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MEMORANDUM **Management Services Memo No. 08-081**

DATE: MAY 29, 2008

TO: MAYOR AND COUNCIL

THRU: W. MARK PENTZ, CITY MANAGER
RICH DLUGAS, ASSISTANT CITY MANAGER RD
DENNIS STRACHOTA, MANAGEMENT SERVICES DIRECTOR

FROM: JULIE BUELT, SENIOR FINANCIAL ANALYST

SUBJECT: APPROVAL OF THE NEW AND MODIFIED NON-UTILITY SYSTEM DEVELOPMENT FEES AND NON-UTILITY INFRASTRUCTURE IMPROVEMENTS PLAN

RECOMMENDATION: Staff recommends Council move to approve the process to consider and adopt new and modified non-utility system development fees and the proposed non-utility Infrastructure Improvements Plan and set the date for the Public Hearings for August 14, 2008.

BACKGROUND/DISCUSSION: According to provisions of the Chandler City Code, system development fees are to be reviewed annually. It has been the City's practice to have consultants review the fees every other year, and make an inflationary adjustment in the interim years. This year's update is based upon the attached report prepared by Duncan & Associates for non-utility fees and the related Infrastructure Improvements Plan. This report has been revised from the one issued in March 2008 to reflect the omission of $10,800,000 in arterial street costs, resulting in a 3% increase in arterial street fees. The report was also revised to properly account for the acreage of the proposed City Hall, resulting in a 31% decrease in the public building fees. Additionally, the consultant has modified the report and the related Infrastructure Improvements Plan to address concerns raised by external stakeholders.

In order to adequately notify interested parties of the 2008 update, e-mails will be sent on Friday, June 6, 2008 to the Associated General Contractors of America, Capitol Consulting, LLC (representing the Arizona Multihousing Association), Chandler Chamber of Commerce, Fulton Homes Corporation, Home Builders Association of Central Arizona, National Association of Industrial and Office Properties and Valley Partnership informing them of the proposed new and modified non-utility system development fees, the proposed non-utility Infrastructure Improvements Plan and the planned date of the Public Hearings.

Staff hosted a public meeting on April 29, 2008 attended by representatives from Capitol Consulting, Fulton Homes Corporation, HBACA and Valley Partnership. Staff has met on several occasions since this meeting with representatives from Capitol Consulting, HBACA and Valley Partnership to address their concerns with the non-utility report and the related Infrastructure Improvements Plan.

As required by law, an Advance Notice of Intent will be published in the Arizona Republic newspaper showing the date, time and place of the Public Hearings on August 14, 2008. In compliance with State Statutes, a copy of the new and modified non-utility system development fees and the proposed non-utility Infrastructure Improvements Plan will be filed with the City Clerk for public review.

FINANCIAL IMPLICATIONS: System development fees are charges designed to provide funding to a community for the cost of expanding infrastructure or building capital facilities required to support new development. If these fees are not maintained at the proper level, the City may have to provide additional General Fund support to pay for growth related projects.

PROPOSED MOTION: Move to approve the process to consider and adopt new and modified non-utility system development fees and the non-utility Infrastructure Improvements Plan and set the date for the Public Hearings for August 14, 2008.

Attachments: Notice of Intent
Schedule for the Adoption of 2008 New and Modified Non-Utility System Development Fees
Duncan & Associates Non-Utility SDF Update
Duncan & Associates Non-Utility Infrastructure Improvements Plan

cc: Pat McDermott, Assistant City Manager
Mark Eynatten, Community Services Director
Sherry Kiyler, Police Chief
Tom Carlson, Acting Fire Chief
R. J. Zeder, Public Works Director

CITY OF CHANDLER
ADVANCE NOTICE OF INTENT

NOTICE IS HEREBY GIVEN THAT the City of Chandler shall conduct two Public Hearings on Thursday, August 14, 2008 at a Regular Meeting of the Chandler City Council to be held in the Council Chambers, 22 South Delaware Street at 7:00 p.m. to consider the new and modified non-utility system development fees and the proposed non-utility Infrastructure Improvements Plan. NOTICE IS HEREBY GIVEN THAT at a Regular Meeting of the Chandler City Council to be held in the Council Chambers, 22 South Delaware Street, on Thursday, September 11, 2008 at 7:00 p.m. it is the Council's intention to consider introduction of an ordinance to adopt new and modified non-utility system development fees effective December 29, 2008. It is the intention of the Council to consider the final adoption of the ordinance for the new and modified non-utility system development fees and the adoption of the non-utility Infrastructure Improvement Plan at the Regular Meeting of the Chandler City Council to be held in the Council Chambers, 22 South Delaware Street, on Thursday, September 25, 2008 at 7:00 p.m.

A copy of the new and modified non-utility system development fees and the non-utility Infrastructure Improvements Plan will be available in the office of the City Clerk commencing June 13, 2008.

Schedule for the Adoption of 2008 New and Modified Non-Utility System Development Fees

For an Effective Date of December 29, 2008:

June 12, 2008	Council – Approve the Process to Consider and Adopt New and Modified Non-Utility System Development Fees and the Proposed Non-Utility Infrastructure Improvements Plan and Set the Date for the Public Hearings
August 14, 2008	Council – Conduct Public Hearings on the New and Modified Non-Utility System Development Fees and the Proposed Non—Utility Infrastructure Improvements Plan
September 11, 2008	Council – Introduce Ordinance for New and Modified Non-Utility System Development Fees
September 25, 2008	Council – Adopt Ordinance for New and Modified Non-Utility System Development Fees and Adopt Non-Utility Infrastructure Improvements Plan
December 29, 2008	New and Modified Non-Utility System Development Fees in Effect

City of Chandler, Arizona

Non-Utility
System Development Fee Update

duncan | associates

June 2008

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EXECUTIVE SUMMARY

Impact fees are charges assessed on new development to cover the costs of capital improvements needed to accommodate growth. The City of Chandler calls its impact fees "system development fees." This report updates the City's system development fees for arterial streets, fire, police and public buildings. The City's neighborhood and community park fee have also been updated and combined into one City-wide park system fee. In addition, this update includes the option to re-instate the library system development fee, which was eliminated by the City as part of the 2005 fee update and has not been charged since February 1, 2006.

The purpose of this study is to update Chandler's non-utility system development fees based on the most appropriate methodology and the most current data. Given that the City's last fee update was done in-house based on a prior consultant's methodology, this update provides the opportunity to take a fresh look at the methodology used to calculate the fees. A separate report provides the infrastructure improvements plan for non-utility system development fees required by Arizona State law.

Methodology Changes

Several deviations from the methodology used in the previous study were made to simplify and improve the City's system development fees. The most significant change was to perform an analysis of the existing level of service to ensure that the fees are not based on a higher level of service than is currently provided to existing development. This change responds to criticism raised during the last update that remaining growth was being charged for more than its proportionate share of the cost of the ultimate system.

This study utilizes a standardized unit of demand for each facility type based on the Equivalent Dwelling Unit, or EDU, for the calculation and assessment of the system development fees. The number of EDUs associated with each individual land use represents the demand that it generates for each capital facility category compared to the demand created by a single-family housing unit.

This study also incorporates recent changes to the State's impact fee act. In 2007, the Arizona State Legislature passed Senate Bill 1423, which amended State law relating to municipal impact fees. Among other changes, the revised statute requires municipalities to adopt an infrastructure improvements plan, which provides a list and schedule of planned infrastructure that will be funded with the development fee. The infrastructure improvements plan required by State law for each of the City's non-utility system development fees is provided in a separate document.

Potential Impact Fee Summary

In Table 1 through Table 5, current non-utility system development fees for typical land use types are compared to the potential maximum fees calculated in this report. The total non-utility fee for

single-family units, multi-family units and industrial/warehouse land uses would decline, while total non-utility fees for retail and office uses would increase.

Table 1. Current and Potential Single-Family Fees

Facility	Current Fees	Potential Fees	Change
Arterial Streets	$2,896	$3,708	$812
Parks	$6,658	$4,708	($1,950)
Fire	$564	$537	($27)
Police	$241	$268	$27
Public Buildings	$573	$295	($278)
Library	$0	$233	$233
Total, Non-Utility	$10,932	$9,749	($1,183)

Source: Table 21, Table 38, Table 50, Table 61, Table 70 and Table 79.

Table 2. Current and Potential Multi-Family Fees

Facility	Current Fees	Potential Fees	Change
Arterial Streets	$1,904	$2,277	$373
Parks	$3,831	$3,606	($225)
Fire	$564	$411	($153)
Police	$241	$205	($36)
Public Buildings	$573	$226	($347)
Library	$0	$178	$178
Total, Non-Utility	$7,113	$6,903	($210)

Source: Table 21, Table 38, Table 50, Table 61, Table 70 and Table 79.

Table 3. Current and Potential Retail Fees per 1,000 sq. ft.

Facility	Current Fees	Potential Fees	Change
Arterial Streets	$13,860	$13,768	($92)
Parks	$0	$0	$0
Fire	$330	$672	$342
Police	$140	$335	$195
Public Buildings	$330	$369	$39
Library	$0	$0	$0
Total, Non-Utility	$14,660	$15,144	$484

Source: Table 21, Table 38, Table 50, Table 61, Table 70 and Table 79.

Table 4. Current and Potential Office Fees per 1,000 sq. ft.

Facility	Current Fees	Potential Fees	Change
Arterial Streets	$4,260	$5,469	$1,209
Parks	$0	$0	$0
Fire	$330	$511	$181
Police	$140	$255	$115
Public Buildings	$330	$281	($49)
Library	$0	$0	$0
Total, Non-Utility	$5,060	$6,516	$1,456

Source: Table 21, Table 38, Table 50, Table 61, Table 70 and Table 79.

Table 5. Current and Potential Industrial/Warehouse Fees per 1,000 sq. ft.

Facility	Current Fees	Potential Fees	Change
Arterial Streets	$3,070	$2,444	($626)
Parks	$0	$0	$0
Fire	$330	$164	($166)
Police	$140	$82	($58)
Public Buildings	$330	$90	($240)
Library	$0	$0	$0
Total, Non-Utility	$3,870	$2,780	($1,090)

Source: Table 21, Table 38, Table 50, Table 61, Table 70 and Table 79.

Compared to revenues that would be collected under current fee schedules, overall system development fee revenues to be collected from now until build-out are expected to stay about the same for arterial streets, decline for parks, fire and public buildings and increase for police and libraries. The sum of all non-utility system development fee revenue through build-out can be expected to be about 7 percent lower under the updated fees than under current fee schedules.

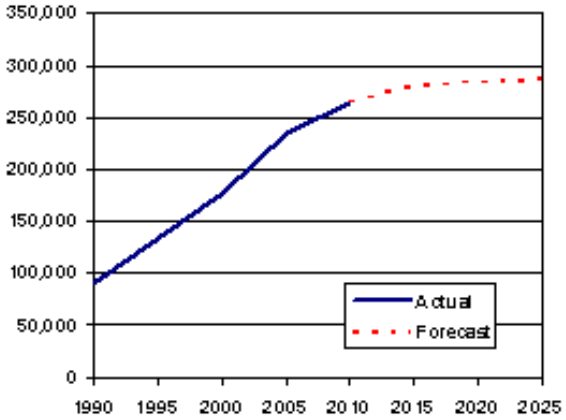
Table 6. Current and Updated Revenue Estimates

Facility	Revenue Estimates to Build-Out			Percent Change
	Current Fees	Updated Fees	Change	
Arterial Streets	$290,856,660	$291,901,129	$1,044,469	0%
Parks	$88,455,128	$69,062,528	($19,392,600)	-22%
Fire	$28,410,726	$25,947,461	($2,463,265)	-9%
Police	$12,081,309	$12,951,822	$870,513	7%
Public Buildings	$28,558,047	$14,253,687	($14,304,360)	-50%
Library	$0	$3,414,567	$3,414,567	NA
Total, Non-Utility	$448,361,870	$417,531,194	($30,830,676)	-7%

Source: Table 22, Table 39, Table 51, Table 62, Table 71 and Table 80.

INTRODUCTION

Figure 1. Population Growth, 1990-2025



Based on U.S. Census data, Chandler was the 7th fastest growing city in the country with a population greater than 100,000 between 1990 and 2000. The City's recent rapid population growth is projected to level off over the next decade as it nears residential build-out within its current borders. As illustrated in Figure 1, the City's population is projected to increase from an estimated 247,800 in 2007 to 286,300 in 2025.

Given Chandler's proximity to build-out, the City's current system development fees are based on a "forward looking" methodology, which essentially divides the remaining cost of planned facilities required to serve growth at build-out by the development anticipated to occur from now until build-out. Under this methodology, system development fees will cease to be collected when the City can no longer identify additional capacity-expanding projects to fund.

This section provides the legal framework for impact fees, general information about impact fee principles and a description of the role of level of service in impact fee analysis. Subsequent sections calculate updated system development fees for arterial streets, parks, fire, police, public buildings and libraries.

Legal Framework

Impact fees are charges that are assessed on new development to help pay for the capital facility costs they impose on the community. Unlike other types of developer exactions, impact fees are based on a standard formula and a pre-determined fee schedule. Essentially, impact fees require that each new residential or commercial project pay its pro-rata share of the cost of new facilities required to serve that development.

State Law

Arizona is one of 27 states that have adopted specific enabling legislation authorizing the use of impact fees, referred to in State law as "development fees," as a method of financing improvements to public facilities necessitated by the increased demands resulting from new development. The Arizona impact fee enabling act for cities, Section 9-463.05, Arizona Revised Statutes (A.R.S.), provides that:

> *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, other capital costs and associated appurtenances, equipment, vehicles, furnishings and other personality (A.R.S. 9-463.05.A).*

While this is a broad grant of authority, the Arizona Supreme Court has ruled that facilities that are not directly provided by a municipality, such as schools, do not represent "costs to the municipality" and therefore are not eligible for impact fees.[1]

To conform to State law, a municipal impact fee must meet the following standards, which are set forth in Section 9-463.05.B:

1. *Development fees shall result in a beneficial use to the development.*

2. *Monies received from the development fees...shall be placed in a separate fund...and may only be used for the purposes authorized by this section....*

3. *The schedule for payment of fees shall be provided by the municipality. The municipality shall provide a credit toward the payment of a development fee for the required dedication of public sites, improvements and other necessary public services 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 are provided by the developer....*

4. *The amount of any development fee...must bear a reasonable relationship to the burden imposed upon the municipality to provide additional necessary public services to the development. The municipality, in determining the extent of the burden imposed by the development, shall consider, among other things, the contribution made or to be made in the future in cash or by taxes, fees or assessments by the property owner towards the capital costs of the necessary public service covered by the development fee.*

5. *If development fees are assessed by a municipality, such fees shall be assessed in a nondiscriminatory manner.*

The State Legislature amended the statute relating to municipal impact fees during the 2007 session (Senate Bill 1423). In addition to expanding and clarifying some of the impact fee requirement standards, the bill amends the public notice periods necessary for the assessment of a new or modified impact fee.

The amended statute also allows municipalities to automatically adjust an impact fee on an annual basis based on a nationally-recognized cost index without a public hearing provided that the municipality provides public notice of the adjustment at least thirty days prior to the effective date. An automatic adjustment may be appropriate in years when the City does not perform a comprehensive update. The State statute does not suggest a mechanism for indexing the impact fee. There are several national indexes that track annual and monthly changes in construction costs. For Chandler, we recommend the use of the Construction Cost Index (CCI) published by the *Engineering News-Record* (ENR), which measures changes in costs related to construction cost components, such as cement, steel, wood and labor costs. Such an index is most appropriate for all of Chandler's fees since construction accounts for the biggest component of planned system development fee expenditures. The most straight-forward and simplest approach to annual impact fee updates would be to adjust the fees at the end of each year that the fees were not comprehensively updated based on the percent change in the CCI during the preceding 12-month period.

[1] Homebuilders of Central Arizona, et. al. v. City of Apache Junction, 2000.

The revised statute also requires that "before the assessment of a new or modified fee, the governing body of the municipality shall adopt or amend an infrastructure improvements plan." The revised statute requires that an infrastructure improvements plan include an estimate of future facilities that will be required as a result of new development, a forecast of the infrastructure costs and a schedule of planned infrastructure construction. The infrastructure improvements plan is included in a separate report that may be adopted concurrently with the impact fee update.

Case Law

The adoption of impact fee legislation in Arizona and its interpretation by the Arizona courts has taken place in the larger context of the national evolution of impact fees. Since impact fees were pioneered in states like Florida that lacked specific enabling legislation, such fees have generally been legally defended as an exercise of local government's broad "police power" to protect the health, safety and welfare of the community. The courts have gradually developed guidelines for constitutionally valid impact fees, based on a "rational nexus" that must exist between the regulatory fee or exaction and the development activity that is being regulated. The standards set by court cases generally require that an impact fee meet a two-part test:

1) The amount of the fee must be proportional to the need for new facilities created by the new development; and

2) The expenditure of impact fee revenues must provide benefit to the fee-paying development.

Of key importance in calculating legally-valid development impact fees in Arizona is the proper interpretation of the clause "must bear a reasonable relationship to the burden imposed upon the municipality to provide additional necessary public services." The following four principles developed from case law provide guidance for interpreting this clause:

1) Fees should not exceed the cost of needed facilities;

2) Fees should be proportional to the demand generated by the development;

3) Fees should not charge new development for a higher level-of-service; and

4) New development should not be charged twice for the same level-of-service.

The first principle was often linked to the second principle in early impact fee cases. For example, the Florida Supreme Court in the 1976 Dunedin case held that water and sewer connection fees charged for the purpose of funding system capacity expansion were permissible if they "do not exceed a pro rata share of reasonable anticipated costs of expansion."[2]

The second principle sets a somewhat different standard: not only is it necessary not to overcharge new development generally, each particular development must pay no more than its proportionate share of the costs. Impact fees for various types of developments should be proportional to the impact of each development on the need to construct additional or expanded facilities. The fees do

[2] Contractors and Builders Association of Pinellas County v. City of Dunedin, 1976

not have to recover the full cost, but if the fees are reduced by a percentage from the full cost, the percentage reduction should apply evenly to all types of developments.

The third principle of impact fees is that impact fees should not charge new development for a higher level of service than is provided to existing development. While the impact fees could be based on a higher level of service than the one existing at the time of the adoption or update of the fees, two things are required if this is done. First, another source of funding other than impact fees must be identified and committed to fund the capacity deficiency created by the higher level of service. Second, the impact fees must generally be reduced to ensure that new development does not pay twice for the same level of service, once through impact fees and again through general taxes that are used to remedy the capacity deficiency for existing development.

Finally, under the fourth principle, new development should not have to pay twice for the same level of service. As noted above, if impact fees are based on a higher-than-existing level of service, the fees should be reduced by a credit that accounts for the contribution of new development toward remedying the existing deficiencies. A similar situation arises when the existing level of service has not been fully paid for. Outstanding debt on existing facilities that are counted in the existing level of service will be retired, in part, by revenues generated from new development. To avoid requiring new development to pay more than its proportional share, impact fees should be reduced to account for future tax payments that will retire outstanding debt on existing facilities.

In general, reductions of impact fees are not required for other types of funding that are used for capacity-expanding improvements. While new development may contribute toward such funding, so does existing development, and both existing and new development benefit from the higher level of service that the additional funding makes possible. Nonetheless, where identifiable, the cost of planned facilities has been reduced to account for other funding sources, such as anticipated Maricopa County Department of Transportation and Regional Transportation Plan funding for arterial streets.

Study Methodology

Given Chandler's proximity to build-out, the "plan-based" methodology utilized to determine the City's system development fees in past updates ensures that fees will cease to be collected when the City can no longer identify capacity-expanding projects to fund. Such an approach is appropriate for a city such as Chandler that has developed infrastructure plans for its major facilities to accommodate growth at an accepted level-of-service standard developed for each facility type. While continuing to use the plan-based methodology, this update also includes an existing level of service analysis to ensure that the fees do not charge new development for a higher level of service than provided to existing development. The fees are based on the results of the plan-based method or the existing level of service analysis, whichever is less.

Growth-Related Costs

A minimum standard in any plan-based impact fee calculation is that the improvements used in calculating the fee must expand the capacity of the system to serve additional development. The current methodology includes the cost of improvements that are deemed to be "capacity-expanding." For most facility types, capacity-expanding improvements can be identified based on

the nature of the improvement (e.g., replacing an existing fire station would not be eligible, but building a new fire station would be). All capacity-expanding improvements are eligible to be funded with impact fees. However, not all eligible costs can be attributed 100 percent to growth.

Our approach in this study is not to try to determine a growth-related percentage for each planned improvement. It is very difficult to make such a determination for an individual project, because the theory that is used to determine growth's fair share is that new development should not be charged for a higher level of service than existing development, and level of service is a concept that relates to a set of facilities, not to an individual facility. Our proposed approach is to measure the existing level of service for the entire system of facilities subject to the fee, expressed in replacement cost per service unit, and ensure that the updated system development fees are not based on a higher cost per service unit. This ensures that the system development fees comply with proportionate share principles, without having to resort to qualitative judgments about the extent to which the costs of individual capacity-expanding improvements should be attributed to growth.

The identification of growth-related costs is less clear-cut when it comes to one-of-a-kind facilities that the City does not currently provide. Examples include the planned police training facility and city hall. The City has in past updates allocated less than 100 percent of the cost of these planned improvements to growth. However, the basis of any such allocation is unclear. The fact that an improvement is unique does not mean that an individualized level of service determination is warranted. Let's take a simplified example. Let's assume that the ultimate set of fire protection facilities that a community will have at build-out consists of four fire stations that cost $2 million each and a $4 million training facility. The city is half-built out, with a current population of 100,000 people. Existing residents have fully paid for three fire stations, which represents an investment of $60 per person ($6 million divided by 100,000 existing residents). All that is left to be built is the fourth fire station and the training facility, which work out to a plan-based cost of $60 per person ($6 million divided by 100,000 new residents). In dollar terms, new development is paying for the same LOS as existing development. However, if the LOS analysis is conducted separately for the training facility, there is no existing LOS and the cost would be attributed to both existing and new residents, while existing development would get no credit for having paid for one fire station that is really going to serve future residents (since those costs have already been paid, they cannot be recovered through impact fees). Under this approach, the cost of the one fire station would be attributed entirely to growth, for a cost of $20 per person ($2 million divided by 100,000 new residents), while the training facility cost would be shared by all residents, for a cost of $20 per person ($4 million divided by 200,000 build-out residents). The total cost would be $40 per person, less credit for the share of existing development's share of the training facility that is paid by growth. If we assume the training facility is built at build-out, the credit for existing development's share would be $10 per person (half of the $4 million cost divided by 200,000 build-out residents), which results in a net fee of only $30 per person. In this example, treating the specialized facility separately results in a fee that is only half of what it should be when looked at in terms of equivalent investments in the system of capital facilities.

Our position is that the fairest and most reasonable approach is to determine the level of service for the entire set of facilities, rather than to focus on individual improvements. The fact that the City does not now provide police training facilities or a municipally-owned city hall (the current one is leased) does not matter, since the City does currently provide other facilities for the respective general categories of facilities. The nexus between new development and the cost of the provision

of such facilities is provided through the inclusion of an existing level of service analysis, which ensures that the fee does not exceed the existing level of service.

The issue is also less clear-cut with respect to existing facilities that have not been fully paid for. Examples include the repayment of interfund loans, debt repayment or the purchase of a leased facility. The inclusion of such costs recognizes that the community has already constructed improvements that will serve future growth. If the improvements creating the excess capacity have not been fully paid for, the fees collected from future development can be used to retire the debt on those improvements. Again, the key is to perform an existing level of service analysis to ensure that the fee does not exceed the value of the existing level of service.

Service Units

To make a level of service standard, it is necessary to define a common unit of expression for service demand, known as a "service unit." This study utilizes Equivalent Dwelling Units (EDUs) to standardize the demand generated by each land use type for the calculation and assessment of the system development fee. The EDU associated with each land use represents the demand that it places on each capital facility category compared to the demand created by a detached single-family housing unit on each category.

The EDU factors for major arterial streets are based on the impact a development has on the street system. As in prior updates, the impact on the arterial street system is based on how many trips are made by a vehicle. However, the trip rates are updated to reflect the most recent published data on peak hour trip generation rates published in the seventh edition of the Institute of Transportation Engineers' (ITE) *Trip Generation* manual. Prior studies utilized the sixth edition of the ITE *Trip Generation* manual.

The City's current community and neighborhood park service unit allocation is based on a 1997 park usage survey. This update recommends the use of a service unit that avoids the need to update the park usage survey or make assumptions about park usage. For parks, the impact of a dwelling unit on the need for capital facilities is generally proportional to the number of persons residing in the dwelling unit. In this update, we recommend using persons per unit as the standard for allocating park costs among residential land uses.

The service unit used in the current methodology for fire, police and public building fees is building floor area, expressed in square feet. The implicit assumption is that a square foot of building generates the same demand for public safety or public buildings regardless of whether it is residential, commercial, industrial or institutional. The resulting fee schedules, however, had a flat rate for all dwelling units regardless of size or housing type. While this is not necessarily unreasonable, it is arguably more accurate to measure the demand for general government services and public safety functions based on the presence of people. For fire, police and public buildings fees, the recommended EDU factors are based on a concept referred to as "functional population" in the impact fee literature. The functional population approach differentiates between single-family and multi-family based on household size, and between commercial, office, industrial and warehousing uses based on the density of people (functional population per 1,000 square feet).

Level of Service

One of the simplest ways to determine if impact fees are equitable is to determine what level of service is currently being provided by the City for existing residents and businesses. As long as the fees based on the cost of planned improvements are not based on a higher level of service than is currently provided to existing development, the fees are consistent with rational nexus principles.

While various indicators can be used to measure level of service, such as acres of parkland per 1,000 residents, it is possible to address these issues without specifying a level of service standard in terms of an explicit ratio. In reality, the level of service is a set of capital facilities, including land, buildings and equipment that provide service to a given amount of development. Explicit level of service standards inevitably over-simplify this complex relationship by emphasizing one element of the capital facilities, such as acres of land for parks or square feet of library buildings (or, in some cases a characteristic that is not directly related to capital facilities, such as officers for law enforcement). Our preferred approach is to measure the existing level of service in terms of the replacement cost of existing facilities per existing service unit.

In this study, the cost per service unit will be calculated in two ways. First, the cost of remaining planned improvements will be divided by remaining service units to determine the plan-based cost per service unit. Second, the replacement cost of existing facilities will be divided by existing service units to determine the existing cost per service unit. The updated system development fees will be based on whichever cost per service unit is lower.

Developer Credits

As discussed in the Legal Framework section, impact fee case law requires that developers be given credit against impact fees otherwise due for in-kind contributions toward the same types of facilities covered by the fees. The City of Chandler provides credits that can be used to reduce the fees that would otherwise be owed within the development for which a dedication or improvement was made. For non-utility fees, the City has historically only provided credit to developers for arterial street improvements.

Chandler provides credit to developers for the dedication or construction of capital facilities or participation in an improvement district provided that the contribution meets capital improvement needs for which the particular development fee has been imposed. The City provides a credit based on the value of the developer contribution, which reduces the system development fee liability for the new units within a given development.

According to the City's ordinance, in order to be eligible for credit a developer must submit a credit application to the City Engineer prior to the Final Plat approval. The credit value is determined by the City Engineer and fixed at the value of fees in place at the time when the development's first permit is issued. The developer credits are allocated within a development based on the land use associated with the development. The credits run with the land and are applied to whoever pulls the permits within the development. Credits are non-transferable.

