

Transportation Financing; The Effect of Multimodal Planning

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INTRODUCTION

This financial analysis is the latest study aimed at creating a multimodal environment in Key West. The goal of multimodal planning is to address increasing automobile traffic by planning for a comprehensive system of transportation options for residents and visitors. Multimodal planning will result in people being able to choose to walk, ride a bicycle, take public transit, or drive an automobile instead of having that decision imposed on them.

The increased traffic has been documented in *The Steady Increase of Traffic in Key West* report by the Planning Department dated July 15, 2004. A related study, the September 20, 2004, *Visitor Transportation Survey*, documents the preferred modes of travel for overnight guests staying at hotels. In October 2004, the *Transportation Mode Count Study* shows that bicycles and pedestrians prefer traveling on roads with low automobile volumes and that bicycling and walking are viable transportation options in certain areas of the city.

The purpose of this report is to explain transportation infrastructure financing, who pays transportation costs and how they pay, and describe the effects of multimodal planning. Part I explains how the public sector manages its budget through funds, how transportation moneys are collected and distributed, and the anticipated effects of multimodal planning on the public sector. Part II describes how the private sector pays for transportation to, and around, Key West and how multimodal planning will affect the private sector.

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PART 1. PUBLIC SECTOR

1. BUDGET OVERVIEW

The City of Key West will generate \$93 million in revenue for Fiscal Year 2004-2005 (Figure 1) and incur \$99 million in expenses (Figure 2). Forty million dollars of the Service Charges listed in Figure 1 come from sewer and solid waste fees. Because all municipalities must have a balanced budget, the extra \$6 million in expenses is paid by the reserves. After this year, the City will have \$34 million in reserves.

Figure 1. City Revenues

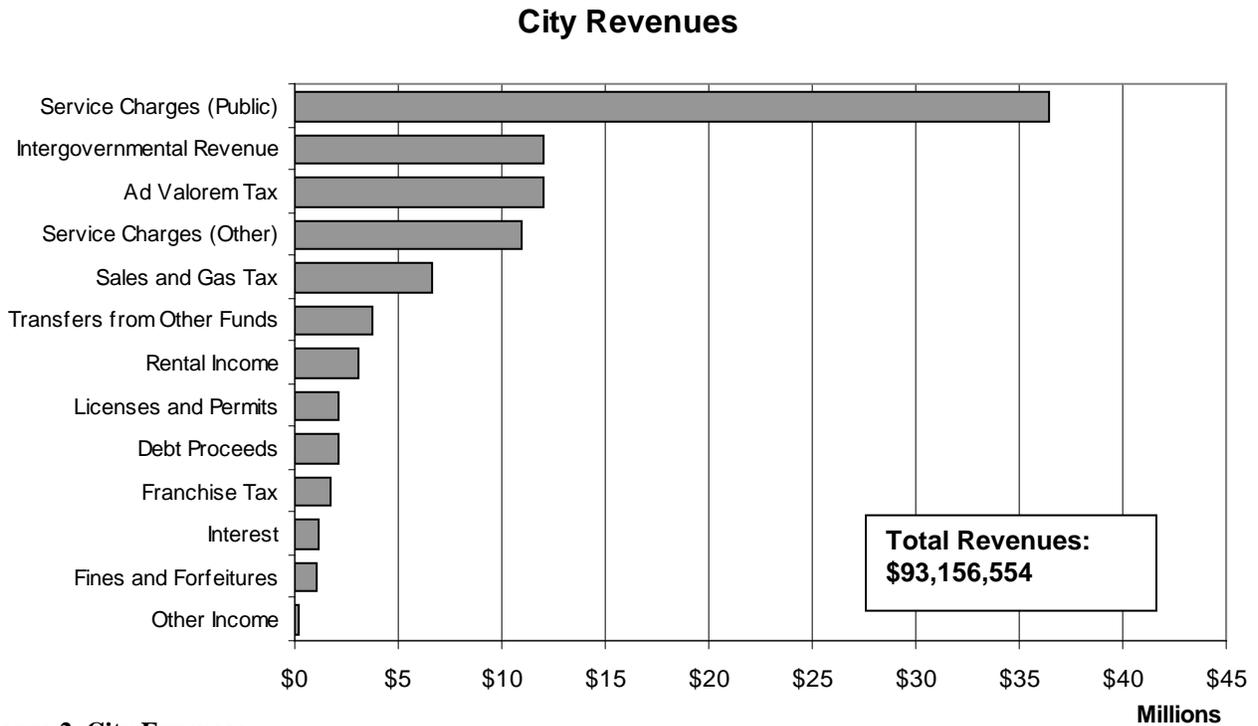
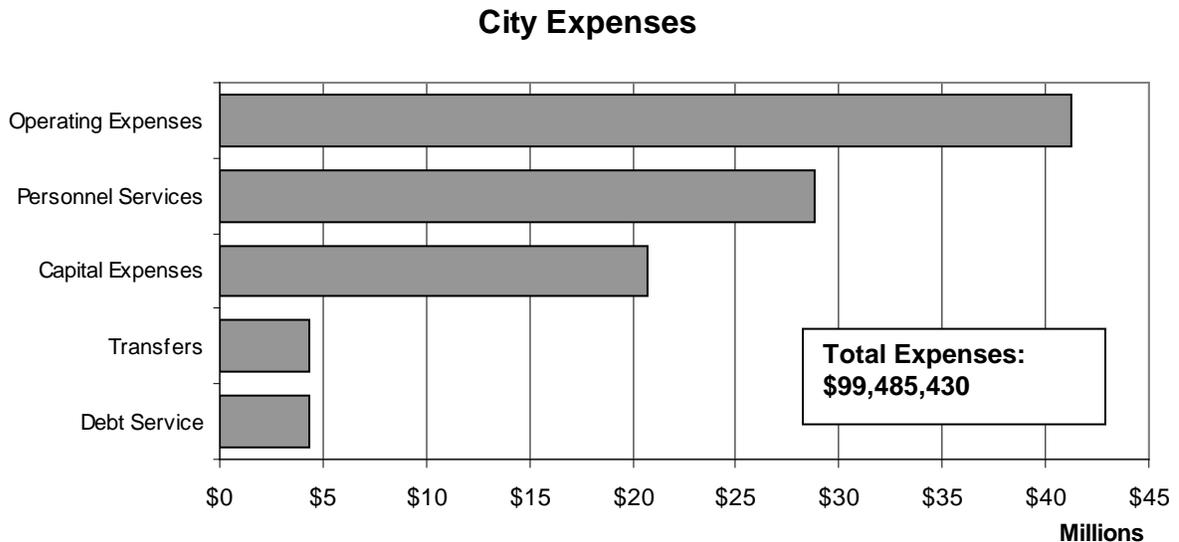
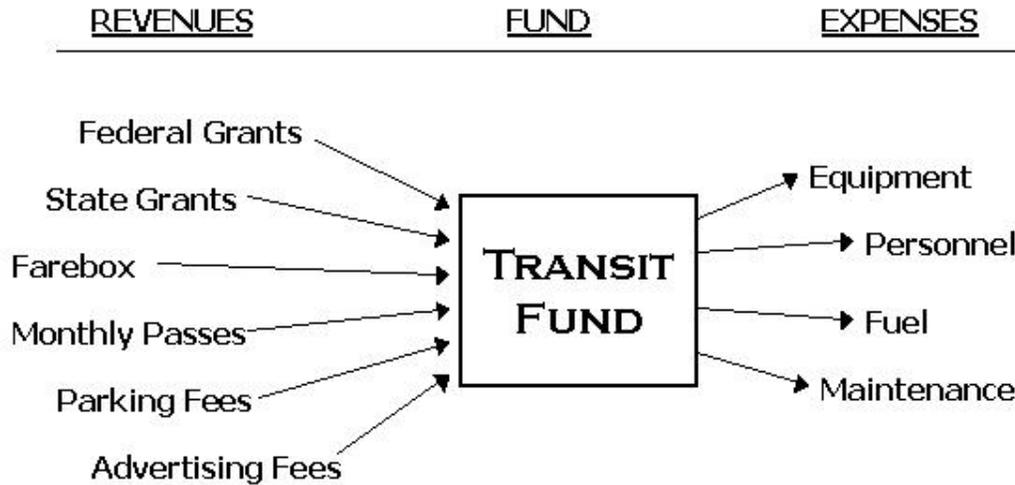


