FISCAL BALANCE REPORT

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1.0 INTRODUCTION

The purpose of the fiscal analysis is to enable MAG to estimate order-of-magnitude fiscal impacts of regional land use plans and projects. The purpose of this working paper is to provide background information on how different types of development impact communities from a fiscal perspective. The paper also includes an analysis of the revenue structure of local governments in Metro Phoenix relative to the ability to sustain various mixes of development types.

This paper is accompanied by a generalized fiscal model that can be used to evaluate the impacts of different land use combinations for five size categories of cities and Maricopa and Pinal County. This model will be applied to the regional composite of land use plans of member agencies as part of general plan updates and amendments.

The balance of this working paper is divided into three chapters:

- Chapter 2.0 provides a summary of the literature review on land use impacts and local revenue sources. The focus of the literature review is on the applications of fiscal impact analysis in land use planning and the factors that influence the results for different locations and land uses. The local revenue information focuses on the types of revenues that are statutorily available to cities in Arizona, highlighting any underutilized sources.

- Chapter 3.0 details background data and assumptions that were collected for the fiscal model including city and county population, employment, staffing levels, tax rates, permitting activity, assessed value, taxable sales and other local data. In addition, the process for analyzing budget information for each community based on standardized revenue and expenditure categories is reviewed.

- Chapter 4.0 presents the methodology used in developing the model and results showing the comparative net impacts by city for residential, office, retail and industrial development.

2.0 LITERATURE REVIEW

2.1 Introduction

This portion of the working paper provides a summary of the articles and papers that describe methodology and key factors in local land use fiscal impacts. Second, this chapter presents a review of the types of local revenue sources that are available to cities in Arizona and how these revenues can be used to ensure fiscal sustainability.

2.2 Purpose of Fiscal Impact Analysis

Growth and development, whether a new retail center, manufacturing facility or residential development results in population and employment increases that have planning and economic consequences for the community. These increases in population and employment create corresponding increases in demand for services and infrastructure, as well as local revenues. Fiscal impact analysis provides a way to connect planning and finance by estimating the revenues and expenditures that result from new development or redevelopment.

New development may result in additional revenues in the form of property taxes from businesses and residents, sales taxes from retailers, services charges, fines, fees and other non-operating revenues such as development impacts fees.[1] At the same time, these new businesses and residents place an additional burden on city services like roads and public safety, as well as on infrastructure.[2] The question is whether the revenues generated by a particular land use, or mix of uses, are sufficient to cover the cost of services and infrastructure required. If new revenues fall short of new costs, the fiscal impact is negative. In this case, the local government must raise taxes to meet new service demands, and reduce the quantity or quality of services provided. If a fiscal impact indicates a surplus, the local government may wish to change its use of revenue sources to fund infrastructure replacement or provide higher levels of service.

Fiscal impact analysis as it relates to land use decisions can be applied in the following ways:

- To inform land use, zoning, and economic development decisions as part of the planning process,
- To measure the costs and benefits of specific projects or small area development or redevelopment plans,
- To prioritize infrastructure improvements or development in a specific area,
- To provide an understanding of service and infrastructure capacity constraints and their impact on a community's ability to realize its long term vision,
- To relate development issues to the underlying fiscal structure,
- To understand or refine inter-jurisdictional relationships,
- To identify future shortfalls that need be addressed through new revenue tools such as impact fees, tax increment financing, etc.
- To more clearly direct the economic development objectives of the community[3]

[1] Kotval, Zenia and Mullin, John, "Fiscal Impact Analysis: Methods, Cases and Intellectual Debate," Lincoln Institute of Land Policy Working Paper, 2006.
[2] Kelsey, Timothy, "Fiscal Impacts of Different Land Uses, The Pennsylvania Experience in 2006," Penn State College of Agriculture Sciences, 2007.
[3] Gross, Randall, "Understanding the Fiscal Impacts of Land Use in Ohio," Regional Connections, A Growth Strategy for Central Ohio, August 2004.

Most states require local governments to prepare a balanced budget on an annual basis. However, most states do not require that jurisdictions conduct fiscal impact evaluations to help ensure that local officials understand the short and long-term fiscal effects of land-use and development policies and of new developments that are approved. Most communities do not know if their land use plan is fiscally sustainable at build out. A fiscal impact analysis can enable local governments to address short and long-term planning, budget and finance issues.[4]

2.3 Factors that Influence Fiscal Impact Results

There are a number of case studies throughout the country of fiscal impact results for specific developments in specific communities. However, it is important to realize that these results for particular land uses cannot necessarily be generalized to communities in Arizona. There are a number of factors that affect the fiscal impacts of various land uses, including both development characteristics such as location, density and design as well as fiscal and planning issues such as local revenue structure and infrastructure capacity.

Local Revenue Structure. This is the most important factor in how different land uses will impact a community. Most communities have one or two primary revenues sources.[5] In Arizona, those sources include property and sales taxes and state shared revenues. Due to the predominance of sales taxes as a locally controlled revenue source for most communities, retail development is often prioritized over other types of nonresidential development that only generate property taxes but may create higher quality jobs. Arizona's revenue structure also means that most residential development does not pay for itself in isolation.

This is in sharp contrast to states like Maryland that have local income taxes and derive significant revenues from residential development. In Maryland where local income taxes are collected by *place of residence*, residential units are not the fiscal drain they can be in other communities. In Ohio, local income taxes are collected by *place of business*. Thus their goal is to attract and zone for new office development. Maintaining a diverse and balanced tax base is healthy from a fiscal perspective to avoid too much reliance on a single land use as market demand fluctuates over time.[6]

Market Characteristics of New Growth. The second most important factor in determining fiscal impact results, other than a community's revenue structure, is the demographic and market characteristics of different land uses. For residential development this includes average household size, market value of housing units, average household income, density per acre and trip generation rates. For nonresidential development factors include employment density (square feet per employee), building value per square foot, floor area ratios, sales per square foot and trip generation rates.[7]

Density. The density of new development is another factor related to the market characteristics of new growth. Suburban-style development is often comprised of single-family, detached housing with approximately four units per acre. Compact development, built at higher densities may reduce the total

[4] Mix, Troy and Hurley, Rachel, "Fiscal Impacts of Development, Literature Review and Discussion," University of Delaware Institute for Public Administration Planning Services Report, July 2008.
[5] Edwards, Mary, "Community Guide to Development Impact Analysis," University of Wisconsin Land Use Research Program, March 2000.
[6] Howard County Maryland Department of Planning and Zoning, "PlanHoward 2030: Fiscal Impact Analysis, Fiscal Impact Results," May 2012.
[7] Bise, L. Carson, "Fiscal Impact Analysis, How Today's Decisions Affect Tomorrow's Budgets," ICMA IQ Report, November 2007.

amount of infrastructure needed and ultimately reduce per capita costs.[8] Higher-density development, regardless of the capacity of existing infrastructure, tends to require less new infrastructure construction since fewer pipes and lane-miles will be needed to connect a larger number of households. Mixed uses can also promote interconnectivity and reduce costs.

Levels of Service are another important factor that tends to vary from community to community. Some cities are not full service and do not provide things like parks or libraries or even local police service, whereas other communities may provide a full range of services at a higher or lower level than their neighbors.

Capacity of Existing Infrastructure has an impact on the capital improvements that may be required to accommodate new development. One community, for example, may have the capacity to absorb a large number of additional vehicle trips on its existing road network whereas another community may have rural roads that are not designed to handle large traffic volumes. The available capacity determines how much additional growth can be absorbed without additional infrastructure investment.

Timing/Phasing of New Development. The timing of new development, or the phasing of different types of uses within a mixed use development, will also affect the annual fiscal impacts.[9] For example, if there is a long lag between when residential development occurs and when supported retail development occurs, there may revenue shortfalls in that interim period. Also, in Arizona where state shared revenues are distributed to cities based on population share, and the population share is only adjusted in Census years, communities with significant residential development between Censuses will experience a delay before they are compensated for those new residents.

Level of Government. It is also important to remember that the types of government expenditures and revenues will vary depending on which level of government is examined. Not all levels of government rely on the same set of revenues in equal measure. Also, they do not spend money on the same things, and those revenues and expenditures are not equally affected by different types of development.

Fiscal Impact Methodology. The fiscal impact method used to make estimates also matters in terms of the final results. Different methods may produce different results. It is important to be aware of the assumptions driving the method used to assess a particular development or land use plan.[10] Fiscal models also reflect existing market and budget conditions. They may or may not include infrastructure capital costs, off-site capital cost impacts or annual maintenance & capital replacement. Also, impact analyses do not serve as feasibility studies and therefore presume that the existing land use plans are possible from a market perspective.[11]

2.4 Types of Fiscal Impacts

It is important to understand that development can create both capital impacts and operations and maintenance impacts. These include the need for new capital infrastructure, the additional cost to operate and maintain that infrastructure or the additional maintenance burdens on existing infrastructure as well as cost of providing services that are not impacted by infrastructure. It is possible, for example, that a development may have a minimal infrastructure impact but a negative operations and maintenance impact. Below are the categories of fiscal impacts.

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[8] Mix, Troy and Hurley, Rachel.
[9] TishlerBise, "Incorporating Fiscal Impact Analysis in Land Use Planning," Balanced Growth Ohio, 2013.
[10] Bise, L. Carson.
[11] Gross, Randall.

Capital Infrastructure. Two factors generally influence the need for new capital infrastructure to service new development. First, development in an area may outstrip the ability of existing infrastructure to service it, resulting in a need for upgrades and new construction. Second, there may not be any existing infrastructure if development extends into a new area. The density and design of a development may impact the construction costs of new infrastructure. Higher-density development may result in lower costs for new infrastructure since it will not need to span as great of a distance to serve a larger number of people or businesses.

Operating Infrastructure. The costs associated with new infrastructure construction are significant, but they do not reflect the on-going maintenance costs of that infrastructure which are often overlooked when calculating the cost of new development. In the long run, this is often the greatest cost to governments and taxpayers. For example, a study by the Natural Resources Defense Council (NRDC) found that "average annual operations and maintenance costs are about three times greater than annualized capital costs.[12]

Demand-Based Operating Costs. Lower density development tends to increase operating costs particularly for functions like public safety that require on-site service.[13] The distance between jobs and housing creates additional street maintenance costs. There may also be a delayed response for some types of maintenance costs that tend to increase over time as development leads to population and employment growth and demand for services grows.

The MAG fiscal impact model does not consider the cost of constructing new infrastructure which is typically funded through development fees and not through operations and maintenance revenues. Also, infrastructure demand is highly location dependent and cannot be adequately addressed in a regional model. The MAG fiscal impact model is focused on demand-based operating revenues and expenditures in the general fund as well as street maintenance funds of member agencies.

2.5 General Results and Conclusions of the Literature Review

A number of important points derived from this literature review provide a basis for the fiscal impact model for Maricopa County. Fiscal impact analysis is a powerful tool for examining costs & benefits of various land uses, for prioritizing projects or for assessing development alternatives. However, fiscal impacts are only one of several important factors for determining appropriate land use. Local governments should not use the results of a fiscal impact analysis to encourage "fiscal zoning" or the practice of excluding or denying development proposals that are less beneficial fiscally than other alternatives.[14] Land use decisions must also account for community vision, public assets, market realities, environmental impacts and infrastructure impacts. It is sometimes sensible to encourage certain types of development that do not have a fiscal net benefit, if the costs are outweighed by other qualitative benefits such as improved quality of life or greater economic diversity. [15]Nevertheless, fiscal impact tools can be used as part of a larger strategy to create land use plans that incorporate the appropriate mix of uses necessary to achieve fiscal sustainability or, at minimum, fiscal neutrality.

