LAND USE ASSUMPTIONS, INFRASTRUCTURE IMPROVEMENTS PLAN, AND DEVELOPMENT FEES

Prepared for:

Town of Gilbert, Arizona

May 1, 2014

TischlerBise
Fiscal, Economic & Planning Consultants

4701 Sangamore Road, Suite S240
Bethesda, MD 20816
301.320.6900
www.tischlerbise.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY 6
ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION 6
Necessary Public Services 6
Infrastructure Improvements Plan 7
Qualified Professionals 7
SUMMARY OF CURRENT AND PROPOSED DEVELOPMENT FEES 7
Conceptual Development Fee Calculation 8
Evaluation of Credits 8
Figure 1 – Development Fee Methods and Cost Components 9
Figure 2 – Current and Proposed Non-Utility Fees 10
Figure 3 – Current and Proposed Fees for Utilities 11
Figure 4 – Current and Proposed Total Fees per Single Unit 11

PARKS AND RECREATION IIP 12
PARKS AND RECREATION SERVICE AREA 12
PROPORTIONATE SHARE FOR PARKS AND RECREATION FACILITIES 12
Figure PR1 – Daytime Population 12
PARKS AND RECREATION DEBT SERVICE METHODOLOGY 13
Figure PR2 – Parks and Recreation Debt Service 13
DESCRIPTION AND INVENTORY OF PARKS AND RECREATIONAL FACILITIES 13
Figure PR3 – Improved Parks and Existing Standards 14
Figure PR4 – Swimming Pool Standards in Gilbert 15
Figure PR5 – Existing Trails and LOS 16
Figure PR6 – Infrastructure Standards for Community Centers 17
Excluded Costs 17
Current Use and Available Capacity 17
INFRASTRUCTURE NEEDS ANALYSIS 18
Figure PR7 – Park Improvements Needed to Accommodate Growth 18
Figure PR8 – Growth-Related Need for Additional Pool 19
Figure PR9 – Trails Needed to Accommodate Growth 19
Figure PR10 – Need for Community Centers 20
PARKS AND RECREATION DEVELOPMENT FEES 21
Figure PR11 – Service Units and Fees per Development Unit 21
FORECAST OF REVENUES 22
Parks and Recreation Development Fee Revenue 22
Figure PR12 – Projected Development Fee Revenue 22

GENERAL GOVERNMENT AND LIBRARIES 23
SERVICE AREA 23
PROPORTIONATE SHARE 23
Figure GGL1 – Functional Population 24
GROWTH COST OF DEBT OBLIGATIONS 25
Figure GGL2 – Debt on General Government and Library Facilities 25
GENERAL GOVERNMENT DEVELOPMENT FEES 26
Figure GGL3 – General Government Development Fee Schedule 26
PROJECTED FEE REVENUE FOR GENERAL GOVERNMENT AND LIBRARIES 27
Figure GGL4 – Projected Revenue from Development Fees 27

TRAFFIC SIGNALS IIP 28
SERVICE AREAS FOR TRAFFIC SIGNALS 28
EXISTING IMPROVED INTERSECTIONS AND LOS 28
Figure TS1 – Current and Proposed Level-Of-Service Standards for Traffic Signals 28
Figure TS2 – Map of Signalized Intersections 29

Excluded Costs *30*
Current Use and Available Capacity *30*
FORECAST OF SERVICE UNITS 30
Trip Generation Rates *30*
Adjustment for Pass-By Trips *30*
PROJECTED TRAVEL DEMAND 30
Figure TS3 – Ten-Year Travel Demand and Proportionate Share Factors 31
PLANNED TRAFFIC SIGNALS 31
Figure TS4 – IIP Summary for Traffic Signals 32
DEVELOPMENT FEES FOR TRAFFIC SIGNALS 32
Figure TS5 – Development Fee Schedule for Traffic Signals 33
FORECAST OF REVENUES 34
Development Fee Revenue for Traffic Signals *34*
Figure TS6 – Projected Fee Revenue 34

PUBLIC SAFETY IIP 35
PUBLIC SAFETY SERVICE AREA 35
PROPORTIONATE SHARE FOR POLICE FACILITIES 35
Figure PS1 – Functional Population 36
EXISTING POLICE FACILITIES AND LOS 37
Figure PS2 – Gilbert Police Vehicles 37
Figure PS3 – Gilbert Police Communications Equipment 38
Excluded Costs *38*
Current Use and Available Capacity *38*
INFRASTRUCTURE NEEDS ANALYSIS 39
Figure PS4 – Police Facilities Needed to Accommodate Growth 39
POLICE DEVELOPMENT FEES 40
Figure PS5 – Police Service Units and Fees per Development Unit 40
PROPORTIONATE SHARE FACTORS FOR FIRE FACILITIES 40
Figure PS6 – Fire Proportionate Share 41
EXISTING FIRE FACILITIES AND INFRASTRUCTURE STANDARDS 41
Figure PS7 – Gilbert Fire Stations 41
Figure PS8 – Gilbert Fire Apparatus 42
Excluded Costs in Analysis of Fire Facilities *42*
FUTURE NEED FOR FIRE FACILITIES 43
Figure PS9 – IIP Summary for Fire Stations and Apparatus 43
FIRE DEVELOPMENT FEES 44
Figure PS10– Fire Service Units and Fees per Development Unit 44
COST RECOVERY FOR PUBLIC SAFETY FACILITIES 45
Figure PS11 – Public Safety Facilities Debt Summary 45
PUBLIC SAFETY FEES FOR DEBT SERVICE 46
Figure PS12 – Public Safety Cost Recovery Fee Schedule 46
COMBINED FEE FOR POLICE, FIRE, AND PUBLIC SAFETY DEBT 47
Figure PS13 – Combined Fee for Police, Fire, and Public Safety Debt Service 47
FORECAST OF REVENUES FOR PUBLIC SAFETY FACILITIES 48
Development Fee Revenue for Public Safety Facilities *48*
Figure PS14 – Projected Revenue for Public Safety Facilities 48

WATER FACILITIES IIP 49
WATER SERVICE AREA AND SERVICE UNITS 49
WATER CONNECTIONS AND DEMAND 49
Figure W1 – Graph of Gilbert Utility Demand Indicators 49
Current Use and Available Capacity *50*

Figure W2– Projected Water Demand 50
Excluded Costs *50*
NEED FOR WATER FACILITIES 50
Figure W3– Water IIP Summary 51
PROPOSED WATER DEVELOPMENT FEE 52
Figure W4 – Water Development Fees 52
FORECAST OF REVENUES 53
Projected Revenue for Water Facilities *53*
Figure W5 – Water Fee Revenue Forecast 53

WASTEWATER FACILITIES IIP 54
EXISTING FACILITIES AND SERVICE AREAS 54
WASTEWATER CONNECTIONS AND FLOW 54
Figure WW1 – Graph of Gilbert Utility Connections and Wastewater Flow 54
Current Use and Available Capacity *54*
Figure WW2 – Sewer Connections and Average Day Gallons 55
WASTEWATER FACILITIES EXPANSION AND COST 55
Figure WW3 – Wastewater Treatment Cost 56
Figure WW4– Wastewater IIP in Neely Service Area 56
Figure WW5– Wastewater IIP in Greenfield Service Area 57
WASTEWATER DEVELOPMENT FEES IN NEELY SERVICE AREA 57
Figure WW6– Neely Wastewater Development Fee Schedule 58
FORECAST OF REVENUES 59
Development Fee Revenue in Neely Service Area *59*
Figure WW7 – Projected Neely Sewer Fee Revenue 59
WASTEWATER DEVELOPMENT FEES IN GREENFIELD SERVICE AREA 60
Figure WW8– Greenfield Wastewater Development Fee Schedule 60
FORECAST OF REVENUES 61
Development Fee Revenue in Greenfield Service Area *61*
Figure WW9 – Projected Greenfield Sewer Fee Revenue 61

APPENDIX A – FORECAST OF REVENUES OTHER THAN FEES 62
Figure A1 – Five-Year Revenue Projections 62
Figure A2 – Graph of General Fund Revenues 63
Figure A3 – Graph of Highway User Fund Revenue 64
Figure A3 – Graph of Utility Fund Revenue 65

APPENDIX B – COST OF PROFESSIONAL SERVICES 66
Figure B1 – Cost of Professional Services 66

APPENDIX C – LAND USE ASSUMPTIONS 67
GROWTH INDICATORS 67
Figure C1 – Development Projections and Growth Rates 68
RESIDENTIAL DEVELOPMENT 69
Recent Residential Construction *69*
Figure C2 – Housing Units by Decade 69
POPULATION FORECAST 69
Figure C3 – Gilbert Population Share 70
Persons per Housing Unit *70*
Figure C4 – Year-Round Persons per Unit by Type of Housing 71
NONRESIDENTIAL DEVELOPMENT 71
Figure C5 – Gilbert Job Share 72
Jobs by Type of Nonresidential Development *73*
Figure C6 – Jobs and Floor Area Estimates 73
SUMMARY OF LAND USE ASSUMPTIONS 74

Figure C7 – MPA Residential Development 74
Figure C8 – MPA Nonresidential Development 74
Figure C9 – Projected Annual Increases for the Gilbert MPA 75
DEMOGRAPHIC AREAS 76
Figure C10 - Map of Gilbert Service Areas 77
Figure C11 – Population and Housing by Area 78
Figure C12 – Jobs and Nonresidential Space by Area 79

EXECUTIVE SUMMARY

The Town of Gilbert hired TischlerBise to document land use assumptions, prepare an Infrastructure Improvements Plan (IIP), and update development fees pursuant to Arizona Revised Statutes 9-463.05. Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan and Land Use Assumptions. The IIP for each type of infrastructure is in the middle section of this document and the land use assumptions may be found in Appendix C. The preliminary development fees presented in this document are for informational purposes only. The final development fees will be adjusted in accordance with the adopted land use assumptions and IIP.

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

Arizona Development Fee Enabling Legislation

Arizona Revised Statutes (ARS) 9-463.05, Arizona's development fee enabling legislation, governs how development fees are calculated for municipalities in Arizona. During the state legislative session of 2011, Senate Bill 1525 was introduced which significantly amended the development fee enabling legislation. Key changes included:

- Amending existing development fee programs by January 1, 2012
- Abandoning existing development fee programs by August 1, 2014
- Development fee based on adopted land use assumptions and IIP
- New adoption procedures
- New definitions, including "necessary public services" to specify types of infrastructure that may be funded with development fees
- Time limitations in development fee collections and expenditures
- New requirements for credits, "grandfathering" rules, and refunds.

This update of the Town's development fees complies with all of the requirements of SB 1525.

Necessary Public Services

According to Arizona's development fee enabling legislation, fees may be only used for construction, acquisition, or expansion of public facilities that are necessary public services. "Necessary public service" means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, drainage and flood control facilities, library, streets, fire and police, neighborhood parks and recreational facilities. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

- Development fees were pledged to repay debt service obligations related to the construction of the facility
- After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

Infrastructure Improvements Plan

Development fees must be calculated pursuant to an Infrastructure Improvements Plan (IIP). For each necessary public service that is the subject of a development fee the IIP shall include:

- A description of the existing necessary public services in the service area and the cost to update, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed on this state, as applicable.
- An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
- A description of all or the parts of the necessary public services or facility expansion and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in the state, as applicable.
- A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.
- The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.
- The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
- A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

Qualified Professionals

Qualified professionals must develop the IIP using general accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst, or planner providing services within the scope of the person's license, education, or experience."

TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure funding, user fee and cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

Summary of Current and Proposed Development Fees

Development fees for necessary public services must be based on the same level of service provided to existing development in the service area. There are three general methods for calculating development

fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components. Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees is complicated due to many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating development fees and how those methods can be applied.

- Cost recovery is used in instances when a community has oversized a facility or asset in anticipation of future development. This methodology is based on the rationale that new development is repaying the community for its share of the remaining unused capacity.
- Incremental expansion method documents the current level of service for each type of public facility. The intent is to use revenue collected to expand or provide additional facilities, as needed to accommodate new development, based on current infrastructure standards.
- Plan-based method utilizes a community's IIP and/or other adopted plans, or engineering studies, to determine capital improvements needed to serve new development.

Conceptual Development Fee Calculation

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

Evaluation of Credits

Regardless of the methodology, a consideration of "credits" is integral to the development of a legally defensible development fee. There are two types of "credits" that should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

Figure 1 summarizes the methods and cost components for each type of infrastructure included in Gilbert's IIP and development fee update. When cost recovery is combined with other methods, infrastructure with growth-related debt service is not counted in existing levels of service.

Figure 1 – Development Fee Methods and Cost Components

Type of Fee	*Cost Recovery (past)*	*Incremental Expansion (present)*	*Plan-Based (future)*
1 Parks and Recreation	Debt Service	Park Improvements, Pools, Trails, Community Centers	
2 General Government & Libraries	Debt Service		
3 Traffic Signals			Traffic Signals
4 Public Safety	Debt Service	Police Vehicles and Communications Equipment	Fire Stations and Apparatus
5 Water			Water Resources, Treatment, Storage, and Major Lines
6 Sewer	Neely Treatment Plant		Wastewater Collection, Treatment (Greenfield), and Recharge

Non-utility development fees are summarized in Figure 2, including current and proposed fees for each type of infrastructure. Proposed non-utility fees are 30% higher for a single residential unit, but proposed reductions in water and sewer fees yield an overall reduction in development fees (see Figure 4). Additional details on the proposed residential categories may be found in the land use assumptions (see Appendix C).

Preliminary fees for nonresidential development, per square foot of floor area, are shown in the table below. Nonresidential fees increase for parks/recreation, general government / libraries, traffic signals, and public safety. In contrast, preliminary fees for utilities have decreased, making it impossible to know the overall change in total fees without specific information on type of development, building floor area, and water meter size. For the next round of the adoption process, when the focus is on development fees, TischlerBise will work with staff to identify specific development projects and the total fees that would be required under both the current and proposed fee schedules.

Figure 2 – Current and Proposed Non-Utility Fees

Proposed Fees	*Parks and Recreation*	*General Government*	*Traffic Signals*	*Public Safety*	*TOTAL*
Residential (per housing unit)					
Single Unit	$4,081	$1,155	$450	$2,469	$8,155
2+ Units per Structure	$2,805	$794	$296	$1,697	$5,592
Nonresidential (per square foot of building)					
Industrial	$0.30	$0.20	$0.47	$0.63	$1.60
Commercial	$0.50	$0.30	$1.08	$1.01	$2.89
Office & Other Services	$0.70	$0.40	$0.65	$1.19	$2.94

Current Fees	*Parks and Recreation*	*General Government*	*Traffic Signals*	*Public Safety*	*TOTAL*
Residential (per housing unit)					
Single Unit	$4,030	$383	$423	$1,433	$6,269
2+ Units per Structure	$3,465	$329	$297	$1,433	$5,524
Nonresidential (per square foot of building)					
Industrial	$0	$0.204	$0.405	$0.765	$1.374
Commercial	$0	$0.204	$1.593	$0.765	$2.562
Office & Other Services	$0	$0.204	$0.570	$0.765	$1.539

Increase or (Decrease)	*Parks and Recreation*	*General Government*	*Traffic Signals*	*Public Safety*	*TOTAL*	*Percent Change*
Residential (per housing unit)						
Single Unit	$51	$772	$27	$1,036	$1,886	30%
2+ Units per Structure	($660)	$465	($1)	$264	$68	1%
Nonresidential (per square foot of building)						
Industrial	$0.300	($0.004)	$0.065	($0.135)	$0.226	16%
Commercial	$0.500	$0.096	($0.513)	$0.245	$0.328	13%
Office & Other Services	$0.700	$0.196	$0.080	$0.425	$1.401	91%

Current and proposed development fees for water and wastewater facilities are summarized in Figure 3. There is a fee schedule for development in the Neely Service Area (north Gilbert) and the Greenfield Service Area (south Gilbert). Fees decrease in both areas, but more so in north Gilbert.

Based on comments received by the Arizona Multi-housing Association, TischlerBise recommends a simplified development fee schedule for utilities, with all new connections assessed a fee by water meter size. Currently, Gilbert imposes residential fees per housing unit for water and wastewater facilities.

Figure 3 – Current and Proposed Fees for Utilities

Neely Service Area

All Development (by water meter size) Meter Size (inches)	*Water System & Resource*	*Waste-water*	*Total Proposed Fee*	*Current Total Fee*	*$ Change*	*% Change*
0.75	$5,901	$3,176	$9,077	$12,803	($3,726)	-29%
1.00	$9,854	$5,302	$15,156	$21,976	($6,820)	-31%
1.50	$19,646	$10,570	$30,216	$47,486	($17,270)	-36%
2.00	$31,444	$16,917	$48,361	$78,985	($30,624)	-39%

Greenfield Service Area

All Development (by water meter size) Meter Size (inches)	*Water System & Resource*	*Waste-water*	*Total Proposed Fee*	*Current Total Fee*	*$ Change*	*% Change*
0.75	$5,901	$4,015	$9,916	$12,803	($2,887)	-23%
1.00	$9,854	$6,704	$16,558	$21,976	($5,418)	-25%
1.50	$19,646	$13,365	$33,011	$47,486	($14,475)	-30%
2.00	$31,444	$21,391	$52,835	$78,985	($26,150)	-33%

To obtain the total development fee for a residential unit, utility fees (shown in Figure 3) must be added to the non-utility fees (shown in Figure 32). Assuming a 0.75-inch meter for a single residential unit, current and proposed total development fees, by service area, are shown in Figure 4. In Gilbert, only wastewater fees vary by geographic area. All other development fees are town-wide. Proposed fees for a single residential unit decrease 7% in north Gilbert and 2% in south Gilbert.

Figure 4 – Current and Proposed Total Fees per Single Unit

Total Development Fees for Single Unit Residential*

Area	*Current*	*Proposed*	*$ Change*	*% Change*
Neely (north)	$18,532	$17,232	($1,300)	-7%
Greenfield (south)	$18,532	$18,071	($461)	-2%

** assumes 0.75" meter*

PARKS AND RECREATION IIP

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

> *"Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

The infrastructure improvements plan includes components for additional park improvements, pools, trails and community centers, plus a cost recovery component for the growth share of existing debt service. Gilbert will maintain existing infrastructure standards, using an incremental expansion cost method for all components except debt service.

Parks and Recreation Service Area

Gilbert provides a uniform level-of-service throughout the entire town and will use development fee funding for infrastructure that attracts patrons from all geographic areas. Based on this service delivery strategy, Gilbert has a town-wide service area for parks and recreation facilities.

Proportionate Share for Parks and Recreation Facilities

ARS 9-463.05.B.3 states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to serve new development. As shown in Figure PR1, TischlerBise recommends daytime population as a reasonable indicator of the potential demand for parks and recreation facilities, from both residential and nonresidential development. According to the U.S. Census Bureau web application OnTheMap, there were 32,131 inflow commuters coming to Gilbert for work in 2011. The proportionate share is based on cumulative impact days per year with the number of residents potentially impacting parks and recreation facilities 365 days per year. Inflow commuters potentially impact parks and recreation facilities 250 days per year (5 days per week multiplied by 50 weeks a year).

Figure PR1 – Daytime Population

			Cumulative Impact Days per Year			*Cost Allocation for Parks and Recreation*	
Jurisdiction	*Residents*	*Inflow Commuters*	*Residential**	*Nonresidential***	*Total*	*Residential*	*Nonresidential*
Gilbert	211,964	32,131	77,366,860	8,032,750	85,399,610	91%	9%

** Days per Year = 365*

*** 5 Days per Week x 50 Weeks per Year = 250*

Parks and Recreation Debt Service Methodology

Figure PR2 displays parks and recreational facilities that have been debt financed and are eligible for cost recovery. As documented in the Gilbert Debt Book, the growth cost of remaining principal and interest payment for each project was divided by the projected increase in population from 2013 to the fiscal year of the final debt payment to yield the growth cost per additional person. From 2013 to 2027, development fees will recover approximately $52.76 million for the growth share of remaining principal and interest payments. Over the next ten years the cost recovery is approximately $37.7 million.