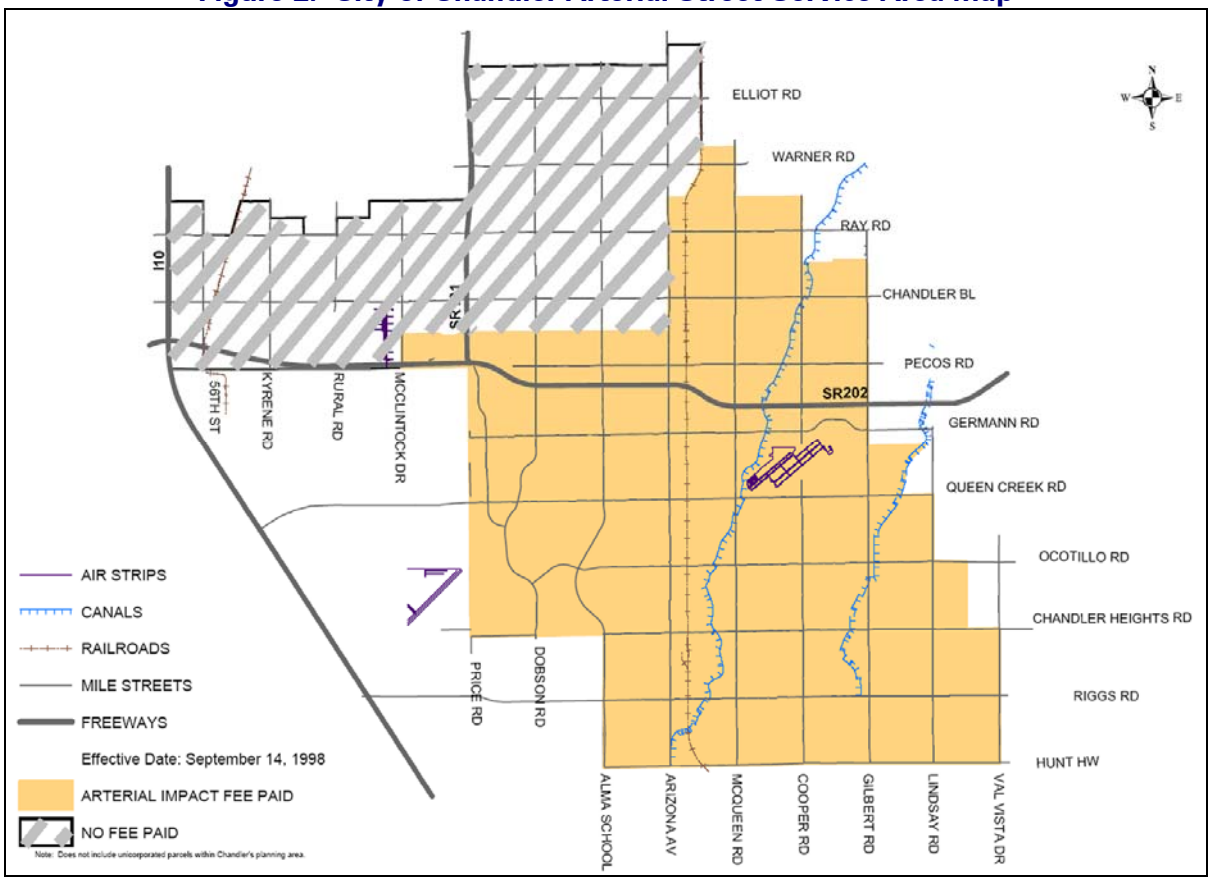
ARTERIAL STREETS

The City of Chandler currently charges an arterial street system development fee based on the cost of planned arterial street improvements in the City's arterial street service area. The arterial street system development fee was last updated by City staff in 2006 based on the methodology utilized by the previous consultant in the 2005 update.[3]

Arterial Street System and Service Area

Unlike the City's other non-utility system development fees, the arterial street fee is only charged to new development located in the southern and eastern portions of the city (see Figure 2). The rest of the city is exempted because it is mostly built-out and most arterial streets were funded with special improvement districts. The City's system development fee ordinance defines the arterial street system to be funded with the fees as arterial streets within the service area; the definition excludes collector streets and freeways. This update maintains the service area boundaries and definition of the major street system. An inventory of the existing arterial street system in the service area was compiled for this update and is presented in Table 88 in Appendix C.

Figure 2. City of Chandler Arterial Street Service Area Map



[3] BBC Research & Consulting, *City of Chandler System Development Fee Update,* September 2005.

Methodology

There are two main alternative methodologies used in road impact fee analysis: "consumption-based" and "plan-based." The consumption-based methodology, also known as the "incremental expansion" approach, assumes that the roadway system will need to be expanded to replace the capacity consumed by new development. Such an approach does not require a list of planned improvements, but requires only a typical cost to construct a lane-mile of roadway and the average capacity of a lane. A plan-based methodology, also called an "improvements-based" approach, essentially divides the cost of growth-related improvements required over a fixed planning horizon by the number of new service units projected to be generated by growth over the same planning horizon in order to determine a cost per service unit.

As discussed in the introduction, this study use the plan-based approach in developing the updated system development fees only where the plan-based cost per service unit can be shown to be lower than the existing level of service. The existing level of service analysis ensures that new development does not pay for a higher level of service than has been paid for by existing development. In addition, a credit for outstanding debt, if applicable, will be provided to place new development on an equal footing with existing development in terms of debt funding of past improvements. However, debt-funded facilities that will serve future growth will be excluded from the existing level of service analysis, with the repayment included in the plan-based fee calculation.

The calculation of the plan-based arterial street cost per service unit is based on a list of planned arterial street improvements in the service area; these costs include street construction, right-of-way (ROW) acquisition, traffic signals, culverts and storm drains and bridges. The list of arterial street improvements in the City's infrastructure improvements plan is based on the City's approved Street Classification Map, which defines the future arterial street network and the street cross-section. The classification map is not based on a fixed planning horizon, but represents the future arterial street network that will be in place at build-out.

Service Units

In impact fee analysis, disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for facilities. This unit of measurement is called a "service unit." The service unit proposed for the City's arterial street system development fees is the Equivalent Dwelling Unit, or EDU, which represents the impact on the major arterial street system of a typical single-family detached dwelling unit.

As discussed in the introduction, this study utilizes updated trip generation rates as the basis for the EDUs. The arterial street costs were allocated among land uses based on the usage of streets and facilities generated by particular land uses using P.M. peak hour trip generation rates from the seventh edition of the Institute of Transportation Engineers' (ITE) *Trip Generation* manual.

Service Unit Multipliers

The first step in quantifying existing and future service units for the arterial street system development fee is to determine the relationship of travel demand for all land uses to average single-

family travel demand. As in prior updates, this study utilizes peak hour trip generation rates to determine the service unit multipliers associated with each land use. Trip generation rates represent trip ends, or driveway crossings at the site of a land use. Thus, a single one-way trip from home to work counts as one trip end for the residence and one trip end for the work place, for a total of two trip ends. The recommended arterial street EDUs based on trip generation rates for major land uses are shown in Table 7.

Table 7. Arterial Street Service Unit Multipliers

Land Use	Unit	Pk Hr Trips	EDU/Unit
Single Family	Dwelling	0.505	1.000
Multi-Family	Dwelling	0.310	0.614
Retail/Commercial	1000 sq. ft.	1.875	3.713
Office	1000 sq. ft.	0.745	1.475
Public/Institutional	1000 sq. ft.	0.210	0.416
Industrial/Warehouse	1000 sq. ft.	0.333	0.659

Source: Peak hour trips is ½ of average peak hour trips during weekday from ITE, *Trip Generation, 7th ed.*, 2003 (retail based on shopping center, public based on nursing home, industrial/warehouse based on average trip rate for industrial park and warehouse).

As shown in Table 8, the weighting factor currently used by the City in determining system development fees is converted to an equivalency factor based on the single-family factor and compared to the proposed EDU per unit. As previously mentioned, the City's current weighting factor is based on P.M. peak hour trip generation rates from the sixth edition of the ITE *Trip Generation* manual. Under the proposed EDU per unit schedule based on updated ITE trip generation rates, the relative EDU per unit would remain the same or decline for all land uses except the public/institutional category.

Table 8. Arterial Street Service Unit Comparison

Land Use	Unit	Current Weighting Factor	Current EDU/Unit	Proposed EDU/Unit	Percent Change
Single Family	Dwelling	1.02	1.000	1.000	0%
Multi-Family	Dwelling	0.67	0.657	0.614	-7%
Retail/Commercial	1000 sq. ft.	4.88	4.784	3.713	-22%
Office	1000 sq. ft.	1.50	1.471	1.475	0%
Public/Institutional	1000 sq. ft.	0.30	0.294	0.416	41%
Industrial/Warehouse	1000 sq. ft.	1.08	1.059	0.659	-38%

Source: Current weighting factor from BBC Research & Consulting, *System Development Fee Update*, 2005; current EDU/unit based on relative ratio of current weighting factor to single-family weighting factor; proposed EDU/unit from Table 7.

City staff has expressed concern that changing the service units assigned to each land use could complicate the calculation of outstanding developer credits, since the developer credits are currently allocated based on the total number of EDUs associated with the development. If the EDU factors change, there is some concern that staff would need to recalculate outstanding credits. In order to limit the need to recalculate outstanding developer credits, this study recommends amending the City's ordinance to clarify that the original credit allocations could be retained.

Existing and Future Service Units

In order to determine the existing level of service and calculate the arterial street system development fee, it is necessary to determine the existing and future service units in the service area. The existing service unit calculation is based on the EDU factors calculated in this section and an analysis of existing residential and nonresidential development prepared by the City of Chandler Long Range Planning Division. The City's land use data were provided for each Traffic Analysis Zone (TAZ), and the TAZs included in the service area were summed to determine the total existing arterial street service units. As shown in Table 9, the City has 96,025 EDUs in the arterial street service area.

Table 9. Existing Arterial Street Service Units

Land Use	ITE Code	Unit	Units	EDU/Unit	EDUs
Single Family	210	Dwelling	43,677	1.000	43,677
Multi-Family	220	Dwelling	11,956	0.614	7,341
Retail/Commercial	820	1000 sq. ft.	8,109	3.713	30,109
Office	710	1000 sq. ft.	2,796	1.475	4,124
Public/Institutional	620	1000 sq. ft.	5,546	0.416	2,307
Industrial/Warehouse	130/150	1000 sq. ft.	12,848	0.659	8,467
Existing Development					96,025

Source: Existing units from Table 83 in Appendix A; EDUs per unit from Table 7.

To determine the cost per service unit using a plan-based methodology, the planned improvement costs are divided by the projected growth in service units over the planning horizon. The planning horizon is build-out, which is estimated to occur by about 2040. Future service units were estimated based on residential and nonresidential development growth forecasts prepared by the City of Chandler Long Range Planning Division. The residential and nonresidential unit forecasts were developed based on existing housing units and employment, land use trends and historic growth trends for the traffic analysis zones included in the arterial street service area. As shown in Table 10, given the City's growth projection through build-out, the City will need to accommodate 78,717 additional EDUs in the service area.

Table 10. Build-Out Arterial Street Service Units

Land Use	ITE Code	Unit	Units	EDU/Unit	EDUs
Single Family	210	Dwelling	52,715	1.000	52,715
Multi-Family	220	Dwelling	18,839	0.614	11,567
Retail/Commercial	820	1000 sq. ft.	16,353	3.713	60,719
Office	710	1000 sq. ft.	11,704	1.475	17,263
Public/Institutional	620	1000 sq. ft.	7,164	0.416	2,980
Industrial/Warehouse	130/150	1000 sq. ft.	44,762	0.659	29,498
Future Development					174,742
Existing Development					96,025
New EDUs to Build-out					78,717

Source: Build-out units from Table 83, Appendix A; EDUs per unit from Table 7; existing EDUs from Table 9.

Planned Improvement Costs

Expanding the capacity of the City's arterial street system is primarily accomplished by widening existing roadway cross-sections to accommodate additional through lanes and by building new roads. The arterial street system development fee is designed to cover the cost of adding capacity to the arterial streets that are required to serve expected growth in the service area. All of the normal components of a roadway expansion project are eligible for system development fee funding, including engineering and design, ROW acquisition, construction of new lanes, reconstruction of existing lanes and relocation of utilities where necessary as part of a widening project, and installation of sidewalks, street lighting and landscaping as part of an improvement project.

In developing the planned improvement cost estimates, the system development fee calculation utilizes standardized costs for construction components, utility relocations and ROW acquisition. The ROW cost assumption utilized in developing the system development fee is based on an acquisition cost of $3 per square foot ($130,680 per acre).

The system development fee is based on planned capacity-expanding improvements in the arterial street service area. The project costs included in Table 11 represent the updated cost of implementing all of the remaining arterial street capacity identified by the City's Transportation Master Plan that will be needed through build-out. In some instances the planned improvement costs for certain projects differ from the amount listed in the City's current five-year CIP. The CIP costs are based on inflated cost estimates, while the costs used in the impact fee calculation are based on current dollars and are not adjusted for future inflation. In addition, the CIP costs may include only those costs programmed during the next five years rather than the full project cost and may include special design features that are not included in the calculation of the impact fee.

The project costs related to improvements that are under construction or fully-funded are not included in the list of planned improvement costs, since the value of these projects is reflected in the system development fee account encumbrances and carry-forward reserve balances. The net fee calculation includes an adjustment for impact fee account encumbrances and carry-forward balances that reflects the outstanding cost of projects currently under construction and no longer listed in the CIP.

The costs of arterial street improvements outside the physical boundaries of the service area are not included in the system development fee calculation. The locations of planned projects are illustrated in Figure 2; planned projects that are included in the current 2007-2012 CIP are highlighted in green and red and planned projects through build-out are highlighted in blue.

In prior system development fee studies, the arterial street costs and exclusions were adjusted by 88 percent to account for pass-through traffic. The 12-percent pass-through traffic rate represents trips that do not have an origin and destination within the fee area and are based on a transportation modeling analysis developed by the Maricopa Association of Governments. The portion of the arterial street improvements that are not included in the system development fee are funded through the General Fund since they are not attributable to growth. While it can be argued that this adjustment is not necessary due to the fact that spill-over effects across jurisdictional lines generally

balance out, this study maintains the pass-through adjustment. As shown in Table 11, the non-pass-through share of the planned improvements is an estimated $279.9 million in 2007 dollars.

Figure 2. Map of Planned Arterial Street Improvements

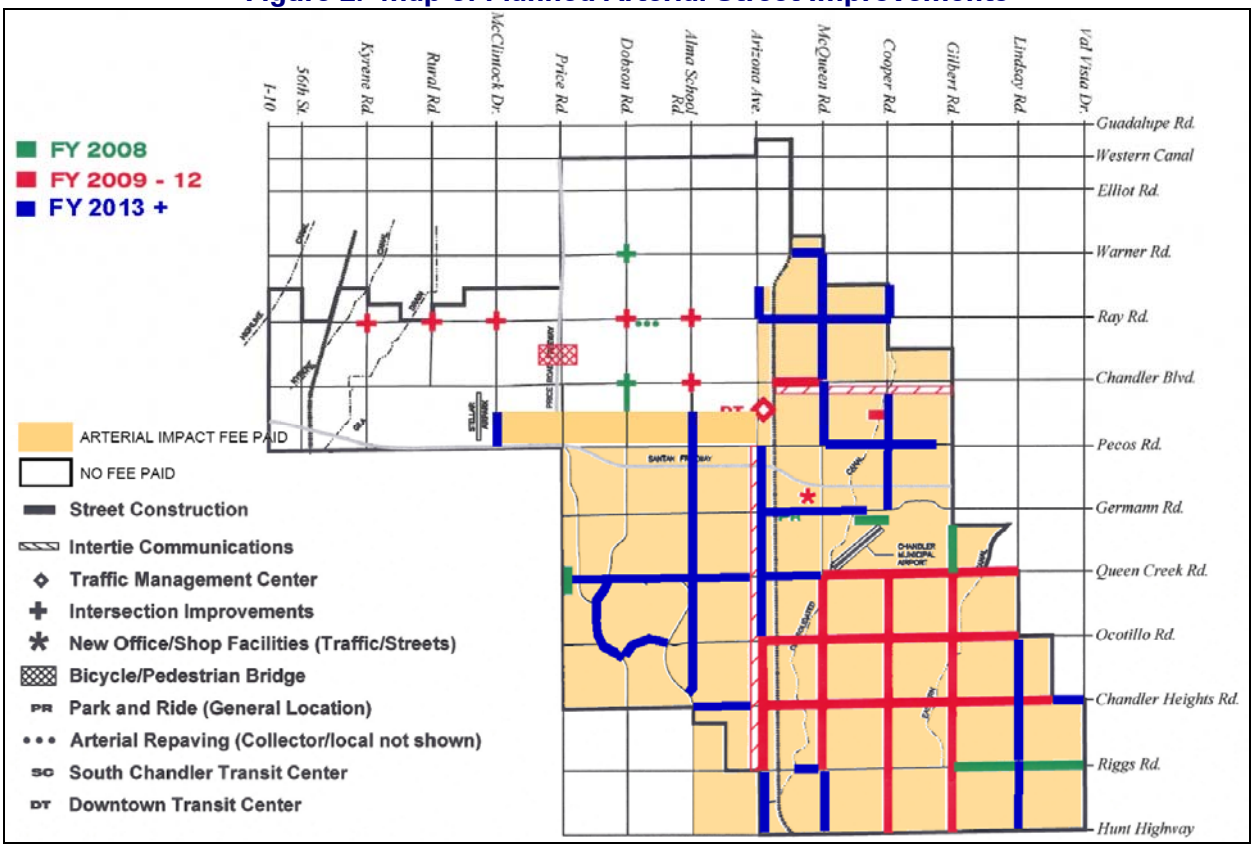


Table 11. Planned Arterial Street Improvements

Alma School - Frye to Germann	$7,240,000
Alma School - Germann to Ocotillo	$9,125,000
Alma School - Ocotillo to Chandler Heights	$6,790,000
Alma School - Chandler Heights to City Limit	$3,165,000
Arizona - Knox to Ray	$90,000
Arizona - Pecos to Ocotillo	$2,300,000
Arizona - Ocotillo to Riggs	$12,202,000
Arizona - Riggs to Hunt	$5,002,000
Chandler Blvd - Colorado to McQueen Road	$8,770,000
Chandler Heights - Alma School to Arizona	$1,100,000
Chandler Hts - Arizona to Cooper	$17,857,500
Chandler Hts - Cooper to Gilbert	$7,697,500
Chandler Hts - Gilbert to Val Vista	$15,395,000
Cooper - North City Limit to Ray	$2,740,000
Cooper - Consolidated Canal to Germann	NA*
Cooper - Queen Creek to Riggs	$14,300,000
Dobson - Queen Creek to Ocotillo	$7,900,000
Germann - Dobson to Alma School	NA*
Germann - Alma School to Arizona	NA*
Germann - Arizona Ave to .25 E of Airport Blvd	$4,185,000
Gilbert - Germann to Queen Creek	$8,290,000
Gilbert Road - Queen Creek to Chandler Heights	$21,058,100
Gilbert Road - Chandler Heights to Hunt Hwy	$10,371,900
Lindsay - Ocotillo to Riggs	$17,395,000
Lindsay - Riggs to Hunt	$4,045,000
McClintock - Frye to Santan	$1,960,000
McQueen - Warner to Chandler	$4,725,000
McQueen - Chandler to Pecos	$7,070,000
McQueen Road - Queen Creek to Riggs	$21,320,000
McQueen - Riggs to Hunt Highway	$3,015,000
Ocotillo - Dobson to Alma School	$4,300,000
Ocotillo Rd. - Arizona to Cooper	$13,145,000
Ocotillo - Cooper to Gilbert	$6,821,100
Ocotillo - Gilbert to 148th St	$19,413,900
Pecos - McQueen to 1/4 West of Gilbert	NA*
Price - Santan to Germann	NA*
Queen Creek - W City Limit to Dobson	NA*
Queen Creek - Dobson to Alma School	NA*
Queen Creek - Alma School to Arizona	NA*
Queen Creek - Arizona to McQueen	NA*
Queen Creek - McQueen to Cooper	$9,452,000
Queen Creek - Cooper to Gilbert	$7,868,790
Queen Creek - Gilbert to Lindsay	$6,309,210
Ray - Arizona to Cooper	$6,230,000
Riggs - West City Limit to Arizona	$3,725,000
Riggs - Gilbert to Val Vista	$10,800,000
Warner - UPRR to McQueen	$4,915,000
Total Planned Improvement Costs	$318,089,000
Pass-Through Adjustment	88%
Non-Pass-Through Improvement Costs	$279,918,320

*Projects with no value are already under construction or fully funded in the 2007-08 CIP.

Source: City of Chandler Management Services Department and Public Works Department, Traffic Engineering Division, November 21, 2007; growth share based on assumed pass-through factor of 12 percent.

Cost per Service Unit

The cost per service unit is developed by dividing the planned improvement costs by the projected growth in service units through build-out. The capacity-expanding improvement costs for arterial streets must be adjusted to account for outstanding inter-fund loans, developer credits related to prior improvement district arterial street improvements, anticipated state and county funding for the arterial projects included in the fee calculation and the net system development fee fund balance.

Inter-fund loans are utilized if system development fee funds are unavailable to cover project costs; these loans are provided from the general fund or existing general obligation bond authority. The City's arterial street system development fee fund currently has an outstanding inter-fund loan of $7.9 million. The City utilized the inter-fund loan proceeds to fund improvements to Germann Road, Pecos Road, Cooper Road and Riggs Road in southeast Chandler. These inter-fund loans add to the future capacity-expanding arterial costs that will be repaid through the fees collected from new development.

The City of Chandler has several improvement districts in the arterial street fee area that will receive credit back through reduced system development fee revenues. These improvement districts have funded some arterial street improvements, and the development in these districts will receive credit against their impact fee for district assessments through reduced system development fees. Similar to the adjustment for the inter-fund loan balance, adding back the cost of the credits recognizes the portion of the improvement district projects that will be funded with future system development fee revenue. As shown in Table 12, the value of the outstanding credits for the improvement districts is $16.5 million.

Table 12. Arterial Street Improvement District Credits

Improvement District #51	$2,889,025
Improvement District #53	$409,514
Improvement District #67	$4,056,426
Ocotillo West	$6,959,222
Ocotillo Phase 2	$2,221,969
Total Outstanding Credit Value	$16,536,156

Source: City of Chandler Management Services Department and Public Works Department, Traffic Engineering Division, November 21, 2007.

The total arterial street construction costs are reduced by the total amount of existing system development fee account fund balances. The available cash balance is subtracted from the total costs since the fund balance will be used to pay for a portion of the future infrastructure and decrease the amount needed to be collected from future system development fees. However, the impact fee account balance also includes encumbrances and capital carry-forward balances related to current arterial street projects that exceed the fund's cash balance. The carry-forward reserves represent encumbrances on purchase orders on projects that are under construction and not included in the existing level of service. The capital carry-forward balance represents the value of projects that are included in past capital improvement plans and represent commitments funded with existing fund balances that are not included in the existing level of service. The planned arterial street costs are adjusted to account for these outstanding balances. Note that these costs, which

represent remaining costs of projects that are already built or under construction, have not been reduced by the 12-percent pass-through factor. This is because that portion of the cost of these projects has already been paid by the City through its annual transfer of general fund revenue to the arterial street account to cover the pass-through costs.

The average cost per service unit is determined by dividing the adjusted cost of planned improvements by the future service units. As shown in Table 13, the cost for the planned future capacity-expanding arterial street improvements is $4,223 per EDU.

Table 13. Arterial Street Cost per Service Unit

Non-Pass-Through Planned Improvement Costs	$279,918,320
Inter-Fund Loan from General Fund	$7,870,000
Encumbrances for Current Projects	$25,166,294
Capital Carry-Forward Balance	$29,208,730
Outstanding Improvement District Credit Value	$16,536,156
Less: Ending Fund Balance, 6/30/2007	$26,297,256
Total, Future Non-Pass-Through Costs	$332,402,244
New EDUs	78,717
Plan-Based Cost per EDU	$4,223

Source: Total non-pass-through planned improvement costs from Table 11; inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; encumbrances, capital carry-forward and ending fund balance from City of Chandler Management Services Department, November 21, 2007; outstanding improvement district credits from Table 12; and new EDUs from Table 10.

Level of Service Analysis

One of the principles of impact fees is that new development should not be charged, through the impact fees, for a higher level of service than is provided to existing development. The list of improvements upon which the system development fee is based was originally developed in 2001 as part of the transportation master plan, and the improvements were developed to allow the City to maintain a Level of Service D (LOS D) at build-out.[4] This update provides an opportunity to examine the current and build-out level of service based on planned arterial street projects to ensure that the system development fee is not based on a higher level of service than is provided to existing development in the service area.

Traditional road impact fees define level of service in terms of operational characteristics of individual roadway segments or intersections. The City's current and build-out arterial street systems, including segment descriptions, segment lengths in miles, number of lanes, number of lane-miles, peak-hour capacity, peak-hour vehicle-miles of capacity, peak-hour volumes and peak-hour vehicle-miles, are summarized in Appendix C.

Rather than examining the LOS of individual arterial street sections, the level of service measure used in this analysis is based on the system-wide ratio of road capacity (at LOS D) to travel demand. As shown in Table 14, the arterial street system in the service area currently provides 1.60 vehicle-mile of capacity (VMC) for every unit of travel demand (VMT).

[4] Parsons Brinckerhoff, *Chandler Transportation Study*, May 24, 2001, p. 48.

In order to ensure that new development will not pay for a higher level of service than provided on the existing arterial street system, the ratio of capacity to demand was developed for build-out in 2040 based on the City's transportation study forecast of future traffic and road capacity based on planned arterial street cross-sections. The build-out assumptions used in modeling the future traffic volume for the City of Chandler were developed in the City's transportation study based on forecast employment and population assumptions similar to those utilized in this study, thus the build-out traffic model remains a relevant measure of future traffic volume in the impact fee area.[5] The future capacity is based on the arterial street projects recommended in the 2001 *Chandler Transportation Study*, which were utilized to develop the list of planned arterial street projects for the City's system development fee. Based on the analysis of current and future traffic shown in Table 14, the build-out capacity ratio will fall from 1.60 to 1.11. The reduction in the ratio over time indicates that the planned arterial street construction and the additional roadway capacity will not provide a higher level of service than provided by the current arterial street system, and new development will not be paying for a higher level of service than is provided to existing development.

Table 14. Arterial Street Capacity/Demand Ratios

	Existing	Future
Lane-Miles with Counts	320.03	481.63
VMT (Roads with Counts)	116,774	247,170
Average Volume per Lane (Roads with Counts)	364.88	513.19
3/4 Observed Volume per Lane	273.66	384.90
Lane-Miles without Counts	20.84	11.70
Estimated VMT (Roads w/out Counts)	5,703	4,503
Estimated Total Vehicle-Miles of Travel (VMT)	122,477	251,673
Total Vehicle-Miles of Capacity (VMC)	195,543	279,408
VMC/VMT Ratio	1.60	1.11

Source: Current arterial street system data, Table 88, Appendix C; future arterial street system data from Table 89, Appendix C.

While the comparative ratios provide a reasonable indication that new development is not being charged for a higher level of service, the existing level of service must be adjusted to reflect existing facilities that have not yet been paid for and are included in the fee calculation. To make these adjustments, it is necessary to estimate the value of the existing arterial street system in the service area.

The value of the current arterial street system can be determined based on the capacity-expanding share of the planned arterial street costs and the amount of capacity the new arterial streets will provide. The planned arterial street network will add an estimated 83,865 VMC to the City's arterial street system. The value of the planned arterial street improvements can be determined based on the planned arterial costs and the value of arterial streets currently under construction but not

[5] The projected build-out at 2040 used in the *Chandler Transportation Study* assumed a population of 304,967 and total employment of 212,038; the build-out projection utilized in this study is based on total population of 287,951 and 2040 employment of 226,289 as of August 1, 2007 - the reduced traffic demand associated with the lower build-out population estimate would be offset by an corresponding increase in traffic demand associated with the increase in the employment forecast.

included in the existing level of service. As shown in Table 15, the current cost to add capacity is estimated at $3,986 per VMC.

