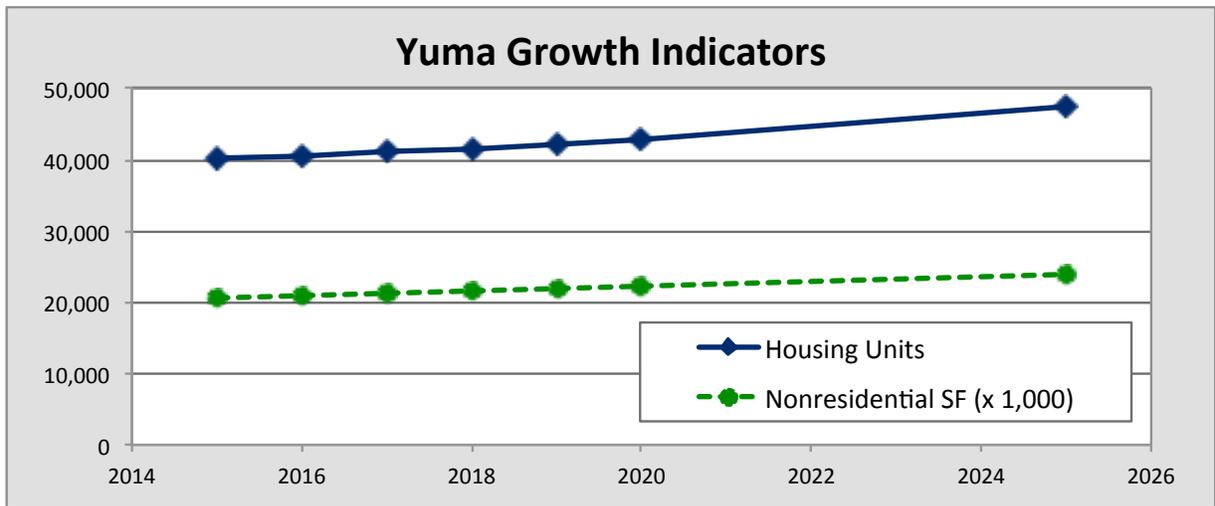
Key land use assumptions for the City of Yuma development fee study are population, housing units, and employment projections. Housing units are estimated by adding housing permits by type of unit provided by the City of Yuma to the 2010 Census housing unit estimate. The housing unit growth rate, based on the number of permits issued since the previous study, is used to project future housing units. TischlerBise uses Arizona Department of Administration population estimates to derive the 2015 base year population and converted projected housing units to population using 2014 American Community Survey data. For nonresidential development, the Arizona Department of Administration 2014-2016 nonfarm average annual growth rate (excluding Maricopa, Pinal, and Pima Counties) is applied to the base year employment estimate from Esri’s 2015 business summary for Yuma. The employment estimate is converted into floor area based on average square feet per job multipliers. Three nonresidential development prototypes are discussed further below (see Figure A7 and related text).

Development projections and growth rates are summarized in Figure A1. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, development fees methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, Yuma will receive an increase in fee revenue, but will also need to accelerate infrastructure improvements to keep pace with the actual rate of development.

During the next five years, land use assumptions indicate an average increase of 494 housing units per year. Also, Yuma expects to add nonresidential floor area averaging approximately 339,000 square feet per year.

Figure A1: Summary of Development Projections

	2015	2016	2017	2018	2019	2020	2025	2015 to 2020 Average Annual	
								Increase	Compound Growth Rate
Housing Units	40,236	40,618	41,054	41,547	42,097	42,707	47,376	494	1.20%
Nonresidential SF (x 1,000)	20,510	20,838	21,172	21,511	21,855	22,205	24,040	339	1.60%



RESIDENTIAL DEVELOPMENT

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

Recent Residential Construction

Development fees require an analysis of current levels of service. For residential development, current levels of service are determined using estimates of population and housing units. To estimate current housing units in Yuma, city staff provided building permits issued since the last development fee study. This information is then used to determine a base year estimate of housing units. Shown in Figure A2, the 2011 housing unit estimate of 38,902 represents the number of housing units at the time of the previous development fee study. To estimate housing units for each fiscal year since the last study, residential building permits issued each quarter are allocated to the corresponding fiscal year and added to the 2011 housing unit estimate. For example, 148 single-family units were constructed from the third quarter of 2011 through the second quarter of 2012. Based on the 2011 single-family unit estimate of 20,395, the 2012 estimate is 20,543 (20,395 + 148 = 20,543). TischlerBise estimates Yuma’s July 1, 2015 housing unit total to be 40,236. This represents an increase of 1,032 single-family units, 94 multi-family units, and 208 mobile homes since the last study.

Figure A2 – Residential Permits

	July 1, 2011	July 1, 2012	July 1, 2013	July 1, 2014	July 1, 2015	4-Yr Change	% of Permits
Single Family	20,395	20,543	20,853	21,134	21,427	1,032	77.4%
Multi-family	7,400	7,429	7,493	7,494	7,494	94	7.0%
Mobile Homes	11,107	11,144	11,198	11,258	11,315	208	15.6%
	38,902	39,116	39,544	39,886	40,236	1,334	

Household Size

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Development fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the development fee methodology assumes a higher percentage of housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that development impact fees for residential development in Yuma be imposed according to the number of persons per household. This methodology recognizes the impacts of seasonal population peaks.

Persons per household (PPH) requires data on population in occupied units and the types of units by structure and bedroom count. The 2010 census did not obtain detailed information using a “long-form” questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For development fees in Yuma, detached stick-built units and attached units

(commonly known as townhouses, which share a common sidewall, but are constructed on an individual parcel of land) are included in the “Single-Family Units” category. The second residential category includes duplexes and structures with two or more units on an individual parcel of land. This category is referred to as “Multi-Family Units.” Single, detached manufactured units (formerly known as mobile homes), boats, RVs, vans, and any housing units that are not included in the previous two categories are included in the “All Other Types” category. (Note: housing unit estimates from ACS will not equal decennial census counts of units. These data are used only to derive the custom PPH factors for each type of unit).

Figure A3 below shows the ACS 2014 estimates for Yuma – the most current data available. Single-family units averaged 3.04 persons per household (65,636 / 21,587), multi-family units averaged 2.17 persons per household (15,622 / 7,193), and all other types of housing averaged 2.11 persons per household (9,163 / 4,335). Yuma’s 2014 persons per household factor is 2.73. This factor is used to project future population.

Figure A3 – Persons per Household by Type of Housing

<i>Units in Structure</i>	<i>Persons</i>	<i>House-holds</i>	<i>Persons per Household</i>	<i>Housing Units</i>	<i>Persons per Housing Unit</i>	<i>Housing Mix</i>	<i>Vacancy Rate</i>
Single-Family Units ¹	65,636	21,587	3.04	23,328	2.81	58%	7.46%
Multi-Family Units ²	15,622	7,193	2.17	9,026	1.73	23%	20.31%
All Other Types ³	9,163	4,335	2.11	7,651	1.20	19%	43.34%
Subtotal	90,421	33,115	2.73	40,005	2.26		17.22%
Group Quarters	2,978						
TOTAL	93,399						

Source: U.S. Census Bureau, 2014 American Community Survey, Tables B25024, B25032, B25033, and B26001.

1. Includes detached and attached units (i.e. townhouse).
2. Includes dwellings in structures with two or more units.
3. Includes all other dwellings.

