Impact Fee Update

City of Stuart, Florida

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Prepared by:

TischlerBise
Fiscal, Economic & Planning Consultants

4701 Sangamore Road
Suite S240
Bethesda, Maryland 20816
800.424.4318
www.tischlerbise.com

CONTENTS

EXECUTIVE SUMMARY 1
GENERAL LEGAL FRAMEWORK 1
UNIQUE REQUIREMENTS OF THE FLORIDA IMPACT FEE ACT 2
CURRENT STUART IMPACT FEES AND SUMMARY OF MAJOR CHANGES 3
Figure 1 – Current Impact Fee Schedule 4
CONCEPTUAL IMPACT FEE CALCULATION 5
GENERAL METHODOLOGIES 5
Figure 2 – Proposed Fee Methods and Cost Components 6
PROPOSED IMPACT FEE SCHEDULE 7
Figure 3 – Comparison of Current and Proposed Impact Fees 7
PARKS AND RECREATION IMPROVEMENTS 8
CITYWIDE PARK IMPROVEMENTS 8
Figure PR1 – Park Improvement Standards and Growth-Related Needs 9
CREDIT EVALUATION 9
PROPOSED PARK IMPACT FEES 10
Figure PR2 – Proposed Park Impact Fee Schedule 10
IMPROVEMENTS PLAN AND FUNDING STRATEGY 11
Figure PR3 – Summary of Growth Needs and Revenue for Parks 11
MUNICIPAL FACILITIES 12
MULTI-MODAL IMPROVEMENTS 13
TRIP GENERATION RATES 13
Adjustments for Commuting Patterns and Pass-By Trips 13
Figure S1 - Inflow/Outflow Analysis 14
VEHICLE MILES OF TRAVEL 14
Lane Capacity 15
Trip Length Weighting Factor by Type of Land Use 15
DEVELOPMENT PROTOTYPES AND PROJECTED TRAVEL DEMAND 15
Figure S2 - Projected Travel Demand and Trip Length Calibration 16
PLANNED MULTI-MODAL IMPROVEMENTS 16
Figure S3 – Summary of Multi-Modal Improvements 17
REVENUE CREDIT EVALUATION 17
PROPOSED IMPACT FEES FOR MULTI-MODAL IMPROVEMENTS 17
Figure S4 – Multi-Modal Fee Schedule 18
FUNDING STRATEGY FOR MULTI-MODAL IMPROVEMENTS 19
Figure S5 – Projected Capital Costs and Revenues for Multi-Modal Projects 19

PUBLIC SAFETY FACILITIES 20
Figure PS1 – Functional Population 20
POLICE INFRASTRUCTURE STANDARDS AND GROWTH-RELATED NEEDS 21
Figure PS2 – Police Vehicles/Equipment Standards and Growth Needs 22
PROPOSED POLICE IMPACT FEES 23
Figure PS3 – Police Impact Fee Schedule 23
FIRE STATIONS AND APPARATUS 24
Figure PS4 – Cost Allocation for Fire Stations 24
PROPOSED FIRE STATION IMPACT FEES 24
Figure PS5 – Fee Schedule for Fire Station Expansion 25
COMBINED FEE FOR POLICE AND FIRE FACILITIES 25
Figure PS6 – Fee Schedule for Public Safety Capital Improvements 25
PROJECTED REVENUE FROM PUBLIC SAFETY IMPACT FEES 26
Figure PS7 – Capital Costs and Fee Revenue for Public Safety 26

IMPLEMENTATION AND ADMINISTRATION 27
CREDITS AND REIMBURSEMENTS 27
SERVICE AREAS 28
DEVELOPMENT CATEGORIES 28

APPENDIX A: DEMOGRAPHIC DATA 29
SUMMARY OF GROWTH INDICATORS 29
Figure A1 – Development Projections and Growth Rates 30
RECENT RESIDENTIAL CONSTRUCTION 30
Figure A2 – Housing Units by Decade 31
POPULATION AND JOBS FORECAST 31
Figure A3 – City of Stuart Population Share 32
Figure A4 – City of Stuart Job Share 33
JOBS BY TYPE OF NONRESIDENTIAL DEVELOPMENT 34
Figure A5 – Jobs and Floor Area Estimate 34
EMPLOYEES PER SQUARE FOOT OF NONRESIDENTIAL DEVELOPMENT 34
Figure A6 – Employee and Building Area Ratios 35
DETAILED DEVELOPMENT PROJECTIONS 36
Figure A7 – Annual Demographic Data 36
PERSONS PER HOUSING UNIT 37
Figure A8 – Year-Round Persons per Unit by Type of Housing 38

EXECUTIVE SUMMARY

For the City of Stuart, TischlerBise has updated impact fees for Parks/Recreation, Multi-Modal Improvements, and Public Safety Facilities (police and fire). Impact fees are one-time payments used to construct system improvements needed to accommodate new development. An impact fee represents new growth's proportionate share of capital facility needs. Impact fees do have limitations, and should not be regarded as the total solution for infrastructure funding needs. Rather, they are one component of a comprehensive portfolio to ensure provision of adequate public facilities. Impact fees may only be used for capital improvements or debt service for growth-related infrastructure. In contrast to general taxes, impact fees may not be used for operations, maintenance, replacement or correcting existing deficiencies.

General Legal Framework

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

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

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

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

The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the *Dolan* case (although the relevance of that decision to impact fees has been debated) and is logically necessary to establish a proper nexus. Proportionality is established through the procedures used to identify development-related facility costs, and in the methods used to calculate impact fees for various types of facilities and categories of development. The demand for facilities is measured in terms of relevant and measurable attributes of development (e.g. a typical housing unit's average weekday vehicle trips).

A sufficient benefit relationship requires that impact fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. Impact fees must be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, nothing in the U.S. Constitution or the state enabling legislation requires that facilities funded with fee revenues be available *exclusively* to development paying the fees. In other words, benefit may extend to a general area including multiple real estate developments. Procedures for the earmarking and expenditure of fee revenues are discussed further below. All of these procedural as well as substantive issues are intended to ensure that new development benefits from the impact fees they are required to pay. The authority and procedures to implement impact fees is separate from and complementary to the authority to require improvements as part of subdivision or zoning review.

Unique Requirements of the Florida Impact Fee Act

In Florida, impact fees are an outgrowth of home rule power and compared to other states, the enabling legislation is relatively brief. The Act requires the calculation of impact fees to be based on most recent and localized data. Administrative charges for the collection of impact fees are limited to actual costs. Also, the chief financial officer of the local government has specific responsibilities for accounting and reporting collections and expenditures of impact fees. In contrast to the legal precedent in other states, Florida law states, "In any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or this section." [See F.S. 163.31801(5)]

As documented in this report, the City of Stuart has complied with the Florida Impact Fee Act and applicable legal precedents. Impact fees are proportionate and reasonably related to the capital improvement demands of new development. Specific costs have been identified using local data and current dollars. With input from City staff, TischlerBise determined demand indicators for each type of infrastructure and calculated proportionate share factors to allocate costs by type of development. This report documents the formulas and input variables used to calculate the impact fees for each type of public facility. Impact fee methodologies also identify the extent to which new development is entitled to various types of credits to avoid potential double payment of growth-related capital costs.

Current Stuart Impact Fees and Summary of Major Changes

The adopted fees, based on the 2005 study by TischlerBise, are summarized in Figure 1. Key differences between the current and proposed fees are highlighted in the following points.

1. Stuart's 2014 impact fee update complies with the Florida enabling legislation requiring fees to be based on most recent and localized data (e.g. lowered average number of persons per housing unit; more conservative development projections).
2. Eliminated building-size thresholds, which lowers fees for small businesses that tend to be locally owned and operated.
3. Simplified the fee schedule by eliminated specialized land use types (e.g. medical/dental offices will pay the same fee as a general office).
4. Given the high level of service for parks and recreation facilities in Stuart, future improvements to recreation buildings and trails will no longer be funded by impact fees.
5. For public safety, changed cost allocation to functional population (lowers fees for businesses).
6. Current road fees were based on more expensive improvements that benefitted long-distance vehicle trips and required approximately $5 million in other revenue. Proposed multi-modal fees are for intersections and complete streets that improve connectivity, while providing safer and more desirable routes for pedestrians and cyclists.
7. Stuart will suspend collection of the fee for municipal facilities.