It is also important to remember the individuality of areas when reviewing fiscal impact analyses. The results of a fiscal analysis in one specific area cannot be interpreted as sweeping truths for all new development in any area. The nature of the area, tax structure, and the current capacity of the available facilities are important factors that are unique to a particular jurisdiction. This is an element of

[12] Mix, Troy and Hurley, Rachel.
[13] Mix, Troy and Hurley, Rachel.
[14] Bise, L. Carson.
[15] Gross, Randall.

importance for the fiscal impact model for Maricopa County, where the local tax structure and growth patterns differ widely from other places in the United States.

2.6 Revenue Sources Available to Arizona Communities

Every state has a defined set of revenues that are available to local communities. As noted in the fiscal impact literature review, the local tax structure can have a significant impact on fiscal impact results. For example, in states with local income taxes, residential development is very important because it tends to affect both property and income tax revenues. In Arizona, where sales taxes are a key local revenue source, retail development creates an overwhelmingly positive impact that helps to offset the negative net impact of residential development that in turn creates demand for local retail.

2.6.1 Sales Taxes

All communities in Maricopa County levy a local sales tax ranging from one to three percent. Sales taxes, according to state statues, can be levied on businesses in the following categories: transportation, utilities, telecommunications, pipelines, private car lines, publishers, job printing, contracting, builder sales, amusements, restaurants, real and personal property rental, retail, membership camping, transient lodging and mining extractions. This includes transient lodging taxes, which are classified by most cities as separate revenue line items. The various categories of businesses above can be taxed at different rates. Within the retail category, higher priced items may also be taxed at a differential rate. Typically taxes on hospitality industries, which may include both restaurants and lodging, are at a different rate than other types of retail sales. Some cities also have differential sales tax rates on construction and utilities. In addition to taxes on electric, gas and telecommunication utilities providing service in a particular city, cities may also tax municipal water sales.

In Maricopa County, cities that tax utilities at a different rate than the standard sales tax include Phoenix, Chandler, Peoria and Apache Junction. Although the utility provider pays the taxes, residents and businesses that use utilities effectively generate the tax revenues. Thus, utility taxes, especially at a higher than standard rate, allow residential development as well as industrial operations (which are typically larger utility users) to generate revenues beyond just property taxes.

Some cities also tax construction activities at a higher rate including Surprise, Goodyear, Litchfield Park, Queen Creek, Cave Creek, Carefree, Florence and Maricopa. Many of these communities are on the periphery and experienced significant new construction activity in the past decade. However, as a result of the economic downturn and the overdependence of the regional economy on growth, many cities have opted to allocate all or part of construction sales tax revenue to non-recurring uses such as capital.

Arizona lawmakers passed landmark legislation in 2013 to simplify the sales tax system — regarded as one the most complex in the nation. This legislation, which goes into effect in 2015, will result in taxes on materials used in new construction or significant re-construction being paid at the site of construction, while construction sales taxes on smaller alterations or maintenance work will be paid at the point of sale where the materials are purchased. Although this decision preserves construction sales tax revenues for smaller communities like Queen Creek or Maricopa where there may be a lot of building activity but few construction suppliers, it does make tax reporting more complicated for many contractors.

Transaction privilege tax revenues are normally an unrestricted revenue source, but they may be restricted for particular uses based on local voter-approved initiatives. Typically, all or most privilege or sales tax revenues are allocated to the general fund. However, some cities have voter-approved increments to their normal sales tax that are set aside for specific uses such as transit improvements, tourism promotion, public safety or other local projects. According to state statutes, cities can form special multi-purpose

facility districts and levy extra sales taxes within the district. The district may cover the entire city. Additionally, counties with populations over 1.2 million may levy a special sales or transaction privilege tax of not more than 10 percent of the state tax rate applying to each type of business activity. This mechanism has been used in Maricopa County in the past to fund freeway construction.

Transient lodging taxes, which in Maricopa County range from 2 to 6 percent in addition to the normal sales tax rate, can be a significant revenue source for cities with hotel development. All but three of the cities in Maricopa County levy transient lodging taxes. According to state statutes, cities over 100,000 people must use all lodging taxes in excess of the normal sales tax rate for tourism promotion.

Among the various types of transaction privilege taxes, an additional revenue generator related to non-retail land uses is a tax on leases which may include both real and personal property. All municipalities in Maricopa County levy a rental occupancy tax. Statewide, there are just a couple of municipalities, including Tucson, that do not have a rental occupancy tax. Cities are allowed to impose a tax on leases of commercial and industrial space as well as equipment. For office space where lease rates are typically fairly high relative to other types of nonresidential uses, lease taxes can generate significant revenues. For industrial space, both building leases and leases on high value manufacturing equipment may generate a sizeable stream of revenues for a city. This is particularly important in terms of supporting non-residential development in communities that do not impose a local property tax.

2.6.2 Property Taxes

The second major type of unrestricted revenues for cities and counties are property taxes. Property taxes are one of the few revenue sources that are generated by all types of land uses. The amount of local property tax revenues is a function of the property value as well as the tax rate. Taxes apply to both real and personal property.

Typically cities have both a primary and secondary property tax rate. The primary tax is used for general fund purposes, while the secondary tax is used for bonded indebtedness. In Arizona, residential property is taxed at 10 percent of its assessed value while commercial and industrial property is currently taxed at 19.5 percent of its assessed value, but that ratio will fall to 18 percent by 2016. There are 9 classes of property in total, each with specific assessment ratios, although the residential or commercial/industrial rates apply to the majority of property.

The state sets limits on property tax rates and the annual increase in local tax rates. The local property tax levy cannot increase more than 2 percent per year (plus new construction), excluding special assessments, taxes for bonded indebtedness and voter approved increases, thus limiting increases in the primary tax rate. Bonded indebtedness cannot exceed 6 percent of the value of taxable property in the city, thereby limiting secondary property tax rates. However, this debt limit may be extended to 20 percent of taxable property value for water, sewer, lighting, or land acquisition for parks or open space, with the approval of the majority of taxpayers in the district. Limits on bonded indebtedness became a problem for many cities during the real estate downturn when assessed value dropped significantly while long term debt that was guaranteed by that value remained in place.

Property taxes can be used as a restricted revenue source in the case of special assessment districts. Cities can form special assessment districts or enhanced municipal service districts. Typically, a city will issue bonds to cover the cost of specific improvements. These bonds are then repaid using property taxes from the special assessment. Special assessment districts may be formed to provide a specific area with a higher level or greater degree of services including public safety, fire protection, refuse collection, street or sidewalk cleaning, landscape maintenance in public areas, planning, promotion, transportation, or public parking.

Within Maricopa County, 10 cities and towns do not impose local primary property taxes including: Mesa, Gilbert, Fountain Hills, Paradise Valley, Guadalupe, Litchfield Park, Cave Creek, Carefree, Youngtown and Apache Junction. While property taxes may be viewed as a potential source of additional revenues for these communities, there is typically overwhelming political opposition to implementing local property taxes in a non-tax city. That said, both Queen Creek and El Mirage initiated primary property taxes in the past decade to provide funding for essential services. For communities with no local property tax, industrial development does not tend to have a positive fiscal impact. However, if the city or town imposes a lease tax, this may partially offset the shortage of revenues for some types of industrial operations. Lease taxes may also be generated by residential rental properties. However, owner-occupied residential development does not generate any tax revenues in cities without a local property tax. However, resident population is the basis for state shared revenue distributions, which make up a large portion of general fund revenues in most municipalities.

2.6.3 Other Local Revenues

The majority of other revenues used by municipalities for operations and maintenance include service charges, licenses and permits, fines, interest and intergovernmental or state shared revenues. Service charges, licenses and permits are a useful way to offset the cost of specific services. Although these types of revenues do not always result in a break-even impact for cities relative to the expenditures they are intended to cover, they do reduce the amount of local tax revenues required to cover certain services.

Intergovernmental or state shared revenues are a significant item for most cities. This category includes state shared income and sales taxes as well as vehicle license tax, grants and highway user revenues (HURF). All of these revenues except for grants are distributed to cities based on population. State shared income and sales tax and distributions are only adjusted following a decennial or mid-decade census, vehicle license taxes are adjusted based on annual population estimates. Additionally, state shared income tax, sales tax and HURF fund distributions are adjusted to reflect annexations.

State shared income and sales tax as well as auto lieu taxes are all general fund revenues. However, highway user funds are restricted for street maintenance and must be captured in separate accounts. Based on state statutes, any revenues derived from fees, excises or license taxes relating to registration, operation or use of vehicles on public highways or streets must be used for construction, maintenance and repair of streets, highways and bridges or for right-of-way acquisition. Typically, municipalities have transportation or streets accounts that are used for HURF distributions and related expenditures. During the economic downturn, the amount of state shared income and sales taxes available for distribution decreased dramatically, placing an additional strain on local governments in terms of their ability to fund basic O&M needs.

Development impact fees are another type of local revenues that can be used by cities and towns, although these fees are limited to capital costs. Impact fees are designed to cover the cost of extending infrastructure and increasing capacity to serve new development. According to state statutes, impact fees must result in beneficial use to the areas being charged. They must bear a reasonable relationship to the burden imposed on the municipality to provide additional public services, and they must be assessed in a non-discriminatory manner. To ensure that these fees are used for their intended purpose, they must also be placed in a separate fund. Cities typically use development fees for water and sewer infrastructure including expanded treatment capacity and water resource acquisition; public safety facilities; street and traffic signal improvements; parks, cultural and library facilities; and general government facilities. The majority of cities in Maricopa County now impose impact fees which are updated regularly to reflect changes in capital costs and development patterns.

Finally, franchise taxes can be a good source of local revenues that apply to all types of development. Franchise taxes are technically paid by utility providers, based on a negotiated rate agreement between the city and the utility for the privilege of the utility operating in that city. However, the tax rate is applied to utility bills, similar to sales tax, including natural gas, electric, cable television and telecommunications.

2.6.4 Conclusions on Local Revenue Sources

Local governments have a fairly limited range of revenue types that can be generated locally. These include transaction privilege and property taxes, as well as various fees for services including user and franchise fees, permits and licenses.

For municipalities that currently impose property taxes, there is little underutilized potential for additional revenues, outside of increases in assessed value from market conditions and new development that will yield additional property taxes. Most of the untapped potential for increases in locally controlled revenues is in the various types of privilege taxes including sales taxes on utilities, food for home consumption, transient lodging and property leases. Transient lodging tax, which can be imposed on both lodging and restaurants, can provide increased local revenues for cities with this type of development. However, for cities over 100,000, lodging taxes may only generate a limited amount of unrestricted revenues since taxes above the standard retail sales tax rate must be used for tourism promotion.

Since retail sales taxes generate significant unrestricted local revenues, cities may be tempted to pursue retail development at the expense of office any industrial development. While retail land uses in typically generate the most positive fiscal impacts, given the tax structure in Arizona, the exclusion of other types of development does not promote balanced communities from an economic perspective.

Only a few cities impose a higher tax rate on utilities above their standard sales tax. Taxes on utilities and leases can provide sales tax revenues from non-retail uses. These may be the best alternatives for cities and towns in terms of increasing the volume locally controlled revenues from a variety of development types.

