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TRANSPORTATION FINANCIAL ANALYSES AND ASSESSMENTS

Executive Summary

Prepared by

KPMG Peat Marwick LLP

in association with

Sharpton, Brunson & Co.

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Dade County faces important transportation funding challenges over the next two decades

TRANSPORTATION FUNDING CHALLENGES FACING DADE COUNTY

The financial requirements to maintain the existing level of service on Dade County's transportation network, including continuing maintenance of highways, provision of transit services, and routine rehabilitation and replacement of aging bus and rail transit equipment and facilities, creates a significant burden on County and State budgets. The problem is compounded by the necessity to expand transportation system capacity to meet the demands of expanding regional population and employment and to maintain (and improve) the competitiveness of the region for tourism, shipping, and manufacturing.

Estimating the dimensions of this challenge requires a comprehensive analysis of projected transportation expenses and revenues in the context of anticipated local, state, and federal funding. Meeting the challenge requires difficult decisions regarding the tradeoffs between desired transportation system level of service, the need to maintain the transportation system in a state of good repair, and the ability (and willingness) of the public and government to provide required funding.

This report describes a financial analysis of Dade County transportation investment, addressing project implementation schedules, service growth, and the structuring of the funding and financing for these projects and services. The immediate focus of the report is the period from 1996 through 2005, covering the five-year period of the current Transportation Improvement Program (TIP) and the subsequent five years.

The financial analysis that supports this report, however, addresses a 20-year period during which many major highway and rail transit projects will be undertaken. In this longer-term context this report examines the financial capacity of Dade County to undertake its planned transportation investments. This includes an examination of opportunities to contain costs, increase transportation revenues, and involve the private sector.

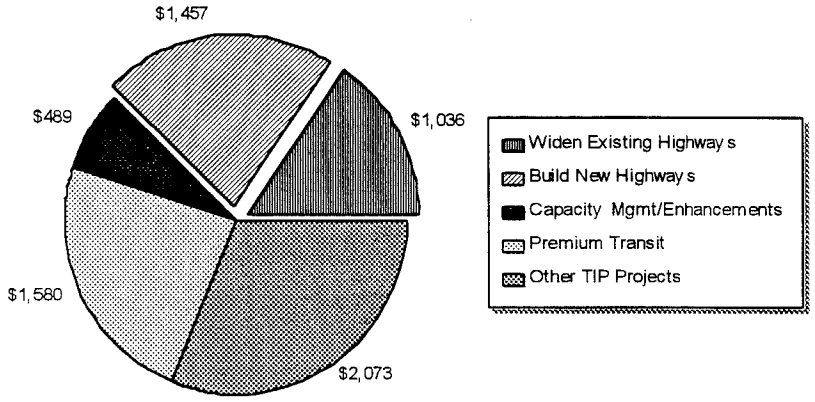
Dade County transportation investment needs are documented in the:

- ***Transportation Improvement Program***
- ***Year 2015 Plan***

TRANSPORTATION INVESTMENT NEEDS IN DADE COUNTY

Transportation investment needs in Dade County include three components: improvements to existing facilities to increase capacity, new transportation linkages to both increase capacity and serve expanding development, and operation and maintenance of the transportation network. Projects in the Dade County Long Range Transportation Plan are delineated in the *Transportation Improvement Program (TIP)* and the *Metro-Dade Transportation Plan: Long Range Element to the Year 2015 (Year 2015 Plan)*. Exhibit 1 summarizes the cost-feasible investment identified in the two documents (totaling $6,635 million in 1996 dollars):

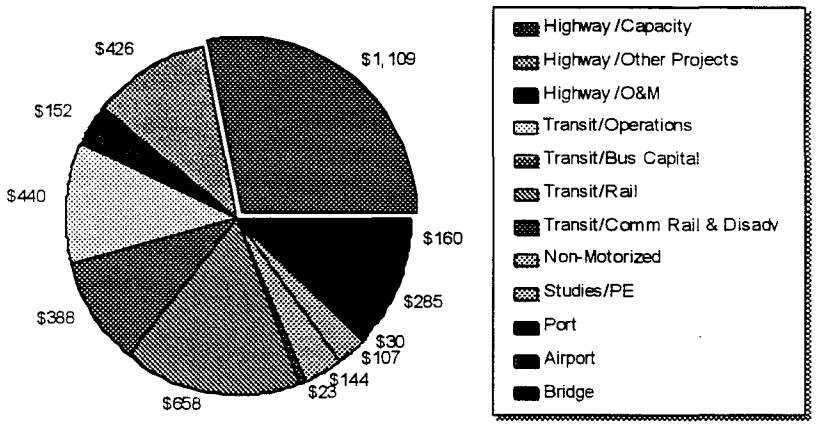
Exhibit 1
20-Year Transportation Capital Investment Needs in Dade County (Millions of 1996 $)



The components of the transportation investment plan are described in more detail below:

- **Transportation Improvement Program:** The TIP documents Dade County's intended near-term program of transportation projects. Exhibit 2 summarizes the projects in the TIP. Total investment is projected to be $3,923 million. Of this, $476 million include seaport, airport, and bridge projects that were not considered in the detailed financial analysis. Of the remaining $3,447 million, the program of projects is divided into three categories:

Exhibit 2
FY1996 TIP Projects (Millions of 1996 $)



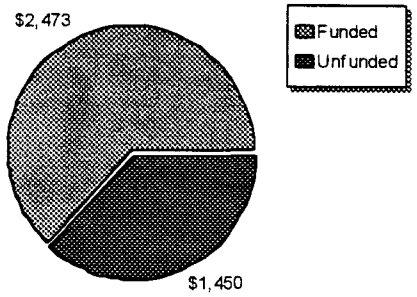
- **State:** $1,388 million for projects funded solely through Florida Department of Transportation (FDOT)-administered funds (including state and federal funding programs)
- **County:** $660 million for projects generally funded through a combination of FDOT-administered and local funds.