CITY OF STUART IMPACT FEE SCHEDULE

LAND USE	PARKS	FIRE	POLICE	MUNICIPAL FACILITIES	ROADS	SUBTOTAL	TOTAL CITY FEES (W/ 3% ADMIN)
RESIDENTIAL		*Per unit*					
Single Family Detached	$ 1,150.00	$ 222.00	$ 114.00	$ 405.00	$ 1,588.00	$ 3,479.00	$ 3,583.37
Other Residential	$ 725.00	$ 140.00	$ 72.00	$ 255.00	$ 1,115.00	$ 2,307.00	$ 2,376.21
NONRESIDENTIAL		*Per square foot of floor area*					
Commercial/ Shopping Center under 25,000 SF		$ 0.55	$ 0.79	$ 0.19	$ 3.95	$ 5.48	$ 5.64
Commercial/ Shopping Center 25,001-50,000 SF		$ 0.51	$ 0.74	$ 0.16	$ 3.66	$ 5.07	$ 5.22
Commercial/ Shopping Center 50,001-100,000 SF		$ 0.45	$ 0.64	$ 0.14	$ 3.20	$ 4.43	$ 4.56
Commercial/ Shopping Center 100,001-200,000 SF		$ 0.39	$ 0.56	$ 0.13	$ 2.77	$ 3.85	$ 3.97
Commercial/ Shopping Center 200,001-400,000 SF		$ 0.33	$ 0.48	$ 0.11	$ 2.38	$ 3.30	$ 3.40
Commercial/ Shopping Center 400,001+ SF		$ 0.30	$ 0.43	$ 0.10	$ 2.12	$ 2.95	$ 3.04
Office under 10,000 SF		$ 0.26	$ 0.37	$ 0.26	$ 2.25	$ 3.14	$ 3.23
Office 10,001-25,000 SF		$ 0.21	$ 0.30	$ 0.24	$ 1.82	$ 2.57	$ 2.65
Office 25,001-50,000 SF		$ 0.17	$ 0.25	$ 0.23	$ 1.55	$ 2.20	$ 2.27
Office 50,001-100,000 SF		$ 0.15	$ 0.21	$ 0.21	$ 1.32	$ 1.89	$ 1.95
Office 100,001+ SF		$ 0.13	$ 0.18	$ 0.20	$ 1.13	$ 1.64	$ 1.69
Medical-Dental Office Building		$ 0.41	$ 0.59	$ 0.23	$ 3.60	$ 4.83	$ 4.97
Hospital		$ 0.20	$ 0.28	$ 0.19	$ 1.75	$ 2.42	$ 2.49
Business Park		$ 0.14	$ 0.21	$ 0.18	$ 1.27	$ 1.80	$ 1.85
Mini-Warehouse		$ 0.02	$ 0.04	$ 0.002	$ 0.24	$ 0.30	$ 0.31
Warehouse		$ 0.05	$ 0.08	$ 0.07	$ 0.49	$ 0.69	$ 0.71
Manufacturing		$ 0.04	$ 0.06	$ 0.10	$ 0.38	$ 0.58	$ 0.60
Light Industrial		$ 0.08	$ 0.11	$ 0.13	$ 0.69	$ 1.01	$ 1.04
Nursing Home (bed)		$ 27.00	$ 39.00	$ 21.00	$ 236.00	$ 323.00	$ 332.69
Day Care (per student)		$ 51.00	$ 73.00	$ 9.00	$ 446.00	$ 579.00	$ 596.37
High School (per student)		$ 19.00	$ 28.00	$ 5.00	$ 170.00	$ 222.00	$ 228.66
Middle School (per student)		$ 18.00	$ 26.00	$ 5.00	$ 161.00	$ 210.00	$ 216.30
Elementary School (per student)		$ 14.00	$ 21.00	$ 4.00	$ 128.00	$ 167.00	$ 172.01
Lodging (per room)		$ 64.00	$ 92.00	$ 25.00	$ 561.00	$ 742.00	$ 764.26

Conceptual Impact Fee Calculation

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

General Methodologies

There are three general methods for calculating development impact fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating development impact fees and how those methods can be applied.

Cost Recovery (past improvements)

The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.

Incremental Expansion (concurrent improvements)

The incremental expansion method documents current level-of-service (LOS) standards for each type of public facility, using both quantitative and qualitative measures. This approach ensures that there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only

paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increment to keep pace with development.

Plan-Based Fee (future improvements)

The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two options for determining the cost per demand unit: 1) total cost of a public facility can be divided by total demand units (average cost), or 2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

Credits

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

Figure 2 summarizes the methods and cost components used for each type of public facility in Stuart's impact fee update.

Figure 2 – Proposed Fee Methods and Cost Components

Type of Fee	*Cost Recovery (past)*	*Incremental Expansion (present)*	*Plan-Based (future)*
Parks & Recreation		Park Improvements	
Multi-Modal			Intersections and Complete Streets
Public Safety		Police Vehicles and Equipment	Fire Staton Expansion

Proposed Impact Fee Schedule

Figure 3 compares current and proposed impact fees for new development in the City of Stuart. For residential development, impact fees will be imposed per housing unit. For nonresidential development, impact fees are based on the square feet of floor area. The fee schedule for nonresidential development is designed to provide a reasonable impact fee determination for common types of development. For unique development types, the City may allow or require an independent impact fee assessment, consistent with requirements specified in the City's impact fee ordinance.

Proposed fees decrease 43-46% for residential units and 1-62% for nonresidential development. The largest percentage decrease is for commercial development, like shopping centers and restaurants. Proposed fees also decrease significantly for office and other services, which includes hospitals and hotels. Institutional development has no dollar amount in the current fee column because current fees are imposed per student.

Figure 3 – Comparison of Current and Proposed Impact Fees

Residential per Housing Unit										
Unit Type	*Parks*		*Multi-Modal*		*Public Safety*		*TOTAL*		*$*	*%*
	Current	*Proposed*	*Current*	*Proposed*	*Current*	*Proposed*	*Current**	*Proposed*	*Change*	*Change*
Single Unit	$1,150	$121	$1,588	$1,202	$336	$714	$3,583	$2,037	($1,546)	-43%
2+ Units per Structure	$725	$65	$1,115	$840	$212	$386	$2,376	$1,291	($1,085)	-46%
Nonresidential per 1,000 Square Feet of Floor Area										
Type			*Multi-Modal*		*Public Safety*		*TOTAL*		*$*	*%*
			Current	*Proposed*	*Current*	*Proposed*	*Current**	*Proposed*	*Change*	*Change*
Industrial			$380	$242	$100	$351	$600	$593	($7)	-1%
Commercial**			$3,950	$1,618	$1,340	$537	$5,640	$2,155	($3,485)	-62%
Institutional				$646		$241		$887		
Office & Other Services**			$1,820	$700	$510	$677	$2,650	$1,377	($1,273)	-48%

** Current includes Municipal Facilities, plus 3% for administration*

*** Current assumes 25,000 square feet*

PARKS AND RECREATION IMPROVEMENTS

Parks and recreation impact fees will be provide approximately $70,000 for additional improvements at Memorial Park and Guy Davis Field over the next seven years.

Citywide Park Improvements

Citywide parks provide active-sports amenities, such as lighted ball fields, soccer fields, basketball and volleyball courts, and playgrounds. Park improvements also include more leisurely activities such as picnic pavilions and walking paths, plus ancillary improvements such as restrooms and parking areas. These facilities draw from citywide service area due to the amenities offered and their use by community organization such as soccer and softball leagues. As shown in Figure PR1, the need for future improvements is based on the acreage of Memorial Park and Guy Davis Field. The conservative infrastructure standard for the purpose of impact fees is 0.9 improved acres per 1,000 residents. As documented in the 2005 impact fee study, park improvements have an average cost of approximately $56,000 per acre. On a per capita basis, future park improvements from impact fees will average $53 per additional resident.

As shown in the table below, Stuart expects to increase by 1,312 permanent residents and will spend approximately $70,000 on park improvements over the next seven years. Additional land for citywide parks is not included in the fee calculations. Over the next seven years, Stuart will continue to develop existing sites and acquire additional property through development agreements.

Figure PR1 – Park Improvement Standards and Growth-Related Needs

Improved Citywide Parks	*Acres*
Memorial	13.0
Guy Davis Field	4.0
Total	17.0
Average Acres per Park	8.5

Allocation Factors for Park Improvements	
Improvements Cost per Acre*	$56,000
Residential Proportionate Share	100%
Nonresidential Proportionate Share	0%
Year-Round Population in 2023	17,973

Infrastructure Standards for Park Improvements

	Acres	*Cost*
Residential (per person)	0.0009	$53

** According to City staff, previous cost factor is a reasonable estimate of future expenditures.*

		Growth Need for Park Improvements	
	Year	*Stuart Permanent Population*	*Park Improvements*
Base	2013	16,091	$852,000
Year 1	2014	16,256	$861,000
Year 2	2015	16,422	$870,000
Year 3	2016	16,618	$880,000
Year 4	2017	16,814	$891,000
Year 5	2018	17,010	$901,000
Year 6	2019	17,206	$911,000
Year 7	2020	17,403	$922,000
Seven-Yr Increase		1,312	$70,000

Credit Evaluation

A credit for future revenue is only necessary if there is potential double payment for system improvements needed to accommodate new development. The City of Stuart plans to fund the growth share of future improvements from impact fees. Because no additional revenues are required for this purpose, there is no potential double payment. Site-specific credits or developer reimbursements might be necessary if a developer provides a system improvement, as a condition of development approval.

Proposed Park Impact Fees

Figure PR2 indicates cost factors for Parks and Recreation impact fees. Proposed fees by type of residential unit are equal to the average number of persons per housing unit multiplied by the net capital cost per person. For example, the fee for a single unit is 2.29 persons per housing unit multiplied by a capital cost of $53 per person, or $121 per housing unit (truncated).

