

Fiscal Impact Analysis Report City of Bryan, Texas

Submitted to:
City of Bryan, Texas

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I. EXECUTIVE SUMMARY

TischlerBise is under contract with the City of Bryan to conduct a Fiscal Impact Analysis of potential annexation scenarios. This is a collective effort with several other partners including Kendig Keast Collaborative. The Texas A&M University System has recently begun the construction and opening of their RELLIS campus which sits just beyond the City of Bryan’s northwest boundary in Brazos County. The development of RELLIS into a full campus, that would include Blinn College, public-private research and development, and student/faculty housing, has the potential to spur growth into adjacent areas. Annexing the areas around the RELLIS campus may be advantageous for the City of Bryan, however, there would be operating and capital expenditures accruing to the City as a result. This analysis seeks to identify and evaluate those impacts.

A fiscal impact evaluation analyzes revenue generation and operating and capital costs to a jurisdiction associated with the provision of public services and facilities to serve development—residential, commercial, industrial, or other. A fiscal impact analysis is different from an economic impact analysis in that a fiscal impact analysis projects the cash flow to the public sector—in terms of additional taxes and other revenues in relation to costs to provide services—while an economic impact analysis projects the cash flow to the private sector, which is measured in income, jobs, output, indirect impacts, etc. A fiscal impact analysis should reflect market realities as well as existing capacities in municipal services and infrastructure.

In general, a fiscal impact analysis determines whether revenues generated by development are sufficient to cover the resulting costs from that development for service and facility demands under current levels of service. It is intended to be used to help guide policy decisions regarding levels of service and revenue enhancements. It should not be viewed as a budget-forecasting document or a definitive roadmap depicting a future course of action. A fiscal analysis essentially looks at revenues and expenditures separately. It does not project expenditures based on revenues available—unlike the annual budget process where a budget is balanced with the resources available.

Annexation Scenarios Evaluated

Three growth scenarios were developed for this analysis. Each scenario has development allocated to four subarea, or fiscal analysis zones (FAZs). The phasing of the FAZs developing is consistent between the three scenarios with FAZ 2 and 4 developing between Years 1-5, FAZ 3 developing between Years 5-10, and FAZ 1 developing between Years 10-15. To allow the analysis to have a specific focus on the development adjacent to the RELLIS campus (FAZ 1), FAZ 2, 3, 4 are consistent between the scenarios. The following details the differences in FAZ 1 development:

- Scenario 1: Residential – FAZ 1 has a high level of residential development.
- Scenario 2: Employment – A high level of nonresidential development occurs in FAZ 1, specifically industrial development.
- Scenario 3: Hospitality – The focus of development in FAZ 1 is in hotel development.

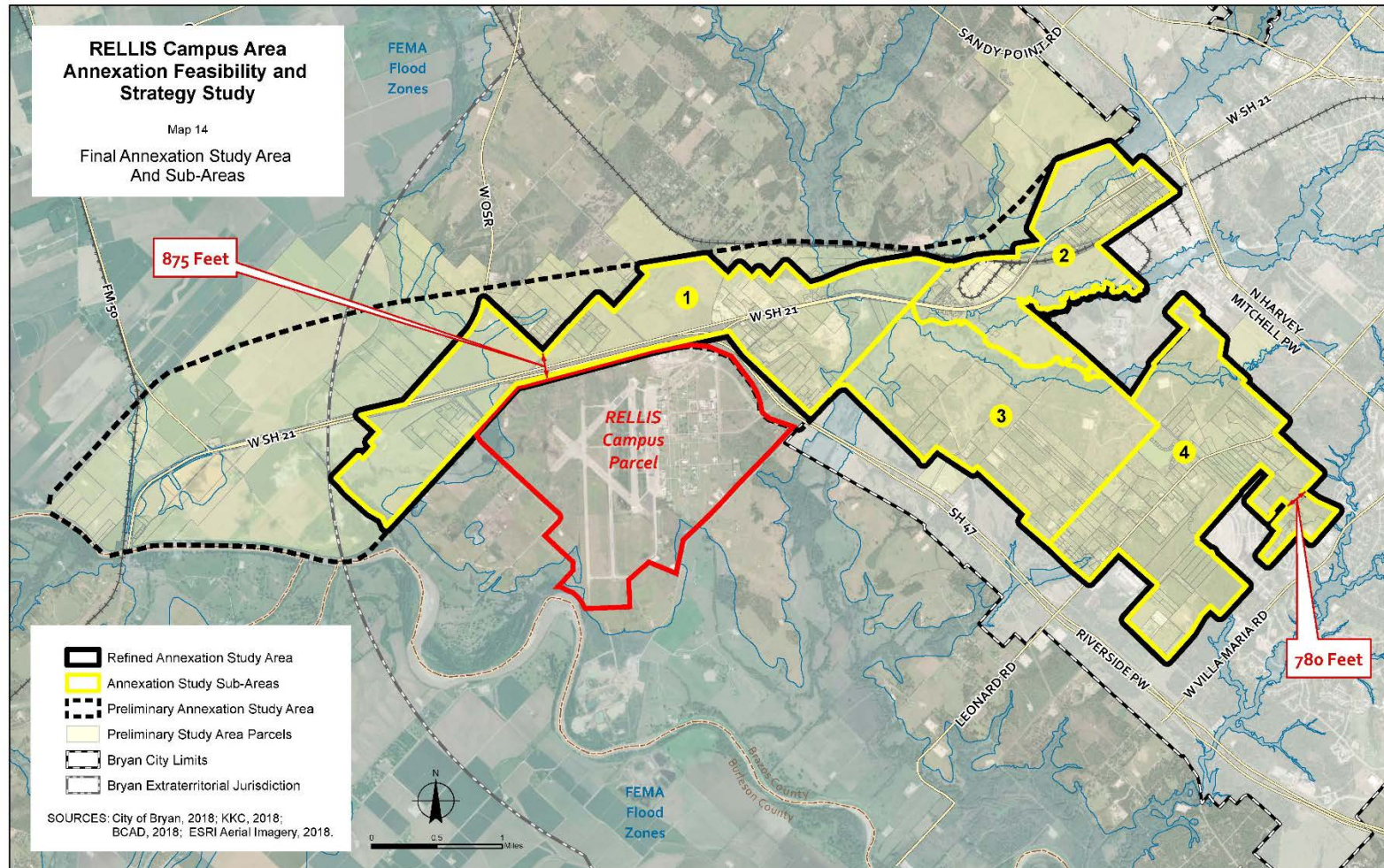
Furthermore, in the annexation area some development already exists. As this will be new to the City if annexed, current development in the FAZs are included in the analysis. In Figure 1 the total development for each scenario is listed.

Figure 1. Growth Projections by Scenario

Residential Scenario		Employment Scenario		Hospitality Scenario	
Development Type	Total (Years 1-20)	Development Type	Total (Years 1-20)	Development Type	Total (Years 1-20)
Residential		Residential		Residential	
Single Family Units	2,047	Single Family Units	2,047	Single Family Units	2,047
Multifamily Unit	2,400	Multifamily Unit	1,600	Multifamily Unit	1,600
Total Housing Units	4,447	Total Housing Units	3,647	Total Housing Units	3,647
Nonresidential		Nonresidential		Nonresidential	
Office (sq. ft.)	83,000	Office (sq. ft.)	60,000	Office (sq. ft.)	75,000
Retail (sq. ft.)	850,700	Retail (sq. ft.)	853,300	Retail (sq. ft.)	842,700
Industrial (sq. ft.)	977,650	Industrial (sq. ft.)	1,182,450	Industrial (sq. ft.)	953,650
Total Sq. Ft.	1,911,350	Total Sq. Ft.	2,095,750	Total Sq. Ft.	1,871,350
Hotel (bedrooms)	80	Hotel (bedrooms)	0	Hotel (bedrooms)	240

Below in Figure 2, the annexation fiscal analysis zones are highlighted. The fiscal impact study only calculates the impact of these FAZs on the City of Bryan, the growth of other areas of the City are not included.

Figure 2. Map of Annexation Area and Fiscal Analysis Zones

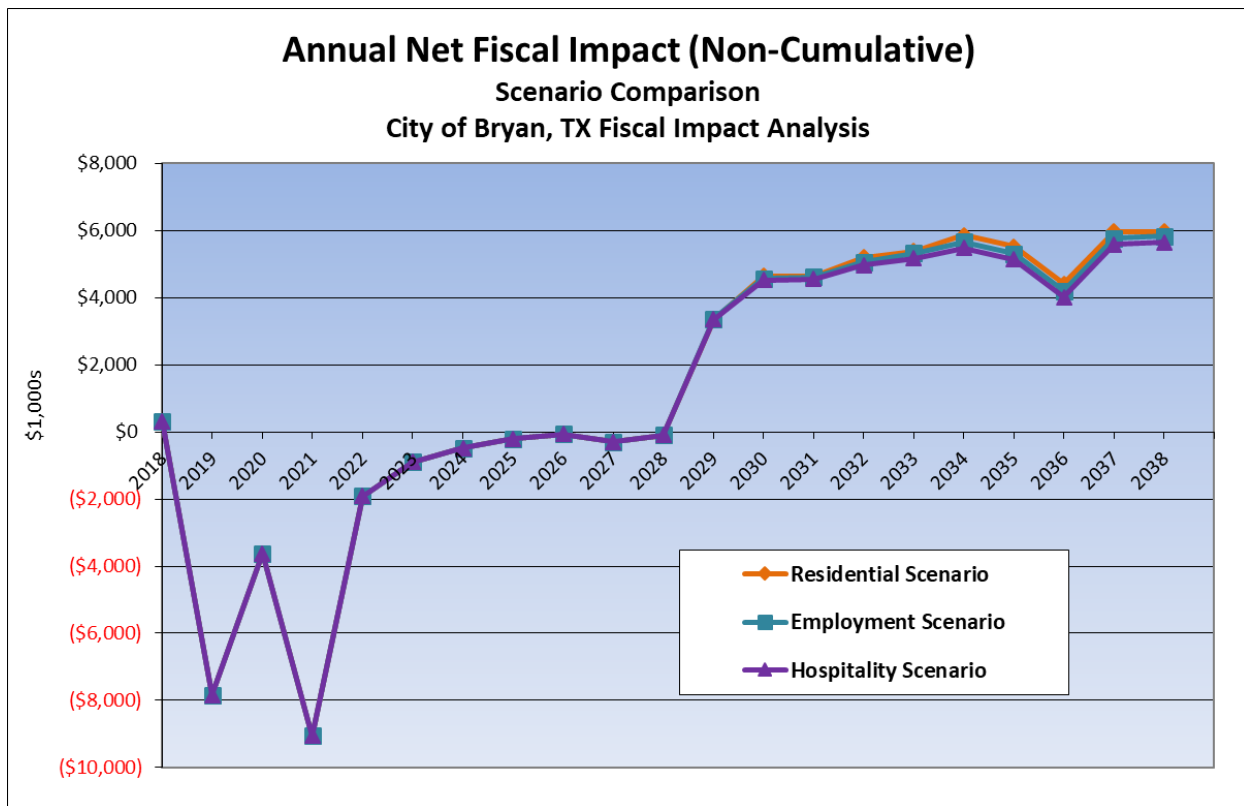


Summary of Fiscal Impact Results

The fiscal impacts of growth in the annexation area under each scenario are shown below in the following figures. Net fiscal results are **revenues minus costs in each year**, reflecting operating and capital costs for all services modeled. Data points above the \$0 line represent annual surpluses; points below the \$0 line represent annual deficits. Surpluses in any one year are not carried forward to the next year.

Overall, the scenarios have very similar results. In the first ten years, there is insufficient revenues generated by growth to cover resulting operating and capital expenditures. The annual deficits in the first ten years is a result of the improvements to existing roads, new road construction, and new fire station construction. However, from Year 11, the revenues offset both operating and capital costs for the remaining projection period, generating an annual positive fiscal impact.

Figure 3: Annual Net Fiscal Impact Results (x\$1,000)



The cumulative totals shown below reflect total revenues and expenditures over the 20-year time frame. As shown, there is a cumulative positive fiscal impact in all three scenarios. Although similar, Scenario 1 has the highest fiscal impact. Scenario 3 has the least impactful results; however, the difference is only about an average of \$130,000 per year compared to Scenario 1.

Figure 4. Cumulative Fiscal Impact Results

20-Year Total Net Fiscal Impact - Scenario Comparisons City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$199,839	\$194,869	\$193,350
Operating Expenditures	\$108,382	\$105,330	\$105,153
OPERATING NET FISCAL IMPACT	\$91,457	\$89,539	\$88,197
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$64,713	\$64,081	\$64,010
CAPITAL NET FISCAL IMPACT	(\$64,713)	(\$64,081)	(\$64,010)
GRAND TOTAL NET FISCAL IMPACT	\$26,744	\$25,458	\$24,187
AVERAGE ANNUAL FISCAL IMPACT	\$1,337	\$1,273	\$1,209

For further detail, operating and capital impacts are separated, given the impact of capital expenditures on the fiscal results. As shown, **there is sufficient revenues generated in each scenario to cover annual operating costs**. Capital deficits are often easier to “solve for” than operating deficits. For instance, it is often easier to identify and implement specific revenue sources that can be earmarked for capital purposes (e.g., impact fees) as well as designate a portion of an existing revenue source (e.g., property taxes) for a specific capital purpose. **The scenarios have similar results; therefore, the following figures are similar.**

Figure 5. Scenario 1: Residential Annual Operating and Capital Expenditures Compared to Revenues

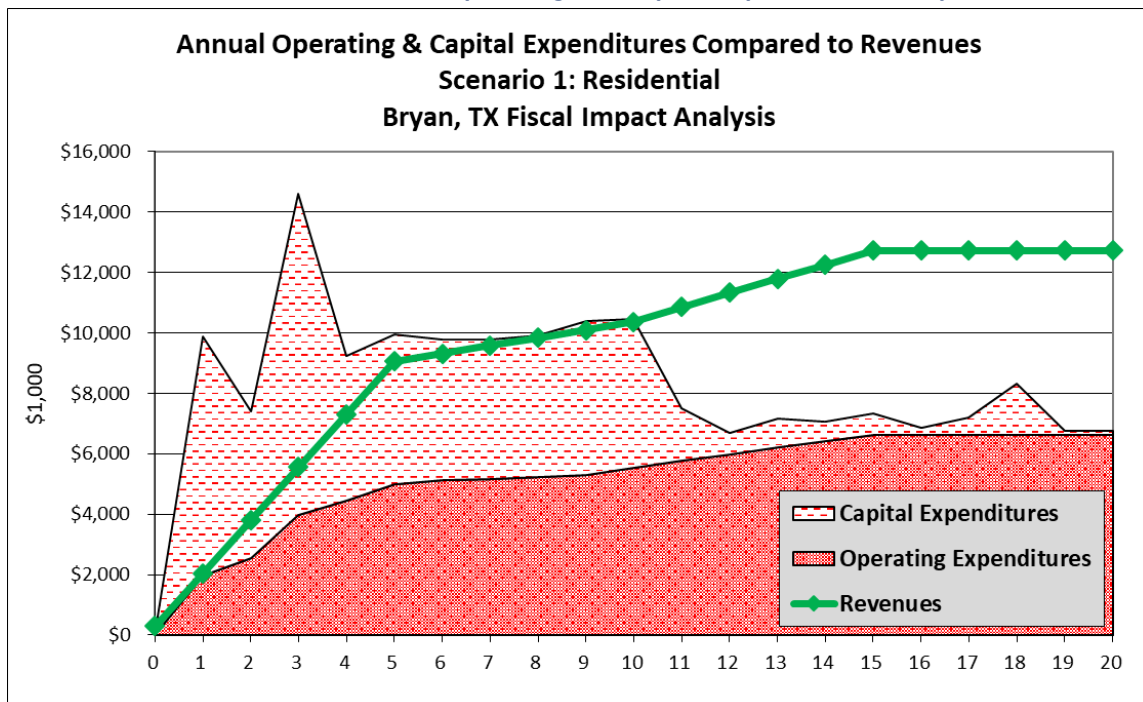


Figure 6. Scenario 2: Employment Annual Operating and Capital Expenditures Compared to Revenues

