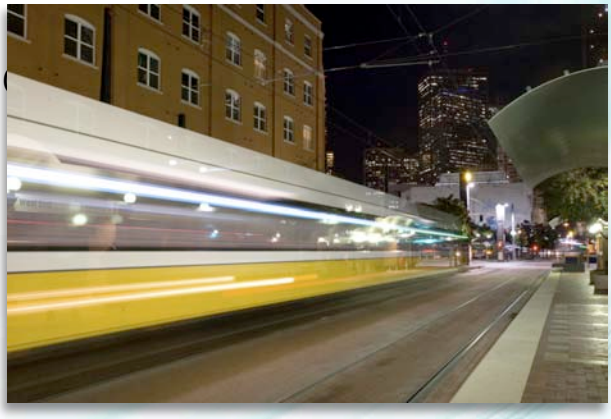
Infrastructure Management Group, Inc.

EVALUATING INNOVATIVE FINANCING OPPORTUNITIES FOR MIAMI-DADE TRANSIT

Miami-Dade County Citizens' Independent Transportation Trust

DRAFT REPORT



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Executive Summary

Like many transit agencies across the U.S., Miami-Dade Transit (MDT) is facing severe challenges due to budget limitations, aging infrastructure, and demand for increased services. It has become apparent that realizing planned capital development, such as the Orange Line metrorail expansion, will not be possible through traditional grant and debt funding alone. The purpose of this report is to research the best practices in innovative transit funding, and provide a preliminary evaluation of the potential for MDT to utilize these innovative tools to deliver projects planned in its capital program. Detailed financial analysis of the innovative finance potential for specific projects is envisioned as a future phase of this assignment.

Methodology
Analysis for this report consisted of four major stages:

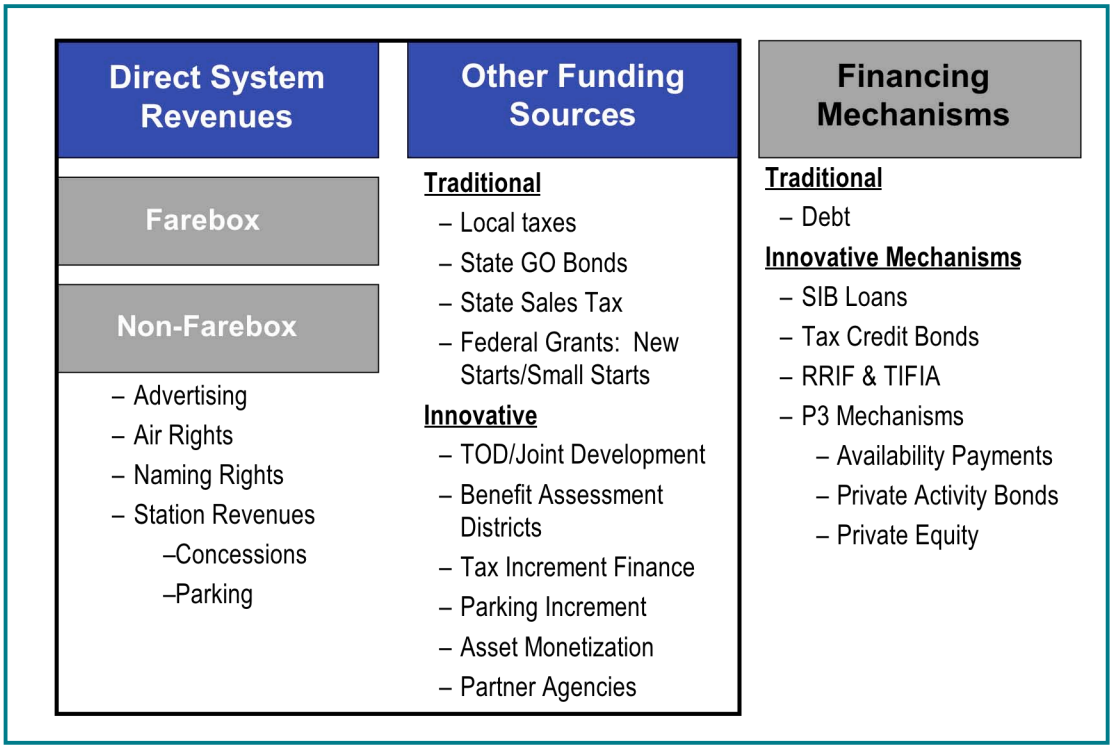
1) In the **data gathering** stage, we sought to understand the issues and challenges that MDT, the CITT, and the County face by conducting meetings with over 28 County staff, agency personnel, and other stakeholders. In addition, existing data and reports regarding MDT's capital program and budget issues were reviewed. We also gathered information about past innovative financing projects in Miami-Dade County. While we sought to understand legal and political challenges to innovative finance, the recommendations in this report are not constrained by these issues.

2) Based on a review of literature and the IMG Team's extensive background in innovative finance, potential **funding instruments and development techniques** were identified and described. These are the key tools that the County may use for innovative finance are divided into three categories:

    - Direct system revenues beyond farebox, including parking, concessions, advertising, naming rights, and air rights
    - Innovative funding sources, such as transit-oriented development (TOD), benefit assessment districts (BADs), tax-increment financing (TIF), and working with partner agencies
    - Innovative financing mechanisms that can be used to leverage funding streams, including subsidized loans from the Florida State Infrastructure Bank, the U.S. DOT Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) programs, availability payments, private activity bonds, and private equity. Public-private partnerships (P3) are a key part of these mechanisms.

    The figure below shows how these innovative financing tools link with traditional funding.

Potential Funding Sources and Financing Mechanisms



3) Transit agencies across the U.S. are seeking to implement innovative finance solutions, with new ideas and techniques constantly being developed and refined. The report in includes **best practice case studies** from seven innovative transit agencies detailing 16 projects that have innovative finance elements, and how the lessons learned can be applied to MDT as summarized below.

Agency	Best Practice Utilized
Washington Metropolitan Area Transportation Authority (WMATA)	TOD, BAD, P3
Metropolitan Atlanta Rapid Transit Authority (MARTA)	TOD, TIF
Bay Area Rapid Transit (BART)	TIFIA, Potential DBOM P3
Dallas Area Rapid Transit (DART)	TOD, P3
TriMet and Portland Streetcar	P3 with real estate compensation
Greater Cleveland Regional Transit Authority (GCRTA)	Naming Rights
Veolia Transportation	Private Operator
Pace Suburban Bus Service	Outsourcing contract
Denver Regional Transportation District (RTD)	P3, TOD

Many of the tools are not new to the County, which has had success with innovative finance on projects such as the Miami Intermodal Center, joint development projects at Dadeland North and South metrorail stations, and the Overtown station, among others.

The case study analysis found that real estate is the central component of much innovative finance, most often through the use of special assessment districts (TIF and BAD). Beyond real estate-related P3s, there are other forms of P3 experimentation; however, there have been few noteworthy successes to date. Although not a source of capital funding, private operations and outsourcing maintenance have provided benefits to transit agencies.

4) In the **compilation stage**, the findings from the first three phases were brought together to provide a guide to the CITT and MDT regarding which projects have the most innovative finance potential and the tools that are most likely to be successful for each. For this task, the Team reviewed the MDT capital plan and the People's Transportation Plan (PTP), and provided two filters to identify projects with potential for innovative finance:

   Level 1: Basic Project Selection
   About 23 projects passed this filter, which requires that projects are in the planning or development phase, have a cost of at least $20 million, and are discrete and well-defined.

   Level 2: High-Level Feasibility
   This consisted of a more detailed assessment of those projects passing the first filter to identify projects with high demand; assets, such as parking lots, that lend the project to joint development, potential to take advantage of special assessment districts, and have a development schedule and cost structure that are appropriate for one or more innovative instruments. In addition to the North and East-West corridors, six other projects passed this second filter, and their innovative financing potential is discussed in detail in the report.

Key Findings

Funding constraints will limit the County's ability to develop large transit projects such as heavy rail in the North and East-West corridors in the near future. However, there are opportunities to develop smaller transit projects, using both conventional as well as innovative financing and project delivery methods. Based on our review of other transit agencies and discussions with local stakeholders, it is clear that bringing innovative finance to MDT projects will be challenging, particularly in the short term due to the current economic downturn. Many of the most promising tools, such as special assessment districts, require an expanding economy and active real estate market to be successful, and can take many years to develop even in the best of circumstances. Therefore, in the short term, innovative financing will only support smaller projects, and apply to larger projects on a medium and long-range time scale. A focus on reducing MDT operating costs and keeping the existing system in a state of good repair will provide financial flexibility for future capital expansion.

The following projects have the most potential for implementation through innovative finance solutions, and deserve further analysis of their potential for implementation, including understanding which financing instruments provide the most appropriate leverage for available funds.