Population Estimates

Year-Round Population

The first step in determining a base year peak population estimate is to calculate a year-round population estimate, and the 2015 Arizona Department of Administration population estimate of 97,950 is the most recent year-round estimate available. This estimate includes persons in group quarters and is adjusted based on 2014 ACS estimates (2,978 persons in group quarters) to reflect an estimated year-round population in households of 94,972 (97,950 – 2,978). To determine base year households, the 2014 ACS year-round occupancy rate of 82.78 percent (100 percent – 17.22 percent vacancy) is applied to the 2015 estimate of housing units discussed above. This yields a base year estimate of 33,307 year-round households (40,236 X 82.78 percent), and a persons per household ratio of 2.85 (94,972 / 33,307).

Figure A4 – Year-Round Population and Households

Year-Round Population ¹	97,950
Group Quarters Population ²	2,978
Year-Round Population in Households	94,972
Year-Round Occupancy Rate ²	82.78%
Housing Units ³	40,236
Year-Round Households ⁴	33,307

1. Arizona Department of Administration, July 1, 2015 estimate.
2. 2014 American Community Survey.
3. City of Yuma, Community Development Department.
4. TischlerBise calculation.

Peak Population

To calculate peak population, the year-round households estimate of 33,307 is used as the base. Next, seasonal housing units are added to year-round households to determine peak households. Seasonal housing units, according to 2014 ACS estimates, account for 7.62 percent (90.40 percent peak occupancy – 82.78 percent year-round occupancy) of total housing units; therefore, 3,066 housing units are occupied for seasonal use (40,236 X 7.62 percent). When combined, Yuma has a peak household estimate of 36,373 (33,307 + 3,066). To estimate peak population in households, the estimate of peak households is converted to population by applying the PPH ratio of 2.85 (36,373 X 2.85 = 103,663). When combined with persons in group quarters, the 2015 peak population is 106,641 (103,663 + 2,978).

Figure A5 – Peak Population and Households

Peak Occupancy Rate ¹	90.40%
Year-Round Households ²	33,307
Housing Units for seasonal, recreation, or occasional use ²	3,066
Peak Households	36,373
Persons per Household ²	2.85
Peak Population in Households	103,663
Group Quarters Population ¹	2,978
Peak Population	106,641

1. 2014 American Community Survey.
2. TischlerBise calculation.

Population Projections

To more accurately determine future population, TischlerBise analyzed recent population and housing growth trends, reviewed Arizona Department of Administration population projections, and had discussions with staff. In 2013, the Arizona Department of Administration released sub-county population projections for 2013-2050 based on its medium growth scenario for each county. Yuma’s 2012 population was estimated to be 94,824 with a projected population of 114,085 in 2025. As discussed above, the 2015 year-round population estimate is also provided by the Arizona Department

of Administration. The 2015 estimate and the 2025 projection are then used as the basis for population and housing unit projections. For this study, it is assumed that household size will remain constant; therefore, population projections for Yuma are based on the 2014 American Community Survey PPH estimate of 2.73 and projected housing units.

To project housing units, the 2011-2015 housing unit growth rate of 0.95 percent is used to project housing units in 2016. This growth rate is used to more conservatively project housing unit growth due to lingering effects of the recession. In years two through five, the growth rate is increased by 0.125 percent annually to account for more optimistic growth projected by the Arizona Department of Administration. In years six through ten, the growth rate increases an additional 0.1 percent annually in order to reach the 2025 Arizona Department of Administration population estimate.

Next, the projected new housing units are distributed, by type of structure, based on the 2014 ACS housing unit mix shown in Figure A3 – 58 percent single-family units, 23 percent multi-family units, and 19 percent mobile homes. For example, Figure A6 estimates the construction of 382 new housing units from 2015 to 2016 (40,618 – 40,236). Based on the existing housing unit mix, this will include 222 single-family units (382 X 58 percent), 88 multi-family units (382 X 23 percent), and all other units will account for the remaining 72 new housing units (382 X 19 percent). See Figure A6 below for a summary of population and housing unit projections.

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

Figure A6 – Population and Housing Unit Projections

	2015	2016	2017	2018	2019	2020	2025	10-Year
	Base Yr	1	2	3	4	5	10	Increase
POPULATION								
Year-Round	97,950	98,815	99,801	100,912	102,154	103,533	114,085	16,135
Seasonal	8,691	8,768	8,855	8,954	9,064	9,186	10,123	1,432
Peak	106,641	107,583	108,656	109,866	111,218	112,719	124,208	17,567
HOUSING UNITS								
Single-Family	21,427	21,649	21,902	22,187	22,506	22,860	25,569	4,142
Multi-Family	7,494	7,582	7,682	7,795	7,922	8,062	9,135	1,641
All Other Types	11,315	11,387	11,470	11,563	11,668	11,784	12,672	1,357
Total Housing Units	40,236	40,618	41,054	41,545	42,096	42,706	47,376	7,140

	2015-16	2016-17	2017-18	2018-19	2019-20	2024-25	10-Yr Avg
	1	2	3	4	5	10	Annl
ANNUAL INCREASE							
Year-Round Population	865	986	1,111	1,242	1,379	2,547	1,613
Peak Population	942	1,073	1,210	1,352	1,501	2,773	1,757
Single Family	222	253	285	319	354	654	414
Multi-Family	88	100	113	127	140	259	164
All Other Types	72	83	93	105	116	214	136
Total Housing Units	382	436	491	551	610	1,127	714

NONRESIDENTIAL DEVELOPMENT

Current estimates and future projections of nonresidential development are detailed in this section including jobs and nonresidential floor area.

Employment Estimates

In addition to data on residential development, the calculation of development fees requires data on employment (number of jobs) and nonresidential square footage in the City of Yuma. TischlerBise analyzed recent employment trends, reviewed data provided by city staff, and had discussions with city staff.

TischlerBise uses a four-step process to calculate a base year job estimate and projections for each year past the base. First, job estimates from Esri’s¹ 2015 business summary are used as the base year for Yuma (Figure A7). Second, job estimates are grouped by type: commercial/retail, office/institutional, and industrial/flex. Third, the Arizona Department of Administration’s nonfarm average annual growth rate of 1.6 percent (2014-2016, excludes Maricopa, Pinal, and Pima Counties) is applied to the 2015 job estimates discussed in step one to project the number of citywide jobs. Finally, projected jobs are distributed by type of employment based on the 2015 share of total jobs.

Figure A7 – Estimated Employment and Distribution by Industry Type

Type	2015 Jobs ¹	Share of Total Jobs	SF per Employee ²	2015 Estimated Floor Area	Jobs per 1,000 SF ²
Commercial/Retail ³	23,807	48.9%	500	11,904,000	2.00
Office/Institutional ⁴	16,307	33.5%	301	4,908,000	3.32
Industrial/Flex ⁵	8,540	17.6%	433	3,698,000	2.31
TOTAL	48,654			20,510,000	

1. Yuma Business Summary 2015, Esri Total Residential Forecasts for 2015.
2. Trip Generation, Institute of Transportation Engineers, 2012.
3. Major sectors include Eating & Drinking Places, General Merchandise Stores.
4. Major sectors include Health Services, Education Institutions & Libraries.
5. Major sectors include Wholesale Trade, Manufacturing, and Construction.