Table 15. Arterial Street Cost per Unit of Capacity

Future Road Capacity (VMC)	279,408
Existing Road Capacity (VMC)	195,543
Added Capacity	83,865
Growth-Related Improvement Costs	$279,918,320
Encumbrance Balance	$25,166,294
Capital Carry-forward Balance	$29,208,730
Total Future Road Costs	$334,293,344
Cost per Vehicle-Mile of Capacity (VMC)	$3,986

Source: Existing and future arterial street capacity from Table 14; non-pass-through improvement costs from Table 11; and encumbrances and carry-forward balance from Table 13.

The level of service related to existing development is based on the current level of infrastructure investment per EDU, adjusted to reflect the value of unfunded facilities that are included in the current arterial street inventory. The existing cash balance available in the impact fee fund account is added to the replacement cost, since those funds have been paid by existing development. As shown in Table 16, the estimated replacement value is $781.3 million; based on the existing service units, the replacement value is $8,137 per EDU. This represents a measure of the existing level of service.

Table 16. Existing Arterial Street Level of Service

Existing Road Capacity	195,543
Cost per VMC	$3,986
Arterial Replacement Value	$779,434,398
Cash Fund Balance, 6/30/2007	$26,297,256
Less: Inter-fund Loan	$7,870,000
Less: Improvement District Credits	$16,536,156
Net Replacement Value	$781,325,498
Existing EDUs	96,025
Existing LOS (Replacment Value per EDU)	$8,137

Source: Existing arterial street capacity from Table 14; cost per VMC from Table 15; cash fund balance from Table 13; inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; improvement district credits from Table 12; and existing EDUs from Table 9.

Net Cost per Service Unit

The arterial street system development fee should not charge new development for a higher level of service than is provided to existing development. Since the replacement value per service unit for the existing arterial street system ($8,137 per EDU) is greater than the cost of the planned improvement cost ($4,223 per EDU), the updated system development fee is based on the planned improvements.

Table 17. Arterial Street Level of Service Analysis

Existing LOS (Replacement Value per EDU)	$8,137
Plan-Based Cost per EDU	$4,223

Source: Existing LOS from Table 16; plan-based cost per EDU from Table 13.

The calculation of the arterial street fee will need to take into account other revenues that will be generated by new development and used to offset the planned improvement costs. As shown in Table 18, the funding includes $40.5 million from the Regional Transportation Plan (RTP) funds and an additional $5.6 million from the Maricopa County Department of Transportation (McDOT). The countywide RTP was established in 2004 through Proposition 400 and is funded with a county-wide supplemental sales tax. McDOT funds are programmed by the County for specific street segments and are primarily funded from the Highway User Revenue Fund (HURF). HURF is comprised of Arizona's vehicle license taxes, vehicle registration fees and 18-cents-per-gallon tax on gasoline, which are distributed to all jurisdictions based on a formula established by the State Legislature. The City also receives HURF directly from the State, as well as Federal Congestion Management/Air Quality (CMAQ) grants for projects programmed in the current five-year Capital Improvement Program. However, these funds are not programmed for capacity-expanding arterial street improvements; the anticipated HURF funding is programmed for repaving, planning and traffic monitoring projects, and the CMAQ grants are programmed for signal upgrades, transit and bike lane projects. The external funding available for capacity-expanding improvements is adjusted to account for the 12 percent of pass-through traffic. Based on external funding programmed for new projects and new service units, the external funding credit is $515 per EDU.

Table 18. External Street Funding Credit

Project	Year	Funding
Arizona - Ocotillo to Hunt	FY 2011-FY 2013	$5,895,000
Gilbert - Santan to Hunt	FY 2021	$18,877,000
Queen Creek - Arizona to Lindsay	FY 2011-FY 2012	$15,706,000
Subtotal, RTP Funds		$40,478,000
Riggs Road	FY 2008-FY 2009	$3,200,000
Queen Creek Road	FY 2008-FY 2009	$2,368,204
Subtotal, McDOT Funds		$5,568,204
Net External Funding		$46,046,204
Growth Share		88%
Total Growth-Related External Funding		$40,520,660
New EDUs		78,717
External Funding Credit per EDU		$515

Source: City of Chandler Management Services Department and Public Works Department, Traffic Engineering Division, November 21, 2007; growth share based on assumed pass-through factor of 12 percent; and new EDUs from Table 10.

To avoid double payment issues, the system development fees should also be reduced to account for the amount that new development will pay to retire the debt on past capacity-expanding improvements that are now part of the existing arterial street network. The City's general obligation debt and HURF revenue bonds are issued for non-capacity improvements such as bikeway/pedestrian improvements, transit improvements, drainage projects, lighting and safety improvements and resurfacing, rehabilitation and reconstruction projects. The City has also used bond funding for non-arterial street improvements that are not part of the system development fee; for example the City will be using debt to improve Frye Road, Old Price Road and Airport Boulevard in the current five-year Capital Improvement Program. While the City may program general obligation bonds for future capacity-expanding projects, such bonds will only be utilized if system development fee funds are unavailable to cover project costs at the time of need and will be repaid with future system development fee funds. There is no identifiable debt that has been issued for capacity-expanding arterial street improvements; as a result, no debt credit is necessary. As shown in Table 19, the net cost per unit based on the plan-based cost per service unit and the external street funding credit is $3,708 per EDU.

Table 19. Net Arterial Street Cost per EDU

Plan-Based Cost per EDU	$4,223
Less: External Funding Credit	$515
Net Cost per EDU	$3,708

Source: Plan-based cost per EDU from Table 13; external funding credit from Table 18.

Updated Fee Schedule

The maximum potential arterial street system development fees that can be assessed by the City of Chandler based on the data, assumptions and analysis contained in this study are shown in Table 20. The net cost per unit of development is the product of arterial street service units (EDUs) generated by each land use and the net cost of planned improvements to accommodate each new service unit. For nonresidential uses that cannot readily be designated under a particular land use category, the City has historically used the latest ITE manual to identify the appropriate trip rate associated with a land use and matches it to the closest trip rate of land use categories used in the fee schedule.

Table 20. Updated Arterial Street System Development Fees

Land Use	Unit	EDUs/Unit	Net Cost/EDU	Fee/Unit
Single-Family	Dwelling	1.000	$3,708	$3,708
Multi-Family	Dwelling	0.614	$3,708	$2,277
Retail/Commercial	1000 sq. ft.	3.713	$3,708	$13,768
Office	1000 sq. ft.	1.475	$3,708	$5,469
Public/Institutional	1000 sq. ft.	0.416	$3,708	$1,543
Industrial/Warehouse	1000 sq. ft.	0.659	$3,708	$2,444

Source: EDUs per Unit from Table 7; and cost per EDU from Table 19.

The updated fees and current fees are compared in Table 21. Based on the updated cost and credit assumptions utilized in this report, the arterial system development fee would increase by 28 percent for single-family units. Among nonresidential uses, the fees would go down for retail and industrial/warehouse uses, and would increase for office and public/institutional land uses. The retail fee comparison does not reflect the City's subsidy from the General Fund; currently the City provides a subsidy of $6.93 per square foot (50 percent) for most retail land uses and a subsidy of $10.40 per square foot (75 percent) for retail land uses that generate fewer than 3 peak-hour trips per 1,000 square feet of retail space.

Table 21. Comparative Arterial Street System Development Fees

Land Use	Unit	Current Fee	Proposed Fee	% Change
Single-Family	Dwelling	$2,896	$3,708	28%
Multi-Family	Dwelling	$1,904	$2,277	20%
Retail/Commercial	1000 sq. ft.	$13,860	$13,768	-1%
Office	1000 sq. ft.	$4,260	$5,469	28%
Public/Institutional	1000 sq. ft.	$860	$1,543	79%
Industrial/Warehouse	1000 sq. ft.	$3,070	$2,444	-20%

Source: Current fee from City of Chandler Code, Section 38-13; proposed fee from Table 20.

Based on forecast residential and nonresidential growth projections, overall arterial street system development fee revenue would remain relatively unchanged if the fees were adopted at the proposed fee level, as shown in Table 22.

Table 22. Potential Arterial Street System Development Fee Revenue

Land Use	Unit	New Units	Current Fee Schedule Fee/Unit	Current Fee Schedule Revenue	Potential Fee Schedule Fee/Unit	Potential Fee Schedule Revenue	Percent Increase
Single-Family	Dwelling	9,038	$2,896	$26,174,048	$3,708	$33,512,904	28%
Multi-Family	Dwelling	6,883	$1,904	$13,105,232	$2,277	$15,672,591	20%
Retail/Commercial	1000 sq. ft.	8,244	$13,860	$114,261,840	$13,768	$113,503,392	-1%
Office	1000 sq. ft.	8,908	$4,260	$37,948,080	$5,469	$48,717,852	28%
Public/Institutional	1000 sq. ft.	1,618	$860	$1,391,480	$1,543	$2,496,574	79%
Industrial/Warehouse	1000 sq. ft.	31,914	$3,070	$97,975,980	$2,444	$77,997,816	-20%
Total				$290,856,660		$291,901,129	0%

Note: Retail/Commercial fee does not reflect current retail subsidy of 50-75%.
Source: New units based on current and build-out units from Table 83, Appendix A; current and potential fees from Table 21.

PARKS

The City of Chandler adopted the community park system development fee in 1997 and adopted the neighborhood park system development fee in 2005. Prior to 2005, the City of Chandler assessed a Residential Development Tax paid by developers for each dwelling unit. As with the other system development fees, both the neighborhood and community park fees were recently updated by City staff. This update provides an opportunity to amend the fees to include the most recent Capital Improvement Program and planned projects through build-out. In addition, this study combines the neighborhood and community park fees into one City-wide park fee. As previously mentioned, this update also includes an analysis of the park level of service.

The locations of existing and planned parks are illustrated in Figure 3 and Figure 4. The City currently has more than 55 regional, community, special-use and neighborhood parks. The exact location of planned parks will not be determined until the City acquires specific parcels; however, the neighborhood and special use map illustrates the amount of land necessary to ensure that residential areas are served by adequate park facilities at build-out and the remaining park development needs. The future community and regional park parcels have already been acquired, although not all of the parks have been developed. An inventory of existing parks, including name, park classification and developed and undeveloped acreage, is presented in Table 90 and Table 91 in Appendix D.

Figure 3. Existing and Planned Neighborhood and Special-Use Parks

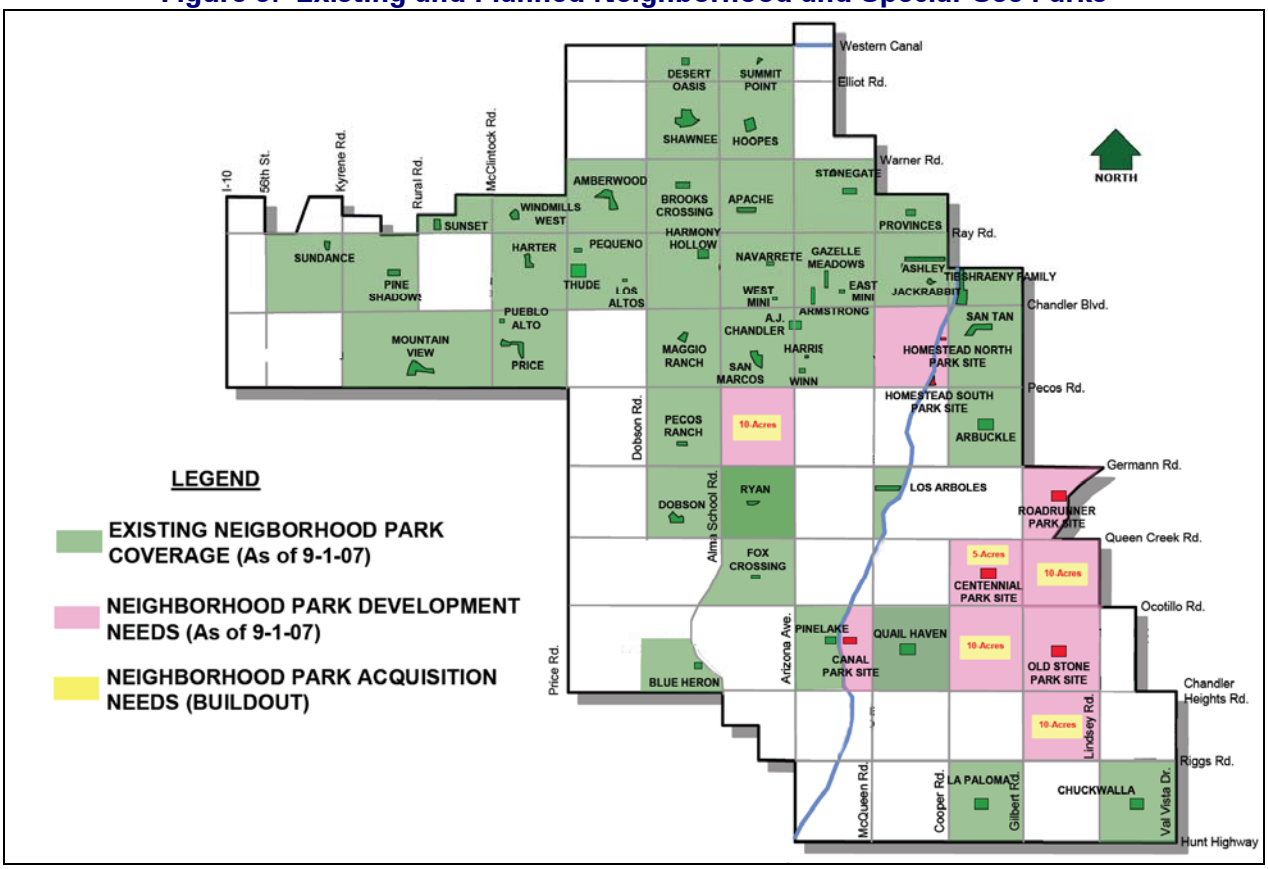
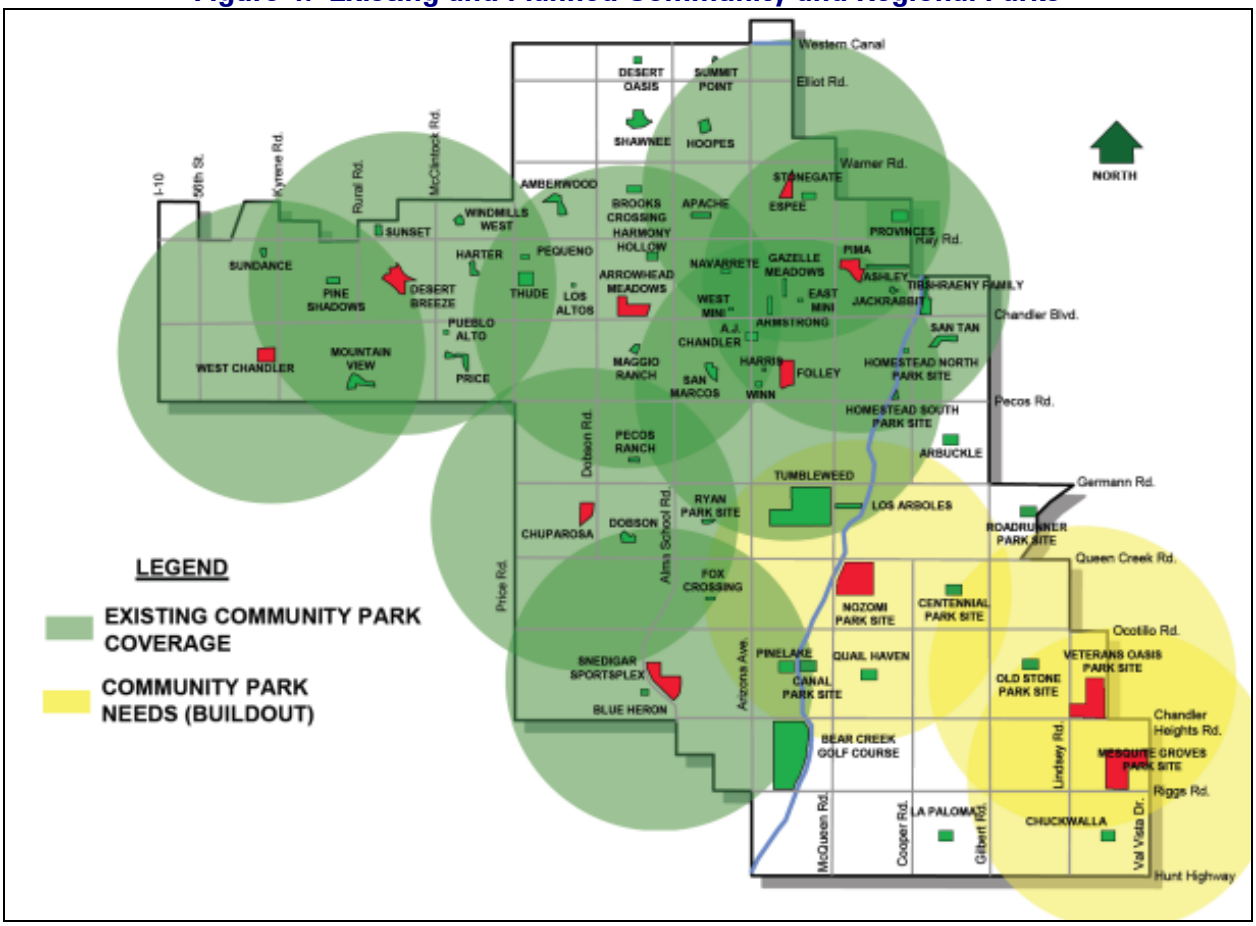


Figure 4. Existing and Planned Community and Regional Parks



Service Unit

Disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for park facilities. This unit of measurement is called a "service unit." Population is the most common service unit used in park impact fee analysis. The City's current community and neighborhood park system development fee service unit allocation is based on a 1997 survey that found residents of single-family units were approximately 13 percent more likely to use community parks based on their proportion to total residents at that time. The same research found that multi-family residents were 35 percent less likely to use the same facilities. Consequently, the single-family fee is based on a service unit factor of 1.13 and the multi-family fee is based on a factor of 0.65 per unit.

Service Unit Multipliers

This update recommends the use of a service unit that avoids the need to update the park usage survey or make assumptions about park usage among residents of different types of units. This service unit is the "equivalent dwelling unit" or EDU, which represents the impact of a typical single-family dwelling. By definition, a typical single-family unit represents, on average, one EDU.

Other types of units each represent a fraction of an EDU, based on their relative average household sizes.

In general, the demand for park facilities is proportional to the number of people in a dwelling unit. Consequently, data on average household size for various types of units is a critical component of a park impact fee. These data are presented and analyzed in Appendix A and are used to develop the EDU multipliers for Chandler's park system development fee update. The EDUs associated with each housing type are shown in Table 23.

Table 23. Park Equivalent Dwelling Unit Multipliers

Land Use	Persons/Unit	EDUs/Unit
Single-Family	2.95	1.000
Multi-Family	2.26	0.766

Source: Persons per unit from Table 81, Appendix A.

Existing and Future Service Units

In order to determine the existing level of service and calculate the park system development fees, it is necessary to determine the existing and future city-wide service units. The existing service unit calculation is based on the EDU factors calculated in this section and an analysis of existing residential development prepared by the City of Chandler Long Range Planning Division. This is accomplished by multiplying the number of existing residential units by the EDUs per unit calculated earlier based on relative household sizes. As shown in Table 24, there are 87,966 park service units (EDUs) in the city.

Table 24. Existing Park Service Units

Land Use	Existing Units	EDUs/Unit	Total EDUs
Single-Family	71,155	1.000	71,155
Multi-Family	21,947	0.766	16,811
Total			87,966

Source: Existing units from Table 82, Appendix A; EDUs per unit from Table 23.

The plan-based cost per service unit is developed by dividing the planned improvement costs by the projected growth in service units over the planning horizon. Based on the forecast increase in residential units, the City will add 14,670 EDUs through build-out, as shown in Table 25.

Table 25. Build-Out Park Service Units

Land Use	Future Units	EDUs/Unit	Total EDUs
Single-Family	80,262	1.000	80,262
Multi-Family	29,209	0.766	22,374
Total Build-Out Service Units			102,636
Existing Park Service Units			87,966
New Service Units			14,670

Source: Build-out units from Table 82, Appendix A; EDUs per unit from Table 23; existing park service units from Table 24.

Planned Improvement Costs

As in the prior study, the park system development fees will be based on the planned facilities necessary to accommodate development through build-out. The City of Chandler plans on developing several park sites and acquiring additional sites during the current CIP planning period. The City plans to develop three additional parks beyond 2012 through build-out. As shown in Table 26, the City has planned $52.2 million for park improvements that will serve new growth and are eligible for inclusion in the park fee calculation.

Table 26. Planned Park Improvements

Neighborhood Park Land Acquisition	$6,084,481
Homestead North Park Development	$1,212,750
Homestead South Park Development	$1,739,339
Canal Park Development	$1,490,406
Mesquite Groves Development	$25,508,016
Roadrunner Park Development	$1,893,326
Future Park Site Development	$7,980,258
Subtotal, 2007-2012 CIP	$45,908,576
Park 1 (Pecos, Arizona, Germann, Alma School)	$2,099,165
Park 2 (Queen Creek, Lindsey, Ocotillo, Gilbert)	$2,099,165
Park 3 (Ocotillo, Gilbert, Chandler Heights, Cooper)	$2,099,165
Subtotal, 2012 to Build-out	$6,297,495
Total, Planned Park Improvements	$52,206,071

Source: 2007-2012 projects from City of Chandler Capital Improvement Program; other projects from City of Chandler Parks and Recreation Department and project cost from City of Chandler Management Services Department, February 5, 2008.

Cost per Service Unit

The planned facility costs must be adjusted to account for existing inter-fund loans and general obligation debt that will be paid through future system development fee collections along with system development fee account balances and carry-forward reserves. Any positive system development fee account balance is subtracted from the total net cost, since those funds will be used to pay for a portion of the planned infrastructure and will decrease the amount of fee funding necessary for the planned improvements.

The City utilizes inter-fund loans or general obligation debt issues to fund capacity-expanding projects when sufficient funding is not available in the system development fee account balances. The City issued approximately $0.5 million in general obligation bonds in 2007 in order to fund recent neighborhood park land acquisition. The land purchased with this debt is included in the existing level of service; however, since the existing neighborhood level of service is adjusted to exclude the value of the outstanding debt (see Table 33), the debt may be paid through future system development fee revenue. The City also utilized an inter-fund loan of $7.6 million from the general fund and $17.9 million through general obligation bonds to fund community park development at Mesquite Groves, Veteran's Oasis and Nozomi parks. Since the developed portion

of these parks funded with the inter-fund and general obligation loans are not included in the existing park level of service, future system development fee revenue may be utilized to repay the general fund loan.

The planned improvement cost is also adjusted to account for the encumbrance and carry-forward balances. The encumbrance and capital carry-forward balances represent projects that are under construction and no longer included in the City's Capital Improvement Program. Since these projects will serve future development and have not yet been paid, they are included in the calculation of the plan-based cost per service unit. The neighborhood park impact fee fund account encumbrances are related to remaining contract balances for Arbuckle, Homestead North, Homestead South, Ryan and Tibshraeny parks; the capital carry-forward is related to future park land acquisition. The community park impact fee fund encumbrance and carry-forward are primarily related to the development of Mesquite Groves, Veteran's Oasis and Nozomi parks. The existing community park impact fee fund cash balance partially reflects the general obligation debt funds that were deposited into the account upon issuance of the bond. The impact fee fund cash balance is subtracted from the capacity-expanding costs since it will be used to offset future costs. The total adjusted planned park improvement costs through build-out are $80.9 million. As shown in Table 27, the plan-based cost for the combined park fee is $5,516 per service unit.

Table 27. Park Improvement Cost per Service Unit

	Neighborhood Park Fund	Community Park Fund	Total
Planned Park Improvement Cost			$52,206,071
Interfund Loan from General Fund	$0	$7,566,708	
Fee-Funded General Obligation Debt	$531,149	$17,865,000	
Encumbrances for Current Procects	$1,808,389	$14,237,236	
Capital Carry-Forward Balance	$6,239,745	$3,600,411	
Less: Ending Fund Balance, 6/30/2007	$3,838,678	$19,303,599	
Total Impact Fee Fund Adjustments	$4,740,605	$23,965,756	$28,706,361
Adjusted Planned Improvement Cost			$80,912,432
New Service Units (EDUs)			14,670
Plan-Based Cost per EDU			$5,516

Source: Planned park improvement costs from Table 26; inter-fund loan and general obligation balances from City of Chandler Management Services Department, October 24, 2007; encumbrances, carry-forward and ending fund balances from City of Chandler Management Services Department, November 21, 2007; new service units from Table 25.

Existing Level of Service

The City's adopted *Parks and Recreation Master Plan* stipulates that the City should acquire and develop 10 acres of neighborhood parks per square mile of residential development and 25 to 50 acres of community parks to serve residential development within a one- to two-mile radius.[6] To the extent possible, the City has planned parks in developing areas to accommodate growth and preserve the desired level of service. Currently, the City is planning on acquiring three additional neighborhood park sites and has plans to develop nine neighborhood park sites. The City has

[6] City of Chandler Community Service Department and Arizona State University, *Parks and Recreation Master Plan Update 2000*, p. 10.

planned three new community parks through build-out and has acquired the sites for these parks. The City does not have any plans for additional regional or special-use parks.

Existing developed and undeveloped park land is used in developing the overall existing level of service. The existing parks are listed in Appendix D. As summarized in Table 28, the City of Chandler provides current residents with more than 1,191 acres of park land.

Table 28. Existing Park Summary

	Acres		
Park Type	Developed	Undeveloped	Total
Neighborhood & Special Use Parks	347.81	51.73	399.54
Community & Regional Parks	389.85	401.96	791.81
Total	737.66	453.69	1,191.35

Source: Neighborhood and special use park land inventory from Table 90, Appendix D; community and regional park land inventory from Table 91, Appendix D.

As noted earlier, impact fees should not be based on a higher level of service than is provided to existing residents. In order to determine the existing and planned level of service, this study considers both the existing and planned park facilities along with their replacement value.

For parks, there are two measures of level of service. The first measure is the provision of total land for neighborhood and special use parks and community and regional parks, both developed and undeveloped. As shown in Table 29, the City currently provides 0.0135 acres of park land per service unit. The City plans on purchasing 25 acres of park land, or 0.0017 acres per unit, which is less than the existing provision of park land.

Table 29. Existing and Planned Total Park Land per Service Unit

	Neighborhood/ Special Use Parks	Community/ Regional Parks	Total
Planned Land Purchases (Acres)	25.00	0.00	25.00
New Service Units (EDUs)	14,670	14,670	14,670
Planned Acres per New EDU	0.0017	0.0000	0.0017
Existing Park Land (Acres)	399.54	791.81	1191.35
Existing Service Units (EDUs)	87,966	87,966	87,966
Existing Acres per EDU	0.0045	0.0090	0.0135

Source: Planned land purchases from City of Chandler 2007-2012 CIP, "Neighborhood Park Land Acquisition," project #8PR039; new service units from Table 25; existing park land from Table 28; existing service units from Table 24.

The other measure for the park land level of service is the provision of developed park land, which includes landscaping, picnic ramadas, lighted paths, playgrounds, and sport fields. As shown in Table 30, the City currently provides 0.0084 acre of developed parks per unit. While the City currently provides a greater level of service for the land component, the planned site development ratio is higher than the existing level of service.