3.0 ANALYSIS OF LOCAL TAX RATES

3.1 Introduction

The purpose of the literature review described in Chapter 2 and the background data and assumptions described here is to provide a basis for a generalized fiscal impact model for cities in Maricopa and Pinal Counties. This chapter includes information about local tax rates, an analysis of local versus non-local city revenues, and a discussion of other socioeconomic data that is used in the impact model.

Cities in the fiscal impact model are categorized into five groups based on population size. The tax rates in this section are shown for each city group. Maricopa and Pinal Counties are in a separate category since they are not really comparable to cities in terms of budget structure. The following describes the size categories.

- **Extra Large** – This category includes only the City of Phoenix based on current population. Since Phoenix is over 3 times larger than Mesa, the next largest city, it has unique socioeconomic and fiscal characteristics that require a separate category.

- **Large** – This category includes cities from 200,000 to 450,000 in population such as Mesa, Glendale, Scottsdale, Chandler and Gilbert.

- **Medium Large** – This category includes cities from 100,000 to 200,000. Tempe, Peoria and Surprise fall into this category. Surprise has grown significantly over the past ten years, moving up from the medium category.

- **Medium** – This category includes cities from 25,000 to 100,000. Cities in the medium category include Avondale, Buckeye, Goodyear, Fountain Hills and El Mirage, Queen Creek, Apache Junction, Florence and Maricopa. This category is fairly comparable to the small category in terms of the number of cities.

- **Small** – This category captures communities with population under 25,000, including nine cities and towns: Paradise Valley, Guadalupe, Wickenburg, Tolleson, Litchfield Park, Cave Creek, Youngtown, Carefree and Gila Bend. Many of these smaller cities and towns are on the urban periphery, with the exception of Guadalupe and Paradise Valley.

3.2 Local Taxes

As noted in the previous chapter, there are two primary types of local tax revenues: property tax and transaction privilege tax. Cities generally break privilege tax into two types in their budgets: sales tax and transient occupancy tax (TOT). Figure 3-1 shows tax rates for all incorporated cities in Maricopa County. The cities are listed in descending order by population size.

FIGURE 3-1
LOCAL TAX RATES

Jurisdiction/Size	Retail Sales Tax	Construction Sales Tax	Utility Sales Tax	Lodging Tax*	Primary Property Tax
Extra Large					
Phoenix	2.00%	2.00%	2.70%	3.00%	1.24%
Large					
Mesa	1.75%	1.75%	1.75%	5.00%	0.00%
Glendale	2.90%	2.90%	2.90%	5.00%	0.23%
Scottsdale	1.65%	1.65%	1.65%	5.00%	0.50%
Chandler	1.50%	1.50%	2.75%	2.90%	0.33%
Gilbert	1.50%	1.50%	1.50%	3.00%	0.00%
Medium Large					
Tempe	2.00%	2.00%	2.00%	3.00%	0.79%
Surprise	2.20%	3.70%	2.20%	2.52%	0.74%
Peoria	1.80%	1.80%	3.30%	3.80%	0.19%
Medium					
Avondale	2.50%	2.50%	2.50%	2.00%	0.68%
Goodyear	2.50%	3.50%	2.50%	2.50%	1.11%
Fountain Hills	2.60%	2.60%	2.60%	4.00%	0.00%
El Mirage	3.00%	3.00%	3.00%	2.00%	1.86%
Buckeye	3.00%	3.00%	3.00%	2.00%	1.80%
Queen Creek	2.25%	4.25%	3.00%	4.00%	1.95%
Apache Junction	2.20%	2.20%	3.20%	2.20%	0.00%
Florence	2.00%	5.00%	2.00%	2.00%	1.05%
Maricopa	2.00%	3.50%	2.00%	2.00%	1.24%
Small					
Paradise Valley	2.50%	2.50%	2.50%	3.40%	0.00%
Guadalupe	4.00%	4.00%	4.00%	6.00%	0.00%
Wickenburg	2.20%	2.20%	2.20%	2.00%	0.41%
Tolleson	2.50%	2.50%	2.50%	2.00%	1.26%
Litchfield Park	2.80%	4.80%	2.80%	1.00%	0.00%
Cave Creek	3.00%	5.00%	3.00%	4.00%	0.00%
Youngtown	3.00%	3.00%	3.00%	2.00%	0.00%
Carefree	3.00%	4.00%	3.00%	3.00%	0.00%
Gila Bend	3.00%	3.00%	3.00%	2.00%	0.31%
Maricopa County	0.00%	1.17%	0.00%	0.97%	1.28%
Pinal County	0.50%	0.50%	0.50%	0.00%	3.80%

Source: Arizona League of Cities and Towns, Model City Tax Code-City Profiles; Maricopa County Assessor 2013 tax rate data.
*Lodging tax rate is in addition to sales tax. All tax rates include general fund portions only.

Sales tax rates in Maricopa County range from 1 to 3 percent. Maricopa County imposes an additional 0.7 percent tax, although none of these revenues are captured in the County's general fund. In general, smaller cities and cities without property taxes tend to have higher sales tax rates. However, there are exceptions. Gila Bend, a small town, has one of the highest local sales tax rates and the highest primary property tax rate. Mesa, a large city, also has no local property tax and a relatively low sales tax rate. However, Mesa is also one of the few cities in Arizona with a municipal electric and gas utility (serving

the city's downtown area) that generates substantial local revenues. Note that this table includes only general fund revenues so total city sales tax rates are higher for some cities.

Property tax rates shown in the table include only the primary tax or the portion that goes into the general fund for unrestricted use. Local rates range from 0 percent to 1.95 percent. County property taxes are in addition to local taxes in incorporated areas. Gila Bend, Goodyear, Tolleson and Buckeye have the highest rates ranging from 0.94 percent to 1.64 percent, even though they have average or above average assessed value per capita.

Only five cities impose a utility tax that is over and above the standard sales tax rate including Phoenix, Chandler, Peoria, Queen Creek and Apache Junction. Utility taxes are imposed on gross sales by electric and gas utilities. The tax is paid by the utility provider, but passed through to the consumer.

All cities in the region also impose lodging taxes which apply to hotel/motel sales but may also apply to restaurant sales. In other cases there is a separate rate for restaurants that is in between the standard sales tax rate and the lodging tax rate. Lodging taxes are in addition to the normal sales tax rate. Rates range from 1 to 6 percent. Maricopa County imposes an additional 0.97 percent tax although revenues are captured in special funds.

3.3 Local and Non-Local Revenues

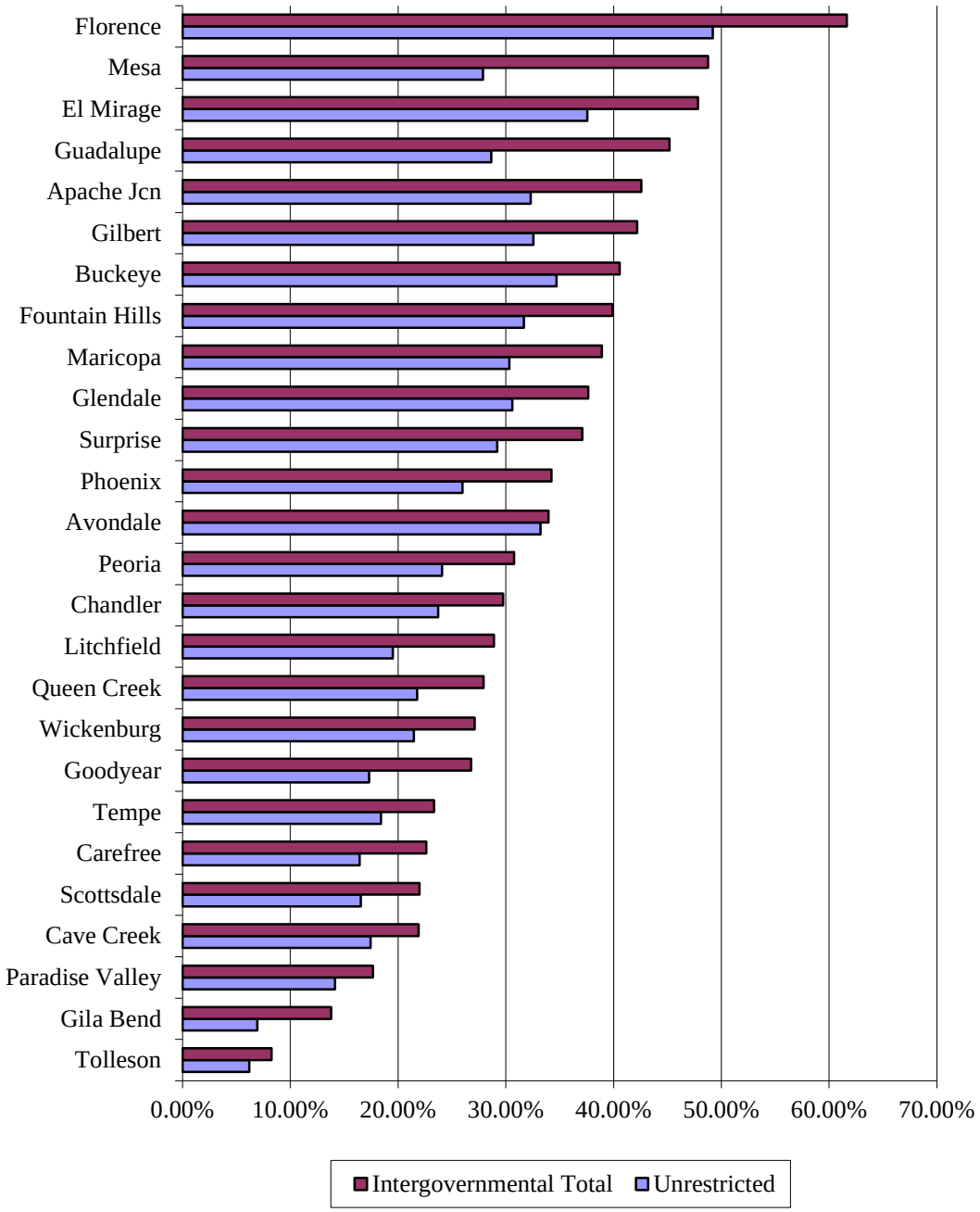
Cities utilize a variety of types of revenues, some of which are under local control and some of which are distributed by other government entities such as the state. The taxes described above are generally locally controlled in terms of cities being able to set rates for various business categories. Service charges, fines, licenses and permits are other examples of locally controlled revenues.

Non-local or intergovernmental revenue sources include state shared income and sales tax, auto lieu tax, federal, state and local grants and highway user revenues. Figure 3-2 shows intergovernmental revenues as a share of total general fund plus transportation fund revenues.[16]

Typically state shared income and sales tax and motor vehicle in-lieu combined make up 15 to 35 percent of local operating budgets for cities in Maricopa and Pinal Counties. This translates into an average of $195 per capita per year. These three sources are unrestricted general fund revenues. State shared income and sales taxes are distributed based on Census population. The amount of revenues distributed varies each year depending on the total amount of state taxes collected. However, for cities that are adding large amounts of residential development there is a one to ten year lag before state shared revenues will catch up to current resident population.

[16] Transportation or streets accounts are used to capture highway user revenues and pay for local street maintenance expenditures.

FIGURE 3-2
SHARE OF INTERGOVERNMENTAL REVENUES



Total intergovernmental revenues, including grants and funds that are specifically for transportation make up between 8 and 62 percent of local budgets, with the typical share being closer to 33 percent. There does not seem to be a particular pattern in terms of city size. For Guadalupe, El Mirage, Mesa and Florence, intergovernmental revenues make up 45 to 62 percent of operating resources. On the low end

of the spectrum, intergovernmental revenues make up less than 15 percent of the budget in Tolleson and Gila Bend.

