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Collaborative Funding to Facilitate Airport Ground Access

CASE STUDY REPORT: MIAMI INTERMODAL CENTER

Geoffrey D. Gosling, Ph.D.
Dennis Freeman

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To order this publication, please contact:

Mineta Transportation Institute
College of Business
San José State University
San José, CA 95192-0219

Tel: (408) 924-7560
Fax: (408) 924-7565
Email: mineta-institute@sjsu.edu
transweb.sjsu.edu

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ABSTRACT

This case study report documents the experience with collaborative funding of airport ground access involved in the development of a major intermodal facility named the Miami Intermodal Center (MIC), located adjacent to the Miami International Airport. The MIC is being developed by the Florida Department of Transportation in cooperation with the Miami-Dade Aviation Department (MDAD), Miami-Dade Transit, and a number of other stakeholders. The MIC project includes a Rental Car Center (RCC) that opened in July 2010 and accommodates the operations of all on-airport rental car companies, as well as serving as the pickup and drop-off location for all off-airport rental car companies, an automated people-mover to transport passengers and their baggage between the MIC and the airport terminals, that commenced operations in September 2011, and an intermodal facility termed the Miami Central Station (MCS), that is projected to be completed in 2013. The MCS will provide a major regional intermodal hub for rail and bus services, including the regional Metrorail transit system, commuter trains operated by the South Florida Regional Transportation Authority, and Amtrak.

The MIC and associated infrastructure, including roadway and highway improvements and an extension of the Metrorail system to the MIC, is projected to cost over $2 billion when completed. Funding for the project includes federal, state and local grants, mostly programmed through the regional Transportation Improvement Plan and Long Range Transportation Plan process, and federal and state loans through the federal Transportation Infrastructure Finance and Innovation Act (TIFIA) program, the Florida State Transportation Trust Fund, and the Florida State Infrastructure Bank. The extension of the Metrorail system from the existing Earlington Heights station to the MIC is being primarily funded with revenues from a half-percent local sales tax approved by Miami-Dade County voters under a measure termed the People's Transportation Plan. Revenue to cover the interest and pay off the principal on the $270 million TIFIA loan, as well as cover some of the land acquisition and construction costs for the RCC, the operating and maintenance expenses for the RCC, and contribute toward the operating and maintenance costs of the automated people-mover, is being provided from a Customer Facility Charge that is levied on all rental car transactions by the rental car companies operating in the RCC.

The MIC is not only a major transportation project in its own right, but represents what is easily the most ambitious attempt to date to create a major regional intermodal hub adjacent to a large U.S. airport. Not surprisingly for a project of this scale and scope, by the time development of the MIC and associated infrastructure is completed, construction will have been underway for at least twelve years. As might be expected, the details of the project have also evolved over time and the funding plans have also had to evolve to accommodate changes both in the cost and scope of the project, as well as take advantage of new funding opportunities that have emerged over the course of the project. Fundamental to the successful completion of the project has been the unwavering commitment and financial support of the Florida Department of Transportation, as well as consistent support from the Miami-Dade Board of County Commissioners and other regional stakeholders.

MIAMI INTERMODAL CENTER

INTRODUCTION

The Miami Intermodal Center (MIC) is a major intermodal facility located next to the Miami International Airport (MIA) and connected to it by an automated people mover, as shown in Figure 1. The airport is located about five miles northwest of downtown Miami and is the largest airport in Florida and a major international gateway for flights between the U.S. and the Caribbean and Central and South America. In 2010, the airport handled 35.7 million passengers.

Developed by the Florida Department of Transportation (FDOT) in partnership with the U.S. Department of Transportation, Miami-Dade County, the Miami-Dade Expressway Authority, and the South Florida Regional Transportation Authority (SFRTA), the Miami Intermodal Center provides a transportation hub that will improve access to and from MIA for travelers with trip origins and destinations in Miami-Dade County and the larger South Florida region, including Palm Beaches, Fort Lauderdale, and the Florida Keys. When completed, the MIC will be served by several regional rail systems and long-distance buses, as well as provide rental car and parking facilities to expand landside capacity at MIA.[1] In addition, the MIC project includes access roads and a number of major highway improvements that will provide access to the MIC and improve access to MIA.[2]

In addition to serving the transportation needs of the airport, an important component of the MIC program is a Joint Development strategy that has been established to stimulate economic development potential of the area and generate revenues that can be used to partially offset the capital costs of developing the MIC and support the long-term operating costs of the facility. This strategy includes public and private ground lease opportunities for up to 1.4 million square feet of mixed use development that may be built in conjunction with the rail station being constructed as part of the MIC. Potential uses include offices, hotel and meeting space, additional parking, ancillary retail and restaurants.[3]

As of the most recent program cost estimate available at the time of preparing this case study, the total MIC program was expected to cost a little over $2 billion. Funding for the project is coming from a broad mix of federal, state, local and private sources, including a number of federal and state loans.

Functional Components

The MIC project involves four major elements: a Rental Car Center (RCC), the Miami Central Station (MCS), an automated people-mover between the MIC and Miami International Airport, termed the MIA Mover, and major roadway and highway improvements.[4]

Figure 1. Miami Intermodal Center

Source: FDOT, *Miami Intermodal Center – Project Overview*, April 2011.