Figure 2. City Expenses



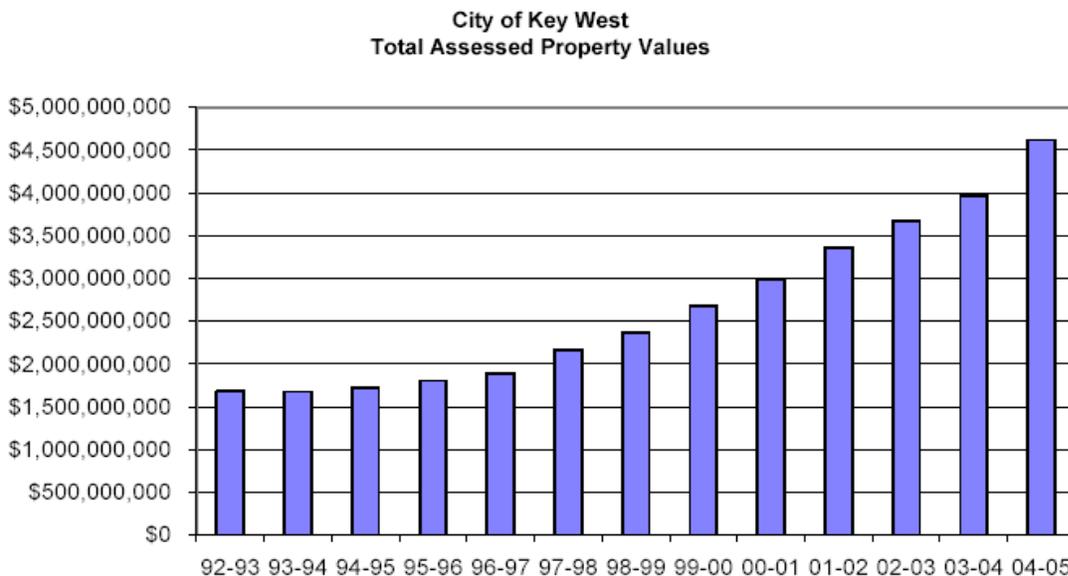
Budget guidelines require that all revenues be stored in funds that are earmarked for specific purposes. All expenses must be paid using one or many funds. Figure 3 is an example of this process using the Transit Fund.

Figure 3. Example of the City’s Financing Process



Over the last few years, the City’s revenues have stayed relatively stable, hovering just above \$90 million. During this same period, the property values have increased by hundreds of thousands of dollars, as shown in Figure 4. The City is attempting to achieve a concept called rollback by decreasing tax rates as property values increase. Rollback attempts to maintain the dollars of taxes paid by properties instead of having the dollar amount fluctuate according to property values. This partially explains why City revenues have stayed the same during a period of time in which property values have risen.

Figure 4. City of Key West Total Assessed Property Values



2. TRANSPORTATION FACILITY RESPONSIBILITIES

The City of Key West is not responsible for all transportation facilities within the City limits. Facilities that are not controlled by Key West are paid for by other funding sources such as county and state taxes. Figure 5 shows who controls the regional transportation facilities, and Figure 6 shows all roads and right-of-ways (ROWs) not controlled by Key West. Transportation facilities not controlled by Key West are not discussed in this paper.