Figure PR2 – Proposed Park Impact Fee Schedule

Infrastructure Costs

	Per Person
Park Improvements	$53
Revenue Credit (not applicable)	$0
Net Capital Cost	$53

Parks & Recreation Impact Fees per Housing Unit

*Unit Type**	*Persons per Housing Unit*	*Parks & Recreation Fee*	*Current Fee*	*Increase/ (Decrease)*
Single Unit	2.29	$121	$1,150	($1,029)
2+ Units per Structure	1.24	$65	$725	($660)

* Single Unit includes single family detached, single family attached (townhouses), and mobile homes.

Improvements Plan and Funding Strategy

Figure PR3 summarizes growth-related park improvement needs in Stuart over the next seven years. The City expects to provide $70,000 in improvements. As shown in the lower portion of the table, parks and recreation impact fee revenue approximates the growth-related cost of improvements. This revenue projection is based on the demographic data described in Appendix A and the proposed fee amounts. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

Figure PR3 – Summary of Growth Needs and Revenue for Parks

Summary of Growth-Related Infrastructure Needs

Park Improvements	$70,000
	$70,000

Parks and Recreation Development Fee Revenue

		Single Unit $121 per housing unit	*2+ Units* $65 per housing unit	
	Year	*Hsg Units*	*Hsg Units*	
Base	2013	3,361	6,823	
Year 1	2014	3,395	6,894	
Year 2	2015	3,430	6,964	
Year 3	2016	3,471	7,047	
Year 4	2017	3,512	7,130	
Year 5	2018	3,553	7,213	
Year 6	2019	3,594	7,296	
Year 7	2020	3,635	7,380	
Seven-Yr Increase		274	557	
Projected Fees =>		$33,000	$36,000	$69,000

MUNICIPAL FACILITIES

The City of Stuart currently collects an impact fee for municipal facilities, which is $255-$405 per residential unit and less than a dollar per square foot of nonresidential development. Based on input from City staff, Stuart could sell or negotiate a long-term lease for the current City Hall, with its prime waterfront location, and likely secure enough funding to construct a new municipal building on another site. Rather than continue to collect impact fees for a municipal building that might not be constructed within the next 5-7 years, TischlerBise recommends that Stuart suspend collection of this fee.

At the end of FY12-13, Stuart had a fund balance of approximately $136,600 in the municipal facilities impact fees. The City may use this money for professional services related to relocation of City Hall.

MULTI-MODAL IMPROVEMENTS

Impact fees for complete streets in Stuart are derived using a plan-based approach for growth-related, multi-modal improvements. The multi-modal fee is derived from trip generation rates, trip rate adjustment factors, and the net capital cost per average length vehicle trip. The latter is a function of the average trip length, trip-length weighting factor, costs per lane mile, and lane capacity. Each component is described below.

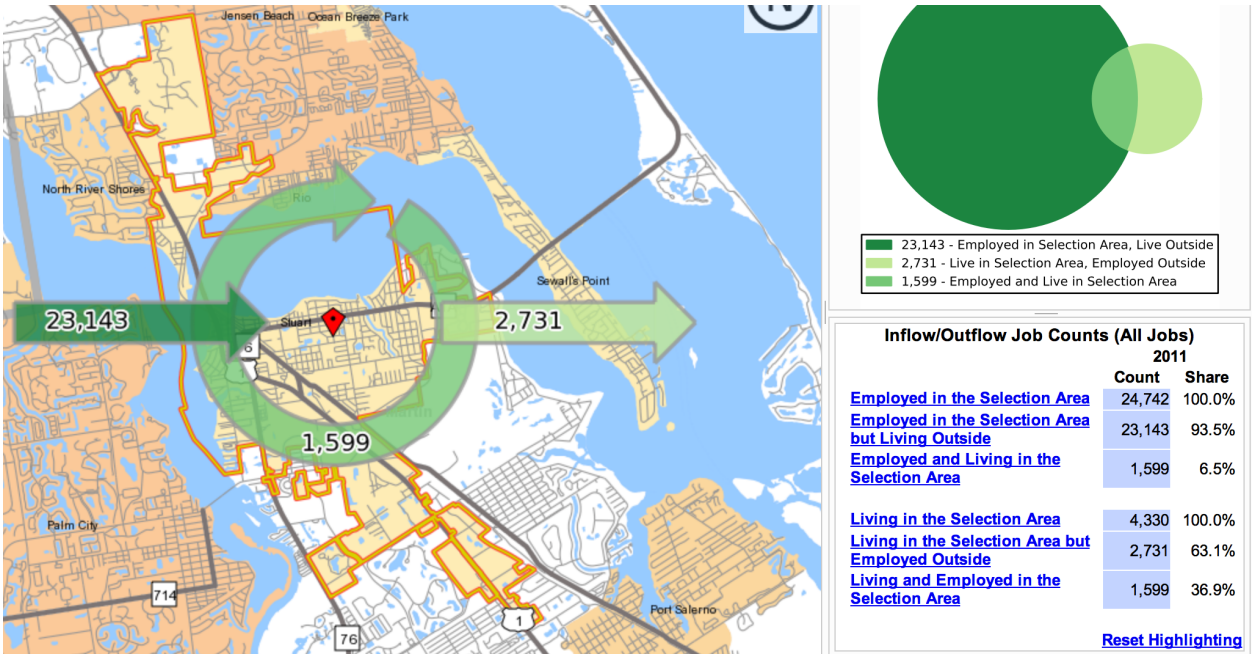
Trip Generation Rates

Stuart's multi-modal fees are based on average weekday vehicle trip ends. Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 9th Edition 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate street impact fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%. As discussed further below, the impact fee methodology includes additional adjustments to make the fees proportionate the infrastructure demand for particular types of development.

Adjustments for Commuting Patterns and Pass-By Trips

Residential development has a larger trip adjustment factor of 60% to account for commuters leaving Stuart for work. According to the 2009 National Household Travel Survey (see Table 30) weekday work trips are typically 31% of production trips (i.e., all out-bound trips, which are 50% of all trip ends). As shown in Figure S1, the Census Bureau's web application OnTheMap indicates that 63% of resident workers traveled outside the city for work in 2011. In combination, these factors (0.31 x 0.50 x 0.63 = 0.10) support the additional 10% allocation of trips to residential development.

Figure S1 - Inflow/Outflow Analysis



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

Vehicle Miles of Travel

A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length[1]. The average trip

[1] Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire urban area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of impact fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip lengths calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external- external trips, and travel on roads that are not system improvements (e.g. interstate highways).

length in Stuart is calibrated using data on planned lane-miles of system improvements and a lane capacity standard (discussed below).

Lane Capacity

Street impact fees are based on a lane capacity standard of 7,500 vehicles per lane, obtained from the Florida Department of Transportation, Quality/LOS Handbook (2009). This standard is for a Class II, four-lane divided road, operating at LOS "D", averaging 33,200 average daily trips, with a 10% reduction for major city/county roads. The specific formula is 33200, divided by 4, multiplied by 0.90, with the result rounded to hundreds.

Trip Length Weighting Factor by Type of Land Use

The streets impact fee methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. The residential trip length adjustment factor includes data on home-based work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips. The specific weighting factors for each development prototype are shown in Figure S2.

Development Prototypes and Projected Travel Demand

The relationship between the amount of development in Stuart and planned system improvements is documented below. Figure S2 summarizes the input variables used to determine the average trip length on planned system improvements. In the table below HU means housing units, KSF means square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, and VTE means vehicle trip ends.

Projected development in Stuart over the next seven years, and the corresponding need for additional lane miles, is shown in the middle section of Figure S2. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of impact fees, to the following question, "What is the average vehicle trip length on impact fee system improvements?"

With 3.6 lane miles of system improvements and a lane capacity standard of 7,500 vehicles per lane, planned multi-modal improvements have approximately 27,000 vehicle miles of capacity (i.e., 7,500 vehicles per lane traveling the entire 3.6 lane miles). To derive the average utilization (i.e., average trip length expressed in miles) of the system improvements, divide vehicle miles of capacity by the vehicle trips attracted to new development in the city. As shown in the bottom-right corner of the table below,

new development increases average weekday vehicle trips 9,951 trips over seven years. Dividing 27,000 vehicle miles of capacity by the net increase in average weekday vehicle trips yields an un-weighted average trip length of approximately 2.71 miles. However, the calibration of average trip length includes the same adjustment factors used in the impact fee calculations (i.e., journey-to-work commuting, commercial pass-by adjustment and average trip length adjustment by type of land use). With these adjustments, TischlerBise determined the weighted-average trip length to be approximately 3.03 miles.