The Rental Car Center provides a consolidated facility to serve all the rental car companies formerly operating inside MIA and many of those located near the airport, and is intended to significantly reduce congestion at the airport curbside and on terminal roadways. It provides 3.4 million square feet of vehicle parking and support facilities on four levels, each covering 20 acres, with space to accommodate up to 16 rental car companies. It includes customer service facilities for rental car transactions, 6,500 vehicle parking spaces for fleet storage and staging, a ready/return car area, and a quick turnaround area (QTA) for washing and refueling cars, with 120 vehicle fueling positions and 42 wash bays. Vehicle storage and maintenance operations are located on the first three levels of the RCC while the fourth level includes a spacious customer service lobby and the ready/return area. The RCC opened on July 13, 2010. Until the MIA Mover was completed in September 2011,

customers were transported between the MIA terminals and the RCC by a consolidated shuttle bus system.[5]

The Miami Central Station is designed to provide the primary intermodal ground transportation hub for Miami-Dade County and the wider South Florida region, bringing together long-distance, commuter, and urban transit rail services, as well as intercity and urban bus services and ground access services for MIA.[6] The MCS will include tracks serving Amtrak, SFRTA (formerly Tri-Rail) commuter trains, and Metrorail upon completion of the MIC-Earlington Heights Metrorail extension, renamed AirportLink in June 2010.[7] Provision has also been made for future high-speed rail trains, if such a system is eventually developed to serve the Miami region.

East of the tracks will be a public esplanade, around which will be located private vehicle parking and bus depots for Greyhound, Miami-Dade Metrobus, intercity buses, courtesy buses and shuttles currently serving MIA, and taxis. The MCS will also include provisions for bicycles. The public esplanade will be linked with the MCS station of the MIA Mover by an elevated pedestrian walkway above the rail tracks, as shown in Figure 2. The MCS is envisaged as a major transfer point for users of rail and bus services in Miami-Dade County and the wider South Florida region that will improve connectivity not only for trips to and from Miami International Airport but for travel by public transportation throughout the region. As of December 2011, it was envisaged that the MCS would be opened in 2013.

Figure 2. Rendering of Miami Central Station

Source: FDOT, "Miami Intermodal Center – Miami Central Station," www.micdot.com/miami_central_station.html (accessed 5/27/11).

The third major component of the MIC project is the MIA Mover automated people-mover link between the airport and the MIC, as shown in Figure 3. The link has two stations, one in the airport and one in the MIC, and a dual-track guideway 1.25 miles long.[8] The airport

station is located on the third level of the airport terminal complex between the Flamingo and Dolphin Parking Garages and connects with the airport's third-level moving walkways. The MIC station is located on the fourth level of the RCC between the RCC Customer Service Lobby and the MCS. Construction and operation of the MIA Mover is primarily the responsibility of the Miami-Dade Aviation Department (MDAD) and forms the contribution of Miami-Dade County to the MIC project. FDOT contributed $100 million toward the cost of the link, including construction of the guideway foundations and the MIA Mover station within the MIC, for which it had responsibility. Construction of the MIC station began in February 2008, with construction of the MIA station starting in March 2009.

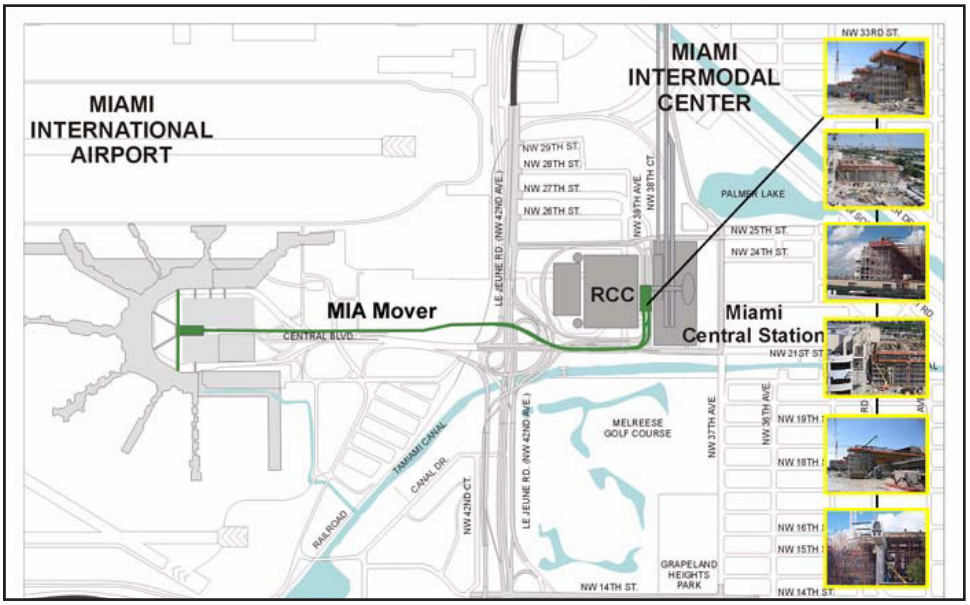

Figure 3. MIA Mover Route

Source: FDOT, *Miami Intermodal Center – MIA Mover Fact Sheet*, September 2011.

Construction of the guideway foundations commenced in June 2009 and was completed at the end of December 2009. The MIC station was completed in January 2011 and the MIA Mover became operational on September 9, 2011 with the completion of the MIA station. The MIA Mover is capable of transporting over 3,000 passengers per hour along with their luggage. Passengers ride the system free of charge.