1. North Corridor. There are a number of innovative funding alternatives that could provide financial support for this project, including tax increment financing, joint development and parking opportunities. In particular, the two stations closest to the Broward County line have significant park-and-ride

potential. There could be opportunities to take advantage of the park-and-ride potential of the stations near the Broward County line at NW 215th and NW 199th street for future express bus service. Land is available for significant parking, with good access to I-95 and other highways. Private involvement in the park-and-ride lots would have potential to offset some of the cost of development. Joint development programs at other North Corridor stations may have potential, but will be more difficult to implement due to the current economic realities in the corridor. However, reduced real estate prices provide an opportunity to acquire land at low cost, and to implement TIF districts that will produce revenue for the project as property values rise, and help to set the groundwork for future selected joint developments. Furthermore, all of these options should be aggressively pursued in order to bring higher speed transit service to the corridor as quickly as possible.

2. East-West Corridor, Metrorail 8th Street Alignment. The density of development and robust economic activity in the region make the East-West Corridor 8th Street Alignment a strong candidate for innovative finance to support traditional funding planned for the project. Many of the planned stations have at least some potential for joint development and/or parking projects. Given the strong economy and real estate values adjacent to this alignment, a benefit assessment district for key stations, or for the entire line, may be possible. However, the available innovative financing alternatives would not be sufficient to significantly defray the cost of a heavy rail system.

3. East-West Corridor, State Road 836 Alignment. Miami Dade Expressway Authority (MDX) expressed a willingness to provide right-of-way and/or invest in capital for transit projects, so long as those projects are self-sustaining operationally MDX has specifically identified SR 836 for providing such services. Unlike the MDT system, which requires operating subsidies, the positive cash flow of the MDX toll roads provides a revenue stream that can be directed for capital projects involving transit uses. The East-West Corridor along 836 has a high potential for innovative finance options as a public project or a P3. MDX plans include dedicating right-of-way along 836 for rapid bus service and, potentially, investing toll revenues in the capital costs for stations. BRT service in MDX corridors could also provide an opportunity to include other innovative finance tools as part of the financing package to pay for capital and operating costs.

4. Partner with MDX and FDOT on Corridor Development. Regarding FDOT, funds and property may be available for local transit uses, as has occurred near the Miami Intermodal Center (MIC). The proposed 85-mile rail line along the South Florida East Coast Corridor (SFECC), currently in Phase 2 of study, provides an opportunity for linking with FDOT and using innovative finance tools. MDT is also a partner agency in this project.

5. Other Corridors. The project team also reviewed the South Miami-Dade Busway. The busway serves a congested and expanding corridor, creating the potential that corridor users will be willing to pay for improved service and access. This could take the form of additional park-and-ride lots, higher-speed transit, and transit-oriented development in the corridor. Furthermore, MDX has expressed willingness to invest in transit in the corridor if some access for cars could be permitted. All options for investment in the busway corridor should be analyzed for short and medium/long term innovative financing potential.

Next Steps

Three actions are recommended as next steps beyond this study to move MDT toward innovative finance solutions:

1. Request input on the future direction of the transit system and the conclusions of this report from Miami-Dade County, MDX, FDOT and other relevant parties. Our interviews with County staff found a wealth of ideas and interest in innovative finance techniques, and this input from the key action agencies will help to understand the potential for success.

2. Select projects for detailed innovative finance analysis. Based on our preliminary analysis in this report, four projects have high potential for innovative solutions. Phase II of this analysis would examine the potential revenue that could be generated through innovative techniques for each project, and the financing mechanisms most appropriate to leverage traditional and innovate funding sources to deliver the projects as quickly as possible. This analysis will enable decision makers to focus on innovative finance opportunities that have the maximum potential to enable projects to be completed ahead of schedule.

3. Review legal and contractual issues. Preliminary discussions with County attorneys found that the legal basis exists for most innovative financing techniques discussed in this report. However, a review of the legal process for high-likelihood projects is needed to determine feasibility. In addition, union and other contractual issues may affect the projects. While this report has not been constrained by legal or contractual issues, a next step is to identify any roadblocks so steps can be taken to clear the path for innovative finance.

I. Report Overview: Background and Purpose

Transit agencies in the U.S. face daunting financial challenges compared with highway and road counterparts. This is in part because highways are funded—at least until recently—with a steady funding stream primarily based on gas taxes from state and federal sources. While transit agencies also receive gas tax monies, they draw from a number of other funding sources, including general funds, sales taxes, state and local grants, fares, real estate and value capture fees. Transit is much more "operations-intensive" than highways and roads, necessitating a large workforce of bus and train operators, maintenance staff, and staff tasked with myriad other duties, including for system oversight, safety and security, station management, and fare collection. Transit agencies are complex organizations with numerous on-going challenges, including with labor-management relations, benefits funding (pensions and health care), an aging workforce, security concerns (especially after 9/11), complicated procurement regulations, system optimization needs, and for old and new properties, the continual need for expensive maintenance and upkeep. As local transit agencies seek to improve transit options and local funding sources are exhausted, competition for federal funds is increasing just as current transportation authorization is set to expire and federal funding commitments into the future remain uncertain. In an environment where funding sources are limited, many agencies are looking for cost containment strategies for both operating and capital expenses.

The challenges Miami-Dade Transit (MDT) is currently facing, such as how to reduce costs, improve existing service and expand operations, are not uncommon for transit agencies throughout the U.S. It has become evident that traditional funding mechanisms such as New Starts grants or public debt financing are not likely to be sufficient to fund key transportation projects like the Orange Line or other major capital improvements in the near future. We understand that additional surtax funds are unlikely to be available unless more progress is made on implementing the People's Transportation Plan (PTP). As such, the primary objective of this analysis is to focus on analyzing innovative development and funding sources to achieve MDT and Miami-Dade County's transportation capital planning objectives and strengthen its operating cash flows.

This report presents the findings from our research in several sections. The report will first outline the approach and methodology used to answer key questions posed in the scope of work. A discussion of funding sources and financing mechanisms sets the stage for further discussion of specific projects. Specific case studies of other transit agencies' experiences using innovative finance or public-private partnerships demonstrate how key funding mechanisms or sources can be employed. Finally, the report investigates a series of capital improvement projects that were outlined either in MDT's Capital Improvement Plan or the People's Transportation Plan. Selection filters are applied to each project to test the likelihood and possibility for developing a successful project using innovative finance techniques. The projects that remain are ones the Team has identified as having a higher degree of potential for joint development or innovative finance techniques. The report, however, does not attempt to rank the remaining projects for their potential innovative finance development potential.

II. Methodology

The focus of this report is to analyze innovative development, funding sources and financing mechanisms to achieve MDT's capital planning. This section provides an overview of the Team's methodology for interviews, project selection and project recommendations. Additional detail on project selection criteria is provided in Section VII.

***Key Questions**:*
Can realistic innovative development and funding instruments and approaches that help fill funding gaps be identified for the North Corridor, East-West Corridor, and other projects eligible for Transportation Trust support?

Sub Questions:
Are these instruments/approaches being used elsewhere with success?
Do the instruments/approaches take into account Miami-Dade's local issues?

Using these key questions, the research included a combination of interviews to conduct project-specific analyses, case studies of other systems, and the IMG Team's experience with innovative development and finance, to provide recommendations regarding which innovative development and funding instruments are most likely to yield short-term and long-term benefits.

In Task 1, the **data gathering stage**, the Team conducted extensive interviews to establish and confirm our understanding of the current challenges that MDT, the CITT and the County face. After discussing challenges, the team toured major capital improvement projects such as the North Corridor, the East West Corridor, the Busway and other station development areas. The Team surveyed public as well as private stakeholders to assess potential private development interest in several locations along the alignments.

Task 2, **development and funding instrument list**, was developed in part with the IMG Team's extensive experience in transit and innovative finance in the U.S. This toolkit was established by peer agency review, interviews with stakeholders, literature review and project experience.

In Task 3, the **best practice case study analysis**, the Team conducted interviews with other stakeholders at transit agencies or cities in the U.S. to uncover case studies that could be applicable to MDT. The Team believes that based on these recommendations, the County would be positioned to analyze specific options for specific projects in-depth, which the IMG Team would carry out subsequently.

In Task 4, the **compilation stage**, the Team reviewed projects presented in documents including MDT's Capital Improvement Plan and the People's Transportation Plan. Projects range from park and ride facilities to station or corridor development. Project selection criteria were based on factors such as size, stage of development, likelihood of success or potential for additional development. Given the Team's mandate to provide objective feedback on possible projects and innovative funding ideas, the report does not attempt to address potential political considerations or other factors that may help or hinder project delivery.

III. Explanation of the Possible Funding Sources

Funding Sources and Financing Mechanisms:

Transit agencies have traditionally relied on farebox revenues and grants from state, local, and federal governments to fund annual operating costs and capital improvements. In order to leverage these revenue streams to increase purchasing power for capital needs, agencies typically issue revenue bonds, often backed by the local government sponsor. Typical revenue streams can include sales taxes, rental car fees, hotel taxes, and vehicle registration fees. In addition, there are alternative funding streams, some of which are already in use at MDT that can be used to provide funds for the system. These include non-farebox system revenues, such as parking and concessions, innovative source of funds, such as joint development and special tax districts, and innovative financing mechanisms that can better leverage available revenue streams. These mechanisms include subsidized loans and construction financed by contractors. The figure below outlines the traditional and innovative revenues, funding sources, and financing mechanisms.

