



Road Impact Fee Update

Lee County, Florida

prepared by

duncan
associates

in association with
CRSPE, Inc.

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Table of Contents

INTRODUCTION	1
LEGAL FRAMEWORK	2
The Need Test	2
The Benefit Test	3
Florida Statutes	4
BENEFIT DISTRICTS	7
MAJOR ROADWAY SYSTEM	9
METHODOLOGY	12
Service Unit	12
Demand-Driven Model	12
Impact Fee Formula	13
COST PER SERVICE UNIT	14
Cost per Lane-Mile	14
Roadway Capacity	17
Cost per Service Unit Summary	19
REVENUE CREDITS	20
Gas Tax Credit	20
Excess Toll Revenue Credit	25
TRAVEL DEMAND	27
Trip Generation	27
New Trip Factor	27
Average Trip Length	27
Local Adjustment Factor	28
Travel Demand Summary	29
FEE SCHEDULE	31
Comparative Fees	32
Impact Fee Indexing	34

List of Tables and Figures

Table 1:	ROAD IMPACT FEE REVENUE, 2006-2007	8
Table 2:	PLANNED IMPROVEMENT PROJECT COSTS	15
Table 3:	COST ADJUSTMENT FACTOR	16
Table 4:	ROAD COST PER LANE-MILE	16
Table 5:	CAPACITY ADDED BY PLANNED IMPROVEMENT PROJECTS	18
Table 6:	AVERAGE DAILY CAPACITY PER LANE	19
Table 7:	ROAD COST PER SERVICE UNIT	19
Table 8:	FEDERAL/STATE FUEL TAX CAPACITY FUNDING, 2003-2007	20
Table 9:	PERCENT OF FEDERAL/STATE FUEL TAX FUNDING TO CAPACITY	22
Table 10:	MOTOR FUEL TAX CREDIT PER GALLON	24
Table 11:	MOTOR FUEL TAX CREDIT PER SERVICE UNIT	24
Table 12:	EXCESS TOLL REVENUE CREDIT	26
Table 13:	AVERAGE TRIP LENGTH BY TRIP PURPOSE	28
Table 14:	EXISTING COUNTY-WIDE VEHICLE-MILES OF TRAVEL	28
Table 15:	LOCAL ADJUSTMENT FACTOR	29
Table 16:	TRAVEL DEMAND SCHEDULE	30
Table 17:	UPDATED ROAD IMPACT FEES (COUNTY PROJECTS)	31
Table 18:	UPDATED ROAD IMPACT FEES (COUNTY/STATE PROJECTS)	32
Table 19:	COMPARISON OF CURRENT AND UPDATED ROAD FEES	33
Figure 1:	ROAD IMPACT FEE BENEFIT DISTRICTS	7
Figure 2:	2030 FINANCIALLY FEASIBLE HIGHWAY PLAN	10
Figure 3:	LEE COUNTY MAJOR ROADWAYS	11
Figure 4:	ROAD IMPACT FORMULA	13
Figure 5:	ROAD CONSTRUCTION COST TRENDS	34
Figure 6:	LAND VALUE TRENDS, CAPE CORAL	35

INTRODUCTION

Lee County is responsible for building and maintaining a major road network and has charged an impact fee since 1985 to ensure that new development contributes to the cost of capital improvements needed to maintain existing levels of service for the major road system. The current road impact fee schedule is based on a previous study by Duncan Associates.¹ Instead of waiting for the scheduled update in 2009, the Lee County Board of Commissioners decided to pursue a review and update of the road impact fees in 2008 in order to reflect the most current road construction cost data. This update retains the overall impact fee methodology used in prior updates.

Since the road impact fees were originally adopted in 1985, the County has periodically updated the impact fee schedules in order to reflect the most recent road cost data, level of service and other funding sources used by the county in funding new growth-related capacity improvements. The fee schedules were updated in 1989, 1990, 2000, 2003 and 2006.

The County's road impact fee program applies to new development in the unincorporated areas of the county. The City of Sanibel and the City of Fort Myers have entered into interlocal agreements with the County to collect and administer the County's road impact fees within their respective jurisdictions. These two municipalities retain the impact fees they collect and spend them within their corporate limits. The other municipalities in the county—Cape Coral, Bonita Springs and Fort Myers Beach—have their own independent road impact fee systems. There are currently five impact fee benefit districts in the unincorporated area of Lee County where fees are collected.

¹ Duncan Associates and CRSPE, Inc., *Road Impact Fee Update for Lee County, Florida*, October 2006; the road impact fees were updated by Ordinance No. 06-19, effective October 24, 2006.

LEGAL FRAMEWORK

Impact fees are a way for local governments to require new developments to pay a proportionate share of the infrastructure costs they impose on the community. In contrast to traditional “negotiated” developer exactions, impact fees are charges that are assessed on new development using a standard formula based on objective characteristics, such as the number of dwelling units constructed or vehicle trips generated. The fees are one-time, up-front charges, with the payment usually made at the time of building permit issuance. Essentially, impact fees require that each new development project pay its pro-rata share of the cost of new capital facilities required to serve that development.

Since impact fees were pioneered in states like Florida that lacked specific enabling legislation, such fees have generally been legally defended as an exercise of local government’s broad “police power” to regulate land development in order to protect the health, safety and welfare of the community. The courts have developed guidelines for constitutionally valid impact fees, based on “rational nexus” standards.² The standards set by court cases generally require that an impact fee meet a two-part test:

- 1) The need for new facilities must be created by new development; and
- 2) The expenditure of impact fee revenues must provide benefit to the fee-paying development.

A Florida district court of appeals described the dual rational nexus test in 1983 as follows, and this language was quoted and followed by the Florida Supreme Court in its 1991 *St. Johns County* decision:³

In order to satisfy these requirements, the local government must demonstrate a reasonable connection, or rational nexus, between the need for additional capital facilities and the growth in population generated by the subdivision. In addition, the government must show a reasonable connection, or rational nexus, between the expenditures of the funds collected and the benefits accruing to the subdivision. In order to satisfy this latter requirement, the ordinance must specifically earmark the funds collected for use in acquiring capital facilities to benefit the new residents.

The Need Test

To meet the first prong of the dual rational nexus test, it is necessary to demonstrate that new development creates the need for additional roadway facilities. The State’s *Growth Management Act* requires that counties establish levels of service for roadway facilities and a plan for ensuring that

² There are six Florida cases that have guided the development of impact fees in the state: *Contractors and Builders Association of Pinellas County v. City of Dunedin*, 329 So.2d 314 (Fla. 1976); *Hollywood, Inc. v. Broward County*, 431 So.2d 606 (Fla. 1976); *Home Builders and Contractors Association of Palm Beach County, Inc. v. Board of County Commissioners of Palm Beach County*, 446 So.2d 140 (Fla. 4th DCA 1983); *Seminole County v. City of Casselberry*, 541 So.2d 666 (Fla. 5th DCA 1989); *City of Ormond Beach v. County of Volusia*, 535 So.2d 302 (Fla. 5th DCA 1988); and *St. Johns County v. Northeast Florida Builders Association*, 583 So. 2d 635, 637 (Fla. 1991).

³ *Hollywood, Inc. v. Broward County*, 431 So. 2d 606, 611-12 (Fla. 4th DCA), review denied, 440 So. 2d 352 (Fla. 1983), quoted and followed in *St. Johns County v. Northeast Florida Builders Ass’n*, 583 So. 2d 635, 637 (Fla. 1991).

such standards are maintained.⁴ The County's comprehensive plan expresses the County's commitment to maintaining specified levels of service; including Level of Service E (LOS E) on County arterial roads and collectors, LOS D on non-interstate freeways, and LOS C and LOS D on I-75 through transitioning and urbanized areas, respectively.

According to U.S. Census Bureau population estimates, the Fort-Myers - Cape Coral Metropolitan Statistical Area (MSA), whose boundaries correspond with Lee County's boundary, has been the third fastest growing MSA in the country over the past ten years. The 2000 Census population for Lee County was 440,888 and the estimated 2007 population is 615,741, an increase of almost 40 percent. The county's history of rapid growth creates demands for new road facilities in order to maintain acceptable levels of service. The need for growth-related road improvements is reflected in Lee County's CIP, the City of Fort Myers CIP, FDOT's Lee County work program and the Lee County MPO transportation improvement program. Over the next five years, these planning documents program capacity-expanding road improvements, excluding toll revenue projects, that total \$796.7 million (see Table 2).

Not only is it clear that growth creates the need for capacity-expanding road improvements, but the road impact fees are designed to be proportional to the capacity needs created by each new development. The need for roadway capacity improvements is created by the growth in vehicular travel, and the road impact fees are based on the average vehicular travel, expressed in terms of vehicle-miles of travel, that will be generated by the development. In addition, the road impact fee ordinance contains a provision allowing an applicant who believes that his development will have less impact than indicated by the fee schedules to submit an independent fee calculation study.⁵

The Benefit Test

To meet the second prong of the dual rational nexus test, it is necessary to demonstrate that new development subject to the fee will benefit from the expenditure of the impact fee funds. One requirement is that the fees actually be used to fill the need that serves as the justification for the fees under the first part of the test. The road impact fee ordinance contains provisions requiring that road impact fee revenues be spent only on growth-related capital improvements. For example, the ordinance states that the "Funds collected from roads impact fees must be used for the purpose of capital improvements to approved roads. Such improvements must be of the type made necessary by the new development. Funds may not be used for periodic or routine maintenance"⁶ The ordinance further defines "capital improvement" as:

preliminary engineering, engineering design studies, land surveys, right-of-way acquisition, engineering, permitting and construction of all the necessary features for any non-site-related road construction project, including but not limited to:

- (1) Constructing new through lanes;*
- (2) Constructing new turn lanes;*

⁴ Section 163.3177(3)(a), Florida Statutes, provides that "The comprehensive plan shall contain a capital improvements element designed to consider the need for and the location of public facilities [defined to include roads] in order to encourage the efficient utilization of such facilities and set forth ... the adequacy of those facilities including acceptable levels of service."

⁵ Lee County Land Development Code, Sec. 2-266(f)

⁶ Lee County Land Development Code, Sec. 2-270(a)

- (3) *Constructing new frontage or access roads;*
- (4) *Constructing new bridges;*
- (5) *Constructing new drainage facilities in conjunction with roadway construction;*
- (6) *Purchasing and installing traffic signalization (including both new installations and upgrading signalization);*
- (7) *Constructing curbs, medians, sidewalks, bicycle paths and shoulders in conjunction with roadway construction;*
- (8) *Relocating utilities to accommodate new roadway construction; and*
- (9) *Constructing on-street and off-street parking when such parking is intended for and designed to protect or enhance the vehicular capacity of the existing network of approved roads.*⁷

These provisions ensure that road impact fee revenues are spent on improvements that expand the capacity of the major roadway system to accommodate new development, rather than on the maintenance or rehabilitation of existing roadway facilities or for other purposes.

Another way to ensure that the fees be spent for their intended purpose is to require that the fees be refunded if they have not been used within a reasonable period of time. The Florida District Court of Appeals upheld Palm Beach County's road impact fee in 1983, in part because the ordinance included refund provisions for unused fees.⁸ Lee County's road impact fee ordinance contains provisions requiring that the fees be returned to the fee payer if they have not been spent or encumbered within ten years of fee payment.

Another way to demonstrate benefit to the fee-paying development is to earmark the funds collected within a geographic subarea of the county to be spent on road improvements within the same geographic subarea. For the purpose of the road impact fees, the unincorporated area of the county is currently divided into five benefit districts (see section on Benefit Districts). The road impact fee ordinance provides that impact fee funds collected from development within a benefit district must be spent within that benefit district or on an improvement that will benefit such district:

*... impact fee collections ... must be used exclusively for capital improvements within the roads impact fee district from which funds were collected, or for projects in other roads impact fee districts that are of direct benefit to the roads impact fee district from which the funds were collected.*⁹

In sum, ordinance provisions requiring the earmarking of funds, refunding of unexpended funds to fee-payers, and restriction of impact fee revenues to be spent within the five benefit districts in which they were collected, ensure that the fees are spent to benefit the fee-paying development.

Florida Statutes

The 2006 Florida Legislature passed Senate Bill 1194, which establishes certain requirements for impact fees in Florida. The bill, which became effective on June 14, 2006, creates a new Section 163.31801, Florida Statutes, which reads as follows:

⁷ Lee County Land Development Code, Sec. 2-264

⁸ *Home Builders Ass'n v. Board of County Commissioners of Palm Beach County*, 446 So. 2d 140 (Fla. Dist. Ct. App. 1983)

⁹ Lee County Land Development Code, Sec. 2-270(a)

163.31801 Impact fees; short title; intent; definitions; ordinances levying impact fees.--

(1) This section may be cited as the "Florida Impact Fee Act."