The MIC project also includes improvements to roads and highways serving the MIC, MIA, and the area surrounding the airport. Roads and highways that will experience less traffic congestion include Le Jeune Road, State Road 112, and State Road 836.[9] During construction of the MIC and roadway improvements the traveling public in the area surrounding MIA, including the Cities of Miami, Miami Springs, Hialeah, and Coral Gables was expected to experience some adverse traffic impacts. The MIC Program established a Comprehensive Community Awareness Program and One-Stop Shop traffic information service to keep elected officials, community leaders and the public informed of the progress being made on the project and provide up-to-date information on lane closures, detours, and the status of construction projects in the airport area.[10]

A key element of the MIC Program is a joint development strategy that would capture some of the economic development potential stimulated by the project through public and private ground lease development opportunities.[11] It is envisaged that up to 1.4 million square feet of mixed-use development could be built in conjunction with the MCS, with an additional 4.5 million square feet of mixed-use development on privately owned land to the east of the MCS, as shown conceptually in Figure 4. Possible uses could include hotels, offices, retail and entertainment. When built out, it is anticipated that this development will help offset the capital and long-term operating costs of the MIC.

Figure 4. Potential Joint Development at Miami Central Station

Source: FDOT, *Miami Intermodal Center – Project Overview*, April 2011.

Although initially not part of the MIC Program, the 2.4-mile AirportLink Metrorail extension from the existing Metrorail Earlington Heights Station to the MIC shown in Figure 5 forms a key element of the overall project. This extension will terminate at the MCS, from where passengers can access the airport via the MIA Mover. Miami-Dade County broke ground on the extension in May 2009 and as of December 2011 the extension was scheduled to open in the spring of 2012,[12] although the MCS is currently not expected to be completed until sometime in 2013. By June 2012, the planned opening of the extension had slipped to later in the summer. The majority of the funding for the $506 million project will come from a half-percent sales tax under the People's Transportation Plan, discussed further below, with FDOT contributing $101.3 million.

HISTORY OF THE PROJECT

The purpose of developing the Intermodal Center was mainly to connect surrounding regions near the airport and to decongest local and regional roads. Planning for the Intermodal Center started in the early 1980's, although development was postponed due to environmental reasons. In 1989, after the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA), local planners decided to continue to pursue the

idea of an intermodal center for the airport. The main thought at the time was to link two major rail systems, Tri-Rail and Metrorail, with the airport.[13]

Figure 5. AirportLink Metrorail Extension

Source: Miami-Dade Transit, "AirportLink Metrorail Extension Project," www.miamidade.gov/transit/improve_airport.asp (accessed 12/10/11).

In 1993, the local agencies planning the intermodal center joined with FDOT, six federal agencies, and the U.S. Department of Transportation (USDOT) to undertake the planning and design of the facility. In 1995, the Federal Highway Administration (FHWA) approved FDOT's Major Investment Study/Draft Environmental Impact Statement. In May 1998, FDOT granted Kaiser Engineers a contract to serve as consultant program manager for the MIC Program. The following month the U.S. Congress passed the Transportation Equity Act for the 21st Century (TEA-21). Along with the passage of TEA-21, the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) was created to provide a federal credit program to invest in national and regional transportation programs. FDOT applied for a TIFIA loan for the MIC Program and was awarded $439 million in two separate installments. Since 2000, FDOT has been working with the Miami-Dade Board of County Commissioners and the rental car companies to pursue development of the MIC. Recognizing the need for broader inter-agency cooperation and coordination, in 2000 FDOT entered into strategic partnerships with Tri-Rail (now the SFRTA), Miami-Dade County, and the Miami-Dade Expressway Authority, and in 2001 formed a MIC Steering Committee with representatives of twelve participating stakeholders and associated agencies, including the Miami-Dade County Metropolitan Planning Organization, the greater Miami Chamber of Commerce, and the Greater Miami Convention and Visitor Bureau.[14]

In 2005, the latest revision to Federal surface transportation funding legislation, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), was passed and included the MIC within its funding plans. In addition, Florida Senator Mel Martinez and Congressman Mario Diaz-Balart inserted a provision in SAFETEA-LU

that allowed FDOT to count its $100 million contribution to the MIC-Earlington Heights Metrorail extension, which did not have a Federal funding component, as matching funds for other Miami-Dade transit corridors.[15]

Construction of the MIC began in 2001 with initial work by FDOT on the MIC roadway improvements, with utility and foundation work for the RCC commencing in June 2003 following award of a Construction Manager at Risk (CM@Risk) contract to Tuner Construction Company. The improvements to Le Jeune Road and the MIC-MIA interchange were completed in May 2008, marking the first component of the project to be completed. The RCC was completed in July 2010, with the MIA Mover becoming operational in September 2011, as noted above. As of the date of this case study, work is continuing on the MCS with a planned opening in 2013.

PROJECT COSTS

Detailed information on the evolution of project costs for the various elements of the MIC development program is available from the Annual Financial Plan Updates prepared by FDOT. As of the date of this case study, the most recent Annual Financial Plan Update was dated May 31, 2011 and included cost estimates (actual costs in the case of completed elements) as of the April 2011 work program.[16] The estimated project costs for the various elements of the overall program are shown in Table 1 as of the April 2011 work program, together with changes from the April 2010 work program and an earlier cost estimate prepared in July 1999 in support of an application for a federal loan under the Transportation Infrastructure Finance and Innovation Act.

Table 1. Miami Intermodal Connector Estimated Project Costs

	Amount $(000)		
	July 1999 TIFIA Loan Application	**April 2010 Work Program**	**April 2011 Work Program**
Right-of-way acquisition and environmental remediation	379,072	338,330	339,282
Initial MIC Core (Miami Central Station)	80,696	760,254	739,214
Road improvements	143,424	187,834	186,950
MIC/MIA connector (people-mover)	399,680	270,116	270,071
Rental car facility	161,554	386,910	395,084
Capitalized interest	61,390	53,964	33,017
Rental car facility reserves and costs	5,715	0	0
Other	118,203	85,929	79,598
Total	**1,349,734**	**2,083,337**	**2,043,216**

Source: FDOT, *MIC 2011 Annual Financial Plan Update*, May 2011.