Potential Funding Sources and Financing Mechanisms

Direct System Revenues

Farebox

Non-Farebox

- Advertising
- Air Rights
- Naming Rights
- Station Revenues
  - Concessions
  - Parking

Other Funding Sources

Traditional

- Local taxes
- State GO Bonds
- State Sales Tax
- Federal Grants: New Starts/Small Starts

Innovative

- TOD/Joint Development
- Benefit Assessment Districts
- Tax Increment Finance
- Parking Increment
- Asset Monetization
- Partner Agencies

Financing Mechanisms

Traditional

- Debt

Innovative Mechanisms

- SIB Loans
- Tax Credit Bonds
- RRIF & TIFIA
- P3 Mechanisms
  - Availability Payments
  - Private Activity Bonds
  - Private Equity

The term "innovative finance" includes non-farebox revenue, as well as innovative funding sources and financing mechanisms outlined in the figure above. These innovative and non-traditional sources can increase MDT's purchasing power and enable it to grow. More detail on each of these innovative funding options is provided in the section below.

Many of the innovative funding options listed above, including joint development, asset monetization, private activity bonds, and availability payments can also be used in conjunction with a public-private partnership. Descriptions of each funding source/mechanism and possible ways to take advantage of each technique are provided below.

Direct System Revenues

In addition to farebox revenues, the following system revenue sources can provide an annual source of funding.

Advertising: Transit agencies typically enter into contracts to provide advertising space on shelters, stations, and transit vehicles, which can amount to up to three percent of operating revenue. Innovative advertising concepts may move beyond this to areas such as fare collection media, floor space, and wrapping transit vehicles. MDT has begun some of these practices, but the new fare collection system may provide an opportunity to have advertising on the turnstiles and/or fare card media. Typically, this funding source can provide some additional revenue but it is subject to market conditions and may not yield significant increases in revenue.

Air Rights: Many agencies have been successful in selling the right to build above transit stations to private developers. While not ideal for an elevated system such as operated by MDT, there may be opportunities at certain stations for integrated joint development with air rights.

Naming Rights: A familiar concept for sports venues, naming rights involve an upfront and/or ongoing payment from a private entity to a transit agency in return for naming a station or other assets for the private firm. For example, Cleveland's Health Line was named such because it of a naming rights purchase by two competing local hospitals. The value of the asset to be named could be assessed for potential advertising value such as each time the train is mentioned on the radio, on the TV, on the sides of trains themselves, etc. MDT may explore naming rights for stations at universities, major shopping centers, a sports venue, or for entire segments of the Orange Line.

Concessions/Commercialization: Providing space for food and retail vendors at transit stations is a potential revenue source. While Miami currently has few stations that can serve as major shopping destinations, it could explore providing newsstand or convenience store options at certain stations. This technique has been used for additional revenue in different transit agencies across the country; however, many have food and beverage policies that could be in conflict with the sale of concessions after the turnstiles in stations.

Similar to concessions, but on a larger scale, commercialization involves generating revenue from public space through development of retail, restaurant, and office space. Opportunities for MDT to develop commercialization exist primarily in the south along the busway and along new Orange Line stations.

Parking: Park-and-ride lots could provide two types of opportunities: 1) simply expanding park and ride facilities and 2) using park and ride facilities as an opportunity for private sector involvement as parking lots could generate sufficient revenue to provide sufficient equity return. In several places, including Portland and San Francisco, city parking revenues are used to support transit programs.

In Miami, pricing for public parking downtown may limit the opportunity for private participation in park and ride facilities, however, the busway and, in particular, future stations for the North Corridor near the Broward County line may provide an opportunity to increase revenue.

Innovative Funding Sources

Funding sources differ from system revenue in that they provide revenue targeted to a single station or project, most often to support capital projects (although some grants, of course, are used to fund operating expenses). Transit agencies across the country have increased the use of innovative funding sources to supplement traditional grants in developing capital projects. Key innovative funding sources include the following:

TOD/Joint Development

Transit-Oriented Development (TOD) is a planning concept whereby zoning, tax, and development regulations are set up to encourage compact, high-density development near transit stations, conducive to transit riding. Typical TODs consist of a mix of use including residential, commercial, and retail, are pedestrian- and cycle-friendly, may offer public and civic spaces near stations, and the stations may serve as community hubs.

With the support of the County and municipalities, MDT will have opportunities at some Orange Line stations to develop TODs that can help to increase ridership and provide project funding.

Joint Development occurs when private (or public) entities other than the transit operator provide land, assets, or funding to support TODs near a station. For example, a real estate developer may provide parking in return for development rights near the station. Transit agencies can take direct equity stakes in projects through direct cash investments, or as is more usual, investing land in the project as in the WMATA examples as discussed below. Care must be taken to determine whether the transit agencies investment is paid back based on “gross” or “net” revenues of the project, since the risk and return levels in either scheme can differ widely.

TOD and Joint Development are most successful near rail stations. This is less the case with bus stops, since they are often seen as impermanent, meaning the developer is taking risk if the bus route shifts in the future. However, this is not the case with bus malls. A TOD may be created on public property under a master developer concept. However, even a well-planned TOD may take many years to fully develop. This long time element—added to the fact that real estate is highly cyclical—is one reason that developers treat public-public partnerships with caution.

This is not a new concept for Miami-Dade Transit as it has used TOD and joint development in Dadeland, Coconut Grove, South Miami to name a few. However, this report identifies additional TOD or Joint Development projects.

Benefit Assessment Districts

Benefit assessment districts (BADs) are special tax assessment areas that may be created to support the construction and operation of new transit service. A typical BAD creates a zone around the station, often ½ mile, with all businesses within the zone paying a tax based on real estate valuation per square foot. Frequently residential property is exempted. Sometimes, assessments are “tiered” reflecting the fact that

properties nearer to the station have higher benefit. In special cases, as with the Dulles Metrorail extension in Fairfax County, a benefit assessment district may cover an entire rail corridor.

Because businesses must pay higher taxes in a BAD, they can be controversial, and are only appropriate under certain conditions. BADs are most successful where new transit service can be shown to correlate strongly with increased sales at local businesses. BADs often need a majority or more of property owner approval. In the New York Avenue WMATA case study (discussed below), the not-for-profit entity worked with property owners to advocate for the implementation of the assessment district. Strong local property owner support helped to facilitate project delivery. Los Angeles, Tampa, Portland and Seattle have also used BADs successfully, in the latter two cases the BADs paying for 17 and 50 percent, respectively, of streetcar project capital costs. The East-West corridor, with its higher-value real estate, is the most likely area for a benefit assessment district.

There are a number of areas where assessment districts have been used to help fund new transit. One of the earliest was in 1993, for the Metro Red Line subway in Los Angeles. In LA, the annual assessment rate was determined by dividing the annual bond repayment by the assessable square footage. The assessment rate was levied on the gross square footage of the assessable improvement or parcel area (whichever was greater). Assessments were made about $.17 to $.30 per square foot and will terminate once the 15-year bonds are retired. Special assessments excluded certain properties including residential, non-profit and public properties. In LA the special assessments were leveraged and provided approximately 9% of the total segment one costs. More recently, a similar district was created to help fund the Portland streetcar, representing about 17 percent of the first phase of development, and about 20 percent for each subsequent phase. In Portland, in addition to commercial real estate, non-owner occupied properties were included in the improvement district.

We consider developer impact fees a subset of an assessment district. An impact fee is a fee assessed on new development within a jurisdiction as a means to defray the cost to the jurisdiction of expanding and extending public services to the development. Since it is a one-time fee, it has less benefit from transit, which needs both capital and operating costs funding.

Tax Increment Financing (TIF)

Similar to a benefit assessment district, a TIF district is a special assessment zone. However, unlike a BAD, property owners in the TIF pay no surcharge on their property taxes. Rather, the TIF district retains any increases in real estate (or income) taxes as property values rise due to the new transit service. Because they do not involve additional taxes, TIF districts are more politically palatable than BADs. However, they are not without controversy since they will eventually result in subsidizing development by creating tax-privileged districts. Furthermore, a TIF district may be appropriate in an economically disadvantaged neighborhood that will enjoy growth due to transit. Many North Corridor stations, where new transit service will be a component of a larger neighborhood revitalization, may be appropriate for TIF districts.

Parking Increment Revenue

An increase in parking rates in County-owned or publicly-owned parking facilities would create additional revenue. The agency of jurisdiction could then choose to dedicate those revenues from the parking increment, which could be used to directly fund a transportation project or used to back revenue bonds. Parking increment revenue can be explored at many stations along the Orange Line.

Asset Monetization

Asset monetization is the sale, or long-term lease, of revenue-producing assets owned by the public, such as parking decks. Typically, a private investor pays an upfront fee for the right to operate the asset. Asset monetization can also include the sale of surplus property, such as land, to the private sector. MDT reports few excess assets that are candidates for monetization. However, this may change over time as facility requirements change.

Partner Agencies

Another technique often used for additional institutional support is to partner with other agencies. In this case, MDT could partner with other local agencies to enhance transit service. Properties such as the Metropolitan Transit Authority (MTA) in New York, San Francisco Bay area state-owned toll bridges, the Dulles Toll Road in Virginia, and the future San Diego I-15 support public transportation with revenue from tolled bridges and tunnels. A key opportunity exists with the Miami-Dade Expressway Authority (MDX), which may be willing to invest in transit services on its roadways, and potentially invest in improvements to the busway if high-occupancy passenger vehicles can also be allowed usage of the facility.