(2) The Legislature finds that impact fees are an important source of revenue for a local government to use in funding the infrastructure necessitated by new growth. The Legislature further finds that impact fees are an outgrowth of the home rule power of a local government to provide certain services within its jurisdiction. Due to the growth of impact fee collections and local governments' reliance on impact fees, it is the intent of the Legislature to ensure that, when a county or municipality adopts an impact fee by ordinance or a special district adopts an impact fee by resolution, the governing authority complies with this section.

(3) An impact fee adopted by ordinance of a county or municipality or by resolution of a special district must, at minimum:

(a) Require that the calculation of the impact fee be based on the most recent and localized data.

(b) Provide for accounting and reporting of impact fee collections and expenditures. If a local governmental entity imposes an impact fee to address its infrastructure needs, the entity shall account for the revenues and expenditures of such impact fee in a separate accounting fund.

(c) Limit administrative charges for the collection of impact fees to actual costs.

(d) Require that notice be provided no less than 90 days before the effective date of an ordinance or resolution imposing a new or amended impact fee.

(4) Audits of financial statements of local governmental entities and district school boards which are performed by a certified public accountant pursuant to s. 218.39 and submitted to the Auditor General must include an affidavit signed by the chief financial officer of the local governmental entity or district school board stating that the local governmental entity or district school board has complied with this section.

For the most part, these requirements are administrative and procedural. The only substantive requirement that has a bearing on this study is that the impact fee must "be based on the most recent and localized data."

A variety of recent, local data have been gathered to be used in the impact fee calculations. The three major inputs into the formula are cost per vehicle-mile of travel (VMT), credit per VMT and VMT per unit of development. Cost per VMT has been based on project costs from current local planning documents (Lee County's adopted 2007/2008-2011/2012 *Capital Improvements Program* and draft 2008/2009-2012/2013 *Capital Improvements Program*, and the Lee County Metropolitan Planning Organization's *Transportation Improvement Program*, FY 2008/2009-2012/13), divided by capacity added by planned projects based on localized peak hour factors for each roadway. Credit per VMT has been based on historical local funding patterns on the percent of motor fuel taxes used for capacity, as well as the County's current plans for the expenditure of excess toll revenues on non-toll road improvements. VMT per development unit is initially based on national travel characteristics (trip

generation rates, new trip factors and average trip lengths), but is then calibrated to local conditions. The local adjustment factor used in the calibration is the ratio of observed travel on the major roadway system to expected travel based on national travel characteristics. In sum, this report complies with the substantive requirements of the *Florida Impact Fee Act*.

BENEFIT DISTRICTS

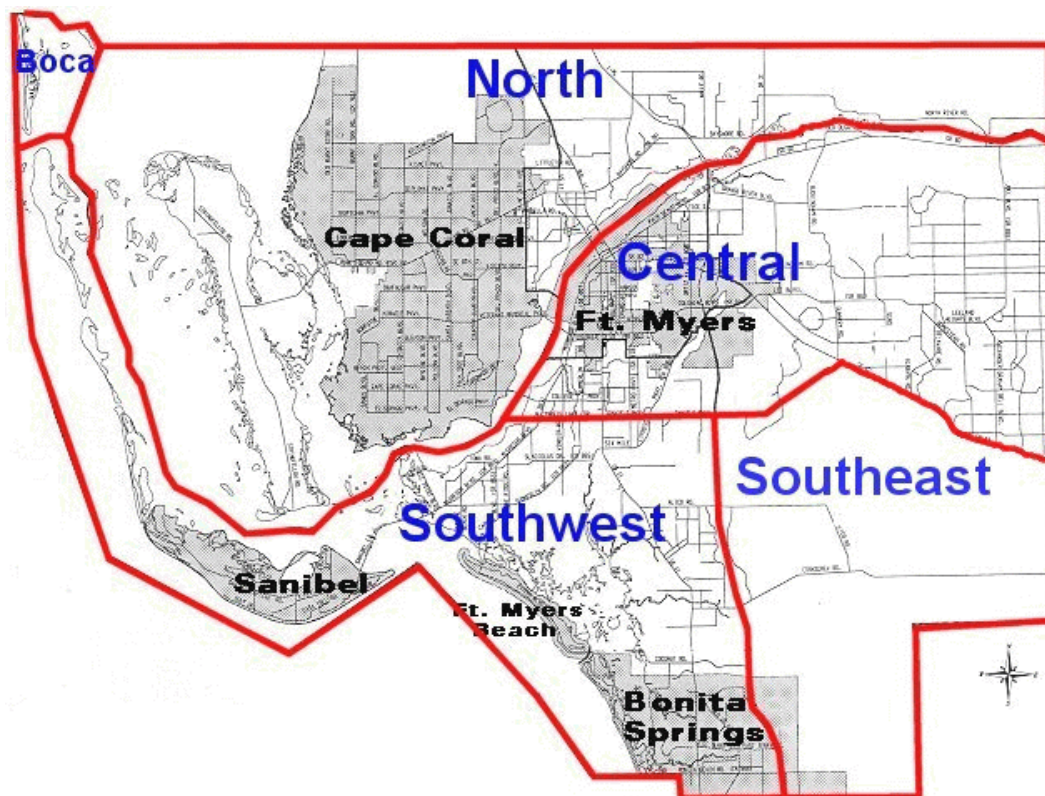
In an impact fee system, it is important to clearly define the geographic areas within which impact fees will be collected and spent. There are two types of geographic areas that serve different functions in an impact fee system: assessment districts and benefit districts.

An assessment district is a geographic area that is subject to a uniform fee schedule. It represents the area served by a common set of capital facilities. In the case of the County's road impact fee, the assessment district is the entire unincorporated area, plus the incorporated areas of the cities of Fort Myers and Sanibel, which participate in the County's road impact fee via interlocal agreements.

Benefit districts, on the other hand, represent areas within which the fees collected must be spent. They ensure that improvements funded by impact fees are constructed within reasonable proximity of the fee-paying developments as a means of helping to demonstrate benefit.

The current ordinance includes five benefit districts for the road impact fees. The geographic boundaries of the road districts are illustrated in Figure 1. These districts were revised from the original eight benefit districts in 2003. In this update, the Consultants and County staff recommend merging the Boca Grande and North benefit districts, since there are no identified capacity-expanding improvements for the island and the impacts of development in Boca Grande on the County's major road system will be felt most in the North benefit district.

Figure 1
ROAD IMPACT FEE BENEFIT DISTRICTS



Last year, the County's total road impact fee revenue for the unincorporated area, including both actual fees collected and credits for developer contributions, totaled about \$33 million, as summarized in Table 1. The City of Fort Myers, which participates in the County road impact fee system via an interlocal agreement, collected an additional \$8 million in fiscal year 2006/07. The City of Sanibel also participates via interlocal agreement, but its impact fee collections are negligible.

Table 1
ROAD IMPACT FEE REVENUE, 2006-2007

Benefit District	Fiscal Year 2006			Fiscal Year 2007		
	Payments	Credits	Total	Payments	Credits	Total
Boca Grande	\$19,964	\$0	\$19,964	\$38,812	\$0	\$38,812
North	\$1,551,979	\$0	\$1,551,979	\$2,099,647	\$0	\$2,099,647
Central	\$23,991,118	\$167,934	\$24,159,052	\$16,648,458	\$697,214	\$17,345,672
Southwest	\$9,969,492	\$470,233	\$10,439,725	\$10,163,416	\$410,468	\$10,573,884
Southeast	\$2,421,541	\$0	\$2,421,541	\$3,441,126	\$0	\$3,441,126
Total County Revenue	\$37,954,094	\$638,167	\$38,592,261	\$32,391,459	\$1,107,682	\$33,499,141
City of Fort Myers	\$9,182,447	\$1,193,719	\$10,376,166	\$6,674,968	\$1,820,531	\$8,495,499
Total	\$47,136,541	\$1,831,886	\$48,968,427	\$39,066,427	\$2,928,213	\$41,994,640

Source: Revenue from FY 2005/06 and FY 2006/07 from Lee County Impact Fee Administrator, April 18, 2008, and Fort Myers Impact Fee Administrator, June 16, 2008; "payments" represent fees actually paid; "credits" represent developer credits used to offset the impact fees that otherwise would have been collected.

MAJOR ROADWAY SYSTEM

A road impact fee program should include a clear definition of the major roadway system that will be funded with the impact fees. The County's road impact fee ordinance defines the major roadway system in its definition of "approved roads" that are eligible for credit against the road impact fees. Approved roads consist of all arterials, collectors, freeways and expressways, as well as designated access roads. Approved roads are divided into three classes, which determine the extent to which developers who improve them are eligible for credit. Class 1 roads are included for improvement in the County's five-year Capital Improvements Program (CIP), Class 2 roads are scheduled for improvement within the next ten years, and Class 3 roads are shown on Map 3A of the *Lee Plan*, but are not programmed for improvement within the next ten years. The division of the major roadway system into classes is intended to prevent premature development from essentially monopolizing the expenditure of impact fee funds through the credit mechanism.

The County's road impact fee ordinance defines the major roadway system as existing and future arterials, collectors, freeways and expressways identified on Map 3A of the transportation element of the Lee Plan, or roads not shown on Map 3A but that provide "a reasonable alternative route for traffic that otherwise would travel a specific road shown on Map 3A of the Lee Plan transportation element." Map 3A refers to the 2030 Financially Feasible Plan map (see Figure 2).

A detailed inventory of the major roadway system was prepared as part of the 2006 impact fee update. While the road impact fee assessment district excludes the municipalities of Cape Coral, Bonita Springs and Fort Myers Beach, the inventory includes major roads within all the municipalities. The inventory must be county-wide in order to accomplish its principal objective, which is to calibrate national travel demand factors to local conditions. The county-wide road inventory was used to calibrate national travel demand factors to local conditions by comparing the actual vehicle-miles of travel (VMT) on the major road system to expected VMT based on existing development. However, due to the current housing crisis and likely high residential vacancy rates, this update retains the 2006 calibration factor. As a result, the detailed road inventory was not updated in this study. The County's major roadway system is illustrated in Figure 3.