Figure 5. Regional Transportation Facilities

Regional Facility	Controlling Group/Agency
Ferry Terminal	City of Key West
Garrison Bight	City of Key West
Key West Bight	City of Key West
Key West International Airport	Monroe County
Mallory Square Dock	City of Key West
Mooring Field	City of Key West
Old Town Garage (Park and Ride)	City of Key West
Outer Mole Dock	City of Key West (leased from US Navy)
Pier B	City of Key West
Sunset Marina	Private

Figure 6. Roads and Right-of-Ways not Controlled by Key West

Roads and ROWs	Controlling Group/Agency
South Roosevelt	Florida DOT
North Roosevelt	Florida DOT
First Street	Monroe County
Flagler Avenue	Monroe County
Bertha Street	Monroe County
Truman Avenue to Whitehead	Florida DOT
Whitehead Street from Truman to Eaton	Florida DOT
Eaton Street	Monroe County
Palm Avenue	Monroe County
Duval Street from Truman to Eaton	Monroe County
US 1 Stock Island	Florida DOT

3. TRANSPORTATION-RELATED CITY FUNDS

Funds are used to hold and distribute public money. The City of Key West has five major funds that are directly related to transportation revenues and expenses. The section below names the fund, shows the expected revenues for FY 04-05, discusses the origin of moneys for the funds, and lists special spending rules.

1. Infrastructure Fund- \$8 million

Source: A 1% sales tax levied statewide to help offset construction and maintenance costs. Monroe County distributes the tax income based on population size.

Spending Limitations: Must be spent on infrastructure-related projects. Infrastructure projects include ADA sidewalk repairs, ADA building upgrades, channel dredging, and fire engines. This year, the largest amounts of money are going to Mallory Square dock, channel improvements and ADA upgrades for city buildings. Over \$1 million will be transferred to the internal improvements fund for street and sidewalk repair.

2. Transit Fund- \$5 million

Source: Holds all public transit-related money. Primary sources for this fund are Federal Government grants, Old Town Garage parking fees, bus farebox revenue, and advertising revenue. In the past, this fund has received \$400,000/year in parking meter revenue from the General Fund, but not in FY 04-05. This fiscal year, the Internal Improvement fund provides almost \$1 million from gasoline tax revenues.

Spending Limitations: Must be spent on transit-related expenses, including bus operations, bus maintenance, and Old Town Garage operation.

3. Internal Improvement Fund- \$5 million

Source: This fund is supported by the 6-cent per gallon gasoline tax on all sales within Monroe County. This fund also receives a transfer from the infrastructure fund.

Spending Limitations: Reserved for transportation-related expenses, including road and sidewalk maintenance, street and traffic light maintenance, transit operation, and Truman Annex planning.

4. Garrison Bight- \$3 million

Source: Garrison Bight is owned by the City of Key West and managed by the Port Advisory Board. All moneys in this fund come from Bight-related fees and grants, including marina dockage fees, mooring field charges, and parking.

Spending Limitations: Almost all of the money in this fund goes toward operating and maintaining the Bight. Excess money is transferred to the General Fund.

5. Key West Bight- \$2 million

Source: The Key West Bight is owned by the City of Key West and is managed by the Key West Bight Board. Funds come from ferry disembarkations, parking fees, marina dockage fees, fuel sales, and leases.

Spending Limitations: All money must be spent on improving the Bight. Most expenses go to Bight and ferry operations and debt repayment.

4. FLEXIBLE CITY FUNDS

In addition to the direct transportation funds, there are also funds that have flexibility in how they are spent. The primary funds with flexible spending are listed below.

1. General Fund- \$34 million

Source: The General Fund is the primary fund for the City of Key West. The money in this fund comes from various sources, including ad valorem taxes, city-issued licenses, cruise ship disembarkation fees, parking fees, the half-cent sales tax, transfers from other funds, and government grants.

Spending Limitations: The only limitation on this account is that the City must have a balanced budget.

2. Sewer Fund- \$18 million

Source: Service fees levied on all customers of the public sewer system and development impact fees.

Spending Limitations: Earmarked for sewage-related improvements, including injection wells, sewer repairs, sewer line testing, and sewage plant operation. Sewage and transportation often share the same infrastructure. Coordinated repairs between the two systems can result in cost sharing.

3. Stormwater Utility Fund- \$6.5 million

Source: Grants and property owner fees, calculated based on the amount of stormwater generated by the property.

Spending Limitations: Must be used to improve how stormwater is handled. Frequently, stormwater improvements include changes to the street and sidewalk network. Coordinated repairs between the two systems can result in cost sharing.

4. Capital Projects Fund- \$5 million

Source: Federal and state grants and transfers from the Infrastructure Fund.

Spending Limitations: Major projects expected to be more than one year in duration, typically building construction and road rebuilding.

5. Bahama Village-Caroline Street Corridor Tax Increment Fund- \$1.5 million

Source: The city has been focusing efforts and money on increasing the property value and desirability of Bahama Village and the Caroline Street Corridor. The money for this fund comes from a proportion of the increase in property values in the two target areas.

Spending Limitations: Must be spent on projects within the boundaries of the two areas. This fiscal year, money will be used to improve the Key West Bight and improving streets and sidewalks in Bahama Village. Because the money is not earmarked for infrastructure and/or transportation, it may be spent on different projects in the future.

5. DISCUSSION OF TRANSPORTATION FUNDS

Transportation expenses range from transit operations to sidewalk design to street cleaning. Transportation-related revenues range from gasoline taxes to property taxes. These revenues come from a variety of taxes and fees that are stored in multiple City funds. As a general principle, users of the system should pay for the actual cost of infrastructure and maintenance. However, the lack of a holistic transportation fund creates a complex network of revenues, funds, and expenses in which it is difficult to accurately determine how much money is truly spent on transportation-related services, and who pays for which services.

The City should consider developing a comprehensive transportation fund to hold and distribute all transportation-related money. Such a fund would make it easier to describe the funding tradeoffs between transportation modes and easier to track how money is applied to transportation.