Table 30. Existing and Planned Developed Park Land per Service Unit

	Neighborhood/ Special Use Parks	Community/ Regional Parks	Total
Future Park Development (Acres)	73.73	207.40	281.13
New Service Units (EDUs)	14,670	14,670	14,670
Planned Developed Acres per New EDU	0.0050	0.0141	0.0192
Existing Developed Parks (Acres)	347.81	389.85	737.66
Existing Service Units (EDUs)	87,966	87,966	87,966
Existing Developed Acres per EDU	0.0040	0.0044	0.0084

Source: Planned neighborhood and special use park development based on existing undeveloped sites and additional site acquisition planned in the 2007-2012 CIP; future community and regional park development based on development of Mesquite Groves, Nozomi, and Veteran's Oasis park sites; new service units from Table 25; existing developed park land from Table 28; existing service units from Table 24.

An alternative to measuring the level of service with the provision of land is to measure it using the replacement cost of the land and capital facilities provided per unit of development served. In fact, this is what impact fee calculations generally do. The choice of an explicit level of service standard to represent this relationship is generally unnecessary, and can create undesirable policy outcomes. As illustrated in Chandler's build-out plan, a parks and recreation system represents a capital investment in land and other improvements that provides service to residents. Reducing this relationship to a simple ratio of acres of land to population does provide a concrete, measurable indicator. However, it may unintentionally put undue emphasis on the acquisition of park land, at the expense of the provision of recreational amenities and improvements. The expansion of a park system may involve periods of extensive land acquisition, followed by periods that focus on the development of land with park improvements. Adoption of a level of service standard expressed in acres implies that only additional land acquisition can enhance the level of service. In reality, the level of service provided by a park system can be enhanced by improvements to existing land as well as by acquisition of additional land.

As a result, this update examines the existing provision of parks based on the ratio of the replacement value of existing land and facilities to existing development in order to ensure that the park system development fee is not based on a higher level of service than currently provided to City residents.

The existing park land value is based on the existing park land and current land acquisition and park development costs. Land costs are the most difficult to determine because the cost of land varies based on site characteristics. As part of the CIP planning process, the City's budget department developed a parkland acquisition estimate based on a cost of $236,694 per acre, which reflects the City's assessment of value for the types of sites that will be needed for the planned parks. The neighborhood and special use park improvement cost of $153,483 per acre is based on the average cost per acre to construct standard amenities, landscape, irrigate and improve Pinelake, Chuckwalla, Tibshraeny and Arbuckle parks. The community and regional park improvement cost of $189,333 is based on the cost to develop Mesquite Groves, excluding the cost of the planned recreation center. As shown in Table 31, the total replacement cost for the City's developed and undeveloped park land is $409.2 million.

Table 31. Existing Park Replacement Cost

	Neighborhood/ Special Use Parks	Community/ Regional Parks	Total
Total Acres	399.54	791.81	
Cost/Acre	$236,694	$236,694	
Land Value	$94,568,721	$187,416,676	$281,985,397
Developed Acres	347.81	389.85	
Development Cost per Acre	$153,483	$189,333	
Total Development Cost	$53,382,922	$73,811,470	$127,194,392
Total	$147,951,643	$261,228,146	$409,179,789

Source: Land cost per acre from City of Chandler 2007-2012 CIP; development costs provided by the City of Chandler, Parks Development and Operations Division and are based on recent bid data used in developing the 2007-2012 CIP; existing park inventory from Table 28.

In addition to the standard improvements, the level of service analysis includes the replacement cost of the City's five aquatic facilities and recreation centers, which are located in Chandler's community and regional parks. The existing aquatic centers include Arrowhead Pool, Folley Pool, West Chandler Aquatic Center, Hamilton Pool and Desert Oasis Aquatic Center. The City is currently constructing a sixth aquatic center located in Mesquite Groves Park; this facility is scheduled for completion in 2008. The City has two recreation centers located in parks, the Snediger Park and Tumbleweed recreation centers. In the past, the City has utilized a mix of funding for the aquatic center and community park recreation center facilities; the City is funding the new Mesquite Groves recreation center and aquatic center through community park system development fees. The replacement cost for the aquatic centers are based on the cost of designing and constructing the Mesquite Groves Aquatic Center. The replacement cost of the Snediger Park recreation center is based on the facility's insured value, and the replacement cost for Tumbleweed is based on the recent construction cost. As shown in Table 32, the park amenity replacement cost is $60.2 million.

Table 32. Park Amenities Replacement Cost

Snediger Park Recreation Center	$986,580
Tumbleweed Recreation Center	$14,443,003
Arrowhead Pool	$8,958,864
Folley Pool	$8,958,864
Hamilton Aquatic Center	$8,958,864
Desert Oasis Aquatic Center	$8,958,864
West Chandler Aquatic Center	$8,958,864
Total Replacement Value	$60,223,903

Source: Snediger Recreation Center replacement cost based on City of Chandler Statement of Values, 2007; Tumbleweed replacement cost based on construction cost from City of Chandler Management Services Department, February 29, 2008; pool and aquatic center replacement costs based on design and construction cost for Mesquite Groves Aquatic Center from Management Services Department, January 17, 2008.

The total land and facility cost is divided by the existing service units to determine the per unit capital cost to maintain the park level of service. The value of existing neighborhood and special use park facilities is adjusted to reflect the outstanding general obligation debt, which was issued to help

fund recent neighborhood park sites that are included in the existing park facility value. The community and regional park value is adjusted to reflect an inter-fund loan that was utilized to purchase land for Mesquite Groves Park that is included in the existing park facility value. However, there is no further adjustment to community and regional parks for general obligation debt and the remaining inter-fund loan balance related to the impact fee fund, because these funds were used to develop Mesquite Groves, Veteran's Oasis and Nozomi parks; the developed site portions of these parks are not included in the inventory and the calculation of the existing park facility value. As shown in Table 33, the existing park system replacement cost and level of service is $5,548 per service unit.

Table 33. Existing Park Level of Service

	Neighborhood/ Special Use Parks	Community/ Regional Parks	Total
Existing Park Facilities	$147,951,643	$261,228,146	$409,179,789
Park Amenities	$0	$60,223,903	$60,223,903
Cash Fund Balance, 6/30/2007	$3,838,678	$19,303,599	$23,142,277
Less: Interfund Loan for Facilities in LOS	$0	$4,008,448	$4,008,448
Less: Debt for Facilities in LOS	$531,149	$0	$531,149
Total Park Value	$151,259,172	$336,747,200	$488,006,372
Existing Service Units (EDUs)			87,966
Existing LOS (Replacement Value per EDU)			$5,548

Source: Existing park replacement cost from Table 31; park amenities replacement cost from Table 32; cash fund balance from Table 27; outstanding general obligation debt from City of Chandler, Management Services Department, October 24, 2007; outstanding inter-fund loan balance related to land acquisition at Mesquite Groves from Management Services Department, May 30, 2008; and existing EDUs from Table 24.

Net Cost per Service Unit

The park system development fee should not charge new development for a higher level of service than is provided to existing development. As shown in Table 34, the replacement value per service unit for the existing park system ($5,548 per EDU) is greater than the cost of the planned improvement cost ($5,516 per EDU); thus, the updated system development fee is based on the cost of the planned park improvements.

Table 34. Park Level of Service Analysis

Existing LOS (Replacement Value per EDU)	$5,548
Plan-Based Cost per EDU	$5,516

Source: Existing level of service per EDU from Table 33; planned cost per EDU from Table 27.

In order to avoid requiring new development to pay more than its proportional share of facility costs, impact fees should be reduced to account for future tax payments that will retire outstanding debt used to develop the existing park facilities. Such an adjustment also conforms to the State's impact fee standards, which requires a municipality to recognize future tax payments that will be contributed by new development for capital costs of the facilities covered by the development fee. A simple method that ensures that new development is not required to pay for existing facilities, through property tax or other funds used for debt retirement, as well as new facilities, is to calculate the credit by dividing the outstanding debt by existing service units. Reducing the system development fee by this amount places new development on an equal footing with existing development in terms of debt funding of past improvements.

The City has issued general obligation debt to fund park system improvements and land acquisition for community parks, regional parks, recreational centers and other amenities that are included in the level of service analysis. As shown in Table 35, the City has $71.0 million in outstanding debt related to park facilities. The debt excludes the outstanding debt issued in 2007 to supplement the available system development fee balances for planned capacity-expanding projects at Mesquite Groves, Veteran's Oasis and Nozomi parks since these improvements are not included in the existing level of service. The debt total also excludes the fee-funded general obligation debt issued in 2007 to fund neighborhood park site acquisition; the fee calculation already accounts for this debt, so no further credit is necessary. Based on the outstanding park facility debt, the debt credit is $808 per EDU.

Table 35. Park Debt Credit

Issue	Purpose	Balance
1999	Regional Park Development	$1,448,333
1999	Paseo Trail	$521,057
1999	Sports Complex	$5,610
2001	Community Park Development	$844,290
2001	Regional Park Development	$55,008
2001	Aquatic Center	$1,115,000
2002	Community Park Development	$256,250
2002	Regional Park Development	$608,594
2002	Recreation Center	$108,906
2003	Community Park Development	$1,000,000
2003	Regional Park Development	$2,000,000
2003	Paseo Trail	$1,000,000
2003 Refunding	Community Park Development--1993	$346,400
2003 Refunding	Regional Park Land--1993	$2,178,600
2003 Refunding	Community Park Land--1996B	$264,025
2003 Refunding	Paseo Trail--1996B	$208,613
2003 Refunding	Sports Complex Development--1996B	$95,831
2005	Regional Park Development	$1,000,000
2005	Paseo Trail	$1,000,000
2005	Snedigar Sportsplex	$250,000
2006	Recreation Center	$12,991,251
2006	Regional Park Development	$808,749
2007	Community Park Land	$92,274
2007	Tumbleweed Park	$4,841,397
2007	Snedigar Sportsplex	$3,342,184
2007	Paseo Vista Recreational Area	$12,851,501
2007	Grind Park	$733,639
2007	Recreation Centers	$58,455
2007	Paseo Trail	$1,234,066
2007	Desert Breeze Park Expansion	$47,488
2007 Refunding	Community Park Land--1998	$389,470
2007 Refunding	Sports Complex Development--1998	$200,758
2007 Refunding	Regional Park Development--1999	$1,631,667
2007 Refunding	Paseo Construction--1999	$587,013
2007 Refunding	Sports Complex--1999	$6,320
2007 Refunding	Community Park Development--2000	$1,060,000
2007 Refunding	Community Park Land--2000	$1,800,000
2007 Refunding	Regional Park Development--2000	$3,325,000
2007 Refunding	Paseo Trail--2000	$390,000
2007 Refunding	Aquatic Center--2001	$2,490,000
2007 Refunding	Community Park Development--2001	$1,841,710
2007 Refunding	Regional Park Development--2001	$119,992
2007 Refunding	Regional Park Development--2002	$4,141,406
2007 Refunding	Community Park Development--2002	$1,743,750
Total		$71,034,607
Existing EDUs		87,966
Debt Credit per EDU		$808

Source: General obligation debt balances from City of Chandler, Management Services Department, December 14, 2007 and January 29, 2008; existing EDUs from Table 24.

The net cost per unit is determined by subtracting the debt credit per EDU from the plan-based cost per EDU. As shown in Table 36, the net cost per unit based on the plan-based cost and debt credit per service unit is $4,708 per EDU.

Table 36. Park Net Cost Per Service Unit

Plan-Based Cost per EDU	$5,516
Debt Credit per EDU	$808
Net Cost per EDU	$4,708

Source: Cost per EDU based on plan-based cost per EDU from Table 34; park debt credit from Table 35.

Updated Fee Schedule

The maximum park system development fees that can be adopted by the City based on this study are derived by multiplying the EDUs associated with each unit by the net cost per EDU, as shown in Table 37.

Table 37. Updated Park System Development Fees

Land Use	EDUs/Unit	Cost/EDU	Fee/Unit
Single-Family	1.000	$4,708	$4,708
Multi-Family	0.766	$4,708	$3,606

Source: EDUs per unit from Table 23; net cost per EDU from Table 36.

The updated park system development fees are compared with current fees in Table 38. The reduction primarily reflects the application of a debt credit, and the variation in the fee reduction by housing type reflects the application of updated service unit multipliers.

Table 38. Comparative Park System Development Fees

	Current Fee				Percent
Land Use	Neighborhood	Community	Total	Proposed Fee	Change
Single-Family	$2,483	$4,175	$6,658	$4,708	-29%
Multi-Family	$1,429	$2,402	$3,831	$3,606	-6%

Source: Current fee from City of Chandler Code, Section 38-13; updated fees from Table 37.

Based on forecast residential growth projections through build-out, potential park system development fee revenue would decrease by 22 percent if the fee was adopted at the proposed fee levels, as shown in Table 39.

Table 39. Potential Park System Development Fee Revenue

	New	Current Fee Schedule		Potential Fee Schedule		Percent
Land Use	Units	Fee/Unit	Revenue	Fee/Unit	Revenue	Change
Single-Family	9,107	$6,658	$60,634,406	$4,708	$42,875,756	-29%
Multi-Family	7,262	$3,831	$27,820,722	$3,606	$26,186,772	-6%
Total			$88,455,128		$69,062,528	-22%

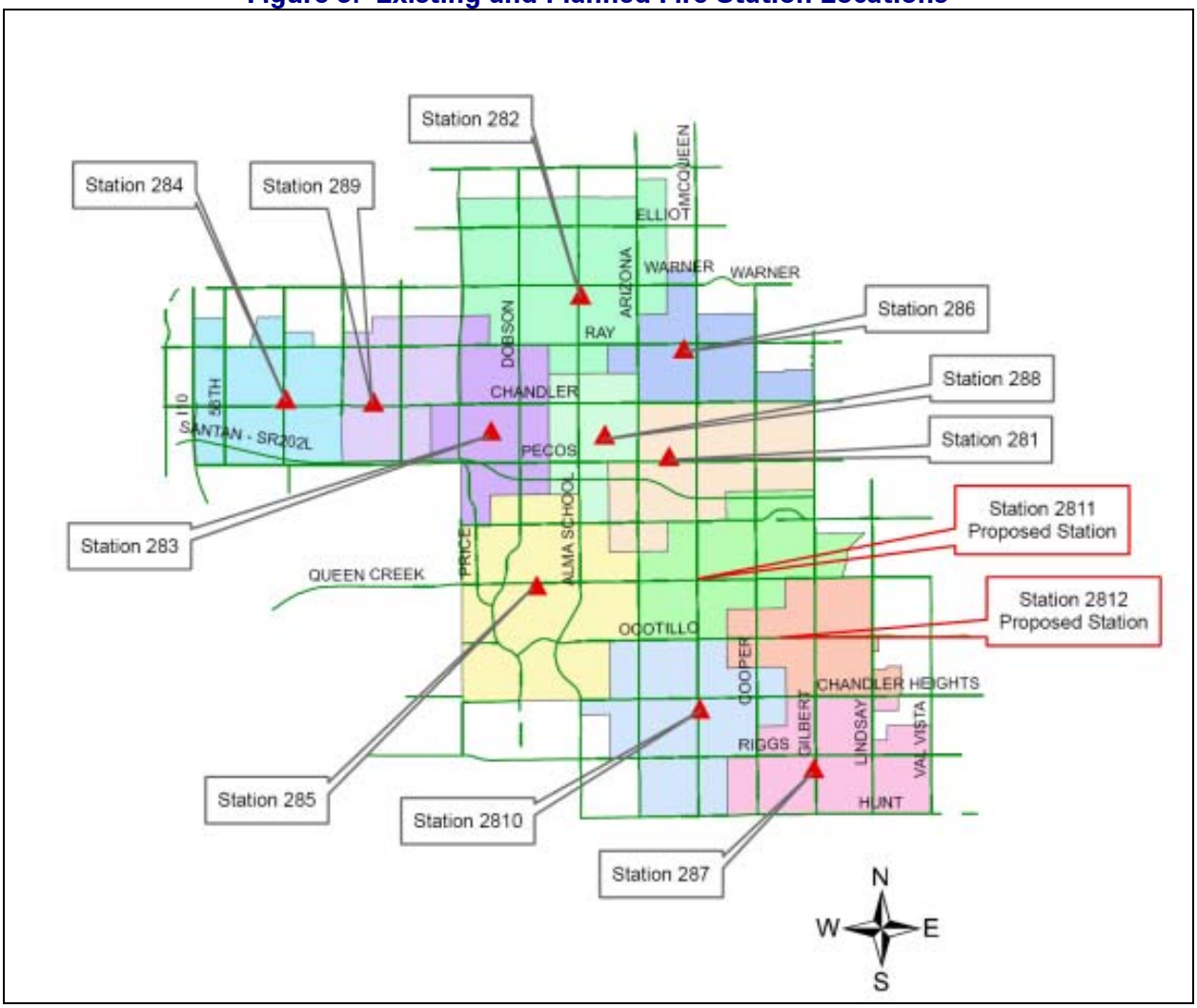
Source: New units from Table 82, Appendix A; current and potential fees from Table 38.

FIRE

The City of Chandler provides a full range of services, including fire prevention, safety education, fire suppression, emergency medical service, disaster preparation and planning, and a variety of technical rescue and special operations to individuals and businesses throughout the incorporated area. The Fire Department operates nine engine companies and two ladder companies out of nine fire stations, with a tenth station scheduled to open in fall of 2007. An eleventh station is planned in the current Capital Improvement Program. The locations of existing and planned fire stations are illustrated in Figure 5.

This section calculates the maximum fire system development fees that could be charged to new development based on the current CIP cost data and planned facilities and the existing level of service. Since 2005, the fire system development fee has included fire engines and related capital equipment, and this update will continue to include those items in the calculation of the system development fee.

Figure 5. Existing and Planned Fire Station Locations



Service Area

The fire system development fee service area currently includes the entire incorporated area of the City. While fire-fighting apparatus are generally dispatched from a station to calls within that station's primary response area, these units may also respond to calls in neighboring response areas if needed. In addition, the headquarters and training facilities are centralized. Consequently, the City's fire facilities constitute an interrelated system that provides service throughout the jurisdiction. For these reasons, this study recommends maintaining a single fire service area that includes all of the incorporated areas of the City.

Service Unit

Disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for fire service. This common unit of measurement is referred to as a "service unit." Service units create the link between the supply of fire capital facilities and the demand for such facilities generated by new development.

The two most common methodologies used in calculating fire impact fees are the "calls-for-service" approach and the "functional population" approach. A third, less common approach, currently utilized by the City, is to allocate the fire infrastructure costs using the future distribution of land uses in Chandler and dividing the appropriate portion of service costs by total residential or nonresidential development. In prior updates, concerns have been expressed that the resulting fee does not differentiate between different types of residential units, specifically, multi-family units and single-family units. The current fee also treats all nonresidential development the same by charging the same rate per square foot regardless of land use.

In developing the methodology for this fire system development fee update, the consultant, in consultation with City staff, decided to switch to the functional population approach. The calls-for-service approach, which uses calls by land use type to make the connection between land use type and demand for fire department services, could not be used since records based on the land use type where the call for service originates are unavailable.

The functional population approach is based on the premise that the demand for fire services is strongly related to the presence of people at the site of a land use. This is reasonable, since the majority of Fire Department calls are related to emergency medical response, rather than structure fires. Functional population is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use, and it is used for the purpose of determining the impact of a particular development on the need for fire facilities. For residential development, functional population is simply average household size times the percent of time people are assumed to spend at home. For nonresidential development, functional population is based on a formula that factors trip generation rates, average vehicle occupancy and average number of hours spent by visitors at a land use. The functional population multipliers for various land use types are then converted to equivalent dwelling units (EDUs), based on the functional population of the average single-family detached unit. The calculation of functional population and EDUs are presented in Appendix B.

Planned Improvements

In the past, the City's calculation of the system development fee included only a portion of new facilities that could be directly attributable to growth. The construction of new fire stations in growth areas are directly attributable to new development and will serve that development. However, growth's share of centralized facilities is not as clear-cut. For example, in funding the new training center expansion, the City has allocated system development fee funding for 36 percent of the training facility cost based on an analysis of the share of future fire personnel attributed to growth. However, in this update the entire cost of expanding the training center is included in calculating the plan-based cost per service unit, since the facility provides new capacity and will become part of the overall fire department service level that will be provided to development at build-out. The level-of-service analysis conducted as part of this update will ensure that the updated system development fee does not exceed the existing level of service and that the improvements will not remedy existing deficiencies.

As with the prior update, the costs eligible for inclusion in the system development fee update include any land purchases, construction of new facilities and major fire-fighting apparatus that add new capacity and may serve new growth. The City has no planned new facilities beyond those included in the current Capital Improvement Program. As shown in Table 40, the City has planned $21.9 million in new facilities and system development fee fund expenditures that will serve growth and are eligible for inclusion in the fire system development fee calculation.

Table 40. Planned Fire Improvements

Southeast Fire Station - Santan/Airport	$7,130,504
Southeast Fire Station - Ocotillo/Gilbert	$7,045,510
Training Center Expansion	$7,729,992
Planned Improvement Costs	$21,906,006

Source: Planned construction costs from City of Chandler 2007-2012 CIP; training center expansion cost excludes municipal arts funding.

Cost per Service Unit

The planned cost per service unit is developed by dividing the planned improvement costs by the projected growth in service units through build-out. However, the planned facility costs must be adjusted to account for existing fund balances and carry-forward reserves. Any positive system development fee account balance is subtracted from the total cost, since those funds may be used to pay for a portion of the planned infrastructure or pay the inter-fund loan and will decrease the amount of fee funding necessary for the planned improvements.

The encumbrances represent the balance owed to contractors for projects that are underway, with most of the balance related to construction of Fire Station #10. The capital carry-forward reserve balance represents the unspent and unencumbered capital project appropriation balance, with approximately $1.0 million associated with the fire administration building improvements and approximately $4.0 million related to the construction of Fire Station #10. The encumbrances and carry-forward balances represent projects that are under construction and no longer included in the

City's Capital Improvement Program. Since these costs are for projects will serve future development, they are included in the calculation of the plan-based cost.

In addition to the encumbrance and fee balance, the plan-based costs are adjusted to reflect the inter-fund loan. The inter-fund loan reflects $7.1 million borrowed by the system development fee fund from the general fund in order to fund capacity-expanding improvements at Fire Station #10, as well as the fire administration building, mechanical maintenance facility expansion and land for Fire Station #12. Future system development fee revenue may be utilized to repay the inter-fund loan, since the improvements were capacity-expanding and there was not enough existing fund balance to fund the facilities at the time of their construction.

The planned improvement cost is adjusted by adding the inter-fund loan, encumbrances and carry-forward balances and subtracting the cash balance in the impact fee account. As shown in Table 41, the plan-based cost is approximately $603 per service unit.

Table 41. Fire Cost per Service Unit

Planned Improvement Costs	$21,906,006
Inter-fund Loan from General Fund	$7,123,657
Encumbrances for Current Projects	$834,884
Capital Carry-Forward Balance	$5,026,695
Less: Ending Fund Balance, 6/30/2007	$5,751,224
Total Future Capacity-Expanding Costs	$29,140,018
New Service Units (EDUs)	48,349
Plan-Based Cost per EDU	$603

Source: Total planned costs from Table 40; inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; encumbrance, carry-forward and ending fund balance from City of Chandler Management Services Department, November 21, 2007; new service units from Table 87, Appendix B.

Existing Level of Service

The City of Chandler Fire Department planning is based on achieving a response time of four minutes or less for 75 percent of all emergency calls. The new fire stations will be located in the southeastern portion of the City since that area is generating the most emergency calls that are not within the four minute response area of existing stations.

Fire system development fees are designed to charge new development the cost of providing the facilities needed to serve growth, provided that the new facilities do not exceed the level of service provided to existing development. The existing level of service for fire protection is based on the replacement cost of existing facilities and major fire fighting capital equipment. The City currently operates fire-fighting apparatus out of nine fire stations. As mentioned earlier, the tenth station will open in the fall of 2007 and currently operates out of a temporary structure; this fire station is not included in the current level of service since it was funded with an inter-fund loan from the general fund that will be repaid through future system development fee funds.

The value of existing facilities is based on recent cost experience in developing fire stations and land acquisition costs for fire facilities. The City utilizes a prototypical fire station design, which costs

about $280 per square foot to construct based on the cost to develop Fire Station #9. While land costs vary based on site characteristics, the average acquisition cost has been approximately $226,000 per acre, as shown in Table 42.

Table 42. Fire Land Acquisition Costs

Fire	Year	Orig. Cost	CPI	Current Cost	Acres	Cost/Acre
Desert Breeze Site*	2002	$319,950	1.163	$372,102	1.92	$193,803
Fire Administration Building	2002	$275,000	1.163	$319,825	0.42	$761,488
Fire Administration Building	2002	$60,000	1.163	$69,780	0.14	$498,429
Station #8	2002	$184,000	1.163	$213,992	1.84	$116,300
Total				$975,699	4.32	$225,856

*Site purchased for community park, police and fire facility and approximately 16% of site used for fire station.
Source: Parcel description and cost from City of Chandler Management Services Department, November 7, 2007; Desert Breeze site cost and acres from Management Services Department, January 14, 2008; CPI is cost inflation factor based on U.S. Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers, Western City Average, All Items (1982-1984=100) for December 2007 from http://data.bls.gov/cgi-bin/surveymost.

Table 43 summarizes the City's existing fire facility inventory and replacement costs. The inventory of Fire Department facilities includes Fire Station #10; however, since a portion of the facility was funded with a general fund loan to the system development fee fund, the final calculation of the existing level of service will be adjusted by the outstanding general fund loan to reflect the unfunded portion of the facility.

Table 43. Existing Fire Building and Land Cost

Facility	Year Built	Bldg. (s.f.)	Land (ac.)
Chandler Fire Headquarters	1990	11,243	0.46
Fire Training Facility	1998/2005	17,400	87.96
Fire Maintenance Facility	1985	7,800	1.29
Fire Station #1	1990	10,525	1.74
Fire Station #2	1985	7,228	2.91
Fire Station #3	1999	9,662	1.72
Fire Station #4	1985	7,328	1.85
Fire Station #5	1998	8,200	0.79
Fire Station #6	2002	8,000	1.54
Fire Station #7	2003	8,000	1.66
Fire Station #8	2004	8,000	1.84
Fire Station #9	2006	10,200	1.84
Fire Station #10*	2007	8,200	2.81
Total		121,786	108.41
Unit Cost		$280	$225,856
Total Value		$34,100,080	$24,485,049

* Station #10 is a temporary station; the permanent station will open in late 2007.
Source: Facility square feet from City of Chandler Statement of Values; land from City of Chandler Management Services Department analysis of parcel data, November 28, 2007; square feet cost per unit based Desert Breeze/West Chandler facility construction costs; land cost per acre from Table 42.

In addition to land and buildings, the City's existing level of service includes the fire apparatus that are necessary to perform its duties. The replacement cost of fire-fighting apparatus is based on the current cost of a fully-equipped vehicle. As shown in Table 44, the replacement value of the City's fire equipment is approximately $12.7 million.

Table 44. Existing Fire Vehicle Cost

Equipment Type	Quantity	Unit Cost	Replacment Value
Engine	15	$539,663	$8,094,945
Ladder Truck	3	$1,215,823	$3,647,469
Ford F550 Utility	1	$53,642	$53,642
Heavy Rescue	1	$586,872	$586,872
Special Operations Truck	2	$176,000	$352,000
Total			$12,734,928

Source: City of Chandler Fire Department, August 14, 2007; cost based on recent bid and replacement costs.

The total capital cost represented by existing fire facilities and equipment is the sum of building, land, vehicle and capital equipment costs. The value of existing facilities is approximately $71.3 million, as shown in Table 45. The value of existing facilities is adjusted by the outstanding inter-fund loan balance, which represents unfunded facilities included in the level of service that will be funded by future system development fee collections. Dividing by existing service units yields the cost per service unit. This represents the existing level of service, which is approximately $569 per EDU.