Unfunded projects in the TIP are high priority projects that will be programmed as funding becomes available

- **Unfunded:** $1,450 million for projects for which no specific sources of revenues where identified. As shown in Exhibit 3, these projects included 14.5 percent of the long range plan. Major unfunded projects include:
  - SR 826/Palmetto Expressway widening
  - SR 112/Airport Expressway extension
  - SR 874/Don Shula Expressway extension
  - Metrorail North Corridor extension

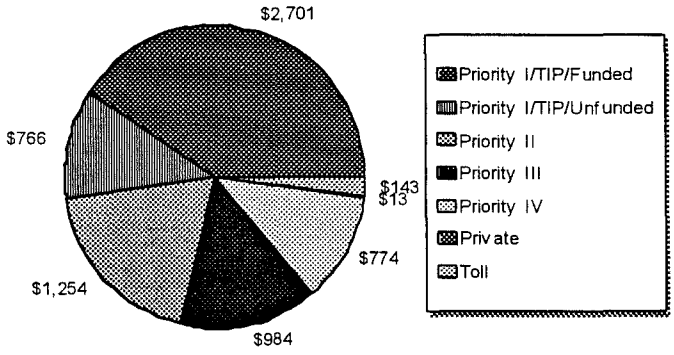
  The financial analysis described below assumed that Federal funding would be secured to advance the North Corridor Metrorail project. The balance of the 1996 TIP unfunded values are included, offset by two years. These unfunded needs are assumed to be entirely funded by the 2015 Plan (i.e., available state and local revenues).
- **Long Range Transportation Plan (Year 2015 Plan):** Beyond the near-term TIP projects, the Year 2015 Plan identifies 93 highway projects and 5 premium transit projects. The financial analysis also included

Exhibit 3
1996 TIP Funded and Unfunded Projects
(Millions of 1996 $)



rehabilitation of the existing Metrorail fleet (as identified by MDTA in its financial plan). The Year 2015 Plan categorizes transportation projects into four categories. Priority I projects are those already programmed for the next five years in the TIP. Priority II, III, and IV projects are intended to be completed by 2005, 2010, and 2015, respectively. Separate from the Priority II, III, and IV priorities are projects to be funded outside public funding sources; this includes funding by the Turnpike and private developers. Exhibit 4 summarizes Year 2015 Plan projects by priority.

Exhibit 4
Long Range Plan Projects by Priority
(Millions of 1996 $)



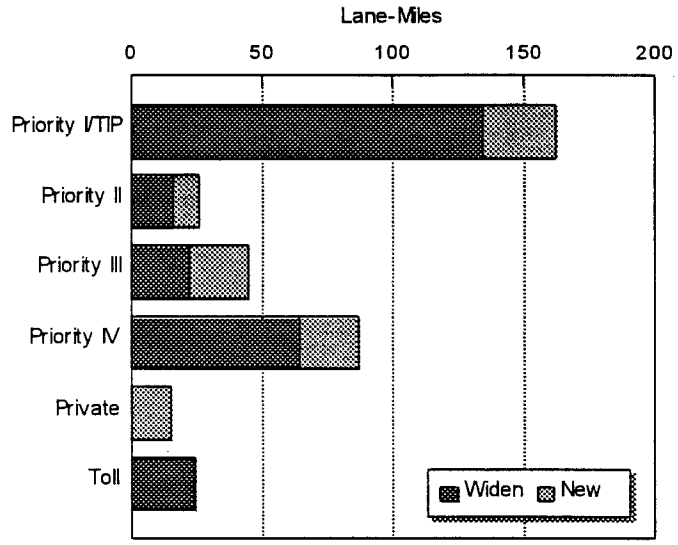
Highway Requirements

The proposed expansion of existing roads and construction of new links in the highway network will result in an expansion in highway network capacity:

- County road lane-miles increase by 5.5% from 8,282 to 8,840 lane-miles
- State road lane-miles increase by 9.0% from 2,478 to 2,810 lane-miles
- Turnpike lane-miles increase 16.6% from 336 to 392 lane-miles

The unfunded portion of the TIP includes 131 lane-miles. Exhibit 5 summarizes the growth in highway capacity:

Exhibit 5
Growth in Highway Lane-Miles



Specific needs include the following:

- **Widening Projects:** Adding 544.4 lane-miles to existing roads will require $1,036 million in the Year 2015 Plan. This represents 15.6 percent of total capital project costs.
- **New Highways:** To accommodate future travel growth and projected residential and commercial development, the Year 2015 Plan includes $1,457 million in new highway capacity that would increase the region's road network by 339.1 lane-miles. Expenditures for new highways equal 22.0 percent of total transportation project

costs. Most of these needs are for the construction of new six-lane facilities and HOV lanes.

- **Capacity Management/Enhancement Projects:** These include needs for intelligent transportation systems (ITS), express street, bicycle/pedestrian projects, new interchanges and interchange improvements and the Multimodal Terminal. The capital needs for these projects represent $488.9 million and equal 7.4 percent of total capital needs.
- **Operating and Maintenance Costs:** These costs are projected to increase 7.0 percent (in 1996 dollars) for state and county roads between 1996 and 2015.