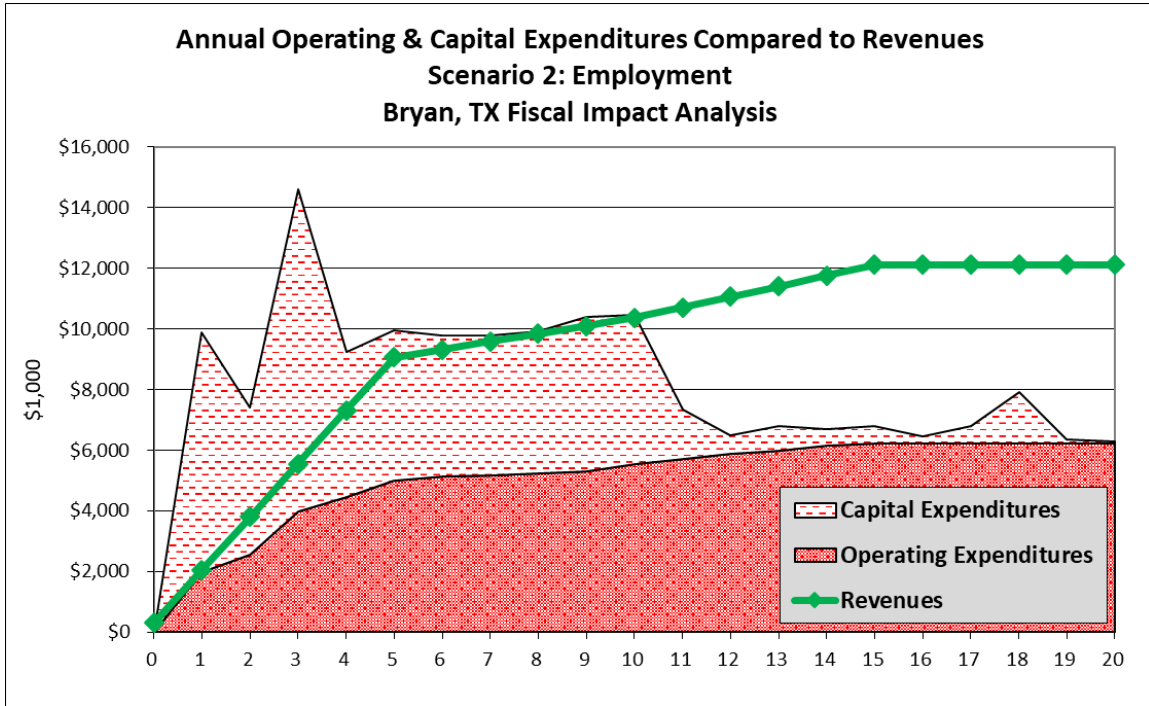
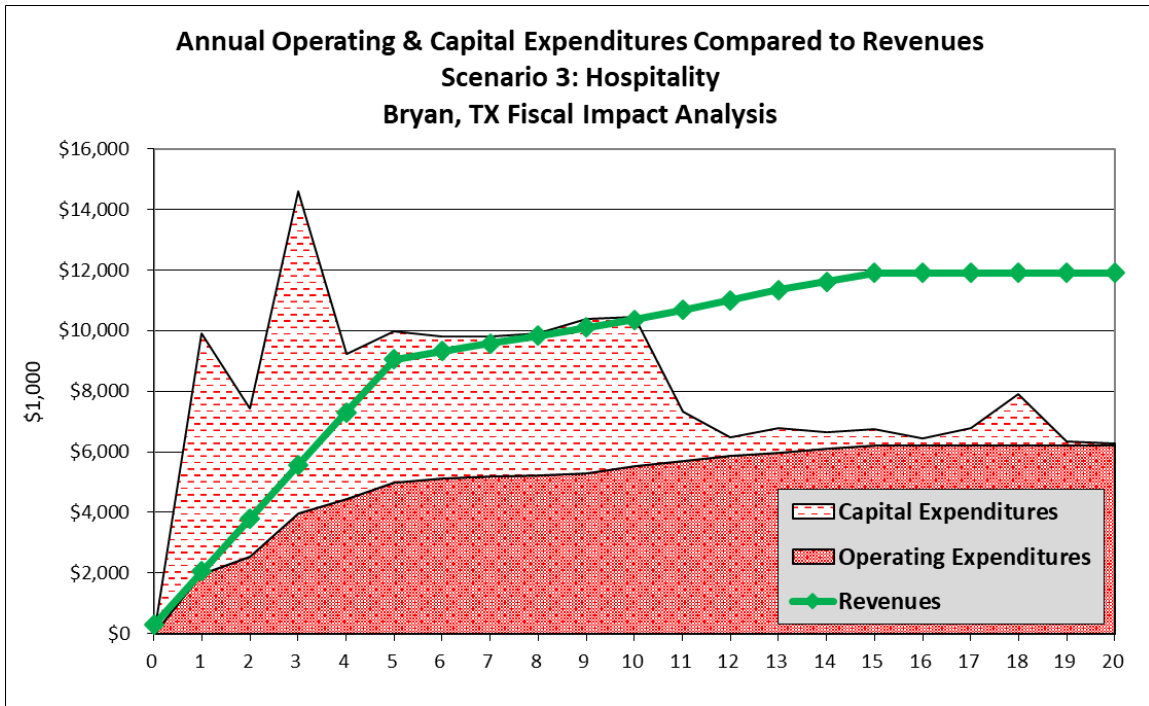
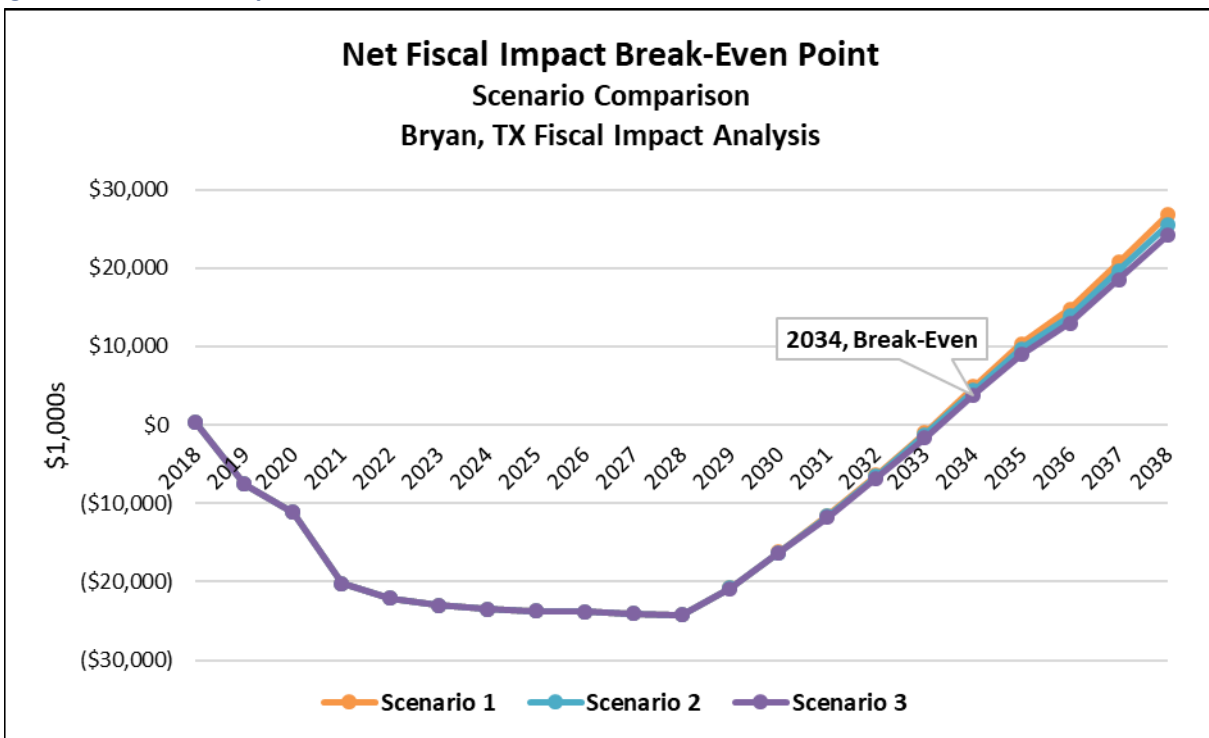


Figure 7. Scenario 3: Hospitality Annual Operating and Capital Expenditures Compared to Revenues



The break-even point is calculated by reducing the cumulative revenue by the cumulative expenditures (including both operating and capital costs). A net fiscal impact over the \$0 line represents a break-even point. Shown in the previous figures, in each year, the revenues are able to cover the operating costs generated by the development. As a result, Figure 8 illustrates the time in which the positive net impact from City operations can cover the capital costs triggered in the scenarios. **Each scenario has a break-even point of 2034, or Year 16.** By 2034, the initial large capital costs (i.e. roads and fire station) are covered by revenues from the developments. Furthermore, each scenario continues to experience an increasing positive fiscal impact through the remaining years in the analysis.

Figure 8. Net Fiscal Impact Break-Even Point



The final figure in the Executive Summary is a comparison of the fiscal analysis zones (FAZs) in the scenarios. When comparing FAZs, FAZ 4 is the only zone in which there is a positive impact from development. The positive fiscal results of the entire annexation area are driven by the high level of positive impact from FAZ 4. It is the most developed in the analysis, generating significant revenue from sales and property tax. The impact is able to cover all operating and capital expenditures triggered in the Study Area. The offsetting effect of FAZ 4 allows for the other zones to develop at a slower pace without burdening the City.

Figure 9. Fiscal Impacts by Fiscal Analysis Zone

20-Year Net Fiscal Impact - Fiscal Analysis Zone Comparison City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Fiscal Analysis Zone	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
FAZ 1	(\$50,582)	(\$51,154)	(\$53,045)
FAZ 2	(\$6,492)	(\$6,492)	(\$6,492)
FAZ 3	(\$11,820)	(\$11,820)	(\$11,820)
FAZ 4	\$96,365	\$96,365	\$96,365

Summary of Results

- The net positive impacts are driven primarily by sales and property tax revenue from development. This allows for the City of Bryan to benefit from both residential and nonresidential development.
- The similar result for each scenario is an outcome of the relatively similar development scenarios. Fiscal analysis zones (FAZs) 2, 3, and 4 were held constant in the three scenarios to allow for differences in FAZ 1 to be compared.
- When examining just FAZ 1, Scenario 1 (Residential Scenario) has the best fiscal results for the City. This stems from the property value assumed for housing units in the study. An analysis of property values for recently built homes (2010-2017) in the western side of the City indicated that an average single family home is valued at \$305,000. This value is used for new single family homes in the analysis. Although, residential developments generally have higher expenditures than nonresidential developments (which is the case in this study), the higher level of property tax from new homes is able to offset a larger portion of expenditures than FAZ 1 in the other two scenarios, which are centered around nonresidential development.

- It should be noted that, on average, the resulting annual net positive impact from the scenarios reflects just over 1 percent of the City's total current budget.
- Over time, the revenues are able to cover the increase in operating and capital expenditures in each scenario. For operating expenses, the Fire and Police Department generate the highest costs for each scenario. A new fire station requires a large staff to operate the station's apparatuses. Also, the new development is expected to increase police calls for service, so to continue serving at the current level of service new hires are necessary.
- The majority of capital expenditures are for road projects. In the annexation area there are County roads that will need to be updated to City standards and new road construction is necessary to facilitate growth. The City is assumed to construct arterial and collector roads. Also, road projects are assumed to be partially supported by developers.
- A new fire station is projected in Year 3. Although there is no new development in FAZ 1 until midway through the projection period, a new fire station is necessary to serve the current population of that area. If a fire station is not constructed, it is expected that the Fire Department's ISO rating would suffer and drop from the top ranking of 1 at the next evaluation of the City of Bryan. The newly annexed area would be rated an ISO 10 without a new fire station. A rating of 10 equates to no fire protection. The new station triggers an ongoing annual operating cost to staff a new fire engine, ambulance, and ladder truck.
- Additionally, there is an immediate need in Year 1 for a temporary facility to house the fire staff and apparatuses until the permanent station is constructed. There are several housing options in FAZ 1, including an old facility on the Texas A&M RELLIS Campus. However, any option requires expansion and modernization. The temporary facility will house a fire engine and ambulance, delaying the purchase and staff for the ladder truck until the new fire station is constructed.
- Furthermore, the capital costs have been assumed to be entirely paid for in the year that it is constructed. However, in reality, the City of Bryan may choose to debt finance the projects. Assuming projects are funded with cash allows the model to capture the entire impact of the development compared to modelling the projects being debt financed. For example, if a project is triggered for construction in Year 12 and it is debt financed for 20 years, only 8 of those years will be captured in the 20-year analysis, resulting in less than half of the project's true cost to be reflected in the analysis. Allowing the analysis to project costs without budget constraints, the fiscal impact analysis is able to identify growth's total impact.
- At a fiscal zone level, all FAZs, but FAZ 1, are able to cover operating expenditures with revenues. FAZ 1 has the second highest revenue, however, the operating expenditures related

to the temporary and new fire station results in a negative operating fiscal impact. When capital expenditures are included into the impact, only FAZ 4 remains positive. However, its significant positive fiscal impact is able to cover the negative impacts generated elsewhere in the Study Area.

- Also, a fiscal impact analysis is not the same as municipal budgeting. Regardless of the findings of the fiscal impact analysis, the City will continue to develop a service plan, budget for those services, and identify necessary capital improvements based on the revenues available.
- Enterprise Funds (i.e. water, sewer, electricity) are not included in the analysis. The operating and capital expenses generated from the annexation areas are assumed to be covered by fee revenue from users.
- Lastly, fiscal issues are just one area for a locality to consider when making land use decisions or setting policy. However, there are policy responses specific to fiscal issues, for example, updating “user-pay” tools to better connect who pays and benefits from improvements.

Conclusion

From the fiscal impact model results, it can be concluded that the development in the scenarios will cover the City of Bryan’s annual operating costs. The “front-loading” methodology of road and fire capital costs result in a negative fiscal impact for the first ten years of the analysis. However, starting in Year 11 there is an annual positive fiscal impact and in Year 16 the City breaks-even in each scenario.

Sales and property tax revenue are the main drivers for revenue in the analysis. Public Safety generates the highest operating costs, while the majority of the capital costs are for improvements to existing roadways that would be annexed by the City and for the construction of new roads. Additionally, a new fire station is required in FAZ 1 to serve the current population, the RELLIS campus, and the anticipated future growth. The new station contributes to the increase in Public Safety operating expenditures as well. Also, there is an immediate need for a temporary fire station until the new station can be constructed. The temporary station generates both capital costs and operating cost for the fire engine and ambulance.

Furthermore, if the City chooses to annex the four fiscal analysis zones in the study, policies should be considered that would help mitigate the expected high level of capital costs. The analysis modeled the capital costs in the year of construction, while, debt financing would allow for expenses to be spread over a long period of time. Additionally, an assumption in the analysis is that developers will cover 50 percent of the capital costs for roads. However, if the City is not able to secure development agreements that follow that assumption, it is expected that the positive fiscal impacts would lessened.

II. MAJOR ASSUMPTIONS AND METHODOLOGIES

OVERVIEW OF METHODOLOGY

The Fiscal Impact Analysis for the City of Bryan incorporates the case study-marginal cost approach wherever possible. The case study-marginal methodology is the most realistic method for evaluating fiscal impacts. Unique demographic or other characteristics of new development are accounted for, as well as the extent to which a particular infrastructure or service operates under, over, or close to capacity. Available facility capacity determines the need for additional capital facilities and associated operating costs.

Many of the costs that are affected by general growth, regardless of location, are projected using a marginal/average cost hybrid methodology that attempts to determine capacity and thresholds for staffing but projects non-salary operating costs using an average cost approach. The levels of service and cost assumptions are based on TischlerBise's on-site interviews and follow-up discussions with City of Bryan staff, and a detailed analysis of *City of Bryan Fiscal Year 2018 Adopted Budget and Capital Improvements Program*; *City of Bryan's Comprehensive Plan*; *City of Bryan Departmental annual reports* and other relevant financial and planning documents. Additionally, our national experience conducting over 800 fiscal impact analyses was beneficial.

The assumptions outlined in this report are utilized along with the growth projections to calculate the potential impacts of annexation to the City over the 20-year projection period. Only the impacts of the study area, the four FAZs, are examined in this analysis. Other areas of the City are not included in the fiscal impact model. Calculations are performed using a customized fiscal impact model designed specifically by TischlerBise for this assignment.

FINANCIAL ASSUMPTIONS

Fiscal Year 2018 Budget

The Fiscal Year 2018 Budget (July 1, 2017 – June 30, 2018) is used to represent a “snapshot” of the City’s current costs and levels of service. In summary, the “snapshot” approach does not attempt to speculate about how services or costs will change over time or whether current levels of service are sufficient or insufficient. Instead, it evaluates the cost implications to the City as it conducts business under the FY2018 budget.

Variable versus Fixed Costs and Revenues

For this analysis, costs and revenues that are directly attributable to new development are included in the fiscal analysis of growth and reported in the three scenarios. In all cases, some costs and revenues are not impacted by demographic changes and are assumed to be “fixed” in this analysis. To determine fixed variables, TischlerBise interviewed City staff and reviewed the FY2018 budget and available supporting documentation. Examples of budget items modeled as “fixed”, or non-growth related, include:

- Salaries and benefits for certain support personnel (varies by department)
- One-time costs for services unrelated to growth and development
- Revenue sources that are not growth-related

Detail and discussion are provided in Chapter V.

Level of Service

The cost projections are based on a “snapshot approach” in which it is assumed the current level of service, as funded in the City budget and as provided in current capital facilities, will continue through the 20-year analysis period. The 2018 existing demand base data was used to calculate unit costs and service level thresholds. Examples of demand base data include population, dwelling units, employment by industry, vehicle trips, etc. **The “snapshot” approach does not attempt to speculate about how levels of service or cost factors will change over time.** Instead, it evaluates the implications of development in the annexation areas to the City as conducted under the FY2018 budget and informed by discussions with staff.

Inflation Rate

The rate of inflation is assumed to be zero throughout the projection period; cost and revenue projections are in constant 2018 dollars. This assumption is in accord with budget data and avoids the

difficulty of speculating on inflation rates and their effect on specific cost categories. It also avoids the problem of interpreting results expressed in inflated dollars over an extended projection period. In general, including inflation is complicated and unpredictable. This is particularly the case given that some costs, such as salaries, increase at different rates than other operating and capital costs such as contractual and building construction costs. Using constant dollars avoids these issues.

Non-Fiscal Evaluations

It should be noted that while a Fiscal Impact Analysis is an important consideration in planning decisions, it is only one of several issues that should be considered. Environmental and social issues, for example, should also be considered when making planning and policy decisions. The above notwithstanding, this analysis will enable interested parties to understand the fiscal implications of annexing adjacent areas to the RELLIS campus.

GROWTH SCENARIO PROJECTION

Three growth scenarios were developed for this analysis. Each scenario has four fiscal analysis zones (FAZs). It is assumed that development will occur in areas closest to the center of the City and move outwards, as such, the phasing of the FAZs developing is consistent between the scenarios: FAZ 2 and 4 develop between Years 1-5, FAZ 3 develops between Years 5-10, and FAZ 1 develops between Years 10-15. To allow the analysis to have a specific focus on the development adjacent to the RELLIS campus (FAZ 1), FAZ 2, 3, 4 are consistent between the scenarios. The development in FAZ 1 varies between residential, nonresidential, and hotel (see Figure 10). More detailed growth projections can be found in the Appendix.

Figure 10. Growth Projections by Scenario

Residential Scenario

FAZ 1 (Years 10-15)		FAZ 2 (Years 1-5)		FAZ 3 (Years 5-10)		FAZ 4 (Years 1-5)		Total (Years 1-20)	
Single Family Units	202	Single Family Units	86	Single Family Units	195	Single Family Units	1,564	Single Family Units	2,047
Multifamily Unit	1,600	Multifamily Unit	0	Multifamily Unit	0	Multifamily Unit	800	Multifamily Unit	2,400
Office (sq. ft.)	23,000	Industrial (sq. ft.)	279,150	Retail (sq. ft.)	160,000	Office (sq. ft.)	60,000	Office (sq. ft.)	83,000
Retail (sq. ft.)	30,700					Retail (sq. ft.)	660,000	Retail (sq. ft.)	850,700
Industrial (sq. ft.)	218,500					Industrial (sq. ft.)	480,000	Industrial (sq. ft.)	977,650
Hotel (bedrooms)	80							Hotel (bedrooms)	80

Employment Scenario

FAZ 1 (Years 10-15)		FAZ 2 (Years 1-5)		FAZ 3 (Years 5-10)		FAZ 4 (Years 1-5)		Total (Years 1-20)	
Single Family Units	202	Single Family Units	86	Single Family Units	195	Single Family Units	1,564	Single Family Units	2,047
Multifamily Unit	800	Multifamily Unit	0	Multifamily Unit	0	Multifamily Unit	800	Multifamily Unit	1,600
Industrial (sq. ft.)	423,300	Industrial (sq. ft.)	279,150	Retail (sq. ft.)	160,000	Office (sq. ft.)	60,000	Office (sq. ft.)	60,000
Retail (sq. ft.)	33,300					Retail (sq. ft.)	660,000	Retail (sq. ft.)	853,300
						Industrial (sq. ft.)	480,000	Industrial (sq. ft.)	1,182,450
								Hotel (bedrooms)	0

Hospitality Scenario

FAZ 1 (Years 10-15)		FAZ 2 (Years 1-5)		FAZ 3 (Years 5-10)		FAZ 4 (Years 1-5)		Total (Years 1-20)	
Single Family Units	202	Single Family Units	86	Single Family Units	195	Single Family Units	1,564	Single Family Units	2,047
Multifamily Unit	800	Multifamily Unit	0	Multifamily Unit	0	Multifamily Unit	800	Multifamily Unit	1,600
Office (sq. ft.)	15,000	Industrial (sq. ft.)	279,150	Retail (sq. ft.)	160,000	Office (sq. ft.)	60,000	Office (sq. ft.)	75,000
Retail (sq. ft.)	22,700					Retail (sq. ft.)	660,000	Retail (sq. ft.)	842,700
Industrial (sq. ft.)	194,500					Industrial (sq. ft.)	480,000	Industrial (sq. ft.)	953,650
Hotel (bedrooms)	240							Hotel (bedrooms)	240

Additionally, if there was annexation, there is existing development in several of the FAZs that would be within the City of Bryan. Since this development would be new to the City of Bryan, it has been included in the model and listed in Figure 11.