6. TRADITIONAL TRANSPORTATION REVENUE SOURCES

Most cities earn their transportation funding from traditional sources, which include ad valorem (property) taxes, gasoline taxes, and sales taxes. For comparison, cruise ship disembarkation fees are a non-traditional funding source for transportation. This section describes the traditional revenue sources, how much money is expected be collected in FY 04-05, and why these sources are traditionally used to fund transportation. Section 6 describes actual transportation revenue sources for the City of Key West.

Ad Valorem (Property) Tax- \$12 million

Ad valorem (property) taxes account for approximately 13% of Key West’s annual revenue. These taxes are determined by two components: property value and millage rate (tax rate). Figure 7 shows that over the last few years, the money collected from ad valorem taxes has increased slightly and the total revenue of the City has stayed relatively the same. This is an indirect funding source because residents pay the same tax whether they use the transportation system frequently or infrequently.

Figure 7. Ad Valorem Taxes

Fiscal Year	Ad Valorem Revenue	Valorem Total Revenue	Ad Valorem % of Total Revenue
01-02	\$10,956,897	\$94,486,745	11.6%
02-03	\$11,135,307	\$92,223,885	12.1%
03-04	\$11,396,792	\$92,721,652	12.3%
04-05	\$11,978,282	\$93,156,554	12.9%

Gasoline Tax

Monroe County has a 6-cent per gallon gasoline tax. The tax does not fluctuate with the price of gasoline because it is based on gallons sold, not price. This tax is collected countywide and a percent of the revenue is distributed to each municipality. Figure 8 shows that Key West receives 36.5% of the total revenue collected in Monroe County. This type of countywide collection means that every gasoline purchase in Monroe County raises revenue for Key West. This is a direct funding source because the amount of money paid in gasoline taxes increases as the number of miles driven increases.

Figure 8. Gasoline Tax Distribution for FY04-05

Municipality	Distribution %	Estimated Funds
Monroe County	44.0%	\$1,543,014
Islamorada	8.5%	\$298,082
Key Colony Beach	2.0%	\$70,137
Key West	36.5%	\$1,280,000
Layton	1.0%	\$35,068
Marathon	8.0%	\$280,548
Total	100.0%	\$3,506,849

Sales Tax

Florida sales tax is 7.5% for most products. The sales tax is significantly dependent upon tourist purchases. The State of Florida receives six-cents per taxable dollar to fund statewide operations. One percent of the sales tax is dedicated toward local infrastructure improvements. This money can only be used to fund infrastructure-related projects, such as roads, sidewalks, and buildings. The extra half-cent tax is available for local governments to spend as they see fit. The money collected within Monroe County is divided among the municipalities according to the percentages listed in Figure 9. In the annual budget, some of the sales tax money is classified as intergovernmental revenue because of the way that it is distributed from the State. This is an indirect funding source because residents and visitors pay the same tax whether they use the transportation system frequently or infrequently.

Figure 9. Sales Tax Distribution for FY04-05

Municipality	Distribution %	Estimated Funds
Monroe County	59.9%	\$22,244,915
Islamorada	6.4%	\$2,376,752
Key Colony Beach	0.7%	\$259,957
Key West	23.4%	\$8,690,000
Layton	0.2%	\$74,274
Marathon	9.4%	\$3,490,855
Total	100.0%	\$37,136,752

Parking Fees

Key West assesses varying amounts of fees on parking. It is anticipated that tourists pay the vast majority of the parking fees because residents of Monroe County are allowed to park in residential spaces for free. Figure 10 shows the estimated parking revenue for FY04-05. Revenues from Old Town Garage go toward transit and the Bights receive the revenue from their lots. Revenue for all other lots and meters is attributed to the General Fund. This is a direct funding source because the amount of money paid in parking fees increases along with an increase in vehicle use.

Figure 10. Parking Revenue (04-05)

Parking Area	Estimated Revenue
Parking Meters and Lots (city-wide)	\$2,025,372
Parking Garage (Old Town Garage)	\$439,907
Parking Lots (Conch Harbor)	\$10,093
Parking Lots (Key West Bight)	\$570,385
Parking Lots (Garrison Bight)	\$27,500
Parking Passes	\$211,319
Parking Tickets	\$689,756
Total	\$3,974,332

Transit Fares

One trip on the Key West Department of Transportation bus costs \$1.00 and a monthly pass costs \$25.00. Farebox and transit pass revenue is returned to the Department of Transportation to help pay for operating costs. Figure 11 shows ridership and revenue for the Key West transit system. In FY02-03, a fare increase led to an increase in revenue, but a decline in ridership. Federal and State grants help offset the unrecovered costs of operating a transit system. This is a direct funding source because the amount of money paid in transit fares increases along with an increase in transit use.

Figure 11. Transit Ridership and Revenue FY 00-03

Fiscal Year	Ridership	Revenue
99-00	350,222	\$145,490
00-01	362,479	\$144,435
01-02	318,670	\$186,113
02-03	281,717	\$265,892

7. ACTUAL TRANSPORTATION REVENUE SOURCES

Figure 12 shows the funding source, receiving fund, and estimated income for the primary transportation-related items in the city's 04-05 budget. Twenty budget items consisting of parking fees, grants, and other transportation-related sources amount to \$21 million in annual income for the city. This money is distributed to 5 City funds.