Transit Requirements

The Year 2015 Plan identifies $1,580 million in premium transit (busway and rail transit) system expansion projects. While the analysis assumes no growth in MDTA bus service, it is implicitly assumed that service patterns will evolve as Metrorail extensions are implemented and the bus service increasingly feeds rail stations. The major elements of the transit investment needs include:

- **Premium transit projects:** This includes the Miami Intermodal Center, North and East-West corridor Metrorail extensions, and the South Busway.
- **Rehabilitation of the existing Metrorail car fleet:** $180 million for a major mid-life rehabilitation of Metrorail cars will be required to bring major components to a state of good repair.
- **New Buses:** 886 buses will be purchased for routine fleet renewal through 2015.

Annual Construction Costs

Exhibits 6 and 7 summarize the annual funding requirements for the highway and transit construction programs.

Exhibit 6
Annual Highway Construction Costs
(Millions of Year-of-Expenditure $)

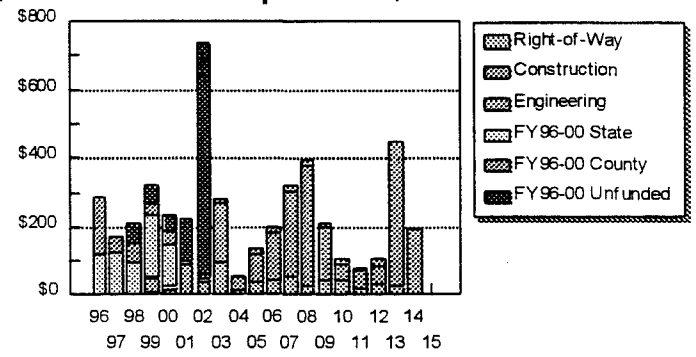
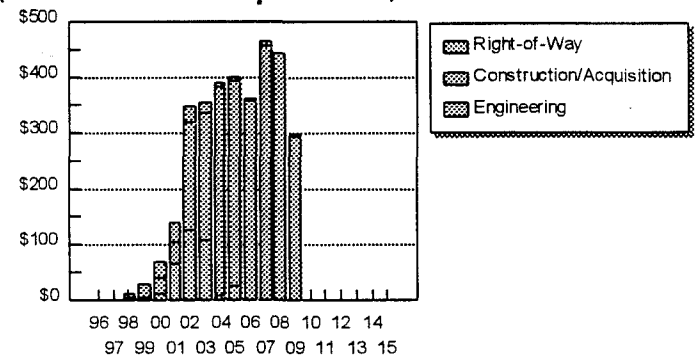


Exhibit 7
Annual Transit Construction Costs
(Millions of Year-of-Expenditure $)



FINANCIAL ANALYSIS

The objective of the financial analysis is to determine a project and transit service implementation schedule that meets prudent tests of financial feasibility

The financial analysis supporting this report integrates projections of transportation expenses and revenues, both capital and operating, from 1996 through 2025. The analysis examines, on a year-by-year basis, the ability to fund transportation requirements within available revenue sources. This examination of financial capacity is undertaken in the context of both pay-as-you-go funding and debt financing, applying current County, State, and Federal grants and operating assistance programs and current and potential local dedicated revenue sources.

The financial analysis examined a variety of dedicated local funding sources and alternative financing mechanisms. The analyses were evaluated in the context of several financial performance measures described in the next section.

Measures of Financial Feasibility

Financial feasibility measures addresses the acceptability of:

- *Implementation schedule*
- *Existing funding assumptions*
- *Potential funding sources*
- *Debt service coverage*

The financial analysis addressed prudent measures that reflect the financial and political reality of transportation investment in a large urban area:

- **Acceptability of implementation schedule:** When applying debt financing with growing dedicated revenue sources, delaying project implementation generally improves the ability of a region to fund transportation projects. By reducing early interest expenses, the benefits of delayed implementation exceed inflationary impacts. However, real and perceived transportation and other considerations create an imperative to implement projects quickly. The Year 2015 Plan addresses these needs in the prioritization of projects, but even in this context, most of the dollar investment occurs in the latter years of the plan.
- **Acceptability of existing funding assumptions:** The continuation of existing revenue streams is subject to many policy assumptions including: increases in transit fares, continued operating assistance from County and State sources, Dade County's share of FDOT revenues, and continued federal transit funding.
- **Acceptability of new dedicated funding sources:** The sources and uses of funds analysis examined the revenue potential of several tax bases and of regional road pricing.
- **Acceptability of debt service coverage:** Statutory requirements, capital market expectations, and prudent financial planning demand that the ratio of annual dedicated revenue divided by annual principal and interest payments be greater than a specified minimum value. The following measures were computed:
  - **Coverage "before operations":** current year total dedicated revenues divided by following year debt service; the value was maintained above 1.50.
  - **Coverage "after operations":** current year dedicated revenue less operating subsidy divided by following

year debt service. Long-term (20-year plus) operating costs significantly grow as a result of the increasing size of the Metrorail system and this causes the debt service coverage ratio after operations (dedicated revenues less subsidy divided by the following year's debt service) to decline. This problem was addressed by assuming a modest real decline in transit unit operating costs. This could be accomplished through a variety of management initiatives including increased/enhanced use of information technology, continued renewal of the bus transit fleet (assumed in the financial analysis), managed competition, and/or innovative service delivery.