Figure 2
2030 FINANCIALLY FEASIBLE HIGHWAY PLAN

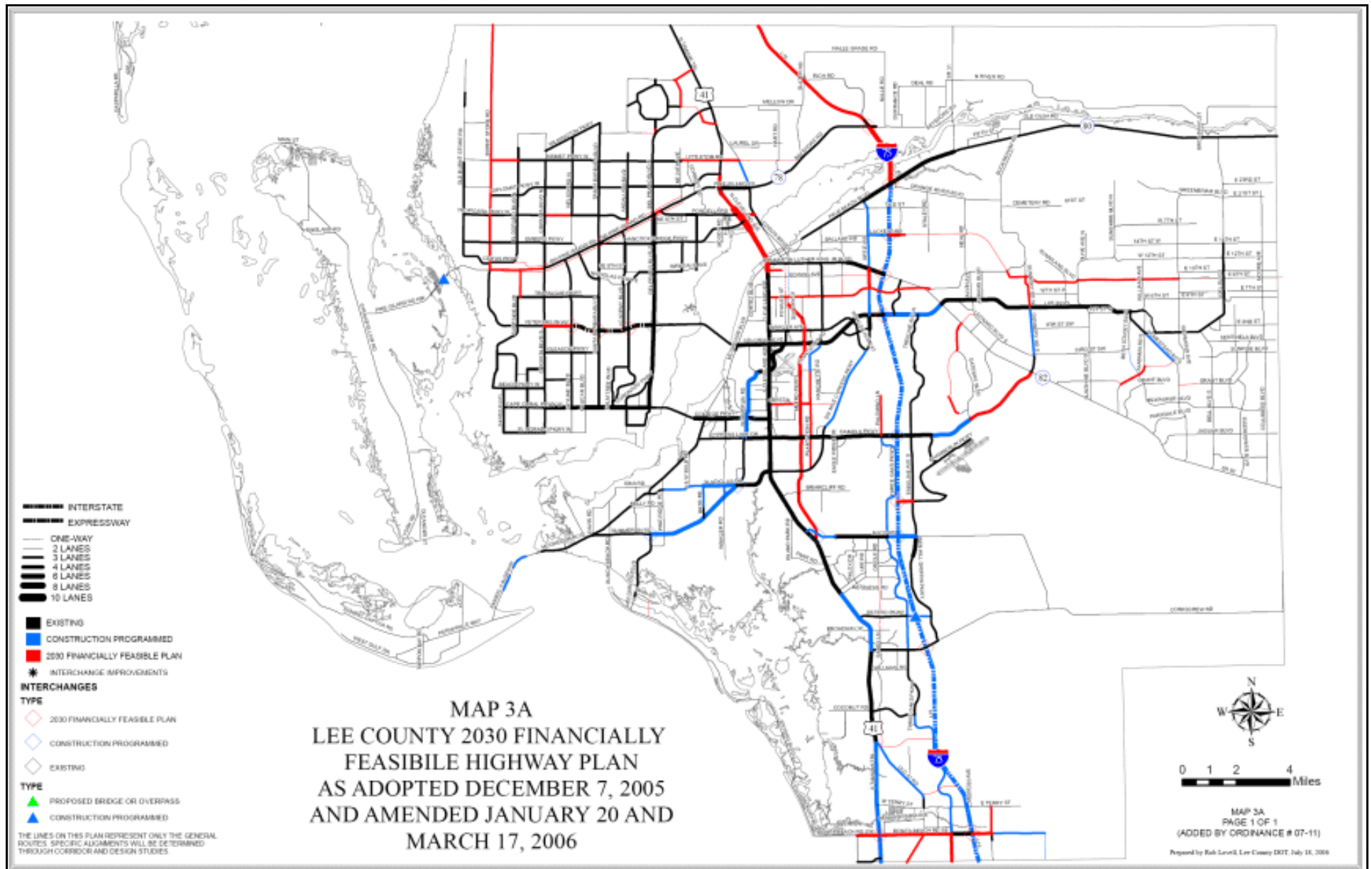
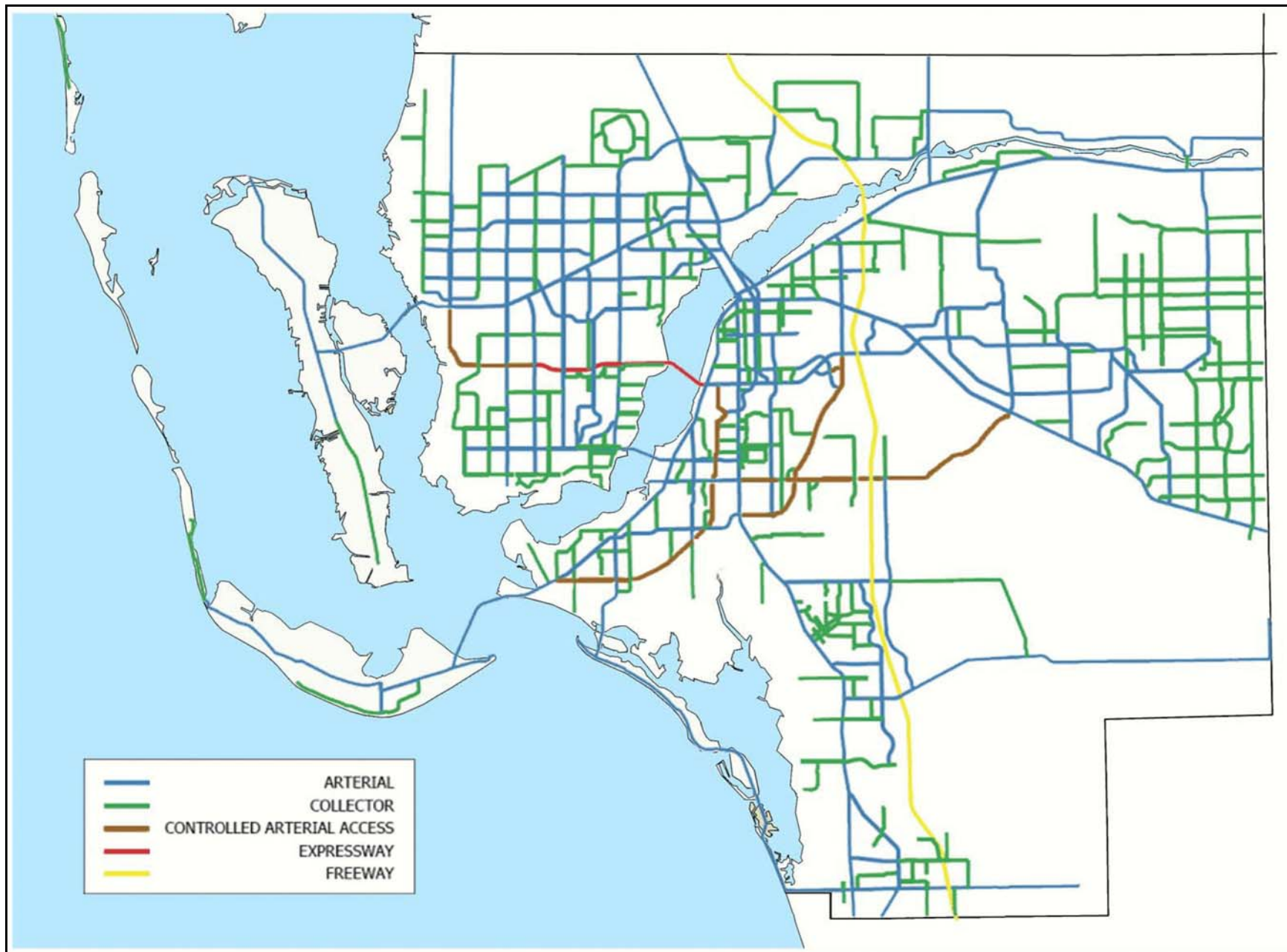


Figure 3
LEE COUNTY MAJOR ROADWAYS



METHODOLOGY

This section describes the methodology used to develop the road impact fees. A key concept in any road impact fee methodology is the definition of the “service unit,” which is described first. Then the “demand-driven” model used in this study is explained. Finally, the formula used to calculate the road impact fees is described.

Service Unit

A service unit creates the link between supply (roadway capacity) and demand (traffic generated by new development). An appropriate service unit basis for road impact fees is vehicle-miles of travel (VMT). Vehicle-miles is a combination of the number of vehicles traveling during a given time period and the distance (in miles) that these vehicles travel.

The two time periods most often used in traffic analysis are the 24-hour day (average daily trips or ADT) and the single hour of the day with the highest traffic volume (peak hour trips or PHT). Lee County’s current road impact fee system is based on ADT. The regional transportation model is also based on ADT. However, the County’s comprehensive plan sets forth desired level of service standards that are based on PHT.

The region’s retirement population and tourist orientation suggest that peak hour trip generation rates based on national data may not be representative of all land uses in Lee County. However, traffic studies in Lee County have shown that national average daily trip generation rates are representative of Lee County. For this reason, we recommend continuing to base the County’s road impact fees on average daily trip generation. Consequently, average daily VMT will continue to be used as the service unit for the County’s road impact fees.

Demand-Driven Model

Consistent with previous updates, the proposed road impact fee methodology is based on a “demand-driven” model. The demand-driven model charges a new development the cost of replacing the capacity it consumes on the major roadway system. That is, for every vehicle-mile of travel (VMT) generated by the development, the road impact fee charges the net cost to construct an additional vehicle-mile of capacity (VMC).

Since travel is never evenly distributed throughout a roadway system, actual roadway systems require more than one unit of capacity for every unit of demand for the system to function at an acceptable level of service. Suppose for example, that the County completes a major arterial widening project. The completed arterial is likely to have a significant amount of excess capacity for some period of time. If the entire system has just enough capacity to accommodate all of the vehicle-miles of travel, then the excess capacity on this segment must be balanced by another segment operating over-capacity. Roadway systems in the real world need more total aggregate capacity than the total aggregate demand, because the traffic does not always precisely match the available capacity. The standard demand-driven model is a conservative, legally-defensible approach that has been upheld by the Florida courts. This update will continue to be based on the demand-driven model.

In most rapidly growing communities, some roadways will experience an unacceptable level of congestion at any given point in time. However, it is not necessary to address existing deficiencies

in a demand-driven system. Unlike an improvements-driven system, the demand-driven system is not designed to recover the full costs to maintain the desired LOS on all roadway segments. Instead, it is only designed to maintain a minimum one-to-one overall ratio between system demand and system capacity. Virtually all major roadway systems have more capacity (VMC) than demand (VMT) on a system-wide basis. Consequently, under a demand-driven system, the level of service standard is really a system-wide VMC/VMT ratio of one. Since the County's major roadway system currently operates at a LOS better than this, there are no existing deficiencies on a system-wide basis.

Impact Fee Formula

The recommended impact fee formula is presented in Figure 4.

Figure 4
ROAD IMPACT FORMULA

IMPACT FEE	=	VMT x NET COST/VMT
<u>Where:</u>		
VMT	=	ADT x % NEW x LENGTH x ADJUST ÷ 2
ADT	=	Trip ends during average weekday
% NEW	=	Percent of trips that are primary trips, as opposed to pass-by or diverted-link trips
LENGTH	=	Average length of a trip on the major roadway system
ADJUST	=	Adjustment factor to calibrate national travel demand factors to local conditions
÷ 2	=	Avoids double-counting trips for origin and destination
NET COST/VMT	=	COST/VMT ! CREDIT/VMT
COST/VMT	=	COST/LANE-MILE ÷ AVG LANE CAPACITY
COST/LANE-MILE	=	Average cost to add a new lane to the major roadway system
AVG LANE CAPACITY	=	Average daily capacity of a lane at desired LOS
CREDIT/VMT	=	\$/GAL ÷ MPG x 365 x NPV
\$/GAL	=	Capacity-expanding funding for roads per gallon of gasoline consumed
MPG	=	Miles per gallon, average for U.S. motor vehicle fleet
365	=	Days per year (used to convert daily VMT to annual VMT)
NPV	=	Net present value factor (i.e., 12.75 for 20 years at 4.74% discount)

COST PER SERVICE UNIT

There are two components to determining the average cost to add a unit of capacity to the major road system: the cost of a set of improvements, and the capacity added by those improvements. This section describes both of the average cost components in order to calculate the average cost per service unit.

Cost per Lane-Mile

One of the key inputs into the road impact fee formula is the cost per lane-mile to construct new roadway capacity. While the most obvious component of roadway construction is the physical roadway itself, other elements are involved. All components add to the cost to the project. Other components include professional services (planning and design), actual construction costs, right-of-way (land) costs, environmental mitigation costs and utility relocation costs.

In a demand-driven impact fee system, roadway construction costs are entered into the formula as an average cost for providing new roadway capacity. Using this method, assuming there are no dramatic changes to the type of construction contemplated, it is not necessary to revisit impact fees each time that the capital improvement program changes. Updates at reasonable periodic intervals are sufficient to analyze potential changes to average costs.

In the 2000 and 2003 updates, all of the road improvements used to determine the average cost and capacity per new lane-mile were drawn from the Lee County Capital Improvements Program. The 2003 update also provided the option of basing the fees on the costs of State road improvement. Including State road improvements is reasonable, because the County increasingly participates in the cost of State road improvements. The travel demand used to calculate the fees in this update as well as in previous studies includes travel on State, County and municipal roads. Finally, motor fuel tax credits are provided for the portion of gasoline taxes that is used to fund State road improvements.

For these reasons, it is reasonable to include the cost of State road improvements in determining the average cost to add capacity to the major roadway system. The inclusion of State road improvement costs will bring the impact fees closer to the true cost of accommodating the impacts of growth on the major roadway system. Because including State road costs could affect the fee calculation, two alternative costs per service unit will be calculated, one based on County planned road improvements only, and the other based on both County and State planned road improvements.

The average cost to add capacity to the major roadway system is determined by examining the most recent cost data available. The County roadway improvements shown in Table 2 come from Lee County's currently adopted FY 2007/2008-2011/2012 *Capital Improvements Program* and the draft FY 2008/09-2012/13 *Capital Improvements Program*; the draft CIP project costs were used if they were lower than those used in the current CIP. The State roadway improvements used in this study are based on those listed in the Florida Department of Transportation's *District One Adopted Work Program, 2008-2013* and supplemented with the six-year history to obtain complete project costs. Projects that are anticipated to be funded primarily by toll revenues have been excluded. In total, the projects on which the average cost per lane-mile is based will add approximately 151 new lane-miles and cost \$796.7 million.