Generally, the problem with intergovernmental revenues is that while they have been a reliable source of revenues for cities in the past, they can be impacted by changes in state legislation at any time and in recent years, they have been decreased due to the economic downturn and lower overall tax revenues. The other issue is timing, as noted above. These revenues cover a large portion of the cost of supporting residential development. For fast growing cities, particularly small cities, the lag in adjusting distribution formulas for state shared income and sales tax can strain local budgets.

3.4 Other Socioeconomic Data

In order to develop a generalized fiscal impact model for the MAG member agencies, a variety of data was collected in addition to the tax and revenue information. Revenues and expenditures by line item were collected for each city and county and are described in Chapter 4. In addition information gathered on population, employment, FTE City Staff, police officers, park acres, street miles, value of building permits issued, gross sales and assessed value is shown.

Cities can generally be grouped by size range based on population. There are common fiscal and economic characteristics for cities of similar sizes. Small cities struggle to achieve economies of scale in their staffing and service levels, whereas large cities may be able provide additional services that are not available in smaller cities, thereby increasing expenditures and staffing levels on a relative basis. In the impact model, cities can change categories over time as their population grows.

Figure 3-3 shows population and employment levels for MAG member agencies along with city staffing levels and number of police officers. With a few exceptions, staffing levels per capita are fairly uniform across all sizes of cities. As noted above, larger cities such as Phoenix may provide municipal services that are not available in smaller areas and require additional staffing. Smaller cities, in contrast, must have a minimum number of personnel just to provide a basic level of services. Among larger cities, Chandler, Gilbert and Surprise have slightly higher staffing levels, while Phoenix has reached a size that allows for greater economies of scale and lower staffing levels per capita. Among smaller cities, Fountain Hills, Youngtown and Carefree seem to have above average staff relative to their population size while cities like Tolleson, Wickenburg and Gila Bend have lower than average staffing levels.

FIGURE 3-3
SOCIOECONOMIC CHARACTERISTICS AND STAFFING LEVELS

Jurisdiction	Population	Employment	FTE City Staff	Population per FTE	Sworn Police Officers	Population Per Officer
Extra Large						
Phoenix	1,449,242	789,760	15,000	97	3214	451
Large						
Mesa	439,929	171,720	3,491	126	790	557
Glendale	227,217	86,160	1,966	116	467	487
Scottsdale	217,365	175,200	2,455	89	437	497
Chandler	236,687	120,840	1,588	149	317	747
Gilbert	209,048	81,300	1,188	176	449	466
Medium Large						
Tempe	161,974	179,560	1,797	90	364	445
Surprise	117,688	22,640	769	153	130	905
Peoria	154,164	45,240	1,101	140	187	824
Medium						
Avondale	76,468	16,720	484	158	89	859
Buckeye	51,019	16,080	339	151	71	719
Goodyear	65,404	28,660	505	130	94	696
Fountain Hills	22,444	5,900	58	385	contract	na
El Mirage	31,911	4,620	160	200	43	742
Apache Junction	35,828	6,435	241	149	45	796
Florence	25,537	8,862	252	101	30	851
Maricopa	43,598	3,649	216	202	59	739
Queen Creek	26,448	7,260	159	167	contract	na
Small						
Paradise Valley	12,810	4,700	76	169	25	512
Guadalupe	5,540	1,020	45	123	contract	na
Wickenburg	6,353	3,860	86	74	16	397
Tolleson	6,573	11,280	168	39	30	219
Litchfield Park	5,467	2,240	31	176	contract	na
Cave Creek	5,005	2,000	38	132	contract	na
Youngtown	6,154	1,380	18	342	contract	na
Carefree	3,358	1,500	14	240	contract	na
Gila Bend	1,932	940	23	84	contract	na
Pinal County	389,192	44,197	2,217	176	207	1,880
Maricopa County	3,884,705	1,706,300	15,118	257	679	5,721

Source: Individual city budgets and annual financial reports, 2012-13; Arizona Department of Administration, Population and Employment Statistics.

Staffing levels for police follow a somewhat similar pattern. The counts shown in Figure 3-3 are only for sworn officers and do not include other support staff or volunteers. A number of the small cities contract with the Maricopa County Sheriff for police services including Fountain Hills, Guadalupe, Litchfield Park, Cave Creek, Youngtown, Queen Creek, Carefree and Gila Bend. Typically, these contracts are substantially less costly on a per capita basis than in-house police departments and are more feasible for small cities.

One way to compare the level of police staffing across communities is to compare the population per officer. Among larger cities there are typically about 500 to 600 people per officer. Phoenix is actually the lowest among large cities, perhaps due to economies of scale. All of the larger cities have achieved certain economies due to their population size; however, police departments in larger cities also tend to have more special units and task forces.

Among medium large and medium sized cities the number of residents per officer is typically about 760. Tempe is the exception with only 445 residents per officer. Among small cities that have municipal police departments, there are only about 380 residents per officer, reflecting a higher level of service that is typical among smaller communities.

The next set of information collected for cities includes economic data that will be used in the impact model such as construction permit values, assessed value and gross sales, shown in Figure 3-4. Construction permit data was not available for all cities.

Construction values vary significantly over time depending on economic cycles. Relative levels among cities also vary depending on the ratio of residential to nonresidential construction, since one large nonresidential project can substantially increase the value of permits issued. Generally, in 2012 the cities of Phoenix, Gilbert and Goodyear had the largest construction values with over to $300 million each, and close to $1.9 billion in Phoenix. Among the smaller cities, Queen Creek had $145 million in activity, and Buckeye had $179 million, which is substantially more than other cities based on city size. Both of these cities are experiencing high levels of residential development as the regional economy moves back into growth mode.

Gross sales (including both retail and non-retail) are another economic indicator that can vary over time with economic cycles. In order to compare the level of sales across cities, per capita retail and restaurant sales are shown. Per capita retail sales are a good way to show the level of revenues that are available to each city from sales tax. However, not all sales are generated by local residents. There is significant crossover between cities in terms of shopping patterns. In addition, some cities like Scottsdale and Tempe, where sales per capita are twice as high as any other city, benefit significantly from sales to tourists and other non-resident population. Construction contributes to gross sales, so cities with higher levels of new construction will have temporarily inflated sales figures.

FIGURE 3-4
ECONOMIC CHARACTERISTICS

Jurisdiction	Population	Employment	Construction Value	Gross Sales	Retail & Restaurants Sales	Retail Sales per Capita	Primary Net Assessed Value	AV per Svc Pop.
Extra Large								
Phoenix	1,449,242	789,760	$1,863,005,638	$33,721,299,950	$16,629,550,000	$11,475	$10,803,375,535	$4,825
Large								
Mesa	439,929	171,720	$232,864,485	$7,244,449,714	$4,231,667,486	$9,619	$2,758,663,542	$4,510
Glendale	227,217	86,160	$152,742,289	$3,353,010,655	$1,844,155,860	$8,116	$1,146,680,633	$3,659
Scottsdale	217,365	175,200	$269,679,602	$9,154,711,758	$4,573,264,000	$21,040	$5,069,582,668	$12,914
Chandler	236,687	120,840	$143,847,121	$6,343,410,600	$3,481,980,733	$14,711	$2,246,527,350	$6,284
Gilbert	209,048	81,300	$375,000,305	$3,579,581,667	$2,204,233,800	$10,544	$1,666,867,842	$5,741
Medium Large								
Tempe	161,974	179,560	$240,318,687	$6,306,200,000	$3,850,918,000	$23,775	$1,688,014,795	$4,942
Surprise	117,688	22,640	$147,838,006	$1,464,592,545	$765,620,773	$6,506	$851,987,114	$6,071
Peoria	154,164	45,240	$87,474,618	$3,373,313,833	$2,230,909,389	$14,471	$1,133,938,910	$5,687
Medium								
Avondale	76,468	16,720	$18,297,227	$1,311,595,960	$968,957,880	$12,671	$344,925,286	$3,701
Buckeye	51,019	16,080	$178,909,980	$484,671,133	$275,093,700	$5,392	$295,509,637	$4,404
Goodyear	65,404	28,660	$310,934,667	$1,424,408,080	$733,612,040	$11,217	$602,167,739	$6,402
Fountain Hills	22,444	5,900	$4,558,935	$302,606,385	$160,627,846	$7,157	$376,986,530	$13,300
El Mirage	31,911	4,620	$4,124,358	$182,095,200	$92,263,633	$2,891	$96,045,678	$2,629
Apache Junction	35,828	6,435	$24,703,301	$472,377,364	$267,072,000	$7,454	$143,100,778	$3,386
Florence	25,537	8,862	$22,248,939	$186,676,050	$114,820,200	$4,496	$72,842,647	$2,118
Maricopa	43,598	3,649	$57,747,923	$374,672,250	$210,142,150	$4,820	$198,475,898	$4,201
Queen Creek	26,448	7,260	$144,907,437	$518,076,400	$307,435,867	$11,624	$190,523,471	$5,652
Small								
Paradise Valley	12,810	4,700	$69,773,940	$622,306,970	$14,228,680	$1,111	$709,516,782	$40,521
Guadalupe	5,540	1,020	na	$48,963,367	$26,929,852	$4,861	$11,266,182	$1,717
Wickenburg	6,353	3,860	$1,164,085	$119,293,182	$63,662,545	$10,021	$61,106,215	$5,983
Tolleson	6,573	11,280	$46,360,872	$537,888,960	$263,770,880	$40,129	$177,671,887	$9,952
Litchfield Park	5,467	2,240	$45,639,294	$122,252,500	$48,901,000	$8,945	$65,095,473	$8,446
Cave Creek	5,005	2,000	$12,401,254	$159,623,400	$83,575,467	$16,698	$126,128,812	$18,006
Youngtown	6,154	1,380	$609,333	$34,718,033	$17,359,017	$2,821	$20,232,075	$2,685
Carefree	3,358	1,500	$5,405,546	$96,208,067	$48,104,033	$14,325	$145,234,210	$29,896
Gila Bend	1,932	940	$134,366,296	$70,140,667	$35,070,333	$18,152	$141,464,925	$49,257
Pinal County	389,192	44,197	$136,563,483	$2,764,247,539	$1,374,352,562	$3,531	$1,988,882,373	$4,589
Maricopa Cty	3,884,705	1,706,300	$182,582,331	na	$40,146,179,669	na	$34,263,842,276	$6,128

Source: Individual city budgets and annual financial reports, 2012-13; Arizona Department of Revenue Annual Report; Arizona Department of Administration, Population and Employment Statistics.
Note: Service population = population + employment.

The final economic measure shown in Figure 3-4 is assessed value. This is an important factor since cities with higher levels of assessed value have a larger tax base and can potentially generate more property tax revenues. Assessed value across cities is compared based on service population or population plus employment. This is appropriate since both residential and nonresidential properties contributed to the value base. Paradise Valley and Carefree, and to a lesser extent Scottsdale, Fountain Hills and Cave Creek, stand out due to the extremely high average value of residential properties in these cities. Gila Bend has the highest assessed value per capita, which is almost entirely due to value from equipment at the Entegra Power Station. Most of the other cities range from about $3,400 to $9,900 in assessed value per service population. Florence, El Mirage, Youngtown and Guadalupe all have values below $2,700, which is primarily a reflection of below average housing values and limited new home construction. However Youngtown and Guadalupe do not collect primary local property taxes so assessed values are less important.