Figure S2 - Projected Travel Demand and Trip Length Calibration

	ITE Code	*Dev Type*	*Weekday VTE*	*Dev Unit*	*Trip Adj*	*Trip Length Wt Factor*
R1	210	Single Units	9.52	HU	60%	121%
R2	220	2+ Units	6.65	HU	60%	121%
NR1	140	Industrial	3.82	KSF	50%	73%
NR2	820	Commercial	42.70	KSF	33%	66%
NR3	520	Institutional	15.43	KSF	33%	73%
NR4	710	Office/Other	11.03	KSF	50%	73%
Avg Trip Length (miles)	3.03					
Capacity Per Lane	7,500					

Year->	*Base*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*7-Year*
Stuart, Florida	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*Increase*
Single Housing Units	3,361	3,395	3,430	3,471	3,512	3,553	3,594	3,635	274
2+ Units per Res Structure	6,823	6,894	6,964	7,047	7,130	7,213	7,296	7,380	557
Industrial KSF	1,500	1,515	1,531	1,546	1,561	1,577	1,593	1,609	109
Commercial KSF	2,487	2,512	2,537	2,562	2,588	2,614	2,640	2,666	179
Institutional KSF	5,335	5,388	5,442	5,496	5,551	5,607	5,663	5,719	384
Office & Other Services KSF	3,713	3,750	3,788	3,826	3,864	3,903	3,942	3,981	268
Single Unit Trips	19,198	19,392	19,592	19,826	20,061	20,295	20,529	20,763	
2+ Unit Trips	27,224	27,507	27,786	28,118	28,449	28,780	29,111	29,446	
Industrial Trips	2,865	2,894	2,924	2,953	2,982	3,012	3,043	3,073	
Commercial Trips	35,044	35,397	35,749	36,101	36,468	36,834	37,200	37,567	
Institutional Trips	27,165	27,435	27,710	27,985	28,265	28,550	28,835	29,121	
Office/Other Trips	20,477	20,681	20,891	21,100	21,310	21,525	21,740	21,955	
Total Vehicle Trips	131,974	133,306	134,653	136,083	137,533	138,996	140,458	141,925	9,951
Vehicle Miles of Travel (VMT)	351,995	355,562	359,163	363,075	367,027	371,007	374,986	378,980	26,985
LANE MILES	46.93	47.41	47.89	48.41	48.94	49.47	50.00	50.53	3.60
ANL LN MI		0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lane Miles per 10,000 VMT	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	

Planned Multi-Modal Improvements

City staff recommends the multi-modal improvements listed in Figure S3 for development fee funding. Even though the need for improvements is based on traffic studies and quantitative measures, like volume to capacity ratios, the "need" for improvements is more difficult to determine for complete streets than for utility systems. The key difference is that water and sewer utilities are closed systems, but a street network is an open system. The demand for street capacity can be influenced by development units outside the service area and by what is know as "triple convergence." In essence, this concept acknowledges that transportation capacity is consumed by drivers changing their time, route, and mode of travel, with the latter being more significant in urban areas. Also, "congestion" is a

relative and more subjective term that is closely connected with a person's willingness to pay. Given this complexity, the list of multi-modal improvements embraces the willingness to pay concept and proposes a level of improvements that translates into multi-modal fees that are less than current fees.

As shown in Figure S3, multi-modal improvements include seven projects with a total cost of $3.1 million, with $1.55 to be funded by impact fees and the other half funded from other revenues. Proposed multi-modal fees are for intersections and complete streets that improve connectivity, while providing safer and more desirable routes for pedestrians and cyclists.

Figure S3 – Summary of Multi-Modal Improvements

		City Costs			*Lane*
		Years 1-3	*Years 4-7*	*Total*	*Miles*
High School Ave: MLK to Ocean	Land acquisition, design, construction	$200,000	$800,000	$1,000,000	0.5
Osceola St: Balboa Ave to Palm Beach Rd	Road widening, sidewalks, curbs, landscaping	$50,000	$450,000	$500,000	0.5
Georgia Ave & SE Ocean	Traffic signals, turn lane design	$200,000	$100,000	$300,000	0.0
Palm City Rd: US1 to Monterey	Traffic calming, pedestrian connectivity	$100,000	$900,000	$1,000,000	2.6
Central Parkway & Kanner Hwy	Traffic signals, turn lane design	$300,000		$300,000	0.0
	Total	$850,000	$2,250,000	$3,100,000	3.6
	Funding from Other Revenue (50%) =>			$1,550,000	
	Funding from Impact Fees (50%) =>			$1,550,000	

Revenue Credit Evaluation

A credit for other revenues is only necessary if there is potential double payment for system improvements. In Stuart, gas tax revenue will be used for maintenance of existing facilities, correcting existing deficiencies, and for capital projects that are not impact fee system improvements. As shown below in the Figure S4, cumulative impact fee revenue matches the cost of growth-related system improvements. There is no potential double payment from other revenues because road impact fees will exclusively fund the growth share of system improvements.

Proposed Impact Fees for Multi-Modal Improvements

Input variables for multi-modal fees are shown in the upper section of Figure S4. Attraction trips by type of development are multiplied by the capacity cost per average length vehicle trip to yield the road impact fees. Given the City's plan to spend $3.1 million on multi-modal improvements, with $1.55 million funded by impact fees, and the projected increase of 26,985 vehicle miles of travel over the next seven years, the capital cost is $57.43 per VMT.

The input variables discussed above yield the proposed impact fees shown in the lower section of Figure S4. For example, the multi-modal fee formula for a Single Unit house is 9.52 x 0.60 x 3.03 x 1.21 x $57.43 = $1,202 per unit (truncated). Fees for nonresidential development are listed per 1,000 square feet of floor area. For example, the multi-modal fee for commercial development is 42.7 x 0.33 x 3.03 x 0.66 x $57.43 = $1,618 (truncated) per 1000 square feet of floor area.

The text below from Trip Generation (Institute of Transportation Engineers 9th Edition 2012) supports the consultant's recommendation to use ITE 820 Shopping Center as a reasonable proxy for all commercial development. The shopping center trip generation rates are based on 302 studies with an r-squared value of 0.79. The latter is a goodness of fit indicator with values ranging from 0 to 1. Higher values indicate the independent variable (floor area) provides a better prediction of the dependent variable (average weekday vehicle trip ends). If the r-squared value is less than 0.50, ITE does not publish the value because factors other than floor area provide a better prediction of trip rates.

> "A shopping center is an integrated group of commercial establishments. Shopping centers, including neighborhood, community, regional, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, and health clubs. Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include out parcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied include peripheral buildings, it can be assumed that some of the data show their effect."

Figure S4 – Multi-Modal Fee Schedule

Infrastructure Standards

					Growth Share of Improvements		$1,550,000
					VMT Increase		26,985
			Average Miles per Vehicle Trip	3.03	Cost per VMT		$57.43
			Lane Capacity (vehicles per day)	7,500	Credit per VMT		$0.00
					Net Capital Cost per VMT		$57.43
ITE Code		*Weekday Vehicle Trip Ends*	*Trip Rate Adjustment Factors*	*Trip Length Weighting Factors*	*Proposed Streets Impact Fee*	*Current Fee*	*Increase / (Decrease)*
Residential (per Housing Unit)							
210	Single Unit	9.52	60%	121%	$1,202	$1,588	($386)
220	2+ Units per Structure	6.65	60%	121%	$840	$1,115	($275)
Nonresidential (per 1,000 Square Feet of Floor Area)							
140	Industrial	3.82	50%	73%	$242	$380	($138)
820	Commercial*	42.70	33%	66%	$1,618	$3,950	($2,332)
520	Institutional	15.43	33%	73%	$646		
710	Office & Other Services*	11.03	50%	73%	$700	$1,820	($1,120)

** Current fee assumes 25,000 square feet.*

Funding Strategy for Multi-modal Improvements

The seven-year plan for multi-modal improvements has a growth cost of $1.55 million to be funded by impact fees. As shown in Figure S5, cumulative impact fee revenue should yield roughly $1.55 million over the next seven years. Revenue projections shown below assume implementation of the proposed multi-modal impact fees and the development projections described in Appendix A. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue.

Figure S5 – Projected Capital Costs and Revenues for Multi-Modal Projects

Growth Share of Multi-Modal Infrastructure Needs

Projected Capital Cost Over Seven Years =>	$1,550,000

Multi-Modal Impact Fee Revenue

		Single Unit $1,202 per housing unit	*2+ Units* $840 per housing unit	*Industrial* $242 per 1000 Sq Ft	*Commercial* $1,618 per 1000 Sq Ft	*Institutional* $646 per 1000 Sq Ft	*Office / Other Services* $700 per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013	3,361	6,823	1,500	2,487	5,335	3,713
Year 1	2014	3,395	6,894	1,515	2,512	5,388	3,750
Year 2	2015	3,430	6,964	1,531	2,537	5,442	3,788
Year 3	2016	3,471	7,047	1,546	2,562	5,496	3,826
Year 4	2017	3,512	7,130	1,561	2,588	5,551	3,864
Year 5	2018	3,553	7,213	1,577	2,614	5,607	3,903
Year 6	2019	3,594	7,296	1,593	2,640	5,663	3,942
Year 7	2020	3,635	7,380	1,609	2,666	5,719	3,981
Seven-Yr Increase		274	557	109	179	384	268
Projected Fees =>		$329,000	$468,000	$26,000	$290,000	$248,000	$188,000

Projected Revenue Over Seven Years (rounded) =>	$1,549,000

PUBLIC SAFETY FACILITIES

In Stuart, the public safety methodologies use functional population to allocate infrastructure costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population," by accounting for people living and working in a jurisdiction. As shown in Figure PS1, residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Stuart are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside Stuart are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Stuart, indicating the city is a major employment center, the cost allocation for residential development is 50%, with nonresidential development accounting for 50% of the demand for public safety infrastructure.