Table 2
PLANNED IMPROVEMENT PROJECT COSTS

Roadway	Segment	Miles	No. of Lanes			Lane-miles	Cost
			Ex.	Fut.	New		
Alico Rd	Dusty Ln to Three Oaks	2.40	2	6	4	9.60	\$19,193,023
Bonita Beach Rd II	Old 41 to Lime St	0.90	4	6	2	1.80	\$14,442,999
Buckingham Rd	Orange R. Blvd to SR 80	2.55	2	4	2	5.10	\$40,179,320
Colonial Blvd	Six Mile Cypress to SR 82	2.65	4	6	2	5.30	\$30,774,211
Corkscrew Rd*	B H Griffin to Bella Terra	3.00	2	4	2	6.00	\$1,000,000
Daniels Pkwy	Chamberlin to Gateway	1.70	4	6	2	3.40	\$13,850,000
Estero Pkwy	Three Oaks to Corkscrew	0.70	0	4	4	2.80	\$56,352,610
Gladiolus Dr	Pine Ridge to Bass	1.53	2	4	2	3.06	\$23,170,722
Gladiolus Dr	Bass Rd to Winkler	0.78	2	6	4	3.12	
Bass Rd	Healthpark to Gladiolus	1.03	2	4	2	2.06	
Gunnery Rd	SR 82 to Lee	1.75	2	4	2	3.50	\$22,020,000
Homestead Rd	Sunrise Blvd to Alabama Rd	2.25	2	4	2	4.50	\$21,910,000
Imperial St	Bonita Beach to Imperial	0.27	2	4	2	0.54	\$20,670,871
Imperial St	Imperial R. Bridge	0.23	0	4	4	0.92	
Imperial St	Imperial R. to Terry St	0.50	2	4	2	1.00	
Lockett Rd	Ortiz to I-75	0.46	2	4	2	0.92	\$9,329,000
Ortiz Ave	Lockett Rd to SR 80	1.33	2	4	2	2.66	\$23,534,000
Ortiz Ave	SR 82 to Lockett Rd	1.25	2	4	2	2.50	\$21,114,326
Ortiz Ave	Colonial to SR 82	1.73	2	4	2	3.46	\$24,909,098
Plantation Ext	Idlewild to Colonial	1.00	0	4	4	4.00	\$9,684,970
Plantation Rd	Six Mi Cypress to Daniels Pkwy	1.25	2	4	2	2.50	\$14,531,000
Summerlin Rd	Cypress Lake to Boy Scout Dr	2.60	4	6	2	5.20	\$40,242,229
Three Oaks	E Terry to The Brooks	4.15	0	4	4	16.60	\$52,561,605
Three Oaks	Corkscrew to Alico	4.60	2	4	2	9.20	\$30,023,866
Treeline Ave*	Daniels to Colonial Blvd	4.20	2	4	2	8.40	\$18,128,733
Veterans Pkwy	Santa Barbara Controlled Access	1.10	0	6	6	6.60	\$32,250,000
Subtotal, County Road Projects		45.91				114.74	\$539,872,583
Alico Rd	US 41 to Dusty Rd	0.90	2	4	2	1.80	\$25,688,218
SR 739	Six Mile Cypress to Daniels	1.26	2	6	4	5.04	\$32,282,031
SR 82	Ortiz to Lee Blvd	3.30	2	6	4	13.19	\$69,310,185
SR 82	Lee Blvd to Commerce Lakes	2.38	2	6	4	9.52	\$74,707,000
Business 41	Marianna Ave to Littleton	1.14	2	4	2	2.28	\$10,738,249
US 41	Corkscrew to San Carlos	2.24	4	6	2	4.48	\$44,088,312
Total		57.13				151.05	\$796,686,578

* Road cost excludes developer contributions

Source: Projects from Lee County, FY 07/08-11/12 Capital Improvements Program, Florida Department of Transportation, District One Work Program, FY 2007/08-2011/12; total project costs exclude funds from developer contributions and toll road revenue programmed for non-toll road projects; state project costs adjusted to 2008 values by deducting the FDOT inflation factors of 3.3 percent.

The most recent bids on construction contracts have been coming in lower than the construction cost estimates contained in the adopted Capital Improvements Plan. On average, the last four projects have come in at about 82.5 percent of the CIP construction cost estimate, as shown in Table 3.

Table 3
COST ADJUSTMENT FACTOR

Project	FY 07/08 CIP Construction Cost Estimate	Low Bid for Construction Contract	% of Est.
Summerlin, Boy Scout-College	\$29,904,838	\$25,181,605	84.2%
Gladiolus Drive	\$17,412,522	\$14,094,490	80.9%
Plantation Extension	\$6,740,975	\$4,035,771	59.9%
Estero Parkway	\$41,035,974	\$35,128,484	85.6%
Total	\$95,094,309	\$78,440,350	82.5%

Source: Lee County Department of Transportation, June 16, 2008 (both CIP cost estimate and low bid represent construction costs only).

It is not known whether the lower construction bids received recently represent a longer term trend. For this reason, the cost estimates in the CIP for other projects have not been reduced. However, for the purposes of the impact fee calculations, it will be assumed that the total cost, including design and right-of-way as well as construction, of all projects will come in the same percentage below CIP cost estimates.

The average cost per lane-mile added by the planned improvements can be determined by dividing the total cost by the total new lane-miles. The average cost per lane-mile ranges from \$3.9 million to \$4.4 million for County and combined County/State road improvements, respectively, as shown in Table 4. The cost per new lane-mile has increased since the last road impact fee update in 2006 by 5 percent for County projects and decreased by 1 percent for the combined County/State road projects.

Table 4
ROAD COST PER LANE-MILE

	County Projects	County/State Projects
Planned Improvement Project Costs	\$539,872,583	\$796,686,578
Recent Bid Adjustment Factor	0.825	0.825
Estimated Current Improvement Costs	\$445,394,881	\$657,266,427
New Lane-Miles	114.74	151.05
Average Cost per New Lane-Mile, 2008	\$3,881,775	\$4,351,317
Average Cost per New Lane-Mile, 2006	\$3,707,827	\$4,375,818
Percent Change Since 2006	5%	-1%

Source: Planned improvement project costs and new lane-miles from Table 2; adjustment factor from Table 3; 2006 cost per VMT from Duncan Associates and CRSPE, Inc., *Road Impact Fee Update for Lee County, Florida*, October 2006.

Roadway Capacity

Nationally-accepted transportation level of service (LOS) categories have been developed by the transportation engineering profession. Six categories, ranging from LOS A to LOS F, describe driving conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS A represents free flow, while LOS F represents the breakdown of traffic flow, characterized by stop-and-go conditions.

In contrast to LOS, maximum service volume is a quantitative measure, expressed in terms of the rate of flow (vehicles passing a point during a period of time). Maximum service volume represents the maximum rate of flow that can be accommodated by a particular type of roadway while still maintaining a specified LOS. The maximum service volume at LOS E represents that maximum volume that can be accommodated before the flow breaks down into stop-and-go conditions that characterize LOS F, and thus represents the ultimate capacity of the roadway.

The analysis of the capacity of Lee County's major roadway system has been based on the generalized planning capacity estimates promulgated by the Florida Department of Transportation (FDOT), as modified by Lee County based on local data. These capacity estimates are based on Highway Capacity Manual procedures and take into consideration roadway cross-sections, left turn bays at intersections, posted speed limits, the spacing of signalized intersections and the characteristics of the area (i.e., rural, rural developed, transitioning to urban and urbanized).

The generalized capacity estimates developed for planning purposes by Lee County are hourly capacities, rather than average daily capacities. These capacities are essentially the same for LOS D and LOS E, since the capacities of the intersections have already been reached by the time the segment volumes reach LOS D. The hourly capacity numbers also contain a directional split (D) factor. The D factor used in the generalized Lee County calculations is 0.58, which represents a typical peak hour directional split of 58% in the dominant direction and 42% in the opposite direction.

Average daily capacities are calculated by applying a specific peak hour factor to the peak hour capacity. To convert from peak hour to daily capacity, the hourly capacity is divided by the percentage of daily travel occurring in the peak hour. Where AM and PM peaks differ, the higher peak is used.

In most road impact fee analysis, a generalized peak factor is used (e.g., 10 percent of daily trips occur during the peak hour). However, the *Lee County Traffic Count Report* contains the peaking characteristics for each count station in the County. This allows application of appropriate peaking characteristics to each project used in the cost calculations, and also defends against charges that Lee County's peaking characteristics are unique due to the retiree population. Where the capacity improvement is planned on an existing transportation facility, the count station assigned to the facility in the *Lee County Traffic Count Report* was used. For new facilities, the count station judged to be the most likely to reflect traffic peaking characteristics on the new facility was used.

The average capacity per new lane-mile is determined based on the same set of improvements used to determine the average cost per lane-mile. In all, capacity-expanding projects adding approximately 1,407,509 vehicle-miles of capacity (VMC) to the major roadway system are under construction or in the planning process in Lee County (see Table 5).

Table 5
CAPACITY ADDED BY PLANNED IMPROVEMENT PROJECTS

Roadway	Segment	Miles	New Lanes	New Lane-Miles	Pk Hr Capacity			Pk Hr Factor	New Daily Capacity	New Daily VMC
					Before	After	New			
Alico Rd	Dusty Ln to Three Oaks	2.40	4	9.60	1,710	5,400	3,690	0.106	34,811	83,546
Bonita Beach Rd	Old 41 to Lime St	0.90	2	1.80	3,600	5,400	1,800	0.102	17,647	15,882
Buckingham Rd	Orange R. Blvd to SR 80	2.55	2	5.10	1,710	3,600	1,890	0.104	18,173	46,341
Colonial Blvd	I-75 to SR 82	2.65	2	5.30	3,600	5,400	1,800	0.089	20,225	53,596
Corkscrew Rd	B H Griffin to Bella Terra	3.00	2	6.00	1,710	3,600	1,890	0.106	17,830	53,490
Daniels Pkwy	Chamberlin to Gateway	1.70	2	3.40	3,600	5,400	1,800	0.107	16,822	28,597
Estero Pkwy	Three Oaks to B H Griffin	0.70	4	2.80	0	3,600	3,600	0.106	33,962	23,773
Gladiolus Dr	Pine Ridge to Bass	1.53	2	3.06	1,710	3,600	1,890	0.093	20,323	31,094
Gladiolus Dr	Bass Rd to Winkler	0.78	4	3.12	1,710	5,400	3,690	0.093	39,677	30,948
Bass Rd	Healthpark to Gladiolus	1.03	2	2.06	1,580	3,340	1,760	0.093	18,925	19,493
Gunnery Rd	SR 82 to Lee	1.75	2	3.50	1,710	3,600	1,890	0.087	21,724	38,017
Homestead Rd	Sunrise to Alabama	2.25	2	4.50	1,710	3,600	1,890	0.096	19,688	44,298
Imperial St	Bonita Beach to Imperial	0.27	2	0.54	1,710	3,600	1,890	0.102	18,529	5,003
Imperial St	Imperial R. Bridge	0.23	4	0.92	0	3,600	3,600	0.102	35,294	8,118
Imperial St	Imperial R. to Terry St	0.50	2	1.00	1,710	3,600	1,890	0.102	18,529	9,265
Luckett Rd	Ortiz to I-75	0.46	2	0.92	1,710	3,600	1,890	0.087	21,724	9,993
Ortiz Ave	Luckett Rd to SR 80	1.33	2	2.66	1,710	3,600	1,890	0.096	19,688	26,185
Ortiz Ave	SR 82 to Luckett Rd	1.25	2	2.50	1,710	3,600	1,890	0.096	19,688	24,610
Ortiz Ave	SR 884 to SR 82	1.73	2	3.46	1,710	3,600	1,890	0.096	19,688	34,060
Plantation Ext	Idlewild to Colonial	1.00	4	4.00	0	3,600	3,600	0.122	29,508	29,508
Plantation	Six Mi Cypress to Daniels	1.25	2	2.50	1,580	3,600	2,020	0.089	22,697	28,371
Summerlin Rd	Cypress Lake to Boy Scout	2.60	2	5.20	3,600	5,640	2,040	0.107	19,065	49,569
Three Oaks	E Terry to The Brooks	4.15	4	16.60	0	3,600	3,600	0.106	33,962	140,942
Three Oaks	Corkscrew to Alico	4.60	2	9.20	1,710	3,600	1,890	0.106	17,830	82,018
Treeline Ave	Daniels to Colonial Blvd	4.20	2	8.40	1,710	3,600	1,890	0.099	19,091	80,182
Veterans Pkwy	Santa Barbara	1.10	6	6.60	0	5,540	5,540	0.095	58,316	64,148
Subtotal, County Road Projects		45.91		114.74						1,061,047
Alico Rd	US 41 to Dusty Rd	0.90	2	1.80	1,710	3,600	1,890	0.106	17,830	16,047
SR 739	Six Mi Cypress to Daniels	1.26	4	5.04	1,710	5,400	3,690	0.122	30,246	38,110
SR 82	Ortiz to Lee Blvd	3.30	4	13.19	1,710	5,400	3,690	0.087	42,414	139,881
SR 82	Lee to Commerce Lakes	2.38	4	9.52	1,710	5,400	3,690	0.091	40,549	96,507
US 41 Bus	Marianna to Littleton	1.14	2	2.28	1,710	3,600	1,890	0.123	15,366	17,517
US 41	Corkscrew to San Carlos	2.24	2	4.48	3,600	5,400	1,800	0.105	17,143	38,400
Total		57.13		151.05						1,407,509

Source: Projects from Lee County, FY 07/08-11/12 Capital Improvements Program, Florida Department of Transportation, District One Work Program, FY 2007/08-2011/12; peak hour capacities are LOS E from Lee County Generalized Two-Way Peak Hour Service Volumes, September 2005; new daily capacity is new peak hour capacity divided by peak hour factor; new daily VMC is new daily capacity times segment miles.

To calculate the average daily capacity per new lane, the total new daily VMC for all listed capacity-expanding projects is divided by the total number of new lane-miles that will be constructed as a result of the capacity-expanding improvements. As shown in Table 6, the average daily capacity per new lane, for both LOS D and LOS E, will be about 9,318 vehicles per day for this representative

set of planned road improvements. If only County road improvements are considered, the capacity added per lane is somewhat lower.