All of the data presented in the chapter will be used along with revenues and expenditures to build the fiscal impact model. Socioeconomic data is important in creating revenue and expenditure rates that can be applied to future development information to calculate impacts.

4.0 FISCAL IMPACT MODEL METHODOLOGY

4.1 Introduction

This chapter describes the methodology used to develop the generalized fiscal impact model for 27 cities in Maricopa and Pinal Counties that will show net impacts for ten time periods: 2012, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050 and build out. Although the model is set up to show results for ten time periods, the results described in this report are only for 2012.

4.2 Budget Data

Annual budgets were collected for each community in Maricopa County for the 2012-13 fiscal year. These budgets included actual or estimated revenues and expenditures for 2011-12 that were used in developing the model. Since the model must be generalized for 27 cities and the two counties, a uniform set of revenue and expenditure categories was developed. The general categories of revenues are fairly standard across cities. However, there is some variation among departmental expenditures in terms of how functions are organized, and the types of functions that exist in different sizes of cities. To the extent possible, like functions were classified uniformly across cities.

Figure 4-1 lists the categories of revenues and expenditures that are reflected in the model. Although the model is only intended to provide order of magnitude estimates of net impacts, it is useful to be able to develop rates based on different factors for each of the revenue and expenditure categories.

For expenditures, there is some variation by size category. Only extra large cities have transit expenditures detailed separately from other transportation. Small cities typically do not have marketing/communications or economic development departments or a line item for nondepartmental expenditures. Also, engineering is typically included in public works for small cities. Some small cities also combine general government services including city manager, city clerk and human resources into a single line item that is reflected under city manager. There are other individual differences between cities, but since this is a generalized model, it is not possible to reflect each city's exact expenditure structure.

FIGURE 4-1
STANDARDIZED REVENUE AND EXPENDITURE CATEGORIES

Revenues	**Expenditures**
Local Taxes	Mayor & Council
Property Tax	City Manager
Sales Tax	Marketing/Communications
Transient Occupancy	Human Resources and Info Tech
Utility Franchises	City Clerk
Other	City Attorney
Charges for Services	Municipal Court
Fines and Forfeitures	Finance, Audit
Interest	Police
Intergovernmental Revenues, Grants	Fire
Licenses and Permits	Community Development (planning, bldg safety)
Miscellaneous	Economic Development
	Public Works
	Engineering
	Parks, Recreation, Library, Social Services
	Nondepartmental
	Streets
	Transit
	County Only
	Superintendent of Schools
	Health and Human Services
	General Government

4.3 Revenue and Expenditure Rates

For each city, population, employment, staff size, police officers, retail sales, hotel sales and additional data on park acres and street miles were used to develop rates for the line items shown above. The model complexity was somewhat limited based on the type of information available. However, every effort was made to choose the appropriate data as "drivers" for the line items in order to accurately reflect factors that would increase or decrease revenue and expenditure levels.

Ultimately, the model will use land absorption by land use category as the basic input. This data will then be converted to population, employment, street miles, taxable sales, construction value and assessed value that will in turn drive revenues and expenditures.

Once rates were developed by line item and by city, the next step was to group cities by size. Cities can generally be grouped by size range based on population. There are common fiscal and economic characteristics for cities of similar sizes. Small cities struggle to achieve economies of scale in their staffing and service levels, whereas large cities may be able provide additional services that are not available in smaller cities, thereby increasing expenditures and staffing levels on a relative basis.

The cities and towns in the model were categorized into 5 groups based on population size. (See section 3.4) Maricopa and Pinal Counties are in separate categories since they are not really comparable to cities, or to each other, in terms of budget structure. In the impact model, cities may change categories over time as their population increases.

Based on averages for each size category, final revenue and expenditure rates were calculated. Some averages included all cities in a size category, while other averages excluded cities that were significantly above or below average relative to other similar sized areas. Figure 4-2 details the average rates by line item. As cities grow over time, rates for the appropriate size category are applied in the model. Note that, in the case of sales and property tax, individual city tax rates are used to calculate revenues.

FIGURE 4-2
REVENUE AND EXPENDITURE RATES

Revenue Rates		Extra Large	Large	Medium Large	Medium	Small	Maricopa County	Pinal County
Property Tax	assessed value, city rates	varies	varies	varies	varies	varies	varies	varies
Sales Tax	gross sales, city rates	varies	varies	varies	varies	varies	0	varies
Utility Franchise	service population (emp*2)	3.0832	10.6016	16.6684	10.4246	9.8446	0.0000	1.1516
TOT	lodging sales per motel acre	731,097	1,219,501	845,162	722,545	0	0	0
Charges for Services-Const	construction value	0.0096	0.0083	0.0167	0.0101	0.0066	0.0000	0.0031
Charges for Services-Other	service pop (pop*2)	23.6098	10.3042	16.1406	6.7934	4.9899	4.1197	24.2007
Fines & Forfeitures	service pop (pop*2)	6.4804	8.8146	8.3864	5.6924	10.2107	1.1844	2.2356
Interest	total revenues	0.0007	0.0020	0.0029	0.0072	0.0006	0.0041	0.0200
Intergovernmental*	population	257.50	271.96	244.0271	268.0674	252.2026	133.41	107.45
Licenses & Permits-Const	construction value	0.0085	0.0167	0.0000	0.0107	0.0141	0.0085	0.0085
Licenses & Permits-Other	employment	3.6441	11.4577	19.9210	11.6645	9.9387	7.2404	7.2404
Misc Income	service population	0.8947	12.7577	11.4397	5.7700	17.8795	1.3810	4.1346

Expenditure Rates		Extra Large	Large	Medium Large	Medium	Small	Maricopa County	Pinal County
Mayor & Council	population	3.6444	3.8078	3.0430	4.5307	4.1699	0.4454	1.2905
City Manager	service pop (pop*2)	1.6482	2.2944	3.5230	6.4584	21.7194	0.3417	0.9622
Marketing/Communications	population	0.6745	2.9581	9.4534	6.9218	0.0000	0.0000	0.0000
Human Resources and IT	Per FTE	3,103.00	4,990.85	1,638.06	6,332.97	7164.76	966.66	4,566.67
City Clerk	service pop (pop*2)	1.6049	1.1596	2.3034	2.6652	20.6120	0.5083	2.8012
City Attorney	population	13.2093	13.6636	14.4622	14.5123	19.8591	17.1710	22.2087
Municipal Court	population	24.0338	16.3789	16.2267	13.8234	33.4357	66.0656	72.4250
Finance, Audit	Per FTE	1,531.83	2,255.87	2,765.05	3,776.25	4,276.94	2,430.47	3,056.76
Police	per officer	140,116.99	135,119.35	153,194.71	132,434.93	47.45	135,587.55	236,106.29
Fire	service pop (pop*2)	65.6451	47.2980	52.2690	49.1365	75.5859	0.7648	0.0000
Community Development	70% service population	1.5484	8.9186	11.3185	12.2964	38.7358	0.9028	10.7286
	30% construction value	0.0008	0.0074	0.0059	0.0042	0.0102	0.0008	0.0070
Economic Development	employment	6.1512	17.6139	35.5033	19.0141	0.0000	0.0000	15.4091
Public Works	service pop (pop*2)	5.0040	29.3664	22.9462	11.8702	53.4307	16.8414	17.4601
Engineering	construction value	0.0000	0.0128	0.0070	0.0048	0.0061	0.0000	0.0000
Parks, Recreation, Library	60% population	13.8575	56.1251	65.2530	38.7316	89.6307	2.2915	0.1392
and Social Services	40% park acres	4,386.26	27,853.44	28,231.72	16,809.50	28863.64	3.78	60.99
Nondepartmental	total expenditures	0.0000	0.0817	0.0435	0.0455	0.0000	0.0509	0.2360
Streets	street miles	4,646.94	10,892.25	11,999.85	11,243.30	11,837.45	0.00	0.00
Transit	service pop	8.6756	1.2730	0.0000	0.0000	0.0000	0.0000	0.0000
Superintendent of Schools	population	0.0000	0.0000	0.0000	0.0000	0.0000	0.5254	2.3362
Health and Human Services	population	0.0000	0.0000	0.0000	0.0000	0.0000	65.9833	23.3178
General Government	service pop (pop*2)	0.0000	0.0000	0.0000	0.0000	0.0000	0.3252	0.1194
*FTE per Service Pop (pop*2)*		0.0040	0.0034	0.0028	0.0027	0.0028	0.0016	0.0046
Service Pop per Officer		1,157.19	1,443.28	1,700.22	1,783.96	1,033.19	2,374.78	1,950.08
Utility Sales Tax per Employee		1,218.55	2,957.93	6,344.43	5,542.01	4,122.59	0.00	10,812.27

Sources: 2011/12 actual budget data for each jurisdiction; Applied Economics, 2013.
Note: For small cities, city manager, human resources and IT expenditures are combined and police expenditures are based on service pop.

Note that there are some drawbacks to this approach, especially relative to balancing revenues and expenditures for individual cities. When creating average rates, not every city was included in every average since cities that were well above or well below the average in a particular category were eliminated as outliers. This means that some rates are not reflective of all cities in that size range.

Additionally, minor adjustments were made to the rates to ensure that there was a relatively smooth progression upward or downward from large cities to small cities. This was important so that the revenue and expenditure impacts are consistent over time as cities progress to different size ranges. *Despite the lack of customization for individual communities, it is still clear that there are only minor differences in revenue generation rates that are directly related to city size, but major differences in cost of services that are directly related to city size.*

4.4 Other Assumptions

A variety of assumptions are required to convert acres into fiscal impacts. Some assumptions are city-specific and some assumptions apply to all cities uniformly. The user can modify most assumptions used in the model.

4.4.1 Square Footage and Housing Units

First, nonresidential acreage is converted into square footage by type and residential acreage is converted into housing units. This conversion is based on floor area ratios (FAR) for nonresidential development, and city-specific assumptions about and units per acre in each residential density category. In both cases, gross acres are converted to net acres by accounting for the percentage of land devoted to right of way in each land use category. This percentage is based on data from the MAG existing land use dataset.

4.4.2 Construction Value

Construction value forms the basis for changes in future assessed value, and is used to calculate construction sales tax and to drive other revenues and expenditures related to construction activity. In order to calculate construction value, construction costs per square foot from RS Means are applied to nonresidential square footage described above. For residential development, the number of units by density category is multiplied by average unit size and then multiplied by construction cost per square foot. Baseline assumptions for per square foot construction costs and unit sizes are shown in Figure 4-3.

FIGURE 4-3
CONSTRUCTION COST AND UNIT SIZE ASSUMPTIONS

Land Use	Unit Size (Sq Ft)	Construction Cost PSF
Residential		
Very High Multi-Family (13+ du/acre)	800	$108.86
High Multi-Family (10-13 du/acre)	1,000	$100.89
Medium Multi-Family (6-10 du/acre)	1,000	$79.65
Very Small Lot (7+ du/acre)	1,200	$77.66
Small Lot (4-6 du/acre)	1,500	$71.29
Medium Lot (2-4 du/acre)	2,200	$91.38
Large Lot (1-2 du/acre)	3,200	$72.22
Estate (1du/acre)	3,500	$97.39
Rural (less than 1 du/acre)	2,800	$82.44
Nonresidential		
High Rise Office	na	$143.37
Low Rise Office	na	$114.17
Retail	na	$78.77
Motel	na	$95.58
Industrial	na	$62.84
Business Park	na	$62.84
Other	na	$134.52
Public	na	$129.21
Institutional	na	$144.26

Source: RSMeans Building Construction Cost Data, 2013.