Figure PR2 – Parks and Recreation Debt Service

CIP Project	*Facility*	*Year Debt Issued or Refinanced*	*Name of Debt Obligation*	*Remaining Growth Cost**	*FY of Final Payment*
PR076	Special Events Center	2009	PFMPC	$4,917,310	FY27-28
PR087	Land for SW Activity Center & Fields	2009	PFMPC	$22,726,639	FY27-28
PRO31 and PRO86	Land for Chandler Heights	2009	PFMPC	$14,580,060	FY27-28
PR032	Rittenhouse District Park	2009	PFMPC	$10,537,422	FY27-28
			Total	$52,761,431	
			Ten-Year Cost Recovery	$37,686,736	

** Principal plus interest FY13/14 until debt is retired*

Allocation Factors		*Parks and Recreation Debt Service*	
Residential Proportionate Share	91%		
Nonresidential Proportionate Share	9%		
Population increase 2013-2027	56,496	Residential (per person)	$849.00
Job increase 2013-2027	36,475	Nonresidential (per job)	$130.00

Description and Inventory of Parks and Recreational Facilities

As specified in ARS 9-463.05.B.4 development fees in Gilbert are based on the same level of service provided to existing development. Figure PR3 inventories existing parks in Gilbert that are roughly the same size as future parks that will be funded with development fees. Consistent with Arizona's enabling legislation, large regional parks are excluded from development fees. Also, Gilbert excluded small parks that might not provide a substantial nexus to the entire service area. The average size of the parks listed below is 40.1 acres. Parks in the existing inventory that exceed 30 acres all have sports facilities used by organized leagues that directly benefit development throughout Gilbert.

As shown at the bottom of the table below, Gilbert has provided 1.1 acres of improved parks for every 1,000 persons and 0.3 acres per 1,000 jobs. The cost factor for parks improvements is $363,600 per acre, based on planned expenditures to Hetchler Park (see PR069) where the Town will spend approximately $20 million in development fee revenue to improve the 55-acre park site. To maintain current infrastructure standards for parks, Gilbert will spend $440 for each additional resident and $64 for each additional job.

Figure PR3 – Improved Parks and Existing Standards

*Existing Parks**	*Improved Acres*
Freestone**	72.7
Crossroads**	54.0
Discovery Park**	44.2
Gilbert Soccer Complex	42.0
McQueen Park Phases I & II	41.0
Cosmo	16.0
Zanjero	11.0
Total =>	280.9
Average Acres per Park =>	40.1

Allocation Factors for Park Improvements

Improvements Cost per Acre***	$363,600
Improvements Cost per Average Size Park	$14,590,000
Residential Proportionate Share	91%
Nonresidential Proportionate Share	9%
	2013
Gilbert MPA Population	226,436
Gilbert MPA Jobs	84,630

Infrastructure Standards for Park Improvements

	Improved Acres	*Capital Cost*
Residential (per person)	0.0011	$440.00
Nonresidential (per job)	0.0003	$64.00

** According to the Arizona enabling legislation, parks up to 30 acres are considered necessary. Larger parks can be included if they provide direct benefit to new development.*
*** Acres exclude water/riparian area, community centers, plus specialized recreation facilities like skate parks, and thus vary from Table 4 in draft master plan (PLANet June 2013).*
**** Cost per acre for improvements at Hetchler Park (PR069).*

Gilbert currently has four swimming pools that serve a year-round population of 226,436 residents in the entire MPA, which is an average of 62,208 persons and 235,082 jobs per pool. Gilbert plans to construct the next pool at Campo Verde High School at a cost of $8,072,000 (see PR081 in the Town's CIP). To maintain the current infrastructure standard for pools, Gilbert will spend $138 for each additional resident and $20 for each additional job.

Figure PR4 – Swimming Pool Standards in Gilbert

Existing Pools

1. Mesquite Aquatic Center
2. Greenfield Pool
3. Williams Field Pool
4. Perry Pool

Allocation and Cost Factors for Pools

Estimated Cost of a New Pool (1)	$8,072,000
Residential Proportionate Share	91%
Nonresidential Proportionate Share	9%
Gilbert MPA Population in 2013	226,436
Gilbert MPA Jobs in 2013	84,630

(1) Based on the future pool at Campo Verde High School (see PR081).

Infrastructure Standards for Pools

	Residential	*Nonresidential*
Average Service Units per Pool	62,208	235,082
Capital Cost per Service Unit	$138.00	$20.00

Gilbert currently has 93,092 linear feet of trails (see Figure PR5), which is 0.37 linear feet of trails for every resident and 0.10 feet for every job. The cost factor of $120 per linear foot of trail is based on the Town's plan to construct Heritage and Western Canal Trails (see PR006 and PR011). To maintain current infrastructure standards for trails, Gilbert will spend $48 for each additional resident and $7 for each additional job.

Figure PR5 – Existing Trails and LOS

	Existing	*Proposed*
Total Linear Feet*	93,092	268,434

** Total linear feet provided by PLANet (June 2013).*

	2013	*2030*	*Proportionate Share*
Gilbert MPA Population in 2013	226,436	316,353	91%
Linear Feet per Person	0.37	0.77	
Gilbert MPA Jobs in 2013	84,630	126,665	9%
Linear Feet per Job	0.10	0.19	

Existing Infrastructure Standards for Trails

Trail Cost (PR006 & PR011)	$120	per linear foot
Capital Cost per Person	$48.00	
Capital Cost per Job	$7.00	

Figure PR6 inventories existing community centers in Gilbert. With four centers that provide a total 100,730 square feet of floor area, Gilbert has provided 0.40 square feet of community centers for every resident and 0.11 square feet for every job. Gilbert plans to spend $9,667,000 for Crossroads Community Center (PR039). Because Arizona's development fee enabling legislation limits community centers to 3,000 square feet, only 12% of the facility is eligible for development fee funding. The growth share of the next community center is $24 for each additional resident and $3 for each additional job.

Figure PR6 – Infrastructure Standards for Community Centers

Existing Facility	*Square Feet*
Freestone Center	48,500
McQueen Park Center	26,800
Gilbert Community Center	16,550
Page Park Center	8,880
TOTAL	100,730

Cost Estimates for Community Centers

Project	*Estimated Cost*	*Development Fee Share**	*Square Feet*
Crossroads Community Center (PR039)	$9,667,000	12%	25,000

** Limited to 3,000 square feet based on AZ Development Fee Act*

Allocation Factors for Community Centers

Total Cost per Square Foot	$386
Residential Proportionate Share	91%
Nonresidential Share	9%
Gilbert MPA Population in 2013	226,436
Gilbert MPA Jobs in 2013	84,630

Infrastructure Standards for Community Centers

	Square Feet	*Capital Cost*
Residential (per person)	0.40	$24.00
Nonresidential (per job)	0.11	$3.00

Excluded Costs

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert's comprehensive Capital Improvement Plan (CIP) includes the cost of these excluded items.

Current Use and Available Capacity

With the exception of debt-financed facilities, parks and recreation facilities are fully utilized and there is no available capacity for future development.

Infrastructure Needs Analysis

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure PR7, projected population and jobs drive the needs analysis for park improvements. To maintain current standards, Gilbert will improve approximately 57 acres of existing parkland over the next ten years. The ten-year, growth-related capital cost for park improvements is approximately $20.76 million. Given the close match with the growth-related need, Gilbert plans to construct Hetchler Park (project PR069 in the Town's CIP) with development fee funding within the next ten years.

Figure PR7 – Park Improvements Needed to Accommodate Growth

		Park Improvements Need		
	Year	*Gilbert MPA Population*	*Gilbert MPA Jobs*	*Acres of Improved Parks*
Base	2013	226,436	84,630	280.9
Year 1	2014	231,104	87,987	287.2
Year 2	2015	235,772	91,344	293.4
Year 3	2016	240,440	94,701	299.7
Year 4	2017	245,108	98,058	306.0
Year 5	2018	249,777	101,416	312.3
Year 6	2019	254,445	104,773	318.5
Year 7	2020	259,113	108,130	324.8
Year 8	2021	262,516	109,984	329.2
Year 9	2022	265,918	111,837	333.6
Year 10	2023	269,321	113,691	338.0
	Ten-Yr Increase	42,885	29,061	57.1
		Total Expenditures on Improvements =>		$20,762,000

As shown in Figure PR8, Gilbert will construct an additional pool within the next ten years, but development fees will only fund 81% of the capital cost. The ten-year, growth-share for the new pool is approximately $6.5 million, with the funding gap requiring either General Fund revenue or a General Obligation bond that will be paid from future property taxes.

Figure PR8 – Growth-Related Need for Additional Pool

		Pool Needs		
	Year	*Gilbert MPA Population*	*Gilbert MPA Jobs*	*Pools*
Base	2013	226,436	84,630	4.00
Year 1	2014	231,104	87,987	4.09
Year 2	2015	235,772	91,344	4.18
Year 3	2016	240,440	94,701	4.27
Year 4	2017	245,108	98,058	4.36
Year 5	2018	249,777	101,416	4.45
Year 6	2019	254,445	104,773	4.54
Year 7	2020	259,113	108,130	4.63
Year 8	2021	262,516	109,984	4.69
Year 9	2022	265,918	111,837	4.75
Year 10	2023	269,321	113,691	4.81
	Ten-Yr Increase	42,885	29,061	0.81
			Growth Share of Additional Pool =>	$6,538,000
				81%

As shown in Figure PR9, projected population creates a need for approximately 18,921 linear feet of trails, estimated to cost $2.27 million. The growth-related need closely matches the combined length and cost of Heritage and Western Canal Trails, which is described in more detail in the Town's CIP.

Figure PR9 – Trails Needed to Accommodate Growth

		Trails Needed		
	Year	*Gilbert MPA Population*	*Gilbert MPA Jobs*	*Linear Feet of Trails*
Base	2013	226,436	84,630	93,092
Year 1	2014	231,104	87,987	95,171
Year 2	2015	235,772	91,344	97,249
Year 3	2016	240,440	94,701	99,328
Year 4	2017	245,108	98,058	101,407
Year 5	2018	249,777	101,416	103,486
Year 6	2019	254,445	104,773	105,565
Year 7	2020	259,113	108,130	107,644
Year 8	2021	262,516	109,984	109,100
Year 9	2022	265,918	111,837	110,557
Year 10	2023	269,321	113,691	112,013
	Ten-Yr Increase	42,885	29,061	18,921
			Total Projected Expenditures on Trails =>	$2,271,000

As shown in Figure PR10, Gilbert needs 20,473 square feet of community centers to maintain its current standard. Yet only 3,000 square feet may be funded with development fees, which is 12% of the projected cost of Gilbert's next community center.

Figure PR10 – Need for Community Centers

		Community Centers Need		
	Year	*Gilbert MPA Population*	*Gilbert MPA Jobs*	*Square Feet*
Base	2013	226,436	84,630	100,730
Year 1	2014	231,104	87,987	102,979
Year 2	2015	235,772	91,344	105,229
Year 3	2016	240,440	94,701	107,478
Year 4	2017	245,108	98,058	109,727
Year 5	2018	249,777	101,416	111,977
Year 6	2019	254,445	104,773	114,226
Year 7	2020	259,113	108,130	116,475
Year 8	2021	262,516	109,984	118,051
Year 9	2022	265,918	111,837	119,627
Year 10	2023	269,321	113,691	121,203
	Ten-Yr Increase	42,885	29,061	20,473
	Total Cost of 25,000 Square Feet Community Center =>			$9,667,000
	Development Fee Funding Based on 3,000 Square Feet =>		$1,158,000	12%

Parks and Recreation Development Fees

Infrastructure standards and cost factors for parks and recreation facilities are summarized in the upper portion of Figure PR11. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, average number of persons per housing unit provides the necessary conversion. Updated development fees for parks and recreation facilities are shown in the column with light green shading. Proposed parks/recreation fees for a single residential unit increase by 1%, with a 19% decrease per dwelling in a residential structure with two or more units.

Figure PR11 – Service Units and Fees per Development Unit

Fee Component	*Cost per Person*	*Cost per Job*	
Cost Recovery for Debt Service	$849.00	$130.00	
Park Improvements	$440.00	$64.00	
Pools	$138.00	$20.00	
Trails	$48.00	$7.00	
Community Centers	$24.00	$3.00	
Master Plan, IIP, and Fee Study	$8.48	$1.16	
Revenue Credit	($90.45)	($13.51)	6%
TOTAL	$1,417.03	$211.65	

Residential (per housing unit)

Type	*Persons per Hsg Unit**	*Proposed Fee*	*Current Fees*	*$ Change*	*% Change*
Single Unit	2.88	$4,081	$4,030	$51	1%
2+ Units per Structure	1.98	$2,805	$3,465	($660)	-19%

** Figure C4, Land Use Assumptions.*

Nonresidential (per square foot of building)

Type	*Jobs per Sq Ft***	*Proposed Fee*	*Current Fee*	*$ Change*
Industrial	0.00166	$0.30	$0.00	$0.30
Commercial	0.00260	$0.50	$0.00	$0.50
Office & Other Services	0.00332	$0.70	$0.00	$0.70

*** Figure C6, Land Use Assumptions.*

Forecast of Revenues

Appendix A contains the required forecast of revenues required by Arizona's enabling legislation. To ensure parks and recreation development fee revenue does not exceed the cost of growth-related infrastructure, TischlerBise recommends a 6% credit for other revenues.

Parks and Recreation Development Fee Revenue

The top of Figure PR12 summarizes the growth-related cost of infrastructure in Gilbert over the next ten years (approximately $68.4 million for parks and recreation facilities). Gilbert should receive approximately $68.2 million in parks and recreation fee revenue over the next ten years, if actual development matches the land use assumptions documented in Appendix C.

Figure PR12 – Projected Development Fee Revenue

Ten-Year Growth-Related Costs for Parks and Recreation (in millions)

Debt Service	$37.69
Park Improvements	$20.77
Pool	$6.54
Trails	$2.28
Community Center	$1.16
Total	$68.44

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Office & Other Services*
		$4,081	$2,805	$300	$500	$700
		per housing unit	per housing unit	per 1000 Sq Ft	per 1000 Sq Ft	per 1000 Sq Ft
		89%	11%			
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013	72,479	8,958	8,440	10,290	13,340
Year 1	2014	73,973	9,143	8,680	10,620	14,140
Year 2	2015	75,467	9,327	8,940	10,950	14,950
Year 3	2016	76,962	9,512	9,180	11,280	15,780
Year 4	2017	78,455	9,697	9,440	11,610	16,620
Year 5	2018	79,950	9,882	9,690	11,940	17,480
Year 6	2019	81,444	10,066	9,940	12,270	18,350
Year 7	2020	82,938	10,251	10,190	12,600	19,240
Year 8	2021	84,028	10,385	10,410	12,810	19,760
Year 9	2022	85,117	10,520	10,630	13,020	20,280
Year 10	2023	86,205	10,655	10,840	13,230	20,820
	Ten-Yr Increase	13,726	1,697	2,400	2,940	7,480
	Projected Fees =>	$56,020,000	$4,760,000	$720,000	$1,470,000	$5,236,000
	Total Projected Revenues (rounded) =>		$68,206,000			

GENERAL GOVERNMENT AND LIBRARIES

ARS 9-463.05 (T)(7)(h) allows "Any facility that was financed and that meets all of the requirements prescribed in subsection R of this section." Section R states, "A municipality may continue to assess a development fee adopted before January 1, 2012 for any facility that was financed before June 1, 2011 if: 1. Development fees were pledged to repay debt service obligations related to the construction of the facility, and 2. After August 1, 2014, any development fees collected under this subsection are used solely for the payment of principal and interest on the portion of the bonds, notes or other debt service obligations issued before June 1, 2011 to finance construction of the facility."

The Town has outstanding debt service for the South Area Service Center and the Perry Library, which meet the above criteria. These facilities were oversized in anticipation of new development. Because general government is not a necessary public service, as defined by Arizona's enabling legislation, the IIP requirements are not applicable. Gilbert's development fee for libraries is currently collected as part of the general government fee and the Town will only use development fee revenue to make debt service payments on existing library facilities that were oversized to accommodate future development.

Service Area

The service area for the General Government and Libraries is town-wide. New development throughout Gilbert will benefit from existing general government buildings and libraries.

Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. TischlerBise recommends functional population to allocate future debt service payments to residential and nonresidential development. Functional population has a long history in the professional literature. Originally called activity analysis by Stuart Chapin in 1965, and incorporated into impact fee methodology by James Nicholas in the mid 1980s, functional population has been used to equitably spread infrastructure costs between residential and non-residential sectors. TischlerBise has refined the functional population concept by incorporating what the U.S. Census Bureau calls "daytime population." Using jurisdiction-specific data on commuting patterns, it is now possible to account for where people live and work. As shown in Figure GGL1, residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Gilbert are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside Gilbert are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Gilbert, the cost allocation for residential development is 81% while nonresidential development accounts for 19% of the demand for general government and libraries.

Figure GGL1 – Functional Population

	Demand Units in 2011			*Demand Hours/Day*	*Person Hours*
Residential					
	Population*	211,964			
56%	Residents Not Working	119,559		20	2,391,180
44%	Resident Workers**	92,405			
9%	Worked in City**		8,727	14	122,178
91%	Worked Outside City**		83,678	14	1,171,492
				Residential Subtotal	3,684,850
				Residential Share =>	**81%**
Nonresidential					
	Non-working Residents	119,559		4	478,236
	Jobs Located in City**	40,858			
21%	Residents Working in City**		8,727	10	87,270
79%	Non-Resident Workers (inflow commuters)		32,131	10	321,310
				Nonresidential Subtotal	886,816
				Nonresidential Share =>	**19%**
				TOTAL	4,571,666

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

Growth Cost of Debt Obligations

The Town owes approximately $55.4 million in debt service on the South Area Service Center through FY20-21, with 25.4% of this amount attributable to growth (see Town's CIP description of this project). Additionally, development fees will repay approximately $2.4 million to the General Fund for the growth-related cost of internal borrowing used to construct Perry Branch Library. As shown in Figure GGL2, Gilbert will recover approximately $16.5 million from new development over the next seven years. The cost recovery for debt service equates to approximately $409 per additional person and $133 per additional job located in Gilbert.

Figure GGL2 – Debt on General Government and Library Facilities

CIP Project	*Facility*	*Year of Debt Obligation*	*Name of Debt Obligation*	*FY of Final Payment*	*Remaining Growth Cost**
MF004	South Area Service Center	2006	PFMPC	20-21	$14,086,778
MF025	Perry Branch Library	2008	Internal borrowing	20-21	$2,413,000
				Total	$16,499,778

* *Principal plus interest FY13/14 until debt is retired*

	Allocation Factors		*General Government and Library Debt Service*
Residential Proportionate Share	81%		
Nonresidential Proportionate Share	19%		
Population increase 2013-2020	32,677	Residential (per person)	$408.99
Job increase 2013-2020	23,500	Nonresidential (per job)	$133.40

General Government Development Fees

Cost recovery amounts for general government and library debt service are summarized in the upper portion of Figure GGL3. The conversion of costs per service unit into a cost per development unit is also shown in the table below. For residential development, Gilbert uses year-round persons per housing unit to derive fees by type of housing. For nonresidential development, the necessary conversion is jobs per 1,000 square feet, as documented in the land use assumptions (see Appendix C). Updated development fees for general government and library facilities are shown in the column with light purple shading. Proposed fees are significantly higher for residential development. As required by Arizona's enabling legislation, proposed fees now vary by type of nonresidential development. A 2% offset for other revenues is recommended to ensure projected development fee revenue does not exceed the growth share of future debt service payments (i.e. approximately $16.5 million over seven years, as shown above in Figure GGL2). Projected development fee revenue is discussed in the next section.