Table 6
AVERAGE DAILY CAPACITY PER LANE

	County Road Projects	County & State Road Projects
New Daily Vehicle-miles of Capacity (VMC)	1,061,047	1,407,509
New Lane-miles	114.74	151.05
Average Capacity per New Lane	9,247	9,318

Source: New daily VMC and new lane-miles from Table 5.

Cost per Service Unit Summary

The average cost per unit of capacity added by the planned improvements can be determined by dividing the average cost of a new lane-mile by the average daily capacity added per lane. As shown in Table 7, the average cost per service unit ranges from \$420 per VMT for County road improvements to \$467 per VMT for County and State improvements.

Table 7
ROAD COST PER SERVICE UNIT

	County Projects	County/State Projects
Average Cost per New Lane-Mile	\$3,881,775	\$4,351,317
Average Capacity per New Lane	9,247	9,318
Average Cost per Vehicle-Mile of Travel (VMT)	\$420	\$467
Average Cost per VMT, 2006	\$402	\$407
Percent Change Since 2006	4%	15%

Source: Average costs per new lane-mile from Table 4; average capacity per new lane-mile from Table 6; 2006 cost per VMT from Duncan Associates and CRSPE, Inc., *Road Impact Fee Update for Lee County, Florida*, October 2006.

REVENUE CREDITS

When calculating the impact of new development on infrastructure costs, credit will be given for revenue generated by new development that will be used to pay for capacity-related capital improvements. In Lee County, capacity-expanding road improvements are funded almost exclusively with road impact fees and Federal, State and local motor fuel taxes. In the past few years the County has started to program capacity improvements with funding from excess toll revenue. In addition, there is some outstanding County debt for past road improvements, but these bonds are being retired with the County's gas tax receipts.

In the calculation of the proposed road impact fee, credit will be given for that portion of Federal, State and local motor fuel taxes that are used to fund capacity-expanding capital improvements on the major roadway system. An additional credit will be provided to account for the use of County toll road revenue utilized for capacity improvement on non-toll roads.

Gas Tax Credit

The amount of Federal and State motor fuel tax revenue applied toward funding capacity-expanding capital improvements is determined based on construction and right-of-way projects in the first year of each of the last five Florida Department of Transportation Five-Year Work Programs for Lee County, as shown in Table 8.

Table 8
FEDERAL/STATE FUEL TAX CAPACITY FUNDING, 2003-2007

Facility	Improvement	FY 02/03	FY 03/04	FY 04/05	FY 05/06	FY 06/07
Alico Rd, US 41-Dusty Rd.	New Road Ext.					\$17,690,458
Colonial, I-75-SR 82	Add Lanes					\$10,300,000
Gunnery Rd, SR 82-Lee Blvd	Add Lanes				\$1,990,000	
I-75 @ Alico Rd	Interchange Imp	\$3,621,054	\$11,473,600	\$35,600,029	\$180,297	\$3,327,059
I-75 @ Daniels Parkway	Interchange Imp	\$1,672,725	\$241,830	\$240,309	\$12,061	\$1,109
I-75, Bonita Beach-Corkscrew	Add Lanes	\$3,944,115	\$46,779	\$429,022	\$8,554,178	\$4,142,104
I-75@Bonita Beach Rd.	Interchange Imp		\$33,268			
I-75 @ Corkscrew	Interchange Imp	\$1,758,372	\$2,919,343	\$277,827	\$48,132	\$35,924
I-75, Corkscrew-Daniels Pkwy	Add Lanes	\$3,547,983	\$51,608	\$506,035	\$554,656	\$17,945,091
I-75 @ Colonial, Nbound Ramp	Interchange Imp	\$776,194				
I-75 @ Colonial, Sbound Ramp	Interchange Imp	\$979,874				
I-75 @ SR 80 Interchange	Interchange Imp			\$2,976,346	\$780,885	\$376,314
I-75 @ SR 82 Interchange	Interchange Imp			\$2,010,234	\$16,842	\$7,323
I-75 @ Airport Access	Interchange Imp			\$2,485,250		
I-75, Daniels Pwy to Colonial	Add Lanes			\$2,432,230	\$37,317	\$542,370
I-75, Colonial Blvd to SR 82	Add Lanes					
I-75, Luckett Rd to SR 80	Add Lanes			\$1,462,227	\$31,460	\$10,943
I-75, SR 80 to SR 78	Add Lanes	\$93,694	\$57,321	\$1,338,330	\$68,942	\$244,164
I-75, SR 82 to Luckett Rd	Add Lanes			\$1,383,365	\$63,109	\$11,972
I-75, SR 78 to Co Line	Add Lanes			\$565,134	\$58,981	\$15,207
Ft Myers Regional TMC System	Freeway Mgt			\$14,530,748	\$1,154,593	\$414,851

Facility	Improvement	FY 02/03	FY 03/04	FY 04/05	FY 05/06	FY 06/07
Palmetto Ave, Colonial-SR 82	New Road	\$5,000,000				
Colonial Blvd, McGregor-Metro	Study				\$1,500,000	
Pine Ridge @ San Carlos	Add Turn Lanes	\$136,894		\$136,894		
SR 31 @ SR 78	Traffic Signals					\$287,261
SR 739, US 41-Six Mi Cypress	New Road Ext.	\$588,991	\$14,663,038	\$3,758,883	\$1,037,915	\$178,896
SR 739, Six Mi. Cyp to Daniels	Add Lanes		\$6,116	\$1,499,112	\$2,676,966	\$3,816,820
SR 739, Winkler Ave-SR 82	Add Lanes	\$504,368	\$2,382,371	\$3,736,751	\$4,056,269	\$4,502,841
SR 739, Hanson-SR 82	Add Lanes	\$1,714,236	\$2,950,705	\$1,478,573	\$16,811,514	\$21,751,780
SR 78, Pine Is-Santa Barbara	Add Lanes	\$2,158,173	\$1,333,511	\$7,293,392	\$367,970	\$165,632
SR 78, Slater-I-75	Add Lanes	\$1,399,285	\$21,316,142	\$463,878	\$831,781	\$2,851,549
SR 78 @ Burnt Store	Traffic Signals			\$96,301		
SR 78, Burnt Store-Chiquita	Study/Engineer	\$1,032,842	\$217,146	\$32,264	\$37,433	\$58,785
SR 78 @ Hancock Br Pkwy	Traffic Signals			\$96,301		
SR 80, E of Hickey Cr-Iverson	Add Lanes	\$429,352	\$47,795	\$58,802	\$6,382	\$35,260
SR 80, Hickey Cr-Hendry Co	Add Lanes	\$1,672,252	\$1,169,046	\$203,541	\$697,618	\$18,157
SR 82 @ Jackson St	Intersection Imp			\$90,453	\$310	
SR 82 @ Sunshine Blvd	Add Turn Lns	\$400,175				
SR 82, Owen Ave-40th St SW	Add Turn Lns			\$2,000	\$1,086,592	\$45,656
SR 82, Michigan-Ortiz Ave	Add Lanes	\$130,298	\$260,812	\$5,212	\$28,008	\$676,683
SR 82, Ortiz-Lee Blvd	Add Lanes			\$2,381,929	\$210,450	\$794,855
SR 82, Lee Blvd-Co. Line	Study/Engin				\$919,493	\$23,480
SR 82, Evans Ave-Michigan	Add Lanes	\$11,190	\$3,250	\$3,068		
McGregor, Royal Palm-Col'l	Add Turn Lns		\$24,140			
SR 884 @ Ortiz Ave	Add Turn Lns			\$370,200		
Three Oaks, E Terry-Brooks	New Road				\$21,475,000	
Airport Road	New Road		\$4,120,456	\$362,454		
US 41 Bus, Marianna-Littleton	Add Lanes	\$2,208,482	\$404,248	\$37,572	\$129,829	\$39,735
US 41 Bus, Littleton-US 41	Study/Engin					\$1,636,994
US 41, Collier Co-Bonita Beach	Add Lanes	\$9,798,546	\$113,318	\$1,457,537	\$604,780	\$1,946,114
US 41, Bonita Beach-Old US 41	Add Lanes	\$19,420,556	\$188,585	\$2,445,725	\$1,447,599	\$3,986,867
US 41, Old US 41-Corkscrew	Add Lanes	\$47,111	\$1,088,978	\$663,947	\$427,149	\$44,826
US 41, Corkscrew to San Carlos	Add Lanes	\$2,260,507	\$561,595	\$2,372,752	\$412,943	\$7,231,697
Total Capacity Funding		\$65,307,269	\$65,675,001	\$95,284,627	\$68,317,454	\$105,158,777

Source: Capacity-expanding improvement programmed costs from Florida Department of Transportation (FDOT), *Work Program - Adopted Work Program Six Year History, FY 2001/2002 - 2006/2007* (<http://www2.dot.state.fl.us/programdevelopmentoffice/wp/default.asp>).

Total motor fuel tax revenue collected in Lee County for each year is estimated based on the gallons of motor fuel sold in Lee County and the Federal/State tax rate per gallon in effect at the time. On average, over the five-year period, it is estimated that 67.6 percent of Federal and State motor fuel taxes collected in Lee County have been spent on capacity-expanding improvements to the major roadway system, as shown in Table 9.

Table 9
PERCENT OF FEDERAL/STATE FUEL TAX FUNDING TO CAPACITY

Fiscal Year	Gallons Sold in Lee County	Fed/State Tax/Gallon*	Fed/State Taxes Paid	FDOT Capacity Funding	Percent Capacity
FY 2002/2003	279,287,701	\$0.358	\$99,984,997	\$65,307,269	65.3%
FY 2003/2004	298,951,074	\$0.361	\$107,921,338	\$65,675,001	60.9%
FY 2004/2005	328,562,336	\$0.367	\$120,582,377	\$95,284,627	79.0%
FY 2005/2006	345,704,288	\$0.373	\$128,947,699	\$68,317,454	53.0%
FY 2006/2007	348,570,471	\$0.379	\$132,108,209	\$105,158,777	79.6%
Five-Year Average					67.6%

* Fed/State Tax Gallon excludes \$0.02 of constitutional fuel tax.

Source: Total gallons of fuel sold in Lee County (includes gasoline and diesel) from the Florida Department of Revenue; FDOT capacity-expanding improvement funding from Table 8.

Based on the historical percentage of Federal and State fuel tax funding for capacity and the current tax structure, it can be reasonably anticipated that approximately 26 cents of the 38.4 cents per gallon of Federal and State fuel taxes will be available in the future for capacity-expanding capital improvements (see Table 10).

As summarized in Table 10, local motor fuel taxes amount to 16 cents per gallon. The amount of local motor fuel tax applied towards capacity-expanding capital improvements is determined by examining financial reports prepared by the State of Florida and Lee County.

The State imposes a 2-cent per gallon excise tax on motor fuels that is distributed to local governments. The original intent of the Constitutional Fuel Tax (also known as the 5th/6th Cent Fuel Tax) was to provide the necessary revenue to cover debt service managed by the Florida Board of Administration, with the remaining balance distributed to local governments. The state no longer retains a portion of these funds for debt service, since the 1973 Road/Bridge Bond Issue (Mantanzas Pass and Hurricane Bay Bridges) has been retired. The funds are available for either capital projects or transportation operations, but the County has dedicated the revenue to fund transportation operating costs since 1996.

The County Fuel Tax, also known as the 7th Cent Fuel Tax, is distributed to counties via the same distribution formula used for the Constitutional Fuel Tax. However, the state retains 30% of the tax funds for collection fees, refunds, administrative costs and service charges. The proceeds of the 7th Cent Fuel Tax are used by Lee County solely for the operation and maintenance of the existing major roadway system.

The Municipal Fuel Tax, also known as the 8th Cent Fuel Tax, is joined with non-transportation revenues and distributed to the cities from the Revenue Sharing Trust Fund for Municipalities. This revenue source is not used for capacity improvements.

Local governments in Florida are authorized to levy up to 12 cents of local option fuel taxes in the form of three separate levies. All 12 cents are authorized for Lee County. The County uses a portion of the local fuel tax to retire debt service on the 1993 and 1997 Series Gas Tax Bonds and the 2004 Five Cent Local Option Gas Tax Refunding Bond. The remaining revenues are distributed

among the County and municipal governments according to interlocal agreement or statutory formula.

The Six Cent Tax is a tax of six cents per gallon of motor and diesel fuel sold within the County. The entire six cents is pledged to retire the 1993 and 1997 Series Gas Tax Bonds. However, only two cents, or one-third, is actually used for debt service. The remaining two-thirds is split between the Transportation Capital Improvement Fund, where it is informally earmarked for road resurfacing and rehabilitation, and LeeTran transit.

The Five Cent Tax is a tax of five cents per gallon of motor and diesel fuel sold within the County. All of the five-cent local option gas tax revenues are used for capacity-expanding improvements. Approximately one-half is dedicated to debt service for East/West Corridor improvements associated with the Midpoint Memorial Bridge, while the other half is used for other capacity-expanding projects.