Table 45. Existing Fire Level of Service

Fire Facilities	$34,100,080
Land Value	$24,485,049
Fire Equipment	$12,734,928
Subtotal, Existing Facilities	$71,320,057
Ending Fund Balance, 6/30/2007	$5,751,224
Less: Unfunded Facilities*	$6,724,707
Total Fire System Value	$70,346,574
Existing Service Units (EDUs)	123,530
Existing LOS (Replacement Value per EDU)	$569

*Unfunded facility based on inter-fund loan balance reduced by $398,950 to reflect funding associated with acquisition of land for Fire Station #12, which is not included in the existing level of service.
Source: Fire facility and land value from Table 43; fire equipment from Table 44; unfunded facility value based on current outstanding inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; ending fund balance from Table 41; existing EDUs from Table 86, Appendix B.

Net Cost Per Service Unit

The cost per service unit based on existing facilities is compared with the adjusted cost of planned improvements in order to ensure that new development does not pay for a higher level of service than existing development for fire facilities and equipment. As shown in Table 46, the value of existing fire facilities and equipment is slightly lower than the plan-based cost per EDU. Basing the fee on a high-than-existing level of service creates existing deficiencies that must be funded and requires credit against the impact fees for revenue generated by new development that will be used

to remedy the deficiencies. To avoid these complications, the fire system development fee should be based on the existing level of service.

Table 46. Fire Level of Service Analysis

Existing LOS (Replacement Value per EDU)	$569
Plan-Based Cost per EDU	$603

Source: Existing level of service per EDU from Table 45; net cost per EDU from Table 41.

As noted in the introduction, impact fees should be reduced to account for future funding that will be generated by new development and used to remedy existing deficiencies or to retire outstanding debt on existing facilities that provide service to existing development. The City has issued general obligation debt to partially fund fire department facilities that are included in the existing level of service. The debt credit is determined by dividing the outstanding debt by existing service units. As shown in Table 47, total outstanding debt is approximately $4.0 million, which results in a debt credit of $32 per EDU.

Table 47. Fire Facility Debt

Issue	Purpose	Balance
2000	Chandler/Alma School Land	$155,000
2007	Fire Admin. Construction	$3,611,619
2007	Station #3 Expansion	$195,863
Total Outstanding Debt		$3,962,482
Existing EDUs		123,530
Debt Credit per EDU		$32

Source: General obligation debt balances from City of Chandler, Management Services Department, December 14, 2007; fire administration building debt reduced by $1,127,518 to reflect the portion of the facility funded by the system development fee account through the inter-fund loan, which will be funded by future development; existing EDUs from Table 86, Appendix B.

Reducing the system development fee by the debt credit places new development on an equal footing with existing development in terms of debt funding of past improvements. As shown in Table 48, the net cost is $537 per EDU based on the existing level of service.

Table 48. Fire Net Cost per Service Unit

Existing LOS (Replacement Value per EDU)	$569
Debt Credit per EDU	$32
Net Cost per EDU	$537

Source: Cost per EDU based on existing level of service from Table 46; debt credit per EDU from Table 47.

Updated Fee Schedule

The maximum fire system development fees that can be adopted by the City based on this study are derived by multiplying the service units (EDUs) represented by each impact unit by the net cost per service unit, as shown in Table 49.

Table 49. Updated Fire System Development Fees

Land Use	Unit	EDUs/ Unit	Net Cost/EDU	Fee/ Unit
Single-Family	Dwelling	1.000	$537	$537
Multi-Family	Dwelling	0.766	$537	$411
Retail/Commercial	1000 sq. ft.	1.251	$537	$672
Office	1000 sq. ft.	0.952	$537	$511
Public/Institutional	1000 sq. ft.	0.323	$537	$173
Industrial/Warehouse	1000 sq. ft.	0.306	$537	$164

Source: EDUs per unit from Table 84 and Table 85, Appendix B; net cost per EDU from Table 48.

The updated fire system development fees are compared with current fees in Table 50. The increase in retail and office fees reflects the application of the functional population basis and the relatively higher demand for fire services associated with these land uses based on the presence of people when compared with other nonresidential land uses. Likewise, the reduction for other nonresidential land uses reflects the lower functional population associated with these uses. In addition, the update distinguishes between single-family and multi-family units, since multi-family units have a lower relative functional population than single-family housing.

Table 50. Comparative Fire System Development Fees

Land Use	Unit	Current Fee	Proposed Fee	% Change
Single-Family	Dwelling	$564	$537	-5%
Multi-Family	Dwelling	$564	$411	-27%
Retail/Commercial	1000 sq. ft.	$330	$672	104%
Office	1000 sq. ft.	$330	$511	55%
Public/Institutional	1000 sq. ft.	$330	$173	-48%
Industrial/Warehouse	1000 sq. ft.	$330	$164	-50%

Source: Current fee from City of Chandler, Code Section 38-13; proposed fee from Table 49.

Based on forecast residential and nonresidential growth projections through build-out and the system development fees calculated in this report, potential fire system development fee revenue would decrease by about 9 percent, as shown in Table 51.

Table 51. Potential Fire System Development Fee Revenue

Land Use	Unit	New Units	Current Fee Schedule Fee/Unit	Current Fee Schedule Revenue	Potential Fee Schedule Fee/Unit	Potential Fee Schedule Revenue	Percent Change
Single-Family	Dwelling	9,107	$564	$5,136,348	$537	$4,890,459	-5%
Multi-Family	Dwelling	7,262	$564	$4,095,768	$411	$2,984,682	-27%
Retail/Commercial	1000 sq. ft.	9,752	$330	$3,218,160	$672	$6,553,344	104%
Office	1000 sq. ft.	10,277	$330	$3,391,410	$511	$5,251,547	55%
Public/Institutional	1000 sq. ft.	2,333	$330	$769,890	$173	$403,609	-48%
Industrial/Warehouse	1000 sq. ft.	35,755	$330	$11,799,150	$164	$5,863,820	-50%
Total				$28,410,726		$25,947,461	-9%

Source: New units based on current and build-out units from Table 82, Appendix A; current and potential fees from Table 50.

POLICE

The City of Chandler Police Department provides law enforcement patrol and response within the incorporated area. Officers and staff perform their duties from a centralized headquarters and two substations. The Desert Breeze substation was completed in 2006 and a second substation, the Chandler Heights Substation, will be open in 2008.

This section updates the maximum police system development fee that could be charged by the City consistent with legal requirements. As with the other fees, the update includes an analysis of the existing level of service.

Service Area

As with the fire fees, the police system development fee service area currently includes the entire incorporated area of the City. While the Police Department has developed substations to better serve defined geographic areas, the facilities form a system that responds throughout the community where it is needed. Because of the mobile nature of police patrols, new development can reasonably be expected to benefit from additional facilities regardless of where they are constructed. The City's incorporated area will continue to serve as the police service area.

Service Unit

Disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for service. This common unit of measurement is referred to as a "service unit." As with other fees calculated in this report, the police fee utilizes a common service unit based on the "equivalent dwelling unit" or EDU, which represents the impact of a typical single-family detached dwelling.

As with fire protection, the two most common methodologies used in calculating the demand for law enforcement services are the "calls-for-service" approach and the "functional population" approach. The City's latest system development fee calculations allocated the police infrastructure costs using the future distribution of land uses in Chandler and dividing the appropriate portion of service costs by total residential or nonresidential development.

This study uses functional population in order to be consistent with the other fees calculated in this report and because detailed call data by land use are not available. Police calls are often not directly related to existing land uses; they often occur on streets or in parking lots, where they are related to movement between land uses. While non-attributed incidents can be indirectly attributed to specific land uses, the functional population provides a more consistent and simpler approach to allocating police calls across all land uses based on the number of "full-time equivalent" people present at the site of a land use. The police service units are based on the functional population analysis presented in Appendix B.

Planned Improvements

The costs eligible for inclusion in the system development fee update include any land purchases, construction of new facilities and expansion of existing facilities necessary to serve growth. The City plans on utilizing system development fee funding for the police training facilities and expanding the communication center in the current 2007-2012 Capital Improvement Program. There are no additional facilities planned beyond 2012.

While the City does not currently have training facilities, their construction completes the overall provision of police services at build-out. As with the fire department training facility expansion, the full facility cost is included in the plan-based cost per service unit calculation, because the facility expands the department's capacity to serve new growth. All planned facilities may be funded with future system development fees, provided that the cost per service unit does not exceed the existing level of service and that the planned facilities add new capacity and may serve new growth. As shown in Table 52, the City's system development fee may be used to offset $8.0 million of capacity-expanding expenditures.

Table 52. Planned Police Improvements

Police Driver Training Facility	$5,516,710
Communications Center/Administration Expansion	$631,789
Police Training Facility	$1,806,668
Planned Improvement Costs	$7,955,167

Source: Planned construction costs from City of Chandler 2007-2012 Capital Improvement Program; police driver training facility and police training facility CIP costs exclude municipal arts funding.

Cost per Service Unit

As in prior updates, the planned capital improvement costs are adjusted by the existing system development fee fund cash balance, since the fund balance will be used to pay for a portion of the future infrastructure and will decrease the amount needed to be collected from fees. The encumbrances and capital carry-forward balances related to projects currently under construction are added to the planned improvement costs, since they will serve future development and are not included in the existing level of service. In addition to the system development fee fund adjustment, the police fee is adjusted to reflect the outstanding inter-fund loan balance. The City's system development fee fund borrowed $8.5 million from the general fund in order to fund capacity-expanding improvements at the Chandler Heights and Desert Breeze substations. Future system development fee revenue may be utilized to repay the general fund loan, since the improvements were capacity-expanding and were only paid for with general fund money because there were not enough funds available in the system development fee fund.

The plan-based cost per service unit is determined by dividing the total cost of future, capacity-expanding improvements by the future growth in service units. As shown in Table 53, the plan-based cost is $350 per service unit.

Table 53. Police Cost per Service Unit

Planned Improvement Costs	$7,955,167
Inter-fund Loan from General Fund	$8,531,049
Encumbrances for Current Projects	$4,963,305
Capital Carry-Forward Balance	$811,166
Less: Ending Fund Balance, 6/30/2007	$5,337,717
Total Future Capacity-Expanding Costs	$16,922,970
New Service Units (EDUs)	48,349
Plan-Based Cost per EDU	$350

Source: Total cost from Table 52; inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; encumbrances, carry-forward and ending fund balance from City of Chandler Management Services Department, November 21, 2007; new service units from Table 87, Appendix B.

Existing Level of Service

City of Chandler Police Department planning is based on providing a response time of five minutes for priority one calls and fifteen minutes for priority two calls. The recent construction of substations in the western and southeastern portions of the City were planned to ensure that response times do not fall below an unacceptable level for Chandler residents, since officers will be assigned out of a station closer to the police patrol beat in these areas.

Police system development fees are designed to charge new development the cost of providing the facilities needed to serve growth, provided that the new facilities do not exceed the level of service provided to existing development. The existing level of service for police protection is based on the replacement cost of existing facilities.

The value of existing facilities is based on recent cost experience in developing police substations and land acquisition costs for recent police facilities. The cost to develop a police substation is based on the recent cost of $280 per square foot to construct and develop the Desert Breeze facility. As shown in Table 54, land costs have averaged approximately $167,000 per acre for police facilities.

Table 54. Police Land Acquisition Costs

Police	Year	Orig. Cost	CPI	Current Cost	Acres	Cost/Acre
Desert Breeze Site*	2002	$870,975	1.163	$1,012,944	5.22	$194,051
Evidence Building	2004	$575,000	1.113	$639,975	3.05	$209,828
Police Driving Track	2006	$2,000,320	1.044	$2,088,334	14.15	$147,585
Total				$3,741,253	22.42	$166,871

* Site purchased for community park, police and fire facility and approximately 44% of site used for police facility.
Source: Parcel description and cost from City of Chandler Management Services Department, November 7, 2007; CPI is cost inflation factor based on U.S. Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers, Western City Average, All Items (1982-1984=100) for December 2007 from http://data.bls.gov/cgi-bin/surveymost.

Table 55 summarizes the City's existing police building and land inventory. Vehicles and equipment are not included in the police system development fee calculation or the existing level of service analysis. The level of service includes the land that has already been purchased for the police driving track.

Table 55. Police Facility and Land Cost

Facility	Year Built	Bldg. (s.f.)	Land (ac.)
Property & Evidence Building	1976/2003	30,430	1.83
Police Department	1998	67,529	5.85
Chandler Heights Substation	2008	20,000	4.50
Police Driving Track	NA	NA	14.15
Desert Breeze Substation	2006	21,253	5.00
Total		139,212	31.33
Unit Cost		$280	$166,871
Total Value		$38,979,360	$5,228,068

Source: Facility square feet from City of Chandler Statement of Values; land from City of Chandler Management Services Department analysis of parcel data, November 28, 2007; square feet cost per unit based Desert Breeze/West Chandler facility construction costs; land cost per acre from Table 54.

The total capital cost represented by existing police facilities is the sum of building replacement costs, land replacement costs and the system development fee cash balance. As mentioned earlier, the value of the existing facilities is reduced to reflect the outstanding inter-fund loan utilized to develop the Chandler Heights and Desert Breeze substations, which are included in the existing level of service. The inter-fund loan for these facilities will be repaid with future system development fee funds. The total land and facility cost is divided by the existing service units to determine the capital cost of $332 per service unit to maintain the existing police level of service, as shown in Table 56.

Table 56. Existing Police Level of Service

Police Facilities	$38,979,360
Land Value	$5,228,068
Subtotal, Existing Facilities	$44,207,428
Ending Fund Balance, 6/30/2007	$5,337,717
Less: Unfunded Facilities	$8,531,049
Total Existing Facility Value	$41,014,096
Existing Service Units (EDUs)	123,530
Existing LOS (Replacement Value per EDU)	$332

Source: Existing facility value from Table 55; unfunded facility value based on current outstanding inter-fund loan balance from City of Chandler Management Services Department, October 24, 2007; existing EDUs from Table 86, Appendix B.

Net Cost per Service Unit

The cost per service unit based on the existing level of service is compared with the adjusted cost of planned improvements in order to ensure that new development does not pay for a higher level of service than existing development for police facilities. As shown in Table 57, the plan-based cost per service unit is slightly higher than the existing level-of-service cost per EDU. As a result, the police system development fee will be based on the existing level of service cost per EDU.

Table 57. Police Level of Service Analysis

Existing LOS (Replacement Value per EDU)	$332
Plan-Based Cost per EDU	$350

Source: Existing level of service cost per EDU from Table 56; plan-based cost per EDU from Table 53.

As noted in the introduction, impact fees should be reduced to account for future funding that will be generated by new development and used to remedy existing deficiencies or to retire outstanding debt of existing facilities that provide the existing level of service. The City has issued general obligation debt to partially fund police facilities that are included in the existing level of service. The debt excludes the outstanding debt issued in 2007 to supplement the available system development fee balances for the planned capacity-expanding projects of the Police Driver Training Facility and Communications Center since these improvements are not included in the existing level of service. The outstanding debt credit is determined by dividing the outstanding debt by existing service units. As shown in Table 58, total outstanding debt is approximately $7.9 million, which results in a debt credit of $64 per EDU.

Table 58. Police Facility Debt

Issue	Purpose	Balance
1996B	Police Headquarters	$1,905,000
1998	Police Headquarters	$650,000
2000	Property Evidence Expansion	$230,000
2002	Police Driving Track	$2,000,000
2003 Refunding	Police Headquarters--1996B	$2,300,000
2007	South Chandler Police Substation	$456,255
2007 Refunding	Police Headquarters--1998	$375,000
Total Outstanding Debt		$7,916,255
Existing EDUs		123,530
Debt Credit per EDU		$64

Source: General obligation debt balances from City of Chandler, Management Services Department, December 14, 2007; existing EDUs from Table 86, Appendix B.

Reducing the system development fee by the debt credit places new development on an equal footing with existing development in terms of debt funding of past improvements. As shown in Table 59, the net cost for police facilities is about $268 per EDU.

Table 59. Police Net Cost per Service Unit

Existing Replacement Value per EDU	$332
Debt Credit per EDU	$64
Net Cost per EDU	$268

Source: Plan-based cost per EDU from Table 57; debt credit per EDU from Table 58.

Updated Fee Schedule

The maximum police system development fees that can be adopted by the City based on this study are derived by multiplying the number of service units (EDUs) represented by each development unit by the net cost per service unit, as shown in Table 60.

Table 60. Updated Police System Development Fees

Land Use	Unit	EDUs/Unit	Net Cost/EDU	Fee/Unit
Single-Family	Dwelling	1.000	$268	$268
Multi-Family	Dwelling	0.766	$268	$205
Retail/Commercial	1000 sq. ft.	1.251	$268	$335
Office	1000 sq. ft.	0.952	$268	$255
Public/Institutional	1000 sq. ft.	0.323	$268	$87
Industrial/Warehouse	1000 sq. ft.	0.306	$268	$82

Source: EDUs per unit from Table 84 and Table 85, Appendix B; net cost per EDU from Table 59.

The updated police system development fees are compared with current fees in Table 61. The variation in the fee among land uses is the result of the application of functional population in measuring the service units associated with each land use. The functional population is based on the presence of people at a land use, which results in higher fees for retail and office land uses and lower fees for other nonresidential land uses. In the past, the City has not charged different fees for residential land uses; however, the methodology used in this update allows the City to distinguish the variability in demand for police services between the single-family and multi-family residential land uses.

Table 61. Comparative Police System Development Fees

Land Use	Unit	Current Fee	Proposed Fee	% Change
Single-Family	Dwelling	$241	$268	11%
Multi-Family	Dwelling	$241	$205	-15%
Retail/Commercial	1000 sq. ft.	$140	$335	139%
Office	1000 sq. ft.	$140	$255	82%
Public/Institutional	1000 sq. ft.	$140	$87	-38%
Industrial/Warehouse	1000 sq. ft.	$140	$82	-41%

Source: Current fee from City of Chandler Code, Section 38-13; proposed fee from Table 60.

Based on forecast residential and nonresidential growth projections through build-out and the system development fees calculated in this report, potential police system development fee revenue would increase by 7 percent, as shown in Table 62.

Table 62. Potential Police System Development Fee Revenue

Land Use	Unit	New Units	Current Fee Schedule Fee/Unit	Current Fee Schedule Revenue	Potential Fee Schedule Fee/Unit	Potential Fee Schedule Revenue	Percent Increase
Single-Family	Dwelling	9,107	$241	$2,194,787	$268	$2,440,676	11%
Multi-Family	Dwelling	7,262	$241	$1,750,142	$205	$1,488,710	-15%
Retail/Commercial	1000 sq. ft.	9,752	$140	$1,365,280	$335	$3,266,920	139%
Office	1000 sq. ft.	10,277	$140	$1,438,780	$255	$2,620,635	82%
Public/Institutional	1000 sq. ft.	2,333	$140	$326,620	$87	$202,971	-38%
Industrial/Warehouse	1000 sq. ft.	35,755	$140	$5,005,700	$82	$2,931,910	-41%
Total				$12,081,309		$12,951,822	7%

Source: New units based on current and build-out units from Table 82, Appendix A; current and potential fees from Table 61.

PUBLIC BUILDINGS

This section calculates the updated public building system development fees designed to cover the impact of growth on general government facilities. The City's public buildings system development fee funds administrative buildings, fleet maintenance facilities and other general government facilities not covered by the City's arterial street, park, fire, police, library, water and wastewater system development fees.

Service Area

As with the fire and police system development fees, the public building service area currently includes the City's entire incorporated area. Unlike some system development fee facilities, public buildings are not geographically distributed among all areas of the city. Existing facilities and employment tend to be concentrated geographically near the downtown area. However, where general government facilities are located is irrelevant, since they provide service to the entire city. Consequently, the consultant recommends that the City retain a city-wide service area for the public building system development fees.

Service Unit

Disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for service. This common unit of measurement is referred to as a "service unit." As with other fees calculated in this report, the public building fee service unit is the "equivalent dwelling unit" or EDU, which represents the impact of a typical single-family detached dwelling.

Generally, there is a link between population and municipal employment, which is, in turn, linked to administrative facility space. Due to this connection, the "functional population" approach is one of the techniques that are widely accepted for use in impact fee studies to estimate the demand for public buildings. To a large extent, the demand for general government services is proportional to the presence of people. As previously discussed, functional population is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use, and is used for determining the impact of a particular development on the need for public buildings. Functional population can be converted into EDUs, based on the functional population of a single-family detached unit. The functional population and EDU calculations are presented in Appendix B.

Planned Improvements

The costs eligible for funding with the system development fee include any land purchases, construction of new facilities and expansion of existing facilities that create additional capacity to serve growth. In the past, however, the City has programmed approximately half of the funding for

these improvements from the public building system development fees, with the other half funded from the general fund.

The City currently leases space for the city hall and will be building a new 120,000 square foot facility. The entire cost of the new city hall can be included in the plan-based calculation of the system development fee provided that the resulting plan-based cost per service unit does not exceed the existing level of service. The public works expansion will expand existing public works space. The City plans to construct a public parking garage in order to replace a surface parking lot, replace the loss of leased parking at the current city hall and accommodate the expansion of facilities. The share of this facility that is considered capacity-expanding is based on the increase in parking spaces, which was utilized by the City in programming system development fee funding for the project. The City does not have any current inter-fund loans from the general fund to the public building system development fee fund. There are no new fee-eligible public building facilities planned beyond 2012. As shown in Table 63, the City has planned $71.0 million in new facilities that will expand capacity to serve growth and are eligible for funding with the public building system development fee.

Table 63. Planned Public Building Improvements

New City Hall	$66,525,311
Public Works Expansion - Downtown Complex	$3,836,400
Public Parking Garage	$609,760
Planned Improvement Costs	$70,971,471

Source: Planned construction costs from City of Chandler 2007-2012 CIP; new City Hall and public works expansion costs exclude municipal arts funding; parking garage growth share based forecast capacity increase of garage and system development fee funding share of total cost from 2007-2012 CIP.

Cost per Service Unit

The plan-based cost per service unit is calculated by dividing the capacity-expanding public building improvement costs by the projected growth in service units through build-out. As with the other fee calculations, the costs are adjusted to account for existing fund balances and carry-forward reserves. The public building system development fee account has only one outstanding encumbrance related to the new city hall project. As shown in Table 64, the plan-based cost is $1,317 per service unit.

Table 64. Public Building Cost per Service Unit

Planned Improvement Costs	$70,971,471
Encumbrances for Current Projects	$122,835
Capital Carry-Forward Balance	$0
Less: Ending Fund Balance, 6/30/2007	$7,420,124
Total, Growth-Related Costs	$63,674,182
New Service Units (EDUs)	48,349
Plan-Based Cost per EDU	$1,317

Source: Planned improvement costs from Table 63; encumbrances and fund balance from City of Chandler Management Services Department, November 21, 2007; new service units from Table 87, Appendix B.

Existing Level of Service

One of the simplest ways to ensure that basic impact fee principles are met is to ensure that the public building system development fees do not exceed the cost to provide the existing level of service. The existing level of service for public buildings can be based on the replacement cost of existing facilities. The facilities included in the existing level of service include the housing and redevelopment building, information technology, the operations yard and the Public Works and Planning/Development department offices at 215 East Buffalo Street. The City currently leases 34,000 square feet for its city hall in the Chandler Office Center, but this building is not owned by the City and is not counted in the existing level of service. However, the City has already purchased the site on which the new 120,000-square-foot city hall will be constructed, and the value of this land is included in the existing level of service.

The City has been acquiring land in the downtown area for the new city hall; the most recent acquisitions have cost more than $1.0 million an acre, as shown in Table 65. This should be reasonably representative of the replacement value for land for the City's existing public building facilities, which are all located in the downtown area.

Table 65. Public Building Land Acquisition Costs

Facility	Year	Cost	CPI	Current Cost	Acres	Cost/Acre
City Hall	2005	$103,208	1.080	$111,465	0.17	$655,676
City Hall	2007	$125,000	1.000	$125,000	0.18	$694,444
City Hall	2007	$950,000	1.000	$950,000	0.68	$1,397,059
City Hall	2007	$420,000	1.000	$420,000	0.34	$1,235,294
City Hall	2007	$410,000	1.000	$410,000	0.47	$872,340
Total				$2,016,465	1.84	$1,095,905

Source: Parcel description and cost from City of Chandler Management Services Department, November 7, 2007; CPI is cost inflation factor based on U.S. Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers, Western City Average, All Items (1982-1984=100) for December 2007 from http://data.bls.gov/cgi-bin/surveymost.

The replacement value of existing buildings is based on insured values, since the buildings include different construction types and unique features. Table 66 summarizes the City's existing public building and land inventory. Vehicles and equipment are not included in the public building system development fee calculation or the existing level of service analysis.

Table 66. Existing Public Building Facilities

Facility	Address	Bldg. Value	Land (ac.)
Maintenance	249 E Chicago St.	$1,452,898	1.52
Public Works, Planning and Econ. Dev.	215 E Buffalo St.	$5,701,020	1.06
Housing and Redevelopment	265 E Buffalo	$547,320	0.10
IT Building	275 E Buffalo	$2,256,812	0.41
Courts	200 E Chicago	$4,024,315	0.75
New City Hall	200 S Arizona	$0	1.84
Traffic Engineering-B	975 E Armstrong	$1,734,514	0.35
Traffic Engineering-C	975 E Armstrong	$1,676,866	0.21
Fleet Service	975 E Armstrong	$1,932,271	0.38
Central Supply	975 E Armstrong	$1,726,363	0.68
Total		$21,052,379	7.30
Cost per Unit		NA	$1,095,905
Total Value		$21,052,379	$8,000,107

Source: Facility values from City of Chandler, "2007 Statement of Values," July 24, 2007; land from City of Chandler Management Services Department analysis of parcel data, November 28, 2007; land cost per acre from Table 65.

The existing level of service for public buildings is based on the total value of existing facilities and City-owned land divided by existing service units. The City does not have any outstanding general obligation bonds that were issued to fund new public building facilities and does not have any outstanding inter-fund loans from the general fund to the system development fee account. The existing level of service for public buildings is valued at $295 per service unit, as shown in Table 67.

Table 67. Existing Public Building Level of Service

Public Building Facilities	$21,052,379
Land Value	$8,000,107
Total	$29,052,486
Ending Fund Balance, 6/30/2007	$7,420,124
Less: Unfunded Facilities	$0
Net Total	$36,472,610
Existing Service Units (EDUs)	123,530
Existing LOS (Replacement Value per EDU)	$295

Source: Facility and land value from Table 66; ending fund balance from Table 64; existing EDUs from Table 86, Appendix B.

Net Cost per Service Unit

As shown in Table 68, the value of existing public buildings is lower than the plan-based cost per EDU. This is not surprising given the costs associated with building the new city hall; a facility that is not included in the City's existing level of service. As a result, the City's public building system development fee should be based on the lower cost associated with the existing level of service.

Table 68. Public Building Level of Service Analysis

Existing LOS (Replacement Value per EDU)	$295
Plan-Based Cost per EDU	$1,317

Source: Existing level of service per EDU from Table 67; net cost per EDU from Table 64.

As noted in the introduction, impact fees should be reduced to account for future funding that will be generated by new development and used to remedy existing deficiencies or to retire outstanding debt of existing facilities that help provide the existing level of service to existing development. The City of Chandler has no outstanding general obligation debt for any existing public building facilities included in the level-of-service analysis; thus, no debt-related revenue credits are required in this update. The net cost per service unit used in the system development fee calculation is the same as the existing cost per service unit shown in the previous table.

Updated Fee Schedule

The maximum public building system development fee schedule that can be adopted by the City based on this study is derived by multiplying the number of service units represented by each development unit by the net cost per service unit, as shown in Table 69. Since the existing level of service value per service unit is less than the planned facility cost per service unit, the updated fee is based on the existing level of service.