Figure GGL3 – General Government Development Fee Schedule

	Cost per Person	*Cost per Job*	
Cost Recovery for Debt Obligations	$408.99	$133.40	
IIP and Fee Study	$0.47	$0.15	
Required Offset Revenue Credit	($8.19)	($2.67)	2%
TOTAL	$401.27	$130.88	

Residential (per housing unit)

Type	*Persons per Hsg Unit**	*Proposed Fee Through FY20/21*	*Current Fee*	*$ Change*	*% Change*
Single Unit	2.88	$1,155	$383	$772	202%
2+ Units per Structure	1.98	$794	$329	$465	141%

** Figure C4, Land Use Assumptions.*

Nonresidential (per square foot of building)

Type	*Jobs per Sq Ft***	*Proposed Fee Through FY20/21*	*Current Fee*	*$ Change*	*% Change*
Industrial	0.00166	$0.20	$0.204	($0.004)	-2%
Commercial	0.00260	$0.30	$0.204	$0.096	47%
Office & Other Services	0.00332	$0.40	$0.204	$0.196	96%

*** Figure C6, Land Use Assumptions.*

Projected Fee Revenue for General Government and Libraries

Gilbert will only collect the general government and libraries fee through FY20-21, when the growth-related share of the debt obligation will be paid off. As shown in Figure GGL4, the Town expects to receive approximately $16.5 million for debt service payments over the next seven years.

Figure GGL4 – Projected Revenue from Development Fees

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Office & Other Services*
		$1,155	$794	$200	$300	$400
	Fiscal	per housing unit	per housing unit	per 1000 Sq Ft	per 1000 Sq Ft	per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013-14	72,479	8,958	8,440	10,290	13,340
Year 1	2014-15	73,973	9,143	8,680	10,620	14,140
Year 2	2015-16	75,467	9,327	8,940	10,950	14,950
Year 3	2016-17	76,962	9,512	9,180	11,280	15,780
Year 4	2017-18	78,455	9,697	9,440	11,610	16,620
Year 5	2018-19	79,950	9,882	9,690	11,940	17,480
Year 6	2019-20	81,444	10,066	9,940	12,270	18,350
Year 7	2020-21	82,938	10,251	10,190	12,600	19,240
Seven-Yr Increase		10,459	1,293	1,750	2,310	5,900
Projected Fees =>		$12,080,000	$1,027,000	$350,000	$693,000	$2,360,000
					Projected Revenue Over Seven Years =>	$16,510,000

TRAFFIC SIGNALS IIP

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

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

Gilbert development fees for traffic signals are derived using a plan-based approach derived from trip generation rates, trip rate adjustment factors, and the growth cost of specific intersection improvements to be completed over the next ten years. Each component is described below.

Service Areas for Traffic Signals

Gilbert identified arterial-arterial and arterial-collector intersections that require signalization to accommodate the projected increase in vehicle traffic over the next ten years. Because proposed signals are on arterial streets used for long-distance trips, the improvements provide a substantial nexus to development throughout the Town. Therefore, the service area for traffic signals is town-wide.

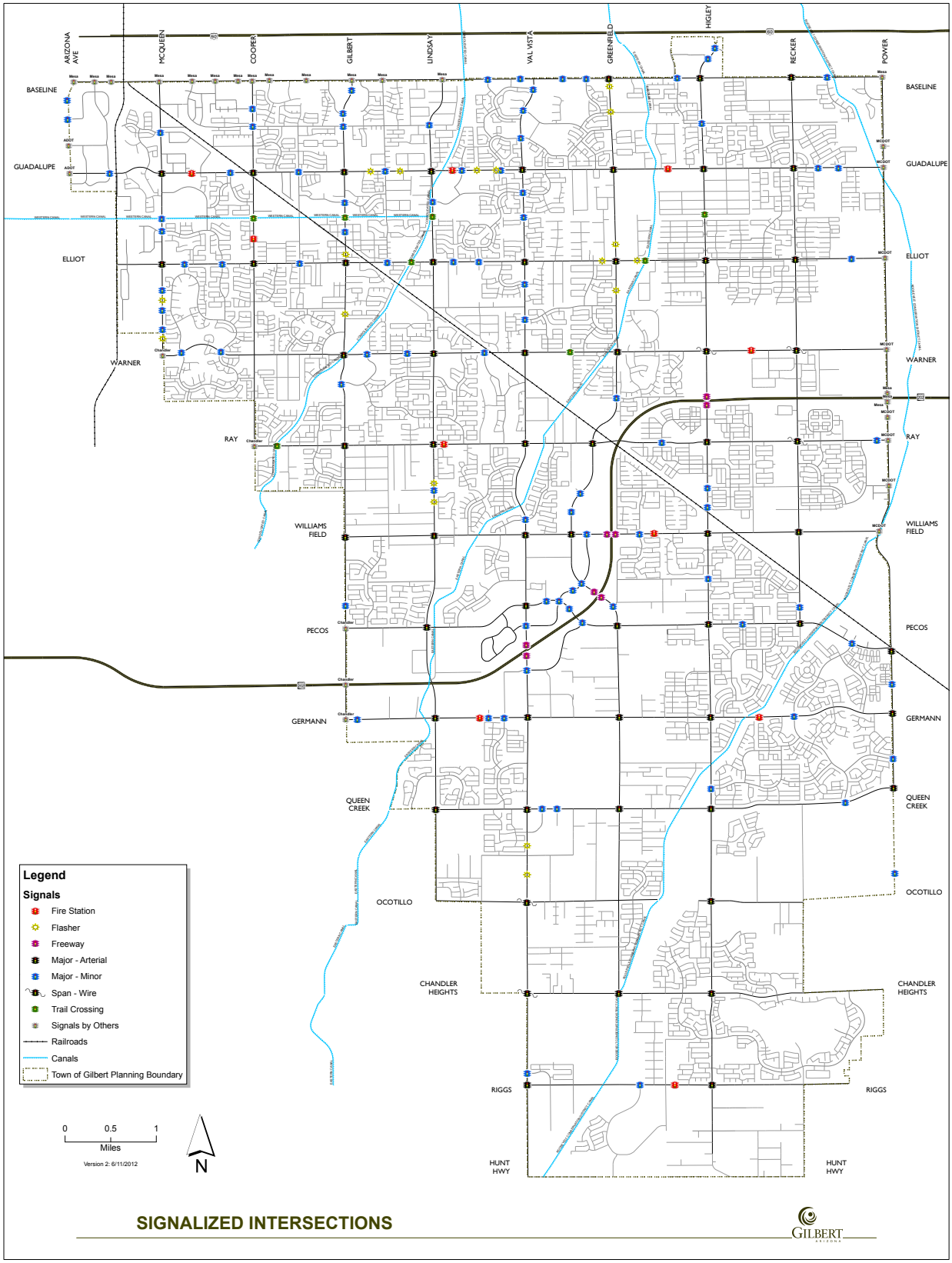
Existing Improved Intersections and LOS

For the purpose of development fees, improved intersections are limited to signalization and turn lanes at the intersection of two arterials, or an arterial with a collector. Gilbert currently has 154 signalized intersections that meet these criteria. As shown in Figure TS1, the current standard is 11.5 signalized intersections per 10,000 PM-Peak Hour Vehicle Trip Ends. Over the next ten years, Gilbert plans to signalize approximately 36 additional intersections. The projected infrastructure standard in 2023 is slightly below the current standard. Documentation on the calculation of vehicle trip ends is provided below, along with a list of intersections to be signalized. The existing inventory of signalized intersections is mapped in Figure TS2.

Figure TS1 – Current and Proposed Level-Of-Service Standards for Traffic Signals

	2013 PM-Peak Hour Trip Ends	2023 PM-Peak Hour Trip Ends
Single Unit Housing	73,929	87,929
2+ HU per Structure	6,002	7,139
Industrial KSF	9,115	11,707
Commercial KSF	25,196	32,395
Office & Other Services KSF	19,877	31,022
Total	134,119	170,192
	Pct Increase =>	27%
Arterial Signal Count =>	154	190
Signals per 10,000 Vehicle Trip Ends =>	11.5	11.2

Figure TS2 – Map of Signalized Intersections



Excluded Costs

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert's comprehensive Capital Improvement Plan (CIP) includes the cost of these excluded items.

Current Use and Available Capacity

Gilbert follows standard engineering practices to evaluate congestion levels at intersections. Traffic signals must be warranted for the Town to schedule improvements.

Forecast of Service Units

Gilbert will use afternoon peak hour vehicle trip ends as the service units for documenting existing infrastructure standards and allocating the cost of future improvements.

Trip Generation Rates

Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway).

Adjustment for Pass-By Trips

Commercial development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination.

Projected Travel Demand

Current and future development in Gilbert, and the projected increase in service units, is shown in Figure TS3. On the left side of the table are both existing and projected development units in Gilbert. Trip generation rates convert projected development into additional PM-Peak Hour vehicle trip ends over the next ten years. The proportionate share factors (see column on the far right) are used to allocate the growth cost of future traffic signals to each type of development. For example, single-unit housing accounts for approximately 39% of the travel demand in Gilbert.

Figure TS3 – Ten-Year Travel Demand and Proportionate Share Factors

PM-Peak Hour Vehicle Trip Ends

Development Type (1)	*2013 Development Units (2)*	*2023 Development Units (2)*	*Additional Development Units 2013-2023*	*PM Peak Hour Trip Ends per Development Unit (3)*	*Service Unit Index*	*Additional PM-Peak Trip Ends 2013-2023*	*Proportionate Share*
Single Unit Housing	72,479	86,205	13,726	1.02	1.00	14,001	38.81%
2+ HU per Structure	8,958	10,655	1,697	0.67	0.66	1,137	3.15%
Industrial KSF	8,440	10,840	2,400	1.08	1.06	2,592	7.19%
Commercial KSF	10,290	13,230	2,940	2.45	2.40	7,199	19.96%
Office & Other Services KSF	13,340	20,820	7,480	1.49	1.46	11,145	30.89%
Housing Unit Total	81,437	96,860	15,423	TOTAL		36,074	100.0%
Nonres KSF Total	32,070	44,890	12,820				

(1) Single Unit Housing = single family detached and attached, plus mobile homes; KSF = square feet of floor area in thousands.

(2) Gilbert Land Use Assumptions (see Appendix C).

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

Retail includes 34% pass-by adjustment.

Planned Traffic Signals

Proposed development fees are based on a specific list of intersections to be signalized over the next ten years. If a developer is asked to construct a system improvement (i.e. a traffic signal on the list) as a condition of development approval, it will be necessary for Gilbert to provide a site-specific credit or reimburse the developer from future fee collections. The Town will continue to require project level improvements, such as turn lanes and signals for ingress/egress to a specific development, as a condition of development approval. To accommodate projected development over the next five years, Gilbert plans to provide signals at the 16 specific intersections listed below, with another 20 intersections to be improved in the subsequent five years. As shown in Figure TS4, the ten-year total cost of signalization is $26.99 million, but development fees will only pay 59% of the total cost. Reductions are due to cost sharing with other jurisdictions at two intersections, and the average-cost allocation for the Advanced Traffic Management System. Because new development is expected to increase afternoon peak hour trip ends by 27% over the next ten years (see Figure TS1 above), the growth share of ATMS improvements is 27%. The ten-year growth cost of traffic signals is approximately $15.93 million.

Figure TS4 – IIP Summary for Traffic Signals

Project#	*Description*	*Total Cost*	*Growth Share*	*Growth Cost*
TS122	Higley and Warner	$344,000	100%	$344,000
TS123	Ray and Recker	$343,000	100%	$343,000
TS131	Advanced Traffic Management System Phase III	$2,007,000	27%	$541,890
TS132	Advanced Traffic Management System Phase IV	$1,437,000	27%	$387,990
TS133	Advanced Traffic Management System Phase V	$4,178,000	27%	$1,128,060
TS134	Advanced Traffic Management System Phase VI	$7,307,000	27%	$1,972,890
TS140	Elliot and Islands Dr	$87,000	100%	$87,000
TS144	Recker and Cooley Loop North	$221,000	100%	$221,000
TS145	Recker and Cooley Loop South	$221,000	100%	$221,000
TS146	Williams Field and Cooley Loop West	$221,000	100%	$221,000
TS147	Williams Field and Cooley Loop East	$221,000	100%	$221,000
TS150	Riggs and Recker	$309,000	75%	$231,750
TS154	Val Vista and Ocotillo	$330,000	100%	$330,000
TS155	Val Vista and Chandler Heights	$330,000	100%	$330,000
TS156	Greenfield and Ocotillo	$340,000	100%	$340,000
TS157	Recker and Warner	$361,000	100%	$361,000
TS158	Recker and Ocotillo	$361,000	75%	$270,750
TS162	Higley and Coldwater	$274,000	100%	$274,000
TS171	Gilbert and Vaughn	$300,000	100%	$300,000
TS172	Val Vista and Frye	$300,000	100%	$300,000
TSMIN	Minor Intersections (20 over ten years)	$7,500,000	100%	$7,500,000
	TOTAL	$26,992,000	59%	$15,926,330

Source: Town of Gilbert, 2013-2018 Capital Improvement Plan.

Development Fees for Traffic Signals

Current and proposed fees for traffic signals are shown in Figure TS5. Proposed fees are approximately equal to current fees for residential development. Proposed fees for industrial and office/other services increase by approximately 15%, with proposed fees for commercial decreasing by approximately 32%. The reduction for commercial is due to the pass-by adjustment recommended by TischlerBise.

To derive the traffic signal fee by type of development, multiply its proportionate share factor (based on the ten-year increase in vehicle trip ends (see Figure TS3) by the growth cost of improvements and divide by the increase in development units. For example, the fee for a single residential unit is 0.3881*$15,947,682/13,726, or $450 per unit (truncated).

Figure TS5 – Development Fee Schedule for Traffic Signals

	Growth Cost
Traffic Signals and ATMS	$15,926,330
IIP and Fee Study	$21,352
TOTAL	$15,947,682

Residential (per housing unit)

Type	*Proportionate Share*	*Additional Development Units 2013-2023*	*Proposed Fee*	*Current Fees*	*$ Change*	*% Change*
Single Unit	38.81%	13,726	$450	$423	$27	6%
2+ Units per Structure	3.15%	1,697	$296	$297	($1)	0%

Nonresidential (per square foot of building)

Type	*Proportionate Share*	*Additional Development Units 2013-2023*	*Proposed Fee*	*Current Fees*	*$ Change*	*% Change*
Industrial	7.19%	2,400	$0.47	$0.405	$0.06	16%
Commercial	19.96%	2,940	$1.08	$1.593	($0.51)	-32%
Office & Other Services	30.89%	7,480	$0.65	$0.570	$0.08	14%

Forecast of Revenues

Appendix A contains the required forecast of revenues required by Arizona's enabling legislation. Development fees will only cover 59% of the cost of signalization, including completion of the Advanced Traffic Management System. Approximately $11 million in other revenues will be required over the next ten years to fully fund the IIP.

Development Fee Revenue for Traffic Signals

Revenue projections shown below assume implementation of the proposed traffic signal fees and that development over the next ten years is consistent with the land use assumptions described in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue. The street fee revenue projection of $15.84 million in Figure TS6 matches the ten-year growth cost of planned system improvements.

Figure TS6 – Projected Fee Revenue

Traffic Signal Fee Revenue

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Office & Other Services*
		$450 per housing unit	$296 per housing unit	$0.47 per Square Foot	$1.08 per Square Foot	$0.65 per Square Foot
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013	72,479	8,958	8,440	10,290	13,340
Year 1	2014	73,973	9,143	8,680	10,620	14,140
Year 2	2015	75,467	9,327	8,940	10,950	14,950
Year 3	2016	76,962	9,512	9,180	11,280	15,780
Year 4	2017	78,455	9,697	9,440	11,610	16,620
Year 5	2018	79,950	9,882	9,690	11,940	17,480
Year 6	2019	81,444	10,066	9,940	12,270	18,350
Year 7	2020	82,938	10,251	10,190	12,600	19,240
Year 8	2021	84,028	10,385	10,410	12,810	19,760
Year 9	2022	85,117	10,520	10,630	13,020	20,280
Year 10	2023	86,205	10,655	10,840	13,230	20,820
Ten-Yr Increase		13,726	1,697	2,400	2,940	7,480
Fee Revenue =>		$6,177,000	$502,000	$1,128,000	$3,175,000	$4,862,000
					Total =>	$15,844,000

PUBLIC SAFETY IIP

ARS 9-463.05.T.7 (f) defines the fire and police facilities eligible for development fee funding, as "Police and fire facilities, including all appurtenances, equipment and vehicles. Police and fire facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training officers from more than one station or substation."

This section includes cost recovery of public safety debt for both police and fire facilities. Also, Gilbert will incrementally expand police vehicles and equipment to keep pace with development and provide two fire stations, with associated apparatus.

Public Safety Service Area

Police officers are dispersed throughout the entire Town responding to calls and patrolling to prevent crime. Fire services originate from multiple stations with additional units dispatched to meet the need of each incident. Given this service delivery pattern, Gilbert has one town-wide service area for public safety.

Proportionate Share for Police Facilities

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. TischlerBise recommends functional population to allocate the cost of public safety facilities to residential and nonresidential development. Functional population has a long history in the professional literature. Originally called activity analysis by Stuart Chapin in 1965, and incorporated into impact fee methodology by James Nicholas in the mid 1980s, functional population has been used to equitably spread infrastructure costs between residential and non-residential sectors. TischlerBise has refined the functional population concept by incorporating what the U.S. Census Bureau calls "daytime population." Using jurisdiction-specific data on commuting patterns, it is now possible to account for where people live and work. As shown in Figure PS1, residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Gilbert are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside Gilbert are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Gilbert, the cost allocation for residential development is 81% while nonresidential development accounts for 19% of the demand for public safety infrastructure.

Figure PS1 – Functional Population

	Demand Units in 2011			*Demand Hours/Day*	*Person Hours*
Residential					
	Population*	211,964			
56%	Residents Not Working	119,559		20	2,391,180
44%	Resident Workers**	92,405			
9%	Worked in City**		8,727	14	122,178
91%	Worked Outside City**		83,678	14	1,171,492
				Residential Subtotal	3,684,850
				Residential Share =>	**81%**
Nonresidential					
	Non-working Residents	119,559		4	478,236
	Jobs Located in City**	40,858			
21%	Residents Working in City**		8,727	10	87,270
79%	Non-Resident Workers (inflow commuters)		32,131	10	321,310
				Nonresidential Subtotal	886,816
				Nonresidential Share =>	**19%**
				TOTAL	4,571,666

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

Existing Police Facilities and LOS

Gilbert police will continue to use their existing buildings for the next five years. Rather than expand police buildings, development fees will be used to pay debt service on existing public safety buildings. The debt service calculations are discussed at the end of the public safety section.

Development fees will be used to expand the fleet of police vehicles to keep pace with development. Figure PS2 lists police vehicles used by Gilbert's Police Department during FY13-14. Patrol cars and SUVs account for most of the cost. In FY13-14, Gilbert has 199 vehicles with a capital cost of approximately $8.29 million, which is a weighted average cost of approximately $41,600 per vehicle. Every 1,000 additional residents will require Gilbert to purchase 0.7 additional police vehicles or equipment items. To maintain the current infrastructure standard for police vehicles and equipment, each additional person equates to a capital cost of $29.61, with additional PM-Peak vehicle trip ends to nonresidential development representing a capital cost of $29.02. The inventory below excludes vehicles used for administrative services.

Figure PS2 – Gilbert Police Vehicles

Police Vehicles	*Count*	*Current Cost per Unit*	*Total*
Sedans	135	$46,400	$6,264,000
SUV	8	$49,900	$399,200
Motorcycle	24	$31,000	$744,000
Pickup Truck	12	$39,100	$469,200
Radar Trailer	2	$6,000	$12,000
Trailer	5	$11,600	$58,000
Small Sedans	6	$18,900	$113,400
Ford F700 Armour	1	$85,000	$85,000
Van	3	$31,700	$95,100
Cart	2	$5,500	$11,000
Panel Truck	1	$35,000	$35,000
TOTAL	199		$8,285,900
Weighted Average Cost per Unit =>		$41,600	

Source: Town of Gilbert Police Department. Cost includes all equipment needed to place the unit in service.