Sources of Funding

The sources and uses of funds analysis applies the following existing transportation revenue streams:

- **FDOT:** The analysis included estimates of Dade County's share of statewide funding for highway, transit, and intermodal/rail (rail transit) programs, based on the FDOT *Florida Transportation Plan*. Consistent with current practice, some flexibility to transfer funding within FDOT funding categories was assumed. In the case of the FDOT Intermodal/Rail program, the 100 percent State portion of the funding from FY01 through FY15 totals $2,386 million. Based on guidance provided by the FDOT Rail Office, it is assumed that the funding levels across the various subprograms within the Intermodal/Rail program are fungible and that transfers across subprograms will be possible. It is further assumed that 25 percent of statewide Intermodal/Rail funds will be available in District 6; this totals $597 million. The MPO has previously projected that $240 million would be available to support fixed guideway construction. This amounts to 40.2 percent of the projected District 6 total.

Dade County must make wise transportation programming decisions to compete with other urbanized areas for limited Federal funds

- **Federal transit formula and discretionary funds:** While current FTA formula and discretionary capital funding programs are projected to continue, it must be recognized that the Year 2015 Plan extends beyond current appropriations and, indeed, beyond the current seven-year authorization contained in ISTEA. Future legislation is currently being structured; the level of and

The financial analysis provides the opportunity to explore alternative approaches to meeting the local funding requirements necessary to implement Dade County's mobility vision as documented in the Year 2015 Plan

limitations on future federal transit funding is not precisely known.

Applying for funding for higher priority, more cost-effective projects, and relying on a relative low percentage of federal funds for any particular project increases the ability of the Miami region to successfully compete with other urbanized areas for limited Federal discretionary funds. The analysis also assumes that additional Federal funding will be available through "flexible" funding in the Surface Transportation Program (STP) and Congestion Mitigation/Air Quality (CMAQ) funds.

- **Dade County:** Dade County funds the operating and maintenance costs of County-owned streets and roads and transit services through general funds supplemented by the Ninth Cent Gasoline Tax. The local gasoline tax supplements County general funds for capital improvements. Growing highway operating and maintenance, the implementation of Premium transit projects, and growth in supporting bus services (as a result of underlying demographic pressures), result in a growth in demands for transportation funding on an already constrained County budget.
- **User fees:** The financial analysis projects that transit fares will have inflationary increases every other year. Highway tolls implemented by the Dade County Expressway Authority on SR 836 have been identified for partial funding of the East-West Corridor transit project. Regional road pricing has been proposed as a possible source of additional transportation funding.
- **Dedicated revenues:** The Ninth Cent and other local gasoline taxes currently provide Dade County with approximately $50 million per year to support transportation investment and operations and maintenance.

Alternative Funding Scenarios

The financial analysis examined four dedicated local funding scenarios, relying on tax and user fee revenues:

- **Additional local gasoline tax revenues:** The late-1996 level of local gasoline tax was assumed to continue with the original allocation between highway and transit and with the original allocation to the local governments.

- **Retail sales tax:** A retail sales tax was assumed, with the revenues divided between highway and transit uses.
- **Vehicle registration fee:** An annual $20 per vehicle fee was assumed. A legislative amendment would be needed to implemented such a surtax.
- **Regional road pricing (toll) revenues:** The "Moderate" scenario from the Kimley-Horn and Associates, Inc. *Metro-Dade Road Pricing Study* was applied as the basis for the computation. The analysis recognized that full implementation of any regional road pricing scenario would be difficult. The analysis assumed that only a portion of the "Moderate" scenario would be accomplished and determined how large that portion would have to be to provide adequate local funding.

Exhibit 8 summarizes the results of the financial analysis in terms of:

- the magnitude of each tax or fee
- the years in which each tax or fee would be implemented
- the necessary allocation of dedicated revenues between highway and transit

The years in which taxes and fees were implemented and the allocations between highway and transit were adjusted to ensure that adequate debt service coverage was maintained.

The dedicated revenue funding scenarios analyzed are hypothetical options examined to assess the financial feasibility of the Year 2015 Plan. These hypothetical scenarios have not been reviewed or approved by Metropolitan Planning Organization Governing Board, MPO management, or the Dade County Transportation Planning Council. Further, these hypothetical scenarios do not in any way constitute a funding or financing recommendation by KPMG. Rather, these scenarios are presented for consideration by the leadership of Dade County with respect to developing a financially feasible long range transportation plan.

Exhibit 8: Alternative Funding Scenarios

Funding Scenario	Dedicated Revenue Source(s)	Year Implemented	Applied to: Highway Rate	Highway Modal Allocation	Transit Rate	Transit Modal Allocation	Comment
A	Local Option Gasoline Tax	1996	$0.03/gal	39%	$0.03/gal	31%	Current allocation, balance to municipalities for transportation projects and to State for collection fee
	Retail Sales Tax	2000	64%	52%	64%	52%	Common tax, split between modes
B	Local Option Gasoline Tax	1996	$0.03/gal	39%	$0.03/gal	31%	Current allocation, balance to municipalities for transportation projects and to State for collection fee
	Additional Gasoline Tax	2000	$0.02/gal	39%	$0.02/gal	31%	Current allocation, balance to municipalities for transportation projects and to State for collection fee
	Additional Gasoline Tax	2000	$0.08/gal	95%	$0.09/gal	95%	Exclusively applied to each mode, less 5% collection fee to State of Florida
C	Local Option Gasoline Tax	1996	$0.03/gal	39%	$0.03/gal	31%	Current allocation, balance to municipalities for transportation projects and to State for collection fee
	Retail Sales Tax	2000	64%	52%	64%	52%	Common tax, split between modes
	Vehicle Registration Fee	2000	$20/veh	50%	$20/veh	50%	Common fee, split between modes
D	Local Option Gasoline Tax	1996	$0.03/gal	39%	$0.03/gal	31%	Current allocation, balance to municipalities for transportation projects and to State for collection fee
	Road Pricing	2000	"Moderate" scenario	20%	"Moderate" scenario	19%	Percentage of revenues from Moderate scenario in Kimley-Horn "Dade County Road Princing Study"