Figure 11. Existing Development in Fiscal Analysis Zones

Subarea	Single Family (units)	Retail (Sq. Ft.)	Industrial (Sq. Ft.)
FAZ 1	22	7,700	154,500
FAZ 2	86	-	199,150
FAZ 3	15	-	-
FAZ 4	124	-	-

As mentioned, FAZ 2, 3, and 4 are assumed to be developed the same in the scenarios. This allows for a specific examination of different scenarios for FAZ 1, the subarea just across Highway 47 and 21 from RELLIS campus. The following details FAZ 1 in each scenario:

- Scenario 1: Residential** – This scenario examines the impacts of housing developing to serve the RELLIS campus. Student/faculty housing is included in the *RELLIS Campus Master Plan*, however, in this scenario the university housing does not meet certain housing demands. Students may want to live off campus and faculty may desire more amenities or a single family residence. Additionally, as a result of Texas A&M moving some departments from the College Station campus to RELLIS, faculty may choose to relocate to shorten their commute. As a result, there are 202 single family homes and 1,800 multifamily homes assumed in FAZ 1. Furthermore, some retail is assumed to developed to serve the new population and a hotel is developed.
- Scenario 2: Employment** – In this scenario, it is assumed that there is a spillover effect from the research and development happening at the RELLIS campus. The campus is being marketed as “becoming one of the nation’s leading ‘smart’ collaborative innovation and research clusters.” This economic activity certainly has the capacity to require development from off the campus especially in the industrial fields. This has led to FAZ 1 in Scenario 2 observing considerable nonresidential development, specifically industrial. The current nonresidential zoning in the FAZ is predominately for industrial, however, development involving high-end technologies is imagined compared to traditional industrial growth.
- Scenario 3: Hospitality** – FAZ 1 in Scenario 3 observes the most hotel bedrooms. Accommodation to some degree is expected at the RELLIS campus, however, for demand and visitor preference, in this scenario three hotels are assumed to be constructed. The hotels are anticipated to be similar to the recently constructed Hilton Garden Inn and Holiday Inn Express in Bryan. Some retail is assumed to serve the hotel and campus development as well.

III. FISCAL IMPACT ANALYSIS RESULTS

The fiscal impacts of the annexation areas are analyzed and discussed in this chapter. Fiscal impact results are presented in several ways:

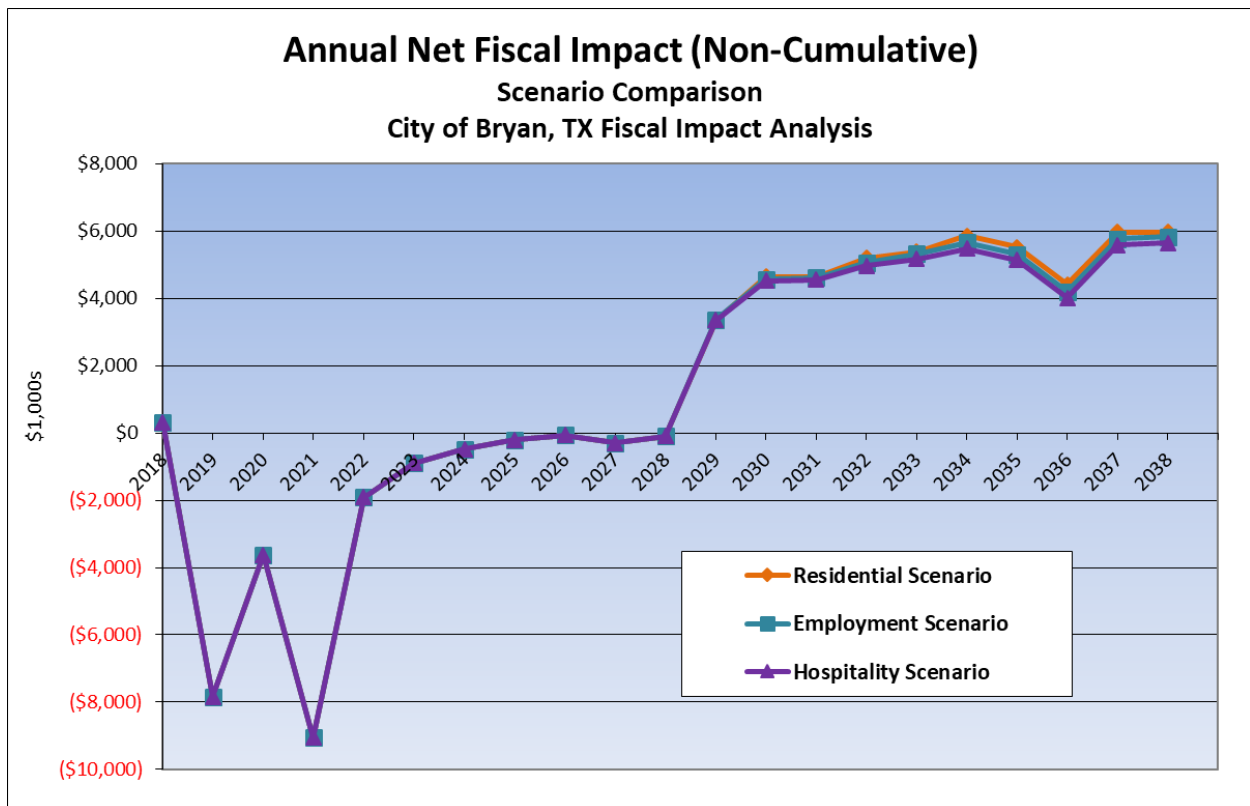
- Annual net fiscal results are shown first that include all revenues and costs in the funds included in the analysis in each year—**operating and capital impacts from growth are combined.**
 - Annual net fiscal results are then shown for operating and capital separately compared to revenues.
- **Cumulative** net fiscal results are shown next.
 - Cumulative net results convey the projected grand total revenues minus grand total expenditures over the 20-year period to determine the overall net surplus or deficit.
- **Average annual** results are shown.
 - The average annual net result conveys an average annual fiscal impact over different time periods during the 20-year period.
- Lastly, **break-even point** results are illustrated to examine in what year the revenues from the scenarios are able to cover the operating and capital expenditures.

Annual Net Fiscal Impact Results

The chart below shows the annual net fiscal results to the City over each year of the 20-year development period. By showing the annual results, the magnitude, rate of change, and timeline of deficits and revenues can be observed over time. The “bumpy” nature of the annual results during particular years represents an initial capital impact being “front-loaded” and/or major operating costs being incurred (further explained in the Capital Expenditure Methodologies section).

Net fiscal results shown below are **revenues minus costs in each year**, including operating and capital costs for all services modeled. Data points above the \$0 line represent annual surpluses; points below the \$0 line represent annual deficits. Surpluses in any one year are not carried forward to the next year. The scale for the chart is in thousands (\$1,000s). Shown in Figure 12, the annual fiscal impacts of each scenario are quite similar to each other.

Figure 12: Annual Net Fiscal Impact Results (x\$1,000)



Overall, in the first ten years, there is insufficient revenues generated by growth to cover related operating and capital expenditures. The annual deficits in the first ten years is a result of the improvements to existing roads, new road construction, and the temporary and new fire station construction. However, from Year 11, the revenues offset both operating and capital costs for the remaining projection period and there is positive fiscal impact.

Combining operating and capital results does not reveal the whole picture. Looking at operating and capital results separately reveals that surpluses are generated for operating purposes with deficits generated for capital needs.

The following figures illustrate the dramatic drop in capital expenditures from Year 10 to Year 11. This is the result of the road capital projects nearing completion. There are still road projects up until Year 15, but the majority of the road construction happens before Year 11. Additionally, the capital cost spikes in Year 1 and 3 is the construction of the temporary and then the new fire station. The resulting staffing costs for the new station can be seen in the upward tick in operating expenditures. Other capital costs include new police patrol vehicles, facility improvements for General Government, and Public Works vehicles and heavy equipment.

The scenarios have very similar fiscal impacts, resulting in the following figures to be very similar as well.

Figure 13. Scenario 1 Annual Operating and Capital Expenditures Compared to Revenues

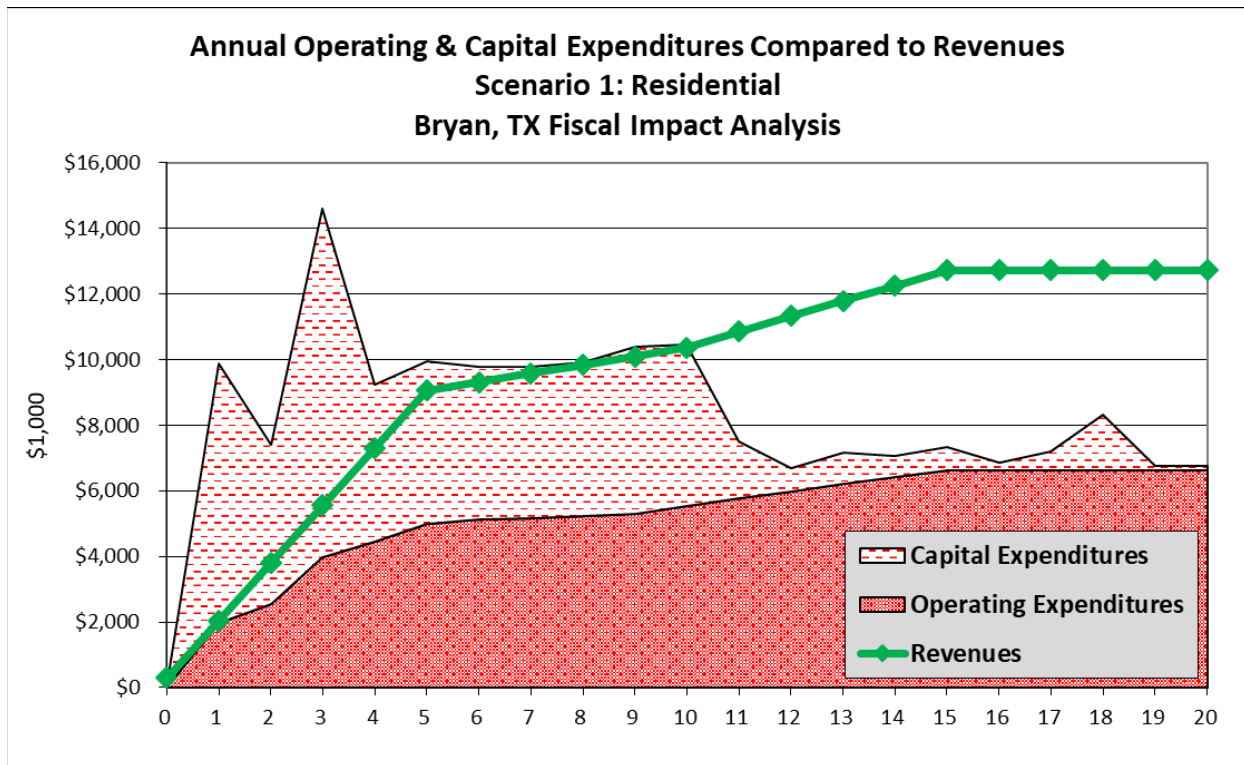


Figure 14. Scenario 2 Annual Operating and Capital Expenditures Compared to Revenues

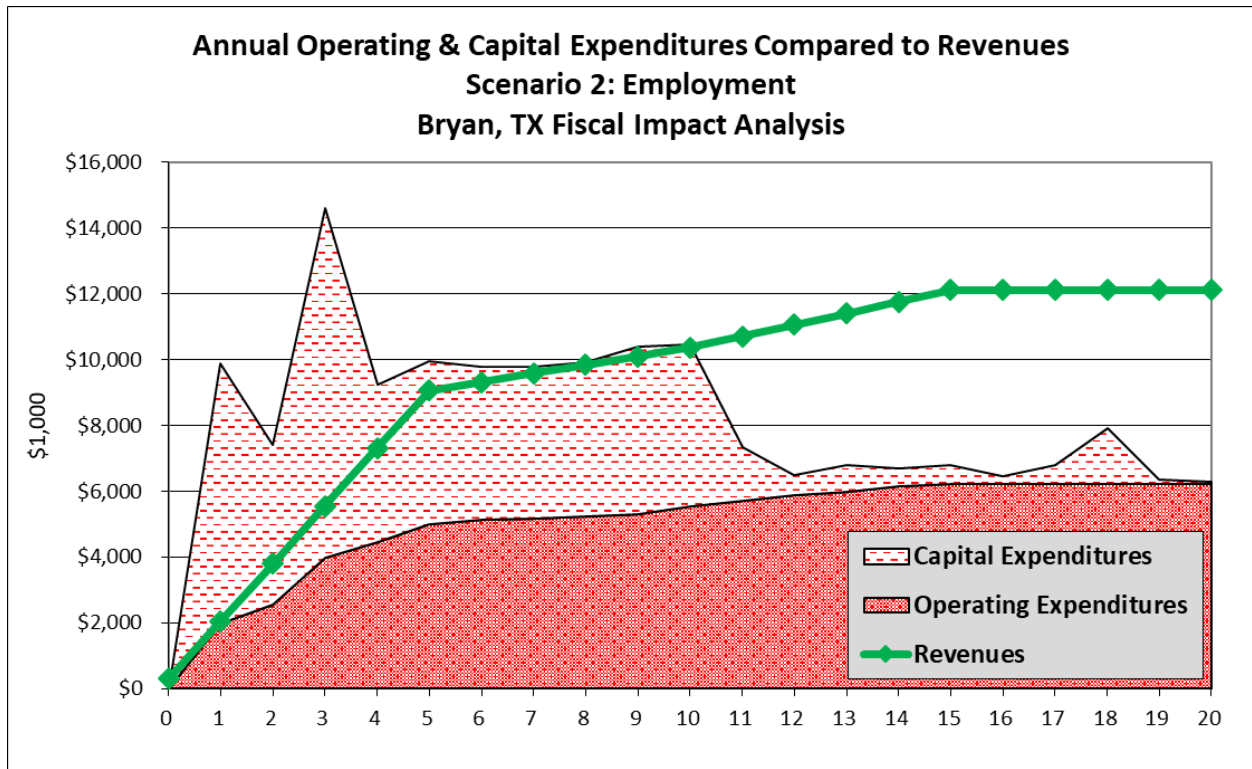
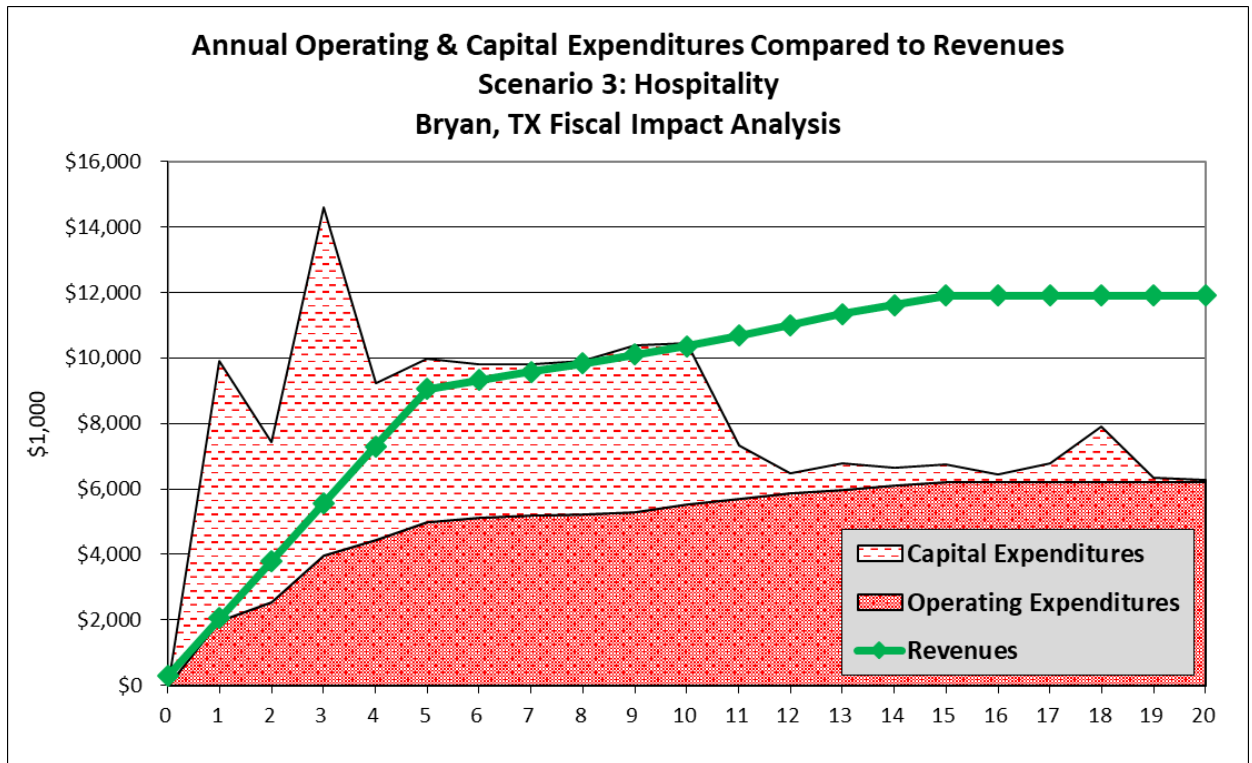


Figure 15. Scenario 3 Annual Operating and Capital Expenditures Compared to Revenues



As shown above, sufficient revenues are generated to cover operating costs. This is not uncommon for jurisdictions and often easier to “solve for” than operating deficits. For instance, it is often easier to identify and implement specific revenue sources that can be earmarked for capital purposes (e.g., impact fees) as well as designate a portion of an existing revenue source (e.g., property taxes) for a specific capital purpose.