Figure 12. Transportation-Related Income for FY 04-05

Revenue Source	Fund	Estimated Income
Cruise Ship Fees	General Fund	\$9,842,589
Ferry Fees	KW Bight	\$115,000
Fuel Sales (KW Bight)	KW Bight	\$1,022,654
Gasoline Tax	Internal Improve.	\$1,280,000
Impact Fees	Internal Improve.	\$556,871
Moving Violation Tickets (100% of Court Fines)	General Fund	\$140,418
Parking Garage (Old Town Garage)	Transit	\$439,907
Parking Lots (city-wide)	General Fund	\$789,676
Parking Lots (Conch Harbor)	Transit	\$10,093
Parking Lots (Garrison Bight)	Garrison Bight	\$27,500
Parking Lots (Key West Bight)	KW Bight	\$570,385
Parking Meters (city-wide)	General Fund	\$1,235,696
Parking Passes	General Fund	\$211,319
Parking Tickets	General Fund	\$689,756
State Grants	Transit	\$2,515,620
Taxi Operator Fees	General Fund	\$65,056
Transit Advertising and Rental Revenue	Transit	\$360,184
Transit Farebox	Transit	\$270,000
Transit Operation Grant	Transit	\$222,390
Transportation Franchise Fees (Conch Train)	General Fund	\$499,908
	Total	\$20,865,021

8. TRANSPORTATION EXPENSES

Transportation expenses make up 1/5 of the budget for the City. Figure 13 shows expenditures, responsible funds, and estimated costs for the city's FY 04-05 budget. Transportation-related items amount to \$21 million dollars in expenses. Like revenues, transportation expenses are divided among 5 different City funds.

Figure 13. Transportation-Related Expenditures for FY 04-05

Expenses	Fund	Annual Expense
ADA Settlement	Internal Improve.	\$500,000
Bicycle Rack Installation	Internal Improve.	\$25,000
Bicycle/Pedestrian/ADA Coordinator	General Fund	\$135,341
Cruise Ship Operations	General Fund	\$2,381,182
Engineering Services*	General Fund	\$140,735
Ferry Terminal Expenses	KW Bight	\$540,731
Fuel Costs (KW Bight)	KW Bight	\$795,469
Parking Operation (city-wide)	General Fund	\$161,447
Parking Operation (Key West Bight)	KW Bight	\$126,118
Parking Operation (Old Town Garage)	Transit	\$275,157
Pier B Lease	General Fund	\$3,844,889
Police*	General Fund	\$4,927,780
Public Works*	General Fund	\$1,097,395
Right-of-way Maintenance	Internal Improve.	\$250,000
Sidewalk and Street Maintenance & Improvements	Internal Improve.	\$774,500
Transit Operations	Transit	\$4,507,373
Vehicle Maintenance	General Fund	\$762,534
	Total	\$21,245,651

* Assumes 50% of total budget attributed to transportation

Figure 14 aggregates values from Figures 12 and 13 to show transportation-related revenues and expenses by fund. This figure shows that most City funds give back to transportation as much as they collect. Transit is the only fund that is subsidized.

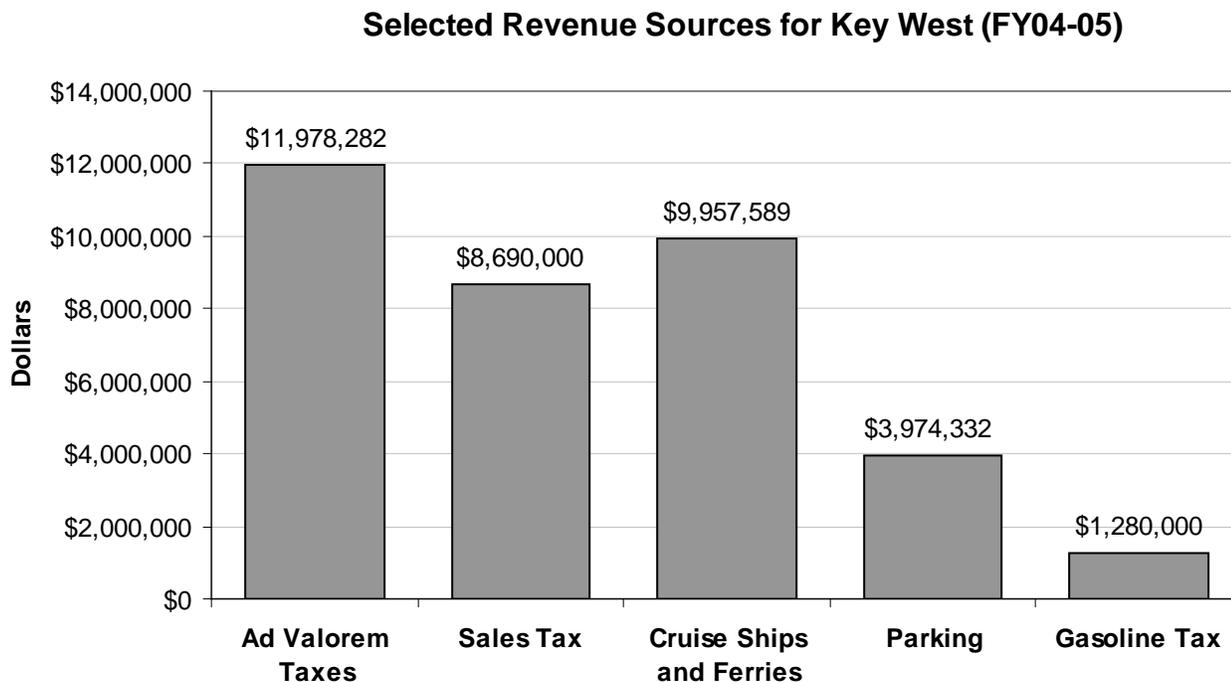
Figure 14. Transportation Revenues and Expenses by Fund (FY04-05)

	Revenues	Expenses	Difference
Garrison Bight	\$27,500	\$0	\$27,500
General	\$13,474,417	\$13,451,303	\$23,114
Internal	\$1,836,871	\$1,549,500	\$287,371
KW Bight	\$1,708,039	\$1,462,318	\$245,721
Transit	\$3,818,194	\$4,782,530	(\$964,336)
Total	\$20,865,021	\$21,245,651	(\$380,630)

9. PUBLIC SECTOR- ANTICIPATED EFFECTS

Because of the configuration of revenues and expenses, some transportation-related funds will be affected by a successfully implemented multimodal plan. The discussion of anticipated effects of multimodal planning on the public sector begins with Figure 15, which shows major sources of revenue for the City of Key West for the upcoming year (FY04-05). When combined, cruise ship and ferry disembarkation fees, parking revenues, and gasoline taxes account for much more income than ad valorem taxes.