4.4.3 Assessed Value

Assessed value is used to calculate property taxes, which are a primary source of revenues for cities. Nonresidential assessed value was calculated by multiplying square footage by construction cost per square foot times 85 percent (a general rule of thumb used to account for the difference between market value and full cash value), and adding the number of acres times city-specific land cost per acre. Nonresidential assessed value also includes personal property, which is calculated on a per employee basis.

For residential development, assessed value was calculated similarly based on average value per unit, using assessor's records for each community. The value per unit is equal to unit size time construction cost per square foot times 85 percent plus current average value per unit times the number of existing units. For future assessed value the change in number of units times the construction cost times 85 percent is added to the assessed value for the previous time period. This calculation yields a fairly reasonable result given that all new construction can be assumed to meet minimum quality standards that would be consistent with the assumed construction costs.

Assessed value adjustment factors were applied by city by land use (residential, commercial/industrial, other and vacant) such that the baseline 2012 assessed value calculation in the model would be consistent with the Assessor's totals by land use category for that city.[17]

[17] Arizona Department of Revenue, Central Information Services Section "State and County Abstract of the Assessment Roll," 2013.

4.4.4 Taxable Sales

The other key local revenue source for cities in addition to property taxes is sales taxes, which are based on taxable sales. Taxable sales come from several sources. First, for retail land use the model includes taxable retail, restaurant and amusement sales per acre for each city. Transient lodging sales per acre are also based on city specific assumptions. Assumptions for retail and lodging sales per acre are shown in Figure 4-4.

The other important component of taxable sales is property rentals. In order to calculate taxable sales from property rentals, the amount of total square footage by type in each time period is multiplied by percent leased (versus owner occupied), then by the occupancy rate and then by an average lease rate. Average lease rates were based on information from CBRE for second quarter 2013. These figures vary by land use and by metro sub-region (Figure 4-4). Percent leased is adjustable by land use category.

FIGURE 4-4
ASSUMPTIONS FOR TAXABLE SALES AND LEASE RATES

	Taxable Sales		Annual Lease Rates				
	Per Retail Acre	Per Motel Acre	Multi-Family	High Rise Office	Low Rise Office	Retail	Industrial/ Bsns Park
Phoenix	$1,702,628	$731,097	$10,476	$16.54	$22.08	$20.30	$6.84
Mesa	$1,101,225	$960,201	$10,152	$14.78	$22.08	$19.68	$9.00
Glendale	$1,076,282	$960,201	$10,236	$14.63	$22.08	$19.68	$10.20
Scottsdale	$2,363,200	$1,110,684	$13,488	$15.59	$22.08	$22.05	$10.68
Chandler	$3,397,320	$1,239,252	$12,684	$14.78	$22.08	$19.68	$9.00
Tempe	$4,172,176	$1,123,118	$10,778	$15.16	$22.08	$18.66	$6.84
Gilbert	$1,595,029	$1,328,318	$11,784	$14.78	$22.08	$19.68	$9.00
Peoria	$1,682,930	$960,201	$12,936	$13.45	$22.08	$19.72	$10.20
Avondale	$1,472,245	$1,370,757	$12,804	$15.11	$22.08	$19.72	$4.44
Surprise	$1,127,770	$567,206	$12,804	$14.89	$22.08	$19.72	$10.20
Goodyear	$1,178,001	$598,931	$12,804	$15.11	$22.08	$19.72	$4.44
Fountain Hills	$1,241,328	$960,201	$13,488	$18.17	$22.08	$22.05	$10.68
Peoria	$15,465,957	$978,200	$13,488	$24.15	$22.08	$21.26	$10.68
El Mirage	$1,040,528	$960,201	$9,900	$14.89	$22.08	$19.72	$10.20
Buckeye	$1,108,757	$554,448	$12,804	$15.11	$22.08	$19.72	$4.44
Guadalupe	$1,795,323	$152,241	$9,900	$15.16	$22.08	$18.66	$6.84
Wickenburg	$293,755	$250,509	$10,236	$13.45	$22.08	$19.72	$10.20
Tolleson	$3,940,408	$960,201	$9,900	$15.11	$22.08	$19.72	$4.44
Litchfield Park	$1,835,623	$960,201	$10,236	$15.11	$22.08	$19.72	$4.44
Cave Creek	$495,203	$29,357	$13,488	$18.17	$22.08	$22.05	$10.68
Queen Creek	$1,316,980	$960,201	$12,684	$14.78	$22.08	$19.68	$9.00
Youngtown	$1,576,394	$960,201	$9,900	$15.11	$22.08	$19.72	$4.44
Carefree	$1,191,284	$960,201	$13,488	$18.17	$22.08	$22.05	$10.68
Gila Bend	$355,215	$250,000	$9,900	$14.63	$22.08	$17.64	$4.44
Apache Junction	$519,413	$263,552	$10,152	$14.94	$22.08	$19.68	$9.00
Florence	$529,736	$74,679	$10,152	$14.94	$22.08	$17.64	$4.44
Maricopa	$421,811	$0	$10,236	$21.24	$22.08	$19.68	$9.00
Percent Leased			100%	75%	85%	85%	50%

4.4.5 Population and Employment

The final conversion of the land use information is to socioeconomic impacts -- population and employment. In order to convert residential development into population, the number of housing units is multiplied by population per unit and by an occupancy rate. Population per unit varies by city and by density level. Both occupancy rates and population per unit are based on data provided by MAG. The model includes current and future population per unit rates. Current rates have been adjusted to bench to 2012 city population estimates.

In order to convert nonresidential land uses into employment, the number of acres by type is multiplied by employment per acre. The number of acres and control total employment by type for 2012 based on current MAG employment estimates by generalized land use.

4.5 Baseline Land Use Profiles

Once the assumptions were developed, the next step was to set up baseline land use pro-formas for each of the 27 cities and the two counties. The baseline land use data was provided by MAG. It includes developed and vacant acres in nine nonresidential land use categories and nine residential categories for 2012 and build out. The model is set up to input data for ten time periods, but data was not available to fill in absorption for 2015, 2020, 2025, 2030, 2035, 2040, 2045 and 2050.

The model requires an inventory of current developed and vacant acres by type, and then an accounting of cumulative absorption by type in each future time period. This data is then converted into socioeconomic and fiscal impacts.

The nonresidential land use categories in the model include the following:

- Retail
- Industrial
- Business Park
- High Rise Office
- Low Rise Office
- Hotel/Motel
- Public
- Institutional
- Other

The residential land use categories in the model include the following:

- Very High Density Multi-Family (13+ units/acre)
- High Density Multi-Family (10 to 13 units/acre)
- Medium Density Multi-Family (6 to 10 units/acre)
- Very Small Lot (7+ units/acre)
- Small Lot (4 to 6 units/acre)
- Medium Lot (2 to 4 units/acre)
- Large Lot (1 to 2 units/acre)
- Estate (1 unit/acre)
- Rural (less than 1 unit/acre)

4.6 Model Calibration

Once the baseline land use pro-formas for each member agency were entered, a series of steps were taken to calibrate the model and verify assumptions. First, the amount of current population, housing units and employment for each city were verified to ensure that they approximately matched the current estimates. Density assumptions were adjusted as needed. Future housing units were matched to MAG projections as closely as possible by varying future units per acre by density category.

The next step was to calibrate the calculation of assessed value. Based on information from the Assessor's abstract, current assessed value by type as calculated by the model was adjusted to match the Assessor's information for 2013, based on the process described in 4.4.3.

For sales tax, the sales per acre figures described in Figure 4-4 are used for future retail development. However, there is substantial variation in the quality and density of existing retail development and it is difficult based on limitations of the land use data to accurately calculate taxable sales for 2012. For this reason, an adjustment factor was applied so that general fund sales tax revenues in each community match the current budget numbers for 2012. All future sales tax revenues were calculated on the change, based on the assumptions described above.

Finally, the revenues and expenditure impacts were compared with actual budget information for each city. The major revenue sources including property and sales tax and intergovernmental revenues match very closely to actual budgets. Expenditures may vary since rates are used for generalized groups of cities, but they are all within a reasonable margin compared to actual budgets.

Additional model testing could be done to "backcast" fiscal impacts for previous years. However, there are some challenges with this type of testing because there may be sizeable variation in city budgets from year to year. The model is calibrated based on current budgets only. This type of backcasting would also require MAG land use data for each community for those previous years.

Once the baseline profiles for each city were completed and the described above calibrations were made, the model was ready to produce results. The impacts for 2012 by city and by land use category are described in the following sections.

4.7 Land Use Pro-Formas

The fiscal impact model was used to estimate net impacts by city for four different general land uses in order to illustrate the differences in revenues and expenditures generated by land use and by city size. The land use categories included office, retail, industrial and residential. Within the residential category there are five different density levels included in the analysis (3 single family and 2 multi-family). Development pro-formas were created for one acre of land of each type. These pro-formas, shown in Figure 4-5, include assumptions on density, construction costs per square foot, and retail sales per square foot. This information is then used to calculate residential housing units and population, nonresidential square feet and employment, construction costs, retail sales, assessed value, additional park acres and street miles required.

Some variables such as population per housing unit and park acres per capita vary by city in order to make the results more representative of city-specific conditions. Utility sales per employee are based on actual tax collections by industry. The data by city was averaged to create a rate for each size category.

FIGURE 4-5
LAND USE PRO-FORMAS

	Single Family					Non-Residential		
Characteristics	Rural Residential	Medium Lot Residential	Very Small Lot Residential	High Density	Very High Density	Office	Retail	Industrial
Acres	1	1	1	1	1	1	1	1
Housing Units	0.2	4	8	12	34	0	0	0
Population	varies	varies	varies	varies	varies	0	0	0
Square Feet	2,800 per unit	2,200 per unit	1,200 per unit	1,000 per unit	800 per unit	15,769	8,708	11,602
Employment	0	0	0	0	0	60	16	12
New Street Miles	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Construction Cost per Acre	$46,166	$749,593	$745,536	$1,210,680	$2,960,992	$1,800,315	$685,949	$729,044
Taxable Sales	$0	$0	$0	$0	$0	$0	$1,702,628	$0
Assessed Value	varies	varies	varies	varies	varies	varies	varies	varies
Assumptions								
Units per Acre	0.2	3	8	12	34	0	0	0
PPDU	varies by city	varies by city	varies by city	varies by city	varies by city	na	na	na
Construction cost psf	$82.44	$85.18	$77.66	$100.89	$108.86	$114.17	$78.77	$62.84
Park Acres per capita	varies by city	varies by city	varies by city	varies by city	varies by city	na	na	na
Employees per Acre	0	0	0	0	0	60.00	16.00	12.00
FAR	na	na	na	na	na	0.40	0.22	0.28
Occupancy Rate	93%	93%	93%	80%	80%	90%	90%	90%
Lease Rate	$0	$0	$0	$10,476	$10,476	varies by city	varies by city	varies by city
Personal Property per Empl	$0	$0	$0	$0	$0	$10,000	$0	$10,000
Retail Sales per Acre	$0	$0	$0	$0	$0	$0	$1,702,628	$0
Utility Sales per Employee	$0	$0	$0	$0	$0	varies by city	$0	varies by city

4.8 Net Impacts by Land Use by City

Using the preliminary impact model, each of the pro-formas was evaluated for each of the 27 communities plus the two counties. The community results are shown in Figure 4-6. Total revenues and expenditures are indicated along with a ratio of revenues divided by expenditures. Ratios greater than one indicate a positive net impact. Since this is an order of magnitude model, ratios close to one should be considered a neutral impact.