Financing Scenarios

Increasing sophistication in highway and transit financing, actively promoted by the Federal Highway Administration and the Federal Transit Administration, provide additional mechanisms to leverage local, state, and Federal funding; speed project implementation; and potentially reduce costs. A series of financial analyses were examined to determine the benefits of these innovative financing approaches:

- **Baseline financing scenario:** A retail sales tax is assumed to begin in 2000 and identically structured tax revenue bonds for transit and highway are issued with the following structure: initial interest-only construction loan at 5.25 percent, refinanced to a 30-year note, with 7-years interest-only at 5.85 percent, and then a simple-mortgage/level payment of principal and interest for 23 years.
- **Service contract bonds:** These bonds would capitalize the revenue stream from the 100 percent state portion of FDOT Intermodal/Rail funds, resulting in a deferral of

need to issue tax revenue bonds (and maximize the extent to which tax revenues are applied on a pay-as-you-go basis). The baseline assumption is a 30-year term, at 5.85 percent interest, 1.2 percent issuance cost, and no debt service reserve (the credit for these bonds would be state gas tax revenues and are assumed to be backed by the full faith and credit of the State of Florida).

- **State infrastructure bank:** The interest rate on transit and highway revenue bonds is reduced by 2.00 percent and the issuance cost of the revenue bonds and debt service reserve requirements are reduced to zero to simulate the effects of an SIB providing additional funding and credit enhancements.
- **Cross-border lease:** The debt instrument would be applied to the purchase of East-West Corridor rail cars. The benefits of this type of financing is the elimination of a debt service reserve and an effective 4.0 percent discount on the purchase price (the effect of the private sector participants in the financing passing to Dade County their tax benefits). Compared to revenue bonds, the lease would have a 20 basis point penalty on the interest rate (6.05 rather than 5.85 percent) and a 0.5 percent penalty on the issuance cost (1.7 rather than 1.2 percent).

The results of the innovative financing analysis are summarized in Exhibit 9:

- **Baseline analysis:** With these assumptions, the required additional local funding is equivalent to 0.60 percent retail sales tax implemented in 2000, allocated 48 percent to transit and 52 percent to highway. The generally downward trend in transit coverage ratios after operations is controlled through assumptions regarding real inflation in operating costs; unit transit operating costs are assumed to inflate at 3.04 percent compared to the baseline rate of 3.30 percent (a decline in real terms by 0.26 percent per year -- a cumulative decline of 4.9 percent through FY15).
- **Service contract bonds:** While total bond proceeds increase, the service contract bonds delay the issuance of sales tax revenue bonds. Transit unit operating costs

must decline by 0.26 percent per year -- a cumulative decline of 4.9 percent through FY15.

- **State infrastructure bank:** Assuming that the service contract bonds are financed through a state infrastructure bank results in lowering of the dedicated sales tax from 0.60 percent to 0.50 percent; the portion of the tax applied to transit remains at 48 percent. Total bond proceeds decline by $65 million compared to the service contract bond-only scenario. Transit unit operating costs must decline by 0.28 percent per year -- a cumulative decline of 5.3 percent through FY15.
- **Rail-car cross border lease:** Adding a cross-border lease does not permit any further lowering of the dedicated sales tax for the portion of the tax applied to transit. Cross-border lease proceeds result in a reduction in the sales tax revenue bond proceeds applied to transit. No change in transit unit operating costs from the state infrastructure bank-only scenario is required.
- **Service contract bonds plus state infrastructure bank plus rail car cross-border lease:** Combining the three innovative financing approaches results in a required sales tax of 0.50 percent is required; 48 percent dedicated to transit.
- **Highway reduction scenario:** This scenario examined the magnitude of the highway program possible if additional highway funding were limited to the additional 2-cent in the Local Option Gas Tax in 2000. In this scenario could be implemented if the "unfunded" portion of the TIP were externally funded and the Priority II, III, and IV portions of the 2015 Plan were reduced by 17 percent. Supporting the transit program requires revenues equivalent to a 0.30 percent sales tax totally dedicated to transit.

Exhibit 9: Alternative Innovative Financing Scenarios

Financial Performance Measure			Baseline	Alternative Financing Scenarios: FDOT Service Contract Bond	State Infra-Structure Bank	Rail-Car Cross-Border Lease	Svc Contr + SIB X-Border Lease	Highway Reduction Scenario
Sales Tax		Rate	0.64%	0.64%	0.50%	0.63%	0.49%	0.31%
		% to Transit	48%	46%	48%	49%	49%	100%
Real Operating Cost		Inflation per year	3.04%	3.01%	2.98%	3.05%	2.99%	3.05%
Reduction Required		Cumul real decline thru 2015	4.90%	5.49%	6.07%	4.81%	5.88%	4.71%
Transit	Bond Proceeds		$1,243	$1,185	$1,242	$1,050	$999	$1,233
Dedicated	Min Cover	Before Ops	1.507	1.521	1.524	1.518	1.544	1.531
Rev Bond	Ratio	After Ops	1.002	1.049	1.018	1.009	1.025	1.014
Highway	Bond Proceeds		$1,008	$961	$979	$1,050	$1,010	$87
Dedicated	Min Cover	Before Ops	1.606	1.727	1.655	1.505	1.563	2.304
Rev Bond	Ratio	After Ops	1.550	1.668	1.562	1.451	1.490	1.139
Intermodal/	Bond Proceeds		$0	$114	$0	$0	$118	$0
Rail Service	Min Cover			1.592			1.527	
Contract	Applied to	% of Cost		72%			53%	
Bond	Fixed Gdwy	Thru		2004			2004	
Rail Car Cross-Border Lease		Bond Proceeds				$181	$181	$0
Total Bond Proceeds			$2,251	$2,273	$2,221	$2,281	$2,308	$1,321
Highway project	Unfunded TIP projects							100%
cost reduction	Phases II, III, IV projects							28%

SAMPLE FINANCIAL ANALYSIS RESULTS

Described below are the results of the financial analysis for the baseline (sales tax) scenario described in Exhibit 8, above.