Figure 15. Selected Revenue Sources for Key West (FY04-05)



Cruise Ship and Ferry Disembarkation Fees

Cruise ships and ferries are equivalent to US Highway 1 when it comes to providing tourist access to Key West. The City of Key West charges cruise ship passengers a \$10.63 disembarkation fee to offset infrastructure, operations, and maintenance costs. With over 900,000 passengers expected to arrive on cruise ships this year, the City expects to make almost \$10 million from disembarkation fees. This money could be used as a primary source for multimodal transportation improvements because these passengers walk, bicycle, and ride transit around the city. Multimodal improvements are not solely limited to infrastructure, but also include street sweeping, sidewalk cleaning, litter removal, and many other services necessary to creating a positive environment for multiple transportation modes.

Gasoline Tax and Transit

As discussed previously, a local gasoline tax is authorized by the State of Florida. Monroe County currently adds a 6 cent per gallon tax to all gasoline sold in the county.

The Transit Fund receives transfers from the gasoline tax amounting to almost \$1 million dollars per year. Twenty percent of the \$5 million dollars apportioned to the transit fund comes from people not using transit. Thus, more cars on the road and more gasoline being burned equates to more money for public transit.

The opposite result is that the transit fund loses money if transit successfully captures trips previously taken by automobile. In addition, if bicycle and pedestrian planning becomes more successful and automobile use decreases, then the transit fund loses money. Finally, if land use changes decrease the need for automobiles and gasoline, the transit fund loses money. Other methods of funding transit may need to be sought as multimodal planning becomes more successful.

Parking Fees

Parking revenue including parking passes and tickets amounts to \$4 million per year. The money is divided among multiple funds, depending on the location of the parking lot or meter. All revenues from tickets are attributed to the General Fund. Revenue from the Old Town Garage (Park and Ride) is dedicated to transit, Key West Bight receives money from lots in its district, and the General Fund benefits from on-street parking, Mallory Square and various other lots.

Traditionally, a portion of the parking revenue has been transferred from the General Fund to the Transit Fund. This relationship between parking and transit is similar to the Gasoline Tax because more people driving and parking in Key West equates to more money for transit. Successful multimodal planning should decrease the number of vehicles parked. The long-term parking strategy for the city should be re-evaluated in terms of multimodal planning to ensure that funding sources are available.

Other downtowns have dedicated parking meter revenue toward making improvements in the fee-for-parking area. Pasadena, for instance, uses all parking meter revenue to improve lighting, steam-clean the sidewalks, fund litter removal, and other improvements necessary to make the area more desirable¹.

Transit Fares

There are two ways to increase the number of riders on a transit system: 1) decrease the price and 2) increase the efficiency. Currently, the efficiency of the transit system is hampered by the traffic congestion caused by those not using transit. Multimodal planning will result in an increase in the efficiency of the transit system because road congestion will decrease.

All money brought in by the transit system is returned to the Transit Fund. A successful multimodal planning effort will decrease traffic congestion in the City, helping the buses run on schedule. As the reliability of the transit system improves, the ridership will increase. Thus, multimodal planning will result in more people using transit.

¹ "Parking: Perceived parking shortage of huge revenue opportunity?" Downtown Idea Exchange. Vol. 52, No. 4, February 15, 2005.

PART II. PRIVATE SECTOR

10. WHO PAYS FOR TRANSPORTATION AROUND KEY WEST?

Everyone who moves around Key West uses city infrastructure. The purpose of this section is to describe how users of different transportation systems pay for the use of the infrastructure. There are four primary modes of travel around Key West: bicycling, walking (pedestrians), driving (including mopeds), and transit. This section discusses funding for infrastructure, maintenance, and associated costs of each of the modes.

Ideally, the users of the system pay for the infrastructure that they use. For instance, pedestrians should pay for sidewalks and drivers should pay for the majority of the road costs. People traveling around Key West pay a combination of ad valorem taxes, sales taxes, gas taxes, and transit fares. Driving and using transit are the easiest taxes to assess because the users are easily identified and tolls are assessed on gasoline and upon boarding the bus. Bicyclists and pedestrians, however, are powered by their own energy and thus pay no special taxes.

Figure 16 shows which taxes users of the different transportation modes are paying. The Key West indication applies to residents of Key West and tourists spending the night in local accommodations. Tourists are included because room rates include the ad valorem tax. The County indication applies to residents of unincorporated Monroe County and tourists staying in unincorporated areas.

Figure 16. Local Transportation Fees Paid by Mode

	Ad Valorem	Sales Tax	Gas Tax	Transit Fare
Bicyclist	X	X		
Pedestrian	X	X		
Driver (Key West)	X	X	X	
Driver (County)		X	X	
Transit (Key West)	X	X		X
Transit (County)		X		X

All transportation users pay sales tax. Drivers pay gasoline taxes, and transit users pay fares. People staying in Key West also pay ad valorem taxes. The table shows that drivers and transit users from the county pay the fewest taxes to Key West because they do not pay ad valorem taxes. The automobile driver in Key West pays the most in taxes.

A successful implementation of the multimodal plan will result in fewer people driving and more people using transit, walking, and riding bicycles. The resultant decrease in gasoline taxes (which fund road infrastructure) could mean that ad valorem and sales taxes may have to cover a larger share of the transportation infrastructure costs.

11. WHO PAYS FOR TRANSPORTATION TO AND FROM KEY WEST?

Fees that help offset infrastructure and maintenance costs are also levied depending on how people arrive and depart Key West. Available modes for arriving and departing Key West are cruise ship, ferry, private boats, automobile, bus, and airplane. Private boats are not included in this analysis because it is difficult to separate their figures from local recreational boat owners. Dockage fees for visitors should be separated in the future because this transportation mode is becoming very significant for Key West.