Overall the estimated project costs increased by a little over 54% from 1999 to 2010. The largest contribution to this increase was the Miami Central Station, the estimated cost for which increased to more than nine times the original estimate, followed by the rental car

facility, the estimated cost for which increased by about 145%. However, the apparent increase in cost for the Miami Central Station is misleading because the 2010 and 2011 estimates include the AirportLink extension of the Miami-Dade County Metrorail system, which was considered a separate project in 1999 and not included in the 1999 MIC cost estimate. The current estimated cost for the AirportLink extension is $540.2 million, with the other components of the MCS projected to cost $199.0 million, an increase of 147% over the July 1999 estimate. This increase reflects a significant change in the design of the MIC since the July 1999 estimates were prepared. At that time it was envisaged that the area to the east of the RCC on the current site of the MCS would be used for a landside terminal for MIA, with rail connections to the MIC located at a “Rail Node” north of NW 25th Street that would provide a station for Tri-Rail (now SFRTA) services. Subsequently MDAD decided to forego a landside terminal and the Miami-Dade Board of County Commissioners decided to develop the MCS on the site to improve the intermodal connections between the MIC and Metrolink and Amtrak as well as Tri-Rail (and any other future rail services).[17]

The total estimated project cost reduced slightly from 2010 to 2011, due primarily to reductions in the estimated costs to complete the MCS ($21 million), estimated capitalized interest ($20 million), and estimates of other costs including the cost of roadway improvements ($7 million), partly offset by an increase of $8 million in the cost of the RCC.

The project costs shown in Table 1 include separate program elements for right-of-way acquisition and environmental remediation, and capitalized interest. While these are shown as separate elements, these costs result from the various physical elements of the MIC project. The breakdown of the total cost shown in Table 1 into the different types of activity is shown in Table 2.

As could be expected, the largest component of the estimated costs was for construction, which by April 2011 accounted for about 70% of total project costs. The second largest component was right-of-way acquisition, which accounted for about 15% of total project costs. Design activities accounted for less than 5% of total project costs, while project engineering, feasibility studies, preparation of National Environmental Protection Act (NEPA) documentation, project administration, and construction engineering and inspection accounted for somewhat over 6% of total project costs. Environmental remediation costs accounted for less than 2% of total project costs. By April 2011, program contingency costs had decreased to only 0.4% of total project costs since these estimated costs decrease as construction of different elements of the project are completed.

Estimated financing costs accounted for only 1.6% of total project costs, the largest part of which was the estimated capitalized interest on a TIFIA loan for the rental car facility. By April 2010 the estimated capitalized interest on the original TIFIA loan for the project was significantly reduced from the initial estimate in 1999 due to the refinancing measures discussed further below in the section on Federal Funding, although the estimated capitalized interest on a second TIFIA loan for the RCC had increased due to an increase in the amount of the loan, also discussed below. This increase was largely eliminated by April 2011 by refinancing the TIFIA loan with a loan from the Florida State Infrastructure Bank (SIB) at a more favorable interest rate.

Table 2. Miami Intermodal Connector Estimated Project Costs by Activity

Program Activity	Amount $(000) July 1999 TIFIA Loan Application	April 2010 Work Program	April 2011 Work Program
Project engineering, feasibility studies, and NEPA documentation	22,737	21,983	21,983
Right-of-way acquisition	306,035	305,985	306,937
Environmental remediation	73,037	32,345	32,345
Design	123,426	91,671	94,605
Project administration	33,152	47,998	48,820
Construction engineering and inspection	48,448	40,343	58,837
Construction	613,480	1,473,100	1,437,877
Program contingency	62,314	15,948	8,795
Subtotal before financing	***1,282,629***	***2,029,373***	***2,010,199***
Financing			
TIFIA capitalized interest - FDOT	32,327	2,107	2,107
TIFIA capitalized interest - RCC	29,063	51,857	28,352
SIB capitalized interest			2,558
Rental car facility reserves and costs	5,715	0	0
Subtotal	***67,105***	***53,964***	***33,017***
Total	**1,349,734**	**2,083,337**	**2,043,216**

Source: FDOT, *MIC 2011 Annual Financial Plan Update*, May 2011.

FUNDING SOURCES

In addition to details on project costs, the Annual Financial Plan Updates also provide details on funding sources. The MIC Financial Plan draws on a range of federal, state and local funding sources, as well as private-sector contributions.[18] By April 2010, the majority of the funding comprised a combination of federal, state, and local funding programmed through the Miami-Dade County Transportation Improvement Program (TIP) and Long Range Transportation Program (LRTP). In addition, the financing plan includes local funding contributions from the MIA Airport Capital Improvement Plan, Miami-Dade Expressway Authority toll revenue and revenues from the rental car companies using the RCC. Initially it was anticipated that the Miami-Dade Transit Agency (MDTA), as it was then called, would provide some funds from its local revenues, although this was later dropped from the financing plan.

In addition to grants and other direct revenues, the financing plan for the project relies on a number of major loans. As a project designated by the federal government as a Project of National Significance, and subsequently designated a Major Project, the MIC Program was eligible to apply for a federal TIFIA loan. FDOT applied for and received two TIFIA loans for the project, as discussed in more detail below in the section on Federal Funding. Additional loans have been made or committed by the Florida State Transportation Trust Fund and the Florida State Infrastructure Bank.