Figure PS1 – Functional Population

		Demand Units in 2011		*Demand Hours/Day*	*Person Hours*
Residential					
	Population*	15,759			
73%	Residents Not Working	11,429		20	228,580
27%	Resident Workers**	4,330			
37%	Worked in City**		1,599	14	22,386
63%	Worked Outside City**		2,731	14	38,234
			Residential Subtotal		289,200
			Residential Share =>		**50%**
Nonresidential					
	Non-working Residents	11,429		4	45,716
	Jobs Located in City**	24,742			
	Residents Working in City**		1,599	10	15,990
	Non-Resident Workers (inflow commuters)		23,143	10	231,430
			Nonresidential Subtotal		293,136
			Nonresidential Share =>		**50%**
				TOTAL	582,336

** 2011 estimate from Martin County Growth Management Department.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs in 2011.*

Police Infrastructure Standards and Growth-Related Needs

Police impact fees use different demand indicators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to an appropriate amount by type of housing based on the average number of persons per housing unit. To calculate nonresidential impact fees for police, TischlerBise recommends using vehicle trips as the best demand indicator for police infrastructure. Trip generation rates are highest for commercial developments and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for law enforcement from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, do not accurately reflect the demand for service. If employees per thousand square feet were used as the demand indicator, law enforcement impact fees would be too high for office and institutional development. If floor area were used as the demand indicator, law enforcement impact fees would be too high for industrial development. Also, sworn officers respond to traffic accidents, which are directly proportionate to trip generation rates.

As shown in Figure PS2, the Police Department is currently using 97 vehicles or equipment items. The cost of patrol vehicles includes lights/siren, video, radio, and radar units. In addition, each officer is initially supplied communications equipment, weapons, and miscellaneous gear costing approximately $5,100. Consistent with the incremental expansion cost methodology, impact fees will be used to expand the fleet by purchasing new vehicles and equipment items, not replacement of existing items. Based projected development over the next seven years (see Appendix A), impact fee revenue will pay for the growth-related need for $148,000 in additional police vehicles and/or equipment.

Figure PS2 – Police Vehicles/Equipment Standards and Growth Needs

Police Vehicle and Equipment Inventory

Type	*Count*	*Unit Cost*	*Current Cost*
Patrol Vehicles*	40	$38,300	$1,532,000
Unmarked Cars	13	$20,100	$261,300
Officer Equipment**	41	$5,100	$209,100
Boat and Trailers	3	$15,700	$47,100
TOTAL	97		$2,049,500

** Patrol vehicles include lights, siren, video, radio, and radar units.*
*** Each officer is initially supplied communications equipment, weapons, and miscellaneous gear costing approximately $5,100.*

Allocation Factors for Police Vehicles and Equipment

Average Cost per Vehicle/Equipment Item	$21,100
Residential Proportionate Share	50%
Nonresidential Proportionate Share	50%
Permanent Population in 2013	16,091
Average Weekday Vehicle Trips to Nonresidential Development in 2013	85,552

Infrastructure Standards for Police Vehicles and Equipment

	Police Vehicles & Equipment	*Vehicle and Equipment Cost*
Residential (per person)	0.0030	$56.40
Nonresidential (per vehicle trip)	0.0006	$12.00

Police Vehicles and Equipment Need

	Year	*Permanent Population*	*Vehicle Trips to* Nonresidential *Development*	*Police Vehicles & Equipment*
Base	2013	16,091	85,552	97
Year 1	2014	16,256	86,407	98
Year 2	2015	16,422	87,274	99
Year 3	2016	16,618	88,139	100
Year 4	2017	16,814	89,024	101
Year 5	2018	17,010	89,921	102
Year 6	2019	17,206	90,818	103
Year 7	2020	17,403	91,716	104
Seven-Yr Increase		1,312	6,164	7
Cost of Police Vehicles and Equipment =>				$148,000

Proposed Police Impact Fees

Standards and cost factors used to derive the police impact fees are shown at the top of Figure PS3. Trip generation rates and adjustment factors are discussed above in the multi-modal impact fee section. Residential fees will be imposed for each housing unit. Fees for nonresidential development categories are expressed per 1,000 square feet of floor area. Nonresidential impact fees are the product of the trip generation rate multiplied by the trip adjustment factor and the net capital cost per trip for police vehicles and equipment. For example, the impact fee for an industrial building is 3.82 multiplied by 0.50 multiplied by $12.00, which yields a fee of $22 per 1,000 square feet of floor area (truncated). If the industrial building were 100,000 square feet, the total police impact fee would be $2,200.

Figure PS3 – Police Impact Fee Schedule

Infrastructure Standards	*Vehicles & Equipment*	*Capital Cost*
Residential (per person)	0.0030	$56.40
Nonresidential (per vehicle trip)	0.0006	$12.00

Residential (per housing unit)	*Unit Type*	*Persons per Housing Unit*	*Police Fee*
	Single Unit	2.29	$129
	2+ Units per Structure	1.24	$69

Nonresidential (per 1,000 sq ft) *ITE Code*	*Type of Development*	*Weekday Vehicle Trip Ends*	*Trip Rate Adjustment Factors*	*Police Fee*
140	Industrial	3.82	50%	$22
820	Commercial	42.70	33%	$169
520	Institutional	15.43	33%	$61
710	Office / Other Services	11.03	50%	$66

Fire Stations and Apparatus

As shown in Figure PS4, the impact fee study for Stuart assumes additional fire station space will be needed within the next seven years. If significant land area is annexed, Stuart should re-evaluate the need for fire apparatus, which have been excluded from the fee calculations.

To accommodate projected development over the next seven years, the City will expand fire station building space, at an estimated cost $671,000. The residential share of the additional fire station cost was divided by the projected increase in population from 2013 to 2020, yielding a cost of $255.71 per additional person. In a similar manner, the nonresidential share was divided by the projected increase in jobs from 2013 to 2020, yielding a total cost of $184.23 for each additional job in Stuart.

Figure PS4 – Cost Allocation for Fire Stations

	Projected Cost of Fire Station Expansion =>	$671,000
	Proportionate Share	*Additional Demand Units Over Seven Years*	*Cost per Demand Unit*
Residential	50%	1,312 Residents	$255.71
Nonresidential	50%	1,821 Jobs	$184.23

Proposed Fire Station Impact Fees

Figure PS5 indicates proposed impact fees for the expansion of fire stations in Stuart. Residential fees are derived from average number of persons per housing unit. Nonresidential fees are based on average jobs per 1,000 square feet of floor area.

Figure PS5 – Fee Schedule for Fire Station Expansion

Infrastructure Standards	Cost per Person	Cost per Job
Fire Apparatus	$255.71	$184.23
Revenue Credit	$0.00	$0.00
TOTAL	$255.71	$184.23

Residential (per housing unit)

Type	Persons per Hsg Unit	Proposed Fee
Single Unit	2.29	$585
2+ Units per Structure	1.24	$317

Nonresidential (per 1,000 sq ft)

ITE Code	Type of Development	Jobs per 1000 Sq Ft	Proposed Feee
140	Industrial	1.79	$329
820	Commercial	2.00	$368
520	Institutional	0.98	$180
710	Office / Other Services	3.32	$611

Combined Fee for Police and Fire Facilities

Figure PS6 summarizes proposed fee components for police vehicles/equipment and the expansion of fire stations. The current fee column includes both police and fire impact fees. Proposed fees increase for residential development and some types of nonresidential development, such as industrial and office buildings. Proposed fees decrease for commercial development.

Figure PS6 – Fee Schedule for Public Safety Capital Improvements

Residential (per housing unit)

Type of Development	Police Vehicles & Equipment Fee	Fire Station Expansion Fee	Proposed Total Fee	Current Police and Fire Fees	$ Change	% Change
Single Unit	$129	$585	$714	$336	$378	113%
2+ Units per Structure	$69	$317	$386	$212	$174	82%

Nonresidential (per 1,000 square feet of floor area)

ITE Code	Type of Development	Police Vehicles & Equipment Fee	Fire Station Expansion Fee	Proposed Total Fee	Current Police and Fire Fees	$ Change	% Change
140	Industrial	$22	$329	$351	$100	$251	251%
820	Commercial*	$169	$368	$537	$1,340	($803)	-60%
520	Institutional	$61	$180	$241			
710	Office & Other Services*	$66	$611	$677	$510	$167	33%

** Current fee assumes 25,000 square feet.*

Projected Revenue from Public Safety Impact Fees

Revenue projections shown in Figure PS7 assume implementation of the proposed public safety fees and that development over the next seven years is consistent with the land use assumptions described in Appendix A. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the development fee revenue. The public safety fee revenue projection of approximately $819,000 (shown below) matches the seven-year growth cost of police vehicles/equipment and the planned expansion of fire stations.