Nonresidential Square Footage Estimates

Job estimates are used to estimate nonresidential square footage based on nationally recognized average square feet per employee data published by The Institute of Transportation Engineers (ITE) and shown in Figure A8 below. Rows shaded in gray are used as prototypes for development in Yuma. TischlerBise uses 2012 data from the ITE to calculate the total nonresidential floor area for the development categories used in the calculation of development fees.

To estimate current nonresidential floor area, ITE square feet per employee factors are applied to 2015 job estimates shown in Figure A7. For future commercial/retail development, an average size shopping

¹ Esri’s 2015 business summary is extracted from Dun & Bradstreet data that includes over 24 million US businesses. Data is provided by industry classification – Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) – and includes estimates of businesses and employment.

center (ITE code 820) is a reasonable proxy with an average 500 square feet per job. The prototype for future office/institutional development is a general office (ITE code 710). This type of development averages approximately 301 square feet per job. For industrial/flex development, light industrial (ITE 110) is the prototype for future development, with an average of 433 square feet per job. TischlerBise estimates the City of Yuma has approximately 20.5 million square feet of nonresidential space in active use.

Figure A8 – The Institute of Transportation Engineers, Employee and Building Area Ratios

ITE Code	Land Use	Demand Unit	Wkdy Trip Ends		Emp Per 1,000 Sq Ft	Sq Ft Per Emp ²
			Per 1,000 Sq Ft ¹	Per Employee ¹		
Commercial						
	Average	1,000 Sq Ft	42.70	na	2.00	500
820	10K gross leasable area	1,000 Sq Ft	152.03	na	3.33	300
820	25K gross leasable area	1,000 Sq Ft	110.32	na	3.03	330
820	50K gross leasable area	1,000 Sq Ft	86.56	na	2.86	350
General Office and Other Services						
	Average	1,000 Sq Ft	11.03	3.32	3.32	301
710	10K gross floor area	1,000 Sq Ft	22.66	5.06	4.48	223
710	25K gross floor area	1,000 Sq Ft	18.35	4.43	4.14	241
710	50K gross floor area	1,000 Sq Ft	15.65	4.00	3.91	256
Industrial						
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
Other Nonresidential						
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
857	Discount Club	1,000 Sq Ft	41.80	32.21	1.30	771
310	Hotel	room	8.17	14.34	0.57	na

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

2. Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.

Employment and Nonresidential Floor Area Projections

Future employment growth and nonresidential development in Yuma are projected based on information provided by city staff and analysis of past trends in Yuma. To project employment, TischlerBise applies an average annual growth rate estimated by the Arizona Department of Administration to each year beyond the 2015 estimate of 48,654 jobs.

The projected increase in employment is then used to project growth in nonresidential square footage using the square feet per employee factors previously discussed. Results are shown in Figure A9. Over the next ten years, Yuma is projected to gain 8,369 jobs. To keep pace with employment growth, Yuma should expect to add roughly 3.53 million square feet of nonresidential development during the same period. The projected increase in nonresidential floor area is approximately 353,000 square feet per year and is similar to the average annual increase of 363,000 square feet of nonresidential floor area constructed between January 1, 2012 and June 30, 2015 – according to building permits issued in Yuma.

Figure A9 – Employment and Nonresidential Floor Area Projections

	2015	2016	2017	2018	2019	2020	2025	10-Year Increase
	Base Yr	1	2	3	4	5	10	
EMPLOYMENT BY TYPE								
Commercial/Retail	23,807	24,187	24,574	24,967	25,366	25,772	27,899	4,092
Office/Institutional	16,307	16,568	16,833	17,102	17,375	17,653	19,110	2,803
Industrial/Flex	8,540	8,677	8,816	8,958	9,102	9,248	10,014	1,474
Total Employment	48,654	49,432	50,223	51,027	51,843	52,673	57,023	8,369
NONRES. FLOOR AREA (X 1,000 SF)								
Commercial/Retail	11,904	12,094	12,288	12,485	12,685	12,888	13,953	2,049
Office/Institutional	4,908	4,987	5,067	5,148	5,230	5,314	5,753	845
Industrial/Flex	3,698	3,757	3,817	3,878	3,940	4,003	4,334	636
Total Nonres. Floor Area	20,510	20,838	21,172	21,511	21,855	22,205	24,040	3,530
ANNUAL INCREASE								
	2015-16	2016-17	2017-18	2018-19	2019-20	2024-25	10-Yr Avg Annl	
	1	2	3	4	5	10		
Employment	778	791	804	816	830	898	837	
Commercial/Retail KSF	190	194	197	200	203	220	205	
Office/Institutional KSF	79	80	81	82	84	91	85	
Industrial/Flex KSF	59	60	61	62	63	68	64	
Total Nonres. Floor Area KSF	328	334	339	344	350	379	353	

AVERAGE DAILY VEHICLE TRIPS

Average Daily Vehicle Trips are used as a measure of demand by land use. Vehicle trips are estimated using average weekday vehicle trip ends from the reference book, *Trip Generation, 9th Edition*, published by the Institute of Transportation Engineers (ITE) in 2012. A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway).

Trip Rate Adjustments

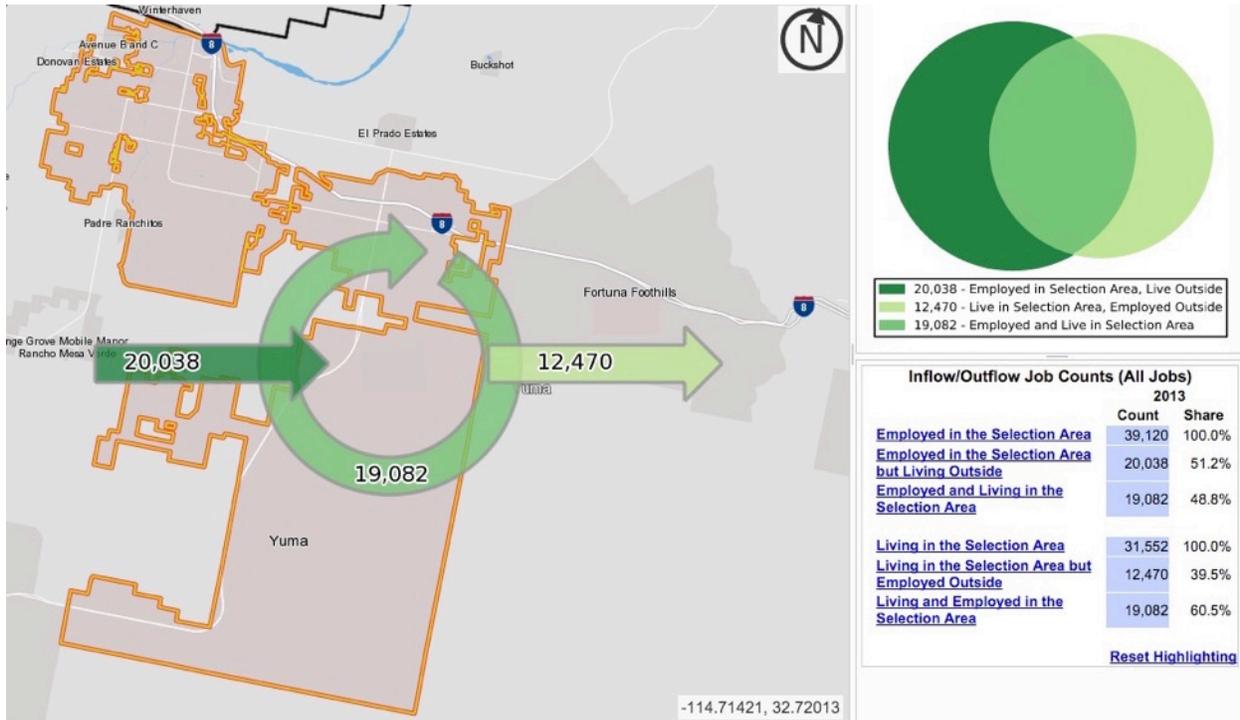
Yuma's streets development fees use average weekday trip generation rates from the reference book *Trip Generation* published by the Institute of Transportation Engineers (ITE 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed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