A list of capital needs and costs is shown below in the next three figures. Replacement facilities and major maintenance are not included in the capital costs. Facilities needed to serve new growth are reflected. For capital improvements that are purchased—vehicles, equipment, etc., the model and results do include both the initial purchase cost and the cost to replace the item after it reaches its useful life. The costs shown below include both initial purchase and replacements, where applicable.

Figure 16. Scenario One Summary of Capital Improvement Needs

Capital Facilities	Units	Total Cost
General Govt Office Building (sq. ft.)	14,439	\$4,418,213
Fire Stations	2	\$6,284,000
Fire Engines	2.00	\$1,900,000
Ambulances	5.00	\$1,300,000
Ladder Trucks	2.00	\$3,000,000
Police Patrol Vehicles	45.00	\$2,813,123
Public Works Vehicles	3.00	\$136,152
Road Lane Miles	17.33	\$44,861,661
Total		\$64,713,149

Figure 17. Scenario Two Summary of Capital Improvement Needs

Capital Facilities	Units	Total Cost
General Govt Office Building (sq. ft.)	12,987	\$3,973,969
Fire Stations	2	\$6,284,000
Fire Engines	2.00	\$1,900,000
Ambulances	5.00	\$1,300,000
Ladder Trucks	2.00	\$3,000,000
Police Patrol Vehicles	42.00	\$2,625,582
Public Works Vehicles	3.00	\$136,152
Road Lane Miles	17.33	\$44,861,661
Total		\$64,081,363

Figure 18. Scenario Three Summary of Capital Improvement Needs

Capital Facilities	Units	Total Cost
General Govt Office Building (sq. ft.)	12,753	\$3,902,364
Fire Stations	2	\$6,284,000
Fire Engines	2.00	\$1,900,000
Ambulances	5.00	\$1,300,000
Ladder Trucks	2.00	\$3,000,000
Police Patrol Vehicles	42.00	\$2,625,582
Public Works Vehicles	3.00	\$136,152
Road Lane Miles	17.33	\$44,861,661
Total		\$64,009,759

Cumulative Fiscal Impact Results

The next set of fiscal results provides **cumulative net fiscal results**, providing detail on total projected revenues and total projected expenditures over the 20-year period. All revenues and expenditures are captured. Cumulatively, a positive net impact is generated from all three scenarios over the 20-year period. There is sufficient revenue generated from growth to cover resulting operating and capital needs.

Figure 19. Cumulative (Total Years 1-20) Fiscal Impact Results (Chart)

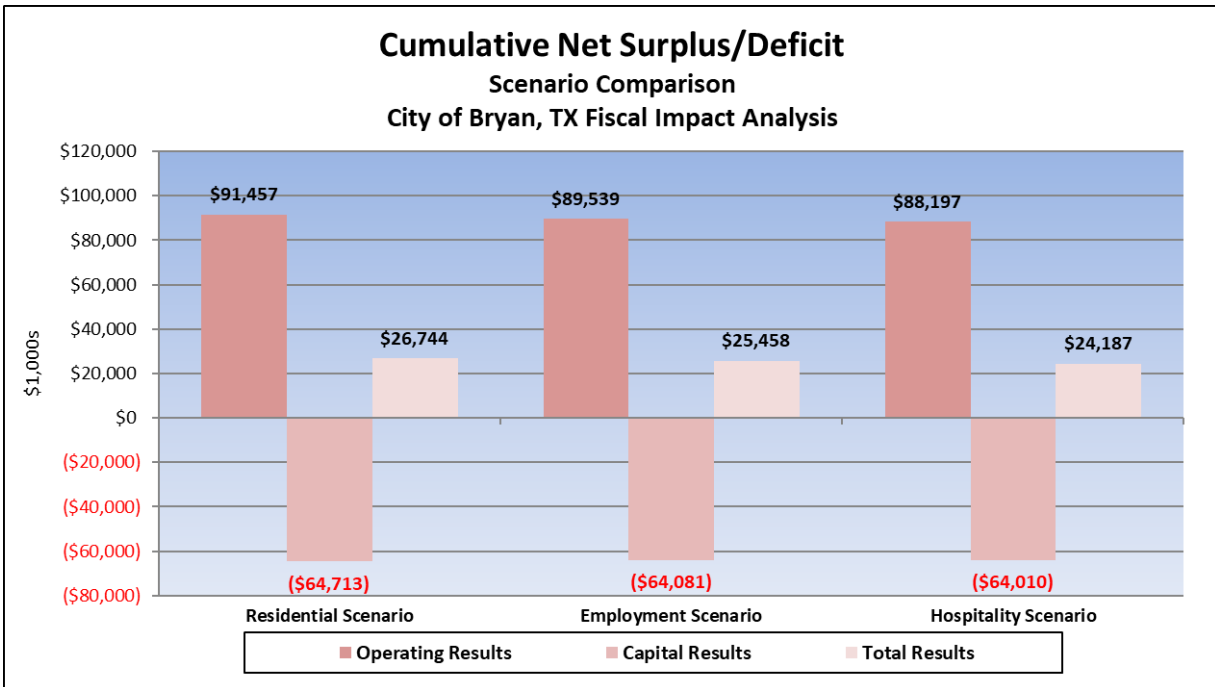


Figure 20. Cumulative (Total Years 1-20) Fiscal Impact Results (Table)

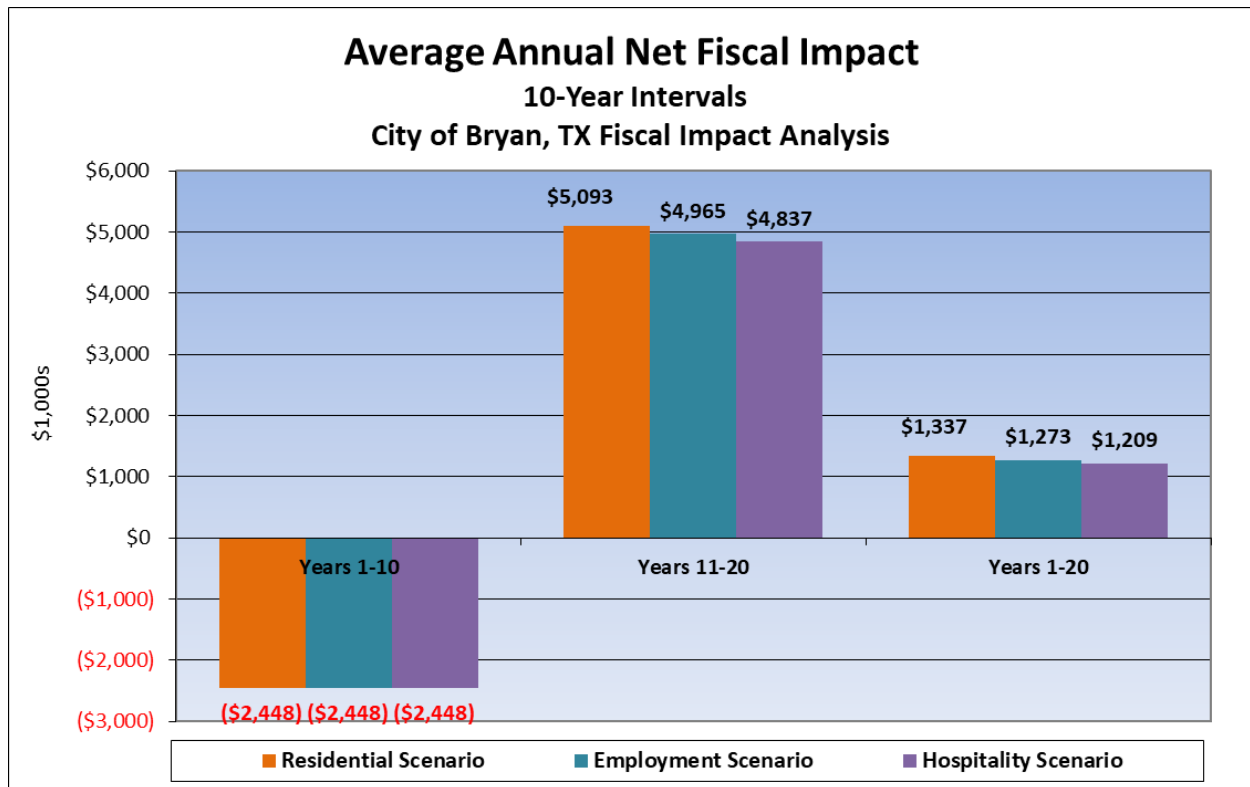
20-Year Total Net Fiscal Impact - Scenario Comparisons City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$199,839	\$194,869	\$193,350
Operating Expenditures	\$108,382	\$105,330	\$105,153
OPERATING NET FISCAL IMPACT	\$91,457	\$89,539	\$88,197
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$64,713	\$64,081	\$64,010
CAPITAL NET FISCAL IMPACT	(\$64,713)	(\$64,081)	(\$64,010)
GRAND TOTAL NET FISCAL IMPACT	\$26,744	\$25,458	\$24,187
AVERAGE ANNUAL FISCAL IMPACT	\$1,337	\$1,273	\$1,209

Average Annual Fiscal Impact Results

Results are also presented on an average annual basis—over three time periods: Years 1-10, Years 11-20; and over the entire projection period, Years 1-20. Consistent with the other results, the fiscal results in Figure 21 include non-enterprise operating and capital impacts.

The results in the figure illustrate the pattern seen when analyzing the non-cumulative results year over year. There is a large capital burden in the first ten years in the scenarios and in the last ten years there are positive fiscal impact because the capital road improvement projects beginning to slow down and the cumulative nature of property tax. The revenue generation between Years 11-20 for each scenario is able to cover the deficit resulting in Years 1-10. **The scenarios generate the same fiscal results in the first timeframe because FAZ 2, 3, 4 develop in Years 1-10 and develop the same in each scenario.**

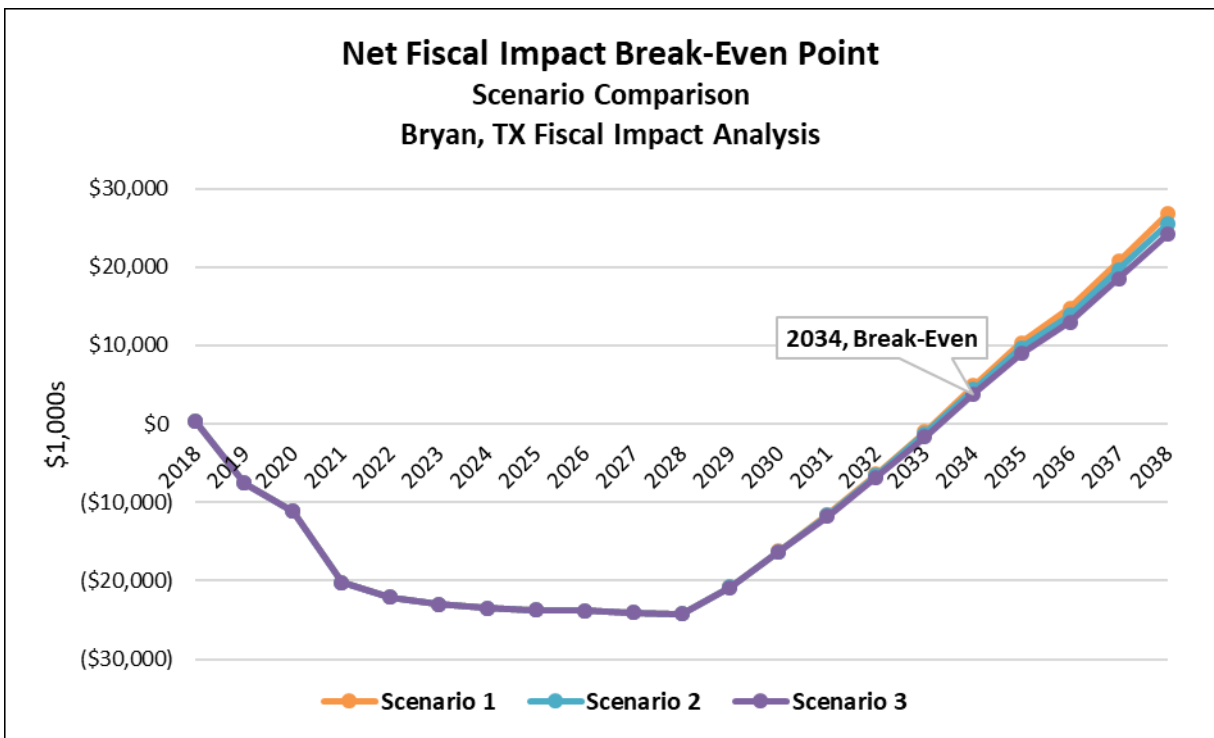
Figure 21. Average Annual Fiscal Impact Results



Break-Even Point Results

The break-even point is calculated by reducing the cumulative revenue by the cumulative expenditures (including both operating and capital costs). A net fiscal impact over the \$0 line represents a break-even point. Illustrated in previous figures, there is an overall positive net impact for each scenario and, in each year, the revenues are able to cover the operating costs generated by the development. As such, Figure 22 illustrates the time in which the positive net impact from City operations can cover the capital costs triggered in the scenarios. **Each scenario has a break-even point of 2034, or Year 16.** By 2034, the initial large capital costs (i.e. roads and fire station) are covered by revenues from the developments. Furthermore, each scenario continues to experience an increasing positive fiscal impact through the remaining years in the analysis.

Figure 22. Net Fiscal Impact Break-Even Point



Discussion of Fiscal Impact Analysis Results

Key findings from the Fiscal Impact Analysis are discussed below:

- The net positive impacts are driven primarily by sales and property tax revenue from development. This allows for the City of Bryan to benefit from both residential and nonresidential development.
- The similar result for each scenario is a consequence of relatively similar development scenarios. Fiscal analysis zones (FAZs) 2, 3, and 4 were held constant in the three scenarios to allow for differences in FAZ 1 to be compared.
- When examining just FAZ 1, Scenario 1 (Residential Scenario) has the best fiscal results for the City. This stems from the property value assumed for housing units in the study. An analysis of property values for recently built homes (2010-2017) in the western side of the City indicated that an average single family home is valued at \$305,000. This value is used for new single family homes in the analysis. Although, residential developments generally have higher expenditures than nonresidential developments (which is the case in this study), the higher level of property tax from new homes is able to offset a larger portion of expenditures than FAZ 1 in the other two scenarios which are centered around nonresidential development.
- It should be noted that, on average, the resulting annual net positive impact from the scenarios reflects just over 1 percent of the City's total current budget.
- Over time, the revenues are able to cover the increase in operating and capital expenditures. The largest operating cost burden for the City is generated by Public Safety while road costs are the largest share of capital burdens. The three scenarios break-even in Year 16.
- For operating expenses, the Fire and Police Department generate the highest costs for each scenario. The new fire station requires a large staff to operate the station's apparatuses. Also, the new development is expected to increase police calls for service, so to continue serving at the current level of service new hires are necessary.
- A new fire station is projected in Year 3. Although there is no new development in FAZ 1 until midway through the projection period, a new fire station is necessary to serve the current population of that area. If a fire station is not constructed, it is expected that the Fire Department's ISO rating would suffer and drop from the top ranking of 1 at the next evaluation of the City of Bryan. The newly annexed area would be rated an ISO 10 without a new fire station. A rating of 10 equates to no fire protection. The new station triggers an ongoing annual operating cost to staff a new fire engine, ambulance, and ladder truck.

- Additionally, there is an immediate need in Year 1 for a temporary facility to house the fire staff and apparatuses until the permanent station is constructed. There are several housing options in FAZ 1, including an old facility on the Texas A&M RELLIS Campus. However, any option requires expansion and modernization. The temporary facility will house a fire engine and ambulance, delaying the purchase and staff for the ladder truck until the new fire station is constructed.
- To approximate the future road construction necessary to accommodate growth, the cost for the new roads identified in the Study Area in the City's Thoroughfare Plan are used. The Thoroughfare Plan has a longer planning horizon compared to the study's projection period, so half the roads in the Plan are estimated to occur in the study. The majority of the road projects happen in FAZ 2, 3, and 4 which develop during the first ten years of the scenarios. Based on coordination with City staff and recent development agreements, it has been assumed that half of the road construction capital projects are supported by future developers. As a result, the City funds the remaining half of the costs.
- Furthermore, the capital costs have been assumed to be entirely paid for in the year that it is constructed. However, in reality, the City of Bryan may choose to debt finance the projects. Assuming projects are funded with cash allows the model to capture the entire impact of the development compared to modelling the projects being debt financed. For example, if a project is triggered for construction in Year 12 and it is debt financed for 20 years, only 8 of those years will be captured in the 20-year analysis, resulting in less than half of the project's true cost to be reflected in the analysis. Allowing the analysis to project costs without budget constraints, the fiscal impact analysis is able to identify growth's total impact.

IV. FISCAL ANALYSIS IMPACT OF FAZS

As mentioned, there are four fiscal analysis zones (FAZs) in each scenario. Earlier in the report, Figure 2 mapped the FAZs. Since development is expected to occur over time there are three absorption periods. The phasing of the FAZs developing is consistent between the three scenarios with FAZ 2 and 4 developing between Years 1-5, FAZ 3 developing between Years 5-10, and FAZ 1 developing between Years 10-15. To allow the analysis to have a specific focus on the development adjacent to the RELLIS campus (FAZ 1), FAZ 2, 3, 4 are consistent between the scenarios.

Although this annexation study ultimately is concerned with the impact of annexing all four FAZs, it is helpful to understand the fiscal impacts of each FAZ to the City of Bryan.

Note: a marginal approach is programmed into the analysis when applicable for personnel costs. As a result, when FAZs are separated there are slight differences between the sum of the FAZs and the total net fiscal impact found in the previous chapter. For example, police new hires are triggered slightly differently when the FAZs are computed separately compared to when the analysis examines the four FAZs together. Additionally, infrastructure capital costs are allocated to the FAZ that they are constructed in, although the facilities may serve populations in other areas.

FISCAL IMPACT OF FISCAL ANALYSIS ZONES

Shown in Figure 23, all but the FAZ 4 has a negative fiscal impact on the City based on the scenario developments. However, FAZ 4 generates enough revenue to offset the negative impact from the other FAZs. FAZ 4's net impact is large enough to drive the overall annexation analysis positive. The figures following Figure 23 breakdown the FAZs' revenues and expenditures by scenario.

All but FAZ 1, is able to cover its operating expenditures with revenues. FAZ 1 has the second highest revenue, however, the operating expenditures related to the temporary and new fire station results in a negative operating fiscal impact. Furthermore, capital expenditures are significantly burdensome for FAZ 1, FAZ 2, and FAZ 3. Specifically, in FAZ 2 and FAZ 3 the generated capital expenditures are greater than the overall revenue generated.