The 9th Cent Tax is a tax of one cent per gallon of motor and diesel fuel sold in the County. The County is not required to share the proceeds of the 9th Cent Tax with the municipalities, and the funds are only used for transportation purposes. Historically, approximately 55 percent of the 9th Cent Tax revenues was used to retire debt service on the 1993 Series Gas Tax Bonds (this bond was refunded with the Series 2003 Road Improvement Revenue Bond issued in October 2003). Although the debt service will be fully repaid within the next year, it will be assumed that the same percentage historically programmed for capacity improvements will continue to be programed for such purposes.

The motor fuel tax credits per gallon are summarized in Table 10. For every gallon of gasoline sold in Lee County, motorists currently pay approximately 54 cents per gallon in motor fuel taxes. Of the 54 cents, approximately 34 cents per gallon are available for capacity-expanding improvements to the major roadway system based on past experience, or about 61.8 percent of motor fuel taxes paid.

Table 10
MOTOR FUEL TAX CREDIT PER GALLON

Type of Motor Fuel Tax	Tax Rate/ Gallon	% to Capacity	Capacity \$/Gal.
Federal Motor Tax	\$0.184		
State Motor Tax (Less Constitutional Fuel Tax)	\$0.136		
State Comprehensive Enhanced Transportation (SCETS) Tax	\$0.064		
Subtotal, Federal/State Motor Fuel Tax per Gallon	\$0.384	67.6%	\$0.260
5 th and 6 th Cent Tax (Constitutional Fuel Tax)	\$0.020	0.0%	\$0.000
7 th Cent Tax (County Fuel Tax)	\$0.010	0.0%	\$0.000
8 th Cent Tax (Municipal Fuel Tax)	\$0.010	0.0%	\$0.000
Six Cent Local Option Tax	\$0.060	33.3%	\$0.020
Five Cent Local Option Tax	\$0.050	100.0%	\$0.050
9 th Cent Tax	\$0.010	55.0%	\$0.006
Subtotal, Local Motor Fuel Tax per Gallon	\$0.160	47.5%	\$0.076
Total Motor Fuel Tax per Gallon	\$0.544	61.8%	\$0.336

Source: Federal, State and SCETS tax rates per gallon as of January 1, 2008 from the Florida Department of Revenue; local fuel tax rates per gallon from *Lee County Annual Budget, FY 2007/08*; percent federal/state capacity funding per gallon from Table 9; percentages for local motor fuel taxes derived from the *Lee County Annual Budget, FY 2007/2008* and the *Lee County 2007-08 Debt Manual* (<http://www.lee-county.com/onlinedocuments.htm>).

Over the 20-year useful life of most road improvements, new development can be expected to generate approximately \$91 in capacity-expanding road funding for every daily vehicle-mile of travel (see Table 11). This is the amount of credit that should be applied against the cost of accommodating the transportation demands of new development.

Table 11
MOTOR FUEL TAX CREDIT PER SERVICE UNIT

Total Federal, State and Local Motor Fuel Tax Capacity-Expanding Improvement Funding per Gallon	\$0.336
Average Miles per Gallon	17.2
Capacity-Expanding Improvement Funding per Daily Vehicle-Mile	\$0.0195
Days per Year	365
Annual Capacity-Expanding Improvement Funding per Daily Vehicle-Mile	\$7.12
Net Present Value Factor (4.74% discount rate over 20 years)	12.75
Motor Fuel Tax Credit per Daily Vehicle-Mile of Travel (VMT)	\$91

Source: Motor fuel tax funding per gallon from Table 10; average miles per gallon is average for all motor vehicles for 2005 from US Census Bureau, *Statistical Abstract of the United States, 2007*, Table 1070; net present value based on 4.74% discount rate, which is the average interest rate on state and local bonds for March through May, 2008 from the Federal Reserve at <http://www.federalreserve.gov/releases/h15/data/Monthly>.

Excess Toll Revenue Credit

The County's toll revenue is generated from the Cape Coral toll facility and parallel span bridges, Midpoint Memorial toll facility and bridge and Sanibel Causeway toll facility and drawbridge. Since these facilities are self-supporting through toll revenue, they are not included in the average trip length used in the impact fee analysis. In this update, a separate credit will be provided to account for excess toll road revenue. Excluding toll-funded projects from the list of projects used to determine the average cost per lane-mile does not eliminate the need for an excess toll funding credit. Travel on toll roads is not included in the total VMT used to calculate the average trip length, so a credit is unnecessary for toll revenue used to improve toll roads or pay toll road debt. However, that option is not available for non-toll facilities that may receive excess toll funding. For this reason, a credit has been calculated for the present value of future excess toll revenue expected to be generated by new development.

Toll facility bond coverage requirements virtually guarantee that at some point toll roads will generate excess revenue beyond what is required to retire debt service. As in the prior study, an additional credit is necessary to account for excess toll revenue programmed for non-toll road construction. While the County does not expect any surplus tolls from the Sanibel bridge in the time frame covered by the current CIP, the County has programmed excess toll road revenue from the Cape and Midpoint bridges in the current 2007/08 to 2011/12 CIP. These have been programmed for improvements on the major road corridors associated with the bridge traffic. Table 12 shows the non-toll road projects that are programmed to be funded with excess toll revenue from the Cape and Midpoint Bridges in the County's 2007/08 to 2011/12 CIP. It is estimated that the County will spend \$35.6 million of excess toll revenue for capacity improvements on non-toll roads over the next five years.

Beyond the surplus toll revenue, a couple of other CIP projects assume bonding against new tolls. These include the right-of-way and construction phases of the Colonial Expressway, and the design phase of the CR 951 Extension South (from Immokalee Road to Bonita Beach Road). The County has already utilized toll revenue bonds to fund \$1.5 million for the initial design phase of the Colonial Expressway. However, it remains to be seen whether these projects will actually be toll-feasible and if subsequent phases of the project will be funded with toll bonds. If these new roads are toll facilities, they will not be included in the average trip length in the next road impact fee update.

Table 12
EXCESS TOLL REVENUE CREDIT

Burnt Store Road Widening	\$20,000,000
Veterans Parkway @ Del Prado	\$7,000,000
Veterans Parkway @ Santa Barbara	\$8,630,760
Total Excess Toll Revenue Funding, FY 2007-2011	\$35,630,760
Years	5
Annual Excess Toll Revenue Funding	\$7,126,152
Existing VMT on Major Road System	12,836,901
Annual Excess Toll Funding per VMT	\$0.56
Net Present Value Factor (4.74% discount rate over 20 years)	12.75
Excess Toll Credit per Daily Vehicle-Mile of Travel (VMT)	\$7

Source: Projects and programmed excess toll revenue from Lee County, FY 2007/08-2011/12 Capital Improvement Program; existing VMT from Table 15; net present value based on 4.74% discount rate, which is the average interest rate on state and local bonds for March through May, 2008 from the Federal Reserve at <http://www.federalreserve.gov/releases/h15/data/Monthly>.

In addition to these funding sources, the County Board recently approved \$60 million in property taxes over two years, with \$10 million being considered a one-time grant for capacity improvements and \$50 million assigned to a revolving loan that could help speed up project funding. In the case of the loan, the money would be repaid from other dedicated funding into a revolving fund account. Since a portion of this funding would be a one-time grant and the remaining funding would be repaid from other funding sources, a credit for property tax funds from new development that may be utilized for these programs is not necessary at this point. If the funding becomes a permanent dedicated source and is not repaid with other funds, a credit for property tax funded capacity improvements may be necessary in subsequent updates.

TRAVEL DEMAND

The travel demand generated by specific land use types in Lee County is a product of four factors: 1) trip generation, 2) percent new trips, 3) average trip length and 4) a local adjustment factor to calibrate VMT based on national travel characteristics to reflect local travel demand.

Trip Generation

Trip generation rates are based on information published in the most recent edition of the Institute of Transportation Engineers' (ITE) Trip Generation manual. Trip generation rates represent trip ends, or driveway crossings at the site of a land use. Thus, a single one-way trip from home to work counts as one trip end for the residence and one trip end for the work place, for a total of two trip ends. To avoid over-counting, all trip rates have been divided by two. This places the burden of travel equally between the origin and destination of the trip and eliminates double-charging for any particular trip.

New Trip Factor

Trip rates must also be adjusted by a "new trip factor" to exclude pass-by and diverted-link trips. This adjustment is intended to reduce the possibility of over-counting by only including primary trips generated by the development. Pass-by trips are those trips that are already on a particular route for a different purpose and simply stop at a development on that route. For example, a stop at a convenience store on the way home from the office is a pass-by trip for the convenience store. A pass-by trip does not create an additional burden on the street system and therefore should not be counted in the assessment of impact fees. A diverted-link trip is similar to a pass-by trip, but a diversion is made from the regular route to make an interim stop. The reduction for pass-by and diverted-link trips was drawn from ITE and other published information.

Average Trip Length

In the context of a road impact fee based on a demand-driven methodology, we are interested in determining the average length of a trip on the major roadway system within Lee County. As part of the prior impact fee update, an analysis was conducted of origin-destination survey data collected at several major intersections in Lee County.¹⁰ The analysis found average trip lengths comparable to national average trip lengths. Based on this finding, the consultant and Lee County transportation staff agreed it would be better to use national data for both trip generation rates and average trip lengths, and to calibrate total VMT to local conditions using a local adjustment factor.

Table 13 below shows national average trip lengths by trip purpose. The U.S. Department of Transportation's 2001 *National Household Travel Survey* identifies average trips lengths for specific trip purposes, including home-to-work trips, doctor/dentist, school/church, shopping, and other personal trips. In addition, an average residential trip length was calculated using a weighting of 25 percent work trips and 75 percent average trips, based on the fact that a single-family unit in Lee

¹⁰ CRSPE, Inc., *Lee County Trip Length Study*, January 2003

County has an average of 1.15 workers,¹¹ who could be expected to generate 2.30 of the 9.57 trip ends generated by a typical single-family unit during a weekday.

Table 13
AVERAGE TRIP LENGTH BY TRIP PURPOSE

Trip Purpose	Length (miles)
To or from work	12.19
Residential	10.41
Doctor/Dentist	9.89
Average	9.82
School/Church	7.50
Family/Personal	7.43
Shopping	6.61

Source: US. Department of Transportation, *National Household Travel Survey*, 2001 residential trip length is weighted 25% local work trip length and 75% average trip length based on data from 2000 U.S. Census 5% Public-Use Microdata Sample (PUMS) for Lee County.

Local Adjustment Factor

As noted above, it is necessary to calibrate the vehicle-miles of travel (VMT) expected from various land use types derived from national data to reflect observed volumes on Lee County's major roadway system. As shown in Table 14, existing county-wide land uses, using national trip generation and trip length data, would be expected to generate approximately 21.4 million VMT every day.

Table 14
EXISTING COUNTY-WIDE VEHICLE-MILES OF TRAVEL

Land Use Type	ITE Code	Unit	Existing Units	Trip Rate	Primary Trips	Daily Trips	Length (miles)	Daily VMT
Single-Family Detached	210	Dwelling	223,516	4.79	100%	1,070,642	10.41	11,145,383
Multi-Family	220	Dwelling	123,134	3.36	100%	413,730	10.41	4,306,929
Mobile Home/RV Park	240	Pad	8,612	2.50	100%	21,530	10.41	224,127
Hotel/Motel	310/320	Rooms	16,434	3.45	80%	45,358	10.41	472,177
Shop Center/Gen. Retail	820	1000 sq ft	40,887	21.47	43%	377,473	6.61	2,495,097
Office	710	1000 sq ft	19,915	5.51	75%	82,299	9.82	808,176
Public/Institutional	710	1000 sq ft	31,470	5.51	75%	130,050	9.82	1,277,091
Industrial Park	130	1000 sq ft	8,414	3.48	95%	27,817	10.41	289,575
Warehouse	150	1000 sq ft	15,342	2.48	95%	36,146	10.41	376,280
Total						2,205,045		21,394,835

Source: Existing units from the Lee County Department of Community Development, May 2008; single-family detached includes mobile and manufactured home on individual lot; trip rates, primary trips and trip lengths from Table 16, public/institutional trip rate based on office rate; daily trips is product of trip rate and primary trips; daily VMT is product of daily trips and trip length.

¹¹ Derived from 2000 U.S. Census 5% Public-Use Microdata Sample (PUMS) for Lee County

In prior studies, the adjustment factor was based on the locally generated non-toll road VMT derived from an inventory of the existing county-wide major road system and expected VMT based on existing county-wide land uses and national trip generation and trip length data. However, the recent real estate market dynamic has led to unusually high residential vacancy rates, which means that actual VMT observed on the County's major road system will not be representative of long-term travel demand from existing development. In this context, it does not make sense to calibrate national travel demand factors to current conditions. Instead, this study retains the local travel demand adjustment factor of 0.60 used in the 2006 study. Once the real estate market has returned to equilibrium and vacancy rates return to normal, the VMT per unit will increase to normal levels. As shown in Table 15, under conditions of normal vacancy rates, existing development could be expected to generate approximately 12.8 million daily VMT on major non-toll-road facilities.