Sources and Uses of Funds

Exhibits 10 and 11 summarize the year-by-year computations in the financial analysis. In Exhibit 10, funding shortfalls occur in the years in which uses exceed sources (i.e., when the thick red uses line is above the thin green sources line). In some years, prior year surpluses carried forward provide sufficient financial capacity. In some years, however, long term debt is required to fund the shortfall. Exhibit 11 represents the results of long term financing; bonds were issued in those years in which the thin green sources line overlaps the thick red uses line.

Exhibit 10
Sources & Uses of Funds Analysis
Before Financing
(Millions of Year-of-Expenditure $)

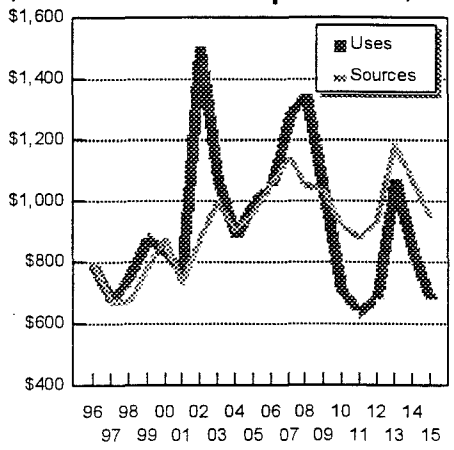
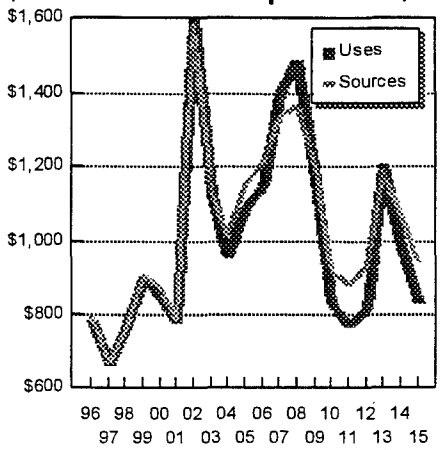


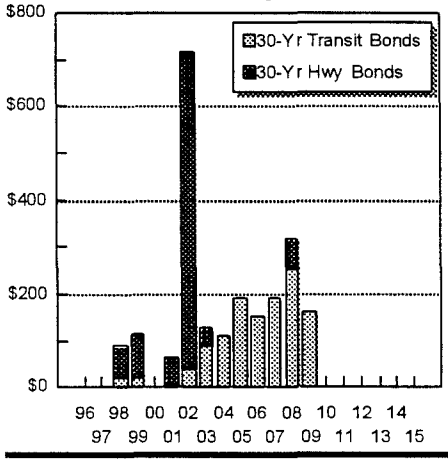
Exhibit 11
Sources & Uses of Funds Analysis
After Financing
(Millions of Year-of-Expenditure $)



Bonds Issued and Debt Service Coverage

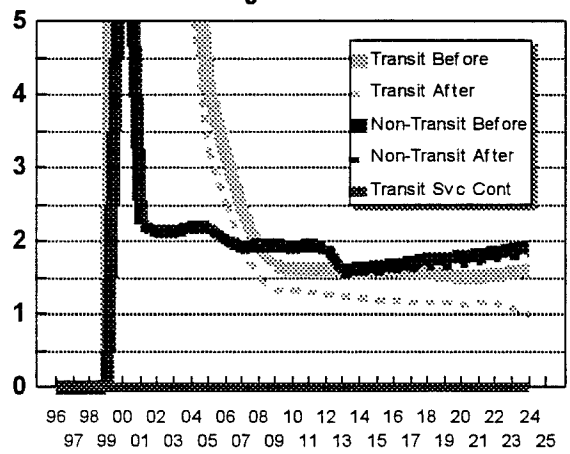
Long-term debt is issued in the financial analysis to make up the shortfall between annual capital funding requirements and annual funding availability. In the baseline scenario, the debt is structured as revenue bonds secured by local dedicated revenues. Other scenarios examined financing rail cars with cross-border leases and borrowing against future revenues from the FDOT Intermodal/Rail program with service contract bonds. Exhibit 12 summarizes long-term debt issued to finance the financial plan.

Exhibit 12
Long-Term Debt Issued
(Millions of Year-of-Expenditure $)



Revenue levels were adjusted to maintain a debt service coverage ratio (annual revenues divided by annual debt service) of greater than 1.50 before operations and 1.00 after operations. Exhibit 13 summarizes the projected coverage ratio.

Exhibit 13
Debt Service Coverage Ratio



Application of Dedicated Funding

Exhibits 14 and 15 summarize how the dedicated local sources of funding are projected to be applied for highway and transit projects. Revenue are first applied to support operating and maintenance requirements beyond the current levels of Dade County assistance. Funds are then applied to capital, first to pay prior year debt service then to fund on a pay-as-you-go basis. Any unspent funds are carried over to the following year.