Figure 17 shows the number of people that arrived in Key West via these modes. The figure also shows which groups pay the disembarkation fees and gas taxes and the estimated annual revenue from these fees. Ideally, disembarkation fees fund cruise ship and ferry costs and gasoline taxes should fund automobile and bus infrastructure. There is no mechanism in place for Key West to collect fees from those arriving via air.

Figure 17. Key West Arrival Modes (2004)

Arrival Mode	Number of Arrivals	Disembarkation Fee	Gas Tax	Estimated Revenue
Cruise Ship	934,070	X		\$9,929,164
Ferry	42,000	X		\$42,000
Automobile	900,000*		X	\$259,200
Bus	16,000*		X	\$2,600
Airplane	291,501			\$0
Total	2,201,571			\$10,232,964

* Estimated

Sources: *Key West Chamber of Commerce, Greyhound Bus Lines, Key West Ferry Terminal, and Key West Transit Development Plan*

12. TOTAL TRANSPORTATION COSTS FOR KEY WEST RESIDENTS

According to the United States Bureau of Labor Statistics, transportation is the second-highest expense for American families². Figure 18 shows the average annual expenses for a consumer in 2002. Residents of Key West most likely spend more than the average on housing and less than the average on transportation. However, transportation remains a large expense for residents of this community. This section shows private sector transportation costs and compares the costs of different transportation modes.

Automobile Average Cost per Year

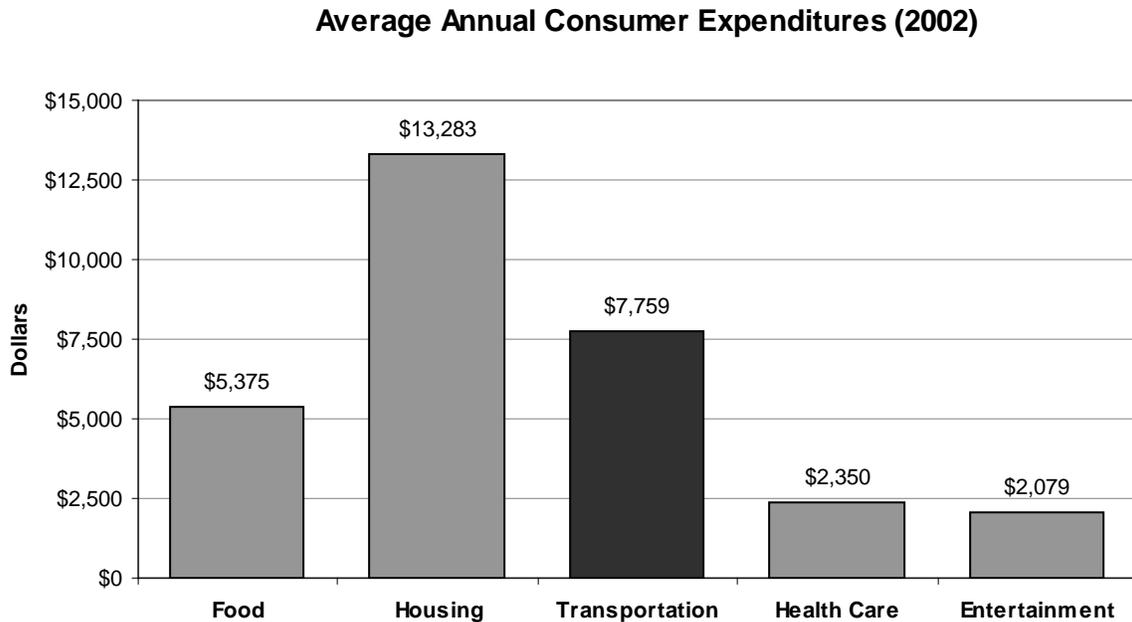
The American Automobile Association (AAA) states that the average cost of driving an automobile for 2004 is 56.2 cents per mile³. This price includes gasoline, insurance, repairs, and vehicle depreciation. For their calculations, AAA assumed that vehicles are driven roughly 13,000 miles per year and that the vehicle is traded in after 5 years. Parking costs are not included in this calculation.

² Report 974, *Consumer Expenditures in 2002*. February 2004. US Bureau of Labor Statistics.

³ <http://www.csaa.com/global/articleDetail/0,,1008010000%257c4513,00.html> 12/13/04

Residents of Key West, however, most likely drive fewer miles per year than the national average. If it is assumed that Key West residents drive an average of 15 miles per day for the entire year (~5500 miles/year) and make 6 trips to Miami (~2000 miles/year), then the average vehicle use in Key West is about 7,500 miles/year. Multiplying the number of miles by the average price per mile gives an average cost of owning 1 vehicle of about \$4,200/year. The cost of parking the vehicle in Key West will increase the vehicle ownership cost.

Figure 18. Average Annual Consumer Expenditures (2002)



Source: Report 974, *Consumer Expenditures in 2002*. February 2004. US Bureau of Labor Statistics.

Transit User Average Cost per Year

The Key West Department of Transportation offers a 31-day, unlimited use bus pass for \$25. Twelve bus passes are needed for the entire year, which costs \$300/year. If it is assumed that the transit user travels to Miami 6 times via Greyhound (\$65 roundtrip), it costs close to \$400/year. Thus, the total cost for using transit in Key West is \$700/year for 1 person.

Moped User Average Cost per Year

Moped use is prevalent across Key West because the City has low speed limits and parking is limited and expensive. A new moped costs around \$2,500, which is a fraction of the cost of an automobile. In addition, mopeds are inexpensive to maintain and very fuel-efficient. Purchasing and maintaining a moped is estimated to be around \$700/year plus an extra \$100/year for gasoline. Assume that the moped user also takes 6 trips per year to Miami (+\$400/year), then the total cost of using a moped is \$1,200/year.

Bicyclist Average Cost per Year

The flat topography and compact nature of Key West makes it ideal for bicycle riding. A quick interpretation of the commute to work data from the *United States Census 2000* indicates

that roughly 2,000 residents of Key West commute to work via bicycle⁴. This figure represents 14% of the workforce.