Table 15
LOCAL ADJUSTMENT FACTOR

Projected Daily Vehicle-miles of Travel (VMT)	21,394,835
Local Adjustment Factor	0.60
Est. Locally-Generated, Non-Toll Road Daily VMT	12,836,901

Source: Projected daily VMT Table 14; local adjustment factor from Duncan Associates and CRSPE, Inc., *Road Impact Fee Update for Lee County, Florida*, October 2006.

Travel Demand Summary

The result of combining trip generation rates, primary trip factors, average trip lengths and a local adjustment factor is a travel demand schedule. The travel demand schedule establishes the average daily VMT generated by various land use types per unit of development for Lee County (see Table 16).

The updated travel demand schedule reflects an updated primary trip factor for the shopping center/general retail category that is lower than the factor used in prior studies (43 versus 62 percent). Previous studies used the formula for the percentage of non-pass-by trips for a typical-sized shopping center, and then reduced it by an additional 10 percent to account for diverted-linked trips. In this update, the average primary trip percentage was calculated for all of the individual shopping center studies reported in the *ITETrip Generation Handbook*. It is believed that this lower percentage of primary trips better reflects actual retail travel characteristics.

Another change from previous studies is the lower trip generation rate for the hotel/motel land use category. Previous studies had used trip generation rates per occupied room. While this may accurately reflect trip generation during peak tourist season, it is not consistent with the trip generation rates used for all other land use categories, which are based on average occupancy rates. For example, the shopping center rates are based on total square footage, not occupied square footage. To be consistent with the rates for other land uses, the hotel/motel trip rate was reduced from 4.51 trips per occupied room to 3.45 trips per room.

The final change to the travel demand schedule is the addition of a land use category for excavation uses (mine or quarry). Previously, these uses had not been charged impact fees because they do not

typically add building square footage, which is the basis of most nonresidential fees. However, many of these development applications are for 10-20 years of operation, and the uses have significant impact on the capacity of the road system. In addition, local data on the impacts of these uses is now available from the recently-completed *Lee County Truck Impact Evaluation* study, which summarized data from the traffic impact statements for ten proposed mining sites.

Table 16
TRAVEL DEMAND SCHEDULE

Land Use Type	ITE Code	Unit	1-Way Trips	Primary Trips	Length (miles)	Adjust. Factor	Daily VMT
Single-Family Detached	210	Dwelling	4.79	100%	10.41	0.60	29.92
Multi-Family	220	Dwelling	3.36	100%	10.41	0.60	20.99
Mobile Home/RV Park	240	Pad	2.50	100%	10.41	0.60	15.62
Elderly/Disabled Housing	252	Dwelling	1.74	100%	10.41	0.60	10.87
Adult Cong. Living Facility (ACLF)	253	Dwelling	1.08	100%	10.41	0.60	6.75
Hotel/Motel	310/320	Room	3.45	80%	10.41	0.60	17.24
RETAIL/COMMERCIAL							
Shopping Center/General Retail	820	1,000 sq. ft.	21.47	43%	6.61	0.60	36.61
Bank	911	1,000 sq. ft.	78.24	27%	6.61	0.60	83.78
Car Wash, Self Service	947	Stall	10.05	44%	6.61	0.60	17.54
Convenience Store w/Gas Sales	853	1,000 sq. ft.	422.80	16%	3.31	0.60	134.35
Golf Course (open to public)	430	Acre	2.52	80%	7.43	0.60	8.99
Movie Theater	443	1,000 sq. ft.	39.03	50%	6.61	0.60	77.40
Restaurant, Sit-Down	931	1,000 sq. ft.	44.98	38%	6.61	0.60	67.79
Restaurant, Fast Food	934	1,000 sq. ft.	248.06	30%	3.31	0.60	147.79
OFFICE/INSTITUTIONAL							
Office, General	710	1,000 sq. ft.	5.51	75%	9.82	0.60	24.35
Office, Medical	720	1,000 sq. ft.	18.07	75%	9.89	0.60	80.42
Hospital	610	1,000 sq. ft.	8.79	75%	9.89	0.60	39.12
Nursing Home	620	1,000 sq. ft.	3.05	75%	9.89	0.60	13.57
Church	560	1,000 sq. ft.	4.56	75%	7.43	0.60	15.25
Day Care Center	565	1,000 sq. ft.	39.63	24%	7.50	0.60	42.80
Elementary/Sec. School (private)	520/522/530	1,000 sq. ft.	6.86	24%	7.50	0.60	7.41
INDUSTRIAL							
Industrial Park	130	1,000 sq. ft.	3.48	95%	10.41	0.60	20.65
Warehouse	150	1,000 sq. ft.	2.48	95%	10.41	0.60	14.72
Mini-Warehouse	151	1,000 sq. ft.	1.25	95%	7.43	0.60	5.29
Mine or Quarry	NA	Acre	1.50	95%	10.41	0.60	8.90

Source: "1-Way Trips" = ½ of average daily trips (ADT) during weekday from Institute of Transportation Engineers (ITE), *Trip Generation*, 7th ed., 2003 (mine or quarry trip rate from summary of traffic impact statements for 10 mines in Lee County from David Douglas Associates, *Lee County Truck Impact Evaluation*, July 2008); primary trip percentages for shopping center, bank, convenience store w/gas sales, and restaurant (sit-down and fast food) from ITE, *Trip Generation Handbook*, March 2001; car wash, self service, ADT and primary trip percentage from Metro Transportation Group, Inc., *Independent Fee Calculation Study for Self Serve Car Wash Facilities - Hancock Bridge Parkway Location*, October 24, 2000; percentage for elementary/secondary school and day care center based on Preston Hitchens, "Trip Generation of Day Care Centers," 1990 *ITE Compendium*; average trip lengths from Table 13 (retail average trip length reduced by 50% for convenience stores and fast food restaurants); local adjustment factor from Duncan Associates and CRSPE Inc., *Road Impact Fee Study Update for Lee County*, October 2006.

FEE SCHEDULE

Using the impact fee formula and the inputs calculated in this report, the updated road impact fees for various land uses are shown in Table 17, based on County road improvements, and in Table 18, based on both County and State road improvements.

Table 17
UPDATED ROAD IMPACT FEES (COUNTY PROJECTS)

Land Use Type	Unit	Daily VMT	Cost/ VMT	Cost/ Unit	Credit/ VMT	Credit/ Unit	Net Cost/ Unit
Single-Family Detached	Dwelling	29.92	\$420	\$12,566	\$98	\$2,932	\$9,634
Multi-Family	Dwelling	20.99	\$420	\$8,816	\$98	\$2,057	\$6,759
Mobile Home/RV Park	Pad	15.62	\$420	\$6,560	\$98	\$1,531	\$5,029
Elderly/Disabled Housing	Dwelling	10.87	\$420	\$4,565	\$98	\$1,065	\$3,500
Adult Cong. Living Facility (ACLF)	Dwelling	6.75	\$420	\$2,835	\$98	\$662	\$2,173
Hotel/Motel	Room	17.24	\$420	\$7,241	\$98	\$1,690	\$5,551
RETAIL/COMMERCIAL							
Shopping Center/General Retail	1,000 sq. ft.	36.61	\$420	\$15,376	\$98	\$3,588	\$11,788
Bank	1,000 sq. ft.	83.78	\$420	\$35,188	\$98	\$8,210	\$26,978
Car Wash, Self Service	Stall	17.54	\$420	\$7,367	\$98	\$1,719	\$5,648
Convenience Store w/Gas Sales	1,000 sq. ft.	134.35	\$420	\$56,427	\$98	\$13,166	\$43,261
Golf Course (open to public)	Acre	8.99	\$420	\$3,776	\$98	\$881	\$2,895
Movie Theater	1,000 sq. ft.	77.40	\$420	\$32,508	\$98	\$7,585	\$24,923
Restaurant, Sit-Down	1,000 sq. ft.	67.79	\$420	\$28,472	\$98	\$6,643	\$21,829
Restaurant, Fast Food	1,000 sq. ft.	147.79	\$420	\$62,072	\$98	\$14,483	\$47,589
OFFICE/INSTITUTIONAL							
Office, General	1,000 sq. ft.	24.35	\$420	\$10,227	\$98	\$2,386	\$7,841
Office, Medical	1,000 sq. ft.	80.42	\$420	\$33,776	\$98	\$7,881	\$25,895
Hospital	1,000 sq. ft.	39.12	\$420	\$16,430	\$98	\$3,834	\$12,596
Nursing Home	1,000 sq. ft.	13.57	\$420	\$5,699	\$98	\$1,330	\$4,369
Church	1,000 sq. ft.	15.25	\$420	\$6,405	\$98	\$1,495	\$4,910
Day Care Center	1,000 sq. ft.	42.80	\$420	\$17,976	\$98	\$4,194	\$13,782
Elementary/Sec. School (private)	1,000 sq. ft.	7.41	\$420	\$3,112	\$98	\$726	\$2,386
INDUSTRIAL							
Industrial Park	1,000 sq. ft.	20.65	\$420	\$8,673	\$98	\$2,024	\$6,649
Warehouse	1,000 sq. ft.	14.72	\$420	\$6,182	\$98	\$1,443	\$4,739
Mini-Warehouse	1,000 sq. ft.	5.29	\$420	\$2,222	\$98	\$518	\$1,704
Mine or Quarry	Acre	8.90	\$420	\$3,738	\$98	\$872	\$2,866

Source: Daily VMT per unit from Table 16; cost per VMT from Table 7; credit per VMT from Table 11.

Table 18
UPDATED ROAD IMPACT FEES (COUNTY/STATE PROJECTS)

Land Use Type	Unit	Daily VMT	Cost/ VMT	Cost/ Unit	Credit/ VMT	Credit/ Unit	Net Cost/ Unit
Single-Family Detached	Dwelling	29.92	\$467	\$13,973	\$98	\$2,932	\$11,041
Multi-Family	Dwelling	20.99	\$467	\$9,802	\$98	\$2,057	\$7,745
Mobile Home/RV Park	Pad	15.62	\$467	\$7,295	\$98	\$1,531	\$5,764
Elderly/Disabled Housing	Dwelling	10.87	\$467	\$5,076	\$98	\$1,065	\$4,011
Adult Cong. Living Facility (ACLF)	Dwelling	6.75	\$467	\$3,152	\$98	\$662	\$2,490
Hotel/Motel	Room	17.24	\$467	\$8,051	\$98	\$1,690	\$6,361
RETAIL/COMMERCIAL							
Shopping Center/General Retail	1,000 sq. ft.	36.61	\$467	\$17,097	\$98	\$3,588	\$13,509
Bank	1,000 sq. ft.	83.78	\$467	\$39,125	\$98	\$8,210	\$30,915
Car Wash, Self Service	Stall	17.54	\$467	\$8,191	\$98	\$1,719	\$6,472
Convenience Store w/Gas Sales	1,000 sq. ft.	134.35	\$467	\$62,741	\$98	\$13,166	\$49,575
Golf Course (open to public)	Acre	8.99	\$467	\$4,198	\$98	\$881	\$3,317
Movie Theater	1,000 sq. ft.	77.40	\$467	\$36,146	\$98	\$7,585	\$28,561
Restaurant, Sit-Down	1,000 sq. ft.	67.79	\$467	\$31,658	\$98	\$6,643	\$25,015
Restaurant, Fast Food	1,000 sq. ft.	147.79	\$467	\$69,018	\$98	\$14,483	\$54,535
OFFICE/INSTITUTIONAL							
Office, General	1,000 sq. ft.	24.35	\$467	\$11,371	\$98	\$2,386	\$8,985
Office, Medical	1,000 sq. ft.	80.42	\$467	\$37,556	\$98	\$7,881	\$29,675
Hospital	1,000 sq. ft.	39.12	\$467	\$18,269	\$98	\$3,834	\$14,435
Nursing Home	1,000 sq. ft.	13.57	\$467	\$6,337	\$98	\$1,330	\$5,007
Church	1,000 sq. ft.	15.25	\$467	\$7,122	\$98	\$1,495	\$5,627
Day Care Center	1,000 sq. ft.	42.80	\$467	\$19,988	\$98	\$4,194	\$15,794
Elementary/Sec. School (private)	1,000 sq. ft.	7.41	\$467	\$3,460	\$98	\$726	\$2,734
INDUSTRIAL							
Industrial Park	1,000 sq. ft.	20.65	\$467	\$9,644	\$98	\$2,024	\$7,620
Warehouse	1,000 sq. ft.	14.72	\$467	\$6,874	\$98	\$1,443	\$5,431
Mini-Warehouse	1,000 sq. ft.	5.29	\$467	\$2,470	\$98	\$518	\$1,952
Mine or Quarry	Acre	8.90	\$467	\$4,156	\$98	\$872	\$3,284

Source: Daily VMT per unit from Table 16; cost per VMT from Table 7; credit per VMT from Table 11.