Table 69. Updated Public Building System Development Fees

Land Use	Unit	EDUs/Unit	Net Cost/EDU	Fee/Unit
Single-Family	Dwelling	1.000	$295	$295
Multi-Family	Dwelling	0.766	$295	$226
Retail/Commercial	1000 sq. ft.	1.251	$295	$369
Office	1000 sq. ft.	0.952	$295	$281
Public/Institutional	1000 sq. ft.	0.323	$295	$95
Industrial/Warehouse	1000 sq. ft.	0.306	$295	$90

Source: EDUs per unit from Table 84 and Table 85, Appendix B; cost per EDU based on the existing level of service from Table 68.

The updated public building system development fees are compared with current fees in Table 70. The fees would increase for retail and decrease for all other uses. The differential changes by land use are due to the switch to the functional population basis for fee assessment.

Table 70. Comparative Public Building System Development Fees

Land Use	Unit	Current Fee	Proposed Fee	% Change
Single-Family	Dwelling	$573	$295	-49%
Multi-Family	Dwelling	$573	$226	-61%
Retail/Commercial	1000 sq. ft.	$330	$369	12%
Office	1000 sq. ft.	$330	$281	-15%
Public/Institutional	1000 sq. ft.	$330	$95	-71%
Industrial/Warehouse	1000 sq. ft.	$330	$90	-73%

Source: Current fee from City of Chandler Code, Section 38-13; proposed fee from Table 69.

Based on forecast residential and nonresidential growth projections through build-out and the fees calculated in this report, total public building system development fee revenue would decrease by 50 percent, as shown in Table 71.

Table 71. Potential Public Building System Development Fee Revenue

		New	Current Fee Schedule		Potential Fee Schedule		Percent
Land Use	Unit	Units	Fee/Unit	Revenue	Fee/Unit	Revenue	Increase
Single-Family	Dwelling	9,107	$573	$5,218,311	$295	$2,686,565	-49%
Multi-Family	Dwelling	7,262	$573	$4,161,126	$226	$1,641,212	-61%
Retail/Commercial	1000 sq. ft.	9,752	$330	$3,218,160	$369	$3,598,488	12%
Office	1000 sq. ft.	10,277	$330	$3,391,410	$281	$2,887,837	-15%
Public/Institutional	1000 sq. ft.	2,333	$330	$769,890	$95	$221,635	-71%
Industrial/Warehouse	1000 sq. ft.	35,755	$330	$11,799,150	$90	$3,217,950	-73%
Total				$28,558,047		$14,253,687	-50%

Source: New units based on current and build-out units from Table 82, Appendix A; current and potential fees from Table 70.

LIBRARY

The City of Chandler extends free information services and recreational reading material to City residents through four branch libraries. The City of Chandler has not levied a library system development fee since February 1, 2006. As part of the 2005 fee update, the City decided to eliminate the library fee since there were no plans to build any additional library facilities. The remaining system development fee account balance was to be allocated for the acquisition of additional collection materials and construction of youth areas in the Basha and Hamilton libraries. However, the City has now decided to purchase the Sunset Branch library facility, and this is included in the current 2007-2012 Capital Improvement Program. The City currently leases the 20,000-square-foot facility at a yearly rent of more than $300,000. The City has the option to purchase the facility at market value and has decided that purchasing the facility will reduce annual operating expenditures and improve facility maintenance and services.

While the facility is nominally providing a service to existing development, it is also part of the overall library level of service that will ultimately be provided to all development at build-out. The lease of the facility is analogous to a facility funded with debt. As a result, future system development fees may be utilized to fund the purchase of the existing facility, provided that the system development fee does not exceed the value of the existing City-owned facilities, collection materials and equipment that are provided to existing development. As with the other fee updates, the library fee calculation includes an analysis of the existing level of service.

As is the past practice, library system development fees are appropriately assessed at the jurisdiction level and earmarked for expenditures within a single city-wide benefit district.

Service Unit

As with parks, most library impact fees are assessed only on new residential development. The common unit of measurement that reflects the impact of new development on the demand for capital facilities is called the "service unit." The residential equivalent dwelling units (EDUs) used in the park fee section are also used as the service unit for libraries.

Cost per Service Unit

The City's current 2007-2012 CIP includes approximately $10.0 million to purchase the Sunset Branch building and land that is currently leased. While the City has programmed general obligation bond funding to purchase this property, the newly-resurrected system development fee could be used to fund a portion of the cost to acquire this facility. The City will also be spending approximately $1.0 million to renovate the structure once it is acquired; however, the renovation costs are not eligible system development fee improvements. There are no other planned eligible system development fee expenditures through build-out.

The planned cost per service unit is developed by dividing the planned library expenditures by the projected growth in service units through build-out. As with the other fee calculations, the costs are adjusted to account for existing fund balances and carry-forward reserves. While the library fee has not been collected since February 2006, some funds remained in the account balance and have been used to fund capacity-expanding improvements to existing libraries. The library system development fee account has outstanding encumbrances and carry-forward reserve balances related to improvements at Basha Library. The cost per service unit is developed by dividing the eligible costs by the projected growth in service units through build-out. As shown in Table 72, the cost of planned facilities attributed to growth is $668 per service unit.

Table 72. Library Cost per Service Unit

Sunset Library Acquisition	$9,955,000
Encumbrances for Current Projects	$11,158
Capital Carry-Forward Balance	$480,000
Less: Ending Fund Balance, 6/30/2007	$645,633
Total, Growth-Related Costs	$9,800,525
New Service Units (EDUs)	14,670
Plan-Based Cost per EDU	$668

Source: Sunset Library acquisition cost from City of Chandler 2007-2012 CIP; encumbrances, capital carry-forward and fund balance from City of Chandler Management Services Department, November 21, 2007; new service units from Table 25.

Existing Level of Service

The existing level of service for library facilities is based on the replacement cost of City-owned facilities, land, collection materials and furnishing and equipment. The downtown branch is the only fully City-owned library facility. While the Basha and Hamilton branches are co-located at public high schools and the City does not own the land, the City constructed the buildings. The Sunset branch is located in a leased facility.

The value of the facilities is based on the original construction cost adjusted to current dollars. The Sunset branch is not included in the level of service calculation since it is a leased facility. Table 73 summarizes the current value of the library branch buildings.

Table 73. Library Facilities

Facility	Address	Year Built	Orig. Cost	CCI Factor	Current Cost
Downtown Branch	22 S. Delaware St.	1995	$7,369,000	1.479	$10,898,751
Basha Branch	5990 S. Val Vista	2003	$1,600,000	1.209	$1,934,400
Hamilton Branch	3700 S. Arizona	1998	$500,000	1.367	$683,500
Sunset Branch*	4930 W. Ray Rd	NA	NA	NA	NA
Total					$13,516,651

*Leased facility.

Source: Building value based on original construction cost included in the City's Capital Improvement Program from City of Chandler Management Services Department, December 14, 2007; cost factor based on *Engineering News-Record* (ENR) Construction Cost Index (CCI), January 2008.

The library level of service includes the value of current collection materials, equipment and furnishings. As shown in Table 74, the total replacement cost for all library collection materials, equipment and furnishings is $13.4 million.

Table 74. Library Collection, Equipment and Furnishing Value

Facility	Collections	Furniture/ Equipment	Total
Downtown Branch	$5,775,000	$1,015,000	$6,790,000
Basha Branch	$1,600,000	$253,750	$1,853,750
Hamilton Branch	$1,720,000	$152,250	$1,872,250
Sunset Branch	$2,600,000	$304,500	$2,904,500
Total			$13,420,500

Source: Building value from City of Chandler, "2007 Statement of Values," July 24, 2007.

The existing level of service for libraries is based on the total value of city-owned facilities, land, collection materials, equipment and furnishings divided by the existing service units. The library land value is based on the downtown branch land site, which is 1.49 acres, and the downtown land value utilized in the public building level of service analysis. The land for the Basha and Hamilton branches is not included in the level of service since these facilities are located on school-owned property. The existing level of service for libraries is valued at $332 per service unit, as shown in Table 75.

Table 75. Existing Library Level of Service

Library Buildings	$13,516,651
Land Value	$1,632,898
Collection and Equipment	$13,420,500
Subtotal	$28,570,049
Ending Fund Balance	$645,633
Total Replacement Value	$29,215,682
Existing Service Units (EDUs)	87,966
Existing LOS (Replacement Value per EDU)	$332

Source: Library building value from Table 73; collection and equipment from Table 74; land based on downtown branch site of 1.49 acres from City of Chandler Management Services Department analysis of parcel data, November 28, 2007 and downtown land cost of $1,095,905 per acre from Table 65; ending fund balance from Table 72; existing EDUs from Table 24.

Net Cost per Service Unit

The cost per service unit based on existing facilities is compared with the adjusted cost of planned improvements in order to ensure that new development does not pay for a higher level of service than existing development for library facilities. As shown in Table 76, the value of existing city-owned facilities, collection materials, equipment and furnishing is lower than the eligible plan-based cost per EDU. As a result, the City's library system development fee should be based on the lower cost associated with the existing level of service.

Table 76. Library Level of Service Analysis

Existing LOS (Replacement Cost per EDU)	$332
Plan-Based Cost per EDU	$668

Source: Existing level of service per EDU from Table 75; plan-based cost per EDU from Table 72.

In order to fund the construction of existing library facilities, the City utilized a mix of general obligation bonds, gifts and impact fees. A debt credit is necessary since the general obligation bonds used to originally fund library construction have outstanding balances. As with the other debt credit calculations, the outstanding library-related debt is divided by the existing service units. As shown in Table 77, based on the outstanding library facility debt, the debt credit is approximately $99 per EDU.

Table 77. Library Facility Debt

Issue	Purpose	Balance
1993	Library Collections	$350,000
1993	New Library Design	$250,000
1994	New Library	$1,450,000
1996	Library Construction	$925,000
1997 Refunding	Library Construction	$775,000
1999	Library Construction	$800,000
2000	Library Collection/Equipment	$790,000
2003 Refunding	Library Construction--1996	$3,000,000
2007 Refunding	Library Collection/Equipment--2000	$395,000
Total		$8,735,000
Existing EDUs		87,966
Debt Credit per EDU		$99

Source: General obligation debt balances from City of Chandler, Management Services Department, December 14, 2007; existing EDUs from Table 24.

As shown in Table 78, reducing the cost per service unit based on the existing level of service by the applicable debt credit leaves a net cost of $233 per EDU for library facilities.

Table 78. Library Net Cost per Service Unit

Existing LOS (Replacement Cost per EDU)	$332
Debt Credit per EDU	$99
Net Cost per EDU	$233

Source: Cost per EDU from Table 76; debt credit from Table 77.

Updated Fee Schedule

The maximum library system development fee schedule that can be adopted by the City based on this study is derived by multiplying the service units associated with each unit of development by the net cost per service unit, as shown in Table 79.

Table 79. Updated Library System Development Fees

Land Use	Unit	EDUs/Unit	Net Cost/EDU	Fee/Unit
Single-Family	Dwelling	1.000	$233	$233
Multi-Family	Dwelling	0.766	$233	$178

Source: EDUs per unit from Table 84, Appendix B; cost per EDU from Table 78.

Based on forecast residential growth projections through build-out, potential library system development fee revenue would provide approximately $3.4 million, which is approximately one-third of the purchase price of the library facility, as shown in Table 80.

Table 80. Potential Library System Development Fee Revenue

Land Use	New Units	Fee/Unit	Revenue
Single-Family	9,107	$233	$2,121,931
Multi-Family	7,262	$178	$1,292,636
Total			$3,414,567

Source: New units based on current and build-out units from Table 82, Appendix A; potential fee from Table 79.

APPENDIX A: POPULATION AND DEMOGRAPHICS

For residential land uses, the impact of a dwelling unit on the need for capital facilities is generally proportional to the number of persons residing in the dwelling unit. This can be measured for different housing types in terms of either average household size (average number of persons per occupied dwelling unit) or persons per unit (average number of persons per dwelling unit, including both vacant and occupied units). This analysis utilizes average household size based on the household population in occupied units to determine the impact of dwelling units on the need for capital facilities.

The housing types currently used in the City of Chandler's system development fee ordinance are single-family and multi-family (the City has not had a separate fee schedule for mobile homes). The ordinance does not define single-family or multi-family. In practice, the Development Services Division charges single-family rates for attached dwellings, such as townhomes, regardless of how many units are physically attached to each other if the common wall goes from ground to roof. This study maintains the City's practice of including detached and attached dwelling units and mobile homes in the single-family category. The multi-family category includes all duplex, multi-plex and apartment units. Table 81 presents the total number of housing units, household population and average number of residents per occupied housing unit for the single-family and multi-family residential categories.

Table 81. Persons per Unit, 2000

	Total Units	Vacant Units	Occupied Units	Household Population	Avg. HH Size
Single-Family*	52,965	2,361	50,604	149,040	2.95
Multi-Family	13,669	1,915	11,754	26,514	2.26

*Single-family includes single-family detached, single-family attached and mobile home units.
Source: U.S. Census Bureau, 2000 Census SF-3 (1-in-6 weighted sample data) for City of Chandler.

In order to determine the existing levels of service for the various facilities, it is necessary to estimate the existing and future city-wide housing units and nonresidential development. As shown in Table 82, the city is expected to add 16,369 new residential units and about 58.1 million square feet of nonresidential development through build-out.

Table 82. Existing and Build-Out Development, City-Wide

Land Use	Unit	Existing Units	Buildout Units	New Units
Single-Family*	Dwelling	71,155	80,262	9,107
Multi-Family	Dwelling	21,947	29,209	7,262
Total Residential Units		93,102	109,471	16,369
Retail/Commercial	1000 sq. ft.	16,936	26,688	9,752
Office	1000 sq. ft.	4,169	14,446	10,277
Public	1000 sq. ft.	8,672	11,005	2,333
Industrial/Warehouse**	1000 sq. ft.	24,859	60,614	35,755
Total Nonresidential	1000 sq. ft.	54,636	112,753	58,117

*Single-family includes single-family detached, single-family attached and mobile home units.
**Industrial/Warehouse includes hotel/motel land use.
Source: City of Chandler Long Range Planning Division, August 1, 2007.

Since the arterial street system development fees apply only to a sub-area of the city, it is necessary to determine existing and build-out development for the arterial street service area as well. This was done by summing the development in Traffic Analysis Zones that aggregated to the arterial street service area. The results are shown in Table 83.

Table 83. Existing and Build-Out Development, Arterial Street Service Area

	Unit	Existing Units	Buildout Units	New Units
Single-Family*	Dwelling	43,677	52,715	9,038
Multi-Family	Dwelling	11,956	18,839	6,883
Total Residential Units		55,633	71,554	15,921
Retail/Commercial	1000 sq. ft.	8,109	16,353	8,244
Office	1000 sq. ft.	2,796	11,704	8,908
Public	1000 sq. ft.	5,546	7,164	1,618
Industrial/Warehouse**	1000 sq. ft.	12,848	44,762	31,914
Total Nonresidential	1000 sq. ft.	29,299	79,983	50,684

*Single-family includes single-family detached, single-family attached and mobile home units.
**Industrial/Warehouse includes hotel/motel land use.
Source: City of Chandler Long Range Planning Division, August 1, 2007; existing and build-out development estimate based on analysis of TAZs included in system development fee service area; in cases where a TAZ fell partially in the street fee, the entire existing and potential development was allocated to the street fee area since further breakdown of TAZ development is not available.

APPENDIX B: FUNCTIONAL POPULATION

For three of the system development fee updates (fire, police and public buildings), it is appropriate to apply a concept referred to as "functional population" in the impact fee literature. This is a generally-accepted methodology for these facility types and is based on the observation that demand for certain facilities is generally proportional to the presence of people.

To a large extent, the demand for general government services and public safety functions, including fire and police, is proportional to the presence of people. The functional population concept is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use. Functional population is the equivalent number of people occupying a building or land use site on a 24-hours-per-day, 7-days-per-week basis.

Determining residential functional population multipliers is considerably simpler than the nonresidential component. It is assumed that people spend 12 hours per day at home during week days and 20 hours per day during weekends. In total, people are assumed to spend 100 hours per week, or 60 percent of their time, at home. The other 40 percent of their time spent away from home accounts for working, shopping and other away-from-home activities. For residential uses, then, equivalent dwelling units are calculated by first multiplying average household size by 60 percent to determine functional population per unit, then dividing by the functional population per single-family unit to determine equivalent dwelling units. The equivalent dwelling units for single-family and multi-family units are shown in Table 84.

Table 84. Residential Functional Population and EDU Multipliers

Housing Type	Avg. HH Size	Occupancy	Func. Pop./Unit	EDUs/ Unit
Single-Family	2.95	0.60	1.770	1.000
Multi-Family	2.26	0.60	1.356	0.766

Source: Average household size from Table 81.

The functional population methodology for nonresidential uses is based on national trip generation data compiled by the Institute of Transportation Engineers (ITE). Functional population per 1,000 square feet is derived by dividing the total number of hours spent by employees and visitors during a day by 24 hours. Employees are assumed to spend eight hours per day at their place of employment, and visitors are assumed to spend one hour per visit depending on land use. The formula used to derive the nonresidential function population estimates is summarized in Figure 6.

Figure 6. Nonresidential Functional Population Formula

Functional population/1000 sf = (employee hours/1000 sf + visitor hours/1000 sf) ÷ 24 hours/day

Where:

Employee hours/1000 sf = employees/1000 sf x 8 hours/day

Visitor hours/1000 sf (retail, office and public/institutional) = visitors/1000 sf x 1 hour/visit

Visitor hours/1000 sf (industrial/warehouse) = visitors/1000 sf x ½ hour/visit

Visitors/1000 sf = weekday ADT/1000 sf x avg. vehicle occupancy - employees/1000 sf

Weekday ADT/1000 sf = one way average daily trips (total trip ends ÷ 2)

Using this formula and information on trip generation rates from the ITE manual, nonresidential functional population estimates per 1,000 square feet of gross floor area were calculated. These functional population estimates were then converted into equivalent dwelling units by dividing them by the functional population per single-family unit calculated in the preceding table. Table 85 presents the results of these calculations for a number of nonresidential land use categories.

Table 85. Nonresidential Functional Population and EDU Multipliers

Land Use	Unit	Trip Rate	Persons/ Trip	Emp./ Unit	Visitors/ Unit	Func. Pop./Unit	EDUs/ Unit
Retail/Commercial	1000 sq. ft.	21.47	1.81	2.04	36.82	2.214	1.251
Office	1000 sq. ft.	5.51	1.14	4.88	1.40	1.685	0.952
Public/Institutional	1000 sq. ft.	3.05	1.63	1.25	3.72	0.572	0.323
Industrial/Warehouse	1000 sq. ft.	3.48	1.14	1.47	2.50	0.542	0.306

Source: Trip rate is one-half average daily trip ends on a weekday from Institute of Transportation Engineers (ITE), *Trip Generation*, 7th Ed., 2003 (public/institutional trip rate based on nursing home); persons per trip are average vehicle occupancies from U.S. Department of Transportation, *National Household Travel Survey,* 2001 for following trip purposes: "family/personal" for retail, "to work" for office, industrial and warehouse and "all personal vehicle trips" for public/institutional; employees per unit for retail, office, public/institutional and industrial based on sample of existing developments in Chandler conducted by the City of Chandler Economic Development Department, 2005; visitors/day is 1-way trips times occupants/trip minus workers/unit; hours/week and days/week assumed; functional population per unit = (workers/unit x worker hours/day + visitors x hours/visit x days/week)/(24 hours/day).

In order to determine the existing levels of service for the various facilities, it is necessary to estimate the existing total functional population and residential equivalent service units for the city. The existing city-wide functional population and service units can be determined based on existing land use data and population ratios for various land use categories. The resulting total functional population and total service units are shown in Table 86.

Table 86. Total Functional Population and Service Units, 2007

Land Use Type	Unit	2007 Units	Functional Pop. per Unit	Functional Pop. Total	Service Units (EDUs) per Unit	Service Units (EDUs) Total
Single-Family	Dwelling	71,155	1.770	125,944	1.000	71,155
Multi-Family	Dwelling	21,947	1.356	29,760	0.766	16,811
Residential Subtotal				155,704		87,966
Retail/Commercial	1000 sq. ft.	16,936	2.214	37,496	1.251	21,187
Office	1000 sq. ft.	4,169	1.685	7,025	0.952	3,969
Public/Institutional	1000 sq. ft.	8,672	0.572	4,960	0.323	2,801
Industrial/Warehouse	1000 sq. ft.	24,859	0.542	13,474	0.306	7,607
Nonresidential Subtotal				62,955		35,564
Total				218,659		123,530

Source: 2007 residential and nonresidential units from Table 82; residential functional population and EDUs per unit from Table 84; nonresidential functional population and EDUs per unit from Table 85; total service units based on total units and EDUs per unit.

This straight-forward approach to estimating total functional population and service units ensures that there is a strong relationship between the service unit multipliers used in the system development fee schedules and the cost per service unit derived from the existing level of service (essentially by dividing the cost of existing facilities by the existing development served by those facilities, expressed in terms of total service units based on functional population). As shown in Table 87, functional population and related service unit projections have been derived in this analysis from land use projection data provided by the City of Chandler.

Table 87. Total Functional Population and Service Units, Build-Out

Land Use Type	Unit	Units	Functional Pop. per Unit	Functional Pop. Total	Service Units (EDUs) per Unit	Service Units (EDUs) Total
Single-Family	Dwelling	80,262	1.770	142,064	1.000	80,262
Multi-Family	Dwelling	29,209	1.356	39,607	0.766	22,374
Residential Subtotal				181,671		102,636
Retail/Commercial	1000 sq. ft.	26,688	2.214	59,087	1.251	33,387
Office	1000 sq. ft.	14,446	1.685	24,342	0.952	13,753
Public/Institutional	1000 sq. ft.	11,005	0.572	6,295	0.323	3,555
Industrial/Warehouse	1000 sq. ft.	60,614	0.542	32,853	0.306	18,548
Nonresidential Subtotal				122,577		69,243
Total, Build-Out				304,248		171,879
Existing Units				218,659		123,530
New Units				85,589		48,349

Source: Build-out residential and nonresidential units from Table 82; residential functional population and EDUs per unit from Table 84; nonresidential functional population and EDUs per unit from Table 85; existing units from Table 86 and total service units based on total units and EDUs per unit.

APPENDIX C: ARTERIAL STREET INVENTORY

Table 88. Existing Arterial Street Inventory – Arterial Street Fee Service Area

Street	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
McClintock Rd	Frye	Loop 202	0.50	2	1.00	512	944	256	472
Price	Frye	Loop 202	0.50	6	3.00	NA	3,222	NA	1,611
Price	Loop 202	Germann	1.15	4	4.60	3,133	2,703	3,603	3,108
Price	Germann	Queen Creek	1.00	6	6.00	2,914	3,222	2,914	3,222
Price	Queen Creek	Dobson	0.50	6	3.00	2,435	3,222	1,218	1,611
Dobson	Frye	Pecos	0.50	6	3.00	1,839	3,222	920	1,611
Dobson	Pecos	Loop 202	0.30	6	1.80	1,789	3,222	537	967
Dobson	Loop 202	Willis	0.26	6	1.56	1,644	3,222	427	838
Dobson	Willis	Armstrong Way	0.25	6	1.50	1,268	3,222	317	806
Dobson	Armstrong Way	Germann	0.25	6	1.50	1,520	3,222	380	806
Dobson	Germann	W. Earl Blvd	0.50	6	3.00	1,520	3,222	760	1,611
Dobson	W. Earl Blvd	Queen Creek	0.60	6	3.60	1,184	3,222	710	1,933
Dobson	Queen Creek	Price	0.42	4	1.68	886	2,703	372	1,135
Dobson	Price	Ocotillo	1.00	4	4.00	1,439	2,703	1,439	2,703
Dobson	Ocotillo	End	0.80	4	3.20	NA	2,703	NA	2,162
Alma School	Frye	Pecos	0.50	4	2.00	2,249	2,703	1,125	1,352
Alma School	Pecos	Loop 202	0.30	4	1.20	2,692	2,703	808	811
Alma School	Loop 202	Willis	0.25	4	1.00	3,268	2,703	817	676
Alma School	Willis	Germann	0.50	4	2.00	3,276	2,703	1,638	1,352
Alma School	Germann	Ryan	0.50	4	2.00	3,034	2,703	1,517	1,352
Alma School	Ryan	Queen Creek	0.48	4	1.92	2,942	2,703	1,412	1,297
Alma School	Queen Creek	Ocotillo	1.12	4	4.48	2,662	2,703	2,981	3,027
Alma School	Ocotillo	West Lake Dr	0.53	4	2.12	3,055	2,703	1,619	1,433
Alma School	West Lake Dr	Chandler Heights	0.60	4	2.40	1,755	2,703	1,053	1,622
Alma School	Chandler Heights	Riggs	0.25	2	0.50	1,495	944	374	236
Arizona	Knox	Ray	0.50	6	3.00	2,890	3,222	1,445	1,611
Arizona	Ray	Galveston	0.50	7	3.50	2,765	3,222	1,383	1,611
Arizona	Galveston	Erie	0.25	7	1.75	2,701	3,222	675	806
Arizona	Erie	Chandler	0.25	7	1.75	2,422	3,222	606	806
Arizona	Chandler	Buffalo	0.10	7	0.70	2,062	3,222	206	322
Arizona	Buffalo	Boston	0.16	6	0.96	2,008	3,222	321	516
Arizona	Boston	Frye	0.24	7	1.68	2,033	3,222	488	773
Arizona	Frye	Pecos	0.50	7	3.50	2,155	3,222	1,078	1,611
Arizona	Pecos	Loop 202	0.30	6	1.80	2,440	3,222	732	967
Arizona	Loop 202	Willis	0.23	6	1.38	2,447	3,222	563	741
Arizona	Willis	Germann	0.50	6	3.00	2,237	3,222	1,119	1,611
Arizona	Germann	Ryan	0.50	6	3.00	2,616	3,222	1,308	1,611
Arizona	Ryan	Queen Creek	0.50	6	3.00	2,190	3,222	1,095	1,611
Arizona	Queen Creek	Appleby	0.50	6	3.00	2,243	3,222	1,122	1,611
Arizona	Appleby	Ocotillo	0.50	6	3.00	2,366	3,222	1,183	1,611
Arizona	Ocotillo	Chandler Heights	1.00	4	4.00	2,242	2,703	2,242	2,703
Arizona	Chandler Heights	Riggs	1.00	4	4.00	1,630	2,703	1,630	2,703
Arizona	Riggs	Hunt	1.00	4	4.00	1,048	2,703	1,048	2,703
McQueen	Warner	Highland	0.25	4	1.00	2,396	2,703	599	676
McQueen	Highland	Knox	0.25	4	1.00	2,355	2,703	589	676
McQueen	Knox	Orchid	0.34	4	1.36	2,538	2,703	863	919
McQueen	Orchid	Ray	0.16	4	0.64	2,242	2,703	359	432
McQueen	Ray	Ivanhoe	0.25	4	1.00	1,971	2,703	493	676