Adjustment for Journey-To-Work Commuting

Residential development has a larger trip adjustment factor of 56% to account for commuters leaving Yuma for work. According to the 2009 National Household Travel Survey, weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure A10, the Census Bureau's web application OnTheMap² indicates that 39.5 percent of resident workers traveled outside Yuma for work in 2013. In combination, these factors ($0.31 \times 0.50 \times 0.395 = 0.06$) support the additional six percent allocation of trips to residential development.

² OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live and it describes geographic patterns of jobs by their employment locations and residential locations as well as the connections between the two locations. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

Figure A10 – Inflow/Outflow Analysis



Adjustment for Pass-By Trips

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

Estimated Vehicle Trips

Custom tabulations of demographic data by bedroom range can be created from individual survey responses provided by the American Community Survey (ACS) published by the U.S. Census Bureau, in files known as Public Use Micro-Data Samples (PUMS). Because PUMS files are available for areas of roughly 100,000 persons, Yuma is included in Public Use Micro-Data Area (PUMA) 00700 with San Luis, Somerton, and Wellton. At the top of Figure A11, cells with yellow shading indicate the survey results, which yield the unadjusted number of persons and vehicles available per **single-family dwelling in PUMA 00700**. These multipliers are adjusted to match control totals for **single-family dwellings in Yuma**, as documented above in Figure A3.

The middle section of Figure A11 provides nation-wide data from the Institute of Transportation Engineers (ITE). AWWTE is the acronym for Average Weekday Vehicle Trip Ends, which measures vehicles

coming and going from a development on an average weekday. Dividing trip ends per household by trip ends per person yields an average of 3.73 persons per occupied single-family unit, based on ITE's national survey. Similarly, dividing trip ends per household by trip ends per vehicle yields an average of 1.58 vehicles per occupied single-family unit. In comparison to the national data, Yuma averages 3.04 persons per household and 1.82 vehicles per household.

Rather than rely on one methodology, the recommended trip generation rates shown in the bottom section of Figure A11 (see Yuma AWWTE per Single-Family Household), are an average of trip rates based on persons and vehicles available for single-family housing units by bedroom range. In Yuma, each single-family housing unit is expected to generate an average of 9.36 weekday vehicle trip ends, compared to the national average of 9.52 trip ends per household.

This methodology is repeated below for multi-family units (Figure A12) and mobile homes (Figure A13).

Figure A11 – Average Weekday Vehicle Trip Ends (Single Family)

Bedroom Range	Persons ¹	Vehicles Available ¹	Households ¹	PUMA HH Mix	Unadjusted Persons/HH	Adjusted Persons/HH ²	Unadjusted VehAvl/HH	Adjusted VehAvl/HH ²
0-2	215	166	106	23.0%	2.03	2.13	1.57	1.41
3	662	469	226	49.0%	2.93	3.07	2.08	1.86
4	392	259	111	24.1%	3.53	3.70	2.33	2.09
5+	68	43	18	3.9%	3.78	3.96	2.39	2.14
Total	1,337	937	461		2.90	3.04	2.03	1.82

National Averages According to ITE

ITE Code	AWVTE per Person	AWVTE per Vehicle Available	AWVTE per Household	Persons per Household	Veh Avl per Household
210 SFD	2.55	6.02	9.52	3.73	1.58

Recommended AWWTE per Dwelling Unit by Bedroom Range

Bedroom Range	AWVTE per HH Based on Persons ³	AWVTE per HH Based on Vehicles Available ⁴	Yuma AWWTE per Single-Family Household ⁵
0-2	5.43	8.49	6.96
3	7.83	11.20	9.52
4	9.44	12.58	11.01
5+	10.10	12.88	11.49
Total	7.75	10.96	9.36

1. American Community Survey, Public Use Microdata Sample for AZ PUMA 00700 (2014 1-year unweighted data).
2. Adjusted multipliers are scaled to make the average PUMS values match control totals for Yuma, based on American Community Survey 2014 1-Year Estimates.
3. Adjusted persons per household multiplied by national weighted average trip rate per person.
4. Adjusted vehicles available per household multiplied by national weighted average trip rate per vehicle available.
5. Average of trip rates based on persons and vehicles available per household.

Figure A12 – Average Weekday Vehicle Trip Ends (Multi-Family)

Bedroom Range	Persons ¹	Vehicles Available ¹	Households ¹	PUMA HH Mix	Unadjusted Persons/HH	Adjusted Persons/HH ²	Unadjusted VehAvl/HH	Adjusted VehAvl/HH ²
0-1	32	21	23	28.8%	1.39	1.26	0.91	1.12
2	103	44	41	51.3%	2.51	2.27	1.07	1.32
3+	57	24	16	20.0%	3.56	3.22	1.50	1.85
Total	192	89	80		2.40	2.17	1.11	1.37

National Averages According to ITE

ITE Code	AWVTE per Person	AWVTE per Vehicle Available	AWVTE per Household	Persons per Household	Veh Avl per Household
220 Apt	3.31	5.10	6.65	2.01	1.30

Recommended AWVTE per Dwelling Unit by Bedroom Range

Bedroom Range	AWVTE per HH Based on Persons ³	AWVTE per HH Based on Vehicles Available ⁴	Yuma AWVTE per Multi-Family Household ⁵
0-1	4.17	5.71	4.94
2	7.51	6.73	7.12
3+	10.66	9.44	10.05
Total	7.18	6.99	7.09

1. American Community Survey, Public Use Microdata Sample for AZ PUMA 00700 (2014 1-year unweighted data).
2. Adjusted multipliers are scaled to make the average PUMS values match control totals for Yuma, based on American Community Survey 2014 1-Year Estimates.
3. Adjusted persons per household multiplied by national weighted average trip rate per person.
4. Adjusted vehicles available per household multiplied by national weighted average trip rate per vehicle available.
5. Average of trip rates based on persons and vehicles available per household.