Comparative Fees

The two alternative sets of fees calculated in this report are compared with the current fees in Table 19. If the fees are based solely on the average cost of adding capacity with County road improvement projects, the updated fees will be, on average, about 7 percent higher than existing fees. Alternatively, if the fees are based on the average cost of County and State road improvement projects, the updated fees will be 23 percent higher, on average, than existing fees.

The relative stability in the fees for most land uses based on County road project costs is due to reduced labor and/or profit resulting from a more competitive bidding environment mostly

offsetting continued increases in material and energy costs. The fee reductions in the shopping center and hotel/motel categories are due to the application of the updated travel demand factors that result in a lower VMT for each of these uses. The hotel/motel fee reduction is due to basing the updated fees on the trip rate per room, rather than per occupied room, which is more consistent with the trip rates used for other land uses. The shopping center fee reduction is due to use of a lower primary trip factor that is judged to more accurately reflect retail travel patterns.

Table 19
COMPARISON OF CURRENT AND UPDATED ROAD FEES

Land Use Type	Unit	Current Fee	Updated Fees		Percent Change	
			County	Co./State	County	Co./State
Single-Family Detached	Dwelling	\$8,976	\$9,634	\$11,041	7%	23%
Multi-Family	Dwelling	\$6,297	\$6,759	\$7,745	7%	23%
Mobile Home/RV Park	Pad	\$4,686	\$5,029	\$5,764	7%	23%
Elderly/Disabled Housing	Dwelling	\$3,261	\$3,500	\$4,011	7%	23%
Adult Cong. Living Facility (ACLF)	Dwelling	\$2,025	\$2,173	\$2,490	7%	23%
Hotel/Motel	Room	\$6,762	\$5,551	\$6,361	-18%	-6%
RETAIL/COMMERCIAL						
Shopping Center	1,000 sq. ft.	\$15,837	\$11,788	\$13,509	-26%	-15%
Bank	1,000 sq. ft.	\$25,134	\$26,978	\$30,915	7%	23%
Car Wash, Self Service	Stall	\$5,262	\$5,648	\$6,472	7%	23%
Convenience Store w/Gas Sales	1,000 sq. ft.	\$40,305	\$43,261	\$49,575	7%	23%
Golf Course (open to public)	Acre	\$2,697	\$2,895	\$3,317	7%	23%
Movie Theater	1,000 sq. ft.	\$23,220	\$24,923	\$28,561	7%	23%
Restaurant, Sit-Down	1,000 sq. ft.	\$20,337	\$21,829	\$25,015	7%	23%
Restaurant, Fast Food	1,000 sq. ft.	\$44,337	\$47,589	\$54,535	7%	23%
OFFICE/INSTITUTIONAL						
Office, General	1,000 sq. ft.	\$7,305	\$7,841	\$8,985	7%	23%
Office, Medical	1,000 sq. ft.	\$24,126	\$25,895	\$29,675	7%	23%
Hospital	1,000 sq. ft.	\$11,736	\$12,596	\$14,435	7%	23%
Nursing Home	1,000 sq. ft.	\$4,071	\$4,369	\$5,007	7%	23%
Church	1,000 sq. ft.	\$4,575	\$4,910	\$5,627	7%	23%
Day Care Center	1,000 sq. ft.	\$12,840	\$13,782	\$15,794	7%	23%
Elementary/Sec. School (private)	1,000 sq. ft.	\$2,223	\$2,386	\$2,734	7%	23%
INDUSTRIAL						
Industrial Park	1,000 sq. ft.	\$6,195	\$6,649	\$7,620	7%	23%
Warehouse	1,000 sq. ft.	\$4,416	\$4,739	\$5,431	7%	23%
Mini-Warehouse	1,000 sq. ft.	\$1,587	\$1,704	\$1,952	7%	23%
Mine or Quarry	Acre	NA	\$2,866	\$3,284	NA	NA

Source: Current fees from Lee County Land Development Code Sec. 2-266; updated fees from Tables 17 and 18.

In summary, if the fees are based solely on the average cost of adding capacity with County road improvement projects, the updated fees will be, on average, about 7 percent higher than existing fees. Alternatively, if the fees are based on the average cost of County and State road improvement projects, the updated fees will be 23 percent higher, on average, than existing fees.

Impact Fee Indexing

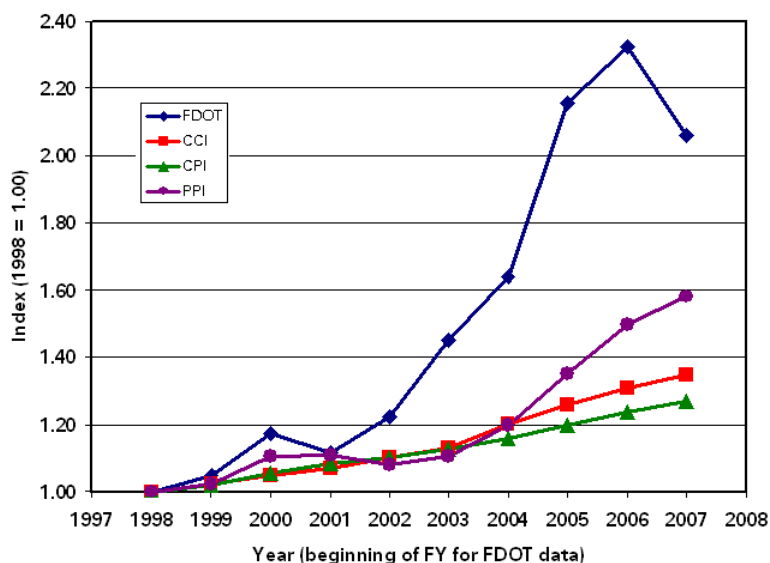
Indexing involves automatically adjusting impact fees annually based on changes in some kind of cost index. Jurisdictions in Florida and elsewhere have utilized indexing in order to minimize the “jump” in fee amounts each time the fees are updated. The Board of County Commissioners has discussed utilizing an index to make annual adjustments to the impact fee schedule during years in which the fee is not subject to a comprehensive update.

Most communities that index their fees annually use a nationally-recognized cost index. There are several national annual and monthly indices that track changes in consumer and construction costs; typical indices includes a consumer price index such as the U.S. Bureau of Labor Statistics Consumer Price Index (CPI), or a construction-specific index such as the Construction Cost Index (CCI) published by the *Engineering News-Record* magazine. The CPI measures the increase in the cost of a common basket of consumer goods and reflects the increase in the cost of living over time. The CCI measures changes in costs related to construction cost components, such as cement, steel, wood and labor costs. However, neither of these indices has come close to tracking the recent dramatic increases in road costs.

The only national index for road costs is the Producer Price Index for Highway and Street Construction (PPI) prepared by the U.S. Bureau of Labor Statistics.¹² This monthly index includes the prices of materials and services used directly or indirectly in highway construction from more than 180 industries. The index does not include the cost of labor or administration and is only available at the national level.

The Florida Department of Transportation (FDOT) recently published 1999-2008 price trends for six road construction cost components, but has not historically done this on a regular basis. While the FDOT price trends are not strictly speaking an index, an index could be constructed from them by taking the unweighted average change in price for the six components, which are excavation, base, asphalt, structural concrete, structural steel and reinforcing steel. The FDOT data highlight the inadequacies of the other indices for tracking Florida road construction costs. As illustrated in Figure 5, the dramatic increase in road costs in Florida since 2002 has been much more pronounced than indicated by national (PPI) road construction trend data, and have not been reflected at all in the CPI or the CCI. None of the other three indices have captured the recent downturn in road construction costs experienced in Florida.

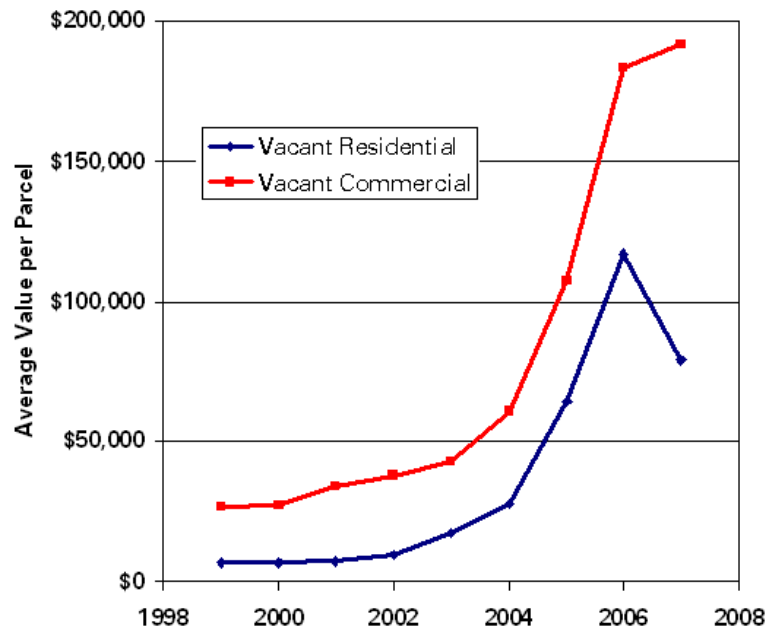
Figure 5
ROAD CONSTRUCTION COST TRENDS



¹² <http://data.bls.gov/PDQ/outside.jsp?survey=pc>, scroll to bottom and select BHWY

Road construction costs, while the largest component of road improvement costs, are not the only factor. The second most significant factor overall is right-of-way (ROW) costs. ROW costs can range from nothing on projects where no additional ROW is needed to more than construction costs. ROW costs are affected by land prices, but are not directly tied to them. ROW costs are more affected by commercial than residential land prices, because major road frontage is often used for commercial purposes. In addition, ROW costs also often include the cost of damages due to factors like the taking of parking areas in addition to land costs. Despite these difficulties, some communities have attempted to construct a local index for ROW costs. The City of Cape Coral, for example, has been using an index system that ties the construction share of the impact fee cost to the CCI and the ROW share of the fee to the change in average land value in the city. As part of its current road impact fee update, the City is considering switching the land indexing component to base it on changes in commercial land values. Unlike residential land values, which have plummeted in the last year, commercial land values in Cape Coral have stabilized but have not declined (see Figure 6).

**Figure 6
LAND VALUE TRENDS, CAPE CORAL**



One proposal that has been made by local realtors is to index the fees to changes in the average price of a home. While the average home price might be related to the average cost of residential land, this is not likely to have much relationship to the average cost of acquiring ROW, and no relationship at all to road construction costs.

Another approach is to attempt to forecast future road improvement cost changes in advance. FDOT promulgates future road construction cost inflation factors to be used in cost estimates. Their current forecasts are for increases of 5.0% for FY 2008 to 2009, 4.5% for 2009-2010, 4.0% for 2010-2011, 3.5% for the next two years and 3.3% for subsequent years.

Collier County recently hired a consultant to prepare future road improvement cost inflation factors to use as the basis of all of its impact fees.¹³ The road cost inflation factor was based on historical state-wide average road costs from FDOT's Long Range Estimates program and the national PPI, with adjustments for the differentials in the average construction wage from Collier County to the state or nation, conversions to 2-year rolling averages, and projections using regression modeling. This resulted in a forecast increase in road construction costs of 32 percent between 2006 and 2007, with additional forecasts of 40 percent growth from 2007 to 2008 and 47 percent growth from 2008-

¹³ Tindale-Oliver & Associates and Robert Burchell, *Collier County Impact Fee Indexing Study*, June 2007

2009. These aggressive forecast increases in road construction costs are clearly out-of-date in today's market.

If the County decides to index its road impact fees to account for future cost inflation, it should consider using the Producer Price Index (PPI) for Highway and Street Construction prepared by the U.S. Bureau of Labor Statistics. This national index reflects road costs better than more general national indices such as the CCI or CPI, while avoiding the more extreme fluctuations that tend to characterize state and local indices. While the use of such an index may cause the impact fees to lag behind actual cost increases, it should avoid overshooting the mark – the difference can be made up when the fees are next updated. Suggested ordinance language for such a provision is as follows (the existing provisions of subsection (h) would not be changed, and are shown for reference):

Section 2-266. Computation of Amount.

...

(h) The impact fee schedule set forth in section 2-266(a) will be administratively reviewed and re-analyzed every three years. As a result of this review, county staff is authorized and directed to pursue amendments to the impact fee schedule supported by the review and re-analysis. In accordance with this section, the first review of the roads impact fee schedule must be completed and any amendments to the schedule presented to the board for adoption no later than May 1, 2003. Subsequent review dates will be calculated based upon the May 1, 2003 date.

(i) In each of the two mid cycle years (between the formal three year updates), when a comprehensive update of the road impact fees does not occur, the road impact fees shall be automatically adjusted by county staff to account for cost inflation. The automatic update will take effect one year after the last comprehensive or automatic update of the fees. The adjustments to the road impact fee rates will be based upon the percentage change over the most recently-available preceding 12-month period in the Bureau of Labor Statistics Producer Price Index for Highway and Street Construction.