FINANCING MECHANISMS

Financing mechanisms are used to access capital. In addition to traditional financing mechanisms of debt or pay as you go, the Team considered the following innovative financing mechanisms in our analysis of providing funding for transit improvements in Miami.

SIB Loans

The Florida State Infrastructure Bank (SIB) is a Florida DOT program that provides funding to transportation projects in the state. SIB loans are subordinate to senior debt, so long as senior debt has a BBB credit rating or better. When funds are available to the SIB program, there is an annual application process. Applicants provide a proposed drawdown and repayment schedule, which may include a number of years with no interest accrual and/or no principal repayment. The applicant also selects the interest rate it would like to pay. However, the SIB program is competitive, and applicants requiring a smaller subsidy (whether from low interest rates or repayment holidays) are more likely to receive funding.

To date, the Florida SIB program has provided awards of over $762 million for 40 projects, including transit projects. SIB funds may be available for the Orange Line, bus improvements, or other MDT projects.

Tax Credit Bonds

Tax Credit Bonds (TCBs) are a type of bond that offers the holder a federal tax credit instead of interest. This provides a major benefit to bond issuers, as they are responsible only for principal repayments, rather than full principal and interest payments under typical municipal bonds. Currently, there are four types of tax credit bonds: qualified zone academy bonds (QZABs), clean renewable energy bonds (CREBs), gulf tax credit bonds (GTCBs), and forestry conservation bonds (FCBs).

The American Recovery and Reinvestment Act (ARRA) provides for Build America Bonds (BABs) as part of the economic stimulus passed in 2009 for bond issued in 2009 and 2010. Under this program, the federal government pays up to 35% of the interest cost of the bond directly to the issuer. This enables investors to enjoy higher taxable interest rates while keeping costs to state and municipal issuers as low, or lower, than tax-exempt bonds.

Unless the TCB authorization is extended past 2010, there will be limited opportunity for MDT to use the program. If TCBs are included in the new transportation bill, however, they could be used as partial financing for the Orange Line.

TIFIA

The Transportation Infrastructure Finance and Innovation Act (TIFIA) is a federal loan program sponsored by the U.S. Department of Transportation. Initiated in 1998, TIFIA provides subordinate, patient capital to projects meeting its criteria. TIFIA funding may be up to 33% of total project costs, and senior debt must be rated BBB- or better. TIFIA may also provide a line of credit or loan guarantee to support a transportation project.

Project sponsors are able to apply for TIFIA funding for projects that meet the goals of national or regional significance, private investment, user-fee revenue generation, congestion relief, multi-modality, and congestion pricing. To date, the TIFIA program has provided over $8 billion of financing support to over 15 projects.

TIFIA loans are a powerful tool for transportation projects because they can be structured to delay principal repayment, they are subordinate to senior bonds (although there is a "springing lien" right in the case of default), and have low interest rates.

The TIFIA program is nearing the end of its current funding authorization, and may not be accessible until the next DOT transportation bill is passed (scheduled for 2010). Recent legislation lowered the minimum project size from $100 M to $50 M, opening up this source to numerous smaller projects, such as intermodal facilities. TIFIA's repayment flexibility (interest does not have to be paid back for up to five years after construction is complete and loan duration extends 40 years) and high interest rates in the tax-exempt markets have resulted in a surge of applications for TIFIA assistance, whose interest rates are determined by the relatively lower taxable federal rates (for now). In parallel as borrowers have taken advantage of the maximum terms that TIFIA offers, its authorized lending capacity as set by Congress and OMB scoring has been strained. Given the strong demand for the TIFIA program's funds, the TIFIA JPO is currently prioritizing projects based on selection criteria and requiring borrowers to pay for part of the subsidy.

Miami-Dade County has already used TIFIA funding as part of the financing for the Miami Intermodal Center. Further TIFIA opportunities may exist for the Orange Line and the FEC corridor.

Railroad Rehabilitation and Improvement Financing (RRIF)

RRIF is a Federal Railroad Administration (FRA) program that provides loans for intercity rail. Similar to the TIFIA program, RRIF loans are subordinate to senior debt, and flexible in terms. While RRIF loans have typically been provided to freight rail lines in the past, there is nothing in the statute preventing the use of RRIF for commuter rail. The FEC corridor, although not an MDT project, would be a strong candidate for RRIF funding.

In addition to innovative financing mechanisms, there are other tools that are associated with **public-private partnerships** that could also provide additional tools to reduce the cost of borrowing or speed project delivery.

Availability Payments

An availability payment is a rent like payment where a concessionaire receives periodic payments based solely on the condition and/or performance of the facility. In some cases, like the Miami Port Tunnel, the Concessionaire will be paid milestone payments during construction and availability payments over the life of the contract. Increasingly common for transportation infrastructure, availability payments are a mechanism for public infrastructure sponsors to share risk with private contractors. A typical availability payment deal would involve construction of the asset by a private firm or consortium of firms. The consortium may be responsible for any or all of the following: planning, design, engineering, right-of-way acquisition, construction, operations, maintenance, and enforcement. In return, the consortium is paid fixed, pre-agreed availability payments on certain milestone dates. The availability payments are subject to the asset being operational, safe, and meeting all standards of the public sponsor.

Availability payments are attractive because they shift construction risk, financing risk, and operational risk to the private consortium, while retaining public oversight over the development process. Private developers like availability payments since they are not asked to take on risks that are difficult to predict or manage, such as the level of ridership. Availability payments could be utilized by MDT for the construction of the Orange Line or other new facilities.

Private Activity Bonds

Private Activity Bonds (PABs) provide the benefits of tax-free returns to projects that support public infrastructure, even where a private developer is involved. PABs are issued on behalf of local or state governments for the benefit of private users for qualifying projects, such as many infrastructure projects, that support the public interest. PABs differ from typical tax-exempt bonds in that interest earned by investors is subject to the Alternative Minimum Tax (AMT). However, the 2009 stimulus provided a two-year holiday on AMT payments for qualified PABs. In addition, repayment of the PABs is the responsibility of the private entity the PABs are issued for, and are typically not backed by the credit of the public project sponsor.

PABs work very well with TIFIA, since repayment for PABs must begin within five years, while TIFIA's patient repayment can be structured to begin payments once a project is operational and producing revenue, even if that timeframe is longer than five years.

The total amount of PAB allocation available to states is controlled by Congress. As of December 2008, U.S. DOT had approved a total of $4.9 billion in PAB allocations for transportation for a total of eight projects. The only project for which PABs have been issued is the Capital Beltway HOT Lanes project in the summer of 2008. Since then, the bank liquidity crisis effectively closed down the low-investment grade letter of credit market (LOC), which was a key element to PABs issuance and consequently closed down the PABs transportation projects funding option for the current time (PABs are usually issued as variable rate instruments given the need to draw down debt over time for large construction projects and therefore need credit support from such instruments as LOCs).

Private Equity

Equity contributions are direct investments of private funds (or assets such as rail cars) into an infrastructure project, with the investors looking to obtain on a return on their investment through revenue from the project (e.g., from tolls and fees paid by users) and from the increase of the value of the asset after completion. Useful only for revenue-generating projects, private equity is unlikely to fund transit projects. However, a small private equity component is possible as part of a P3 with other funds.

Summary of Innovative Funding and Financing Tools:

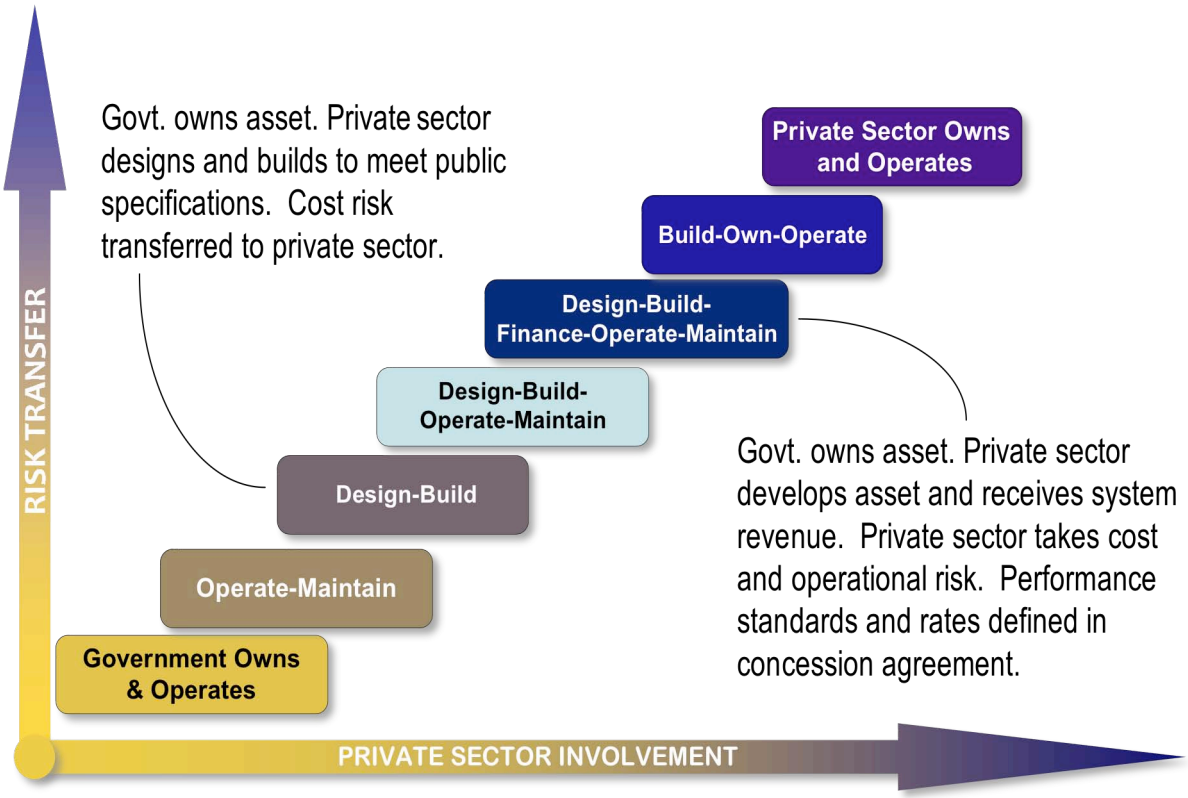
The following table provides a summary of where the innovative funding and financing tools described above have been used, as well as the advantages and disadvantages of each tool.