Police Vehicle Standards	*Residential*	*Nonresidential*
Proportionate Share	81%	19%
Growth Indicator	*Persons*	*PM Peak Hour Vehicle Trip Ends*
Service Units in 2013	226,436	54,188
Vehicles per Service Unit	0.0007	0.0007
Cost per Service Unit	$29.61	$29.02

Development fees will be used to purchase additional communications equipment that has a useful life of at least three years. In FY13-14, Gilbert has 332 vehicles and equipment items, with a capital cost of approximately $2.4 million, which is a weighted average cost of approximately $7,200 per item. The existing level of service is the residential and nonresidential proportionate share of the equipment inventory divided by the respective service units in 2013. For example, the level of service for residential development is 1.2 equipment items per person and a capital cost of $8.55 for each additional resident.

Figure PS3 – Gilbert Police Communications Equipment

Communications Equipment	*Count*	*Cost per Unit*	*Total*
XTS-5000 Motorola Portable Radio	311	$5,200	$1,617,200
XLT-5000 Consolette	11	$8,700	$95,700
Gold Elite Radio Console System	8	$75,000	$600,000
VIPER Position	1	$27,500	$27,500
VPI Audio/Video Logger	1	$65,000	$65,000
TOTAL	332		$2,405,400
Weighted Average Cost per Unit =>		$7,200	

Source: Town of Gilbert Police Department. Does not include units in vehicles.

Communications Equipment Standards

	Residential	*Nonresidential*
Proportionate Share	81%	19%
Growth Indicator	*Persons*	*PM Peak Hour Vehicle Trip Ends*
Service Units in 2013	226,436	54,188
Communication Items per Service Unit	0.0012	0.0012
Cost per Service Unit	$8.55	$8.38

Excluded Costs

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert's comprehensive Capital Improvement Plan (CIP) addresses the cost of these excluded items.

Current Use and Available Capacity

According to Gilbert staff, police vehicles and equipment are fully utilized and there is no available capacity for future development. Police buildings do have surplus capacity and a debt service methodology is recommended to cover the growth share of future principal and interest payments.

Infrastructure Needs Analysis

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions in service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure PS4, projected population and vehicle trip ends to nonresidential development are the service units that drive the need for police vehicles and equipment. To maintain current standards over the next ten years, Gilbert will add 45 vehicles and 75 communication equipment items. The growth-related capital expenditure on additional police vehicles or equipment items is approximately $2.4 million over the next ten years.

Figure PS4 – Police Facilities Needed to Accommodate Growth

Infrastructure Standards and Capital Costs

Police Vehicles - Residential	0.0007	vehicles per person
Police Vehicles - Nonresidential	0.0007	vehicles per trip ends
Police Vehicle Cost	$41,600	per vehicle
Police Com Equipment - Residential	0.0012	Sq Ft per person
Police Com Equipment - Nonresidential	0.0012	Sq Ft per vehicle trip
Police Com Equipment Cost	$7,200	per item

				Infrastructure Needed	
	Year	*Gilbert MPA Population*	*Gilbert Nonres Veh Trip Ends*	*Police Vehicles*	*Communications Equipment*
Base	2013	226,436	54,188	199	332
Year 1	2014	231,104	56,447	204	340
Year 2	2015	235,772	58,743	209	348
Year 3	2016	240,440	61,046	214	357
Year 4	2017	245,108	63,387	219	365
Year 5	2018	249,777	65,746	224	373
Year 6	2019	254,445	68,121	229	381
Year 7	2020	259,113	70,525	234	390
Year 8	2021	262,516	72,052	237	396
Year 9	2022	265,918	73,578	241	401
Year 10	2023	269,321	75,124	244	407
Ten-Yr Increase		42,885	20,936	45	75

Cost of Police Vehicles =>	$1,872,000
Cost of Police Equipment =>	$540,000
Total Projected Expenditures (rounded) =>	$2,412,000

Police Development Fees

Infrastructure standards and cost factors for police are summarized in the upper portion of Figure PS5. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, Gilbert will use year-round population to derive police development fees. For nonresidential development, Gilbert will use PM peak hour vehicle trip ends as the service unit. Vehicle trip ends associated with nonresidential development are based on floor area estimates for industrial, commercial, and office/other development, as documented in the Land Use Assumptions (see Appendix C). Also, trip generation rates are discussed further in the Traffic Signals section of this report.

Updated development fees for police facilities are shown in the column with blue shading. The proposed fees for police vehicles and equipment are less than current fees because the cost of police buildings is in the proposed public safety debt service fee, discussed at the end of this section.

Figure PS5 – Police Service Units and Fees per Development Unit

	Cost per Person	*Cost per Trip Ends*
Vehicles	$29.61	$29.02
Communications	$8.55	$8.38
IIP and Fee Study	$0.43	$0.22
TOTAL	$38.59	$37.62

Residential (per housing unit)

Type	*Persons per Hsg Unit**	*Proposed Fee*
Single Unit	2.88	$111
2+ Units per Structure	1.98	$76

** see Figure C4.*

Nonresidential (per square foot of building)

Type	*PM Peak Hour Vehicle Trip Ends***	*Proposed Fee*
Industrial	0.00108	$0.04
Commercial	0.00245	$0.09
Office & Other Services	0.00149	$0.05

*** Source: Trip Generation, ITE, 2012.*

Commercial includes 34% pass-by adjustment.

Proportionate Share Factors for Fire Facilities

The development fee update for Gilbert allocates the capital cost of fire facilities based on calls for service to residential and nonresidential development. As shown in Figure PS6, residential development accounted for 62% of calls and nonresidential development accounted for 38% of calls in 2011, which is the latest available data from the Gilbert Fire Department.

Figure PS6 – Fire Proportionate Share

Calls for Service	*2009*	*2010*	*2011*
Residential	71%	67%	62%
Nonresidential	29%	33%	38%
TOTAL	100%	100%	100%

Source: Town of Gilbert Fire Department.

Existing Fire Facilities and Infrastructure Standards

As specified in ARS 9-463.05.B.4, fire development fees in Gilbert are based on the same level of service provided to existing development. Figure PS7 inventories fire stations and documents current standards of 0.32 square feet per person and 0.53 square feet per job in Gilbert. Because Town limits are approaching the geographic extent of the Municipal Planning Area (MPA), Gilbert staff determined that only two fire stations are needed over the next ten years. In other words, fire stations and apparatus may increase at a slower pace than development, with the Town maintaining adequate response times.

Figure PS7 – Gilbert Fire Stations

Fire Stations	*Square Feet*
Station 1	23,000
Station 2	11,000
Station 3	13,500
Station 4	6,500
Station 5	10,500
Station 6	10,500
Station 7	6,000
Station 8	10,500
Station 10	11,000
Station 11	15,000
TOTAL	117,500

Allocation Factors for Fire Stations

Cost per Square Foot	$567
Residential Share	62%
Nonresidential Share	38%
Population in 2013	226,436
Jobs in 2013	84,630

Infrastructure Standards for Fire Stations

	Square Feet	*Capital Cost*
Residential (per person)	0.32	$182.41
Nonresidential (per job)	0.53	$299.14

Development fees will be used to purchase additional apparatus, consistent with the Town's plan to construct two fire stations over the next ten years. Figure PS8 lists fire apparatus currently used by the Gilbert Fire Department. In FY13-14, Gilbert has 59 vehicles and equipment items, with a capital cost of approximately $22.8 million. Based on the entire inventory, the weighted average cost is approximately $386,400 per item.

Figure PS8 – Gilbert Fire Apparatus

Fire Apparatus	*Vehicle Count*	*Unit Cost*	*Total Cost*
Ladder Tender	3	$340,000	$1,020,000
Air/Light Truck	1	$440,000	$440,000
Pumper	14	$984,000	$13,776,000
Aerial	4	$990,000	$3,960,000
Command Vehicle	1	$740,000	$740,000
Brush Truck	1	$340,000	$340,000
Disaster Response	1	$540,000	$540,000
Water Tanker	2	$340,000	$680,000
Haz Mat	1	$540,000	$540,000
Communications Equipment*	31	$24,600	$762,600
TOTAL	59		$22,798,600

* Radios, dispatch, and microwave network.

Allocation Factors for Fire Apparatus

Average Cost per Unit	$386,400
Residential Share	62%
Nonresidential Share	38%
Population in 2013	226,436
Jobs in 2013	84,630

Infrastructure Standards for Fire Apparatus

	Fire Apparatus	*Capital Cost*
Residential (per person)	0.00016	$62.42
Nonresidential (per job)	0.00026	$102.36

Excluded Costs in Analysis of Fire Facilities

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert's comprehensive Capital Improvement Plan (CIP) addresses the cost of these excluded items.

Future Need for Fire Facilities

Fire development fee will be derived using a plan-based method. Figure PS9 summarizes Gilbert's plan for fire stations and apparatus over the next ten years. The cost of Station 7 is only for expansion, excluding the cost of replacing existing floor area. The projected total cost of $7.54 million for fire stations is allocated to the increase in service units over the next ten years. Gilbert will also spend approximately $2.68 million on fire apparatus needed at these stations. The apparatus cost is $38.80 for each additional person and $35.09 for each additional job in Gilbert.

Figure PS9 – IIP Summary for Fire Stations and Apparatus

Fire Stations	*FY13-14*	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*Years 6-10*	*Total*
MF023 Fire Station 9 (less $984,000 for apparatus)	$0	$715,000	$5,236,000	$0	$0	$0	$5,951,000
MF217 Fire Station 7 expansion	$148,000	$1,445,000	$0	$0	$0	$0	$1,593,000
Subtotal	$148,000	$2,160,000	$5,236,000	$0	$0	$0	$7,544,000

Source: FY13-18 Town of Gilbert CIP.

	Residential per person	*Nonresidential per job*
Proportionate Share	62%	38%
Ten Year Increase in Service Units	42,885	29,061
Cost per Additional Service Unit	$109.06	$98.64

Fire Apparatus	*FY13-14*	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*Years 6-10*	*Total*
MF023 Fire Station 9 Apparatus	$0	$0	$0	$0	$0	$984,000	$984,000
MF216 Adaptive Response Unit (ARU)	$0	$0	$0	$0	$0	$850,000	$850,000
MF229 Additional Pumper at FS 10	$0	$0	$850,000	$0	$0		$850,000
Subtotal	$0	$0	$850,000	$0	$0	$1,834,000	$2,684,000

Source: FY13-18 Town of Gilbert CIP.

	Residential per person	*Nonresidential per job*
Proportionate Share	62%	38%
Ten Year Increase in Service Units	42,885	29,061
Cost per Additional Service Unit	$38.80	$35.09

Grand Total for Stations plus Apparatus	$10,228,000

Fire Development Fees

Capital cost factors documented above are summarized in the upper portion of Figure PS10, with proposed fire development fees shown at the bottom of the table. For residential development, average persons per housing unit indicate the relationship between service and development units. For nonresidential development, jobs per thousand square feet of floor area convert the cost per service unit into the fee per development unit. Gilbert's land use assumptions (see Appendix C) provide documentation on jobs and nonresidential floor area. Proposed development fees for fire facilities are shown in the column with orange shading. Proposed fire development fees shown below do not include the cost recovery for public safety debt service, which is discussed below.

Figure PS10– Fire Service Units and Fees per Development Unit

	Cost per Person	*Cost per Job*
Fire Stations	$109.06	$98.64
Fire Apparatus	$38.80	$35.09
IIP and Fee Study	$0.40	$0.34
TOTAL	$148.26	$134.07

Residential (per housing unit)

Type	*Persons per Hsg Unit**	*Proposed Fee*
Single Unit	2.88	$426
2+ Units per Structure	1.98	$293

** see Figure C4.*

Nonresidential (per square foot of building)

Type	Jobs per 1000 Sq Ft**	Proposed Fee
Industrial	1.66	$0.22
Commercial	2.60	$0.34
Office & Other Services	3.32	$0.44

*** see Figure C6.*

Cost Recovery for Public Safety Facilities

Figure PS11 lists public safety facilities that were debt financed and meet the criteria specified in ARS 9-463.05.R. The Town will use development fees to repay debt service obligations related to construction of these facilities. The growth cost of remaining principal and interest payments (approximately $30.59 million) were allocated to residential and nonresidential development based on functional population data for Gilbert. The residential share was divided by the projected increase in population from FY13-14 to the fiscal year of the final payment, yielding a total cost of $671.01 per person. In a similar manner, the nonresidential share of each debt obligation was divided by the projected increase in jobs from FY13-14 to the fiscal year of the final payment, yielding a total cost of $223.31 for each additional job in Gilbert.

Figure PS11 – Public Safety Facilities Debt Summary

CIP Project	*Facility*	*Year Debt Issued or Refinanced*	*Name of Debt Obligation*	*Remaining Growth Cost**	*FY of Final Payment*	*Population Increase*	*Cost per Additional Person*	*Job Increase*	*Cost per Additional Job*
MF002	Public Safety Complex	2011	PFMPC	$12,366,560	FY20-21	32,677	$306.54	23,500	$99.98
MF029	Police Property Facility	2006	PFMPC	$9,872,215	FY20-21	32,677	$244.71	23,500	$79.82
MF040	Land for Public Safety Training Complex	2009	PFMPC	$8,353,183	FY27-28	56,495	$119.76	36,475	$43.51
			Total	$30,591,958			$671.01		$223.31

** Principal plus interest FY13/14 until debt is retired*

Allocation Factors for Public Safety Facilities

Residential Proportionate Share	81%
Nonresidential Proportionate Share	19%

Public Safety Fees for Debt Service

Cost factors for public safety facilities that were debt financed are summarized in the upper portion of Figure PS12. The conversion of infrastructure costs per service unit into a cost per development unit is also shown in the table below. As debt obligations are retired, the cost recovery component of public safety development fees will decrease over time. For example, a major decrease in the debt service component will occur in FY21/22 after Gilbert retires debt on the Public Safety complex and Police Property Facility.

Figure PS12 – Public Safety Cost Recovery Fee Schedule

	During FY14/15-20/21		***During FY21/22-23/24***	
	Cost per Person	*Cost per Job*	*Cost per Person*	*Cost per Job*
Public Safety Complex	$306.54	$99.98		
Police Property Facility	$244.71	$79.82		
Land for Public Safety Training Complex	$119.76	$43.51	$119.76	$43.51
TOTAL	$671.01	$223.31	$119.76	$43.51
Residential (per housing unit)				
Type of Development	*Persons per Hsg Unit*	*Proposed Fee*	*Persons per Hsg Unit*	*Proposed Fee*
Single Unit	2.88	$1,932	2.88	$344
2+ Units per Structure	1.98	$1,328	1.98	$237
Nonresidential (per square foot of building)				
Type of Development	Jobs per 1000 Sq Ft	*Proposed Fee*	Jobs per 1000 Sq Ft	*Proposed Fee*
Industrial	1.66	$0.37	1.66	$0.07
Commercial	2.60	$0.58	2.60	$0.11
Office & Other Services	3.32	$0.70	3.32	$0.14

Combined Fee for Police, Fire, and Public Safety Debt

To facilitate a fair comparison of current police and fire development fees with the proposed amounts, TischlerBise prepared Figure PS13, summarizing proposed fee components for police, fire, and public safety debt service. Fee schedules are provided for two time periods to account to the change in debt service payments over the next ten years. The combined fee for a single residential unit is 72% more than the current fees for police and fire, but decreases dramatically in FY21/22.

In contrast to current public safety fees for nonresidential development, the proposed fees vary by type of development. A differentiation between industrial and commercial is now required by state enabling legislation (see ARS 9-463.05.B.13).

Figure PS13 – Combined Fee for Police, Fire, and Public Safety Debt Service

Residential (per housing unit) During FY14/15-20/21							
Type	*Proposed Police Fee*	*Proposed Fire Fee*	*Proposed Public Safety Debt Service*	*Proposed Total Fee*	*Current Police and Fire Fees*	*$ Change*	*% Change*
Single Unit	$111	$426	$1,932	$2,469	$1,433	$1,036	72%
2+ Units per Structure	$76	$293	$1,328	$1,697	$1,433	$264	18%
Nonresidential (per square foot of building) During FY14/15-20/21							
Type	*Proposed Police Fee*	*Proposed Fire Fee*	*Proposed Public Safety Debt Service*	*Proposed Total Fee*	*Current Police and Fire Fees*	*$ Change*	*% Change*
Industrial	$0.04	$0.22	$0.37	$0.63	$0.765	($0.135)	-18%
Commercial	$0.09	$0.34	$0.58	$1.01	$0.765	$0.245	32%
Office & Other Services	$0.05	$0.44	$0.70	$1.19	$0.765	$0.425	56%

Residential (per housing unit) During FY21/22-23/24							
Type	*Proposed Police Fee*	*Proposed Fire Fee*	*Proposed Public Safety Debt Service*	*Proposed Total Fee*	*Current Police and Fire Fees*	*$ Change*	*% Change*
Single Unit	$111	$426	$344	$881	$1,433	($552)	-39%
2+ Units per Structure	$76	$293	$237	$606	$1,433	($827)	-58%
Nonresidential (per square foot of building) During FY21/22-23/24							
Type	*Proposed Police Fee*	*Proposed Fire Fee*	*Proposed Public Safety Debt Service*	*Proposed Total Fee*	*Current Police and Fire Fees*	*$ Change*	*% Change*
Industrial	$0.04	$0.22	$0.07	$0.33	$0.765	($0.435)	-57%
Commercial	$0.09	$0.34	$0.11	$0.54	$0.765	($0.225)	-29%
Office & Other Services	$0.05	$0.44	$0.14	$0.63	$0.765	($0.135)	-18%

Forecast of Revenues for Public Safety Facilities

Appendix A contains the forecast of revenues required by Arizona's enabling legislation.

Development Fee Revenue for Public Safety Facilities

Revenue projections shown below assume implementation of the proposed public safety fees and that development over the next ten years is consistent with the land use assumptions described in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the development fee revenue. The public safety fee revenue projection of approximately $43 million (see Figure PS14) matches the ten-year growth cost of planned system improvements, including $2.4 million for police vehicles and equipment, $10.2 million for fire stations and apparatus, plus $30.6 million for public safety debt service.

In contrast to the other types of infrastructure, public safety fees decrease after seven years. Therefore, the ten-year increase in development could not be multiplied by the proposed fee schedule. Although not shown below, annual development fee revenues were derived with only the ten-year total shown at the bottom of Figure PS14.

Figure PS14 – Projected Revenue for Public Safety Facilities

Ten-Year Growth-Related Costs for Public Safety Facilities

Police Vehicles and Equipment	$2,412,000
Fire Stations and Apparatus	$10,228,000
Public Safety Debt Service	$30,591,958
Total	$43,231,958

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Office & Other Services*
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	13-14	72,479	8,958	8,440	10,290	13,340
Year 1	14-15	73,973	9,143	8,680	10,620	14,140
Year 2	15-16	75,467	9,327	8,940	10,950	14,950
Year 3	16-17	76,962	9,512	9,180	11,280	15,780
Year 4	17-18	78,455	9,697	9,440	11,610	16,620
Year 5	18-19	79,950	9,882	9,690	11,940	17,480
Year 6	19-20	81,444	10,066	9,940	12,270	18,350
Year 7	20-21	82,938	10,251	10,190	12,600	19,240
Year 8	21-22	84,028	10,385	10,410	12,810	19,760
Year 9	22-23	85,117	10,520	10,630	13,020	20,280
Year 10	23-24	86,205	10,655	10,840	13,230	20,820
Ten-Yr Increase		13,726	1,697	2,400	2,940	7,480
Fee Revenue =>		$28,701,000	$2,439,000	$1,317,000	$2,673,000	$8,016,000
					Total =>	$43,146,000

WATER FACILITIES IIP

ARS 9-463.05.T.7 (a) defines the facilities and assets which can be included as, "Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities." The Water Facilities IIP includes additional water resources, wells, treatment, storage and major lines.