Figure A13 – Average Weekday Vehicle Trip Ends (Mobile Home/Other)

Bedroom Range	Persons ¹	Vehicles Available ¹	Households ¹	PUMA HH Mix	Unadjusted Persons/HH	Adjusted Persons/HH ²	Unadjusted VehAvl/HH	Adjusted VehAvl/HH ²
0-1	155	96	89	43.0%	1.74	1.77	1.08	1.43
2	150	120	79	38.2%	1.90	1.93	1.52	2.02
3+	125	81	39	18.8%	3.21	3.26	2.08	2.76
Total	430	297	207		2.08	2.11	1.43	1.90

National Averages According to ITE

ITE Code	AWVTE per Person	AWVTE per Vehicle Available	AWVTE per Household	Persons per Household	Veh Avl per Household
240 MH	2.46	3.38	4.99	2.03	1.48

Recommended AWVTE per Dwelling Unit by Bedroom Range

Bedroom Range	AWVTE per HH Based on Persons ³	AWVTE per HH Based on Vehicles Available ⁴	Yuma AWVTE per Mobile Home Household ⁵
0-1	4.35	4.83	4.59
2	4.75	6.83	5.79
3+	8.02	9.33	8.68
Total	5.19	6.42	5.81

1. American Community Survey, Public Use Microdata Sample for AZ PUMA 00700 (2014 1-year unweighted data).
2. Adjusted multipliers are scaled to make the average PUMS values match control totals for Yuma, based on American Community Survey 2014 1-Year Estimates.
3. Adjusted persons per household multiplied by national weighted average trip rate per person.
4. Adjusted vehicles available per household multiplied by national weighted average trip rate per vehicle available.
5. Average of trip rates based on persons and vehicles available per household.

Figure A14 details the calculations used to determine that existing development in Yuma generates an average of 386,570 inbound vehicle trips on a typical weekday. Residential development is estimated to generate 178,881 inbound trips (46.3 percent) compared to 207,689 inbound trips (53.7 percent) generated by nonresidential development. An example of the calculation is as follows for single-family units: 21,427 single-family units x 9.36 average weekday vehicle trips ends per unit x 56 percent adjustment factor = 112,314 total inbound vehicle trips per day from single-family units in Yuma. The same calculation is performed for each land use type.

Figure A14 – Average Daily Trips from Existing Development

Residential Vehicle Trips on an Average Weekday		2015	
Residential Units		Assumptions	
Single-Family		21,427	
Multi-Family		7,494	
All Other Types		11,315	
Total Housing Units		40,236	
Average Weekday Vehicle Trip Ends per Unit¹		Trip Ends	Adj. Factor
Single-Family		9.36	56%
Multi-Family		7.09	56%
All Other Types		5.81	56%
Residential Vehicle Trip Ends of an Average Weekday			
Single-Family		112,314	
Multi-Family		29,754	Share of
All Other Types		36,814	Total Trips
Total Inbound Residential Trips		178,881	46.3%
Nonresidential Vehicle Trips on an Average Weekday		2015	
Nonresidential Gross Floor Area (1,000 sq. ft.)		Assumptions	
Commercial/Retail		11,904	
Office/Institutional		4,908	
Industrial/Flex		3,698	
Total Nonresidential Floor Area (x1,000 sq. ft.)		20,510	
Average Weekday Vehicle Trips Ends per 1,000 Sq. Ft.²		Trip Ends	Adj. Factor
Commercial/Retail		42.70	33%
Office/Institutional		11.03	50%
Industrial/Flex		6.97	50%
Nonresidential Vehicle Trips on an Average Weekday			
Commercial/Retail		167,732	
Office/Institutional		27,070	Share of
Industrial/Flex		12,887	Total Trips
Total Inbound Nonresidential Trips		207,689	53.7%
TOTAL INBOUND TRIPS		386,570	100%

1. Trip rates are customized for Yuma. See accompanying tables and discussion.

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

Functional Population

For certain infrastructure facilities TischlerBise often uses “functional population” to establish the relative demand for infrastructure from both residential and nonresidential development. As shown in Figure A15, functional population accounts for people living and working in a jurisdiction. Residents who don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in Yuma are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside Yuma are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2013 functional population data, the resulting proportionate share is 73 percent from residential development and 27 percent from nonresidential development.

Figure A15 – Functional Population

	<i>Demand Units in 2013</i>	<i>Demand Hours/Day</i>	<i>Person Hours</i>	<i>Proportionate Share</i>
Residential				
Estimated Residents	95,423			
Residents Not Working	63,871	20	1,277,417	
Employed Residents	31,552			
Employed in Service Area	19,082	14	267,148	
Employed outside Service Area	12,470	14	174,580	
	<i>Residential Subtotal</i>		<i>1,719,145</i>	73%
Nonresidential				
Non-working Residents	63,871	4	255,483	
Jobs in Service Area	39,120			
Residents Employed in Service Area	19,082	10	190,820	
Non-Resident Workers (inflow Commuters)	20,038	10	200,380	
	<i>Nonresidential Subtotal</i>		<i>646,683</i>	27%
	TOTAL		2,365,828	100%

Source: Arizona Department of Administration 2013 Population Estimate; U.S. Census Bureau, OnTheMap 6.1.1 Application, 2013.

DETAILED DEVELOPMENT PROJECTIONS

Provided below is a summary of cumulative and annual demographic and development projections to be used for the development fee study. Base year estimates for 2015 are used in the development fee calculations. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands.

Figure A16 – Development Projections Summary

	2015	2016	2017	2018	2019	2020	2025	10-Year Increase
	Base Yr	1	2	3	4	5	10	
POPULATION								
Year-Round	97,950	98,815	99,801	100,912	102,154	103,533	114,085	16,135
Seasonal	8,691	8,768	8,855	8,954	9,064	9,186	10,123	1,432
Peak	106,641	107,583	108,656	109,866	111,218	112,719	124,208	17,567
HOUSING UNITS								
Single-Family	21,427	21,649	21,902	22,187	22,506	22,860	25,569	4,142
Multi-Family	7,494	7,582	7,682	7,795	7,922	8,062	9,135	1,641
All Other Types	11,315	11,387	11,470	11,563	11,668	11,784	12,672	1,357
Total Housing Units	40,236	40,618	41,054	41,545	42,096	42,706	47,376	7,140
EMPLOYMENT BY TYPE								
Commercial/Retail	23,807	24,187	24,574	24,967	25,366	25,772	27,899	4,092
Office/Institutional	16,307	16,568	16,833	17,102	17,375	17,653	19,110	2,803
Industrial/Flex	8,540	8,677	8,816	8,958	9,102	9,248	10,014	1,474
Total Employment	48,654	49,432	50,223	51,027	51,843	52,673	57,023	8,369
NONRES. FLOOR AREA (X 1,000 SF)								
Commercial/Retail	11,904	12,094	12,288	12,485	12,685	12,888	13,953	2,049
Office/Institutional	4,908	4,987	5,067	5,148	5,230	5,314	5,753	845
Industrial/Flex	3,698	3,757	3,817	3,878	3,940	4,003	4,334	636
Total Nonres. Floor Area	20,510	20,838	21,172	21,511	21,855	22,205	24,040	3,530

	2015-16	2016-17	2017-18	2018-19	2019-20	2024-25	10-Yr Avg Annl
	1	2	3	4	5	10	
ANNUAL INCREASE							
Year-Round Population	865	986	1,111	1,242	1,379	2,547	1,613
Peak Population	942	1,073	1,210	1,352	1,501	2,773	1,757
Single Family	222	253	285	319	354	654	414
Multi-Family	88	100	113	127	140	259	164
All Other Types	72	83	93	105	116	214	136
Total Housing Units	382	436	491	551	610	1,127	714
Employment	778	791	804	816	830	898	837
Commercial/Retail KSF	190	194	197	200	203	220	205
Office/Institutional KSF	79	80	81	82	84	91	85
Industrial/Flex KSF	59	60	61	62	63	68	64
Total Nonres. Floor Area KSF	328	334	339	344	350	379	353