Table 88 Continued

Street	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
McQueen	Ivanhoe	Galveston	0.25	4	1.00	2,573	2,703	643	676
McQueen	Galveston	Chandler	0.50	4	2.00	2,371	2,703	1,186	1,352
McQueen	Chandler	Frye	0.50	4	2.00	2,227	2,703	1,114	1,352
McQueen	Frye	Pecos	0.50	6	3.00	2,008	3,222	1,004	1,611
McQueen	Pecos	Willis	0.50	6	3.00	2,016	3,222	1,008	1,611
McQueen	Willis	Loop 202	0.12	6	0.72	1,425	3,222	171	387
McQueen	Loop 202	Germann	0.40	6	2.40	2,307	3,222	923	1,289
McQueen	Germann	Ryan	0.50	6	3.00	2,219	3,222	1,110	1,611
McQueen	Ryan	Queen Creek	0.50	6	3.00	2,295	3,222	1,148	1,611
McQueen	Queen Creek	Ocotillo	1.00	2	2.00	967	944	967	944
McQueen	Ocotillo	Brooks Farm	0.50	2	1.00	755	944	378	472
McQueen	Brooks Farm	Chandler Heights	0.50	2	1.00	484	944	242	472
McQueen	Chandler Heights	Riggs	1.00	2	2.00	627	944	627	944
McQueen	Riggs	City Limits	0.75	2	1.50	375	944	281	708
Cooper	Knox	Orchid	0.50	4	2.00	NA	2,703	NA	1,352
Cooper	Orchid	Ray	0.25	4	1.00	1,700	2,703	425	676
Cooper	Ray	Chandler	1.00	6	6.00	1,280	3,222	1,280	3,222
Cooper	Chandler	Canal	0.12	6	0.72	860	3,222	103	387
Cooper	Canal	Frye	0.33	2	0.66	NA	944	NA	312
Cooper	Frye	Pecos	0.53	3	1.59	1,135	1,640	602	869
Cooper	Pecos	Willis	0.50	3	1.50	NA	1,640	NA	820
Cooper	Willis	Loop 202	0.12	6	0.72	1,052	3,222	126	387
Cooper	Loop 202	Germann	0.40	6	2.40	1,042	3,222	417	1,289
Cooper	Queen Creek	Ocotillo	1.00	2	2.00	601	944	601	944
Cooper	Ocotillo	Alamosa	0.25	2	0.50	NA	944	NA	236
Cooper	Alamosa	Chandler Heights	0.75	2	1.50	198	944	149	708
Cooper	Chandler Heights	Riggs	1.00	2	2.00	452	944	452	944
Cooper	Riggs	Hunt	1.00	4	4.00	725	2,703	725	2,703
Gilbert	Pecos	Loop 202	0.60	6	3.60	1,708	3,222	1,025	1,933
Gilbert	Loop 202	Germann	0.40	6	2.40	1,783	3,222	713	1,289
Gilbert	Germann	Ryan	0.50	3	1.50	1,213	1,640	607	820
Gilbert	Ryan	Queen Creek	0.50	3	1.50	NA	1,640	NA	820
Gilbert	Queen Creek	Ocotillo	1.00	2	2.00	975	944	975	944
Gilbert	Ocotillo	Brooks Farm	0.50	2	1.00	NA	944	NA	472
Gilbert	Brooks Farm	Chandler Heights	0.50	2	1.00	695	944	348	472
Gilbert	Chandler Heights	Riggs	1.00	2	2.00	831	944	831	944
Gilbert	Riggs	Amanda	0.24	4	0.96	866	2,703	208	649
Gilbert	Amanda	Hunt	0.76	3	2.28	NA	1,640	NA	1,246
Lindsay	Ocotillo	Chandler Heights	1.00	2	2.00	450	944	450	944
Lindsay	Chandler Heights	Capricorn	0.75	2	1.50	500	944	375	708
Lindsay	Capricorn	Riggs	0.25	2	0.50	113	944	28	236
Lindsay	Riggs	Hunt	1.00	2	2.00	59	944	59	944
Warner	RR Tracks	McQueen	0.50	4	2.00	2,268	2,703	1,134	1,352
Ray	Arizona	Hamilton	0.50	4	2.00	2,506	2,703	1,253	1,352
Ray	Hamilton	McQueen	0.50	4	2.00	2,128	2,703	1,064	1,352
Ray	McQueen	Cooper	1.00	4	4.00	2,250	2,703	2,250	2,703
Chandler	Arizona	Colorado	0.15	6	0.90	1,592	3,222	239	483
Chandler	Colorado	Delaware	0.10	5	0.50	2,030	2,703	203	270
Chandler	Delaware	Hamilton	0.27	5	1.35	1,940	2,703	524	730
Chandler	Hamilton	McQueen	0.50	5	2.50	1,935	2,703	968	1,352
Chandler	McQueen	Lakeview	0.74	6	4.44	2,211	3,222	1,636	2,384
Chandler	Lakeview	Cooper	0.25	6	1.50	2,365	3,222	591	806

Table 88 Continued

Street	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
Chandler	Cooper	Cottonwood	0.22	6	1.32	2,455	3,222	540	709
Chandler	Cottonwood	132nd St.	0.28	6	1.68	1,830	3,222	512	902
Chandler	132nd St.	Gilbert	0.50	6	3.00	1,830	3,222	915	1,611
Pecos	Ellis	Dobson	0.50	3	1.50	467	1,640	234	820
Pecos	Dobson	Alma School	1.00	6	6.00	478	3,222	478	3,222
Pecos	Alma School	Arizona	1.00	6	6.00	523	3,222	523	3,222
Pecos	Arizona	RR Tracks	0.27	6	1.62	597	3,222	161	870
Pecos	RR Tracks	Hamilton	0.23	6	1.38	879	3,222	202	741
Pecos	Hamilton	Kingston	0.30	6	1.80	839	3,222	252	967
Pecos	Kingston	McQueen	0.20	6	1.20	562	3,222	112	644
Pecos	McQueen	Cooper	1.00	3	3.00	769	1,640	769	1,640
Pecos	Cooper	Cottonwood	0.25	3	0.75	615	1,640	154	410
Pecos	Cottonwood	Gilbert	0.75	6	4.50	910	3,222	683	2,417
Germann	City Limits	Price	0.25	2	0.50	113	944	28	236
Germann	Price	Dobson	0.75	4	3.00	713	2,703	535	2,027
Germann	Dobson	Comanche	0.75	2	1.50	NA	944	NA	708
Germann	Comanche	Alma School	0.25	4	1.00	788	2,703	197	676
Germann	Alma School	Hartford	0.40	2	0.80	1,185	944	474	378
Germann	Hartford	Arizona	0.60	4	2.40	706	2,703	424	1,622
Germann	Arizona	Crossroads Ctr	0.75	4	3.00	1,420	2,703	1,065	2,027
Germann	Crossroads Ctr	McQueen	0.25	4	1.00	1,210	2,703	303	676
Germann	McQueen	Canal	0.50	4	2.00	653	2,703	327	1,352
Germann	Canal	Cooper	0.50	4	2.00	1,110	2,703	555	1,352
Germann	Cooper	Gilbert	1.10	4	4.40	1,535	2,703	1,689	2,973
Queen Creek	City Limits	Price	0.27	4	1.08	2,095	2,703	566	730
Queen Creek	Price	Dobson	0.45	4	1.80	1,876	2,703	844	1,216
Queen Creek	Dobson	Alma School	1.30	4	5.20	1,572	2,703	2,044	3,514
Queen Creek	Alma School	Hartford	0.50	4	2.00	1,407	2,703	704	1,352
Queen Creek	Hartford	Arizona	0.50	4	2.00	NA	2,703	NA	1,352
Queen Creek	Arizona	McQueen	1.00	2	2.00	935	944	935	944
Queen Creek	McQueen	Airport	0.15	2	0.30	776	944	116	142
Queen Creek	Airport	Cooper	0.85	2	1.70	1,142	944	971	802
Queen Creek	Cooper	Gilbert	1.00	2	2.00	625	944	625	944
Queen Creek	Gilbert	Lindsay	1.00	2	2.00	775	944	775	944
Ocotillo	Dobson	Alma School	0.80	2	1.60	1,819	944	1,455	755
Ocotillo	Alma School	Sandpiper	0.90	4	3.60	1,138	2,703	1,024	2,433
Ocotillo	Sandpiper	Appleby	0.25	4	1.00	1,150	2,703	288	676
Ocotillo	Appleby	Arizona	0.25	4	1.00	835	2,703	209	676
Ocotillo	Arizona	McQueen	1.00	2	2.00	823	944	823	944
Ocotillo	McQueen	124th	0.50	2	1.00	1,055	944	528	472
Ocotillo	124th	Cooper	0.50	2	1.00	616	944	308	472
Ocotillo	Cooper	Redwood	0.25	2	0.50	NA	944	NA	236
Ocotillo	Redwood	Gilbert	0.75	2	1.50	583	944	437	708
Ocotillo	Gilbert	Lindsay	1.00	2	2.00	438	944	438	944
Ocotillo	Lindsay	148th St.	0.50	2	1.00	400	944	200	472
Chandler Heights	Alma School	Arizona	1.00	4	4.00	730	2,703	730	2,703
Chandler Heights	Arizona	McQueen	1.00	2	2.00	967	944	967	944
Chandler Heights	McQueen	Adams	1.00	2	2.00	973	944	973	944
Chandler Heights	Adams	Lindl	0.60	2	1.20	NA	944	NA	566
Chandler Heights	Lindl	Cooper	0.40	2	0.80	967	944	387	378
Chandler Heights	Cooper	Gilbert	0.96	2	1.92	671	944	644	906

Table 88 Continued

Street	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
Chandler Heights	Gilbert	Lindsay	1.00	2	2.00	608	944	608	944
Chandler Heights	Lindsay	Val Vista	1.00	2	2.00	550	944	550	944
Riggs	Arizona	median	0.60	2	1.20	1,535	944	921	566
Riggs	median	McQueen	0.40	4	1.60	2,118	2,703	847	1,081
Riggs	McQueen	Championship	1.00	2	2.00	1,400	944	1,400	944
Riggs	Championship	Cooper	1.00	4	4.00	1,313	2,703	1,313	2,703
Riggs	Cooper	Emmett	0.50	4	2.00	1,393	2,703	697	1,352
Riggs	Emmett	Gilbert	0.50	4	2.00	1,105	2,703	553	1,352
Riggs	Gilbert	South Mountain	0.30	4	1.20	1,518	2,703	455	811
Riggs	South Mountain	Lindsay	0.70	3	2.10	857	1,640	600	1,148
Riggs	Lindsay	Sun Groves	0.50	3	1.50	787	1,640	394	820
Riggs	Sun Groves	Black Hill	0.25	4	1.00	1,520	2,703	380	676
Riggs	Black Hill	Val Vista	0.25	4	1.00	1,703	2,703	426	676
Total			91.40		340.87			116,774	195,543
Total, Lane-Miles w/Counts			84.66		320.03			116,774	183,650

Source: Current arterial street sections based on existing arterial streets in arterial street service area; roadway segments and lengths scaled by Duncan Associates; road cross-section information provided by City of Chandler Department of Public Works; 2007 peak hour traffic count from City of Chandler Department of Public Works, August 17, 2007; lane-miles are the product of segment length and number of lanes; capacity for road sections from Parsons/Brinckerhoff, *Chandler Transportation Study*, November 2002, Table VI-5 multiplied by City of Chandler peak-hour k-factor of .085 (Parsons/Brinckerhoff, p. 48), except 3-lane capacity from Florida Department of Transportation; VMT is the product of miles and peak hour count; VMC is the product of miles and capacity.

Table 89. Future Arterial Street Inventory – Arterial Street Fee Service Area

Road	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
McClintock Rd	Frye	Loop 202	0.50	6	3.00	2,465	3,222	1,233	1,611
Price	Frye	Loop 202	0.50	6	3.00	NA	3,222	NA	1,611
Price	Loop 202	Germann	1.15	6	6.90	5,100	3,222	5,865	3,705
Price	Germann	Queen Creek	1.00	6	6.00	3,995	3,222	3,995	3,222
Price	Queen Creek	Dobson	0.50	6	3.00	3,400	3,222	1,700	1,611
Dobson	Frye	Pecos	0.50	6	3.00	3,400	3,222	1,700	1,611
Dobson	Pecos	Loop 202	0.30	6	1.80	3,570	3,222	1,071	967
Dobson	Loop 202	Willis	0.26	6	1.56	3,570	3,222	928	838
Dobson	Willis	Armstrong Way	0.25	6	1.50	3,570	3,222	893	806
Dobson	Armstrong Way	Germann	0.25	6	1.50	3,570	3,222	893	806
Dobson	Germann	W. Earl Blvd	0.50	6	3.00	3,400	3,222	1,700	1,611
Dobson	W. Earl Blvd	Queen Creek	0.60	6	3.60	3,400	3,222	2,040	1,933
Dobson	Queen Creek	Price	0.42	4	1.68	1,190	2,703	500	1,135
Dobson	Price	Ocotillo	1.00	6	6.00	3,315	3,222	3,315	3,222
Dobson	Ocotillo	End	0.80	4	3.20	NA	2,703	NA	2,162
Alma School	Frye	Pecos	0.50	6	3.00	3,230	3,222	1,615	1,611
Alma School	Pecos	Loop 202	0.30	6	1.80	3,825	3,222	1,148	967
Alma School	Loop 202	Willis	0.25	6	1.50	3,825	3,222	956	806
Alma School	Willis	Germann	0.50	6	3.00	3,825	3,222	1,913	1,611
Alma School	Germann	Ryan	0.50	6	3.00	3,570	3,222	1,785	1,611
Alma School	Ryan	Queen Creek	0.48	6	2.88	3,570	3,222	1,714	1,547
Alma School	Queen Creek	Ocotillo	1.12	6	6.72	3,400	3,222	3,808	3,609
Alma School	Ocotillo	West Lake Dr	0.53	6	3.18	2,975	3,222	1,577	1,708
Alma School	West Lake Dr	Chandler Heights	0.60	6	3.60	2,975	3,222	1,785	1,933
Alma School	Chandler Heights	Riggs	0.25	3	0.75	2,040	1,640	510	410
Arizona	Knox	Ray	0.50	7	3.50	4,760	3,222	2,380	1,611
Arizona	Ray	Galveston	0.50	7	3.50	4,165	3,222	2,083	1,611
Arizona	Galveston	Erie	0.25	7	1.75	4,165	3,222	1,041	806
Arizona	Erie	Chandler	0.25	7	1.75	4,165	3,222	1,041	806
Arizona	Chandler	Buffalo	0.10	7	0.70	3,570	3,222	357	322
Arizona	Buffalo	Boston	0.16	6	0.96	3,570	3,222	571	516
Arizona	Boston	Frye	0.24	7	1.68	3,570	3,222	857	773
Arizona	Frye	Pecos	0.50	7	3.50	3,570	3,222	1,785	1,611
Arizona	Pecos	Loop 202	0.30	6	1.80	4,165	3,222	1,250	967
Arizona	Loop 202	Willis	0.23	6	1.38	4,165	3,222	958	741
Arizona	Willis	Germann	0.50	6	3.00	4,165	3,222	2,083	1,611
Arizona	Germann	Ryan	0.50	6	3.00	4,165	3,222	2,083	1,611
Arizona	Ryan	Queen Creek	0.50	6	3.00	4,165	3,222	2,083	1,611
Arizona	Queen Creek	Appleby	0.50	6	3.00	3,570	3,222	1,785	1,611
Arizona	Appleby	Ocotillo	0.50	6	3.00	3,570	3,222	1,785	1,611
Arizona	Ocotillo	Chandler Heights	1.00	6	6.00	2,975	3,222	2,975	3,222
Arizona	Chandler Heights	Riggs	1.00	6	6.00	2,380	3,222	2,380	3,222
Arizona	Riggs	Hunt	1.00	4	4.00	1,870	2,703	1,870	2,703
McQueen	Warner	Highland	0.25	6	1.50	4,675	3,222	1,169	806
McQueen	Highland	Knox	0.25	6	1.50	4,675	3,222	1,169	806
McQueen	Knox	Orchid	0.34	6	2.04	4,675	3,222	1,590	1,095
McQueen	Orchid	Ray	0.16	6	0.96	4,675	3,222	748	516
McQueen	Ray	Ivanhoe	0.25	6	1.50	3,995	3,222	999	806

Table 89 Continued

Road	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
McQueen	Ivanhoe	Galveston	0.25	6	1.50	3,995	3,222	999	806
McQueen	Galveston	Chandler	0.50	6	3.00	3,995	3,222	1,998	1,611
McQueen	Chandler	Frye	0.50	6	3.00	3,655	3,222	1,828	1,611
McQueen	Frye	Pecos	0.50	6	3.00	3,655	3,222	1,828	1,611
McQueen	Pecos	Willis	0.50	6	3.00	4,080	3,222	2,040	1,611
McQueen	Willis	Loop 202	0.12	6	0.72	4,080	3,222	490	387
McQueen	Loop 202	Germann	0.40	6	2.40	4,080	3,222	1,632	1,289
McQueen	Germann	Ryan	0.50	6	3.00	4,505	3,222	2,253	1,611
McQueen	Ryan	Queen Creek	0.50	6	3.00	4,505	3,222	2,253	1,611
McQueen	Queen Creek	Ocotillo	1.00	6	6.00	3,400	3,222	3,400	3,222
McQueen	Ocotillo	Brooks Farm	0.50	6	3.00	2,465	3,222	1,233	1,611
McQueen	Brooks Farm	Chandler Heights	0.50	6	3.00	2,465	3,222	1,233	1,611
McQueen	Chandler Heights	Riggs	1.00	4	4.00	1,445	2,703	1,445	2,703
McQueen	Riggs	City Limits	0.75	4	3.00	850	2,703	638	2,027
Cooper	Knox	Orchid	0.50	6	3.00	NA	3,222	NA	1,611
Cooper	Orchid	Ray	0.25	6	1.50	NA	3,222	NA	806
Cooper	Ray	Chandler	1.00	6	6.00	3,230	3,222	3,230	3,222
Cooper	Chandler	Canal	0.12	6	0.72	2,805	3,222	337	387
Cooper	Canal	Frye	0.33	6	1.98	2,805	3,222	926	1,063
Cooper	Frye	Pecos	0.53	6	3.18	2,805	3,222	1,487	1,708
Cooper	Pecos	Willis	0.50	6	3.00	2,975	3,222	1,488	1,611
Cooper	Willis	Loop 202	0.12	6	0.72	2,975	3,222	357	387
Cooper	Loop 202	Germann	0.40	6	2.40	2,975	3,222	1,190	1,289
Cooper	Queen Creek	Ocotillo	1.00	4	4.00	1,700	2,703	1,700	2,703
Cooper	Ocotillo	Alamosa	0.25	4	1.00	1,530	2,703	383	676
Cooper	Alamosa	Chandler Heights	0.75	4	3.00	1,530	2,703	1,148	2,027
Cooper	Chandler Heights	Riggs	1.00	4	4.00	1,275	2,703	1,275	2,703
Cooper	Riggs	Hunt	1.00	4	4.00	850	2,703	850	2,703
Gilbert	Pecos	Loop 202	0.60	6	3.60	2,295	3,222	1,377	1,933
Gilbert	Loop 202	Germann	0.40	6	2.40	3,740	3,222	1,496	1,289
Gilbert	Germann	Ryan	0.50	6	3.00	3,995	3,222	1,998	1,611
Gilbert	Ryan	Queen Creek	0.50	6	3.00	3,995	3,222	1,998	1,611
Gilbert	Queen Creek	Ocotillo	1.00	6	6.00	2,975	3,222	2,975	3,222
Gilbert	Ocotillo	Brooks Farm	0.50	4	2.00	2,380	2,703	1,190	1,352
Gilbert	Brooks Farm	Chandler Heights	0.50	4	2.00	2,380	2,703	1,190	1,352
Gilbert	Chandler Heights	Riggs	1.00	4	4.00	1,530	2,703	1,530	2,703
Gilbert	Riggs	Amanda	0.24	4	0.96	1,020	2,703	245	649
Gilbert	Amanda	Hunt	0.76	4	3.04	1,020	2,703	775	2,054
Lindsay	Ocotillo	Chandler Heights	1.00	4	4.00	1,870	2,703	1,870	2,703
Lindsay	Chandler Heights	Capricorn	0.75	4	3.00	1,615	2,703	1,211	2,027
Lindsay	Capricorn	Riggs	0.25	4	1.00	1,615	2,703	404	676
Lindsay	Riggs	Hunt	1.00	4	4.00	255	2,703	255	2,703
Warner	RR Tracks	McQueen	0.50	6	3.00	3,910	3,222	1,955	1,611
Ray	Arizona	Hamilton	0.50	6	3.00	3,995	3,222	1,998	1,611
Ray	Hamilton	McQueen	0.50	6	3.00	3,995	3,222	1,998	1,611
Ray	McQueen	Cooper	1.00	6	6.00	2,975	3,222	2,975	3,222
Chandler	Arizona	Colorado	0.15	6	0.90	3,060	3,222	459	483
Chandler	Colorado	Delaware	0.10	6	0.60	3,060	3,222	306	322
Chandler	Delaware	Hamilton	0.27	6	1.62	3,060	3,222	826	870
Chandler	Hamilton	McQueen	0.50	6	3.00	3,060	3,222	1,530	1,611
Chandler	McQueen	Lakeview	0.74	6	4.44	2,975	3,222	2,202	2,384
Chandler	Lakeview	Cooper	0.25	6	1.50	2,975	3,222	744	806

Table 89 Continued

Road	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
Chandler	Cooper	Cottonwood	0.22	6	1.32	2,890	3,222	636	709
Chandler	Cottonwood	132nd St.	0.28	6	1.68	2,890	3,222	809	902
Chandler	132nd St.	Gilbert	0.50	6	3.00	2,890	3,222	1,445	1,611
Pecos	Ellis	Dobson	0.50	4	2.00	1,615	2,703	808	1,352
Pecos	Dobson	Alma School	1.00	6	6.00	3,485	3,222	3,485	3,222
Pecos	Alma School	Arizona	1.00	6	6.00	3,570	3,222	3,570	3,222
Pecos	Arizona	RR Tracks	0.27	6	1.62	3,485	3,222	941	870
Pecos	RR Tracks	Hamilton	0.23	6	1.38	3,485	3,222	802	741
Pecos	Hamilton	Kingston	0.30	6	1.80	3,485	3,222	1,046	967
Pecos	Kingston	McQueen	0.20	6	1.20	3,485	3,222	697	644
Pecos	McQueen	Cooper	1.00	6	6.00	2,550	3,222	2,550	3,222
Pecos	Cooper	Cottonwood	0.25	6	1.50	2,550	3,222	638	806
Pecos	Cottonwood	Gilbert	0.75	6	4.50	2,550	3,222	1,913	2,417
Germann	City Limits	Price	0.25	4	1.00	NA	2,703	NA	676
Germann	Price	Dobson	0.75	4	3.00	1,700	2,703	1,275	2,027
Germann	Dobson	Comanche	0.75	6	4.50	2,465	3,222	1,849	2,417
Germann	Comanche	Alma School	0.25	6	1.50	2,465	3,222	616	806
Germann	Alma School	Hartford	0.40	6	2.40	3,655	3,222	1,462	1,289
Germann	Hartford	Arizona	0.60	6	3.60	3,655	3,222	2,193	1,933
Germann	Arizona	Crossroads Ctr	0.75	6	4.50	3,740	3,222	2,805	2,417
Germann	Crossroads Ctr	McQueen	0.25	6	1.50	3,740	3,222	935	806
Germann	McQueen	Canal	0.50	6	3.00	2,890	3,222	1,445	1,611
Germann	Canal	Cooper	0.50	6	3.00	2,890	3,222	1,445	1,611
Germann	Cooper	Gilbert	1.10	6	6.60	2,890	3,222	3,179	3,544
Queen Creek	City Limits	Price	0.27	6	1.62	3,655	3,222	987	870
Queen Creek	Price	Dobson	0.45	6	2.70	3,145	3,222	1,415	1,450
Queen Creek	Dobson	Alma School	1.30	6	7.80	2,720	3,222	3,536	4,189
Queen Creek	Alma School	Hartford	0.50	6	3.00	3,740	3,222	1,870	1,611
Queen Creek	Hartford	Arizona	0.50	6	3.00	3,740	3,222	1,870	1,611
Queen Creek	Arizona	McQueen	1.00	6	6.00	3,570	3,222	3,570	3,222
Queen Creek	McQueen	Airport	0.15	6	0.90	2,890	3,222	434	483
Queen Creek	Airport	Cooper	0.85	6	5.10	2,890	3,222	2,457	2,739
Queen Creek	Cooper	Gilbert	1.00	6	6.00	2,550	3,222	2,550	3,222
Queen Creek	Gilbert	Lindsay	1.00	6	6.00	2,720	3,222	2,720	3,222
Ocotillo	Dobson	Alma School	0.80	6	4.80	3,060	3,222	2,448	2,578
Ocotillo	Alma School	Sandpiper	0.90	4	3.60	1,700	2,703	1,530	2,433
Ocotillo	Sandpiper	Appleby	0.25	4	1.00	1,700	2,703	425	676
Ocotillo	Appleby	Arizona	0.25	4	1.00	1,700	2,703	425	676
Ocotillo	Arizona	McQueen	1.00	4	4.00	2,125	2,703	2,125	2,703
Ocotillo	McQueen	124th	0.50	4	2.00	1,870	2,703	935	1,352
Ocotillo	124th	Cooper	0.50	4	2.00	1,870	2,703	935	1,352
Ocotillo	Cooper	Redwood	0.25	4	1.00	1,530	2,703	383	676
Ocotillo	Redwood	Gilbert	0.75	4	3.00	1,530	2,703	1,148	2,027
Ocotillo	Gilbert	Lindsay	1.00	4	4.00	1,615	2,703	1,615	2,703
Ocotillo	Lindsay	148th St.	0.50	4	2.00	1,020	2,703	510	1,352
Chandler Heights	Alma School	Arizona	1.00	4	4.00	2,040	2,703	2,040	2,703
Chandler Heights	Arizona	McQueen	1.00	4	4.00	2,380	2,703	2,380	2,703
Chandler Heights	McQueen	Adams	1.00	4	4.00	1,870	2,703	1,870	2,703
Chandler Heights	Adams	Lindl	0.60	4	2.40	1,870	2,703	1,122	1,622
Chandler Heights	Lindl	Cooper	0.40	4	1.60	1,870	2,703	748	1,081
Chandler Heights	Cooper	Gilbert	0.96	4	3.84	1,530	2,703	1,469	2,595

Table 89 Continued

Road	From	To	Miles	Lns	Lane-Miles	Count	Capa-city	VMT	VMC
Chandler Heights	Gilbert	Lindsay	1.00	4	4.00	1,870	2,703	1,870	2,703
Chandler Heights	Lindsay	Val Vista	1.00	4	4.00	1,615	2,703	1,615	2,703
Riggs	Arizona	median	0.60	6	3.60	2,550	3,222	1,530	1,933
Riggs	median	McQueen	0.40	6	2.40	2,550	3,222	1,020	1,289
Riggs	McQueen	Championship	1.00	6	6.00	2,465	3,222	2,465	3,222
Riggs	Championship	Cooper	1.00	6	6.00	2,465	3,222	2,465	3,222
Riggs	Cooper	Emmett	0.50	6	3.00	2,380	3,222	1,190	1,611
Riggs	Emmett	Gilbert	0.50	6	3.00	2,380	3,222	1,190	1,611
Riggs	Gilbert	South Mountain	0.30	6	1.80	2,550	3,222	765	967
Riggs	South Mntn	Lindsay	0.70	6	4.20	2,550	3,222	1,785	2,255
Riggs	Lindsay	Sun Groves	0.50	6	3.00	2,380	3,222	1,190	1,611
Riggs	Sun Groves	Black Hill	0.25	6	1.50	2,380	3,222	595	806
Riggs	Black Hill	Val Vista	0.25	6	1.50	2,380	3,222	595	806
Total			91.40		493.33			247,170	279,408
Total, Lane-Miles w/Counts			89.10		481.63			247,170	272,542

Source: Planned arterial street sections from Parsons/Brinckerhoff, *Chandler Transportation Study*, "2040 Lane Needs," Figure VIII-3, p. 75; forecast peak hour traffic count based on *Chandler Transportation Study,* 2040 Daily Traffic Forecast, Figure VII-4, p. 65 multiplied by peak-hour k-factor of 0.85 (*Chandler Transportation Study*, p. 48); lane-miles are the product of segment length and number of lanes; capacity for road sections from *Chandler Transportation Study*, Table VI-5 multiplied by City of Chandler peak-hour k-factor of .085, except 3-lane capacity from Florida Department of Transportation; VMT is the product of miles and peak hour count; VMC is the product of miles and capacity.