Figure PS7 – Capital Costs and Fee Revenue for Public Safety

Seven-Year Cost of Public Safety Facilities (rounded)

Fire Station Expansion	$671,000
Police Vehicles and Equipment	$148,000
Total	$819,000

Public Safety Fee Revenue

		Single Unit $714 per housing unit	*2+ Units* $386 per housing unit	*Industrial* $351 per 1000 Sq Ft	*Commercial* $537 per 1000 Sq Ft	*Institutional* $241 per 1000 Sq Ft	*Office & Other* $677 per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013	3,361	6,823	1,500	2,487	5,335	3,713
Year 1	2014	3,395	6,894	1,515	2,512	5,388	3,750
Year 2	2015	3,430	6,964	1,531	2,537	5,442	3,788
Year 3	2016	3,471	7,047	1,546	2,562	5,496	3,826
Year 4	2017	3,512	7,130	1,561	2,588	5,551	3,864
Year 5	2018	3,553	7,213	1,577	2,614	5,607	3,903
Year 6	2019	3,594	7,296	1,593	2,640	5,663	3,942
Year 7	2020	3,635	7,380	1,609	2,666	5,719	3,981
Seven-Yr Increase		274	557	109	179	384	268
Fee Revenue =>		$196,000	$215,000	$38,000	$96,000	$93,000	$181,000
						Total =>	$819,000

IMPLEMENTATION AND ADMINISTRATION

Development impact fees should be periodically evaluated and updated to reflect recent data. One approach is to adjust for inflation using the Engineering News Record (ENR) Construction Cost Index published by McGraw-Hill Companies. This index could be applied to the adopted impact fee schedule. If cost estimates or demand indicators change significantly, the City should redo the fee calculations.

Even though some states require impact fees to be deposited in a separate interest bearing account, Florida's Impact Fee Act only requires a jurisdiction to account for the revenues and expenditures of impact fees in a separate accounting fund. Fees should be spent within five years of when they are collected, with the expenditures limited to growth-related system improvements or debt service on growth-related infrastructure. An annual report of impact fee collections and expenditures should be prepared by the Finance Department for distribution to elected officials, city administrators and posted on the City's website for the general public. In addition, audits of financial statements of local governmental entities, performed by a certified public accountant, must be submitted to the Auditor General and include an affidavit signed by the chief financial officer of the local governmental entity stating that the local governmental entity has complied with the Florida Impact Fee Act.

Credits and Reimbursements

A general requirement that is common to impact fee methodologies is the evaluation of credits. A revenue credit may be necessary to avoid potential double payment situations arising from one-time impact fees plus on-going payment of other revenues that may also fund growth-related capital improvements. The determination of revenue credits is dependent upon the impact fee methodology used in the cost analysis.

Specific policies and procedures related to site-specific credits should be addressed in the ordinance that establishes the impact fees. Project-level improvements, required as part of the development approval process, are not eligible for credits against impact fees. If a developer constructs a system improvement included in the fee calculations, it will be necessary to either reimburse the developer or provide a credit against the fees in the area that benefits from the system improvement. The latter option is more difficult to administer because it creates unique fees for specific geographic areas. Based on national experience, it is better for the City to establish a reimbursement agreement with the developer that constructs a system improvement. The reimbursement agreement should be limited to a payback period of no more than ten years and the City should not pay interest on the outstanding balance. The developer must provide sufficient documentation of the actual cost incurred for the system improvement. The City should only agree to pay the lesser of the actual construction cost or the estimated cost used in the impact fee analysis. If the City pays more than the cost used in the fee analysis, there will be insufficient fee revenue. Reimbursement agreements should only obligate the City to reimburse developers annually according to actual fee collections from the benefiting area.

The supporting documentation for each type of impact fee illustrates the types of infrastructure considered to be system improvements. Site specific credits or developer reimbursements for one type of system improvement does not negate an impact fee for other system improvements.

Service Areas

To ensure a substantial benefit to new development paying impact fees, the City of Stuart has evaluated collection and expenditure zones for public facilities that may have distinct benefit or service areas. In the City of Stuart, impact fees for parks/recreation, multi-modal improvements, and public safety facilities will benefit new development throughout the entire incorporated area. TischlerBise recommends citywide collection and expenditures of impact fees.

Development Categories

Proposed residential categories are slightly different from the approach used for current impact fees due to changes in U.S. Census Bureau methods and the availability of data. Single Family Detached is now called Single Unit and will be used when one residential unit is located on a single parcel of land. Thus a townhouse, also known as a single-family attached unit, would be considered a Single Unit if it is constructed on a separate parcel of land. In contrast, a condominium in a residential structure, with multiple units located on one parcel, would be considered "2+ Units per Structure."

The four general nonresidential development categories in the impact fee schedule can be used for all new construction within Stuart. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates, as documented in Trip Generation (ITE, 2012). "Industrial" includes the processing or production of goods, along with warehousing, transportation, communications, and utilities. "Commercial" includes retail development and eating/drinking places. "Institutional" includes schools, universities, churches, and public buildings. "Office / Other Services" includes offices, health care, business services, and lodging.

An applicant may submit an independent study to document unique demand indicators for a particular and unique development. The independent study must be prepared by a professional engineer or certified planner and use the same type of input variables as those in Stuart's impact fee update. For residential development, the fees are based on average persons per housing unit and average weekday vehicle trip ends per housing unit. For nonresidential development, the fees are based on average weekday vehicle trips ends per 1,000 square feet of floor area, and the average number of jobs per 1,000 square feet of floor area. The independent fee study will be reviewed by City staff and can be accepted as the basis for a unique fee calculation. If staff determines the independent fee study is not reasonable, the applicant may appeal the administrative decision to Stuart's elected officials for their consideration.

APPENDIX A: DEMOGRAPHIC DATA

Supporting documentation on population, housing units, jobs, and nonresidential floor area is essential in order to update development impact fees for the City of Stuart. Although long-range projections are necessary for planning capital improvements, a shorter time frame of five to ten years is critical for the impact fees analysis. As required by the Florida Impact Fee Act, the fees are based on "the most recent and localized data" [see Florida Statutes 163.31801(3)(a)]. Infrastructure standards and capital costs use 2013 data and the first projection year is fiscal year 2014-15. In the City of Stuart the fiscal year begins on October 1st.

Summary of Growth Indicators

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

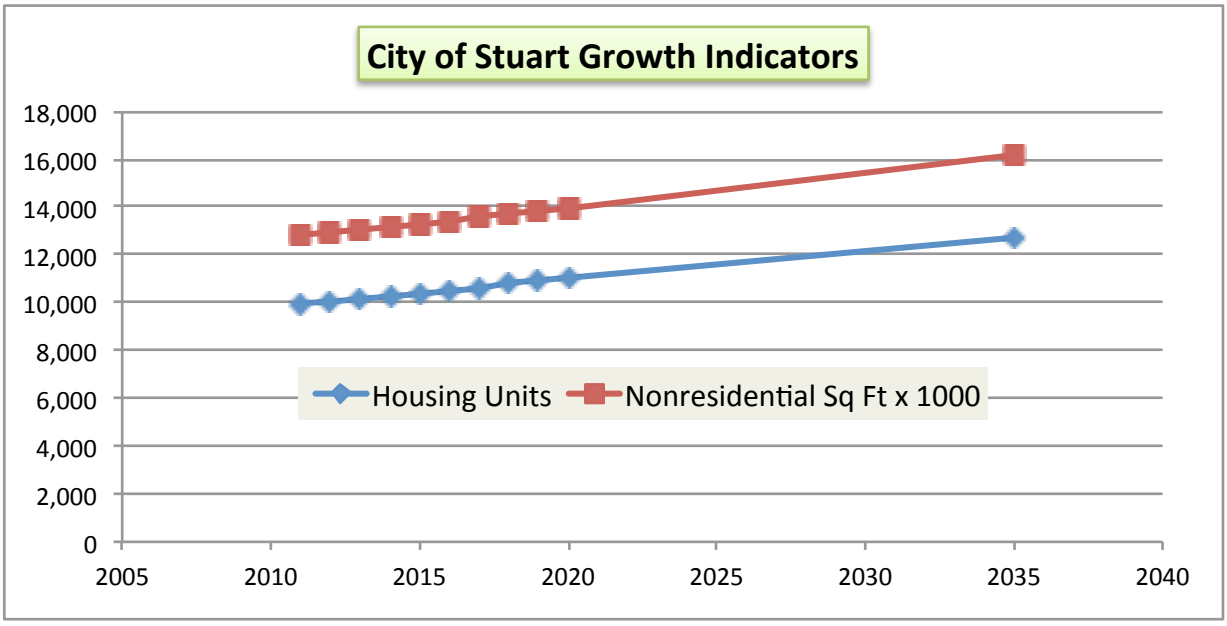
Stuart specific base data for the demographic analysis and development projections include 2010 census counts of population and housing units, 2017-11 five-year American Community Survey data, plus data from Martin County Growth Management Department and Metropolitan Planning Organization (MPO). The projected long-range increase in permanent population is from Table 4, 2012 Population Technical Bulletin, published by Martin County Growth Management Department. Projected population was converted to housing units using the 2010 average of 1.58 year-round residents per housing unit. Given the requirement that impact fees be based on most recent and localized data, TischlerBise recommends a 3-5 year update cycle for impact fees. Therefore, the impact fee study did not vary the persons per housing unit ratio over time, nor assume any change to the residential vacancy rate in Stuart. At the time of the 2010 census, approximately 22% of the housing stock in Stuart was vacant or only used seasonally. For housing units, the impact fee study assumes a compound annual growth rate 1.1% from 2013 to 2018.