As can be expected in a complex project of this scale and duration, the financing plan has evolved over time, in part to reflect changing estimates of the total cost to complete the project and in part due to changes in the sources of funds planned to finance the project. The planned amounts and sources of funding as of the April 2010 and April 2011 work programs and the initial funding plan in the July 1999 TIFIA loan application are shown in Table 3.

Table 3. Miami Intermodal Connector Funding Plan

Source of Funds	Amount $(000) July 1999 TIFIA Loan Application	April 2010 Work Program	April 2011 Work Program
Federal contributions			
TIP/LRTP and prior	106,718	23,058	6,353
State and local contributions			
TIP/LRTP and prior plus other state	157,033	1,072,043	1,047,548
Airport Capital Improvement Plan	399,680	159,343	155,196
Dedicated revenues from RCC	25,000	110,697	113,496
Miami-Dade Expressway tolls	86,568	86,169	86,157
MDTA non-federal contributions	15,000		
Ancillary revenues	37,000	4,704	3,881
Subtotal	***720,281***	***1,432,956***	***1,406,278***
Financing			
TIFIA loans plus capitalized interest	497,735	338,416	315,458
State Transportation Trust Fund loan		246,051	245,242
SIB loan plus capitalized interest	25,000	42,856	69,885
Subtotal	***522,735***	***627,323***	***630,585***
Total	**1,349,734**	**2,083,337**	**2,043,216**

Source: FDOT, *MIC 2011 Annual Financial Plan Update*, May 2011.

As shown in Table 3, by April 2011, state and local funds were planned to account for about 69% of total project funding, of which by far the largest share (75% of state and local funds) consists of state and local funds programmed through the TIP/LRTP and other state funds. The share of project funding planned to be contributed from the MIA Airport Capital Improvement Program dropped significantly over the course of the project, until by April 2011 it accounted for less than 8% of total funding (11% of state and local funds). TIFIA and state loans, which of course have eventually to be repaid, accounted for about 31% of the planned project funding.

In addition to a wide range of federal, state and local government funding sources, somewhat less than 6% of the total project funds are projected to be provided from fee revenues from the rental car companies using the RCC. These fee revenues are derived from a transaction-day fee charged to customers renting vehicles for each day of the

rental. This fee revenue is planned to serve three purposes: a direct contribution to the construction costs of the RCC facility, a contribution to future operating and maintenance costs of the MIC, and to pay off the loans used to finance the RCC facility, as discussed further below in the section on Rental Car Revenues.

As can be seen from Table 3, federal contributions to the project apart from the TIFIA loans (which of course have to be repaid) have been relatively small, with the bulk of the funding coming from state and local sources. Figure 6 shows the proportions of the total funding plan derived from federal, state, and local funding programs, including loans, as well as from rental car revenues.

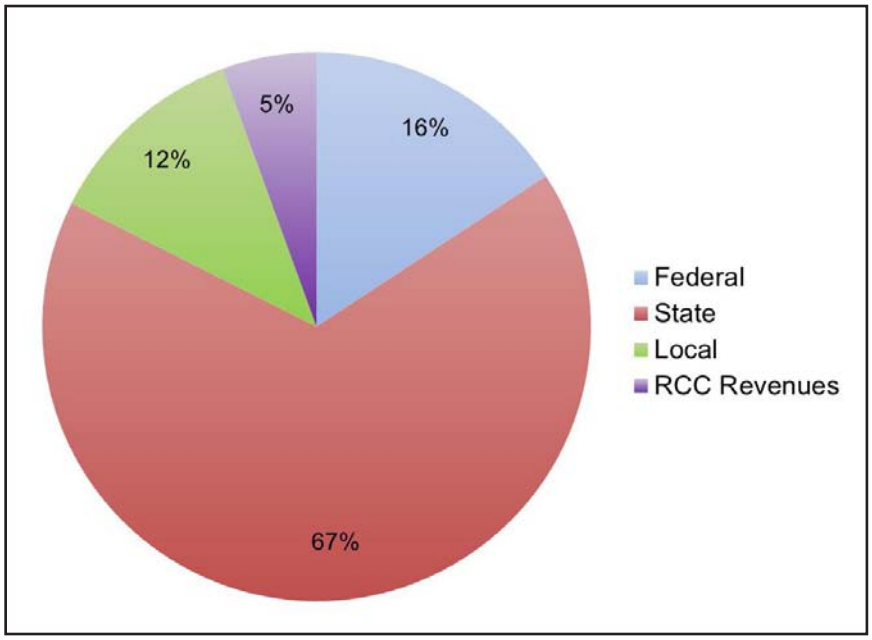

Figure 6. Miami Intermodal Center Funding

Source: Author analysis, from FDOT, *MIC 2011 Annual Financial Plan Update*, May 2011.

However, the division of funding sources into federal, state and local categories is somewhat arbitrary due to comingling of funds from different sources within a funding program. For example, the Florida State Infrastructure Bank derives some of its funds from the federal government and some from state tax revenues. For the purposes of Figure 6, the SIB loans were considered state funding. Similarly, the state and local TIP and LRTP funds were considered state funds, since the majority of the funds in these programs are administered by the state. Funding contributions from the MIA Airport Capital Improvement Program and the Miami-Dade Expressway tools were considered local funds.