Funding/Financing Tool		Example	Advantages	Disadvantages
Non Farebox				
	Advertising	WMATA	Easy to implement	Limited revenue opportunity
	Air Rights	WMATA (Ballston, Bethesda, McPherson Square, Rosslyn)	Provides TOD benefits in addition to revenue source	Works best for underground/at grade stations in high-density areas, not on elevated system
	Naming Rights	Cleveland	No cost to implement	Private sector may not be interested; Public resistance
	Commercialization/ Concessions	Chicago CTA	Easy to implement	Limited opportunity at MDT; Concern over system cleanliness
	Parking	New Jersey Transit	Can be implemented at many stations easily	MDT competes with inexpensive parking options downtown; Can decrease ridership
Innovative Funding Sources				
	TOD/Joint Development	MARTA, MDT	Increases ridership	Lengthy development period (10-20 years)
	Benefit Assessment Districts	WMATA (New York Avenue)	Major, ongoing revenue source that can be leveraged	Difficult to implement
	Tax Increment Finance	San Francisco (BART), Charlotte (CATS)	No cost to implement, ongoing revenue source	Uncertainty of pace of real estate development
	Parking Increments	Portland, OR	No cost to other municipalities, departments	Few MDT stations in parking-restricted areas
	Asset Monetization	Parking – Chicago	Upfront revenue	Public resistance; limited opportunities
	Partner Agencies	New York MTA, Dulles Toll Road	Funds provided from toll roads	Must gain agreement of partner

				agency to divert funds; Potential public opposition
Financing Mechanisms				
	SIB Loans	Lee County buses	Highly subsidized loan without federal strings attached	Funding may not be available. Competitive for funds
	Tax Credit Bonds/BABs	NY MTA (BABs), Utah Transit Authority (BABs)	Major reduction possible in borrowing costs	Program scheduled to end in 2010
	Availability Payments	Dutch High-Speed Rail, Florida I-595, London Underground, Miami Port Tunnel	Transfers key risks to private sector; spreads out payments	Must allow for developer profit; Still need funding source
	TIFIA	Warwick, Staten Island Ferry, Miami Intermodal Center, Washington, DC (WMATA) Capital Improvement Program	Subsidized loan that works well with both public and private projects	Funding levels a concern. Competitive for funds; Increases federal regulation
	RRIF	Designed primarily for commuter, freight and high-speed rail -- Denver Union Station	Subsidized loan	Few examples of use in transit projects
	Private Activity Bonds	Capital Beltway Project, VA (toll road)	Increases the probability of a PPP	Limited supply of PABs funds. Can only be used in a PPP

IV. Potential Project Development Alternatives

One of the most important contributions of the private sector to the development and operation of infrastructure is the efficiencies it can deliver through appropriately structured public-private partnerships and the ability to reduce project risk to the public sector. Traditional public transportation projects have involved the use of design-bid-build contracts followed by the public operation of the completed systems. However, in certain cases, the private sector is better situated to manage specific risks, notably certain construction, technology and operational risks. These risks are transferred through some form of agreement between a private sector entity and the public project sponsor. The figure below depicts the continuum of project deliver options, from traditional public development to pure private development. Various project delivery options available for consideration are presented below.



Government Owns & Operates (Design-Bid-Build)

This is the traditional form of project delivery in which the design and construction of the facility are conducted by different entities. As a result, the Design-Bid-Build (DBB) process is divided into two separate phases for design and construction. In the design phase, the project sponsor either performs the work in-house or contracts with an engineering and design firm to prepare the preliminary engineering plans and environmental clearance, which typically results in a project plan at the 30 percent completion stage, and the final drawings and specifications for the project. Once the design phase is complete, the project sponsor separately contracts with a private construction firm through a competitive bidding process. Under a DBB delivery approach, the project sponsor, not the construction contractor, is solely responsible for the financing, operation, and maintenance of the facility and assumes the risk that the drawings and

specifications are complete and free from error. The DBB selection process is based on negotiated terms with the most qualified firm for the design phase; while the award of the construction contract typically is based on the lowest responsible bid price. The majority of surface transportation projects in the United States, including most transit capital projects, currently use the DBB approach.

Operate-Maintain
While the government still owns the facility and has all responsibility for capital development, it enters into a contract with a private entity to operate and maintain the facility. Compensation to the private operator may include incentives based on performance, but typically little risk is transferred to the private sector.

Design-Build
Unlike DBB, where the design and construction phases of a project are procured using two separate contracts with little or no overlap in the respective project work phases, the Design-Build (DB) delivery approach combines the design and construction phases into one fixed-fee contract. Under a DB contract, the design-builder, not the project sponsor, assumes the risk that the drawings and specifications are free from error. While the design and construction phases are performed under one contract, it is important to note that the design-builder may be one company or a team of companies working together. The DB selection process may be based on a negotiation with one or more contractors or a competitive process based on some combination of price, duration, and qualifications. Increasingly DB contracts are being awarded on the basis of best value, considering each of these factors.

The DB delivery approach is a relatively new process for the transportation industry in the United States, particularly for transit. Since its introduction in the early 1990s, DB has become a successful, well-established process for delivering major capital projects by the private sector. As other sectors experience success with DB delivery, transportation agencies are increasingly interested in the potential to apply DB as a means to improve the cost-effectiveness (time, cost, and quality) of traditional contracting practices.

Design-Build-Operate-Maintain and Build-Operate-Transfer
Under a Design-Build-Operate-Maintain (DBOM) or Build-Operate-Transfer (BOT) delivery approach, the selected contractor is responsible for the design, construction, operation, and maintenance of the facility for a defined/agreed period of time. The contractor must meet all agreed-upon performance standards relating to physical condition, capacity, congestion, and/or ride quality. The potential advantages of the DBOM or BOT approach are the increased incentives for the delivery of a higher quality plan and project because the private partner is responsible for the performance of the facility and for maintaining the project in its complete and fully operational state for a specified period of time after construction. In addition, certain risks, such as construction overruns or delays, are transferred to the private sector. Since 2000, three transit projects in the U.S. have been procured as DBOMs: the NJ Transit Hudson-Bergen LRT MOS-1 and MOS-2, and the JFK Airtrain.

Design-Build-Finance-Operate-Maintain
The (DBFOM) delivery approach is a variation of the DBOM approach. The major difference is that, in addition to the design, construction, operation and maintenance of the project, the contractor is also responsible for some portion of the project's financing. The potential advantages of the DBFOM approach are the same as those under the DBOM approach but also include the transfer of the financial risks to the private partner during the contract period. While the project sponsor retains ownership of the facility, the DBFOM approach attracts private financing for the project that can be repaid with revenues generated

during the facility's operation. In addition, revenue generated by the public sector through taxes or other public sources can also be used to repay the private financing. Utilizing long-term public sources of revenue to pay down privately financed projects allows the public sector to enjoy the benefits associated with a leveraged project without issuing bonds or otherwise incurring debt on its balance sheet.

Availability Payments

One mechanism that can be used to accomplish performance-based compensation in an asset that does not generate sufficient revenue to encourage private investment is an availability payment. Such a mechanism can be used in conjunction with any of the project delivery mechanisms presented above where an on-going maintenance or operational responsibility exists. In such a situation, an availability payment structure would require private firms to accept risk related to the ongoing performance in the design, construction, operations and maintenance of the light rail project. Concessionaires would receive periodic payments based solely on the condition and/or performance of the facility. A portion of future payments to concessionaires could be withheld if agreed upon levels of performance are not met. In addition, incentive payments associated with higher levels of service can be a component of the payment. Accordingly, this payment structure provides a strong incentive to the private sector or the developer/operator to perform at or above specified standards.