Purchasing and maintaining a bicycle most likely costs \$100/year. Like the transit user, one can assume that the bicyclist will make 6 trips to Miami per year on Greyhound (\$65 roundtrip). The total cost of riding a bicycle is \$500/year.

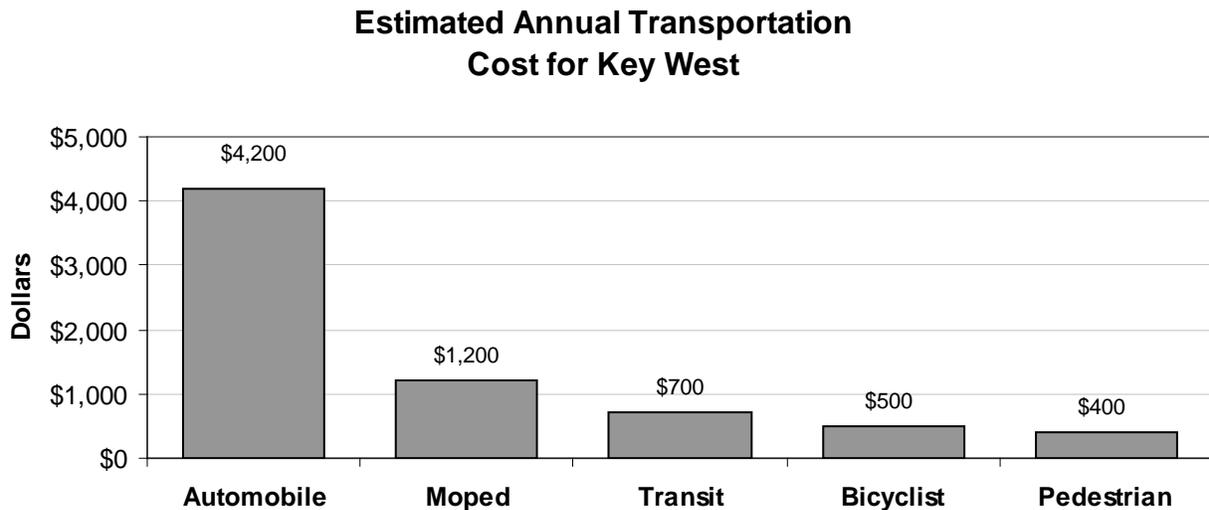
Pedestrian Average Cost per Year

The grid network, short blocks, and high density of Key West make it amenable to walking. The Census 2000 showed that 1,166 residents walked to work, representing 8% of the workforce⁵. Walking is free. The only expense would be the 6 trips to Miami at \$65 roundtrip, or \$400 per year.

13. PRIVATE SECTOR- ANTICIPATED EFFECTS

Successful multimodal planning will decrease the cost of transportation to the private sector. Figure 19 compares the annual cost for the different transportation modes. Using transit, bicycling, or walking will save thousands of dollars per year and hundreds of dollars per month for Key West residents. This decrease in transportation costs will result in more money available for housing.

Figure 19. Estimated Annual Transportation Cost for Key West



Note: Automobile costs do not include parking fees
Sources: US Census 2000 and American Automobile Association

Automobiles driven by locals offset their infrastructure costs by paying gasoline taxes, some parking fees, sales taxes, and ad valorem taxes. Tourists pay most of the parking fees and gasoline taxes. However, different vehicles, regardless of whether driven by locals or tourists, have different costs. For instance, a fully loaded truck causes more damage to a road surface than an electric vehicle and an SUV requires more space for parking than a sedan. A question that can

⁴ US Bureau of the Census, Census 2000
⁵ US Bureau of the Census, Census 2000

be pursued in the future is: Does the decreased gas mileage of these vehicles (and resultant increase in gasoline taxes) fully compensate for the difference in road damage and area required for parking? If the answer is 'No,' other pricing schemes may have to be developed.

Cruise ships charge a disembarkation fee to offset the costs of City services to these passengers. One of the costs incurred by the City could be sidewalk/road design and repair in the general vicinity of the docks. The City is required to make ADA improvements to sidewalks and an argument can be made that a portion of the cruise ship fees should be applied to sidewalks and streets.

Bicycles use a fraction of the road surface and their low weight does not result in stress on the asphalt. Pedestrians and the occasional bicycle are the only users of the sidewalk network. The only fees that these two users pay are ad valorem taxes and sales taxes. Mopeds are popular in Key West because they pay a small fraction of the gasoline taxes and few parking fees. The amenable features of the City for mopeds, and the decreased public taxes and fees, have resulted in an increase in their prevalence. Like bicycles and pedestrians, public fees charged to mopeds largely come from ad valorem and sales taxes. Thus, an argument can be made that a portion of the ad valorem taxes and sales taxes can be applied to infrastructure necessary for mopeds, bicycles, and pedestrians.

14. CONCLUSIONS

Automobile congestion and the related safety and quality of life issues are of primary importance to the residents of the Key West. The *Steady Increase in Traffic in Key West* shows that automobile traffic has increased considerably in the past few years. The limited space and high price of land means that the City cannot pave its way out of the congestion problem. The best solution to the increased congestion is multimodal planning. Multimodal planning provides comprehensive transportation options to people so they can choose to drive a car, walk, ride a bicycle, take a taxi, ride the bus, or drive a moped.

Any change to the current structure of transportation will have an effect on the City budget because transportation is a major source of revenue and a major cost for the City and its residents and visitors. If the City desires to encourage multimodal transportation options, the transportation funding system may need to be adjusted to better reflect the desired transportation modes. One option is a dedicated transportation fund that captures and distributes all transportation-related money. Such a fund would make it easier for the City to adjust pricing schemes to encourage the development of multimodal transportation options.

Finally, affordability is a primary concern in this region. This report shows that if residents are provided with transportation options other than automobiles, they will be more able to afford the high costs of living by saving thousands of dollars per year in transportation costs.