Exhibit 14
Dedicated Revenues
Applied to Highways
(Millions of Year-of-Expenditure $)

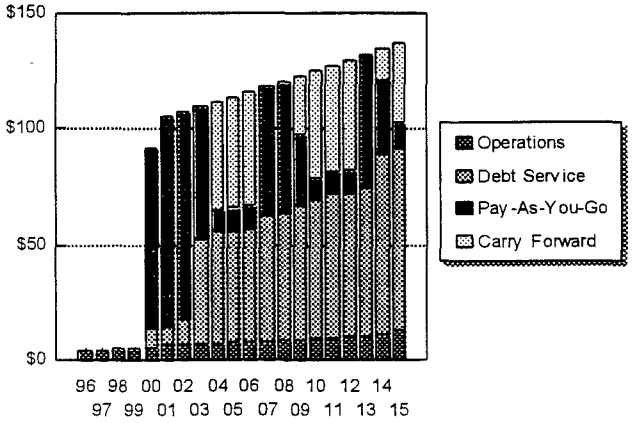
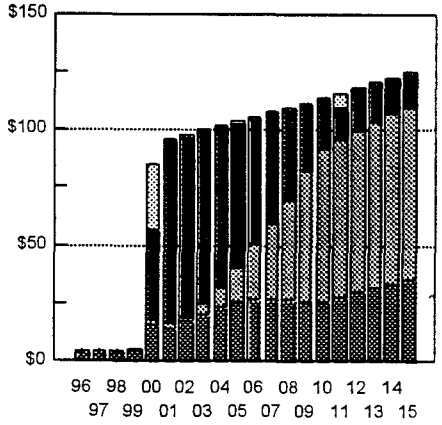


Exhibit 15
Dedicated Revenues
Applied to Transit
(Millions of Year-of-Expenditure $)



FUNDING CHALLENGES FACING DADE COUNTY

The sources and uses of funds analyses identified three primary challenges facing Dade County as it implements the capital investments of the TIP, the Year 2015 Plan, and expanded transit services projected in the Transit Corridor Transitional Analyses and related transit corridor Major Investment Studies/Draft Environmental Impact Statements:

- **"Unfunded" portion of the TIP:** For several large-scale highway projects in the TIP, no source of funding has been identified. These projects will not be implemented until funding is secured. If local sources were to be pursued, as examined in the above financial analyses, such funding would need to be implemented in the next several years.
- **Increasing requirement for County operating and maintenance assistance:** Annual transit and highway O&M assistance to be provided by Dade County will increase as a result of an expanding transportation network and inflation. Annual highway operating costs to Dade County will increase from $40 to $43 million (1996 dollars) by 2015 because of an increase in County-maintained lane-miles. Transit O & M requirements expand from $210 to $241 million (1996 dollars) by 2015

because of significant growth in Metrorail service associated with the East-West and North corridor expansions.

- **Significant Priority III and IV capital investment requirements:** Relatively expensive highway and premium transit projects in the latter phases of the Year 2015 Plan exceed the financial capacity of existing State sources. Additional dedicated revenue sources were projected in the sources and uses of funds analysis to meet these needs on a pay-as-you-go and debt financed basis.

FINANCING OPTIONS

Addressing the potential shortfalls between the costs of full implementation of the Year 2015 Plan and available revenues involves tradeoffs between containing costs and increasing available revenues.

Containing Costs

The opportunities to contain the costs of implementing the Year 2015 Plan address capital and operating costs:

- **Delaying project implementation:** Advancing capital projects reduces the ability to fund projects on a pay-as-you-go and debt financed basis. Early construction expenditures can increase the need for borrowing. The resulting interest costs, particularly in the early years of the financial plan, significantly reduce financial capacity. Spreading projects over time and delaying the implementation of projects can reduce the need for debt financing. Similarly, phasing the implementation of individual projects spreads the costs over time (the Year 2015 Plan phases the East-West Corridor premium transit project, for example). The unpredictable history of right-of-way costs, however, suggests that once facility alignments are determined, advanced purchase of right-of-way should promptly proceed.

Involving the private sector in transportation project financing, design, construction, operation, and maintenance can shift risk away from the public sector, speed implementation, and reduce cost.

- **Shifting risk to the private sector:** Innovative procurement techniques such as turnkey, super-turnkey, franchise, and design-build-operate-maintain (DBOM) involve shifting varying levels of responsibility and risk from the public sector to the private sector. These risks include uncertainty regarding project capital cost, operating cost, and ridership and operating revenues. The advantages of these approaches is that they result in less

public sector cost uncertainty, faster implementation, and possibly lower cost.

- **Containing capital project cost:** Opportunities to further contain capital project costs can be examined as projects proceed into preliminary engineering. Value engineering can identify alternative horizontal and vertical alignments and project specifications that may reduce project costs and cost uncertainty.
- **Increasing transit cost recovery:** Opportunities to increase the transit farebox recovery ratio (and reduce the growth in County operating assistance) include fare increases, reduction of less productive services or replacement of these services with lower-cost transit service providers, and/or provision of service through different service delivery techniques (e.g., jitney, shared-ride taxi).

Increase Transportation Funding in Dade County

The implementation of the Year 2015 Plan (including the "unfunded" projects) will require more financial resources than are currently available. Securing additional funding could be achieved through:

- **Increasing the Dade County's Share of Transportation Investment:** Convincing arguments must be made to support increasing transportation funding for Dade County:
  - **Dade County:** Even modest increases in transit operating assistance are a challenge for Dade County to fund because O&M expenses must compete for general funds along with other vital government services (public safety, education, social services).
  - **State of Florida:** As a thriving component of the State, Dade County has and is projected to continue to receive a large share of FDOT funding. However, other regions of the state are growing more rapidly that Dade County and are demanding increases in their share of state funding.
  - **Federal Government:** In federal transportation funding programs, the State of Florida is a "donor" state, generating more revenues from the federal gasoline tax than it receives in grant revenues. Successfully arguing for increasing Florida's share of fed-

eral grant revenues will allow for an increased allocation of FDOT revenues to Dade County.