Transit project P3s face unique challenges that existing toll roads with dedicated revenue streams do not face. In this system, as with most transit systems, we estimate fare revenue to cover less than 50% of operating and maintenance expenses. In order to create a long-term P3, one key challenge is to identify a robust stream of revenues. The use of construction phase "milestone payments" and long-term "availability payments" have emerged as a way to provide a revenue stream for the private party as well as maintain a mutually beneficial contractual relationship for transit and other projects that are not associated with a dedicated funding source. Currently, availability payments have been used in the U.S. for the development of social infrastructure, hospitals, schools and prisons. Florida's I-595 is a current and successful example of the use of availability payments in the toll road sector. Two important projects that are currently under negotiation, the Miami Port Tunnel project and the Oakland Airport Connector Project, rely on availability payments as a key compensation component.

Build Own Operate (Private Sector Owns and Operates)

Under a Build-Own-Operate (BOO) delivery approach, the design, construction, operation, and maintenance of a facility is the responsibility of the contractor. The major difference between BOO and other P3 approaches is that with a BOO approach, the private partner owns the facility and is assigned all operating revenue risk and any surplus revenues for the life of the facility. Given transit project's lack of net revenues, BOOs are rare for these types of projects.

Pre-Development Agreements

Pre-Development Agreements (PDAs) are suitable when the public sponsor seeks private sector innovation and participation in defining and accelerating an optimally feasible project. The approach is ideal when the overall feasibility of the proposed project has not been determined. PDA contracts are usually awarded in a phased manner; an initial phase to determine feasibility and a secondary flexibly structured implementation phase. The public and private partners co-invest in pre-development activities. Typically, the public sponsor retains complete control over the environmental clearance process while the private developer/operator performs the necessary technical studies.

If the project proves feasible, the developer/operator has the right of first negotiation for agreements covering the implementation phase. The implementation phase agreements can take the form on any project delivery approach (DBFOM, etc.)

V. Case Analysis

MDT has an ambitious capital program that includes the proposed East-West Corridor and North Corridor Metrorail extensions. In addition, there are several other capital projects in MDT's pipeline including park and ride facilities. These projects will be partly funded by the County surtax that is in place. Additionally, MDT is seeking federal New Starts funds for the North Corridor project. In order to make these projects financially feasible, additional funding sources will be required. Therefore, MDT is exploring innovative funding sources.

In order to give the CITT and MDT an assessment of the current state of the practice in innovative financing for transit, the Team has conducted research on other transit agencies in the U.S. and presented the findings in case study form in this chapter. The transit agencies of which we conducted case study analyses were chosen based on their use of innovative financing sources such as Joint Development or Transit-Oriented Development (TOD), Tax Increment Financing (TIF), naming rights, and Benefit Assessment Districts (BADs). If a transit agency is active in one or more of these programs, this makes it a good candidate for a case study. In addition, we picked those agencies that have been at the forefront of working in partnership with other levels of government or with public-private partnerships (P3s). The following table lists the case studies included in this report:

Agency	Best Practice Utilized
Washington Metropolitan Area Transportation Authority (WMATA)	TOD, BADs, P3
Metropolitan Atlanta Rapid Transit Authority (MARTA)	TOD, TIF
Bay Area Rapid Transit (BART)	TIFIA, Potential DBOM P3
Dallas Area Rapid Transit (DART)	TOD, P3
TriMet and Portland Streetcar	P3 with real estate compensation
Greater Cleveland Regional Transit Authority (GCRTA)	Naming Rights
Veolia Transportation	Private Operator
Pace Suburban Bus Service	Outsourcing contract
Denver Regional Transportation District (RTD)	P3, TOD

The **Washington Metropolitan Area Transportation Authority (WMATA)** Dulles Metrorail Extension is a good example of a complex project that involves different parties and innovative financing tools such as a special transportation improvement district. In this case, the Metropolitan Washington Airports Authority (MWAA) is managing the construction, whereas WMATA will take over ownership and operation once the project is complete. Another example of innovative finance/P3 is the construction of the New York Avenue Metro station. This project was constructed with a combination of public and private funds and involves a Business Improvement District. Finally, WMATA's Rosslyn-Ballston corridor is considered one of the nation's best Transit-Oriented Development (TOD) success stories of the past 30 years.

The **Metropolitan Atlanta Rapid Transit Authority's (MARTA)** Lindbergh Station Transit-Oriented Development project merits discussion due to its successes. Additionally, we discuss another complex project currently underway in the region with many stakeholders including MARTA—the Atlanta Beltline project. This project has plans to utilize a Tax Increment Financing (TIF) district.

The **Bay Area Rapid Transit (BART)** system is currently undertaking the development of a Design-Build-Operate-Maintain (DBOM) for an Automated Guideway Transit (AGT) system that will connect the Oakland Coliseum BART station with the Oakland Airport. We examine BART's efforts to procure this as a P3 as well as the various funding sources that will make this project feasible.

Dallas Area Rapid Transit's (DART) Mockingbird Station is a valuable example of how private development can thrive around transit stations without public financial and other support. Additionally, DART is evaluating how to fund a new commuter "Cotton Belt Line" in the Dallas and Fort Worth region's northern areas using P3s and innovative finance.

We discuss the **Portland Streetcar** system as it is held as a model that incorporates P3s to provide a finer grain of transit service in Portland, Oregon. We also discuss **TriMet's Airport MAX Light Rail** project, since it highlights a critical link between different city agencies.

The **Greater Cleveland Regional Transit Authority's (GCRTA)** recently implemented Euclid Corridor Bus Rapid Transit (BRT) project is noteworthy, as it was recently named the "Healthline" pursuant to a naming rights agreement with the Cleveland Clinic and University Hospitals.

To provide some insight into private transit operations, we discuss **Veolia Transportation**, one of the largest private providers of multiple modes of transportation in North America.

At the forefront of outsourcing bus operations to private providers is **Pace Suburban Bus Service** of the Chicago metropolitan area.

Denver Regional Transportation District (RTD) is a leader in utilizing P3s to fund transit projects. An example of this is the FasTracks service expansion initiative, portions of which have been selected for private development under the FTA's Public-Private Partnership Pilot Program (Penta-P). Additionally, the Denver Union Station redevelopment project that is currently underway provides an example of how many different stakeholders, funding sources, and project elements can be combined to create major regional benefit.

WASHINGTON METROPOLITAN AREA TRANSPORTATION AUTHORITY (WMATA)

DULLES METRORAIL EXTENSION
NEW YORK AVENUE METRO STATION
ROSSLYN-BALLSTON CORRIDOR

OVERVIEW AND DESCRIPTION OF THE SYSTEM

The Washington Metropolitan Area Transportation Authority (WMATA or Metro) operates the second largest rail system and fifth largest bus system in the U.S. It serves Washington DC, and parts of Maryland and Virginia and provides three types of transit service: Metrorail, Metrobus, and Metroaccess (paratransit). Average weekday passenger trips on Metrorail and Metrobus total nearly 1.2 million. The current Metrorail system extends 106 miles.

Unlike many other major urban transit agencies, WMATA does not have a dedicated funding source such as sales tax revenue. According to the National Transit Database (NTD), in 2007, fare revenues comprised 38 percent of operating funds expended ($1.3 billion). Local funds comprised 27 percent of operating funds expended, state funds were 16 percent, and federal and other funds were 17 percent.

WMATA has one of the most successful joint development programs among transit agencies. According to a 2004 TCRP report (TCRP 102), WMATA collects around $6 million annually in joint development revenues including $1.6 million at the Bethesda Station alone. WMATA's initial lease terms generally vary from 50 to 60 years with an option renewal to a 99-year term. Additionally:

- Rent is guaranteed, even if the developer declares bankruptcy.
- The rents also "bump up" when surrounding properties increase in value.

DULLES METRORAIL EXTENSION: INNOVATIVE FINANCE

Issue/Needs

The Dulles Corridor Metrorail Project is a 23-mile extension of the existing Metrorail system whose construction is being undertaken by the Metropolitan Washington Airports Authority (MWAA). Upon construction completion, the project will be owned and operated by WMATA. The project will extend from East Falls Church to Washington Dulles International Airport west to Ashburn. The extension will serve the Tysons Corner and Herndon-Reston areas and will provide a one-seat ride from Dulles Airport to downtown Washington.

Approach

The project is being constructed in two phases:

- Phase 1 to run from the East Falls Church Metro Station westward with four stations in Tysons Corner to the Wiehle Avenue Station at the eastern edge of Reston. Revenue service is scheduled to begin in late 2013. The total estimated cost for Phase 1 is $2.8 billion in year-of-expenditure (YOE) dollars.

- Phase 2, opening in 2016, will have six stations – Reston Parkway, Herndon-Monroe, Route 28, Dulles Airport, Route 606, and Route 772. The total estimated cost for this phase is $2.5 billion in YOE dollars.

The Metropolitan Washington Airports Authority (MWAA) is managing the design and construction process with the cooperation of Virginia Department of Transportation (VDOT), Virginia Department of Rail and Public Transportation (VDRPT), WMATA, Fairfax County, and Loudoun County. VDRPT managed the project from its inception until it assigned such responsibilities over to MWAA in June 2008. Upon construction completion of each phase, WMATA will become the owner and operator of the completed phase and will bear sole responsibility for its operation and maintenance. The Commonwealth of Virginia has transferred the Dulles Toll Road (DTR) to MWAA on the condition that MWAA use the toll road revenues to help fund the construction of the Dulles Metrorail Project.