Federal Funding

The size and duration of the project did not allow the MIC to be funded in a single funding cycle. Therefore the project is being funded on a pay-as-you-go basis over time. The project was initially divided into two phases with the first phase planned to be fully funded within 15 years of starting the project. However, it was realized that this would produce cash flow constraints and higher costs for right-of-way acquisition and construction. To help ease

the cash flow, In July 1999 FDOT applied to the then recently established federal TIFIA program for financial assistance and in September 1999 the USDOT selected the project for two TIFIA loans for a total of $433 million. The first loan allocated $259 million towards overall project costs including more rapid land acquisition and was to be repaid from state and motor fuel taxes. The second loan allocated $164 million to finance the rental car facility, to be repaid by rental car fees.[19]

The first loan closed on June 9, 2000. Negotiation on the second loan continued for several years and it closed on April 29, 2005 at the amended level of $170 million. By July 2006, FDOT had drawn $15 million of the first loan and on July 3, 2006, FDOT repaid the full amount of the loan plus $2.1 million in interest because it had been able to replace the loan with a more competitive internal loan through the State Transportation Trust Fund (STTF).[20] In July 2007 an additional $100 million was requested for the second loan to help cover increased construction costs for the RCC, which the FHWA approved in an amended loan agreement dated August 1, 2007 and signed on August 28, 2007.

There has also been a small amount of Federal funding from the Federal component of TIP and LRTP grants, as well as $2.3 million in grants under the 2009 American Recovery and Reinvestment Act (ARRA) for the intercity bus component of the MCS.[21]

The federal share of the overall funding for the MIC Program is fairly small for a project of this scope and scale, and the great majority of the federal funding is in the form of loans that have to be repaid from state and local funding sources.

State and Local Funding

The largest component of the funding plan for the MIC Program consists of state and local transportation funds programmed through the Miami-Dade Metropolitan Planning Organization TIP and LRTP, accounting for 51% of total program costs. Since July 2006 these have been supplemented by a no-interest loan from the STTF that was used to replace the first TIFIA loan as discussed above. By April 2011 the MIC Program had received three smaller loans from the State Infrastructure Bank (SIB). The first of these was awarded early in the project and provided $25 million, with $18 million allocated to the MIA Mover station at the MIC and $7 million allocated to relocation of the Tri-Rail station. With the changes in the design of the MCS, by April 2010 this had been restructured to $22.3 million and allocated to the two MIA Mover stations and the RCC facility and exit ramps. A second SIB loan of $20 million for the MCS was awarded on November 25, 2009, with a third SIB loan of $25 million for the MCS awarded on November 5, 2010.[22]

Local funding includes contributions to the construction of the MIA Mover from MDAD under the MIA Airport Capital Improvement Plan and funding from Miami-Dade Expressway toll revenue. The majority of the funding for the AirportLink extension of the Metrorail system from Earlington Heights Station to the MCS, some $405 million, is being funded from a half-percent local sales tax under the People's Transportation Plan (PTP) and programmed through the Miami-Dade LRTP.[23] The PTP was approved by Miami-Dade voters on November 5, 2002 in a ballot measure that authorized a halfpercent sales tax surcharge for transportation projects and established a Citizen's Independent Transportation Trust to

oversee the distribution of the sales tax proceeds and implementation of the PTP's $17 billion business plan over 25 years.[24]

Rental Car Revenues

A transaction fee on rental car users, termed a Customer Facility Charge (CFC), forms a key source of revenues to contribute to the construction costs of the RCC, repay the TIFIA loan for the RCC, and cover future maintenance and operating costs of the RCC, as well as part of the maintenance and operating costs of the MIA Mover. The CFC is set at a fixed amount per day that a vehicle is rented from one of the rental car companies using the RCC. The amount increases over time according to a schedule defined in the Miami-Dade County Code and incorporated in the concession agreement between the County and the participating car rental companies using the RCC. The CFC was established by a County ordinance in July 2000 following the award of the first TIFIA loan and set at a rate of $3.00 per day, to increase with the opening of the RCC to an unspecified amount sufficient to cover debt-service costs and certain operating expenses. The July 6, 2000 ordinance establishing the CFC also prohibited rental car companies serving the airport from picking up or dropping off customers at the terminal curbs or elsewhere on the airport once the RCC was in operation and required them to either base their operations in the RCC or pick up and drop off customers at the RCC or MIC.[25]

The July 2000 ordinance specified that the CFC would be collected by all car rental companies that agreed to serve as participating car rental companies in the RCC, starting at a date to be determined by the County Aviation Director but no earlier than January 1, 2002. However, it took until April 2004 for the County to sign a Concession Agreement with 13 rental car companies in which they agreed to participate in the RCC. Three other companies signed letters of intent to sign the Concession Agreement pending satisfactory resolution of space allocation issues in the RCC.[26] As a result, collection of revenues from the CFC did not start until May 2004.

The Concession Agreement included a provision for the participating rental companies to pay rent for the facilities in the RCC, termed Contingent Rent, in addition to collecting the CFC in the event that CFC revenues are not sufficient to meet the debt service obligations, operating and maintenance costs of the facility, and the required contribution to operating and maintaining the MIA Mover.

Subsequent amendments to the Code raised the CFC during the period before the RCC was opened to $3.25 in July 2004 and to $4.00 in July 2007. The July 24, 2007 County ordinance raising the CFC to $4.00 until the RCC became operational also specified that with the opening of the RCC, the CFC would be increased to $4.60 per day, with a further increase of $0.25 every five years thereafter.[27] During the so-called Early Collection period before the RCC became operational, the revenues from the CFC were used to contribute toward the construction costs of the RCC on a pay-as-you-go basis. Once the RCC became operational, the CFC revenue were to be used to meet the debt service requirements of the TIFIA loan as well as cover operating costs of the facility, including operating the consolidated shuttle bus system that provided the transportation link between

the airport and the RCC between the dates that the RCC opened and the MIA Mover became operational.