APPENDIX B: ARIZONA REVISED STATUTES

Arizona Revised Statutes (ARS) 9-463.05. Development fees; imposition by cities and towns; infrastructure improvements plan; annual report; advisory committee; limitation on actions; definitions (Effective January 1, 2012)

A. A municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan.

B. Development fees assessed by a municipality under this section are subject to the following requirements:

1. Development fees shall result in a beneficial use to the development.
2. The municipality shall calculate the development fee based on the infrastructure improvements plan adopted pursuant to this section.
3. The development fee shall not exceed a proportionate share of the cost of necessary public services, based on service units, needed to provide necessary public services to the development.
4. Costs for necessary public services made necessary by new development shall be based on the same level of service provided to existing development in the service area.
5. Development fees may not be used for any of the following:
 - (a) Construction, acquisition or expansion of public facilities or assets other than necessary public services or facility expansions identified in the infrastructure improvements plan.
 - (b) Repair, operation or maintenance of existing or new necessary public services or facility expansions.
 - (c) Upgrading, updating, expanding, correcting or replacing existing necessary public services to serve existing development in order to meet stricter safety, efficiency, environmental or regulatory standards.
 - (d) Upgrading, updating, expanding, correcting or replacing existing necessary public services to provide a higher level of service to existing development.
 - (e) Administrative, maintenance or operating costs of the municipality.
6. Any development for which a development fee has been paid is entitled to the use and benefit of the services for which the fee was imposed and is entitled to receive immediate service from any existing facility with available capacity to serve the new service units if the

available capacity has not been reserved or pledged in connection with the construction or financing of the facility.

7. Development fees may be collected if any of the following occurs:

(a) The collection is made to pay for a necessary public service or facility expansion that is identified in the infrastructure improvements plan and the municipality plans to complete construction and to have the service available within the time period established in the infrastructure improvement plan, but in no event longer than the time period provided in subsection H, paragraph 3 of this section.

(b) The municipality reserves in the infrastructure improvements plan adopted pursuant to this section or otherwise agrees to reserve capacity to serve future development.

(c) The municipality requires or agrees to allow the owner of a development to construct or finance the necessary public service or facility expansion and any of the following apply:

(i) The costs incurred or money advanced are credited against or reimbursed from the development fees otherwise due from a development.

(ii) The municipality reimburses the owner for those costs from the development fees paid from all developments that will use those necessary public services or facility expansions.

(iii) For those costs incurred the municipality allows the owner to assign the credits or reimbursement rights from the development fees otherwise due from a development to other developments for the same category of necessary public services in the same service area.

8. Projected interest charges and other finance costs may be included in determining the amount of development fees only if the monies are used for the payment of principal and interest on the portion of the bonds, notes or other obligations issued to finance construction of necessary public services or facility expansions identified in the infrastructure improvements plan.

9. Monies received from development fees assessed pursuant to this section shall be placed in a separate fund and accounted for separately and may only be used for the purposes authorized by this section. Monies received from a development fee identified in an infrastructure improvements plan adopted or updated pursuant to subsection D of this section shall be used to provide the same category of necessary public services or facility expansions for which the development fee was assessed and for the benefit of the same service area, as defined in the infrastructure improvements plan, in which the development fee was assessed. Interest earned on monies in the separate fund shall be credited to the fund.

10. The schedule for payment of fees shall be provided by the municipality. Based on the cost identified in the infrastructure improvements plan, the municipality shall provide a credit

toward the payment of a development fee for the required or agreed to dedication of public sites, improvements and other necessary public services or facility expansions included in the infrastructure improvements plan and for which a development fee is assessed, to the extent the public sites, improvements and necessary public services or facility expansions are provided by the developer. The developer of residential dwelling units shall be required to pay development fees when construction permits for the dwelling units are issued, or at a later time if specified in a development agreement pursuant to section 9-500.05. If a development agreement provides for fees to be paid at a time later than the issuance of construction permits, the deferred fees shall be paid no later than fifteen days after the issuance of a certificate of occupancy. The development agreement shall provide for the value of any deferred fees to be supported by appropriate security, including a surety bond, letter of credit or cash bond.

11. If a municipality requires as a condition of development approval the construction or improvement of, contributions to or dedication of any facilities that were not included in a previously adopted infrastructure improvements plan, the municipality shall cause the infrastructure improvements plan to be amended to include the facilities and shall provide a credit toward the payment of a development fee for the construction, improvement, contribution or dedication of the facilities to the extent that the facilities will substitute for or otherwise reduce the need for other similar facilities in the infrastructure improvements plan for which development fees were assessed.

12. The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection.

13. If development fees are assessed by a municipality, 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 new development and in determining the amount of the development fee applicable to the category of development. If a municipality agrees to waive any of the development fees assessed on a development, the municipality shall reimburse the appropriate development fee accounts for

the amount that was waived. The municipality shall provide notice of any such waiver to the advisory committee established pursuant to subsection G of this section within thirty days.

14. In determining and assessing a development fee applying to land in a community facilities district established under title 48, chapter 4, article 6, the municipality shall take into account all public infrastructure provided by the district and capital costs paid by the district for necessary public services and shall not assess a portion of the development fee based on the infrastructure or costs.

C. A municipality shall give at least thirty days' advance notice of intention to assess a development fee and shall release to the public and post on its website or the website of an association of cities and towns if a municipality does not have a website a written report of the land use assumptions and infrastructure improvements plan adopted pursuant to subsection D of this section. The municipality shall conduct a public hearing on the proposed development fee at any time after the expiration of the thirty day notice of intention to assess a development fee and at least thirty days before the scheduled date of adoption of the fee by the governing body. Within sixty days after the date of the public hearing on the proposed development fee, a municipality shall approve or disapprove the imposition of the development fee. A municipality shall not adopt an ordinance, order or resolution approving a development fee as an emergency measure. A development fee assessed pursuant to this section shall not be effective until seventy-five days after its formal adoption by the governing body of the municipality. Nothing in this subsection shall affect any development fee adopted before July 24, 1982.

D. Before the adoption or amendment of a development fee, the governing body of the municipality shall adopt or update the land use assumptions and infrastructure improvements plan for the designated service area. The municipality shall conduct a public hearing on the land use assumptions and infrastructure improvements plan at least thirty days before the adoption or update of the plan. The municipality shall release the plan to the public, post the plan on its website or the website of an association of cities and towns if the municipality does not have a website, including in the posting its land use assumptions, the time period of the projections, a description of the necessary public services included in the infrastructure improvements plan and a map of the service area to which the land use assumptions apply, make available to the public the documents used to prepare the assumptions and plan and provide public notice at least sixty days before the public hearing, subject to the following:

1. The land use assumptions and infrastructure improvements plan shall be approved or disapproved within sixty days after the public hearing on the land use assumptions and infrastructure improvements plan and at least thirty days before the public hearing on the report required by subsection C of this section. A municipality shall not adopt an ordinance, order or resolution approving the land use assumptions or infrastructure improvements plan as an emergency measure.
2. An infrastructure improvements plan shall be developed by qualified professionals using generally accepted engineering and planning practices pursuant to subsection E of this section.