Dulles Transit Partners, formed by Bechtel Infrastructure and Washington Group International (now URS), is responsible for the design and construction of Phase 1 per the Phase 1 Design-Build contract.

The funding plan includes an innovative Benefit Assessment District that covers not just station areas, but includes land around the corridor in Fairfax County. Details of the financing for the project are as follows:

Expected Funding Contribution (YOE $000s)

Funding Source	Phase 1	Phase 2	Total	Percentage of Total
MWAA—Dulles Toll Road	$1,203,995	$1,562,776	$2,766,771	52.6%
MWAA—Aviation	-	215,484	215,484	4.1%
FTA	900,000	-	900,000	17.1%
Commonwealth of VA	251,700	23,300	275,000	5.2%
Fairfax County (BAD)	400,000	446,167	846,167	16.1%
Loudoun County	-	252,273	252,273	4.8%
TOTAL SOURCES	$2,755,695	$2,500,000	$5,255,695	100.0%

Dulles Rail Phase 1 Transportation Improvement District

The Fairfax County Phase 1 share of $400 million comes from the imposition of a voluntary tax on commercial and industrial properties within the Dulles Rail Phase 1 Transportation Improvement District, which was created by Fairfax County in 2004 for this specific purpose. Such a district can be created upon the petition of the owners of at least 51 percent, measured by land area or assessed value, of the real property located within the proposed district that is zoned or used for commercial or industrial purposes.

Results

Construction of Phase 1 is currently underway. Officially, construction started in March 2009 after the Full Funding Grant Agreement (FFGA) was signed by the Secretary of Transportation.

Relevance

This case serves as an example of innovative finance for the following reasons:

- Although it is an extension of the existing Metrorail system, the construction costs are funded by sources outside of WMATA;
- Upon completion, WMATA takes ownership of the project and control of the operations;
- Funding sources include the Dulles Toll Road, MWAA aviation funds, FTA FFGA and ARRA/stimulus funds, Commonwealth of Virginia, Fairfax County Benefit Assessment District, and Loudoun County;
- The construction is being managed by an airport authority with the cooperation of WMATA;
- Private contractor responsible for design and construction of Phase 1 through design-build delivery mechanism.
- Use of a unique corridor-length benefit assessment district.

NEW YORK AVENUE METRO STATION: INNOVATIVE FINANCE/P3

Issue/Needs

The New York Avenue Metro Station was the first DC Metrorail station to be built with a mix of public and private funds. It opened for service on November 20, 2004. It is also WMATA's first infill station to be built in between two existing stations. Prior to the building of this station (in the late 1990s), the Metro's Red Line bypassed an urban, economically underdeveloped neighborhood known as NoMa (named because of its location north of Massachusetts Avenue. Prior to building of the New York Avenue stop, there was a stretch of track almost two miles long in between these two stations, which is uncharacteristically long for Metro and other urban rail systems. The idea of building the station arose from the need for area economic development and an improved tax base. The major challenge was that the District of Columbia was under fiscal distress at the time of the project.

Approach

The process for promoting a public-private partnership to develop the project was initiated by the local and federal governments along with community and business leaders:

- Public partners: District of Columbia, U.S. federal government, WMATA
- Private partner: Action 29-New York Avenue Metro Station Corporation (Action 29)—A non-profit organization made up of developers, area property owners, business leaders, elected officials, and community leaders; incorporated to leverage private investment for the station development project; dissolved upon opening of the station.

The total construction cost of the project was approximately $110 million with the funding composition as follows:

- Private funds from area businesses: $35 million including $10 million in land;
- District of Columbia: $44 million;
- Federal government: $31 million including $6 million for construction of a portion of the Metropolitan Branch Trail.

The contribution was determined by the following method: given an estimated total cost of $75 million at the time, each entity (private funds, DC, and federal government) would contribute 1/3rd of the cost or $25 million each. This did not include the private land donation of $10 million. Subsequently, when the costs exceeded this amount, the District of Columbia agreed to incur the cost overruns thereby increasing the District's contribution to $44 million.

The District formed the NoMa Business Improvement District (BID) in May 2007 to continue to generate economic improvements. A special assessment is levied on commercial, multi-unit residential, and hotel properties in a 35-block area to support:

- Cleaning/safety services;
- Marketing and community events;
- Coordination of public and private investments and services; and
- Promotion of employment and community projects.

Results

The New York Avenue station opened in November 2004. Since its opening, the project has exceeded the estimated number of new jobs and planned area investment occurring as a result of it. The assessed valuation of the 35-block area in the NoMa BID increased from $535 million to $2.3 billion from 2001 to 2007, though it is difficult to separate the impact of the project from general real estate market trends. Organizations utilizing the area for office space include XM Satellite, Qwest Communications, the Gannett Company, and the Bureau of Alcohol, Tobacco, and Firearms, demonstrating robust economic development in the area.

Relevance

The project is an innovative public-private partnership and can provide some lessons for MDT and other transit agencies:

- WMATA does not fund construction of new stations; this is left to local government jurisdictions;
- Inclusionary process was a key to success;
- Government commitment drove private sector involvement;
- Private landowners were educated about the benefits of transit improvements.

ROSSLYN-BALLSTON CORRIDOR: TRANSIT-ORIENTED DEVELOPMENT

Issue/Needs

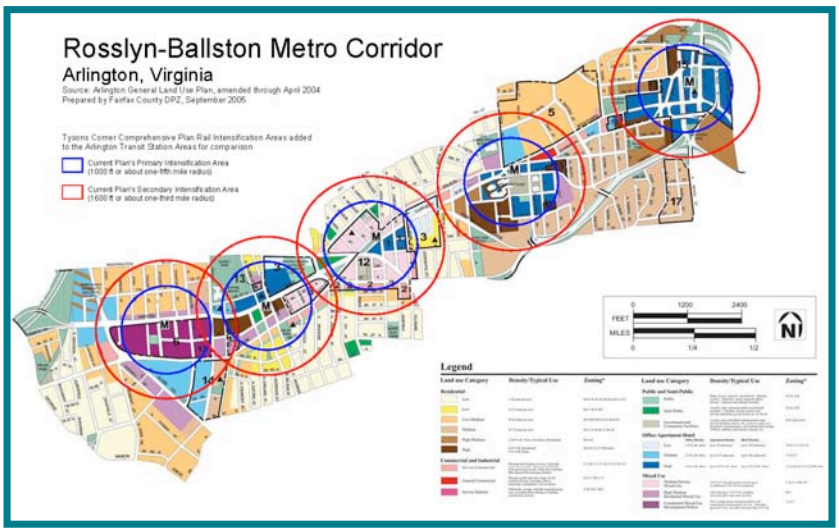
The Rosslyn-Ballston corridor of Northern Virginia is about three miles long and two square miles in area. During the 1960s and 1970s, this corridor was marked by loss of status as Northern Virginia's main retail district moved to new shopping centers in Fairfax County, resulting in declining retail sales, declining population as families moved to the suburbs, and disinvestment in residential neighborhoods. However, it

was also marked by large-scale office development and increasing employment in Rosslyn. When planning got underway for the region's Metro rail system, Arlington County chose to place the rail line and five stations beneath this corridor instead of in the center of Interstate 66 or on existing railroad tracks that would not be conducive to commercial development. The goal was to spur office, retail, and residential investment close to the stations and bolster the surrounding neighborhoods.

Approach

The key aspect of the redevelopment initiative was to use the Metrorail transit investment as the catalyst for intensive redevelopment of the commercial spine of central Arlington. Other aspects of the approach included preserving and reinvesting in established residential neighborhoods adjacent to the corridor, and concentrating density and promoting mixed use at the five stations and tapering development down to adjacent neighborhoods.

Land Use and Sector Plans



One of the policy tools used in the corridor redevelopment effort was the General Land Use Plan (GLUP), which set the broad framework for guiding all development decisions along targeted growth axes. Also, individual "sector plans" were implemented—these plans facilitated development activities within the quarter-mile radius of each Metrorail station. Specified by these plans were land-use and zoning ordinances, urban design, transportation, and open-space guidelines. The overall planning principles guiding the redevelopment included clearly defined boundaries for the corridor, major increase in density concentrated within walking distance of Metro stations, mixed-use development, preservation and improvement of surrounding single-family and multi-family neighborhoods, commercial revitalization through parcel redevelopment, and visual continuity of the street system. In addition, each station area would serve a unique function and have a well-defined identity—Rosslyn as a major business center, Court House as a government center, Clarendon as an urban village, Virginia Square with a cultural and educational focus, and Ballston as a new downtown in central Arlington.

Initiatives to Expand Travel Choice

Another key element of the redevelopment effort was the emphasis on multiple modes of transit. For one, the Metrorail stations are surrounded by pedestrian-friendly development by design and are spaced as close together as stations in more highly urbanized areas such as the District of Columbia. Most Metro customers are expected to arrive by foot or bus transit—none of the five stations in the corridor have parking. In addition, both Rosslyn and Ballston are major bus transit hubs. Finally, the corridor has excellent highway and arterial access.