APPENDIX D: PARK INVENTORY

Table 90. Existing Neighborhood and Special Park Inventory

	Acres	
Park Name	Developed	Undeveloped
A.J. Chandler	3.00	
Amberwood	18.16	
Apache	9.47	
Arbuckle	9.51	
Ashley Trail	2.60	
Boys & Girls Club	2.18	
Brooks Crossing	8.10	
Chuckwalla	4.45	
Desert Oasis Aquatic	0.72	
Dobson	12.44	
East Mini	0.25	
Fox Crossing	4.95	
Gazelle Meadows	8.99	
Harmony Hollow	6.92	
Harris	0.81	
Harter	8.60	
Hoopes	12.80	
Jackrabbit	4.57	
La Paloma	13.07	
Los Altos	0.75	
Los Arboles	11.35	
Maggio Ranch	5.60	
Mountain View	19.00	
Navarrete	5.00	
Pecos Ranch	10.23	
Pequeno	4.73	
Pinelake	5.21	
Pine Shadows	5.42	
Price	12.10	
Provinces	6.25	
Pueblo Alto	0.25	
Quail Haven	9.75	
Ryan	13.89	
San Marcos	14.74	
San Tan	14.16	
Shawnee	17.51	
Stonegate	8.37	
Summit Point	0.29	
Sundance	3.51	
Sunset	5.06	
Thude	22.30	
Tibshraeny Family	13.00	
West Mini	0.25	
Windmills West	6.50	
Winn	1.00	
Armstrong		3.00
Blue Heron Park Site		3.00
Canal Park Site		9.34
Centennial Park Site		7.87
Homestead North Park Site		7.60
Homestead South Park Site		10.90
Roadrunner Park Site		10.02
Total	347.81	51.73

Source: City of Chandler Community Services Department, July 24, 2007.

Table 91. Existing Community and Regional Park Inventory

Park Name	Acres	
	Developed	Undeveloped
Arrowhead Meadows	30.81	
Chuparosa	28.00	
Desert Breeze	38.00	3.37
Espee	33.00	
Folley	23.92	
Paseo	13.00	
Pima	31.75	
Snedigar Sportsplex	70.37	20.00
Tumbleweed	101.00	105.19
West Chandler	20.00	
Mesquite Groves Park Site		104.40
Nozomi Park Site		70.00
Paseo Vista Park Site		66.00
Veterans Oasis Park Site		33.00
Total	389.85	401.96

Source: City of Chandler Community Services Department, July 24, 2007.

City of Chandler, Arizona

Non-Utility Infrastructure Improvements Plan

duncan | associates

June 2008

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INTRODUCTION

In 2007, the Arizona State Legislature passed Senate Bill 1423, which amended State law relating to municipal development impact fees. Among the provisions included in the bill, the revised statute requires municipalities to adopt an infrastructure improvements plan, which provides a list and schedule of planned infrastructure that will be funded with the development fee.

The revised statute requires that "before the assessment of a new or modified fee, the governing body of the municipality shall adopt or amend an infrastructure improvements plan." The infrastructure improvements plan must include an estimate of future facilities that will be required as a result of new development, a forecast of the infrastructure costs and a schedule of planned infrastructure construction. This report provides the infrastructure improvements plan required by State law for each of the City's non-utility system development fees.

ARTERIAL STREETS

The City's arterial streets system development fee is based on the plan-based cost per service unit. The plan-based cost per service unit excludes costs related to pass-through traffic. The plan-based cost per service unit is adjusted to account for external funding that is expected to be provided for capacity-expanding arterial street projects used in developing the fee. As a result, the net cost per service unit will account for approximately 88 percent of the future costs, as shown in Table 1. The share of planned expenditures in the infrastructure finance plan that cannot be directly funded with system development fees may be funded through a combination of funds, including external funding sources.

Table 1. New Growth Share of Arterial Street Costs

Plan-Based Cost/EDU (Excludes Pass-Through Costs)	$4,223
Net Cost/EDU	$3,708
Growth Share of Non Pass-Through Future Costs	87.80%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 13; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 19.

The infrastructure improvements plan in Table 2 provides a list of planned capital improvements and other expenditures that are eligible to be funded by the arterial streets system development fee along with the total growth share of the planned expenditures. Eligible expenditures include planned capacity-expanding street improvements funded with impact fees in the 2007-2012 Capital Improvement Program, planned improvements beyond 2012, the allocable share of the system development fee study cost and the outstanding inter-fund loan that may be repaid with future system development fee collections. Some of the project costs differ from those used in calculating the system development fee, since the 2007-2012 CIP costs include an inflation adjustment and actual right-of-way (ROW) costs while the costs included in the arterial street fee are deflated to the 2007 cost and are based on a ROW acquisition cost estimate of $3 per square foot. The planned expenditures also include system development fee carry-forward and encumbrance balances for projects that are currently under construction. Applying the growth share of future costs to the total planned expenditures rather than to each individual project provides the City with more flexibility in programming the system development fee funds.

Table 2. Arterial Street Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
Alma School - Frye to Germann	$0	$7,240,000	$7,240,000
Alma School - Germann to Ocotillo	$0	$9,125,000	$9,125,000
Alma School - Ocotillo to Chandler Heights	$0	$6,790,000	$6,790,000
Alma School - Chandler Heights to City Limit	$0	$3,165,000	$3,165,000
Arizona - Knox to Ray	$0	$90,000	$90,000
Arizona - Pecos to Ocotillo	$0	$2,300,000	$2,300,000
Arizona Ave. - Ocotillo to Riggs (8ST543)	$5,362,000	$6,840,000	$12,202,000
Arizona Ave. - Riggs to Hunt	$0	$5,002,000	$5,002,000
Chandler Blvd - Colorado to McQueen Road (8ST297)	$15,160,000	$0	$15,160,000
Chandler Heights - Alma School to Arizona	$0	$1,100,000	$1,100,000
Chandler Heights - Arizona to McQueen (8ST608)	$13,520,000	$0	$13,520,000
Chandler Heights - McQueen to Val Vista (8ST642)	$8,295,000	$19,135,000	$27,430,000
Cooper - North City Limit to Ray	$0	$2,740,000	$2,740,000
Cooper - Queen Creek to Riggs (8ST643)	$3,870,000	$10,430,000	$14,300,000
Dobson - Queen Creek to Ocotillo	$0	$7,900,000	$7,900,000
Germann - Arizona Ave to .25 E of Airport Blvd	$0	$4,185,000	$4,185,000
Gilbert - Germann to Queen Creek (8ST482)	$8,290,000	$0	$8,290,000
Gilbert Road - Queen Creek to Hunt Hwy (8ST596)	$40,000,000	$0	$40,000,000
Lindsay - Ocotillo to Riggs	$0	$17,395,000	$17,395,000
Lindsay - Riggs to Hunt	$0	$4,045,000	$4,045,000
McClintock - Frye to Santan	$0	$1,960,000	$1,960,000
McQueen - Warner to Chandler	$0	$4,725,000	$4,725,000
McQueen - Chandler to Pecos	$0	$7,070,000	$7,070,000
McQueen Road - Queen Creek to Riggs (8ST478)	$26,885,000	$0	$26,885,000
McQueen - Riggs to Hunt Highway	$0	$3,015,000	$3,015,000
Ocotillo - Dobson to Alma School	$0	$4,300,000	$4,300,000
Ocotillo Rd. - Arizona to McQueen (8ST607)	$16,175,000	$0	$16,175,000
Ocotillo - Cooper to 148th St. (8ST641)	$7,720,000	$15,485,000	$23,205,000
Queen Creek - McQueen to Lindsay (8ST548)	$29,430,000	$0	$29,430,000
Ray - Arizona to Cooper	$0	$6,230,000	$6,230,000
Riggs - West City Limit to Arizona	$0	$3,725,000	$3,725,000
Riggs - Gilbert to Val Vista	$10,800,000	$0	$10,800,000
Warner - UPRR to McQueen	$0	$4,915,000	$4,915,000
New Traffic Signals (8ST322)	$2,443,000	$0	$2,443,000
Arizona Ave - Ocotillo to Hunt Hwy (Carry-Forward)	$470,000	$0	$470,000
Arizona Ave - Ray to Elliot (Encumbrance)	$67,754	$0	$67,754
Asphaltic Pavement & Concrete Crushing (Encumbrance)	$200	$0	$200
Chandler Blvd - California to Colorado (Encumbrance)	$17,274	$0	$17,274
Chandler Blvd - Colorado to McQueen (Enc. & Carry-Forward)	$1,841,937	$0	$1,841,937
Cooper - Consolidated Canal to Germann (Enc. & Carry-Forward)	$10,398,442	$0	$10,398,442
Germann - Price to Arizona (Enc. & Carry-Forward)	$12,401,808	$0	$12,401,808
Gilbert - Germann to Queen Creek (Enc. & Carry-Forward)	$3,791,164	$0	$3,791,164
Gilbert - Pecos to Germann (Enc. & Carry-Forward)	$205,847	$0	$205,847
McQueen - Pecos to Queen Creek (Encumbrance)	$9	$0	$9
Pecos - Dobson to McQueen (Encumbrance)	$12	$0	$12
Pecos - McQueen to Gilbert (Enc. & Carry-Forward)	$9,364,628	$0	$9,364,628
Price - Santan Fwy to Germann (Enc. & Carry-Forward)	$3,759,161	$0	$3,759,161
Queen Creek - Price to McQueen (Enc. & Carry-Forward)	$10,353,186	$0	$10,353,186
Riggs - Arizona to Gilbert (Enc. & Carry-Forward)	$151,455	$0	$151,455
Riggs - Gilbert to Val Vista (Enc. & Carry-Forward)	$861,035	$0	$861,035

Expenditure	2007-2012	Beyond 2012	Total
New Traffic Signals (Enc. & Carry-Forward)	$666,560	$0	$666,560
Street Construction (Enc. & Carry-Forward)	$17,123	$0	$17,123
Traffic Control System (Carry-Forward)	$7,429	$0	$7,429
Germann Rd - Price to Arizona (Interfund Loan)	$1,457,000	$1,457,000	$2,914,000
Pecos - McQueen to Gilbert (Interfund Loan)	$1,207,000	$1,207,000	$2,414,000
Cooper - Consolidated Canal to Germann (Interfund Loan)	$1,068,000	$1,068,000	$2,136,000
Riggs - Gilbert to Val Vista (Interfund Loan)	$203,000	$203,000	$406,000
System Development Fee Study	$9,060	$0	$9,060
Total Planned Expenditures	$246,269,084	$162,842,000	$409,111,084
Less: Ending Fund Balance, 6/30/2007	$26,297,256		$26,297,256
Less: Pass-Through Costs*	$22,554,000	$19,068,840	$41,622,840
Total Planned Non-Pass-Through Expenditures	$197,417,828	$143,773,160	$341,190,988
Growth Share of Future Non-Pass-Through Costs	87.80%	87.80%	
Total Growth-Related Costs	$173,332,853	$126,232,834	$299,565,687

*Pass-through costs based on 12 percent of planned project costs (the pass-through portion of projects included in encumbrances, carry-forwards and inter-fund loans was accounted for in the year the expenditure was programmed through a transfer from the general fund to the system development fee fund).

Source: Project costs from City of Chandler 2007-2012 Capital Improvement Program; funding beyond 2012 based on planned improvements included in the system development fee calculation less amount of funding programmed in 2007-2012 CIP; encumbrances, capital carry-forward and inter-fund loan expenditures from City of Chandler Management Services Department, May 28, 2008; system development fee study cost based on 1/6th share of total study cost of $54,360; existing fund balance from City of Chandler Management Services Department; and growth share of future costs from Table 1.

PARKS

Like the arterial street fee, the City's park fee is based on the plan-based cost per service unit. For parks, the plan-based cost per service unit is adjusted to reflect a credit for the outstanding debt on existing park facilities and the net cost per service unit is lower than the gross plan-based cost. As shown in Table 3, the net cost per service unit upon which the park system development fee is based will cover approximately 85 percent of the costs used in developing the impact fee. The City will need to program funding from other revenue sources in order to fund the non-growth share of planned expenditures.

Table 3. New Growth Share of Park Costs

Plan-Based Cost/EDU	$5,516
Net Cost/EDU	$4,708
Growth Share of Future Costs	85.35%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 27; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 36.

The park infrastructure improvements plan is shown in Table 4. The infrastructure improvements plans for parks provide a list of planned capital improvements and other expenditures that are eligible to be funded by the system development fees along with the growth share of the total planned expenditures. Eligible expenditures include capacity-expanding park improvements funded in the 2007-2012 Capital Improvement Program and beyond 2012; capacity improvements include both the acquisition of new park land and the development of new park facilities. In addition to planned improvements, eligible system development fee expenditures include the allocable share of the system development fee study cost and inter-fund and general obligation debt that may be repaid with system development fee funding. As discussed in the system development fee study, the City utilizes inter-fund loans and general obligation loans if fee-funding is insufficient to fund a project in a given year; these loans are then repaid from future impact fees if the capacity improvements will serve future growth. The planned expenditures also include system development fee carry-forward and encumbrance balances for projects that are currently under construction and for pending land purchases. Applying the growth share of future costs to the total planned expenditures rather than to each individual project provides the City with more flexibility in programming the system development fee funds.

Table 4. Park Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
Neighborhood Park Land Acquisition (8PR039)	$6,084,481	$0	$6,084,481
Homestead North Park Site Development (8PR389)	$1,212,750	$0	$1,212,750
Homestead South Park Site Development (8PR390)	$1,739,339	$0	$1,739,339
Canal Park Development (8PR399)	$1,490,406	$0	$1,490,406
Roadrunner Park Development (8PR400)	$1,893,326	$0	$1,893,326
Future Park Site Development (8PR557)	$7,980,258	$0	$7,980,258
Arbuckle Park (Enc. & Carry-Forward)	$1,830,394	$0	$1,830,394
Canal Park (Encumbrance)	$147,325	$0	$147,325
Chuckwalla Park (Encumbrance)	$239,757	$0	$239,757
Homestead North Park (Carry-Forward)	$142,470	$0	$142,470
Homestead South Park (Carry-Forward)	$204,332	$0	$204,332
Pine Lakes Park (Encumbrance)	$3,557	$0	$3,557
Ryan Park (Enc. & Carry-Forward)	$367,553	$0	$367,553
Tibshraeny Park (Encumbrance)	$147,029	$0	$147,029
Neighborhood Park Development (Encumbrance)	$46,678	$0	$46,678
Neighborhood Park Land Acq. (Enc. & Carry-Forward)	$4,919,039	$0	$4,919,039
System Development Fee Study	$9,060	$0	$9,060
Future Park #1	$0	$2,099,165	$2,099,165
Future Park #2	$0	$2,099,165	$2,099,165
Future Park #3	$0	$2,099,165	$2,099,165
Park Site - Layton Lakes (General Obligation Debt)	$177,050	$354,099	$531,149
Subtotal, Neighborhood & Special Parks	$28,634,804	$6,651,594	$35,286,398
Mesquite Groves Development (8PR396)	$25,508,016	$0	$25,508,016
Community Park Development (Encumbrance)	$54,283	$0	$54,283
Community Park Land Acq. (Enc. & Carry-Forward)	$61,855	$0	$61,855
Mesquite Groves Park (Enc. & Carry-Forward)	$9,559,096	$0	$9,559,096
Nozomi Park (Carry-Forward)	$2,652,988	$0	$2,652,988
Veteran's Oasis Park (Encumbrance)	$5,509,425	$0	$5,509,425
Mesquite Groves Park Land (Interfund Loan)	$2,863,176	$1,145,272	$4,008,448
Chaparosa Park Development (Interfund Loan)	$2,541,614	$1,016,646	$3,558,260
System Development Fee Study	$9,060	$0	$9,060
Mesquite Groves Park (General Obligation Debt)	$2,749,350	$5,498,702	$8,248,052
Veteran's Oasis Park (General Obligation Debt)	$2,894,566	$5,789,131	$8,683,697
Nozomi Park (General Obligation Debt)	$311,084	$622,167	$933,251
Subtotal, Community & Regional Parks	$54,714,513	$14,071,918	$68,786,431
Total Planned Expenditures	$83,349,317	$20,723,512	$104,072,829
Less: Ending Fund Balance, 6/30/2007	$23,142,277	$0	$23,142,277
Total Future Costs	$60,207,040	$20,723,512	$80,930,552
Growth Share of Future Costs	85.35%	85.35%	
Total Growth-Related Costs	$51,386,708	$17,687,518	$69,074,226

Source: Growth share of future costs from Table 3; 2007-2012 project costs from City of Chandler 2007-2012 Capital Improvement Program; other future projects from City of Chandler Parks Development and Operations Division; general obligation payment from City of Chandler Management Services Department, October 24, 2007; encumbrances, capital carry-forward, inter-fund loan, general obligation debt expenditures and ending fund balance from City of Chandler Management Services Department, May 28, 2008; system development fee study cost based on 1/6th share of total study cost of $54,360.

FIRE

The fire system development fee in this update is based on the existing level of service rather than on the plan-based costs. In addition, the net fee per unit was adjusted to reflect a credit for outstanding debt on existing fire facilities. As shown in Table 5, the growth share of future costs is 89 percent of the planned expenditures. The share of planned expenditures not covered by the system development fee will need to be funded through other sources.

Table 5. New Growth Share of Fire Costs

Plan-Based Cost/EDU	$603
Net Cost/EDU	$537
Growth Share of Future Costs	89.05%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 41; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 48.

The infrastructure improvements plan provides a list of planned capital improvements and other expenditures that are eligible to be funded by the fire system development fee. Eligible expenditures include planned fire department improvements funded with impact fees in the 2007-2012 Capital Improvement Program; the allocable share of the fee study cost and inter-fund loans that may be repaid with system development fee funding. The fire infrastructure improvements plan is shown in Table 6; aside from the repayment of the inter-fund loan, there are currently no new planned improvements that will be constructed beyond 2012. The planned expenditures also include system development fee carry-forward and encumbrance balances for projects that are currently under construction and for pending land purchases. Applying the growth share of future costs to the total planned expenditures rather than to each individual project provides the City with more flexibility in programming the existing and future system development fee funds for planned expenditures.

Table 6. Fire Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
Southeast Fire Station - Santan/Airport (8FI600)	$7,130,504	$0	$7,130,504
Southeast Fire Station - Ocotillo/Gilbert (8FI611)	$7,045,510	$0	$7,045,510
Training Center Expansion (8FI634)	$7,729,992	$0	$7,729,992
Fire Administration (Enc. & Carry-Forward)	$1,127,518	$0	$1,127,518
Mechanical Maint. Facility (Enc. & Carry-Forward)	$104,953	$0	$104,953
Training Center Expansion (Encumbrance)	$500	$0	$500
Station #10 (Enc. & Carry-Forward)	$4,591,107	$0	$4,591,107
Station #12 Land Acquisition (Carry-Forward)	$37,501	$0	$37,501
Mechanical Maint. Expansion (Interfund Loan)	$354,691	$624,463	$979,154
Station #12 Land Acquisition (Interfund Loan)	$144,516	$254,434	$398,950
Station #10 (Interfund Loan)	$1,672,670	$2,944,865	$4,617,535
Fire Administration (Interfund Loan)	$408,436	$719,082	$1,127,518
Fire Training Facility Expansion (Interfund Loan)	$182	$318	$500
System Development Fee Study	$9,060	$0	$9,060
Total Planned Expenditures	$30,357,140	$4,543,162	$34,900,302
Less: Ending Fund Balance, 6/30/2007	$5,751,224	$0	$5,751,224
Total Future Costs	$24,605,916	$4,543,162	$29,149,078
Growth Share of Future Costs	89.05%	89.05%	
Total Growth-Related Costs	$21,911,568	$4,045,686	$25,957,254

Source: 2007-2012 project costs from City of Chandler 2007-2012 Capital Improvement Program less municipal arts funding; encumbrances, capital carry-forward, inter-fund loan expenditures and ending fund balance from City of Chandler Management Services Department, May 28, 2008; system development fee study cost based on 1/6th share of total study cost of $54,360; ending fund balance from City of Chandler Management Services Department, October 24, 2007; and Growth share of future costs from Table 5.

POLICE

The police system development fee in this update is based on the existing level of service rather than on the plan-based costs. In addition, the net fee per unit was adjusted to reflect a credit for outstanding debt on existing police facilities. As shown in Table 7, the growth share of future costs is approximately 77 percent of the fee-funded share of planned police expenditures. The share of planned expenditures not covered by the development fee charged to new growth will need to be funded through other sources.

Table 7. New Growth Share of Police Costs

Plan-Based Cost/EDU	$350
Net Cost/EDU	$268
Growth Share of Future Costs	76.57%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 53; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 59.

The infrastructure improvements plan in Table 8 provides a list of planned capital improvements and other expenditures that are eligible to be funded by the police system development fee. Eligible expenditures include planned police department improvements funded with impact fees in the 2007-2012 Capital Improvement Program, the allocable share of the system development fee study cost and inter-fund loans that may be repaid with future system development fee revenue. There are currently no planned improvements that will be constructed beyond 2012. The planned expenditures also include system development fee carry-forward and encumbrance balances for projects that are currently under construction. The growth-related cost is the share of planned expenditures that will be funded by new development under the proposed system development fee schedule.

Table 8. Police Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
Police Driver Training Facility (8PD035)	$5,516,710	$0	$5,516,710
Communications Center/Admin. Expansion (8PD410)	$631,789	$0	$631,789
Police Training Facility (8PD579)	$1,806,668	$0	$1,806,668
Chandler Heights Substation (Enc. & Carry-Forward)	$5,758,381	$0	$5,758,381
Desert Breeze Substation (Encumbrance)	$16,090	$0	$16,090
Chandler Heights Substation (Interfund Loan)	$2,576,360	$4,029,820	$6,606,180
Desert Breeze Substation (Interfund Loan)	$750,685	$1,174,184	$1,924,869
System Development Fee Study	$9,060	$0	$9,060
Total Planned Expenditures	$17,065,743	$5,204,004	$22,269,747
Less: Ending Fund Balance, 6/30/2007	$5,337,717	$0	$5,337,717
Total Future Costs	$11,728,026	$5,204,004	$16,932,030
Growth Share of Future Costs	76.57%	76.57%	
Total Growth-Related Costs	$8,980,150	$3,984,706	$12,964,856

Source: 2007-12 project costs from City of Chandler 2007-2012 Capital Improvement Program less municipal arts funding; encumbrances, capital carry-forward and inter-fund loan expenditures from City of Chandler Management Services Department, May 28, 2008; system development fee study cost based on 1/6th share of total study cost of $54,360; ending fund balance from City of Chandler Management Services Department, October 24, 2007; and growth share of future costs from Table 7.

PUBLIC BUILDINGS

The public building system development fee in this update is based on the existing level of service rather than on the plan-based costs. As shown in Table 9, the growth share of future costs is approximately 22 percent of the eligible fee-funded public building expenditures. The share of planned expenditures not covered by the development fee charged to new growth will be funded through other funding sources.

Table 9. New Growth Share of Public Building Costs

Plan-Based Cost/EDU	$1,317
Net Cost/EDU	$295
Growth Share of Planned Improvement Costs	22.40%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 64; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 68.

The infrastructure improvements plan in Table 10 provides a list of planned capital improvements and other expenditures that are eligible to be funded by the public buildings system development fee. Eligible expenditures include the share of planned public buildings anticipated to be funded with system development fees in the 2007-2012 Capital Improvement Program, and the allocable share of the system development fee study cost that may be repaid with system development fee funding. There are currently no planned improvements that will be constructed beyond 2012 and no outstanding inter-fund loan balances. The planned expenditures also include the system development fee encumbrance balances for the City Hall project, which is currently under construction. The growth-related cost is the share of planned expenditures that will be funded by new development under the proposed system development fee schedule.

Table 10. Public Building Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
City Hall (8GG075)	$66,525,311	$0	$66,525,311
Public Works Expansion, Downtown Complex (8GG609)	$3,836,400	$0	$3,836,400
Public Parking Garage (8GG614)	$609,760	$0	$609,760
City Hall (Encumbrance)	$122,835	$0	$122,835
System Development Fee Study	$9,060	$0	$9,060
Total Planned Expenditures	$71,103,366	$0	$71,103,366
Less: Ending Fund Balance, 6/30/2007	$7,420,124	$0	$7,420,124
Total Future Costs	$63,683,242	$0	$63,683,242
Growth Share of Future Costs	22.40%	22.40%	
Total Growth-Related Costs	$14,265,046	$0	$14,265,046

Source: Project costs from City of Chandler 2007-2012 Capital Improvement Program (public parking garage cost based on new capacity share of total parking garage cost); encumbrances, capital carry-forward expenditures and ending fund balance from City of Chandler Management Services Department, May 28, 2008; system development fee study cost based on 1/6th share of total study cost of $54,360; growth share of future costs from Table 9.

LIBRARY

The proposed library system development fee is based on the existing level of service rather than on the plan-based costs. In addition, the net fee per unit was adjusted to reflect a credit for outstanding debt on existing library facilities. As shown in Table 11, the growth share of future costs is approximately 35 percent of the eligible fee-funded library expenditures. The share of planned expenditures not covered by the development fee charged to new growth will need to be funded through other funding sources. In the absence of system development fee funding, the City had programmed general obligation bonds to fully fund the acquisition of the Sunset Library facility in the 2007-2012 Capital Improvement Plan.

Table 11. New Growth Share of Library Costs

Plan-Based Cost/EDU	$668
Net Cost/EDU	$233
Growth Share of Planned Improvement Costs	34.88%

Source: Plan-based cost/EDU from Duncan Associates, *Non-Utility System Development Fee Update*, June 2008, Table 72; Net Cost/EDU from *Non-Utility System Development Fee Update*, June 2008, Table 78.

The infrastructure improvements plan provides a list of planned capital improvements and other expenditures that are eligible to be funded by the system development fee. As shown in Table 12, the planned expenditures include the acquisition of the Sunset Library facility. The planned expenditures also include system development fee carry-forward and encumbrance balances for the Basha and Hamilton youth areas that are currently under construction; these projects were initiated before the City eliminated the library fee and are funded through the existing account balances. The study cost of $5,400 associated with library portion of the system development fee study is funded through general fund revenue and is not included in the infrastructure improvements plan. There are currently no planned improvements that will be constructed beyond 2012 and no outstanding inter-fund loan balances. The growth-related cost is the share of planned capacity-expanding expenditures that will be funded by new development under the proposed system development fee schedule.

Table 12. Library Infrastructure Improvements Plan

Expenditure	2007-2012	Beyond 2012	Total
Sunset Library Acquisition (8LI556)	$9,955,000	$0	$9,955,000
Basha and Hamilton Youth Areas (Enc. & Carry-Forward)	$491,158	$0	$491,158
System Development Fee Study	$0	$0	$0
Total Planned Expenditures	$10,446,158	$0	$10,446,158
Less: Ending Fund Balance, 6/30/2007	$645,633	$0	$645,633
Total Future Costs	$9,800,525	$0	$9,800,525
Growth Share of Future Costs	34.88%	34.88%	
Total Growth-Related Costs	$3,418,423	$0	$3,418,423

Source: Project costs from City of Chandler 2007-2012 Capital Improvement Program; encumbrances, capital carry-forward expenditures and ending fund balance from City of Chandler Management Services Department, May 28, 2008; and growth share of future costs from Table 11.