The funds from the CFC are deposited in a Revenue Fund managed by an independent Fiscal Agent, currently Wells Fargo Bank. The Fiscal Agent also manages five other funds defined in the TIFIA Security Agreement: an Administrative Expenses Fund, an Operating Expense Fund, a Debt Service Fund, a Land Acquisition Fund, and a Rental Car Facility (RCF) Secondary Reserve Fund.[28] CFC revenues are transferred from the Revenue Fund to the other funds periodically on dates specified in the Security Agreement, from which they are in turn transferred to MDAD, FDOT, or the USDOT to cover operating and maintenance expenses, repay FDOT for land acquisition costs, or repay principal and interest on the TIFIA loan. The Operating Expense Fund and Debt Service Fund each have their own reserve accounts, with the Security Agreement specifying the amounts of money to be maintained in the reserve accounts.

As of September 30, 2009 the balance in the Revenue Fund stood at $52.7 million. Over the course of the following year, during which the RCC became operational, an additional $25.7 million in CFC revenue was deposited in the fund, $15.7 million was transferred to the Operating Expense Fund, and $55.3 million was transferred to FDOT for reimbursement of capital costs. In addition $5.0 million was transferred to the RCF Secondary Reserve Fund, the first transfer to this fund, and $98,000 was transferred to the Administrative Expenses Fund.[29] Projections of future CFC revenues and their use over the maximum duration of the TIFIA loan included in the 2011 Annual Financial Plan Update[30] indicate that from fiscal year 2011 through fiscal year 2044 CFC revenues were projected to total an additional $1.66 billion. Of this, $373 million would be transferred to the RCF Operating Expense Fund, $298 million would be transferred to the Principal Account in the Debt Service Fund to pay off the TIFIA loan, $148 million would be transferred to the Interest Account in the Debt Service Fund, and $95 million would be transferred to the Land Acquisition Fund to repay FDOT for land acquisition costs. During this period the balances in the Revenue Fund and RCF Secondary Reserve Fund were projected to earn an additional $181 million in interest. Based on the current forecast of transaction days over the period of the loan, it was projected that the land acquisition costs would be paid off by the end of fiscal year 2022 and the principal on the TIFIA loan would be paid off by the end of fiscal year 2028.

From that point on, the CFC revenues would continue to cover the operating and maintenance costs of the facility and a share of those for the MIA Mover, together with administrative expenses, but the financial plan update shows that the balance in the RCF Secondary Reserve Account would steadily accumulate until by the end of fiscal year 2044 the combined balances in the Revenue Account and the RCF Secondary Reserve Account would total $925 million. There is no discussion in the financial plan about what would happen to this money, although some of it could be used to pay off the STTF and SIB loans. Of course, if the projected growth in the number of transaction days per year turns out to be overstated, it would take longer to pay off the TIFIA loan and the balance in the RCF Secondary Reserve Account would be less. The current Miami-Dade County Code defining the CFC rate allows for the Board of County Commissions to make periodic adjustments to the CFC rate, so presumably they could reduce the rate if it becomes

apparent that the CFC revenues are exceeding the amount needed to pay off the TIFIA and other loans and cover on-going costs of operating the RCC.

SUMMARY AND CONCLUSIONS

The Miami Intermodal Center (MIC) represents what is easily the most ambitious attempt to date to create a major regional intermodal hub adjacent to a large U.S. airport. Located 1.25 miles to the east of the passenger terminal complex at Miami International Airport (MIA), the MIC project includes a Rental Car Center (RCC) that accommodates the operations of all on-airport rental car companies, as well as serving as the pickup and drop-off location for all off-airport rental car companies, an automated people-mover termed the MIA Mover that transports passengers and their baggage between the MIC and the airport terminals, and a major rail and bus facility termed the Miami Central Station (MCS). The MCS will provide a major regional intermodal hub for rail and bus services, including the regional Metrorail transit system, commuter trains operated by the South Florida Regional Transportation Authority (SFRTA), and Amtrak. The RCC opened in July 2010, the MIA Mover commenced operations in September 2011, and the MCS is projected to be completed in 2013.

In addition to the RCC, the MCS, and the MIA Mover, the MIC project has included improvements to surrounding highways and roadways and includes plans for future joint development of mixed-use facilities adjacent to the MCS that would generate revenues to support future operations and maintenance of the MIC.

Not surprisingly for a project of the scale and scope of the MIC, by the time development of the MIC and associated infrastructure is completed, construction will have been underway for at least twelve years. As might be expected, the details of the project have also evolved over time and the funding plans have also had to evolve to accommodate changes both in the cost and scope of the project, as well as take advantage of new funding opportunities that have emerged over the course of the project. By far, the largest component of the funding for the project has been a series of capital project grants from state and local transportation funding programs, mostly programmed through the regional Transportation Improvement Plan and Long Range Transportation Plan process. A key component of the funding plan for the MIC project has been a $270 million loan from the federal Transportation Infrastructure Finance and Innovation Act (TIFIA) program. This loan has been supplemented with additional loans from the Florida State Transportation Trust Fund (STTF), and the Florida State Infrastructure Bank (SIB). The extension of the Metrorail system from the existing Earlington Heights station to the MIC is being primarily funded with revenues from a half-percent local sales tax approved by Miami-Dade County voters under a measure termed the People’s Transportation Plan.