However, FAZ 4 has positive net impact on the City, even when capital expenditures are included. The zone's significant positive fiscal impact is able to cover the negative impacts generated elsewhere in the Study Area, which drives the scenarios to an overall net positive result. FAZ 4's revenue is driven by sales and property tax.

Figure 23. Cumulative Fiscal Impact of Scenarios by Fiscal Analysis Zone

20-Year Net Fiscal Impact - Fiscal Analysis Zone Comparison City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Fiscal Analysis Zone	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
FAZ 1	(\$50,582)	(\$51,154)	(\$53,045)
FAZ 2	(\$6,492)	(\$6,492)	(\$6,492)
FAZ 3	(\$11,820)	(\$11,820)	(\$11,820)
FAZ 4	\$96,365	\$96,365	\$96,365

Figure 24. Fiscal Impact of FAZ 1 by Scenario

20-Year Total Net Fiscal Impact - Scenario Comparisons City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$22,037	\$17,067	\$15,547
Operating Expenditures	\$56,626	\$52,922	\$53,304
OPERATING NET FISCAL IMPACT	(\$34,589)	(\$35,856)	(\$37,756)
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$15,993	\$15,298	\$15,289
CAPITAL NET FISCAL IMPACT	(\$15,993)	(\$15,298)	(\$15,289)
GRAND TOTAL NET FISCAL IMPACT	(\$50,582)	(\$51,154)	(\$53,045)
AVERAGE ANNUAL FISCAL IMPACT	(\$2,529)	(\$2,558)	(\$2,652)

Figure 25. Fiscal Impact of FAZ 2 by Scenario

20-Year Total Net Fiscal Impact - Fiscal Analysis Zone 2 City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$5,029	\$5,029	\$5,029
Operating Expenditures	\$1,257	\$1,257	\$1,257
OPERATING NET FISCAL IMPACT	\$3,773	\$3,773	\$3,773
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$10,265	\$10,265	\$10,265
CAPITAL NET FISCAL IMPACT	(\$10,265)	(\$10,265)	(\$10,265)
GRAND TOTAL NET FISCAL IMPACT	(\$6,492)	(\$6,492)	(\$6,492)
AVERAGE ANNUAL FISCAL IMPACT	(\$325)	(\$325)	(\$325)

Figure 26. Fiscal Impact of FAZ 3 by Scenario

20-Year Total Net Fiscal Impact - Fiscal Analysis Zone 3 City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$16,923	\$16,923	\$16,923
Operating Expenditures	\$5,319	\$5,319	\$5,319
OPERATING NET FISCAL IMPACT	\$11,604	\$11,604	\$11,604
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$23,425	\$23,425	\$23,425
CAPITAL NET FISCAL IMPACT	(\$23,425)	(\$23,425)	(\$23,425)
GRAND TOTAL NET FISCAL IMPACT	(\$11,820)	(\$11,820)	(\$11,820)
AVERAGE ANNUAL FISCAL IMPACT	(\$591)	(\$591)	(\$591)

Figure 27. Fiscal Impact of FAZ 4 by Scenario

20-Year Total Net Fiscal Impact - Fiscal Analysis Zone 4 City of Bryan Annexation Fiscal Impact Model (\$1,000)			
Category	SCENARIO		
	Residential Scenario	Employment Scenario	Hospitality Scenario
<i>Operating</i>			
Operating Revenues	\$155,850	\$155,850	\$155,850
Operating Expenditures	\$44,216	\$44,216	\$44,216
OPERATING NET FISCAL IMPACT	\$111,634	\$111,634	\$111,634
<i>Capital</i>			
Capital Revenues	\$0	\$0	\$0
Capital Expenditures	\$15,269	\$15,269	\$15,269
CAPITAL NET FISCAL IMPACT	(\$15,269)	(\$15,269)	(\$15,269)
GRAND TOTAL NET FISCAL IMPACT	\$96,365	\$96,365	\$96,365
AVERAGE ANNUAL FISCAL IMPACT	\$4,818	\$4,818	\$4,818

To illustrate the cumulative net fiscal impact of the FAZs in each scenario, another set of figures are presented. In Figure 28, the net fiscal impact over time is observed for Scenario 1. Displayed in the figure, FAZ 1, FAZ 2, and FAZ 3 stay below the \$0 line (net negative fiscal impacts) during the projection period. However, starting early in the analysis, FAZ 4 begins to have a significant cumulative positive fiscal impact. Consequently, FAZ 4 begins to cover the negative impact of the other FAZs by 2034 (the break-even point).

Results are similar between the scenarios, resulting in the analogous figures.

Figure 28. Cumulative Net Fiscal Impact by FAZ in Scenario 1

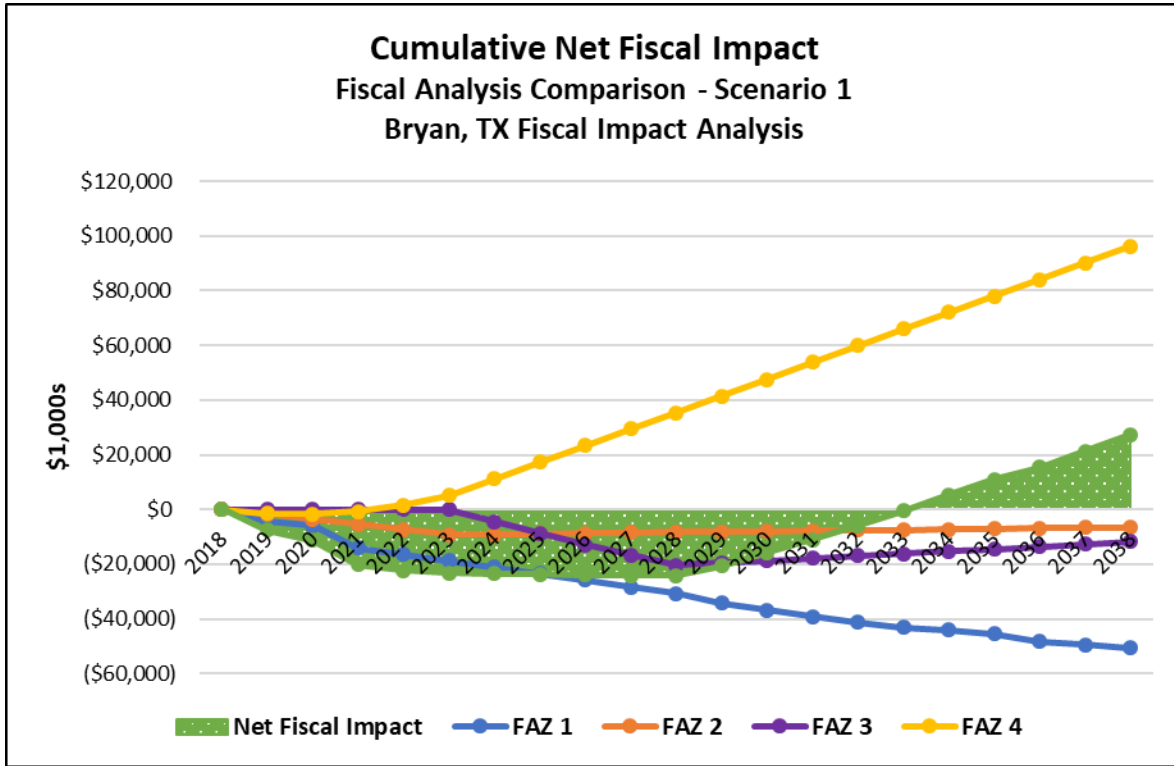


Figure 29. Cumulative Net Fiscal Impact by FAZ in Scenario 2

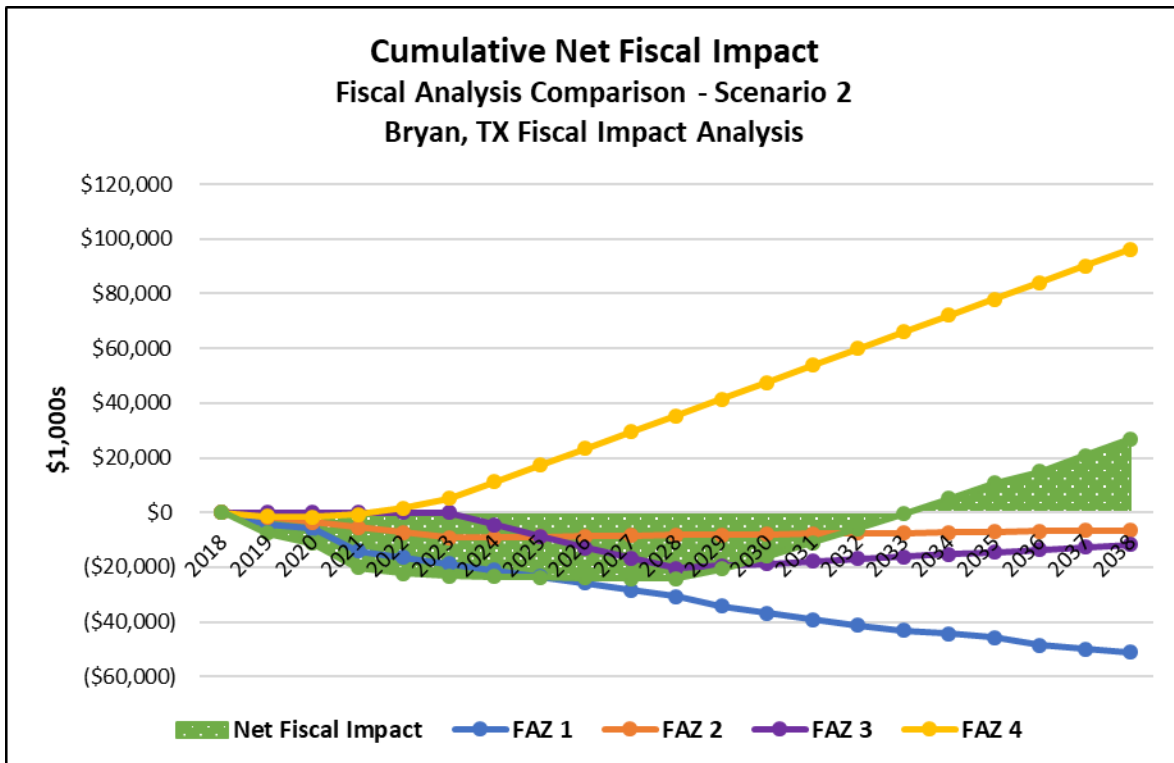
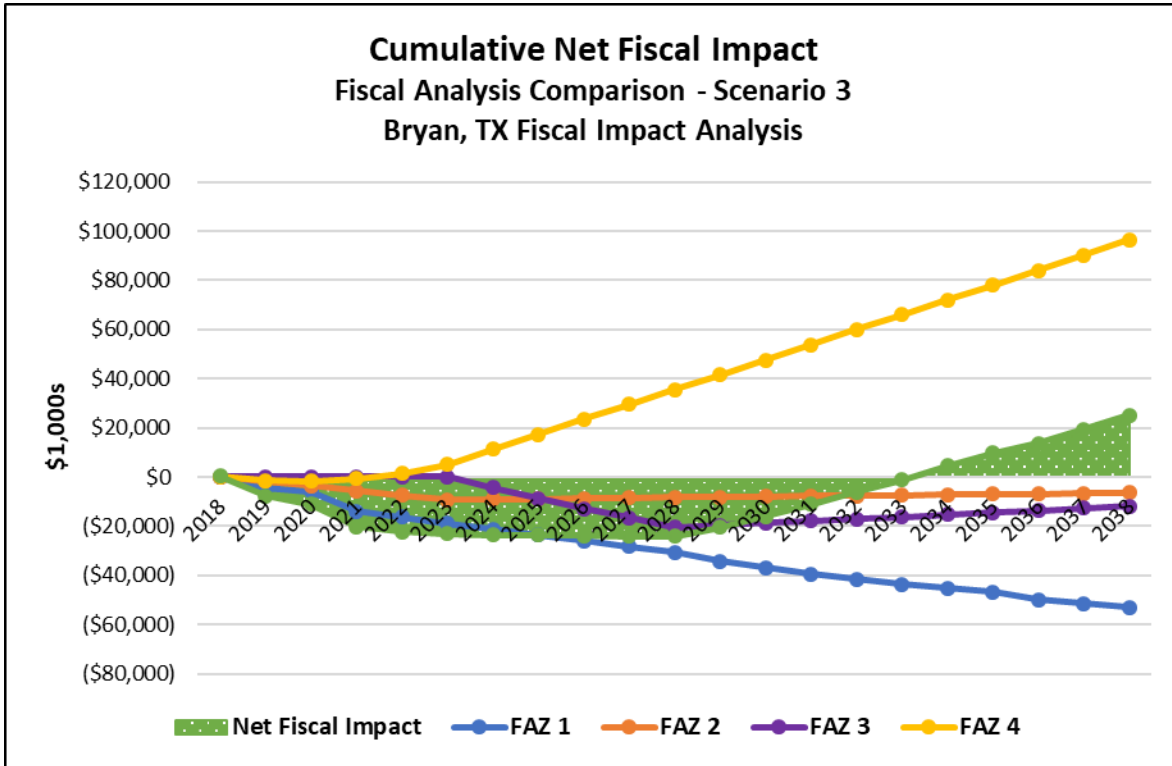


Figure 30. Cumulative Net Fiscal Impact by FAZ in Scenario 3



Summary of FAZ Analysis

When comparing Fiscal Analysis Zones, FAZ 4 is the only zone in which there is a positive impact. The positive fiscal results of the entire annexation area are driven by the high level of positive impact from that zone. FAZ 4 has the most development in the analysis, generating significant revenue from sales and property tax. The impact is able to cover all operating and capital expenditures triggered in all four FAZs. The offsetting effect of FAZ 4 allows for the other zones to develop at a slower pace.

FAZ 1 is the most negatively impactful zone. This is a consequence of needing to provide fire services to the zone, which requires construction of a new station. The new station is assumed to be a fully loaded station with an ambulance, fire engine, and ladder truck. The high level of capacity is needed for this station to serve tall new multifamily developments and the RELLIS campus, which may require the station to have advanced crisis capabilities. The station requires a number of new hires to be operational as well. However, as mentioned, the **development in FAZ 4 ultimately covers all the operating and capital costs in the Study Area.**

V. REVENUE AND EXPENDITURE DETAIL

REVENUE METHODOLOGIES

This chapter provides detail on projection methodologies for revenue included in the analysis. Growth-related revenues are modeled in this analysis in the following funds:

- General Fund
- Special Revenue Funds:
 - Hotel and Motel Tax Fund
 - Street Improvement Fund
 - Drainage Fund
 - Court Technology Fund
 - Debt Service Fund

Other funds that are not included are either Enterprise Funds (self-sustaining), Internal Service Funds, or considered fixed (unaffected by growth).

First, base year City revenues are summarized and provided for context.

Current City Revenues (FY2018)

The City’s current FY18 General Fund by revenue source is shown below to provide a comparison with the revenues that are projected in this study. It should be reiterated that Figure 31 includes only General Fund revenues (and not the other funds included in the study). Figure 32 provides a summary by fund of the major funds included in the study.

Figure 31. City of Bryan FY2018 General Fund Revenues

Current General Fund Revenue Summary		
City of Bryan, Texas		
Category	FY2018	%
City Sales Tax	\$20,299,500	29.2%
Property Tax	\$22,370,604	32.2%
Franchise Fees	\$2,078,000	3.0%
Licenses & Permits	\$773,019	1.1%
Grants	\$1,205,458	1.7%
Charges for Services	\$4,348,823	6.3%
ROW Permits	\$14,711,477	21.2%
Other Income	\$3,699,328	5.3%
Total	\$69,486,209	100.0%

Figure 32. City of Bryan FY2018 Revenues by Fund

Current Revenue Summary City of Bryan, Texas		
Fund	FY2018	%
General Fund	\$69,486,209	76.5%
Hotel/Motel Tax Fund	\$1,300,000	1.4%
Street Improvement Fund	\$5,750,000	6.3%
TIRZ 10 - Traditions Fund	\$913,000	1.0%
TIRZ 19 - Nash Street Fund	\$289,811	0.3%
TIRZ 21 - Downtown Fund	\$120,620	0.1%
TIRZ 22 - Target Tract Fund	\$342,972	0.4%
TIRZ 22 - North Tract Fund	\$188,910	0.2%
Court Technology Fund	\$46,500	0.1%
Community Development Fund	\$2,032,828	2.2%
Oil & Gas Fund	\$271,952	0.3%
Debt Service	\$10,080,120	11.1%
Total	\$90,822,922	100.0%

General Fund Revenues

A snapshot of the City General Fund from the model is shown below by specific category and line item. The table shows the specific revenue category and source, base year (FY 2018) budget amount, projection methodology, and the level of service (LOS) standard, or dollar per demand unit. For instance, for those categories projected based on “POPULATION,” the current budget amount is divided by the estimated population for base year 2018. For example, the Animal Center amount of \$82,983 is divided by the base year population (87,079) to yield a per capita cost factor of \$0.95, which is then used to project future revenue from this source from future population growth.

Figure 33: General Fund Revenues

Revenue Category	Revenue Name	Base Year Budget Amount	Project Using Which Demand Base?	LOS Std \$ per Demand Unit
Taxes	City Sales Tax	\$20,299,500	DIRECT ENTRY	\$0.00
	Property Tax	\$22,370,604	CUMUL AV	\$0.46
Franchise Fees	Franchise Fees	\$2,078,000	POP AND JOBS	\$16.15
Licenses & Permits	Business	\$36,535	JOBS	\$0.88
	Building Permits/Inspections	\$736,484	POP AND JOBS	\$5.72
Grants	Federal	\$0	FIXED	\$0.00
	State	\$0	FIXED	\$0.00
	Local Government	\$1,124,258	FIXED	\$0.00
	Private	\$81,200	FIXED	\$0.00
Charges for Services	General Government	\$144,840	POP AND JOBS	\$1.13
	Public Safety	\$689,520	POP AND JOBS	\$5.36
	Animal Center	\$82,983	POPULATION	\$0.95
	Mowing & Demo	\$96,900	FIXED	\$0.00
	Ambulance & Vital Stats	\$1,998,180	POP AND JOBS	\$15.53
	Recreation	\$1,284,400	POPULATION	\$14.75
	Library	\$52,000	POPULATION	\$0.60
Other Income	Fines	\$1,477,100	POP AND JOBS	\$11.48
	Miscellaneous and Shared Tax	\$2,112,228	POPULATION	\$7.28
	ROW Permits	\$14,711,477	POP AND JOBS	\$57.17
	Transfers In	\$110,000	FIXED	\$0.00
Future Category	Future Revenue		FIXED	\$0.00
	Future Revenue		FIXED	\$0.00
	Future Revenue		FIXED	\$0.00
	TOTAL	\$69,486,209		

NOTES TO TABLE:

CUMUL AV = Cumulative Assessed Value of real property

Other Customized/Marginal Calculations for General Fund

Revenues are projected assuming that the current revenue structure and tax rates, as defined by the FY18 budget, will not change during the analysis period. The following details the custom methodology used for certain revenue streams

- **City Sales Tax** is attributed to nonresidential development. To determine the level of revenue for each nonresidential category, the 2017 sales tax revenue totals from the Texas Comptroller of Public Accounts and the estimated floor area of the current nonresidential development in the City of Bryan are combined. Shown in Figure 34, retail development averages \$3.89 in annual sales tax per square foot compared to \$0.16 per square foot for office and \$0.75 per square foot for industrial development.