3. A municipality shall update the land use assumptions and infrastructure improvements plan at least every five years. The initial five year period begins on the day the infrastructure improvements plan is adopted. The municipality shall review and evaluate its current land use assumptions and shall cause an update of the infrastructure improvements plan to be prepared pursuant to this section.

4. Within sixty days after completion of the updated land use assumptions and infrastructure improvements plan, the municipality shall schedule and provide notice of a public hearing to discuss and review the update and shall determine whether to amend the assumptions and plan.

5. A municipality shall hold a public hearing to discuss the proposed amendments to the land use assumptions, the infrastructure improvements plan or the development fee. The land use assumptions and the infrastructure improvements plan, including the amount of any proposed changes to the development fee per service unit, shall be made available to the public on or before the date of the first publication of the notice of the hearing on the amendments.

6. The notice and hearing procedures prescribed in paragraph 1 of this subsection apply to a hearing on the amendment of land use assumptions, an infrastructure improvements plan or a development fee. Within sixty days after the date of the public hearing on the amendments, a municipality shall approve or disapprove the amendments to the land use assumptions, infrastructure improvements plan or development fee. A municipality shall not adopt an ordinance, order or resolution approving the amended land use assumptions, infrastructure improvements plan or development fee as an emergency measure.

7. The advisory committee established under subsection G of this section shall file its written comments on any proposed or updated land use assumptions, infrastructure improvements plan and development fees before the fifth business day before the date of the public hearing on the proposed or updated assumptions, plan and fees.

8. If, at the time an update as prescribed in paragraph 3 of this subsection is required, the municipality determines that no changes to the land use assumptions, infrastructure improvements plan or development fees are needed, the municipality may as an alternative to the updating requirements of this subsection publish notice of its determination on its website and include the following:

(a) A statement that the municipality has determined that no change to the land use assumptions, infrastructure improvements plan or development fee is necessary.

(b) A description and map of the service area in which an update has been determined to be unnecessary.

(c) A statement that by a specified date, which shall be at least sixty days after the date of publication of the first notice, a person may make a written request to the municipality requesting that the land use assumptions, infrastructure improvements plan or development fee be updated.

(d) A statement identifying the person or entity to whom the written request for an update should be sent.

9. If, by the date specified pursuant to paragraph 8 of this subsection, a person requests in writing that the land use assumptions, infrastructure improvements plan or development fee be updated, the municipality shall cause, accept or reject an update of the assumptions and plan to be prepared pursuant to this subsection.

10. Notwithstanding the notice and hearing requirements for adoption of an infrastructure improvements plan, a municipality may amend an infrastructure improvements plan adopted pursuant to this section without a public hearing if the amendment addresses only elements of necessary public services in the existing infrastructure improvements plan and the changes to the plan will not, individually or cumulatively with other amendments adopted pursuant to this subsection, increase the level of service in the service area or cause a development fee increase of greater than five per cent when a new or modified development fee is assessed pursuant to this section. The municipality shall provide notice of any such amendment at least thirty days before adoption, shall post the amendment on its website or on the website of an association of cities and towns if the municipality does not have a website and shall provide notice to the advisory committee established pursuant to subsection G of this section that the amendment complies with this subsection.

E. For each necessary public service that is the subject of a development fee, the infrastructure improvements plan shall include:

1. 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.

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 as required in subsection B, paragraph 12 of this section.

F. A municipality's development fee ordinance shall provide that a new development fee or an increased portion of a modified development fee shall not be assessed against a development for twenty-four months after the date that the municipality issues the final approval for a commercial, industrial or multifamily development or the date that the first building permit is issued for a residential development pursuant to an approved site plan or subdivision plat, provided that no subsequent changes are made to the approved site plan or subdivision plat that would increase the number of service units. If the number of service units increases, the new or increased portion of a modified development fee shall be limited to the amount attributable to the additional service units. The twenty-four month period shall not be extended by a renewal or amendment of the site plan or the final subdivision plat that was the subject of the final approval. The municipality shall issue, on request, a written statement of the development fee schedule applicable to the development. If, after the date of the municipality's final approval of a development, the municipality reduces the development fee assessed on development, the reduced fee shall apply to the development.

G. A municipality shall do one of the following:

1. Before the adoption of proposed or updated land use assumptions, infrastructure improvements plan and development fees as prescribed in subsection D of this section, the municipality shall appoint an infrastructure improvements advisory committee, subject to the following requirements:
 - (a) The advisory committee shall be composed of at least five members who are appointed by the governing body of the municipality. At least fifty per cent of the members of the advisory committee must be representatives of the real estate, development or building industries, of which at least one member of the committee must be from the home building industry. Members shall not be employees or officials of the municipality.
 - (b) The advisory committee shall serve in an advisory capacity and shall:

(i) Advise the municipality in adopting land use assumptions and in determining whether the assumptions are in conformance with the general plan of the municipality.

(ii) Review the infrastructure improvements plan and file written comments.

(iii) Monitor and evaluate implementation of the infrastructure improvements plan.

(iv) Every year file reports with respect to the progress of the infrastructure improvements plan and the collection and expenditures of development fees and report to the municipality any perceived inequities in implementing the plan or imposing the development fee.

(v) Advise the municipality of the need to update or revise the land use assumptions, infrastructure improvements plan and development fee.

(c) The municipality shall make available to the advisory committee any professional reports with respect to developing and implementing the infrastructure improvements plan.

(d) The municipality shall adopt procedural rules for the advisory committee to follow in carrying out the committee's duties.

2. In lieu of creating an advisory committee pursuant to paragraph 1 of this subsection, provide for a biennial certified audit of the municipality's land use assumptions, infrastructure improvements plan and development fees. An audit pursuant to this paragraph shall be conducted by one or more qualified professionals who are not employees or officials of the municipality and who did not prepare the infrastructure improvements plan. The audit shall review the progress of the infrastructure improvements plan, including the collection and expenditures of development fees for each project in the plan, and evaluate any inequities in implementing the plan or imposing the development fee. The municipality shall post the findings of the audit on the municipality's website or the website of an association of cities and towns if the municipality does not have a website and shall conduct a public hearing on the audit within sixty days of the release of the audit to the public.

H. On written request, an owner of real property for which a development fee has been paid after July 31, 2014 is entitled to a refund of a development fee or any part of a development fee if:

1. Pursuant to subsection B, paragraph 6 of this section, existing facilities are available and service is not provided.

2. The municipality has, after collecting the fee to construct a facility when service is not available, failed to complete construction within the time period identified in the infrastructure improvements plan, but in no event later than the time period specified in paragraph 3 of this subsection.

3. For a development fee other than a development fee for water or wastewater facilities, any part of the development fee is not spent as authorized by this section within ten years after the fee has been paid or, for a development fee for water or wastewater facilities, any part of the development fee is not spent as authorized by this section within fifteen years after the fee has been paid.

I. If the development fee was collected for the construction of all or a portion of a specific item of infrastructure, and on completion of the infrastructure the municipality determines that the actual cost of construction was less than the forecasted cost of construction on which the development fee was based and the difference between the actual and estimated cost is greater than ten per cent, the current owner may receive a refund of the portion of the development fee equal to the difference between the development fee paid and the development fee that would have been due if the development fee had been calculated at the actual construction cost.

J. A refund shall include any interest earned by the municipality from the date of collection to the date of refund on the amount of the refunded fee. All refunds shall be made to the record owner of the property at the time the refund is paid. If the development fee is paid by a governmental entity, the refund shall be paid to the governmental entity.