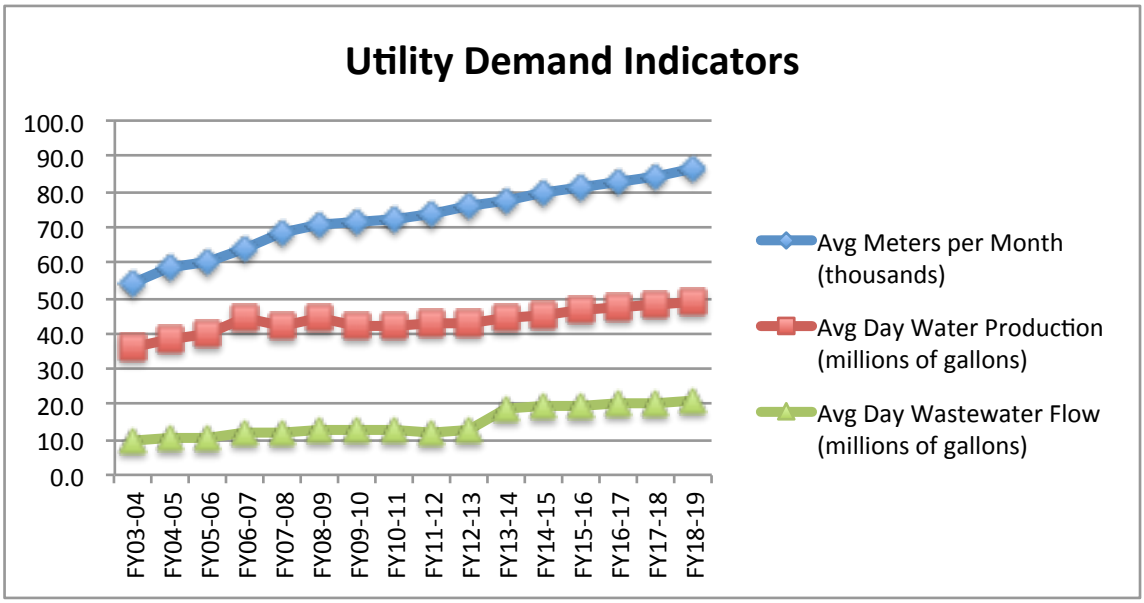
Water Service Area and Service Units

Potable water is supplied via an interconnected grid to all areas of Gilbert. New development in all areas of Gilbert will benefit from the planned improvements. Gilbert has one, town-wide service area for water. Average day gallons of potable water are the service units for water development fees.

Water Connections and Demand

From Schedule 16 in Gilbert's Comprehensive Annual Financial Report (CAFR FY ending 06/30/13), TischlerBise obtained ten years of historical data on utility connections, indicated by average monthly meters during the fiscal year. The same source includes average water production, graphed in Figure W1 in million gallons per day (MGD). TischlerBise used a linear regression analysis, with the projected increase in population and jobs as the independent variable, to forecast utility connections.

Figure W1 – Graph of Gilbert Utility Demand Indicators



Current Use and Available Capacity

Over the next ten years, utility connections are expected to increase from 77,863 in 2013 to 93,112 in 2023. Because detached housing is the dominant land use in Gilbert, the number of Equivalent Dwelling Units (EDU) closely approximates the number of utility connections. TischlerBise multiplied the number of future utility connections by 570 average daily gallons to yield projected water demand through 2030. Gilbert's average daily water demand is expected to increase from 44.38 MGD in 2013 to 53.07 MGD in 2023. Based on the projected demand for water, Gilbert staff determined that additional growth-related improvements are necessary.

Figure W2– Projected Water Demand

Year		Utility Connections	Million Gallons Per Avg Day	Annual Increase Connections	Annual Increase MGD	Cumulative Increase Connections	Cumulative Increase MGD
Past3	FY10-11	71,910	42.00				
Past2	FY11-12	73,469	43.00	1,559	1.00		
Past1	FY12-13	75,718	43.00	2,249	0.00		
Base	FY13-14	77,863	44.38	2,145	1.38		
Future1	FY14-15	79,564	45.35	1,701	0.97	1,701	0.97
Future2	FY15-16	81,265	46.32	1,701	0.97	3,402	1.94
Future3	FY16-17	82,966	47.29	1,701	0.97	5,103	2.91
Future4	FY17-18	84,667	48.26	1,701	0.97	6,804	3.88
Future5	FY18-19	86,368	49.23	1,701	0.97	8,505	4.85
Future6	FY19-20	88,069	50.20	1,701	0.19	10,206	5.82
Future7	FY20-21	89,770	51.17	1,701	0.19	11,907	6.79
Future8	FY21-22	90,884	51.80	1,114	0.13	13,021	7.42
Future9	FY22-23	91,998	52.44	1,114	0.13	14,135	8.06
Future10	FY23-24	93,112	53.07	1,114	0.13	15,249	8.69
Future11	FY24-25	94,226	53.71	1,114	0.13	16,363	9.33
Future12	FY25-26	95,340	54.34	1,114	0.13	17,477	9.96
Future13	FY26-27	96,454	54.98	1,114	0.13	18,591	10.60
Future14	FY27-28	97,568	55.61	1,114	0.13	19,705	11.23
Future15	F289-29	98,682	56.25	1,114	0.13	20,819	11.87
Future16	FY29-30	99,796	56.88	1,114	0.13	21,933	12.50
Future17	FY30-31	100,910	57.52	1,114	0.13	23,047	13.14

Excluded Costs

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert's comprehensive Capital Improvement Plan (CIP) includes the cost of these excluded items.

Need for Water Facilities

Figure W3 organizes infrastructure improvements into three general categories: water resources, water treatment, and wells/storage/lines. Gilbert will acquire an additional 17.85 MGD of surface water rights, costing $2.11 per gallon of capacity. Expansion of Santan Vista water treatment plant will costs $82.8

million and increase treatment capacity by 12 MGD, which is $6.90 per gallon of capacity. As shown at the bottom of the table below, wells, storage, and major lines over the next ten years have a total cost of $45.23 million. These projects will increase water capacity by 12 MGD, averaging $3.77 per gallon of capacity.

Figure W3– Water IIP Summary

Water Resources

#	Description	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	Years6-10	Total Project
WA052	Surface Water Rights (11,640 ac-ft per yr)	$8,488,000						$8,488,000
WA094	Water Rights Phase II (8,360 ac-ft per yr)				$29,252,000			$29,252,000
	Total	$8,488,000	$0	$0	$29,252,000	$0	$0	$37,740,000
							Gallons of Capacity per Day =>	17,850,000
							Cost per Gallon of Capacity =>	**$2.11**
							Ten-Year Increase in Gallons per Average Day	8,690,000
							Ten-Year Share of Cost	$18,370,000

Water Treatment

#	Description	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	Years6-10	Total Project
WA070	Santan Vista Phase II (12mgd)			$2,213,000	$28,465,000	$52,130,000		$82,808,000
							Gallons of Capacity per Day =>	12,000,000
							Cost per Gallon of Capacity =>	**$6.90**
							Ten-Year Increase in Gallons per Average Day	8,690,000
							Ten-Year Share of Cost	$59,970,000

Wells, Storage, and Lines

#	Description	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	Years6-10	Total Project
WA027	Cooley Station Well (2 mgd) and reservior (2 mg)			$900,000			$10,540,000	$11,440,000
WA062	Germann & Val Vista Reservoir (2 mg)			$1,396,000	$10,958,000			$12,354,000
WA067	Zone 2 to 4 Interconnect					$791,000		$791,000
WA071	Ray and Recker Well (2 mgd)						$5,514,000	$5,514,000
WA079	Appleby and Val Vista Well (2 mgd)			$579,000	$4,880,000			$5,459,000
WA080	Recker and Ocotillo Well			$1,796,000				$1,796,000
WA081	Direct System Well (2 mgd)						$5,713,000	$5,713,000
WA088	Warner and Recker Well (2 mgd)			$220,000	$1,944,000			$2,164,000
	Total	$0	$0	$4,891,000	$17,782,000	$791,000	$21,767,000	$45,231,000
							Gallons of Capacity per Day =>	12,000,000
							Cost per Gallon of Capacity =>	**$3.77**
							Ten-Year Increase in Gallons per Average Day	8,690,000
							Ten-Year Share of Cost	$32,750,000

Proposed Water Development Fee

Figure W4 summarizes capital cost factors for the water development fee. The first three line items are for future improvements in the IIP, as discussed above. According to the Town's master plan, Gilbert supplies 570 average day gallons of water per day for an Equivalent Dwelling Unit (EDU). The additional fee amounts for larger meters are derived using capacity ratios from the American Water Works Association.

Gilbert currently imposes multifamily residential development a water fee based on the number of units. A single residential unit, and all nonresidential development, is charged by meter size. TischlerBise recommends a simplified fee schedule based on meter size for all types of development. The preliminary water fee schedule shown below includes a 19% revenue credit, which is necessary to ensure projected fee revenue does not exceed the cost of growth-related infrastructure (see Figure W5). The recommended reduction compensates for the fact that utilities customers increase at a higher rate that water demand, as graphed above in Figure W1.

Figure W4 – Water Development Fees

Input Variables	*Cost per Gallon of Average Day Capacity*	
Water Resources	$2.11	
Water Treatment	$6.90	
Wells, Storage, and Lines	$3.77	
Revenue Credit per Meter =>	($2.43)	19%
Net Cost per Meter =>	$10.35	
Average Day Gallons of Capacity per ERU =>	570	
IIP and Development Fee Preparation Cost per Meter =>	$2.65	

All Development (per meter)

*Meter Size (inches)**	*Capacity Ratio*	*Proposed Water Connection Fee*	*Current Fee (Development plus Resources)*	*$ Change*	*Percent Change*
0.75	1.00	$5,901	$6,937	($1,036)	-15%
1.00	1.67	$9,854	$12,199	($2,345)	-19%
1.50	3.33	$19,646	$27,933	($8,287)	-30%
2.00	5.33	$31,444	$47,700	($16,256)	-34%

** Fees for meters larger than four inches will be based on annualized average day demand and the net capital cost per gallon of capacity.*

Forecast of Revenues

Appendix A provides the forecast of revenues required by Arizona's enabling legislation.

Projected Revenue for Water Facilities

Over the next ten years, Gilbert has identified a need for approximately $111 million in growth-related water improvements, including $18.37 million in additional water rights, $59.97 million for water treatment capacity, and $32.75 million for wells, storage, and major lines. As shown at the bottom of Figure W5, projected water fee revenues matches the cost of growth-related water improvements.

Figure W5 – Water Fee Revenue Forecast

Ten-Year Growth-Related Costs for Water Facilities

Water Resources	$18,370,000
Water Treatment	$59,970,000
Wells, Storage, and Lines	$32,750,000
Total	$111,090,000

	Year	*Single Unit* $5,901 per connection	*2+ Units and Nonresidential* $19,646 per 1.5" connection
		Connections	*Connections*
Base	2013	72,479	5,384
Year 1	2014	73,973	5,591
Year 2	2015	75,467	5,798
Year 3	2016	76,962	6,004
Year 4	2017	78,455	6,212
Year 5	2018	79,950	6,418
Year 6	2019	81,444	6,625
Year 7	2020	82,938	6,832
Year 8	2021	84,028	6,856
Year 9	2022	85,117	6,881
Year 10	2023	86,205	6,907
	Ten-Yr Increase	13,726	1,523
	Projected Fees =>	$81,000,000	$29,920,000
	Total Projected Revenues (rounded) =>		$110,920,000

WASTEWATER FACILITIES IIP

ARS 9-463.05.T.7 (b) defines the wastewater facilities as "Wastewater facilities, including collection, interception, transportation, treatment, and disposal of wastewater, and any appurtenances for those facilities." The wastewater facilities development fee includes cost recovery for components with surplus capacity and the growth-related cost of planned improvements.

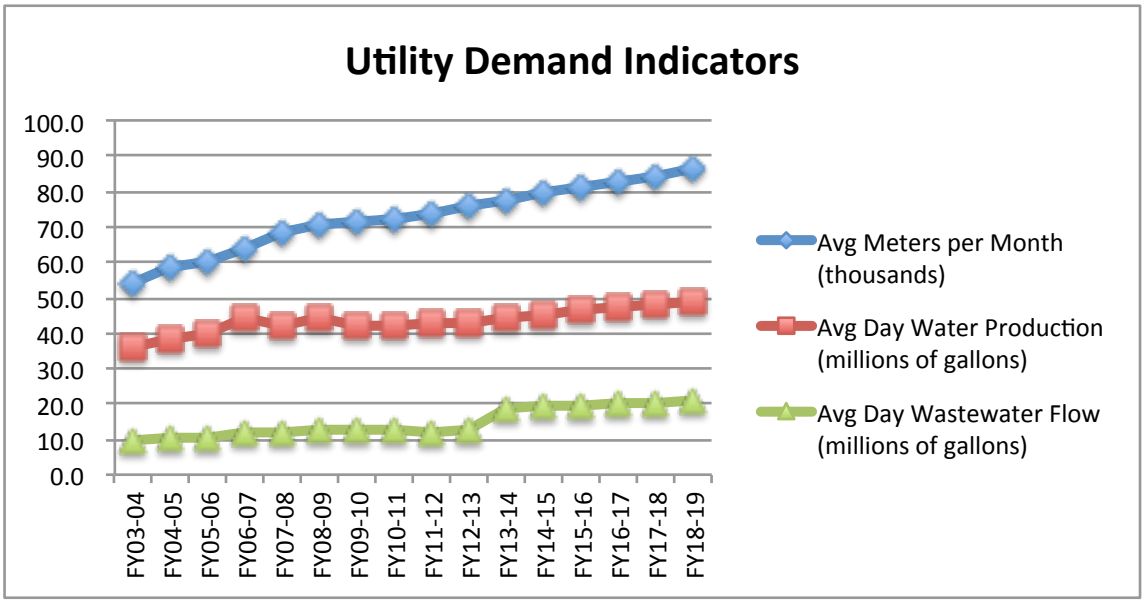
Existing Facilities and Service Areas

The Town has two wastewater service areas, with north Gilbert served by the Neely Water Reclamation Facility (WRF) and south Gilbert served by the Greenfield plant. Separate IIPs and fee schedules have been prepared for both service areas.

Wastewater Connections and Flow

From Schedule 16 in Gilbert's Comprehensive Annual Financial Report (CAFR FY ending 06/30/13), TischlerBise obtained ten years of historical data on utility connections, indicated by average monthly meters during the fiscal year. The same source includes average day wastewater flow, measured in million gallons per day (MGD). As graphed in Figure WW1, TischlerBise used a linear regression analysis, with the projected increase in population and jobs as the independent variable, to forecast utility connections.

Figure WW1 – Graph of Gilbert Utility Connections and Wastewater Flow



Current Use and Available Capacity

In Gilbert, water and sewer connections are approximately equal, so the same projection of utility connections was used for the wastewater analysis. According to the latest socioeconomic projections from Maricopa Association of Governments (MAG June 2013), Gilbert's rate of population and job growth decreases after 2020, which reduces the annual increase in connections. Additional information on Gilbert's land use assumptions is available in Appendix C.

To yield projected sewer demand through 2030, TischlerBise multiplied the number of future utility connections by a weighted average of the EDU demand factors for the north and south service areas. Based on population and jobs in 2013, 59% of utility connections are in the north service area, where an EDU produces 248 gallons of wastewater flow on an average day, and 41% of connections are in the south, where an EDU produces 232 gallons of wastewater flow on an average day. By 2023, the projected customer mix is 54% in the north and 46% in the south.

As shown in Figure WW2, Gilbert's average daily sewer flow is expected to increase from 18.8 MGD in 2013 to 22.4 MGD in 2023. Based on the projected demand for wastewater, Gilbert staff determined that additional growth-related improvements are necessary.

Figure WW2 – Sewer Connections and Average Day Gallons

Year		Utility Connections	Million Gallons Per Avg Day	Annual Increase Connections	Annual Increase MGD	Cumulative Increase Connections	Cumulative Increase MGD
Past3	FY10-11	71,910	12.67				
Past2	FY11-12	73,469	12.18				
Past1	FY12-13	75,718	12.90				
Base	FY13-14	77,863	18.80				
Future1	FY14-15	79,564	19.21	1,701	0.40	1,701	0.40
Future2	FY15-16	81,265	19.61	1,701	0.40	3,402	0.80
Future3	FY16-17	82,966	20.01	1,701	0.40	5,103	1.20
Future4	FY17-18	84,667	20.41	1,701	0.40	6,804	1.61
Future5	FY18-19	86,368	20.81	1,701	0.40	8,505	2.01
Future6	FY19-20	88,069	21.21	1,701	0.08	10,206	2.41
Future7	FY20-21	89,770	21.61	1,701	0.08	11,907	2.81
Future8	FY21-22	90,884	21.88	1,114	0.05	13,021	3.07
Future9	FY22-23	91,998	22.14	1,114	0.05	14,135	3.33
Future10	FY23-24	93,112	22.40	1,114	0.05	15,249	3.60
Future11	FY24-25	94,226	22.66	1,114	0.05	16,363	3.86
Future12	FY25-26	95,340	22.93	1,114	0.05	17,477	4.12
Future13	FY26-27	96,454	23.19	1,114	0.05	18,591	4.38
Future14	FY27-28	97,568	23.45	1,114	0.05	19,705	4.65
Future15	F289-29	98,682	23.71	1,114	0.05	20,819	4.91
Future16	FY29-30	99,796	23.98	1,114	0.05	21,933	5.17
Future17	FY30-31	100,910	24.24	1,114	0.05	23,047	5.43

Wastewater Facilities Expansion and Cost

Neely WRF has sufficient capacity for projected development over the next ten years. As shown in Figure WW3 the latest expansion of the northern plant had a cost of $10.93 per gallon of capacity. The wastewater development fee for the Neely Service Area includes a cost recovery component for available capacity in the Neely plant.

Given the significant difference in the cost per gallon of capacity for the initial construction of Greenfield WRF verses the planned expansion, TischlerBise recommends combining the cost and capacity of both phases. As shown in the table below, the combined cost of treatment capacity at Greenfield is $13.41 per gallon of capacity. This cost factor includes both principal and interest.

Figure WW3 – Wastewater Treatment Cost

Cost Recovery for Neely WRF Expansion

Total Cost	$27,349,000
Additional Capacity (average day gallons)	2,500,000
Cost per Gallon of Capacity	$10.93
Ten-Year Increase in Gallons per Average Day	1,247,000
Ten-Year Share of Cost	$13,640,000

Greenfield WRF	*Initial Plant*	*Expansion*	*Combined*
Project Cost*	$169,400,000	$45,245,000	$214,645,000
Additional Capacity (avg day gallons)	8,000,000	8,000,000	16,000,000
Cost per Gallon of Capacity	$21.17	$5.65	$13.41

** Principal plus interest*

Ten-Year Increase in Gallons per Average Day	3,070,000
Ten-Year Share of Cost	$41,190,000

In the north service area, Gilbert will replace an existing lift station and force main, with the new facilities sized to accommodate the ultimate capacity of the Neely plant. The average daily wastewater flow to this plant is currently 8 MGD and the plant has capacity for 11 MGD. The 38% growth share for WW070 is based on the remaining capacity in the northern plant.

Gilbert currently averages 60 gallons of wastewater flow for every person and job. Assuming this average holds constant, the projected increase in Neely Service Area population and jobs should increase wastewater flow by approximately 1.25 MGD over the next ten years. The recovery well cost (WW089) was allocated to the ten-year increase in wastewater flow, yielding a cost of $0.71 per gallon of capacity, as shown in Figure WW4.