Figure 34. Sales Tax Revenue per Square Foot

Industry	2017 Sales Tax	Square Feet	Sales Tax Revenue/SF
Retail	\$14,277,829	3,668,218	\$3.89
Office	\$887,226	5,534,278	\$0.16
Industrial	\$3,848,627	5,122,108	\$0.75
Institutional	-	9,039,037	-
Total	\$19,013,682	23,363,641	\$0.81

Source: Texas Comptroller of Public Accounts; Bryan College Station MPO TAZ data; Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

Note: Institutional organizations are considered tax exempt

- **Property Tax** is projected based on the respective cumulative assessed values (see below for additional detail) of the property projected in the scenarios. Cumulative assessed values are multiplied by the current City tax rate of \$0.465 per \$100 valuation. As shown, assessed values for residential real property and nonresidential real property were projected separately to allow for comparison by type of development.

Figure 35. Assessed Values

Residential (\$/unit)	
Single Family	\$305,000
Multifamily	\$98,000

Nonresidential (\$/square foot)	
Retail	\$157
Office	\$162
Industrial	\$41
Hotel	\$104
Institutional*	0

*Note: land uses projected are assumed tax exempt

Source: Brazos Central Appraisal District

- **Licenses & Permits, Charges for Services, and Other Revenues:** Based on discussions with the Finance Department, several line items revenues are likely to increase with growth in *Population, Jobs, or Population and Jobs*.
- **Miscellaneous and Shared Tax:** Of that revenue, 70 percent is from the City selling assets and 30 percent is from the Mixed Drink and Bingo tax. For that reason, only 30 percent of the cost factor is applied to population growth in the model.
- **ROW Permits:** Half of the revenue from Right-of-Way Permits come from the City selling energy to the state electrical grid. As a result, only half of the cost factor is applied to population and job growth in the model.
- Revenues identified as “Fixed” are not anticipated to increase with growth.

Special Revenue Funds

The fiscal impact analysis includes other revenues from Special Revenue Funds, capturing revenues that are anticipated to be generated from growth. The majority of the growth-related Special Revenue Funds are expected to increase as the City’s population and jobs increase.

The **Debt Service Fund** receives a portion of the property tax in the City. Cumulative assessed values are multiplied by the current City tax rate of \$0.165 per \$100 valuation.

Figure 36. Special Revenue Funds

Revenue Category	Revenue Name	Base Year Budget Amount	Project Using Which Demand Base?	LOS Std \$ per Demand Unit
Hotel/Motel Tax Fund	Hotel Tax	\$1,300,000	POP AND JOBS	\$10.10
Street Improvement Fund	Fees	\$5,590,000	POP AND JOBS	\$43.45
	Other	\$80,000	FIXED	\$0.00
	Interest Income	\$80,000	FIXED	\$0.00
Drainage Fund	Fees	\$913,000	POP AND JOBS	\$7.10
	Other	\$0	FIXED	\$0.00
	Interest Income	\$0	FIXED	\$0.00
Court Technology Fund	Technology Fee	\$45,000	POP AND JOBS	\$0.35
	Interest Income	\$1,500	FIXED	\$0.00
Debt Service Fund	Property Tax	\$7,764,467	CUMUL AV	\$0.17
	Interest Income	\$35,000	FIXED	\$0.00
	BVSWMA	\$401,431	FIXED	\$0.00
	Transfers in	\$1,879,222	POP AND JOBS	\$14.61
	TOTAL	\$24,059,360		

REVENUE OUTPUTS

This section details revenue outputs from the Fiscal Impact Analysis.

Revenue Projections

The following figures illustrate the projected revenues in the City’s General Fund and other Funds modeled. Results are shown as a cumulative total over the 20-year projection period as well as an average annual figure. As noted in the figures, the listed dollar amounts are in \$1,000s.

The scenarios have similar revenue generation, but the Residential Scenario generates the most among the three. The scenarios average just below \$10 million in annual revenue.

Figure 37: Revenue Projections by Scenario

20-Year Cumulative Revenues - Scenario Comparisons City of Bryan Citywide Fiscal Impact Model (\$1,000)						
Category	SCENARIO					
	Residential Scenario	%	Employment Scenario	%	Hospitality Scenario	%
General Fund Revenues						
Sales Tax	\$69,424	43%	\$70,706	45%	\$69,020	44%
Property Tax	\$68,059	42%	\$65,077	41%	\$65,409	42%
Franchise Fees	\$3,002	2%	\$2,837	2%	\$2,812	2%
Licenses & Permits	\$1,112	1%	\$1,054	1%	\$1,045	1%
Grants	\$0	0%	\$0	0%	\$0	0%
Charges for Services	\$6,239	4%	\$5,819	4%	\$5,786	4%
Other Income	\$13,720	8%	\$12,929	8%	\$12,826	8%
SUBTOTAL GENERAL FUND REVENUES	\$161,555	100%	\$158,422	100%	\$156,898	100%
SUBTOTAL SPECIAL REVENUE FUND REVENUES	\$38,284		\$36,447		\$36,452	
GRAND TOTAL REVENUES	\$199,839		\$194,869		\$193,350	

Figure 38. Revenue Totals and Annual Average

20-Year Total Revenue - Scenario Comparisons City of Bryan Citywide Fiscal Impact Model (\$1,000)						
Category	SCENARIO					
	Residential Scenario	%	Employment Scenario	%	Hospitality Scenario	%
General Fund Revenue	\$161,555	81%	\$158,422	81%	\$156,898	81%
Special Revenues	\$38,284	19%	\$36,447	19%	\$36,452	19%
Capital Revenues	\$0	0%	\$0	0%	\$0	0%
CUMULATIVE TOTAL	\$199,839	100%	\$194,869	100%	\$193,350	100%
ANNUAL AVERAGE REVENUE	\$9,992		\$9,743		\$9,667	

OPERATING EXPENDITURE METHODOLOGIES

All variable operating expenditures are projected—including personnel and operating costs. Capital Expenditures are discussed in a separate section.

First, base year City expenditures are summarized and provided for context.

Current City Expenditures (FY2018)

The City’s current FY18 General Fund expenditures by source are shown below to provide a comparison with the expenditures projected in this study. It should be reiterated that Figure 39 includes only General Fund expenditures (and not the other funds included in the study). Figure 40 provides a summary of expenditures by major funds included in the study.

Figure 39. City of Bryan FY2018 General Fund Expenditures

Current General Fund Expenditure Summary City of Bryan, Texas		
Category	FY2018	%
Public Safety	\$39,192,574	52%
Public Works	\$5,577,311	7%
Development Services	\$2,779,891	4%
Community Services	\$8,976,921	12%
Support Services	\$9,519,203	13%
General Administration	\$4,871,519	6%
Non-Departmental	\$4,528,504	6%
Total	\$75,445,923	100%

Figure 40. City of Bryan FY2018 Expenditures by Fund Group

Current Expenditure Summary City of Bryan, Texas		
Fund	FY2018	%
General Fund	\$75,445,923	73%
Hotel Tax Fund	\$1,541,500	1%
Street Improvement Fund	\$6,844,598	7%
Drainage Fund	\$3,083,419	3%
TIRZ 10 - Traditions Fund	\$2,932,927	3%
TIRZ 19 - Nash Street Fund	\$212,239	0%
TIRZ 21 - Downtown Fund	\$100,000	0%
TIRZ 22 - Target Tract Fund	\$296,176	0%
TIRZ 22 - North Tract Fund	\$203,297	0%
Court Technology Fund	\$34,500	0%
Community Development Fund	\$2,032,828	2%
Oil & Gas Fund	\$0	0%
Debt Service	\$11,326,657	11%
Total	\$104,054,064	100%

For most City departments, operations and personnel costs are projected separately. A summary of the approach is provided below. It should be noted that many departments have some portion of their budget that is considered “fixed” and will not increase with growth. That is, existing operations will be able to absorb a portion of additional impacts from growth in the City. In the figure below, “fixed” is only indicated for those categories that are considered entirely “fixed.”

Figure 41: General Fund Operating Expenditures Approach

Expenditure Category	Department	Population	Jobs	Population & Jobs	Lane Miles	Total Police Calls	Total Fire and EMS Calls	Custom Analysis	Fixed	Staff Modeled?
General Fund										
Public Safety	Municipal Court					✓				✓
	Police Services					✓				✓
	Fire & Emergency Services						✓			✓
	Bryan Animal Center	✓								✓
Public Works	Engineering Services				✓					✓
	Streets & Drainage				✓					✓
	Traffic				✓					✓
Development Services	Development Services			✓						✓
	Code Enforcement			✓						✓
	Community Development Admin.			✓						✓
Community Services	Library Services	✓								✓
	Parks And Recreation							Contact hires based on new park acres	✓	
	Golf Course	✓								✓
Support Services	Fiscal Services								✓	
	Information Technology								✓	
	Human Resources								✓	
	Facility Services								✓	
	Fleet Services								✓	
General Administration	Executive Services								✓	
	Economic Development			✓						✓
	Internal Audit								✓	
	City Secretary	✓								✓
	City Council Services								✓	
	Communications & Marketing	✓								✓
	Neighborhood & Youth Services	✓								✓
Legal Services				✓					✓	

Figure 42: Special Revenue Funds Operating Expenditures Approach

Expenditure	Population	Jobs	Population & Jobs	Lane Miles	Total Police Calls	Total Fire and EMS Calls	Custom Analysis	Fixed
Special Revenue Funds								
Hotel Tax Fund	✓							
Street Improvement Fund				✓				
Drainage Fund			✓					
TIRZ 10 - Traditions Fund								✓
TIRZ 19 - Nash Street Fund								✓
TIRZ 21 - Downtown Fund								✓
TIRZ 22 - Target Tract Fund								✓
TIRZ 22 - North Tract Fund								✓
Court Technology Fund			✓					
Community Development Fund								✓
Oil & Gas Fund								✓
Debt Service			✓					

Custom Methodologies

All growth-related departments except for Parks and Recreation are modeled using a metric that is calculated in each scenario. Further explanation of those metrics is found in the Base Year Demographic Estimates Chapter. A description of the methodology used to calculate the Parks and Recreation operating expenditures is below.

- Parks and Recreation:* After interviews with staff in the Parks and Recreation Department it was determined that future parks are going to be maintained by contracted hires. As future residential development triggers new parks to be constructed (explained in the next chapter), an additional annual operating cost, based on recent contracted hire, is included. The two most recent parks constructed, Siena and Edgewater, average an annual contracted expense of \$3,274 per acre. The cost factor is applied to all new park acres triggered by new growth.

CAPITAL EXPENDITURE METHODOLOGIES

Capital Expenditures

Capital costs and infrastructure improvements to serve new development are modeled based on demand generated by the future growth scenarios. This section provides further detail on capital cost assumptions used in the Fiscal Impact Analysis. Capital facilities, infrastructure, vehicles, and equipment are projected for General Government, Parks and Recreation, Fire, Police, Public Works, and Transportation.

Many of the assumptions on which the analysis is based can be viewed as policy-making decision points, which if modified would affect the overall results. For example, most of the capital expenditures assumed in the analysis, and the resulting costs (assumed in most cases as debt financed), are projected independent of the current capital improvement programs and debt capacity guidelines. Rather, the capital costs projected in this analysis reflect the potential cost to serve new growth, regardless of whether the resources are available to cover the costs. The City will continue to balance its annual budgets considering financial guidelines and policies, applicable operating impacts, and available resources.

An important aspect of the capital expenditure methodology is that the funding of new facilities will be “front-loaded”. In other words, the projects will be paid in full in the year that they are constructed. Although, in reality the City may debt finance projects. However, including debt financing in the model may lead to the model underestimating the capital costs. For example, if a project is triggered for construction in Year 12 and it is debt financed for 20 years, only 8 of those years will be captured in the 20-year analysis, resulting in less than half of the project’s true cost to be reflected in the analysis.

Furthermore, only facilities for departments that are funded through the City’s General Fund are included in the analysis. Costs for capital improvement needs from Enterprise Funds (i.e. sewer and water) are assumed to be covered by the utility rates charged to users.

General Government Facilities

To serve residential and nonresidential development in the scenarios, the population and job growth is multiplied by the current level of service of municipal buildings. The level of service is found by dividing the current floor area of all municipal buildings by the current population and job total in the City (146,978 square feet / 128,661 population and jobs = 1.14 square feet per population and job). As residential and nonresidential growth occurs in the scenarios, the demand factor of 1.14 square feet per population or job is applied to General Government capital costs.

Parks and Recreation

The fiscal impact analysis determines growth-related needs for Parks and Recreation infrastructure. Additional Park and Recreation improvements are modeled based on population growth. The City's recommended level of service in the Comprehensive Plan for Neighborhood Parks, Community Parks, and Natural Areas/Trails is included in the model. Additionally, the recommended size for each park category is used to determine when a park should be constructed.

- Neighborhood park – level of service: 2.5 acres per 1,000 residents. Recommended size: 5 acres.
- Community park – level of service: 5 acres per 1,000 residents. Recommended size: 20 acres.
- Natural Area/Trail – level of service: 7 acres per 1,000 residents. Recommended size: 3 acres.

After discussions with staff, an important assumption for Parks and Recreation capital projects, is that new parks and trails are going to be funded by developers. This is consistent with the two most recent parks, Siena and Edgewater. However, the model calculates the new park acres to determine the City's operating cost to maintain them.

No indoor recreational facilities are assumed to be affected by the scenarios.

Fire and EMS

The City currently has five Fire Stations with a total footprint of approximately 67,000 square feet. Per the Bryan Fire Department, a sixth Fire Station will be needed to serve the annexation area, particularly the furthest area, FAZ 1. Additionally, fire service may be necessary at the RELLIS campus which will require a full station that is able to serve advanced fire and rescue situations. With new roads to accompany development in the other FAZs, the new growth in the beginning of the scenarios will be served by current fire stations. However, without a fire station to serve the current population in FAZ 1, the City of Bryan will drop from their top-rated ISO 1 ranking to ISO 10 in the newly annexed area. As such, in the model, a fire station has been directly entered to be constructed and operational in Year 3. Before the construction of the new station is complete, a temporary facility is needed. There are several options, including an old facility at the Texas A&M RELLIS Campus. However, all options are assumed to need expansion and modernization to house staff and fire apparatuses. The following, details the capital and operating costs of a new station.

- It is estimated that to expand and modernize a facility to temporary house the new staff and vehicles there will be cost of \$2 million. The capital cost is included in the analysis in Year 1. A new fire engine and ambulance will be posted at this station.
- The fiscal analysis projects a new engine in Year 1 at a cost of \$950,000. The engine is estimated to have a frontline lifespan of ten years.
- The fiscal analysis projects a new ambulance in Year 1 at a cost of \$260,000. The ambulance is estimated to have a frontline lifespan of four years.

- The temporary station will house 21 new personnel hires.
- The new fire station, Station 6, is assumed to be 14,000 square feet at a cost of \$4.3 million. In the analysis, the station's cost and start of operation are included in Year 3.
- The City of Bryan has one ladder truck. It is anticipated that there may be some fire service provided by Texas A&M at the RELLIS campus. However, to some degree, the City of Bryan expects that they will be serving the RELLIS campus. To be able to assist the taller buildings and, potentially, more advanced emergency situations, a new ladder truck is assumed to be stationed at Station 6. The fiscal analysis projects a new ladder truck when Station 6 is built at a cost of \$1,500,000. The ladder truck is estimated to have a frontline lifespan of 15 years.
- Lastly, Station 6 will require additional hires to operate the ladder truck, 12 new hires are assumed necessary for Station 6 to be fully operational.
- In total, 33 new hires are expected in the scenarios. The new hires include 6 Lieutenants, 6 Apparatus Operators, and 21 Firefighters. At the current salary and benefits, the annual operating cost of Station 6 is \$2,450,000.
- The City of Bryan may in reality choose to debt finance the construction of the fire stations. However, if this was the case in the fiscal analysis because a portion of the costs would not be captured. Since the construction of Station 6 happens in Year 3, the last years of a 20-year bond would not be included in the model and thus underestimating the real impact of the new station. Because of this, the full cost of the station's construction and apparatuses are triggered when the station is constructed.

Police

After interviews with the Police Department, there are no facilities improvements needed to serve the scenarios. However, additional patrol vehicles are necessary to support the new police hires. For every new Lieutenant, Sergeant, or Officer a new police patrol vehicle is added. A patrol vehicle is estimated to cost \$63,000 and have a frontline lifespan of seven years.

Public Works

After interviews with Public Works staff, there are no facilities improvements needed to serve the scenarios. However, under the scenarios, the City will annex current roadways and new roads will be constructed to serve development. As a result, there will be a need to expand the Public Works vehicle and heavy equipment fleet to accommodate the increase in road maintenance. From an inventory of the Department's fleet, there are 41 vehicles and heavy equipment to serve the current City. The average cost is \$45,000. To continue serving at the current level of service, the model has been programmed to trigger a new unit based on new lane miles added.

Transportation

Along with Kendig Keast Collaborative, Kimley-Horn is partnered on this study to complete an engineering analysis. To understand the fiscal impact of road costs to the City, Kimley-Horn calculated the cost to improve existing roads within the annexation area and the cost to develop collector and arterial roadways. To approximate the new road construction costs, the City's Thoroughfare Plan was examined. Thoroughfare Plans generally have longer horizons than this study's projection period (20 years) and given the uncertainties about the pace of development at the RELLIS campus and exact location of development in the annexation areas, it was determined that not all roadways highlighted in Bryan's Thoroughfare Plan should be included in the fiscal impact analysis. **With consultation from City staff, it was determined that half of the lane miles in the Thoroughfare Plan would be included in the analysis.**

Additionally, after further consultation with City staff and recent development agreements (i.e. the Edgewater subdivision), it was determined that an assumption should be included that developers would fund half of the road construction cost. The City would carry the remaining burden. If a developer funded element was not included in the analysis, the analysis would overburden the City compared to what is expected in reality. However, if the City is not able to secure development agreements that hold developers to at least 50 percent of the road costs in the annexation areas, it is expected that the positive net fiscal impacts of the scenarios would be lessened. Furthermore, it is assumed that local roads will be constructed by developers.