K. A development fee that was adopted before January 1, 2012 may continue to be assessed only to the extent that it will be used to provide a necessary public service for which development fees can be assessed pursuant to this section and shall be replaced by a development fee imposed under this section on or before August 1, 2014. Any municipality having a development fee that has not been replaced under this section on or before August 1, 2014 shall not collect development fees until the development fee has been replaced with a fee that complies with this section. Any development fee monies collected before January 1, 2012 remaining in a development fee account:

1. Shall be used towards the same category of necessary public services as authorized by this section.
2. If development fees were collected for a purpose not authorized by this section, shall be used for the purpose for which they were collected on or before January 1, 2020, and after which, if not spent, shall be distributed equally among the categories of necessary public services authorized by this section.

L. A moratorium shall not be placed on development for the sole purpose of awaiting completion of all or any part of the process necessary to develop, adopt or update development fees.

M. In any judicial action interpreting this section, all powers conferred on municipal governments in this section shall be narrowly construed to ensure that development fees are not used to impose on new residents a burden all taxpayers of a municipality should bear equally.

N. Each municipality that assesses development fees shall submit an annual report accounting for the collection and use of the fees for each service area. The annual report shall include the following:

1. The amount assessed by the municipality for each type of development fee.

2. The balance of each fund maintained for each type of development fee assessed as of the beginning and end of the fiscal year.
 3. The amount of interest or other earnings on the monies in each fund as of the end of the fiscal year.
 4. The amount of development fee monies used to repay:
 - (a) Bonds issued by the municipality to pay the cost of a capital improvement project that is the subject of a development fee assessment, including the amount needed to repay the debt service obligations on each facility for which development fees have been identified as the source of funding and the time frames in which the debt service will be repaid.
 - (b) Monies advanced by the municipality from funds other than the funds established for development fees in order to pay the cost of a capital improvement project that is the subject of a development fee assessment, the total amount advanced by the municipality for each facility, the source of the monies advanced and the terms under which the monies will be repaid to the municipality.
 5. The amount of development fee monies spent on each capital improvement project that is the subject of a development fee assessment and the physical location of each capital improvement project.
 6. The amount of development fee monies spent for each purpose other than a capital improvement project that is the subject of a development fee assessment.
- O. Within ninety days following the end of each fiscal year, each municipality shall submit a copy of the annual report to the city clerk and post the report on the municipality's website or the website of an association of cities and towns if the municipality does not have a website. Copies shall be made available to the public on request. The annual report may contain financial information that has not been audited.
- P. A municipality that fails to file the report and post the report on the municipality's website or the website of an association of cities and towns if the municipality does not have a website as required by this section shall not collect development fees until the report is filed and posted.
- Q. Any action to collect a development fee shall be commenced within two years after the obligation to pay the fee accrues.
- R. A municipality may continue to assess a development fee adopted before January 1, 2012 for any facility that was financed before June 1, 2011 if:
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 under this subsection 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.

S. Through August 1, 2014, a development fee adopted before January 1, 2012 may be used to finance construction of a facility and may be pledged to repay debt service obligations if:

1. The facility that is being financed is a facility that is described under subsection T, paragraph 7, subdivisions (a) through (g) of this section.
2. The facility was included in an infrastructure improvements plan adopted before June 1, 2011.
3. The development fees are used for the payment of principal and interest on the portion of the bonds, notes or other debt service obligations issued to finance construction of the necessary public services or facility expansions identified in the infrastructure improvement plan.

T. For the purposes of this section:

1. "Dedication" means the actual conveyance date or the date an improvement, facility or real or personal property is placed into service, whichever occurs first.
2. "Development" means:
 - (a) The subdivision of land.
 - (b) The construction, reconstruction, conversion, structural alteration, relocation or enlargement of any structure that adds or increases the number of service units.
 - (c) Any use or extension of the use of land that increases the number of service units.
3. "Facility expansion" means the expansion of the capacity of an existing facility that serves the same function as an otherwise new necessary public service in order that the existing facility may serve new development. Facility expansion does not include the repair, maintenance, modernization or expansion of an existing facility to better serve existing development.
4. "Final approval" means:
 - (a) For a nonresidential or multifamily development, the approval of a site plan or, if no site plan is submitted for the development, the approval of a final subdivision plat.
 - (b) For a single family residential development, the approval of a final subdivision plat.
5. "Infrastructure improvements plan" means a written plan that identifies each necessary public service or facility expansion that is proposed to be the subject of a development fee and otherwise complies with the requirements of this section, and may be the municipality's capital improvements plan.

6. "Land use assumptions" means 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.

7. "Necessary public service" means any of the following facilities that have a life expectancy of three or more years and that are owned and operated by or on behalf of the municipality:

(a) Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities.

(b) Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities.

(c) Storm water, drainage and flood control facilities, including any appurtenances for those facilities.

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

(e) 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.

(f) 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.

(g) 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.

(h) Any facility that was financed and that meets all of the requirements prescribed in subsection R of this section.

8. "Qualified professional" means a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience.

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

10. "Service unit" means a standardized measure of consumption, use, generation or discharge attributable to an individual unit of development calculated pursuant to generally accepted engineering or planning standards for a particular category of necessary public services or facility expansions.

APPENDIX C: IMPLEMENTATION AND ADMINISTRATION

As specified in ARS 9-463.05, there are certain accounting requirements that must be met by the City:

Monies received from development fees assessed pursuant to this section shall be placed in a separate fund and accounted for separately and may only be used for the purposes authorized by this section. Monies received from a development fee identified in an infrastructure improvements plan adopted or updated pursuant to subsection D of this section shall be used to provide the same category of necessary public services or facility expansions for which the development fee was assessed and for the benefit of the same service area, as defined in the infrastructure improvements plan, in which the development fee was assessed. Interest earned on monies in the separate fund shall be credited to the fund.

All costs in the development fee calculations are given in current dollars with no assumed inflation rate over time. If cost estimates change significantly the City should update the fee calculations.

RESIDENTIAL DEVELOPMENT

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. Yuma will collect development fees from all new residential units, including mobile homes and Recreational Vehicles (RV). For a parcel intended for occupancy by multiple mobile homes and/or RVs, the landowner will pay a development fee for each site than can accommodate a residential unit. One-time development fees are determined by site capacity (i.e. number of residential units) and will not be imposed on replacement units.

Single-Family:

1. Single-family detached is a 1-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. Single-family attached (townhouse) is a 1-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.

Multi-Family:

1. 2+ units (duplexes and apartments) are units in structures containing two or more housing units, further categorized as units in structures with “2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments.”

All Other Types:

1. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added, are counted in this category. Mobile homes used only for business purposes

or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

2. Boat, RV, Van, Etc. includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

NONRESIDENTIAL DEVELOPMENT

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

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

Office / Institutional: Establishments providing management, administrative, professional, or business services; personal and health care services; lodging facilities; and public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, *Office / Institutional* includes banks, business offices; hotels and motels; assisted living facilities, nursing homes, hospitals and medical offices; veterinarian clinics; and institutional facilities such as schools, universities, churches, daycare facilities, government buildings, and prisons.

Industrial: Establishments primarily engaged in the production, transportation, or storage of goods. By way of example, *Industrial* includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.