Figure WW4– Wastewater IIP in Neely Service Area

Wastewater Collection System - Neely

#	*Description*	*FY13-14*	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*Years6-10*	*Total Project*
WW070	Candlewood Lift Station & Force Main (38% growth share)	$35,000		$251,000	$2,177,000			$2,463,000
								$0
	Total	$35,000	$0	$251,000	$2,177,000	$0	$0	$2,463,000
							Ten-Year Increase in Gallons of Capacity per Day =>	1,247,000
							Cost per Gallon of Capacity =>	**$1.98**

Reclaimed Water Reuse/Recharge - Neely

#	*Description*	*FY13-14*	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*Years6-10*	*Total Project*
WW089	Recovery Well						$887,000	$887,000
								$0
	Total	$0	$0	$0	$0	$0	$887,000	$887,000
							Ten-Year Increase in Gallons of Capacity per Day =>	1,247,000
							Cost per Gallon of Capacity =>	**$0.71**

Planned wastewater improvements in the south service area are shown in Figure WW5. In a similar manner, the ten-year increase in population and jobs should increase wastewater flow in the Greenfield Service Area by 3.07 MGD over the next ten years. The total cost of planned improvements allocated to the increase in wastewater flow, yields a cost of $4.24 per gallon of capacity.

Figure WW5– Wastewater IIP in Greenfield Service Area

Reclaimed Water Reuse/Recharge - Greenfield

#	Description	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	Years6-10	Total Project
WW044	Valve Stations				$533,000			$533,000
WW072	Germann and Higley 18" Main				$648,000	$4,861,000		$5,509,000
WW077	South Recharge Site Phase II			$523,000	$132,000	$5,212,000		$5,867,000
WW078	Pump Station Expansion			$104,000	$700,000	$294,000		$1,098,000
								$0
	Total	$0	$0	$627,000	$2,013,000	$10,367,000	$0	$13,007,000
							Ten-Year Increase in Gallons of Capacity per Day =>	3,070,000
							Cost per Gallon of Capacity =>	**$4.24**

Wastewater Development Fees in Neely Service Area

Proposed development fees for wastewater facilities in the Neely Service Area are shown in Figure WW6. For nonresidential development, the fee is equal to the net capital cost per gallon of capacity multiplied by the EDU demand factor of 248 gallons of wastewater flow on an average day. The EDU demand factor is in the FY06-11 CIP description for the Neely Plant expansion. For meters larger than 0.75 inches, a capacity ratio converts the fee per EDU to a proportionate fee based on hydraulic capacity.

Gilbert currently imposes residential development a wastewater fee based on the number of units. TischlerBise recommends a simplified fee schedule based on meter size for all types of development. The preliminary wastewater fee schedule shown below includes a 6% revenue credit, which is necessary to ensure projected fee revenue does not exceed the cost of growth-related infrastructure (see Figure WW7). The recommended reduction compensates for the fact that utilities customers increase at a higher rate that wastewater demand, as graphed above in Figure WW1.

Figure WW6– Neely Wastewater Development Fee Schedule

Neely Service Area	*Cost per Gallon of Average Day Capacity*	
Cost Recovery for Wastewater Treatment	$10.93	
Wastewater Collection System IIP	$1.98	
Reclaimed Water Reuse/Recharge IIP	$0.71	
Revenue Credit	($0.82)	6%
Net Capital Cost per Gallon of Capacity	$12.80	
IIP and Development Fee Preparation Cost per Customer =>	$2.65	
Average Day Gallons of Capacity per ERU =>	248	

All Development (per meter)

*Meter Size (inches)**	*Capacity Ratio*	*Proposed Sewer Fee*	*Current Fee*	*$ Change*	*Percent Change*
0.75	1.00	$3,176	$5,866	($2,690)	-46%
1.00	1.67	$5,302	$9,777	($4,475)	-46%
1.50	3.33	$10,570	$19,553	($8,983)	-46%
2.00	5.33	$16,917	$31,285	($14,368)	-46%

** Fees for meters larger than two inches will be based on annualized average day demand and the net capital cost per gallon of capacity.*

Forecast of Revenues

Appendix A provides the forecast of revenues required by Arizona's enabling legislation.

Development Fee Revenue in Neely Service Area

Over the next ten years, Gilbert has identified a need for approximately $16.99 million in growth-related wastewater improvements in the Neely service area, including $13.64 million for wastewater treatment, $2.46 million for the wastewater collection system, and $0.89 million for reuse and recharge improvements. As shown at the bottom of Figure WW7, projected wastewater fee revenue matches the cost of growth-related wastewater improvements in the Neely service area.

Figure WW7 – Projected Neely Sewer Fee Revenue

Ten-Year Growth-Related Costs for Neely Service Area Wastewater Facilities

Wastewater Treatment	$13,640,000
Wastewater Collection System	$2,463,000
Reclaimed Water Reuse/Recharge	$887,000
Total	$16,990,000

	Year	*Single Unit* $3,176 per connection	*2+ Units and Nonresidential* $10,570 per 1.5" connection
		Neely Connections	*Neely Connections*
Base	2013	41,273	4,983
Year 1	2014	41,578	5,091
Year 2	2015	41,883	5,204
Year 3	2016	42,190	5,319
Year 4	2017	42,495	5,440
Year 5	2018	42,801	5,563
Year 6	2019	43,106	5,691
Year 7	2020	43,412	5,820
Year 8	2021	43,706	5,773
Year 9	2022	44,000	5,728
Year 10	2023	44,294	5,683
	Ten-Yr Increase	3,021	700
	Projected Fees =>	$9,590,000	$7,400,000
	Total Projected Revenues (rounded) =>		$16,990,000

Wastewater Development Fees in Greenfield Service Area

Based on information in the projection description for WW075 in the Town's FY13-18 CIP, the EDU demand factor in the Greenfield Service Area is 232 average day gallons. In addition to the wastewater treatment plant construction cost, the Greenfield plant expansion will require bond financing. At 4% annual interest and a 20-year bond term, the cumulative interest cost for the Greenfield expansion is expected to be approximately $14.8 million. In combination, the principal and interest cost for the 8 MGD expansion is $13.41 per gallon of capacity.

Residential development currently pays a wastewater fee based on the number of units. TischlerBise recommends a simplified fee schedule based on meter size for all types of development. The preliminary wastewater fee schedule shown below includes a 2% revenue credit, which is necessary to ensure projected fee revenue does not exceed the cost of growth-related infrastructure (see Figure WW8). The recommended reduction compensates for the fact that utilities customers increase at a higher rate that wastewater demand, as graphed above in Figure W1.

Figure WW8– Greenfield Wastewater Development Fee Schedule

Greenfield Service Area	*Cost per Gallon of Average Day Capacity*	
Wastewater Collection System	$0.00	
Wastewater Treatment	$13.41	
Reclaimed Water Reuse/Recharge	$4.24	
Revenue Credit	($0.35)	2%
Net Capital Cost per Gallon of Capacity	$17.30	
Average Day Gallons of Capacity per ERU =>	232	
IIP and Development Fee Preparation Cost per Customer =>	$2.65	

All Development (per meter)

*Meter Size (inches)**	*Capacity Ratio*	*Greenfield Sewer Connection Fee*	*Current Fee*	*$ Change*	*Percent Change*
0.75	1.00	$4,015	$5,866	($1,851)	-32%
1.00	1.67	$6,704	$9,777	($3,073)	-31%
1.50	3.33	$13,365	$19,553	($6,188)	-32%
2.00	5.33	$21,391	$31,285	($9,894)	-32%

** Fees for meters larger than two inches will be based on annualized average day demand and the net capital cost per gallon of capacity.*

Forecast of Revenues

Appendix A provides the forecast of revenues required by Arizona's enabling legislation.

Development Fee Revenue in Greenfield Service Area

Over the next ten years, Gilbert has identified a need for approximately $54.2 million in growth-related wastewater improvements in the Greenfield service area, including $41.2 million for wastewater treatment and $13 million for reuse and recharge improvements. As shown at the bottom of Figure W9, projected wastewater fee revenue matches the cost of growth-related water improvements.

Figure WW9 – Projected Greenfield Sewer Fee Revenue

Ten-Year Growth-Related Costs for Greenfield Service Area Wastewater Facilities

Wastewater Treatment	$41,190,000
Reclaimed Water Reuse/Recharge	$13,007,000
Total	$54,197,000

	Year	*Single Unit* $4,015 per connection	*2+ Units and Nonresidential* $13,365 per 1.5" connection
		Greenfield Connections	*Greenfield Connections*
Base	2013	31,206	401
Year 1	2014	32,395	500
Year 2	2015	33,583	595
Year 3	2016	34,772	685
Year 4	2017	35,960	772
Year 5	2018	37,149	855
Year 6	2019	38,338	934
Year 7	2020	39,527	1,010
Year 8	2021	40,321	1,083
Year 9	2022	41,117	1,153
Year 10	2023	41,912	1,223
	Ten-Yr Increase	10,706	822
	Projected Fees =>	$42,980,000	$10,990,000
	Total Projected Revenues (rounded) =>		$53,970,000

APPENDIX A – FORECAST OF REVENUES OTHER THAN FEES

ARS 9-463.05.E.7 requires "A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."

ARA 9-463.05.B.12 states, "The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection."

Gilbert does not have a higher than normal construction excise tax rate, so the required offset described above is not applicable. The required forecast of non-development fee revenue that might be used for growth-related capital costs is shown in Figure A1. General Fund revenues are highlighted in light purple. Highway User Taxes are highlighted light grey and Net Available Water and Sewer Revenue is highlighted light blue. The forecast of revenues was derived from a linear regression analysis. Historical revenue data for the past ten years, obtained from CAFR Schedules 2 and 12 (FY ending 06/30/13), were correlated to the growth in population and jobs in Gilbert. Projected population plus jobs, from the land use assumptions, is the independent variable that drives each revenue forecast.

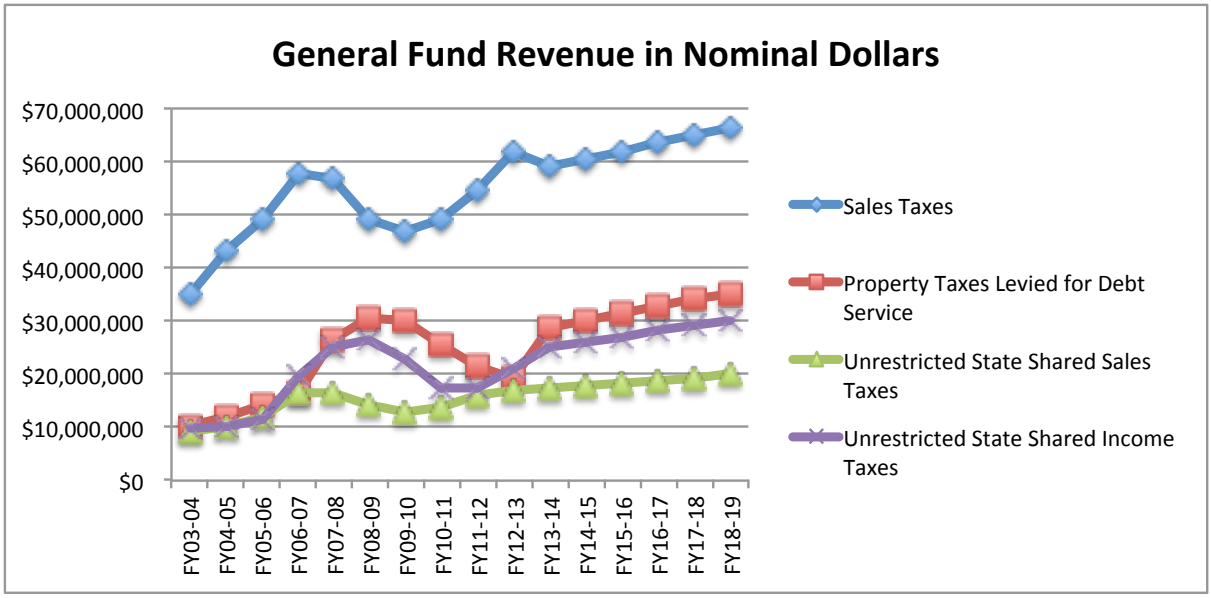
Figure A1 – Five-Year Revenue Projections

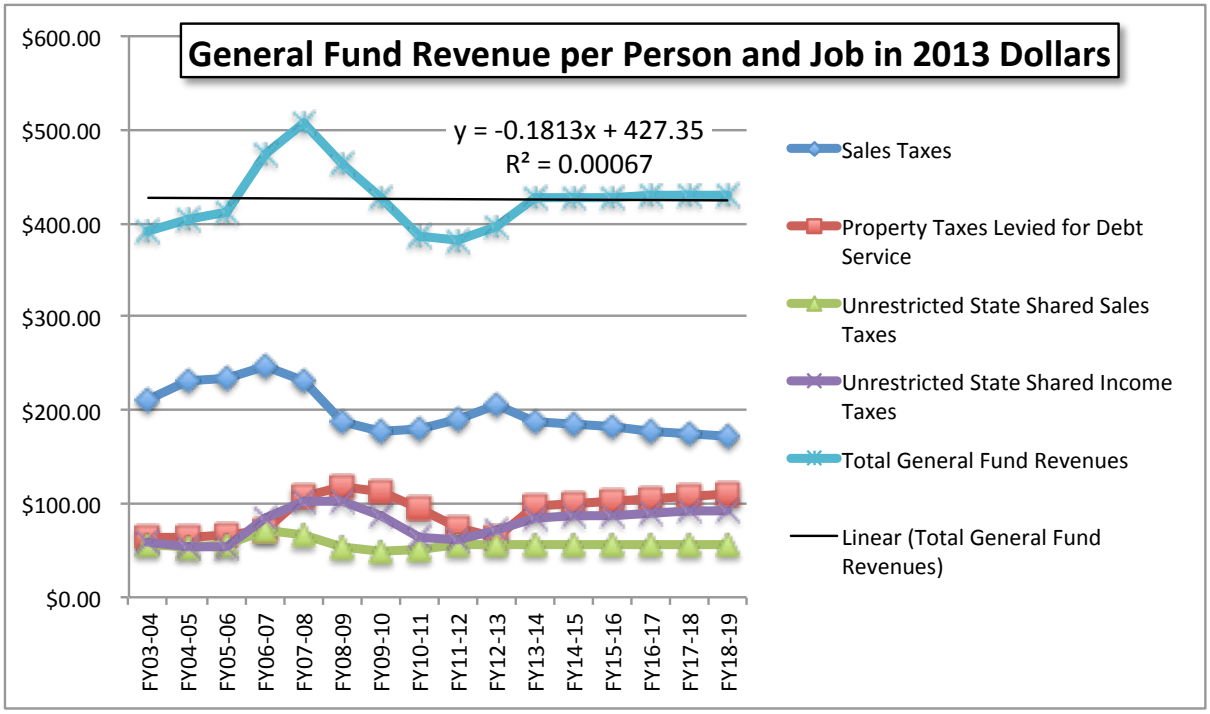
Forecast of Revenues in Nomimal Dollars

	FY13-14	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*FY18-19*
Sales Taxes	$59,345,445	$60,738,081	$62,130,718	$63,523,354	$64,915,990	$66,308,627
Property Taxes Levied for Debt Service	$28,906,356	$30,184,163	$31,461,971	$32,739,778	$34,017,585	$35,295,393
Unrestricted State Shared Sales Taxes	$17,301,345	$17,834,372	$18,367,398	$18,900,425	$19,433,451	$19,966,478
Unrestricted State Shared Income Taxes	$24,985,227	$26,042,907	$27,100,587	$28,158,267	$29,215,948	$30,273,628
Total General Fund Revenues	$130,538,373	$134,799,523	$139,060,674	$143,321,824	$147,582,975	$151,844,126
	FY13-14	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*FY17-19*
Highway User Taxes	$11,990,541	$12,268,666	$12,546,790	$12,824,914	$13,103,039	$13,381,163
	FY13-14	*FY14-15*	*FY15-16*	*FY16-17*	*FY17-18*	*FY17-19*
Net Available Water and Sewer Revenue	$26,347,593	$27,790,840	$29,234,086	$30,677,333	$32,120,580	$33,563,826

The graph at the top of Figure A2 gives the impression that General Fund revenues are expected to increase over the next five years. When nominal dollars are converted to constant 2013 dollars, to account for inflation, and then divided by persons plus jobs in Gilbert, to "normalize" the amounts for population and job growth, the results are very different. As shown in the lower portion of Figure A2, projected revenues in constant 2013 dollars are projected to decline relative to population and job growth. In other words, there is no General Fund fiscal surplus available for growth-related capital improvements. The projected increase in General Fund revenue will be offset by an increase in operating, maintenance, and replacement capital costs.

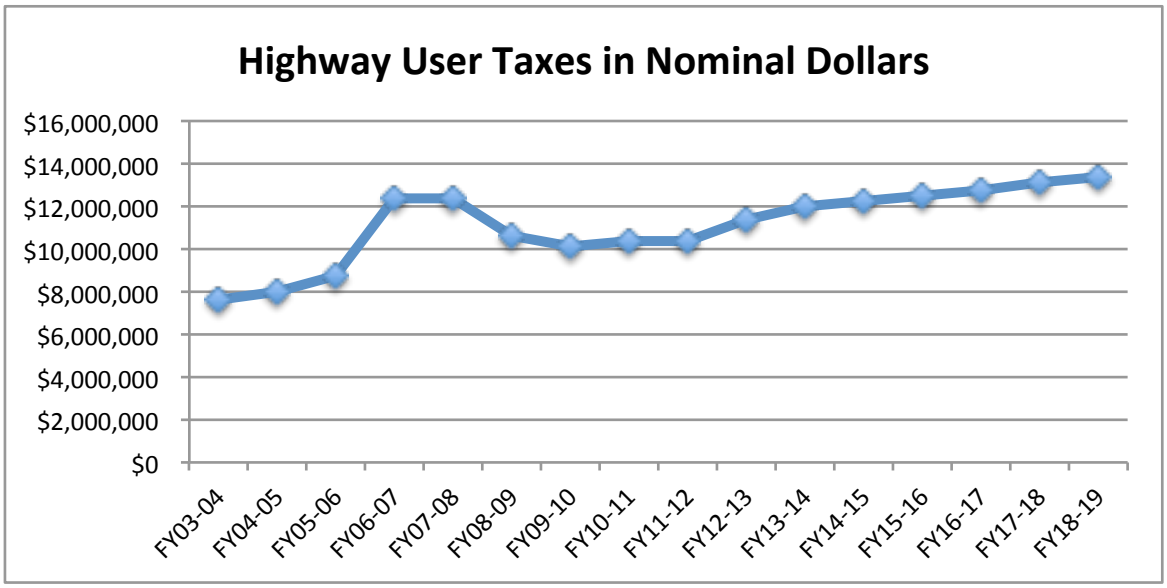
Figure A2 – Graph of General Fund Revenues

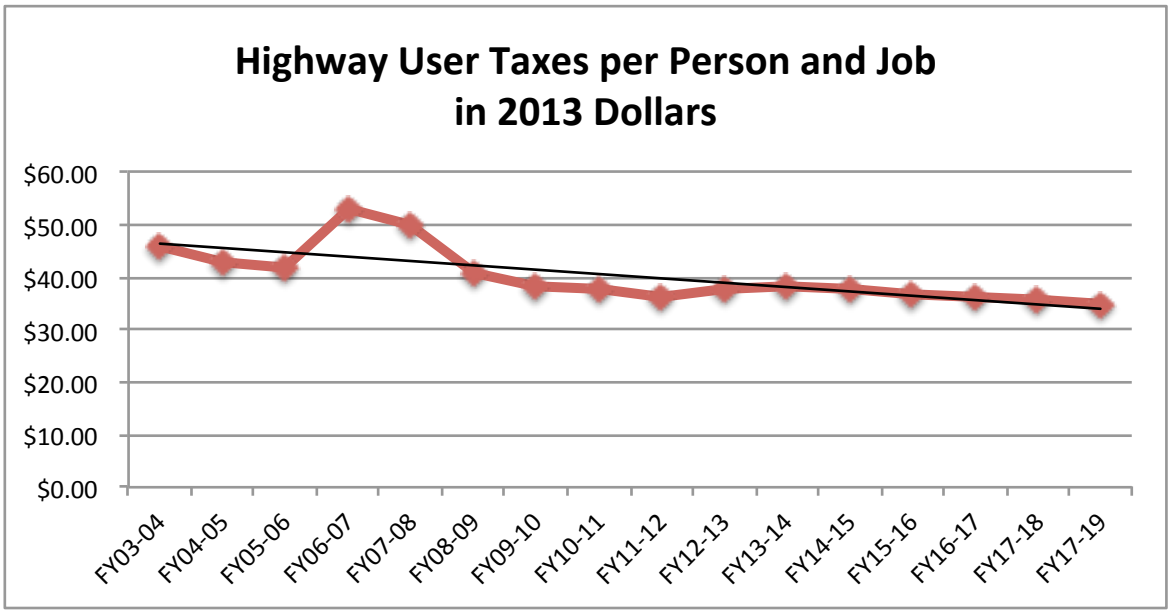




The methodology described above was also applied to Highway User Tax revenue, with the results graphed in Figure A3. The "gas tax" funding pattern in Gilbert has shown a consisten decline, when measured in constant dollars and normalized by the increase in population and jobs. Essentially, Gilbert has increasing traffic but decreasing dollars that are used for maintenance of existing street facilities.