A second major component of the funding plan is the revenue from a Customer Facility Charge (CFC) that is levied on all rental car transactions by the rental car companies operating in the RCC. This revenue has been used to cover some of the construction costs on a pay-as-you-go basis, and will be used in the future to cover the interest and pay off the principal on the $270 million TIFIA loan, as well as cover some of the land acquisition costs for the RCC, the operating and maintenance expenses for the RCC, and contribute

toward the operating and maintenance costs of the MIA Mover. Assuming that the current projections of future CFC revenues actually materialize, by the end of fiscal year 2044 the CFCs will have generated an additional $1.66 billion beyond the funds contributed through the end of fiscal year 2011. After payment of principal and interest on the TIFIA loan, payment of projected operating and maintenance costs, and contributions to land acquisition costs, this would leave $925 million from CFC revenues. The current financial plan for the MIC does not address how any surplus revenues from the CFCs would be used, although they could be used to pay off some or all of the STTF and SIB loans.

Development of a project of the scale and complexity of the MIC has required a sustained and major commitment of a large number of stakeholders, including the Florida Department of Transportation (FDOT), the Miami-Dade Aviation Department (MDAD), Miami-Dade Transit, the South Florida Regional Transportation Authority, and a number of other stakeholders. These agencies have not only cooperated in planning the project, but have contributed funds from their own budgets to finance elements of the project. Fundamental to the successful completion of the project has been the unwavering commitment and financial support of FDOT, as well as consistent support from the Miami-Dade Board of County Commissioners and other regional stakeholders. Beyond provision of financial support for the MIC project, FDOT has also served as the primary implementing agency, staffing the MIC Program Office, hiring the consulting and contracting firms responsible for planning, design, and construction of the facilities, and coordinating the efforts of the multiple stakeholders involved in the project.

Perhaps the most striking aspect of the MIC Program from the perspective of intermodal airport access is how little MDAD has contributed to the entire project from its own Airport Capital Improvement Plan. In the July 1999 application for a TIFIA loan for the RCC, it was envisaged that MDAD would contribute $400 million toward the construction of the MIA Mover and a planned landside facility at the MIC that would allow air passengers to check in and check baggage. By the April 2011 Work Program, this had reduced to $155 million, partly by eliminating the planned landside facility from the MIC program, partly from shifting responsibility for constructing the MIC station for the MIA Mover to FDOT, and partly from negotiating a design-build-operate-maintain contract for the MIA Mover at a lower cost than originally budgeted. Thus for a fairly modest capital investment of $155 million (modest compared to typical airport terminal improvement programs) MDAD has not only obtained a world-class intermodal facility at its front door linked to the airport terminals by an automated people-mover, but has been able to reduce the amount of vehicular traffic on the terminal roadways and at the curbfront by consolidating all the on-airport rental car companies in the MIC, requiring all the off-airport rental car companies to pick up and drop off their customers at the MIC, and replacing the rental car courtesy buses with an automated people-mover. In addition, the Miami-Dade County Code provides the authority to require other courtesy buses, such as those for hotels and off-airport parking, to pick up and drop off their passengers at the MIC in the future, thereby reducing the need for potentially expensive improvements to terminal roadways and expanded curbfront capacity.

It remains to be seen how the improvement in intermodal connectivity that will be provided by the MCS once it becomes operational will enhance travel in the greater Miami region or

encourage greater use of public transportation for travel to and from MIA. Certainly access to MIA by Metrorail and SFRTA commuter trains will be significantly improved, as well as connectivity between Amtrak services and the airport. Co-locating the airport consolidated rental car facility with the intermodal hub created by the MCS not only allows the MIA Mover to serve both facilities but allows revenues generated by rental car CFCs to cover a large share of the capital and operating costs involved in the combined facility.

In summary, the MIC provides a promising model for the development of a major airport as a regional intermodal hub that leverages required investments in airport landside facilities and airport access services to both enhance airport access and serve a broader range of regional surface travel. Key to the implementation of this model is the participation of a wide range of regional stakeholder agencies in the planning and funding of the facility, as well as the use of broad range of different funding sources, some more usually associated with airport infrastructure development and others generally used for surface transportation projects. In the case of the MIC, these include a mix of direct funding, loans, and fees from commercial operations and eventually joint land use development opportunities.

ABBREVIATIONS AND ACRONYMS

ARRA	American Recovery and Reinvestment Act
CFC	Customer Facility Charge
CM@Risk	Construction Manager at Risk
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
ISTEA	Intermodal Surface Transportation Efficiency Act
LRTP	Long Range Transportation Program
MCS	Miami Central Station
MDAD	Miami-Dade Aviation Department
MDBCC	Miami-Dade Board of County Commissioners
MDCT	Miami-Dade County Transit
MDTA	Miami-Dade Transit Agency
MIA	Miami International Airport (airport code)
MIC	Miami Intermodal Center
MTI	Mineta Transportation Institute
NEPA	National Environmental Policy Act
PTP	People's Transportation Plan (Miami-Dade County program)
QTA	Quick turnaround area (rental car facility)
RCC	Rental Car Center
RCF	Rental car facility
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SFRTA	South Florida Regional Transportation Authority
SIB	State Infrastructure Bank
STTF	State Transportation Trust Fund
TEA-21	Transportation Equity Act for the 21st Century
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIP	Transportation Improvement Program
USDOT	U.S. Department of Transportation

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PEER REVIEW

San José State University, of the California State University system, and the MTI Board of Trustees have agreed upon a peer review process required for all research published by MTI. The purpose of the review process is to ensure that the results presented are based upon a professionally acceptable research protocol.

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