In Figure 43, the total cost estimate is listed and includes construction, right-of-ways, contingency, and design costs. Adding to the costs, as a result of the geography, there are a number of expensive bridges that are necessary. Also, it is assumed that the road costs do not vary based on the type of development in the scenarios. Further detail of the road costs is found in the Kimley-Horn report attached in this packet.

As mentioned, the road costs will be funded entirely in the year that they are constructed. There is no debt financing of the projects. The construction of roads is assumed to coincide with residential and nonresidential development. Each scenario has three phases:

- Phase 1: Years 1-5, development of FAZ 2 and 4.
- Phase 2: Years 6-10, development of FAZ 3.
- Phase 3: Years 11-15, development of FAZ 1.

The total capital costs for the City are listed in Figure 43. To attribute the costs over the projection period, the capital costs of each phase is averaged over the span of the phases, five years each. This method allows for the full cost of the existing roadways and new roads needed to accommodate growth to be captured in the model.

Figure 43. Transportation Capital Costs

Description	City Road Capital Cost (\$)
PHASE 1 (FAZ 2 and 4)	
Roadways	\$20,441,349
PHASE 2 (FAZ 3)	
Roadways	\$22,780,901
PHASE 3 (FAZ 1)	
Roadways	\$1,639,411
GRAND TOTAL	
Roadways	\$44,861,661

Source: Kimley-Horn

Capital Costs Funded by Enterprise Funds

Along with roadway capital costs, Kimley-Horn has identified capital costs for sewer and water facilities. Found in Figure 44, there is a grand total of \$56.8 million in capital costs for sewer and water facilities over the 20-year projection period. It is assumed that these projects are funded through the City’s Enterprise Funds and are covered by utility rates, thus not affecting the City’s General Fund. As a result, the capital costs are not included in the analysis. However, if these projects were funded through the City’s General Fund it would have a negative fiscal impact.

Figure 44. Capital Costs Funded by Enterprise Funds

Description	Construction Cost	Contingency	Engineering, Surveying, and Testing	Subtotal
Years 1-5 (FAZs 2 and 4) Public Infrastructure Components				
Sanitary Sewer	\$26,830,176	\$4,024,526	\$3,756,225	\$34,610,927
Water	\$1,735,635	\$260,345	\$279,437	\$2,275,417
Subtotal	\$28,565,811	\$4,284,871	\$4,035,662	\$36,886,344
Years 6-10 (FAZ 3) Public Infrastructure Components				
Sanitary Sewer	\$2,313,070	\$346,961	\$323,830	\$2,983,861
Water	\$2,546,703	\$382,005	\$410,019	\$3,338,727
Subtotal	\$4,859,773	\$728,966	\$733,849	\$6,322,588
Years 11-15 (FAZ 1) Public Infrastructure Components				
Sanitary Sewer	\$4,956,160	\$743,424	\$693,862	\$6,393,446
Water	\$5,473,625	\$821,044	\$881,254	\$7,175,923
Subtotal	\$10,429,785	\$1,564,468	\$1,575,116	\$13,569,369
Grand Total	\$43,855,369	\$6,578,305	\$6,344,627	\$56,778,301

Source: Kimley-Horn

EXPENDITURE OUTPUTS

This section details **expenditure** outputs from the Fiscal Impact Analysis.

Operating and Capital Expenditure Projections

Operating and capital expenditure results are provided in this section based on the expenditure methodologies discussed above.

For operating expenditure projections, the 20-year cumulative total is shown. Of the costs, the Fire and Police Department account for the majority. Much of the Fire Department operating costs are generated from the personnel needed at the new station. Also, new staffing costs for the Police Department is driving the high operating expenses. Shown in Figure 45, the other government departments are affected far less by growth than the Public Safety departments. Also, there are increases in expenditures in the Special Revenue Funds.

Figure 45: Operating Expenditure Projections by Scenario

20-Year Total Operating Expenditures - Scenario Comparisons City of Bryan Annexation Fiscal Impact Model (\$1,000)						
Category	SCENARIO					
	Residential Scenario	%	Employment Scenario	%	Hospitality Scenario	%
Police Service	\$25,359	31%	\$24,097	30%	\$24,121	30%
Fire Department	\$50,113	60%	\$49,942	61%	\$49,961	62%
Public Safety - Other	\$1,879	2%	\$1,803	2%	\$1,807	2%
Public Works Department	\$821	1%	\$821	1%	\$821	1%
Development Services	\$1,136	1%	\$1,073	1%	\$1,064	1%
Support Services	\$0	0%	\$0	0%	\$0	0%
General Government	\$1,066	1%	\$1,005	1%	\$997	1%
Other	\$2,628	3%	\$2,483	3%	\$2,462	3%
SUBTOTAL GENERAL FUND EXPS	\$83,002	100%	\$81,223	100%	\$81,233	100%
SUBTOTAL SPECIAL REVENUE FUND EXPS	\$25,380		\$24,106		\$23,920	
GRAND TOTAL OPERATING EXPS	\$108,382		\$105,330		\$105,153	

The capital results for General Fund funded departments are shown below.

The analysis assumes all capital projects to be funded in the year that they are constructed. If projects were modeled as debt financed, the debt service costs would continue after the last year of the projection period, resulting in the full capital costs not being captured in the analysis. As illustrated in Figure 46, the capital costs for improvements to existing roads and construction of new roads is the most expensive category. The new fire station and apparatuses for the station contribute a significant amount to the total capital costs as well.

Figure 46. Summary of Capital Costs

20-Year Total Capital Expenditures - Scenario Comparisons City of Bryan Annexation Fiscal Impact Model (\$1,000)						
Category	SCENARIO					
	Residential Scenario	%	Employment Scenario	%	Hospitality Scenario	%
General Government	\$4,418	7%	\$3,974	6%	\$3,902	6%
Parks and Recreation	\$0	0%	\$0	0%	\$0	0%
Fire Department	\$12,484	19%	\$12,484	19%	\$12,484	20%
Police Department	\$2,813	4%	\$2,626	4%	\$2,626	4%
Public Works	\$136	0%	\$136	0%	\$136	0%
Transportation	\$44,862	69%	\$44,862	70%	\$44,862	70%
TOTAL	\$64,713	100%	\$64,081	100%	\$64,010	100%

APPENDIX A: DEMOGRAPHIC AND DATA ASSUMPTIONS

BASE YEAR DEMOGRAPHIC ESTIMATES

The table below summarizes estimates of the base year population, housing units, employment, nonresidential space, and facility factors in the City of Bryan. These estimated values serve as the basis for the fiscal impact analysis and are used to determine the cost and revenue factors used in the analysis.

Figure 47. Base Year Input Data

Population [1]	POPULATION	87,079
	JOBS	41,581
	POP AND JOBS	128,661
Housing Units by Type [1]	SINGLE FAMILY	25,172
	APARTMENTS	13,909
	TOTAL HOUSING	39,081
	SF UNITS	25,172
Jobs by Type [1]	OFFICE JOBS	16,434
	RETAIL JOBS	8,596
	INDUSTRIAL JOBS	8,150
	INSTITUTIONAL JOBS	8,402
	TOTAL JOBS	41,581
	RETAIL, OFFICE, IND JOBS	33,179
Nonresidential Floor Area [2]	OFFICE SF	5,534,278
	RETAIL SF	3,668,218
	INDUSTRIAL SF	5,122,108
	INSTITUTIONAL SF	9,039,037
	TOTAL NR KSF	23,363,641
Vehicle Trips [3]	RESIDENTIAL TRIPS	174,715
	NONRES TRIPS	177,858
	VEHICLE TRIPS	352,573
Facility Factors	[4] LANE MILES	762
	[5] PARK ACRES	570
	[5] FACILITY SF	385,128
Public Safety Factors	TOTAL POLICE CALLS	65,047
	TOTAL FIRE AND EMS CALLS	11,979

[1] Bryan College Station MPO TAZ data

[2] Bryan College Station MPO TAZ data; Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

[3] Institute of Transportation Engineers (ITE) Trip Generation Manual, 2017.

[4] City of Bryan Streets & Drainage Department

[5] City of Bryan Comprehensive Plan, 2016

HOUSEHOLD SIZE

Household size is used to project population over the planning horizon. Figure 48 shows household size assumptions by type of unit.

Figure 48. Household Size

Type of Unit	Persons	Housing Units	PPHU	Households	PPHH	Housing Mix	Vacancy
Single Family [1]	55,278	20,220	2.73	18,659	2.96	64%	8%
Multifamily [2]	21,441	11,557	1.86	10,310	2.08	36%	12%
Total	76,719	31,777	2.41	28,969	2.65		10%

Note: Single family includes Single Family Detached, Attached, and Mobile Homes.

Note: Multifamily includes structures with 2+ Units.

Source: U.S. Census Bureau 2012-2016 American Community Survey 5-Yr Estimates

EMPLOYEE DENSITY FACTORS

Employees per 1,000 square feet of nonresidential space are used to project future employment. Projected nonresidential square footage by type of development is converted to employment by using the employee density figures highlighted found in the Institute of Transportation Engineers' Trip Generation (2017), Figure 49. Shopping Center demand factors are applied to retail development in the model, General Office is applied to office development, Manufacturing is applied to Industrial, and Elementary School is applied to Institutional.

Figure 49. Floor Area per Employee

ITE Code	Land Use	Demand Unit	Wkdy Trip Ends Per Dmd Unit	Wkdy Trip Ends Per Employee	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	4.96	3.05	1.63	615
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	3.93	2.47	1.59	628
150	Warehousing	1,000 Sq Ft	1.74	5.05	0.34	2,902
254	Assisted Living	bed	2.60	4.24	0.61	na
320	Motel	room	3.35	25.17	0.13	na
520	Elementary School	1,000 Sq Ft	19.52	21.00	0.93	1,076
530	High School	1,000 Sq Ft	14.07	22.25	0.63	1,581
540	Community College	student	1.15	14.61	0.08	na
550	University/College	student	1.56	8.89	0.18	na
565	Day Care	student	4.09	21.38	0.19	na
610	Hospital	1,000 Sq Ft	10.72	3.79	2.83	354
620	Nursing Home	1,000 Sq Ft	6.64	2.91	2.28	438
710	General Office (avg size)	1,000 Sq Ft	9.74	3.28	2.97	337
760	Research & Dev Center	1,000 Sq Ft	11.26	3.29	3.42	292
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	37.75	16.11	2.34	427
310	Hotel	Room	8.36	14.34	0.58	1,715

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

VEHICLE TRIPS

Vehicle trips are used to project some operating and capital expenditures in the fiscal impact analysis. Average Weekday Vehicle Trip Ends by type of development (or trip generation rates) are from the reference manual, *Trip Generation, 10TH Edition*, published by the Institute of Transportation Engineers (ITE), in 2017. A “trip end” represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip rates have been adjusted to avoid overestimating the number of actual trips because one vehicle trip is counted in the trip rates of both the origination and destination points.

Residential Vehicle Trips

A customized trip rate is calculated for the single family and multifamily units in Bryan. In Figure 50, the most recent data from the American Community Survey is inputted into equations provided by the ITE to calculate the trip ends per housing unit factor. A single family unit is estimated to generate 7.4 trip ends on an average weekday and a multifamily unit is estimated to generate 7.2 trip ends on an average weekday.

Figure 50. Customized Residential Trip End Rates

	Vehicles Available (1)	Households (2)			Vehicles per Household by Tenure
		Single Family	Multifamily Units	Total HHs	
Owner-occupied	27,425	13,272	5,387	18,659	1.47
Renter-occupied	21,923	121	10,189	10,310	2.13
TOTAL	49,348	13,393	15,576	28,969	1.70
Housing Units (6) =>		20,220	11,557	31,777	
Persons per Housing Unit =>		2.73	1.86	2.41	

	Persons (3)	Trip Ends (4)	Vehicles by Type of Housing	Trip Ends (5)	Average Trip Ends	Trip Ends per Housing Unit
Single Family	55,278	169,307	19,764	129,601	149,454	7.40
Multifamily	21,441	49,019	29,584	116,853	82,936	7.20
TOTAL	76,719	218,326	49,348	246,453	232,390	7.30

(1) Vehicles available by tenure from Table B25046, 2012-2016 American Community Survey 5-Year Estimates.

(2) Households by tenure and units in structure from Table B25032, American Community Survey, 2012-2016.

(3) Persons by units in structure from Table B25033, American Community Survey, 2012-2016.

(4) Vehicle trips ends based on persons using formulas from *Trip Generation* (ITE 2017). For single family housing (ITE 210), the fitted curve equation is $EXP(0.89 * LN(\text{persons}) + 1.72)$. To approximate the average population of the ITE studies, persons were divided by 286 and the equation result multiplied by 286. For multifamily housing (ITE 221), the fitted curve equation is $(2.29 * \text{persons}) - 81.02$.

(5) Vehicle trip ends based on vehicles available using formulas from *Trip Generation* (ITE 2017). For single family housing (ITE 210), the fitted curve equation is $EXP(0.99 * LN(\text{vehicles}) + 1.93)$. To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 485 and the equation result multiplied by 485. For multifamily housing (ITE 220), the fitted curve equation is $(3.94 * \text{vehicles}) + 293.58$ (ITE 2012).

(6) Housing units from Table B25024, American Community Survey, 2012-2016.

Residential Vehicle Trips Adjustment Factors

A vehicle trip end is the out-bound or in-bound leg of a vehicle trip. As a result, so to not double count trips, a standard 50 percent adjustment is applied to trip ends to calculate a vehicle trip. For example, the out-bound trip from a person’s home to work is attributed to the housing unit and the trip from work back home is attributed to the employer.

However, an additional adjustment is necessary to capture City residents’ work bound trips that are outside of the City. The trip adjustment factor includes two components. According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of out-bound trips (which are 50 percent of all trip ends). Also, utilizing the most recent data from the Census Bureau's web application "OnTheMap", 68 percent of Bryan workers travel outside the City for work. In combination, these factors account for 11 percent of additional production trips ($0.31 \times 0.50 \times 0.68 = 0.11$). Shown in Figure 51, the total adjustment factor for residential housing units includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (11 percent of production trips) for a total of 61 percent.

Figure 51. Trip Adjustment Factor for Commuters

Employed Bryan Residents (2015)	33,828
Bryan Residents Working in the City (2015)	10,836
Bryan Residents Commuting Outside of the City for Work	22,992
Percent Commuting out of the City	68%
Additional Production Trips	11%
Standard Trip Adjustment Factor	50%
Residential Trip Adjustment Factor	61%

Source: U.S. Census, OnTheMap Application, 2015

Nonresidential Vehicle Trips

Vehicle trip generation for nonresidential land uses are calculated by using ITE’s average daily trip end rates and adjustment factors found in their recently published 10th edition of Trip Generation. To estimate the trip generation in the City of Bryan, the weekday trip end per 1,000 square feet factors highlighted in Figure 49 are used.

A simple factor of 50 percent is applied to the Office, Industrial, and Institutional land uses. The Retail category has a trip factor of less than 50 percent because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination.

Base Year Vehicle Trip Totals

Trip rates and adjustment factors are shown in the figure. Using trips generated from single family units as an example, the formula is as follows: 25,172 units x 7.40 vehicle trips per unit x 61% adjustment = 113,627. As shown in Figure 52, residential development accounts for an estimated 50 percent of total daily trips and nonresidential development accounts for an additional 50 percent.

Figure 52. Vehicle Trips

Residential Vehicle Trips on an Average Weekday		
<i>Residential Units</i>		<i>Assumptions</i>
Single Family		25,172
Multifamily		13,909
<i>Average Weekday Vehicles Trip Ends Per Unit [1]</i>		<i>Trip Factor</i>
Single Family	7.40	61%
Multifamily	7.20	61%
<i>Residential Vehicle Trip Ends on an Average Weekday</i>		
Single Family	113,627	
Multifamily	61,088	
TOTAL RESIDENTIAL TRIPS	174,715	50%
Nonresidential Vehicle Trips on an Average Weekday		
<i>Nonresidential Gross Floor Area (1,000 sq. ft.) [2]</i>		<i>Assumptions</i>
Office		5,534
Retail		3,668
Industrial		5,122
Institutional		9,039
<i>Average Weekday Vehicle Trip Ends per 1,000 Sq. Ft. [1]</i>		<i>Trip Factors</i>
Office	9.74	50%
Retail	37.75	38%
Industrial	3.93	50%
Institutional	19.52	50%
<i>Nonresidential Vehicle Trips on an Average Weekday</i>		
Office	26,952	
Retail	52,621	
Industrial	10,065	
Institutional	88,221	
TOTAL NONRESIDENTIAL TRIPS	177,858	50%
TOTAL TRIPS	352,573	100%
Source: Trip rates are from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 2017.		

FUNCTIONAL POPULATION

Both residential and nonresidential developments increase the demand on City services and facilities. To calculate the proportional share between residential and nonresidential demand on service and facilities, a functional population approach is used. The functional population approach allocates the cost of the facilities to residential and nonresidential development based on the activity of residents and workers in the City through the 24 hours in a day.

Residents that do not work are assigned 20 hours per day to residential development and 4 hours per day to nonresidential development (annualized averages). Residents that work in the City of Bryan are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside the City are assigned 14 hours to residential development, the remaining hours in the day are assumed to be spent outside of the City working. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data, residential development accounts for 71 percent of the functional population, while nonresidential development accounts for 29 percent, see Figure 53.

Figure 53. City of Bryan Functional Population

	Demand Units in 2015	Demand Hours/Day	Person Hours	Proportionate Share
Residential				
Estimated Residents in Bryan [1]	75,616			
Residents Not Working	55% 41,788	20	835,760	
Workers Living in Bryan [2]	45% 33,828			
Residents Working in Bryan [2]	32% 10,836	14	151,704	
Residents Working outside of Bryan	22,992	14	321,888	
		Residential Subtotal	1,309,352	71%
Nonresidential				
Non-Working Residents	41,788	4	167,152	
Jobs Located in Bryan [2]	36,033			
Residents Working in Bryan	10,836	10	108,360	
Non-Resident Workers Bryan	25,197	10	251,970	
		Nonresidential Subtotal	527,482	29%
		TOTAL	1,836,834	100%

[1] Source: U.S. Census Bureau 2011-2015 American Community Survey 5-Yr Estimates

[2] Source: US Census, OnTheMap Application

POLICE CALLS FOR SERVICE

A custom methodology is used to allocate police costs based on an analysis of calls for service in the City of Bryan. TischlerBise analyzed call data from 2016.