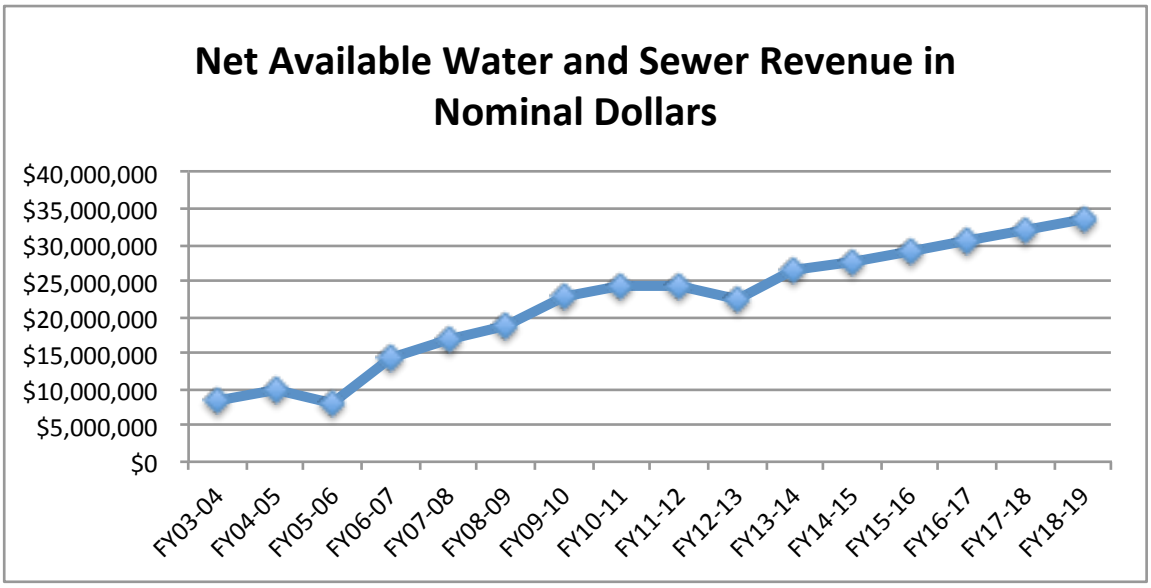
Figure A3 – Graph of Highway User Fund Revenue

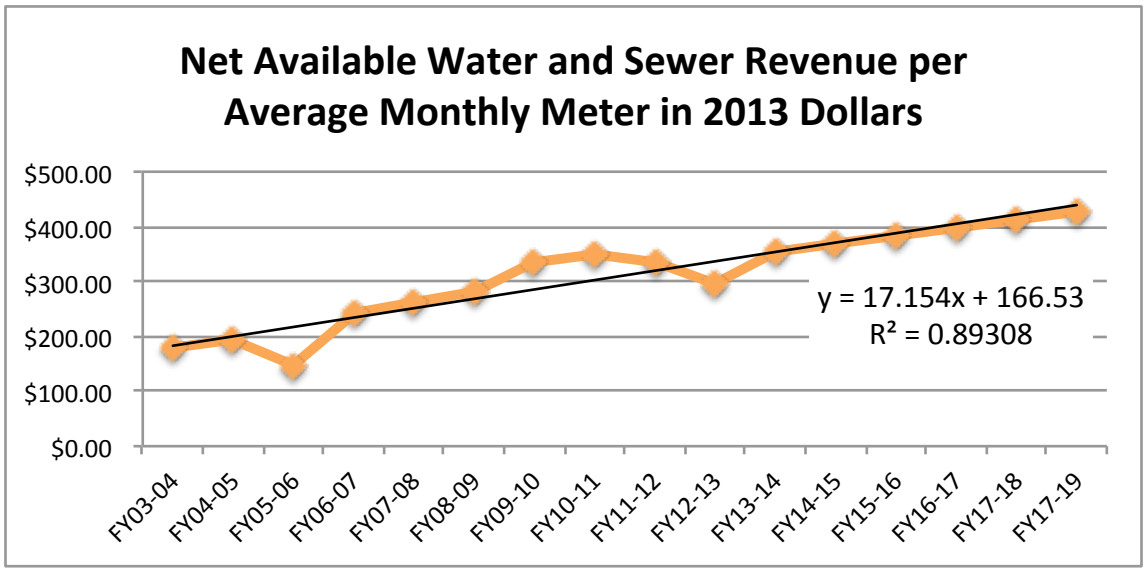




In contrast to the General Fund and Highway User Tax analysis shown above, net available water and sewer revenue has increased over time. As explained in a footnote to Schedule 12, net available revenue is combined operating revenues and expenses for Water and Wastewater Funds, less debt service payments for water and wastewater revenue bonds. As Gilbert retires existing debt obligations, net available revenue increases, which allows the Town to either borrow more money in the future or reduce utility user charges (i.e. water and sewer rates).

Figure A3 – Graph of Utility Fund Revenue





APPENDIX B – COST OF PROFESSIONAL SERVICES

As stated in Arizona's development fee enabling legislation, "a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan" (see 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience".

Figure B1 – Cost of Professional Services

Necessary Public Service	*Cost*	*Demand Indicator*	*Proportionate Share*	*Allocation Unit*	*Five-Year Service Unit Increase*	*Cost per Unit*
Water and Sewer	$45,216	All Development	100%	Water plus Sewer Connections	17,010	$2.65
Traffic Signals	$21,352	All Development	100%	PM Peak Vehicle Trip Ends	18,037	$1.18
Parks and Recreation (includes Master Plan)	$217,584	Residential	91%	Population	23,341	$8.48
		Nonresidential	9%	Jobs	16,786	$1.16
Police	$12,560	Residential	81%	Population	23,341	$0.43
		Nonresidential	19%	Nonresidential PM-Peak Vehicle Trip Ends	10,468	$0.22
Fire	$15,072	Residential	62%	Population	23,341	$0.40
		Nonresidential	38%	Jobs	16,786	$0.34
General Government	$13,816	Residential	81%	Population	23,341	$0.47
		Nonresidential	19%	Jobs	16,786	$0.15
	$325,600	Total Professional Services				

APPENDIX C – LAND USE ASSUMPTIONS

ARS 9-463.05.T.6 requires preparation of land use assumptions with "projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality."

TischlerBise prepared current demographic ***estimates*** and future development ***projections*** for both residential and nonresidential development that will be used in the Infrastructure Improvement Plan (IIP) and calculation of the development fees. Demographic data estimates for FY13-14 (beginning July 1, 2013) are used in calculating levels-of-service (LOS) provided to existing development in the Town of Gilbert.

Although long-range projections are necessary for planning capital improvements, a shorter time frame of five to ten years is critical for the impact fees analysis. Arizona's Development Fee Act requires fees to be updated at least every five years and limits the IIP to a maximum of ten years. Therefore, the use of a very long-range "build-out" analysis is no longer acceptable for deriving development fees in Arizona municipalities.

Growth Indicators

Development projections and growth rates are summarized in Figure C1. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, impact fees methodologies are designed to reduce sensitivity to accurate development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, impact fees revenues will also decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, the Town will receive an increase in impact fee revenue, but will also need to accelerate the capital improvements program to keep pace with development.

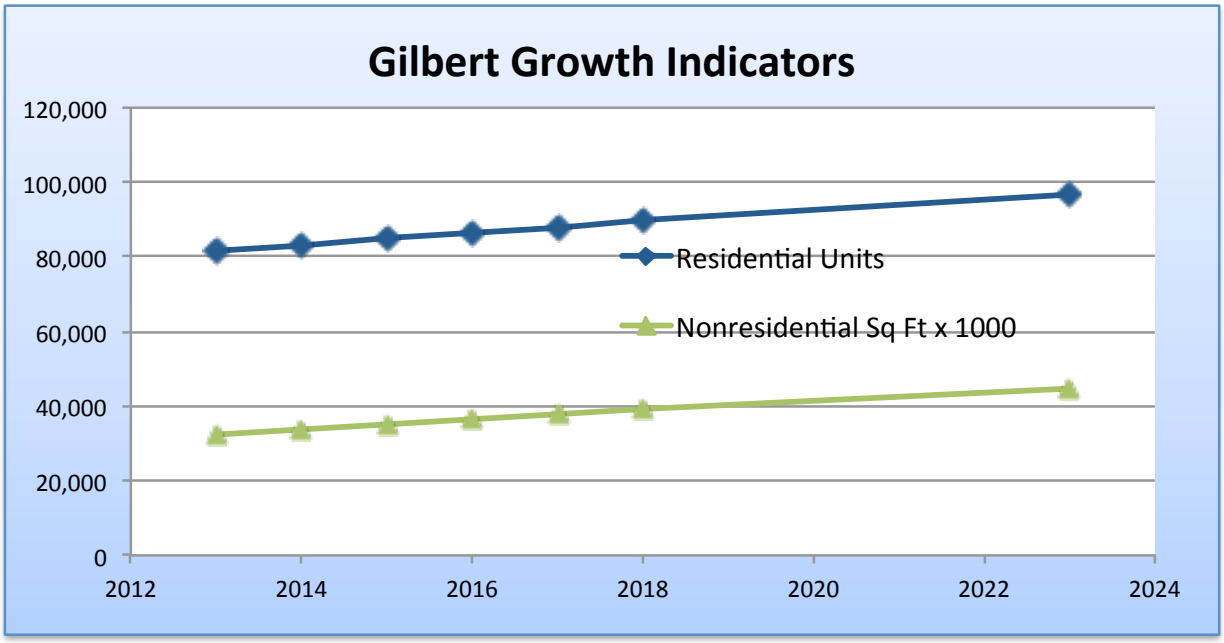
Over the next five years, the development fee study assumes an average increase of 1,679 housing units per year in the Gilbert Municipal Planning Area (MPA), which equates to a linear annual growth rate 2.1%. In comparison, building permit records over the past five years indicate the Town of Gilbert increased by an average of 1,500 dwelling units per year.

Over the next five years, the development fee study assumes an average increase of approximately 1.4 million square feet of nonresidential floor area per year in the Gilbert MPA, which equates to a linear annual growth rate 4.4%. In comparison, building permit records over the past five years indicate the Town of Gilbert averaged increases of almost 2.6 million square feet of nonresidential development per year.

Figure C1 – Development Projections and Growth Rates

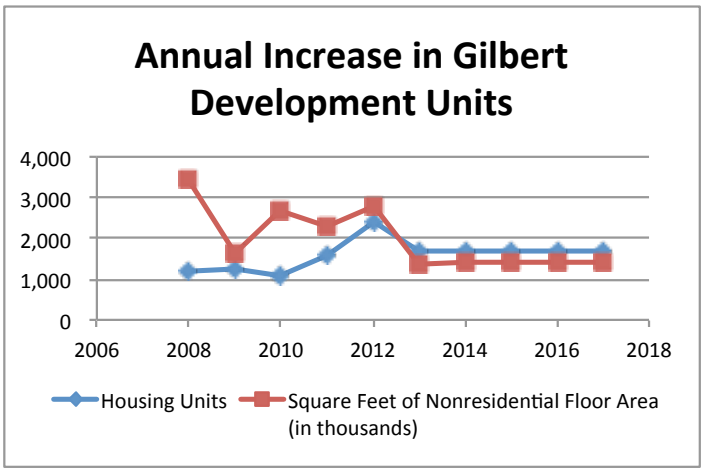
Gilbert, Arizona

	Year							2013 to 2018 Average Annual	
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2023*	*Increase*	*Linear Growth Rate*
Residential Units	81,437	83,116	84,794	86,474	88,152	89,832	96,860	1,679	2.1%
Nonresidential Sq Ft x 1000	32,070	33,440	34,840	36,240	37,670	39,110	44,890	1,408	4.4%



Gilbert, AZ

		Annual Increase	
		Housing Units	Square Feet of Nonresidential Floor Area (in thousands)
Calendar Year	2008	1,176	3,451
Calendar Year	2009	1,278	1,646
Calendar Year	2010	1,060	2,684
Calendar Year	2011	1,575	2,307
Calendar Year	2012	2,411	2,807
FY13-14	2013	1,679	1,370
FY14-15	2014	1,678	1,400
FY15-16	2015	1,680	1,400
FY16-17	2016	1,678	1,430
FY17-18	2017	1,680	1,440
Avg Past Five Years =>		1,500	2,579
Avg Future Five Years =>		1,679	1,408



Residential Development

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

Recent Residential Construction

Since 2000, Gilbert has increased by an average of 3,790 housing units per year. Figure C2 indicates the estimated number of housing units added by decade in Gilbert. Consistent with the nationwide decline in development activity, residential construction in the Town has slowed significantly since 2008. Even with the recent drop in housing starts, Gilbert added more units during the past decade than any previous decade. In comparison to the past decade, the projected increase from 2010 to 2020 is 16,789 dwelling units in the Gilbert MPA (note: the Municipal Planning Area includes incorporated and unincorporated land, as shown in Figure C10).

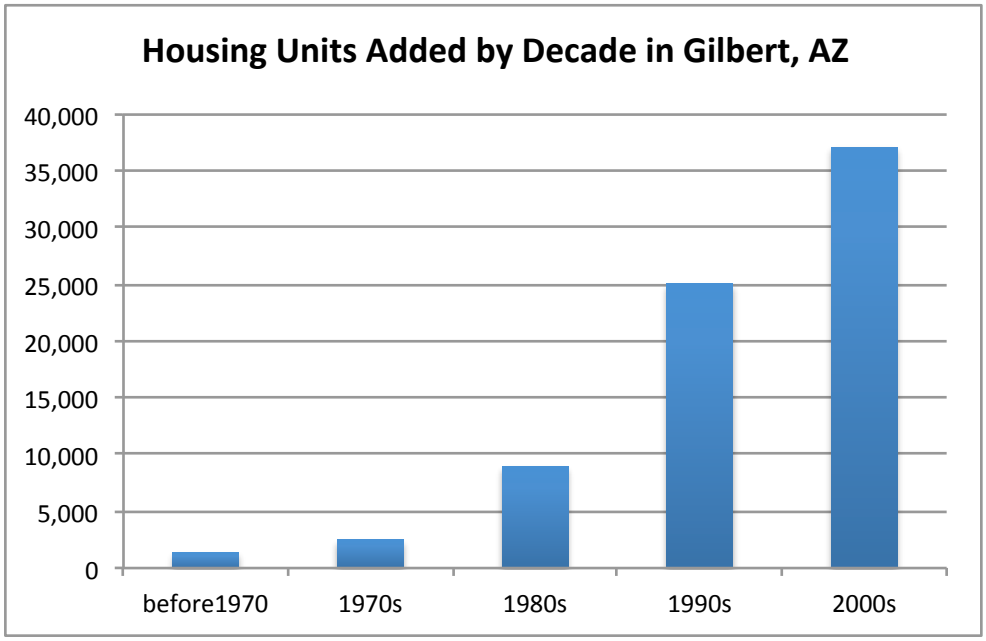
Figure C2 – Housing Units by Decade

Gilbert, Arizona

Census 2010 Population*	208,453
Census 2010 Housing Units*	74,907
Total Housing Units in 2000	37,007
New Housing Units	37,900

From 2000 to 2010, Gilbert added an average of 3,790 housing units per year.

** U.S. Census Bureau SF1.*



Source for 1990s and earlier is Table B25034, American Community Survey, 2010.

Population Forecast

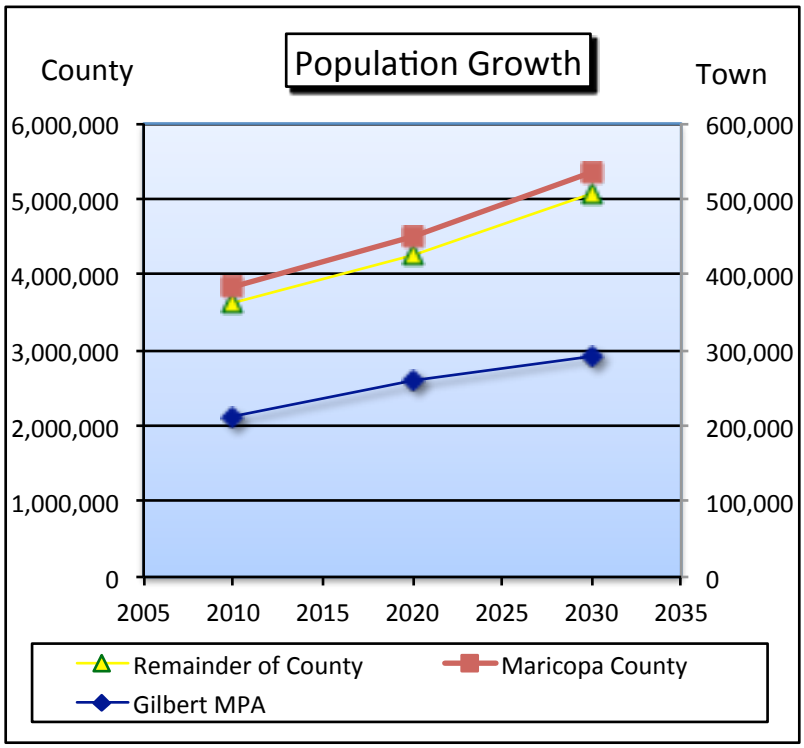
To provide context for population and job growth in Gilbert, TischlerBise prepared comparisons to Maricopa County projections. Figure C3 indicates the Town of Gilbert expects to gain population share from 2010 to 2020, but then decrease population share from 2020 to 2030. Total population for

Maricopa County and Gilbert's Municipal Planning Area (MPA) are from Maricopa Association of Governments (MAG) socioeconomic projections by Traffic Analysis Zone (TAZ), approved in June 2013. Total population includes group quarters, in contrast to resident population that excludes group quarters.

Figure C3 – Gilbert Population Share

	2010	***2020***	***2030***
Maricopa County	3,823,900	4,507,300	5,359,400
Gilbert MPA	212,400	259,100	293,100
Remainder of County	3,611,500	4,248,200	5,066,300
Town Share	5.6%	5.7%	5.5%

Source: Municipal Planning Area projections from Maricopa Association of Governments, June 2013.



Persons per Housing Unit

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For development fees in Gilbert, "single-unit" residential includes detached units (both stick-built and manufactured) and townhouses that share a common sidewall but are constructed on an individual parcel of land. The second residential category includes all structures with two or more units on an individual parcel of land.

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Impact fees often use per capita standards and persons per housing unit or persons per household to derive proportionate-share fee amounts. When persons per housing unit are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household are used in the fee calculations, the impact fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards.