Although construction costs are shown in the pro-formas, these are only used as a basis for calculating assessed value. No construction sales tax, permit fees or related expenses are included in the net impacts since these are non-recurring items that distort the longer term impact results.

4.8.1 Industrial Development

Industrial development generates a moderate positive fiscal impact for most cities. For this example, assessed value varies by city, based on differences in land values, although FAR and employment per acre are fixed. For Goodyear, Buckeye, El Mirage and Queen Creek that have relatively high local property tax rates, the ratio of revenues to expenditures for industrial development ranges from 1.63 to 2.55 indicating a strong positive impact. For Maricopa County, industrial development also generates a positive impact since the county relies on property tax revenues and not sales tax for operations and maintenance (O&M).

Real property assessed value for industrial is less than for office development, but employment density is also lower. Typically with industrial development, the majority of assessed value is from personal property. Based on averages from the Census of Manufacturing, the industrial pro-forma includes $15,000 of personal property per employee, which helps to boost property tax revenues. Additionally, this pro-forma assumes that 50 percent of the industrial space would be for lease, thus generating some

sales tax revenues for cities. On the expenditure side industrial and office development generally require less police service than other types of development. This is significant since public safety is usually one of the largest expenditure items for cities.

4.8.2 Office Development

Office development creates a positive impact for most cities, with the ratio of revenues to expenditures ranging from 0.68 to 2.53. The greatest positive impacts are in cities with both high sales and property tax rates such as Tempe, Avondale, Goodyear, El Mirage, Buckeye, Fountain Hills and Queen Creek, since both higher property values and sales taxes on leases are important revenues from office development.

The model shows break even or negative impacts for cities like Mesa, Chandler and Gilbert which have very low or no primary property taxes and relatively low sales tax rates. Paradise Valley, which also has no primary property tax, shows a negative impact due to the high cost of police service. Maricopa County which does not have any general fund sales tax but shows a positive impact since office development generates sufficient revenues from property taxes to cover the cost of county services.

The pro-forma assumes that 85 percent of the office space is leased versus owner occupied. The office pro-forma also includes $10,000 of personal property per employee, which helps to boost property tax revenues. Office development, which is assumed to be low to mid-rise office for this example, has the highest assessed value among nonresidential uses due both the quality and density of development. Real property values are about 2.5 times the level for industrial or retail development. Office development also generates more employees per acre than retail or industrial, so the overall level of expenditures is generally higher.

4.8.3 Retail Development

Retail development creates the largest positive impact, significantly greater than any other type of development. This is because retail sales contribute so directly to a city's bottom line. The ratios of revenues to expenditures for retail range from 6.97 to 19.15. Cities such as Glendale, Avondale, Goodyear, El Mirage, Buckeye, Guadalupe, Fountain Hills and Cave Creek with higher sales tax rates tend to have the most positive impacts from retail development. Taxable retail sales in this scenario are estimated at $196 per square foot which represents an average for the region. Retail sales per square foot in the model actually vary by city, but were held constant for this example. The lower assessed value associated with retail development is significantly overshadowed by higher sales tax revenues. Maricopa County, which does not have a general fund sales tax is the exception and has a negative impact from retail with a revenue to expenditure ratio of 0.88.

Retail development typically places a greater burden on local streets and requires more police services, although these expenditures are far out-weighed by higher revenues. Density of employment is also fairly low resulting in lower expenditure levels for other services.

For the purpose of this analysis, each land use type is analyzed independently. However, the retail pro-forma is a good example of how different land uses support each other. Although all retail sales in this model are attributed to retail land uses, local residents create demand for these establishments. In a well-balanced city, the highly positive impact created by retail development helps to offset some of the costs associated with supporting residential development.

FIGURE 4-6
NET IMPACTS PER ACRE OF DEVELOPMENT BY CITY AND LAND USE TYPE AND REVENUE TO EXPENDITURE RATIOS

		Industrial		Office		Retail	
Phoenix	Revenues	$2,665	0.97	$15,347	1.11	$38,154	10.37
	Expenditures	$2,761		$13,803		$3,681	
Mesa	Revenues	$1,967	0.67	$9,880	0.68	$33,107	8.50
	Expenditures	$2,920		$14,602		$3,894	
Glendale	Revenues	$3,660	1.25	$17,013	1.17	$54,921	14.10
	Expenditures	$2,920		$14,602		$3,894	
Scottsdale	Revenues	$2,617	0.90	$14,204	0.97	$31,838	8.18
	Expenditures	$2,920		$14,602		$3,894	
Chandler	Revenues	$2,574	0.88	$11,691	0.80	$29,237	7.47
	Expenditures	$2,937		$14,685		$3,916	
Tempe	Revenues	$4,417	1.53	$21,610	1.50	$40,498	10.54
	Expenditures	$2,881		$14,407		$3,842	
Gilbert	Revenues	$2,016	0.69	$10,116	0.69	$28,817	7.40
	Expenditures	$2,920		$14,602		$3,894	
Peoria	Revenues	$3,270	1.14	$16,131	1.12	$35,320	9.19
	Expenditures	$2,881		$14,407		$3,842	
Avondale	Revenues	$3,470	1.37	$20,664	1.63	$48,778	14.39
	Expenditures	$2,541		$12,707		$3,389	
Surprise	Revenues	$4,637	1.61	$22,582	1.57	$43,850	11.41
	Expenditures	$2,881		$14,407		$3,842	
Goodyear	Revenues	$3,744	1.27	$22,738	1.79	$48,907	14.43
	Expenditures	$2,941		$12,707		$3,389	
Fountain Hills	Revenues	$3,815	1.73	$18,741	1.70	$50,896	17.31
	Expenditures	$2,205		$11,026		$2,940	
Paradise Valley	Revenues	$3,385	0.71	$16,368	0.69	$49,272	7.78
	Expenditures	$4,752		$23,758		$6,336	
El Mirage	Revenues	$5,878	2.55	$29,131	2.53	$58,803	19.15
	Expenditures	$2,303		$11,514		$3,070	
Buckeye	Revenues	$4,138	1.63	$28,894	2.27	$58,175	17.17
	Expenditures	$2,541		$12,707		$3,389	
Guadalupe	Revenues	$4,162	1.06	$22,675	1.15	$75,835	14.42
	Expenditures	$3,945		$19,723		$5,260	
Wickenburg	Revenues	$3,927	0.94	$19,972	0.95	$42,918	7.68
	Expenditures	$4,191		$20,954		$5,588	
Tolleson	Revenues	$4,516	0.86	$21,920	0.83	$49,102	6.97
	Expenditures	$5,281		$26,405		$7,041	
Litchfield Park	Revenues	$2,789	0.86	$17,360	1.07	$53,376	12.38
	Expenditures	$3,233		$16,165		$4,311	
Cave Creek	Revenues	$3,912	1.69	$19,175	1.65	$57,729	18.68
	Expenditures	$2,318		$11,589		$3,090	
Queen Creek	Revenues	$4,634	2.10	$25,212	2.29	$44,369	15.09
	Expenditures	$2,205		$11,026		$2,940	
Youngtown	Revenues	$2,934	0.70	$18,331	0.88	$57,117	10.27
	Expenditures	$4,173		$20,865		$5,564	
Carefree	Revenues	$3,912	0.82	$19,175	0.81	$57,729	9.12
	Expenditures	$4,749		$23,747		$6,332	
Gila Bend	Revenues	$3,506	0.88	$20,590	1.04	$57,563	10.87
	Expenditures	$3,971		$19,856		$5,295	
Apache Junction	Revenues	$3,128	1.62	$15,696	1.63	$42,715	16.64
	Expenditures	$1,925		$9,625		$2,567	
Florence	Revenues	$2,968	1.17	$18,886	1.49	$39,060	11.53
	Expenditures	$2,541		$12,707		$3,389	
Maricopa	Revenues	$4,164	1.40	$20,562	1.38	$40,513	11.95
	Expenditures	$2,981		$14,905		$3,389	
Pinal County	Revenues	$5,953	1.97	$28,158	1.86	$13,529	3.35
	Expenditures	$3,025		$15,123		$4,033	
Maricopa County	Revenues	$1,587	1.53	$8,290	1.60	$1,216	0.88
	Expenditures	$1,036		$5,182		$1,382	

Source: Applied Economics, 2013.