As shown in Figure 53, 71 percent of the functional population in the City is attributed to residential purposes and 29 percent of the functional population is attributed to nonresidential purposed. These factors are used to allocate costs to residential and nonresidential land uses. This percentage split is used to allocate the total police calls. In 2016, there was a total of 65,047 calls for service to the Bryan Police Department, 71 percent (or 46,368 calls) is attributed to residential development and 29 percent (or 18,679 calls) is attributed to nonresidential development.

To project future Police calls for service from new development, the above data is used to determine a call per person and call per nonresidential trip. This methodology seeks to capture demand for services from both residential and nonresidential development. Since specific records on calls for service by type of nonresidential land use is not available, *vehicle trips by type of nonresidential land use are utilized as a realistic proxy*. This methodology reflects that the greatest number of calls for service on a per square foot basis. If calls for service were allocated on a per employee basis, office uses would generate the greatest number of calls due to its high employment density, which is contrary to actual experience.

Shown in Figure 54, to find the residential police demand factor, the City’s population is applied to the total residential calls for service to find a level of service of 0.53 calls per person. The number of nonresidential vehicle trips is applied to the total nonresidential calls for service to find a level of service of 0.11 calls per nonresidential trip. These factors are then applied to projected population and nonresidential vehicle trips in each growth scenario to project new Police calls for service.

Figure 54. Police Service Call Demand Factors

	<i>City of Bryan</i>
TOTAL CALLS FOR SERVICE	65,047
Total Residential Calls	46,368
Population	87,079
Call per person	0.53
Total Nonresidential Calls	18,679
Total Nonresidential Trips	177,858
Call per nonresidential trip	0.11

Source: 2016 BPD Annual Report

FIRE CALLS FOR SERVICE

As shown in Figure 53, in 2017, the Fire Department received 11,979 calls for service. Of the total, 63 percent (or 7,578 calls) were attributed to residential development and 37 percent (or 4,401 calls) were attributed to nonresidential development.

To project future Fire calls for service from new development, the above data is used to determine a call per person and call per nonresidential trip. This methodology seeks to capture demand for services from both residential and nonresidential development. Since specific records on calls for service by type of nonresidential land use is not available, *vehicle trips by type of nonresidential land use are utilized as a realistic proxy*. This methodology reflects that the greatest number of calls for service on a per square foot basis. If calls for service were allocated on a per employee basis, office uses would generate the greatest number of calls due to its high employment density, which is contrary to actual experience.

Shown in Figure 55, to find the residential fire demand factor, the City's population is applied to the total residential calls for service to find a level of service of 0.087 calls per person. The number of nonresidential vehicle trips is applied to the total nonresidential calls for service to find a level of service of 0.025 calls per nonresidential trip. These factors are then applied to projected population and nonresidential vehicle trips in each growth scenario to project new Fire calls for service.

Figure 55. Fire Department Demand Factors

FIRE/RESCUE DATA INPUT AREA		
Fire/Rescue Calls for Service Data [1] Land Use	FIRE/EMS	
	2017 Fire Calls	Percent
Residential Land Uses	7,578	63%
Nonresidential Land Uses	4,401	37%
TOTAL CALLS FOR SERVICE	11,979	100%
Current Population		87,079
Current Nonresidential Vehicle Trips		177,858
Calls per Capita		0.087
Calls per Nonres. Trip		0.025

Source: City of Bryan Fire Department

GROWTH PROJECTIONS

The following figures list the annual cumulative growth of residential and nonresidential development in each Fiscal Analysis Zone (FAZ) for each scenario. The vehicle trip generation for each FAZ is listed as well. The vehicle trip generation is calculated by combining the residential and nonresidential development with the Institute of Transportation Engineers' vehicle trip end factors and trip adjustment factors found above in the Vehicle Trip section of the Appendix.

Figure 56. Scenario 1 Fiscal Analysis Zone Growth Projections

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Residential									
Population	60	60	60	60	60	60	60	3,527	3,527
Single Family (Units)	22	22	22	22	22	22	22	202	202
Multifamily (Units)	0	0	0	0	0	0	0	1,600	1,600
Subtotal Housing	22	22	22	22	22	22	22	1,802	1,802
Nonresidential									
Jobs	264	264	264	264	264	264	264	534	534
Office (Sq. Ft.)	0	0	0	0	0	0	0	23,000	23,000
Retail (Sq. Ft.)	7,700	7,700	7,700	7,700	7,700	7,700	7,700	30,700	30,700
Industrial (Sq. Ft.)	154,500	154,500	154,500	154,500	154,500	154,500	154,500	218,500	218,500
Subtotal (Sq. Ft.)	162,200	162,200	162,200	162,200	162,200	162,200	162,200	272,200	272,200
FAZ 2									
Residential									
Population	235	235	235	235	235	235	235	235	235
Single Family (Units)	86	86	86	86	86	86	86	86	86
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	86	86	86	86	86	86	86	86	86
Nonresidential									
Jobs	317	342	368	393	419	444	444	444	444
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Industrial (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
Subtotal (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
FAZ 3									
Residential									
Population	41	41	41	41	41	41	532	532	532
Single Family (Units)	15	15	15	15	15	15	195	195	195
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	15	15	15	15	15	15	195	195	195
Nonresidential									
Jobs	0	0	0	0	0	0	375	375	375
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
Industrial (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Subtotal (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
FAZ 4									
Residential									
Population	339	1,422	2,506	3,590	4,674	5,758	5,758	5,758	5,758
Single Family (Units)	124	412	700	988	1,276	1,564	1,564	1,564	1,564
Multifamily (Units)	0	160	320	480	640	800	800	800	800
Subtotal Housing	124	572	1,020	1,468	1,916	2,364	2,364	2,364	2,364
Nonresidential									
Jobs	0	498	995	1,493	1,991	2,488	2,488	2,488	2,488
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	60,000	60,000
Retail (Sq. Ft.)	0	132,000	264,000	396,000	528,000	660,000	660,000	660,000	660,000
Industrial (Sq. Ft.)	0	96,000	192,000	288,000	384,000	480,000	480,000	480,000	480,000
Subtotal (Sq. Ft.)	0	240,000	480,000	720,000	960,000	1,200,000	1,200,000	1,200,000	1,200,000

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 57. Scenario 1 Total Growth Projections

Total Scenario 1	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
Residential									
Population	674	1,758	2,842	3,926	5,010	6,094	6,585	10,052	10,052
Single Family (Units)	247	535	823	1,111	1,399	1,687	1,867	2,047	2,047
Multifamily (Units)	0	160	320	480	640	800	800	2,400	2,400
Grand Total Housing	247	695	1,143	1,591	2,039	2,487	2,667	4,447	4,447
Nonresidential									
Jobs	581	1,104	1,627	2,150	2,673	3,196	3,571	3,842	3,842
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	83,000	83,000
Retail (Sq. Ft.)	7,700	139,700	271,700	403,700	535,700	667,700	827,700	850,700	850,700
Industrial (Sq. Ft.)	353,650	465,650	577,650	689,650	801,650	913,650	913,650	977,650	977,650
Grand Total (Sq. Ft.)	361,350	617,350	873,350	1,129,350	1,385,350	1,641,350	1,801,350	1,911,350	1,911,350

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 58. Scenario 1 Vehicle Trip Generation

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Vehicle Trips									
Residential	99	99	99	99	99	99	99	7,939	7,939
Nonresidential	414	414	414	414	414	414	414	982	982
Vehicle Trip Subtotal	513	513	513	513	513	513	513	8,921	8,921
FAZ 2									
Vehicle Trips									
Residential	388	388	388	388	388	388	388	388	388
Nonresidential	391	423	454	486	517	549	549	549	549
Vehicle Trip Subtotal	780	811	842	874	905	937	937	937	937
FAZ 3									
Vehicle Trips									
Residential	68	68	68	68	68	68	880	880	880
Nonresidential	0	0	0	0	0	0	2,295	2,295	2,295
Vehicle Trip Subtotal	68	68	68	68	68	68	3,175	3,175	3,175
FAZ 4									
Vehicle Trips									
Residential	560	2,562	4,565	6,568	8,571	10,573	10,573	10,573	10,573
Nonresidential	0	2,141	4,281	6,422	8,562	10,703	10,703	10,703	10,703
Vehicle Trip Subtotal	560	4,703	8,846	12,990	17,133	21,277	21,277	21,277	21,277
Total Scenario 1									
Vehicle Trips									
Residential	1,115	3,118	5,120	7,123	9,126	11,129	11,941	19,781	19,781
Nonresidential	805	2,977	5,149	7,322	9,494	11,666	13,961	14,529	14,529
Vehicle Trip Grand Total	1,920	6,095	10,270	14,445	18,620	22,794	25,902	34,310	34,310

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 59. Scenario 2 Fiscal Analysis Zone Growth Projections

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Residential									
Population	60	60	60	60	60	60	60	2,039	2,039
Single Family (Units)	22	22	22	22	22	22	22	202	202
Multifamily (Units)	0	0	0	0	0	0	0	800	800
Subtotal Housing	22	22	22	22	22	22	22	1,002	1,002
Nonresidential									
Jobs	264	264	264	264	264	264	264	752	752
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	7,700	7,700	7,700	7,700	7,700	7,700	7,700	33,300	33,300
Industrial (Sq. Ft.)	154,500	154,500	154,500	154,500	154,500	154,500	154,500	423,300	423,300
Subtotal (Sq. Ft.)	162,200	162,200	162,200	162,200	162,200	162,200	162,200	456,600	456,600
FAZ 2									
Residential									
Population	235	235	235	235	235	235	235	235	235
Single Family (Units)	86	86	86	86	86	86	86	86	86
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	86	86	86	86	86	86	86	86	86
Nonresidential									
Jobs	317	342	368	393	419	444	444	444	444
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Industrial (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
Subtotal (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
FAZ 3									
Residential									
Population	41	41	41	41	41	41	532	532	532
Single Family (Units)	15	15	15	15	15	15	195	195	195
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	15	15	15	15	15	15	195	195	195
Nonresidential									
Jobs	0	0	0	0	0	0	375	375	375
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
Industrial (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Subtotal (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
FAZ 4									
Residential									
Population	339	1,422	2,506	3,590	4,674	5,758	5,758	5,758	5,758
Single Family (Units)	124	412	700	988	1,276	1,564	1,564	1,564	1,564
Multifamily (Units)	0	160	320	480	640	800	800	800	800
Subtotal Housing	124	572	1,020	1,468	1,916	2,364	2,364	2,364	2,364
Nonresidential									
Jobs	0	498	995	1,493	1,991	2,488	2,488	2,488	2,488
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	60,000	60,000
Retail (Sq. Ft.)	0	132,000	264,000	396,000	528,000	660,000	660,000	660,000	660,000
Industrial (Sq. Ft.)	0	96,000	192,000	288,000	384,000	480,000	480,000	480,000	480,000
Subtotal (Sq. Ft.)	0	240,000	480,000	720,000	960,000	1,200,000	1,200,000	1,200,000	1,200,000

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 60. Scenario 2 Total Growth Projections

Total Scenario 2	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
Residential									
Population	674	1,758	2,842	3,926	5,010	6,094	6,585	8,564	8,564
Single Family (Units)	247	535	823	1,111	1,399	1,687	1,867	2,047	2,047
Multifamily (Units)	0	160	320	480	640	800	800	1,600	1,600
Grand Total Housing	247	695	1,143	1,591	2,039	2,487	2,667	3,647	3,647
Nonresidential									
Jobs	581	1,104	1,627	2,150	2,673	3,196	3,571	4,059	4,059
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	60,000	60,000
Retail (Sq. Ft.)	7,700	139,700	271,700	403,700	535,700	667,700	827,700	853,300	853,300
Industrial (Sq. Ft.)	353,650	465,650	577,650	689,650	801,650	913,650	913,650	1,182,450	1,182,450
Grand Total (Sq. Ft.)	361,350	617,350	873,350	1,129,350	1,385,350	1,641,350	1,801,350	2,095,750	2,095,750

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 61. Scenario 2 Vehicle Trip Generation

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Vehicle Trips									
Residential	99	99	99	99	99	99	99	4,425	4,425
Nonresidential	414	414	414	414	414	414	414	1,309	1,309
Vehicle Trip Subtotal	513	513	513	513	513	513	513	5,735	5,735
FAZ 2									
Vehicle Trips									
Residential	388	388	388	388	388	388	388	388	388
Nonresidential	391	423	454	486	517	549	549	549	549
Vehicle Trip Subtotal	780	811	842	874	905	937	937	937	937
FAZ 3									
Vehicle Trips									
Residential	68	68	68	68	68	68	880	880	880
Nonresidential	0	0	0	0	0	0	2,295	2,295	2,295
Vehicle Trip Subtotal	68	68	68	68	68	68	3,175	3,175	3,175
FAZ 4									
Vehicle Trips									
Residential	560	2,562	4,565	6,568	8,571	10,573	10,573	10,573	10,573
Nonresidential	0	2,141	4,281	6,422	8,562	10,703	10,703	10,703	10,703
Vehicle Trip Subtotal	560	4,703	8,846	12,990	17,133	21,277	21,277	21,277	21,277
Total Scenario 2									
Vehicle Trips									
Residential	1,115	3,118	5,120	7,123	9,126	11,129	11,941	16,267	16,267
Nonresidential	805	2,977	5,149	7,322	9,494	11,666	13,961	14,856	14,856
Vehicle Trip Grand Total	1,920	6,095	10,270	14,445	18,620	22,794	25,902	31,124	31,124

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 62. Scenario 3 Fiscal Analysis Zone Growth Projections

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Residential									
Population	60	60	60	60	60	60	60	2,039	2,039
Single Family (Units)	22	22	22	22	22	22	22	202	202
Multifamily (Units)	0	0	0	0	0	0	0	800	800
Subtotal Housing	22	22	22	22	22	22	22	1,002	1,002
Nonresidential									
Jobs	264	264	264	264	264	264	264	547	547
Office (Sq. Ft.)	0	0	0	0	0	0	0	15,000	15,000
Retail (Sq. Ft.)	7,700	7,700	7,700	7,700	7,700	7,700	7,700	22,700	22,700
Industrial (Sq. Ft.)	154,500	154,500	154,500	154,500	154,500	154,500	154,500	194,500	194,500
Subtotal (Sq. Ft.)	162,200	162,200	162,200	162,200	162,200	162,200	162,200	232,200	232,200
FAZ 2									
Residential									
Population	235	235	235	235	235	235	235	235	235
Single Family (Units)	86	86	86	86	86	86	86	86	86
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	86	86	86	86	86	86	86	86	86
Nonresidential									
Jobs	317	342	368	393	419	444	444	444	444
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Industrial (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
Subtotal (Sq. Ft.)	199,150	215,150	231,150	247,150	263,150	279,150	279,150	279,150	279,150
FAZ 3									
Residential									
Population	41	41	41	41	41	41	532	532	532
Single Family (Units)	15	15	15	15	15	15	195	195	195
Multifamily (Units)	0	0	0	0	0	0	0	0	0
Subtotal Housing	15	15	15	15	15	15	195	195	195
Nonresidential									
Jobs	0	0	0	0	0	0	375	375	375
Office (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Retail (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
Industrial (Sq. Ft.)	0	0	0	0	0	0	0	0	0
Subtotal (Sq. Ft.)	0	0	0	0	0	0	160,000	160,000	160,000
FAZ 4									
Residential									
Population	339	1,422	2,506	3,590	4,674	5,758	5,758	5,758	5,758
Single Family (Units)	124	412	700	988	1,276	1,564	1,564	1,564	1,564
Multifamily (Units)	0	160	320	480	640	800	800	800	800
Subtotal Housing	124	572	1,020	1,468	1,916	2,364	2,364	2,364	2,364
Nonresidential									
Jobs	0	498	995	1,493	1,991	2,488	2,488	2,488	2,488
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	60,000	60,000
Retail (Sq. Ft.)	0	132,000	264,000	396,000	528,000	660,000	660,000	660,000	660,000
Industrial (Sq. Ft.)	0	96,000	192,000	288,000	384,000	480,000	480,000	480,000	480,000
Subtotal (Sq. Ft.)	0	240,000	480,000	720,000	960,000	1,200,000	1,200,000	1,200,000	1,200,000

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 63. Scenario 3 Total Growth Projections

Total Scenario 3	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
Residential									
Population	674	1,758	2,842	3,926	5,010	6,094	6,585	8,564	8,564
Single Family (Units)	247	535	823	1,111	1,399	1,687	1,867	2,047	2,047
Multifamily (Units)	0	160	320	480	640	800	800	1,600	1,600
Grand Total Housing	247	695	1,143	1,591	2,039	2,487	2,667	3,647	3,647
Nonresidential									
Jobs	581	1,104	1,627	2,150	2,673	3,196	3,571	3,854	3,854
Office (Sq. Ft.)	0	12,000	24,000	36,000	48,000	60,000	60,000	75,000	75,000
Retail (Sq. Ft.)	7,700	139,700	271,700	403,700	535,700	667,700	827,700	842,700	842,700
Industrial (Sq. Ft.)	353,650	465,650	577,650	689,650	801,650	913,650	913,650	953,650	953,650
Grand Total (Sq. Ft.)	361,350	617,350	873,350	1,129,350	1,385,350	1,641,350	1,801,350	1,871,350	1,871,350

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis

Figure 64. Scenario 3 Vehicle Trip Generation

Fiscal Analysis Zone	5-Year Increments								
	2018	2019	2020	2021	2022	2023	2028	2033	2038
FAZ 1									
Vehicle Trips									
Residential	99	99	99	99	99	99	99	4,425	4,425
Nonresidential	414	414	414	414	414	414	414	781	781
Vehicle Trip Subtotal	513	513	513	513	513	513	513	5,206	5,206
FAZ 2									
Vehicle Trips									
Residential	388	388	388	388	388	388	388	388	388
Nonresidential	391	423	454	486	517	549	549	549	549
Vehicle Trip Subtotal	780	811	842	874	905	937	937	937	937
FAZ 3									
Vehicle Trips									
Residential	68	68	68	68	68	68	880	880	880
Nonresidential	0	0	0	0	0	0	2,295	2,295	2,295
Vehicle Trip Subtotal	68	68	68	68	68	68	3,175	3,175	3,175
FAZ 4									
Vehicle Trips									
Residential	560	2,562	4,565	6,568	8,571	10,573	10,573	10,573	10,573
Nonresidential	0	2,141	4,281	6,422	8,562	10,703	10,703	10,703	10,703
Vehicle Trip Subtotal	560	4,703	8,846	12,990	17,133	21,277	21,277	21,277	21,277
Total Scenario 3									
Vehicle Trips									
Residential	1,115	3,118	5,120	7,123	9,126	11,129	11,941	16,267	16,267
Nonresidential	805	2,977	5,149	7,322	9,494	11,666	13,961	14,328	14,328
Vehicle Trip Grand Total	1,920	6,095	10,270	14,445	18,620	22,794	25,902	30,595	30,595

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); TischlerBise analysis