Major transportation network investments around the U.S. are increasingly relying on user fees

- **Increase reliance on user fees:** Users of transportation facilities already pay a portion of the costs to construct and operate the transportation network (e.g., Federal and State gasoline taxes; existing local gasoline taxes; tolls on Florida's Turnpike, Dade County Expressway Authority facilities, and some causeways; transit fares). As transportation financing requirements grow, and as competing demands for limited funds become more severe, additional transportation system users fees becomes an important option:
  - **Road pricing:** Tolls on limited access highways is one approach to generating transportation revenues. Opportunities include (depending on the level of congestion and physical design of individual highways) peak period and 24-hour tolls, "selling" capacity on HOV lanes, and other approaches. The financial plan for the East-West corridor transit project include participation of the Dade County Expressway Authority in the financing of the project.
  - **Transit fares:** Increasing transit fares will generally increase transportation revenues, but reduce ridership. While inflationary increases are vital, increases in transit fares must address the offsetting interests of financial feasibility and important social impacts, particularly for transit-dependent, lower-income travelers. The strength of the Miami transit market does not suggest that real increases in transit fares (above the baseline rate of inflation) would yield significantly higher revenues.
  - **Development impact fees:** Fees applied to new commercial and residential construction are intended to provide funding for additional requirements for public services (including transportation).
- **Explore new dedicated revenue sources:** As with users fees, new government revenue sources is a difficult issue to advocate given increasing voter resistance to higher taxation. Voters in Dade County have twice rejected dedicated funding for transit. Projected levels of funding from the existing local gasoline taxes will not be sufficient to fund the proposed implementation of the Year 2015 Plan and growth in transit services. The opportuni-

ties for additional long-term state and Federal funding to the region are probably small. Increasing FDOT funding will likely be hampered by the reality that other parts of the state are growing faster than Dade County.

The implication is that if Dade County is going to meet the implementation schedules suggested in the TIP and the 2015 Plan, additional local funding will be required. The financial analysis determined the necessary level of funding. Any decision to pursue dedicated funding will be a political decision and will be evaluated by the capital markets in terms of the underlying strength of the Dade County economy, competing requirements for capital investment (e.g., schools, parks, sewers), and projected indebtedness per capita. It is reasonable to expect that Dade County would proceed down the path of new taxes, fees, and/or road pricing only with broad-based political support and consensus that achieving mobility goals are vital to the region's economic well-being.

Pursue Innovative Financing

The financial analysis demonstrate modest long-term benefits of innovative financing techniques. The most promising approach is financing through a state infrastructure bank. Like many state departments of transportation, FDOT is considering this approach as part of its overall funding program. The magnitude of the 2015 Plan, however, is larger than any single SIB proposal. Whether the Florida SIB would have the capacity to finance a significant portion of the overall Dade County transportation program remains to be seen.

A service contract bond would permit the leveraging of future Intermodal/Rail program funds; this would require statutory authority to commit future FDOT appropriations in a long-term debt financing structure. Rail car cross-border leasing can supplement conventional long-term revenue bonds.

Implementation of the 2015 Plan requires a clear view of Dade County's transportation needs, available funding sources, and potential future funding and financing options

NEXT STEPS

Challenges remain in advancing projects toward implementation, meeting the demands of underlying economic and demographic growth, and establishing a clear direction and vision for mobility in Dade County. Difficult decisions must be made to contain costs, secure additional revenues, and schedule project implementation.

Complicating these decisions is the underlying uncertainty regarding the economic growth of the region, the stability of existing funding sources, and the availability of grant funding ass federal transportation funding policy evolves. Additional capital funding must be secured to fully fund all of the projects in the Year 2015 Plan. Additional funding, beyond the existing County general fund contributions and the Ninth Cent gasoline tax will be needed to fund growing transit and highway O&M costs.

ASSUMPTIONS AND SOURCES OF INFORMATION

This report applies information contained in the Dade County Metropolitan Planning Organization (MPO) *Metro-Dade Transportation Plan: Long Range Element to the Year 2015* (Year 2015 Plan); the *1996 Transportation Improvement Program* (TIP); the FDOT 2020 *Florida Transportation Plan*; consultant reports for the MPO, MDTA, and FDOT; and other sources from these agencies. Construction costs are based on the Year 2015 Plan and additional engineered cost estimates. Transit ridership, fare revenues, vehicle hours, peak fleet requirements, and operating costs are based on the *Transitional Analysis* of the South, Kendall, West, North, Northeast, and Beach corridors as well *the Major Investment Study/Draft Environmental Impact Statements* for the Miami Intermodal Center and East-West Corridor.

This report addresses investment in highways and public transportation funded by existing local, state, and federal programs as well as funding from Florida's Turnpike, other potential toll roads, the Port of Miami (for the Tunnel), and private developers. It does not address improvements within the Port of Miami, Miami International Airport, or railroad freight terminals nor the maintenance and replacement of bridges.

The assumptions and sources of information are summarized in the documentation accompanying the financial analyses. Uncertainties associated with fluctuating economic conditions and other factors may result in the actual results of the transportation investment program undertaken varying from the projections in the financial analyses, and the variations could be material.

The financial results presented in this report are intended to chart a general course of action regarding project implementation and initiation of activities to establish new financing approaches. The financial analysis results should not be applied or referred to any party in connection with the issuance of securities.