FIGURE 4-6 (continued)
NET IMPACTS PER ACRE OF DEVELOPMENT BY CITY AND LAND USE TYPE AND REVENUE TO EXPENDITURE RATIOS

		Rural SF		Medium Lot SF		Very Small SF		High Density MF		Very High Density MF	
Phoenix	Revenues	$214	0.80	$3,723	0.74	$6,786	0.68	$8,496	0.83	$24,886	0.83
	Expenditures	$268		$5,038		$10,053		$10,294		$29,902	
Mesa	Revenues	$191	0.57	$3,599	0.57	$4,909	0.57	$8,069	0.70	$23,439	0.70
	Expenditures	$336		$6,343		$8,651		$11,516		$33,454	
Glendale	Revenues	$219	0.63	$3,546	0.61	$5,479	0.60	$9,814	0.81	$28,529	0.81
	Expenditures	$349		$5,840		$9,059		$12,073		$35,071	
Scottsdale	Revenues	$282	1.03	$3,600	0.72	$5,714	0.62	$6,536	0.73	$19,215	0.74
	Expenditures	$273		$5,030		$9,162		$8,897		$25,846	
Chandler	Revenues	$218	0.59	$3,982	0.60	$6,068	0.58	$7,818	0.68	$22,872	0.69
	Expenditures	$369		$6,628		$10,472		$11,490		$33,377	
Tempe	Revenues	$196	0.60	$3,534	0.68	$6,239	0.64	$7,850	0.79	$23,082	0.80
	Expenditures	$329		$5,196		$9,681		$9,926		$28,835	
Gilbert	Revenues	$220	0.60	$3,696	0.60	$6,181	0.60	$7,541	0.72	$21,905	0.72
	Expenditures	$369		$6,205		$10,377		$10,453		$30,364	
Peoria	Revenues	$199	0.69	$3,099	0.59	$5,743	0.58	$6,974	0.74	$20,339	0.75
	Expenditures	$287		$5,211		$9,886		$9,387		$27,269	
Avondale	Revenues	$208	0.63	$3,217	0.65	$7,126	0.64	$7,714	0.88	$22,769	0.90
	Expenditures	$332		$4,919		$11,115		$8,744		$25,400	
Surprise	Revenues	$173	0.54	$3,371	0.57	$5,930	0.53	$7,532	0.70	$21,965	0.71
	Expenditures	$322		$5,935		$11,109		$10,695		$31,068	
Goodyear	Revenues	$172	0.71	$3,743	0.75	$6,650	0.70	$7,822	0.94	$23,404	0.97
	Expenditures	$241		$4,978		$9,444		$8,321		$24,173	
Fountain Hills	Revenues	$136	0.76	$2,264	0.76	$4,159	0.76	$7,836	1.07	$22,763	1.07
	Expenditures	$180		$2,993		$5,497		$7,331		$21,295	
Paradise Valley	Revenues	$148	0.38	$3,061	0.38	$5,751	0.38	$8,014	0.53	$23,280	0.53
	Expenditures	$389		$8,017		$15,060		$15,258		$44,322	
El Mirage	Revenues	$252	0.77	$4,154	0.78	$7,224	0.74	$13,912	0.86	$40,375	0.86
	Expenditures	$329		$5,343		$9,736		$16,085		$46,726	
Buckeye	Revenues	$182	0.73	$3,561	0.72	$5,747	0.70	$8,686	0.99	$25,379	1.00
	Expenditures	$248		$4,958		$8,168		$8,732		$25,367	
Guadalupe	Revenues	$117	0.40	$5,253	0.40	$9,168	0.40	$12,705	0.55	$36,924	0.55
	Expenditures	$295		$13,203		$23,056		$23,135		$67,250	
Wickenburg	Revenues	$189	0.53	$3,748	0.51	$5,889	0.50	$9,756	0.63	$28,440	0.63
	Expenditures	$354		$7,286		$11,663		$15,534		$45,124	
Tolleson	Revenues	$201	0.37	$3,608	0.37	$7,043	0.38	$9,958	0.47	$30,043	0.49
	Expenditures	$545		$9,782		$18,558		$21,082		$61,242	
Litchfield Park	Revenues	$168	0.56	$2,565	0.56	$4,866	0.56	$8,619	0.78	$25,038	0.78
	Expenditures	$301		$4,606		$8,738		$11,076		$32,175	
Cave Creek	Revenues	$136	0.77	$2,560	0.77	$4,746	0.77	$8,197	1.13	$23,811	1.13
	Expenditures	$177		$3,339		$6,190		$7,266		$21,108	
Queen Creek	Revenues	$297	1.16	$4,737	0.96	$7,256	0.85	$8,208	1.04	$24,177	1.06
	Expenditures	$255		$4,954		$8,513		$7,869		$22,860	
Youngtown	Revenues	$79	0.38	$2,512	0.38	$4,964	0.38	$8,469	0.55	$24,600	0.55
	Expenditures	$207		$6,607		$13,057		$15,370		$44,648	
Carefree	Revenues	$111	0.48	$2,203	0.48	$4,179	0.72	$7,711	0.72	$22,400	0.72
	Expenditures	$233		$4,623		$5,771		$10,672		$31,003	
Gila Bend	Revenues	$191	0.42	$3,566	0.41	$6,758	0.41	$9,121	0.58	$26,497	0.58
	Expenditures	$459		$8,624		$16,363		$15,697		$45,599	
Apache Junction	Revenues	$130	0.76	$2,469	0.68	$4,608	0.76	$8,101	1.00	$23,532	1.00
	Expenditures	$171		$3,630		$6,039		$8,077		$23,462	
Florence	Revenues	$174	0.69	$3,138	0.68	$5,934	0.67	$8,151	0.86	$23,679	0.86
	Expenditures	$251		$4,644		$8,810		$9,449		$27,449	
Maricopa	Revenues	$193	0.82	$3,383	0.74	$6,129	0.71	$8,205	0.89	$23,949	0.89
	Expenditures	$236		$4,552		$8,641		$9,262		$26,904	
Pinal County	Revenues	$149	0.50	$2,476	0.52	$4,048	0.45	$5,237	0.43	$15,610	0.44
	Expenditures	$301		$4,775		$9,059		$12,115		$35,193	
Maricopa Cty	Revenues	$104	0.62	$1,850	0.62	$2,929	0.62	$3,299	0.61	$9,615	0.61
	Expenditures	$167		$2,971		$4,759		$5,421		$15,748	

Source: Applied Economics, 2013.

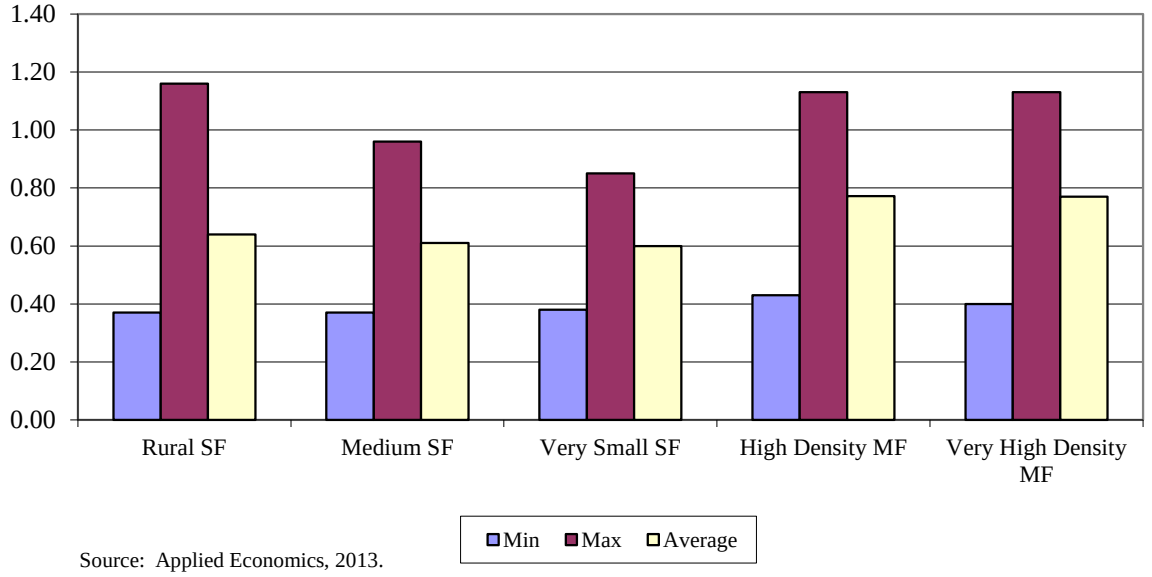
4.8.4 Residential Development

Residential development is the only type of development that creates a consistently negative impact. The five pro-formas shown here range in density from rural single-family at 0.2 units per acre, to very high density multi-family at 34 units per acre. The impacts from residential development are largely a function of the tax structure of cities in Arizona. The majority of revenues from residential development come from property tax and state shared revenues. Additional revenues from service charges offset some expenditures for items such as recreation. However, since most residents use city services more heavily than people working in the city, the expenditures from residential development typically outweigh revenues.

Although it is true that increased density results in lower capital costs for infrastructure it does not necessarily result in lower operations and maintenance costs. In general, the impacts become more negative as density increases for single family since the larger amount of residents per acre demand a higher level of services which are not offset by the increase in property tax revenues per acre. Within multi-family, there is little difference between high density and very high density, but in both cases the impacts tend to be less negative, or even slightly positive, compared to single family development. In addition to property taxes, multi-family development generates sales tax on rents which results in greater revenues to offset service costs. Positive impacts in high density multi-family development are most likely in cities with high land values as well as higher sales tax rates such as Fountain Hills, Cave Creek and Queen Creek.

Among the residential pro-formas shown here, high density and very high density multi-family yield the highest proportion of revenues relative to expenditures. Very small lot single family appears to have the most negative impacts. However, there is significant variation among cities. A summary of the relative revenue to expenditure ratios for each residential density type is shown in the graph below (Figure 4-7).

FIGURE 4-7
RESIDENTIAL REVENUE/EXPENDITURE RATIOS BY DENSITY
MAG MEMBER AGENCIES



Source: Applied Economics, 2013.

For single family, Queen Creek had the highest revenue to expenditure ratios across all three density categories and was one of only two cities that showed a non-negative impact for residential development. Scottsdale also showed a neutral impact for the lowest density of single family development, although the ratios of revenues and expenditures for medium and very small lot single family were significantly lower. Fountain Hills and El Mirage showed consistently higher (although still negative) impacts for all categories of single family development ranging from 0.74 to 0.78. The lowest ratios across the single family categories were in Tolleson, Youngtown, Gila Bend and Paradise Valley ranging from 0.37 to 0.42 cents in revenues for every dollar of expenditures required to support this type of development.

In terms of impacts by city size range, it appears that the medium sized cities had the least negative impacts on average, followed closely by Phoenix. The small cities had the most negative impacts on average. However, the results varied from city to city as to whether lower density development with less population and lower service demands created a less negative impact versus higher density single family housing, which according to the literature review can be more efficient to serve.

The two multi-family development pro-formas represent increasingly greater densities, but with lower per unit values and lower population per unit than single family. The distinguishing feature of multi-family development is that it generates sales tax revenues through rental occupancy tax. However, for most cities, there was relatively little variation in revenue to expenditure ratios across the two multi-family categories.[18] While some single family rentals may also generate sales tax, the vast majority of revenues are from multi-family, because a relatively small share of single family units are rentals and because individuals that rent their single family home are unlikely to remit sales taxes. Thus, rental occupancy taxes from single family development are not included in the model.

Several cities including Goodyear, Fountain Hills, Buckeye, Cave Creek Queen Creek and Apache Junction showed a neutral or slightly positive impact, indicating that the amount of property and sales tax revenues generated by this type of development could be sufficient to cover the cost of services based on the current service standards in that community. Ironically, all of these cities on the urban periphery are unlikely to see multi-family development in the near future at the very high density levels shown in the pro-formas.

The most negative impacts were in Paradise Valley, Guadalupe, Tolleson, Youngtown, and Gila Bend, all of which fall into the small size category and showed relatively more negative impacts for single family development as well. In terms of overall averages by size range, medium sized cities had the least negative net impacts on average for multi-family development at 0.95, whereas small cities had the most negative impacts on average at 0.66. For Maricopa and Pinal Counties, the results were fairly similar across density categories ranging from 0.43 to 0.52 in Pinal County and 0.61 to 0.62 in Maricopa County.

4.9 Conclusions

The fiscal model can yield valuable information about how different types of development are likely to impact city budgets on an order of magnitude level. These summary results show how the tax structure in Arizona as well as differences among individual cities are manifested in land use and planning decisions.

The bottom line is that cities must have a balanced mix of land uses for both economic and fiscal reasons. Residential development in isolation is not generally feasible. However, residential development is

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necessary to support demand for retail, and to create a labor pool for office and industrial uses. At the same time, retail development as the primary type of non-residential development in a community would create a strong fiscal impact, but would not result in a healthy economic base. The complexity within a contiguous urban area like Maricopa County stems from the fact that development patterns do not necessarily conform to city boundaries. When residents can easily work or shop in a neighboring community, it is possible for some cities to develop with an unbalanced mix of land uses that threaten fiscal sustainability. The fiscal impact model will be a useful tool in illustrating how growth patterns in individual cities will impact local budgets in the long term.

4.10 Recommendations for Future Enhancements

There are several enhancements and changes that could be incorporated in future updates of the model to increase its functionality and improve the accuracy of the impact results.

- Future updates could include new reports to allow for side by side comparisons of two scenarios, and modifications to the model to allow user to run multiple land use profiles and sum the results.

- Metrics could be developed to identify cities that are out of balance in terms of the amount of retail or other nonresidential uses in their future land use plans based on regional averages. Fiscal results are not meaningful if the future land use plans are not consistent with market reality.

- Current land use and socioeconomic data provided by MAG should be based on current city boundaries rather than MPA boundaries since the city budget and service areas only extend within the city boundaries. This would make the model more accurate and make it easier to reconcile the current land use with the current revenue and expenditure amounts from the city budgets.

- The land use fiscal model should be connected to MAG socioeconomic model to ensure that the amount of developed land by type and the assumptions regarding density, occupancy, population and employment are internally consistent for all time periods and reflect the controls and decision rules that are already incorporated into the methodology of the socioeconomic model.

- There is a disconnect in the model between FAR and employment density since density is expressed in employees per acre. Although both can be adjusted by the user, this should be resolved so that employment increases automatically as square footage increases.