The projected long-range increase in nonresidential floor area is based on the Martin County job forecast from the 2035 Long Range Transportation Plan. As discussed in greater detail below (see Figure A4), the City has experienced an increase in the "capture ratio" of County jobs since 2002. The impact fee study assumes a continued increase in the percentage of County jobs located within the City. Projected jobs within Stuart were converted to nonresidential floor area using average square-feet-per-employee multipliers. For nonresidential development, the impact fee study assumes a compound annual growth rate 1.0% from 2013 to 2018.

Figure A1 – Development Projections and Growth Rates

Year	*Housing Units*	*Nonresidential Sq Ft x 1000*
2011	9,974	12,778
2012	10,079	12,906
2013	10,184	13,035
2014	10,289	13,165
2015	10,394	13,298
2016	10,518	13,430
2017	10,642	13,564
2018	10,766	13,701
2019	10,890	13,838
2020	11,015	13,975
2035	12,673	16,226

	2013 to 2018 Average Annual	
	Increase	*Compound Growth Rate*
Residential Units	116	1.1%
Nonresidential Sq Ft x 1000	133	1.0%



Recent Residential Construction

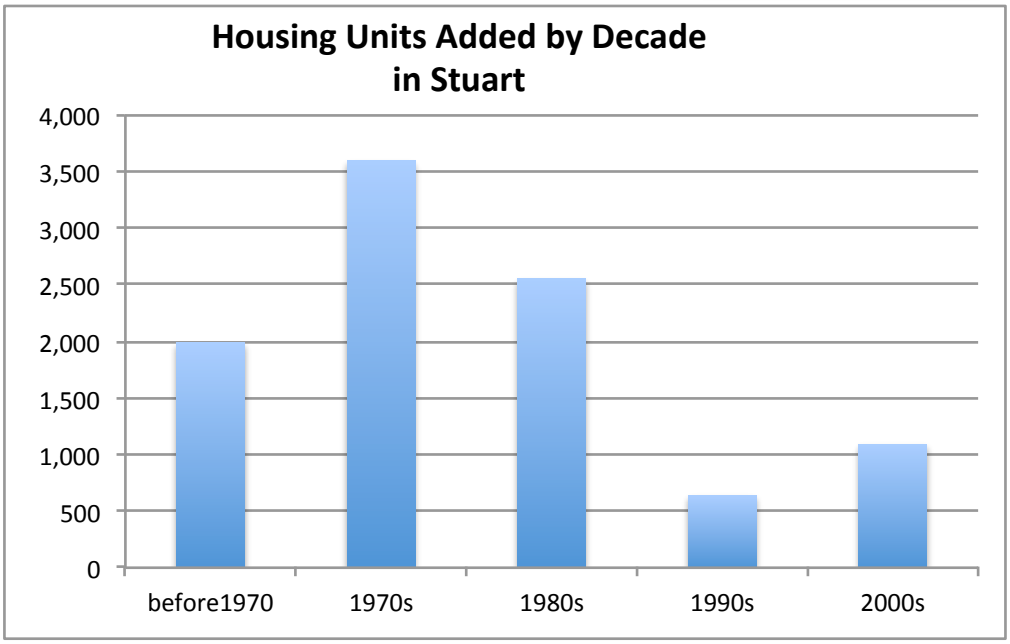
From 2000 to 2010, Stuart increased by an average of 109 housing units per year. The chart at the bottom of Figure A2 indicates the estimated number of housing units added by decade in Stuart. Consistent with the nationwide decline in development activity, residential construction in the City slowed significantly since 2008. In comparison to the housing increase over the past decade, the impact fee study anticipates an increase of 1,146 units from 2010 to 2020, or an average of 115 housing units per year.

Figure A2 – Housing Units by Decade

Census 2010 Population*	16,018
Census 2010 Housing Units*	9,869
Total Housing Units in 2000	8,777
New Housing Units	1,092

From 2000 to 2010, Stuart added an average of 109 housing units per year.

* *U.S. Census Bureau SF1.*



Source for 1990s and earlier is Table B25034, American Community Survey (2007-2011) scaled to equal total housing units in 2000.

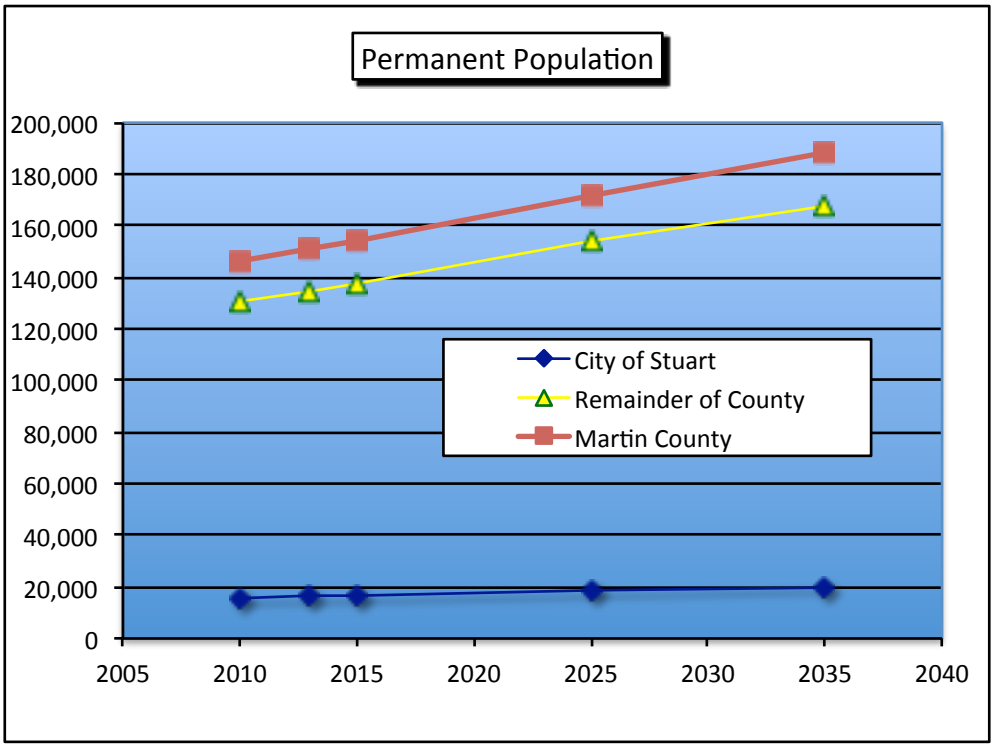
Population and Jobs Forecast

To provide context for population and job growth in Stuart, TischlerBise prepared comparisons to Martin County projections. The Long Range Transportation Plan expects 179,000 persons in Martin County by 2035, which is slightly higher than the projection of 187,900 persons published by the County's Growth Management Department (see Table 4 in 2012 Population Technical Bulletin). Figure A3 indicates the City's share of countywide population over time. Stuart's population projection is also from the 2012 Population Technical Bulletin. According to the County's projections, Stuarts share of countywide population remains constant at 10.7% through 2035.

Figure A3 – City of Stuart Population Share

	2010	2013	2015	2025	2035
Martin County	146,318	150,987	154,100	172,200	187,900
City of Stuart	15,593	16,091	16,422	18,351	20,024
Remainder of County	130,725	134,896	137,678	153,849	167,876
City Share	10.7%	10.7%	10.7%	10.7%	10.7%

Sources: Table 4, 2012 Population Technical Bulletin, Martin County Growth Management Department, 02/07/12.