TischlerBise recommends that impact fees for residential development in the Town of Gilbert be imposed according to the number of year-round residents per housing unit. As shown in Figure C4, 2010 census counts indicate Gilbert had 74,907 housing units, with an average of 2.78 persons per housing unit. The land use assumptions hold this average constant over the next ten years.

Figure C4 – Year-Round Persons per Unit by Type of Housing

2011 Summary by Type of Housing from American Community Survey

Units in Structure	*Renter & Owner*				
	Persons	*House-holds*	*Persons per Household*	*Housing Units*	***Persons per Housing Unit***
Single Unit*	194,481	61,027	3.19	64,079	3.04
2+ Units	17,081	7,649	2.23	8,200	2.08
Subtotal	211,562	68,676	3.08	72,279	2.93
Group Quarters	402				
TOTAL	211,964				2.93

Source: Tables B25024, C25032, C25033, and B26001.

One-Year Estimates, 2011 American Community Survey, U.S. Census Bureau.

2010 Census

Units in Structure	*Renter & Owner*				
	Persons	*House-holds*	*Persons per Household*	*Housing Units*	***Persons per Housing Unit***
Single Unit*	191,344	61,645	3.10	66,409	2.88
2+ Units	16,805	7,727	2.17	8,498	1.98
Subtotal	208,149	69,372	3.00	74,907	2.78
Group Quarters	304				
TOTAL	208,453				2.78

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

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

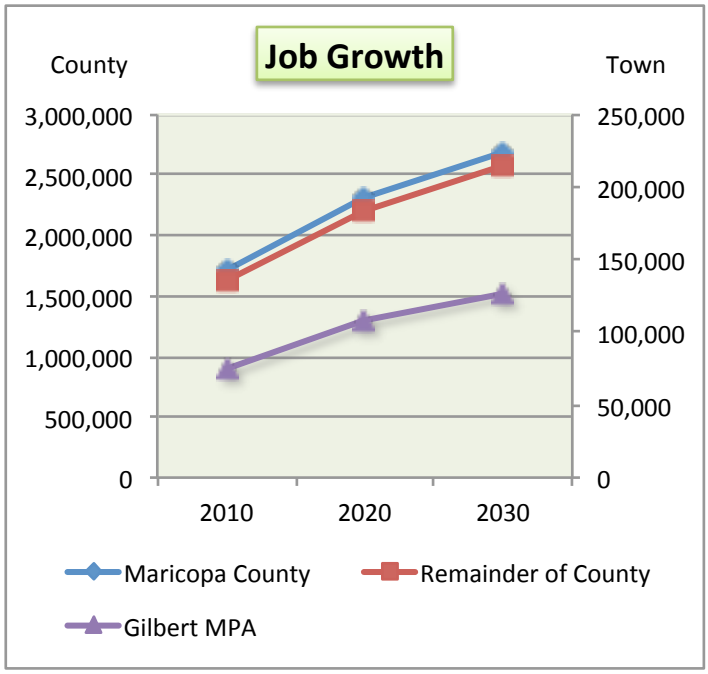
Nonresidential Development

In addition to data on residential development, the infrastructure improvement plan and development fees require data on nonresidential development in Gilbert. Current estimates and future projections of nonresidential development are detailed in this section, including jobs and floor area by three types of nonresidential development. TischlerBise uses the term "jobs" to refer to employment by place of work. Similar to the population share evaluation discussed above, countywide jobs are shown in Figure C5 along with the job share for Gilbert's municipal planning area. Gilbert increases job share from 2010 to 2020, then maintains a constant share through 2030.

Figure C5 – Gilbert Job Share

	2010	2020	2030
Maricopa County	1,706,300	2,312,900	2,696,900
Gilbert MPA	74,600	108,100	126,700
Remainder of County	1,631,700	2,204,800	2,570,200
Town Share	4.4%	4.7%	4.7%

Source: Municipal Planning Area projections from Maricopa Association of Governments, June 2013.



Jobs by Type of Nonresidential Development

Figure C6 indicates the Town's 2012 job and floor area estimates, according to three general types of nonresidential development. TischlerBise divided floor area by jobs to produce the average square feet per job multipliers for both industrial and commercial development. For Office & Other services, TischlerBise assumed 301 square feet per job, which is the national average for a general office building, according to data published by the Institute of Transportation Engineers (see Trip Generation, 2012). Over the next ten years, TischlerBise assumed Gilbert annually increases to an average of 340 square feet per job, which is the national average for hospitals (ITE, Trip Generation 2012).

Figure C6 – Jobs and Floor Area Estimates

	2012 Jobs (1)	*Sq Ft per Job (5)*	*Square Feet of Floor Area (2)*	*Jobs per 1000 Sq Ft*
Industrial	13,593	602	8,181,069	1.66
Commercial (3)	25,939	384	9,961,926	2.60
Office & Other Services (4)	41,741	301	12,564,041	3.32
TOTAL	81,272	378	30,707,036	2.65

(1) Gilbert MPA, MAG socioeconomic data by TAZ, June 2013.
(2) Gilbert Office of Economic Development 10/29/12.
(3) Retail, Food and Accommodation Services.
(4) Major sectors are Health Care, Administration & Support, Professional/Scientific/Technical Services, Education and Public Administration.
(5) Industrial and Commercial derived from Gilbert data. Office & Other Services is the national average for office, based on data published by the Institute of Transportation Engineers (Trip Generation, 2012).

Summary of Land Use Assumptions

Demographic data shown in Figures C7 and C8 provide key inputs for updating development fees in Gilbert. The municipal planning area is currently larger than the Town, but the difference will decrease over time as Gilbert continues to annex additional land area. Starting with 2010, 2020, and 2030 total population data from MAG, TischlerBise derived interim-year data using linear growth formulas. Next, TischlerBise derived dwelling units by area assuming an average of 2.78 persons per housing unit.

Figure C7 – MPA Residential Development

Gilbert Municipal Planning Area	*FY13-14* *2013* *Base Yr*	*FY14-15* *2014* *1*	*FY15-16* *2015* *2*	*FY16-17* *2016* *3*	*FY17-18* *2017* *4*	*FY18-19* *2018* *5*	*FY20-21* *2020* *7*	*FY23-24* *2023* *10*
Total Population by Area								
Neely	128,942	129,897	130,852	131,807	132,762	133,716	135,626	138,380
Greenfield	97,493	101,207	104,920	108,633	112,347	116,060	123,487	130,941
Total MPA Pop (Yr-Rd)	226,436	231,104	235,772	240,440	245,108	249,777	259,113	269,321
Dwelling Units by Area								
Neely	46,374	46,717	47,060	47,404	47,747	48,091	48,777	49,768
Greenfield	35,063	36,399	37,734	39,070	40,405	41,741	44,412	47,092
Total MPA Dwelling Units	81,437	83,116	84,794	86,474	88,152	89,832	93,189	96,860
Persons per Housing Unit	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78

Figure C8 provides base year data and a ten-year forecast of both jobs and nonresidential floor for the entire planning area. Based on the latest MAG employment forecast (June 2013), Gilbert expects to become more of an employment center with jobs increasing faster than housing units. In 2013, there were 1.04 jobs for every housing unit in the Gilbert MPA. By 2023, the ratio increases to 1.17 jobs per housing unit in the Gilbert MPA. Construction, non-site based employment, and work-at-home jobs were excluded to more accurately indicate the increase in nonresidential floor area.

Figure C8 – MPA Nonresidential Development

Gilbert Municipal Planning Area	*FY13-14* *2013* *Base Yr*	*FY14-15* *2014* *1*	*FY15-16* *2015* *2*	*FY16-17* *2016* *3*	*FY17-18* *2017* *4*	*FY18-19* *2018* *5*	*FY20-21* *2020* *7*	*FY23-24* *2023* *10*
Jobs (by place of work)								
Total MPA Jobs - Industrial	14,010	14,427	14,845	15,262	15,679	16,096	16,931	18,021
Total MPA Jobs - Commercial	26,798	27,657	28,516	29,374	30,233	31,092	32,810	34,441
Total MPA Jobs - Office/Other	43,822	45,903	47,984	50,065	52,146	54,227	58,389	61,229
Total MPA Jobs	84,630	87,987	91,344	94,701	98,058	101,416	108,130	113,691
Jobs to Housing Ratio	1.04	1.06	1.08	1.10	1.11	1.13	1.16	1.17
MPA Total Nonresidential Floor Area (square feet in thousands)								
Industrial KSF	8,440	8,680	8,940	9,180	9,440	9,690	10,190	10,840
Commercial KSF	10,290	10,620	10,950	11,280	11,610	11,940	12,600	13,230
Office & Other KSF	13,340	14,140	14,950	15,780	16,620	17,480	19,240	20,820
Total MPA KSF	32,070	33,440	34,840	36,240	37,670	39,110	42,030	44,890
Avg Sq Ft Per Job	379	380	381	383	384	386	389	395

Figure C9 provides additional detail on the annual increases in demand indicators (change from July 1st to July 1st of the next year). Single-unit housing tends to be the most consistent type of development from year to year. In contrast, apartments and all nonresidential development vary significantly over time. The Town of Gilbert will closely monitor actual development each year. If needed, development fees can be updated prior to the required five-year cycle.

Figure C9 – Projected Annual Increases for the Gilbert MPA

Annual Increase	7/13-7/14	7/14-7/15	7/15-7/16	7/16-7/17	7/17-7/18	7/18-7/19	7/20-7/21	***2013-2023 Avg Anl***
Total Population	4,668	4,668	4,668	4,668	4,668	4,668	3,403	4,289
Housing Units	1,679	1,678	1,680	1,678	1,680	1,678	1,224	1,542
Jobs	3,357	3,357	3,357	3,357	3,357	3,357	1,854	2,906
Industrial KSF	240	260	240	260	250	250	220	240
Commercial KSF	330	330	330	330	330	330	210	294
Office & Other KSF	800	810	830	840	860	870	520	748
Total Nonres KSF/Yr =>	1,370	1,400	1,400	1,430	1,440	1,450	950	1,282

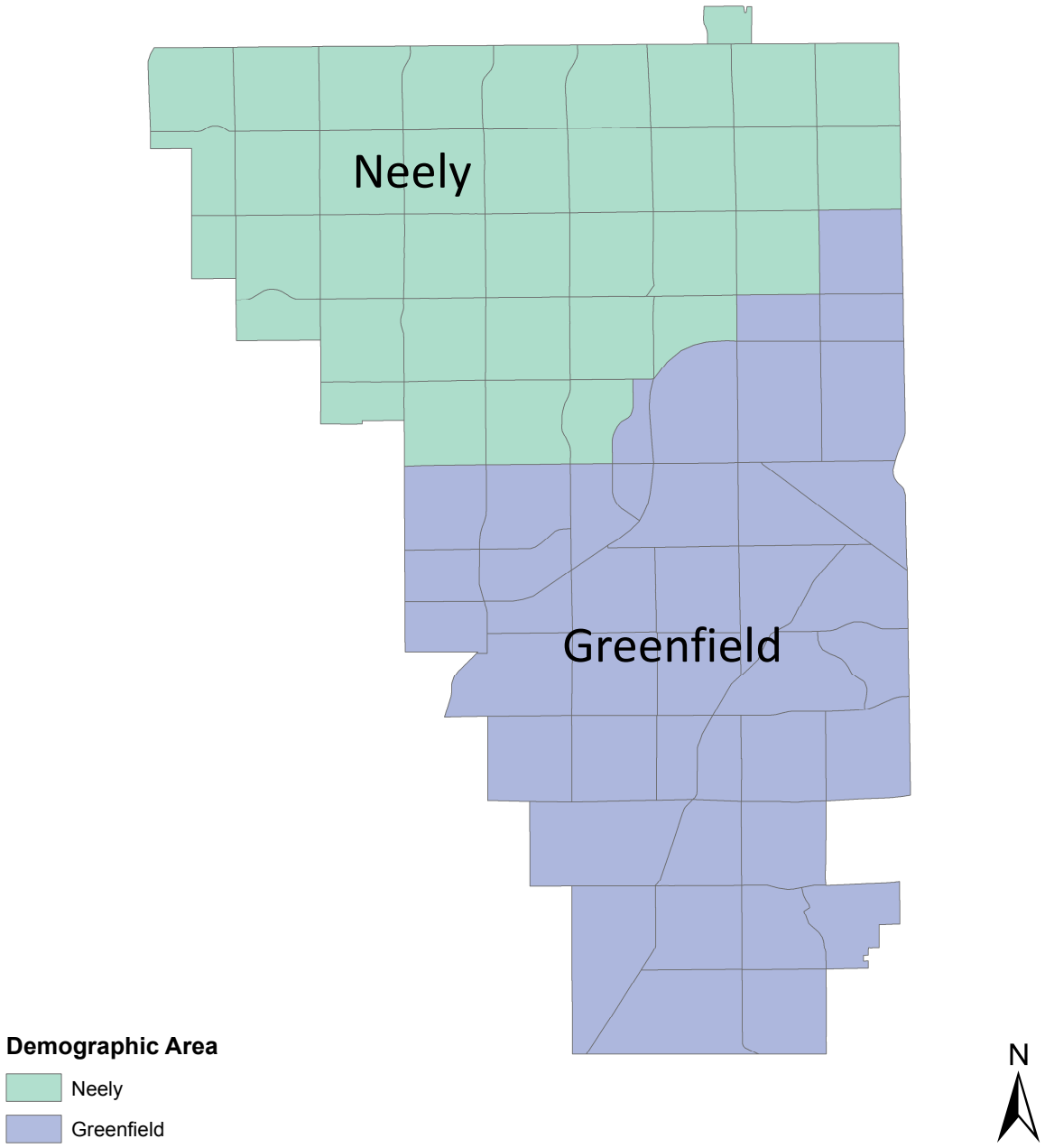
Demographic Areas

Land use assumptions for residential and nonresidential development have been prepared for two geographic areas. ARS 9-463.05(T)(9) defines "service area" as follows:

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

For all types of infrastructure except wastewater, Gilbert provides town-wide service. Urban development within Gilbert's Municipal Planning Area (MPA) will require municipal water and sewer service, along with annexation. Over time, the incorporated area will increase and eventually match the MPA boundary. For wastewater, the Neely Service Area is defined as the portion of the Town served by the Neely Water Reclamation Plant (WRP) and the Greenfield Service Area is defined as the portion of the Town served by the Greenfield Water Reclamation Plant (WRP). The approximate boundaries of the service areas are shown in the map below, using traffic analysis zones as the geographic "building-blocks" for the land use assumptions. The rationale for determining the service area for each type of infrastructure will be discussed and analyzed in the Infrastructure Improvements Plan (IIP).

Figure C10 - Map of Gilbert Service Areas

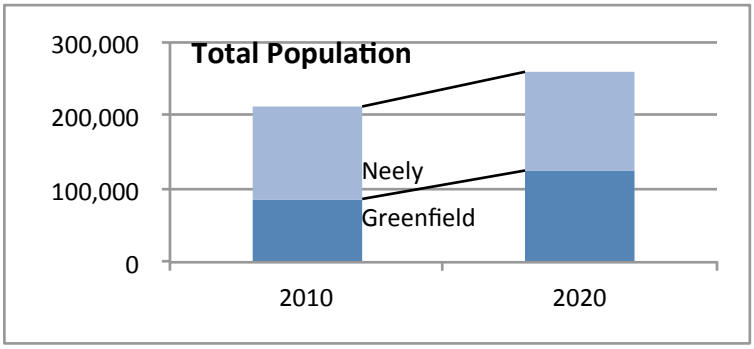


Key residential data by demographic area are summarized in Figure C11. Neely has a larger existing base of population and housing units, but is approaching build out. In contrast, most of the projected increase in development will occur in the Greenfield service area.

Figure C11 – Population and Housing by Area

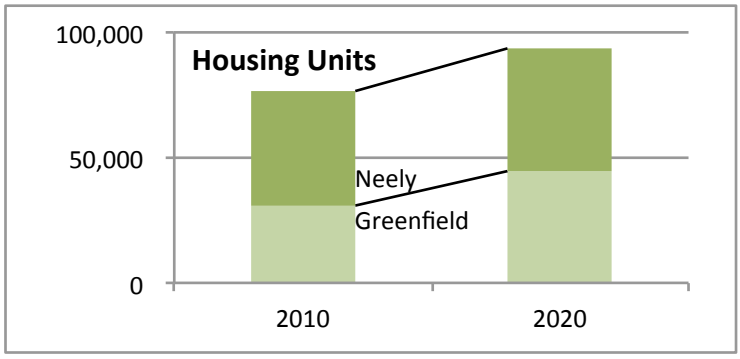
Total Population

	2010	*2020*	*Increase*
Neely	126,078	135,626	9,548
Greenfield	86,353	123,487	37,134
Townwide	212,431	259,113	46,682



Source: Gilbert MPA, MAG socioeconomic data by TAZ, June 2013.

Housing Units	*2010*	*2020*	*Increase*
Neely	45,522	48,777	3,255
Greenfield	30,878	44,412	13,534
Townwide	76,400	93,189	16,789



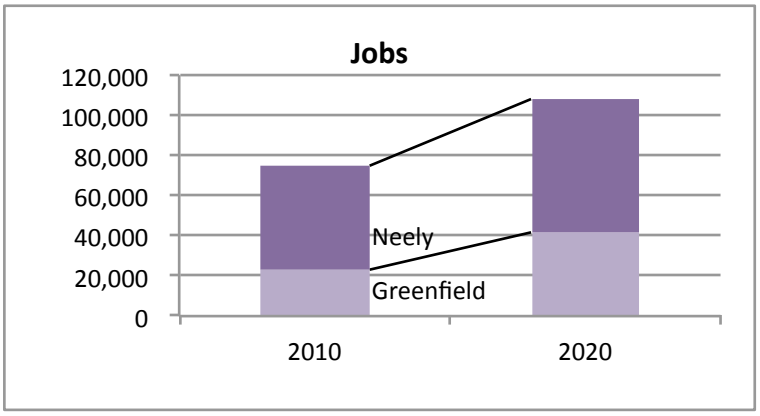
Source: TischlerBise derived housing units from projected population, assuming the 2010 census ratio of 2.78 persons per housing unit remains constant.

Key nonresidential data by demographic area are summarized in Figure C12. Neely has a larger existing base of nonresidential floor area and jobs but the projected increase in nonresidential development is similar in both demographic areas.

Figure C12 – Jobs and Nonresidential Space by Area

Jobs

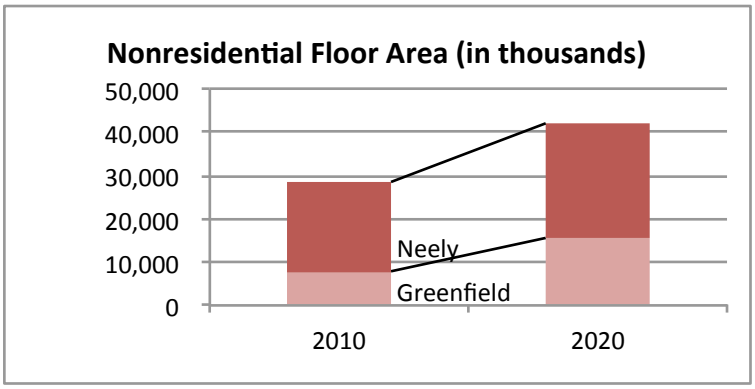
	2010	*2020*	*Increase*
Neely	51,596	65,781	14,185
Greenfield	22,962	42,349	19,387
Townwide	74,558	108,130	33,572



Source: Gilbert MPA, MAG socioeconomic data by TAZ, June 2013.

Square Feet of Floor Area (in thousands)

	2010	*2020*	*Increase*
Neely	20,400	26,540	6,140
Greenfield	7,890	15,490	7,600
Townwide	28,290	42,030	13,740



Source: Derived by TischlerBise using square feet per job multipliers by type of nonresidential development.