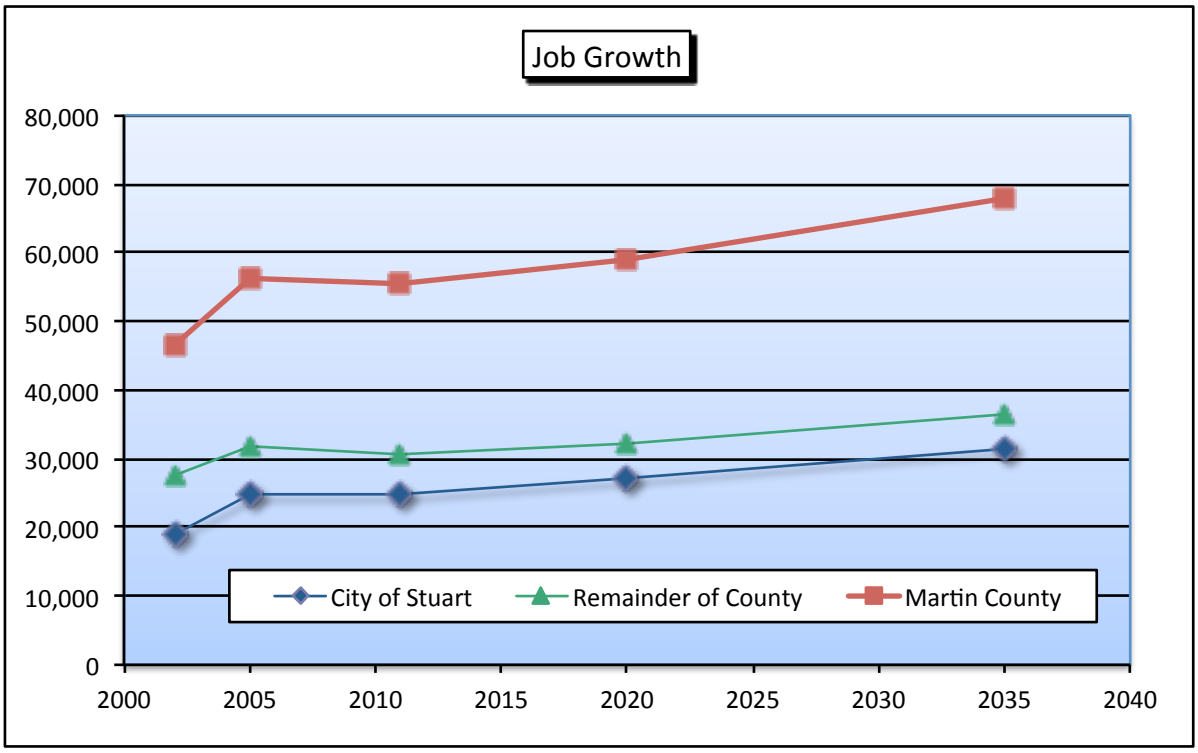
In addition to data on residential development, the calculation of impact fees requires data on nonresidential development. TischlerBise uses the term "jobs" to refer to employment by place of work. Similar to the population share evaluation discussed above, countywide jobs are shown in Figure A4 along with the City of Stuart job share. County and City data for 2002 through 2011 are from OnTheMap, the U.S. Census Bureau's web application. OnTheMap estimates journey-to-work jobs used to analyze commuting patterns. Countywide jobs in 2035 are from Table 2-4, in the 2035 Regional Long Range Transportation Plan (Martin MPO), scaled by the ratio of OnTheMap to MPO jobs in 2005. For the City of Stuart, TischlerBise used an exponential growth formula, with a compound annual growth rate of 1.0%. Similar to the increase in population capture ratio over time, the City increases the job capture ratio from 44.6% of County jobs in 2011 to 46.2% of County jobs in 2035. Even with a slight increase in the City share of countywide jobs, the City's jobs-to-housing ratio remains constant at 2.48

jobs for every housing unit. This is a very healthy ratio indicating Stuart is an employment center that attracts workers from a commuter shed that is much larger than the city limits.

Figure A4 – City of Stuart Job Share

	2002	2005	2011	2020	2035
Martin County	46,687	56,347	55,532	59,130	68,022
City of Stuart	19,050	24,695	24,742	27,060	31,416
Remainder of County	27,637	31,652	30,790	32,070	36,606
City Share	40.8%	43.8%	44.6%	45.8%	46.2%

Sources: County and City data for all jobs 2002-2011 are from OnTheMap, U.S. Census Bureau web application. County 2035 projections is from Table 2-4, 2035 Regional Long Range Transportation Plan, Martin MPO, scaled by the ratio of OnTheMap to MPO jobs in 2005. Projected Stuart jobs in 2020 and 2035 assumes a continued increase in job share and a 1% compound growth rate.



Jobs by Type of Nonresidential Development

Figure A5 indicates the City's 2011 job estimate and nonresidential floor area estimates, derived using national averages of floor area per job. The latter were derived based on data published by the Institute of Transportation Engineers (ITE 2012), discussed further in the next section. General land use types are based on two-digit industry sectors, with the percentage distribution of jobs by type of nonresidential development from the U.S. Census Bureau's OnTheMap web application. TischlerBise estimate that Stuart had approximately 12.8 million square feet of nonresidential development in 2011. This estimate includes both private and public sector buildings, including institutional development such as churches and schools.

Figure A5 – Jobs and Floor Area Estimate

	2011 Jobs (1)		*Sq Ft per Job (2)*	*Floor Area*	*Jobs per 1000 Sq Ft*
Industrial (3)	2,636	10.65%	558	1,471,000	1.79
Commercial (4)	4,876	19.71%	500	2,438,000	2.00
Institutional (5)	5,137	20.76%	1,018	5,229,000	0.98
Office (6)	12,093	48.88%	301	3,640,000	3.32
TOTAL	24,742	100%	516	12,778,000	1.94

(1) Source: Jobs by NAICS Sector, U.S. Census Bureau, OnTheMap web application, 2011 all jobs.
(2) Source: Trip Generation, Institute of Transportation Engineers, 2012.
(3) Includes construction, manufacturing, and warehousing.
(4) Includes retail, accommodation and food services.
(5) Includes educational services and public administration.
(6) Major sectors are Health Care, Administration & Support, and Professional/ Scientific/Technical Services.

Employees per Square Foot of Nonresidential Development

In Figure A6, gray shading indicates four nonresidential development prototypes used by TischlerBise to estimate nonresidential floor area and derive vehicle trips for the street impact fee analysis. Average weekday vehicle trip generation rates are from the Institute of Transportation Engineers (see Trip Generation, 2012). The prototype development for industrial jobs is manufacturing. The prototype for commercial (i.e., Retail, Food & Accommodation Services) is an average-size shopping center. The prototype for institutional development is an elementary school. For office and other services, the prototype is a general office building.

Figure A6 – Employee and Building Area Ratios

ITE Code	*Land Use / Size*	*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	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
151	Mini-Warehouse	1,000 Sq Ft	2.50	61.90	0.04	24,760
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

* *Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).*

Detailed Development Projections

Demographic data shown in Figure A7 provide key inputs for updating development impact fees in the City of Stuart. Cumulative data are shown at the top and projected annual increases by type of development are shown at the bottom of the table. As discussed in the next section, TischlerBise recommends the use of persons per housing unit to derive impact fees. Therefore, vacancy rates and number of households are not essential to the demographic analysis.

Figure A7 – Annual Demographic Data

			FY13-14	*Begins Oct. 1st*						
Stuart, Florida	*2010*	*2011*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2020*	*2035*
Cumulative			*Base Yr*	*1*	*2*	*3*	*4*	*5*	*7*	*22*
Year-Round Population (w/o Group Quarters)	15,593	15,759	16,091	16,256	16,422	16,618	16,814	17,010	17,403	20,024
Jobs	22,791	24,742	25,239	25,492	25,747	26,004	26,264	26,527	27,060	31,416
Housing Units	9,869	9,974	10,184	10,289	10,394	10,518	10,642	10,766	11,015	12,673
Jobs to Housing Ratio	2.31	2.48	2.48	2.48	2.48	2.47	2.47	2.46	2.46	2.48
Persons per Hsg Unit	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Nonres Sq Ft in thousands (KSF)										
Industrial		1,471	1,500	1,515	1,531	1,546	1,561	1,577	1,609	1,868
Commercial		2,438	2,487	2,512	2,537	2,562	2,588	2,614	2,666	3,096
Institutional		5,229	5,335	5,388	5,442	5,496	5,551	5,607	5,719	6,640
Office		3,640	3,713	3,750	3,788	3,826	3,864	3,903	3,981	4,622
Total		12,778	13,035	13,165	13,298	13,430	13,564	13,701	13,975	16,226
Avg Sq Ft Per Job		506	516	516	516	516	516	516	516	516

Annual Increase	12-13	13-14	14-15	15-16	16-17	17-18	19-20	***2013-2035 Avg Anl***
Population	166	165	166	196	196	196	197	179
Jobs	250	252	255	257	260	263	268	281
Housing Units	105	105	105	124	124	124	125	113
Industrial KSF	14	15	16	15	15	16	16	17
Commercial KSF	25	25	25	25	26	26	26	28
Institutional KSF	53	53	54	54	55	56	56	59
Office KSF	37	37	38	38	38	39	39	41
Total Nonresidential KSF/Yr =>	129	130	133	132	134	137	137	145

Persons per Housing Unit

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has some limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For the impact fee analysis, "Single Unit" includes single-family detached, townhouses, and mobile homes (also known as manufactured housing). The category of "2+ Units" includes duplexes, apartments, and condominiums with two or more units per structure.

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

As shown at the bottom of Figure A8, census counts indicate Stuart had 9,869 housing units in 2010. Dwellings with a single unit per structure (detached, attached, and mobile homes) averaged 2.29 persons per housing unit. Dwellings in structures with multiple units averaged 1.24 year-round residents per unit. The ACS results shown at the top of Figure A8 provide detailed data on persons and housing units by the number of units per structure, which is not available from the 2010 census counts. The sample results by residential category were adjusted to yield the 2010 census totals, shown at the bottom of the table.

Figure A8 – Year-Round Persons per Unit by Type of Housing

2009 Summary by Type of Housing from American Community Survey

Units in Structure	*Renter & Owner*				
	Persons	*House-holds*	*Persons per Household*	*Housing Units*	***Persons per Housing Unit***
Single Unit*	7,081	2,664	2.66	3,237	*2.19*
2+ Units	7,933	4,539	1.75	6,718	*1.18*
TOTAL	15,014	7,203	2.08	9,955	*1.51*

**Single-family includes detached, attached, and mobile homes.*

Source: Tables B25024, B25032, and B25033.

2007-2011 American Community Survey, U.S. Census Bureau.

2010 Census

Single Unit*	7,354	2,848	2.58	3,209	***2.29***
2+ Units	8,239	4,853	1.70	6,660	***1.24***
Subtotal	15,593	7,701	2.02	9,869	***1.58***
Group Quarters	425				
TOTAL	16,018				

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

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