Public Engagement

Public outreach and community involvement have contributed to the corridor's TOD success. Business partnerships and alliances, neighborhood conservation groups, and individual residents influence the planning process through neighborhood meetings, workshops, and interactive web pages.

Results

The Rosslyn-Ballston corridor is a popular origin and destination for both residents and visitors and is considered one of the nation's best TOD success stories of the past 30 years. Arlington County has one of the highest percentages of transit use in the region with 39.3 percent of Metrorail corridor residents commuting to work by public transit, according to a 2004 TRB report. According to this same report, 26 percent of the Arlington County population resides in Metorail corridors even though they make up 8 percent of the land area. Also, since 1960, over 31 million square feet of gross floor area of office space and nearly 30,000 residential units have been constructed in the county, and over three quarters of this construction has been in Metrorail corridors. Finally, the redevelopment initiative has had a positive effect on property values and tax revenue and has increased transit ridership, thereby generating increased revenues for WMATA. The EPA recognized Arlington County with a National Award for Smart Growth Achievement in 2002.

Relevance

The Rosslyn-Ballston corridor provides many lessons learned that can be applied to other communities seeking to implement transit-oriented development:

- Transit investment can be used as a catalyst for redevelopment.
- A predictable development and review process assured stability and predictability over time and made the corridor a magnet for further development.
- The mix of uses promoted a balanced use of the transportation system so that not everyone arrives and leaves from the same place at the same time by the same mode.
- Continued public involvement is critical to implementing the necessary planning and policy framework.
- High density development supports transit use.
- Pedestrian-friendly design is necessary for creating a coherent urban environment; however, the Rosslyn-Ballston redevelopment initiative is lacking in this respect.
- Historic preservation is necessary to maintain community character; unfortunately, this did not become a priority in the corridor until later on in the redevelopment process.
- Economic diversity is essential; the corridor is currently trying to do more to protect affordable housing and affordable business locations.
- Even a well-planned and supported TOD may take 20+ years to fully develop.

METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY (MARTA)

LINDBERGH STATION TOD
ATLANTA BELTLINE PROJECT

OVERVIEW AND DESCRIPTION OF THE SYSTEM

According to its annual report, MARTA is the 9th largest transit system in the U.S., providing more than 500,000 customer boardings each weekday through a combined bus, rail, and paratransit service within DeKalb and Fulton counties.

MARTA's primary funding sources are sales tax revenue from a 1 percent sales tax levied in the City of Atlanta and counties of Fulton and DeKalb, and fare revenue. In 2008, sales tax revenue comprised 64 percent of MARTA's total revenue. Fare revenue provided 19 percent of total revenue in the same year. In 2008, MARTA had a system farebox recovery ratio of 28.2 percent. MARTA is required to spend 50 percent of its sales tax revenue on capital costs, and the other 50 percent on operating costs.

MARTA has a history of actively pursuing public-private partnerships (P3s) in the form of transit-oriented development (TOD) and joint development projects. As an example, we discuss the Lindbergh Station TOD project below. Additionally, MARTA is a partner entity in the future development of the Atlanta BeltLine project, which proposes to combine, green space, trails, transit, and new development along 22 miles of historic rail segments that encircle the urban core of Atlanta.

LINDBERGH STATION: TRANSIT-ORIENTED DEVELOPMENT (TOD)

Issue/Needs

After decades of sprawling development in the region, MARTA recognized the need to reduce highway congestion in the late 1990s. Atlanta's second-largest employer, BellSouth, made a decision to consolidate its suburban offices into three sites, all within Atlanta proper, as close to rail transit stations as possible. Developer Carter and Associates brought MARTA and BellSouth together, which resulted in a Joint Development agreement to create a mixed-use project around the Lindbergh Station. Other factors motivating MARTA may have included:

- TOD increases transit ridership and, therefore, farebox revenues;
- While TOD development costs are a capital investment, its revenues are operating revenues and can be applied to operating expenses; this is particularly important given MARTA's restrictions about how it can spend sales tax revenue.

Approach
Under MARTA's development plan, MARTA would finance streetscape, sewer, and structured parking facilities at the 47-acre site. MARTA's development partners, including BellSouth (office), Federal Realty (office, retail, and hotel), and Post Properties (residential), would sign 99-year ground leases on the property and construct their buildings in compliance with MARTA's master plan for the site. To fund its share of the arrangement, MARTA issued $81 million in bonds to be repaid over a 30-year period at an approximate interest rate of 4 percent.

Results
The Atlanta Business Chronicle named the Lindbergh TOD project the "Best Mixed-Use (Real Estate) Deal of the Year." Phase I of the Lindbergh City Center opened in November 2002.

However, from a planning perspective the project has its criticisms:

- Lack of pedestrian or bicycle friendliness;
- Some people claim that the project is isolated from surrounding neighborhoods;
- Some critics feel that the project exacerbated traffic congestion instead of presenting a solution;
- Costly project resulted in units selling or renting for above-market prices;
- Insufficient affordable housing

Relevance
The Lindbergh Station TOD project presents lessons learned for other transit agencies such as Miami-Dade Transit. For example, TOD can

- Make better use of existing landholdings;
- Generate additional (non-fare) revenue sources if project is successful;
- Increase farebox revenue by increasing ridership;
- Help shift capital dollars into operating dollars.

ATLANTA BELTLINE PROJECT: TAX ALLOCATION DISTRICT/TAD AND TAX INCREMENT FINANCING/TIF

Issue/Needs
The key drivers behind the Atlanta BeltLine project include:

- Population growth: Atlanta is one of the fastest growing metro regions in the country;
- Traffic congestion: Atlanta experiences bad traffic conditions which hurts air quality;
- Parks: Less than 4 percent of Atlanta's land is devoted to parks, among the lowest in the U.S.;
- Economic development: Need to address growth that is already underway and provide framework for smart growth in the future.

Designed to help address the above issues, the proposed project encompasses a 25-year, $2.8 billion redevelopment that provides a network of parks and green space, multi-use trails, transit, and infrastructure improvements along a historic 22-mile railroad corridor circling the downtown.

Approach

Key elements of the Atlanta BeltLine include:

- Parks
- Trails
- Transit and transportation infrastructure
- Jobs and economic development
- Affordable workforce housing
- Historic preservation
- Streetscapes and public art
- Environmental clean-up.

Per the 2006 Alternative Analysis Study, MARTA has narrowed the transit technology choices to streetcar and light rail. The project has the potential to connect existing neighborhoods with existing MARTA rail stations. Additionally, the project is proposed to be constructed within existing freight rail rights-of-way.

The $2.8 billion project will be funded by a variety of sources. The majority of the funding is expected to come from a 25-year Tax Allocation District (TAD), or Tax Increment Financing (TIF) bonds. This will fund approximately 50 to 70 percent of the total project cost including a portion of the transit improvements. The remaining funds will come from other sources including the Capital Campaign (a private donation initiative targeting $60 million), federal sources, private partners, transit investors, public-private partnerships, land discounts, other donations, and other local funding sources.

Results

The project is currently under development. MARTA and Atlanta BeltLine Inc. (ABI) are conducting a Tier 1 Environmental Impact Study (EIS), which is expected to be complete in the spring of 2010.

Relevance

As Miami-Dade Transit develops TOD projects, it can work with communities to create Tax Increment Financing (TIF) districts to help pay for projects. The TIF structure has many advantages:

- Leverages local funds thereby decreasing reliance on federal sources;
- Does not increase taxes, which would be unpopular; it captures the incremental tax from increased property values;
- Can be used to redevelop areas that would otherwise not be redeveloped;
- TIF bonds are not necessarily backed by city governments; therefore, they do not put the cities at legal or financial risk;
- Can be used in conjunction with development subsidies to private developers to stimulate growth.

BAY AREA RAPID TRANSIT (BART)

OAKLAND AIRPORT CONNECTOR

OVERVIEW AND DESCRIPTION OF THE SYSTEM

Bay Area Rapid Transit (BART) is a heavy-rail/rapid transit system that serves the San Francisco Bay Area. The system comprises 104 miles of track and 43 stations in four counties. BART is among the busiest transit systems in the U.S., with average weekday ridership of 346,504 passengers.

According to the National Transit Database (NTD), in 2007, fare revenues comprised 51 percent of operating funds expended ($551 million). Local funds (sales tax revenue derived from a 0.5 percent transactions and use tax) comprised 33 percent of operating funds expended. BART has one of the highest fare recovery ratios out of public transit systems in the country.

OAKLAND AIRPORT CONNECTOR: INNOVATIVE FINANCE

Issue/Needs

The Oakland Airport is not currently directly connected to the BART rail system. There are various levels of transit service to the airport provided by AirBART (bus between Oakland Coliseum BART station and the airport), AC Transit (bus), taxis, and airport shuttles. However, currently travel times and wait times vary considerably, emphasizing the need for a more reliable way to get to the airport. The project is driven by this as well as forecasted congestion in the area and projected growth at the airport.

The project will be an Automated Guideway Transit (AGT) system connecting the Oakland Coliseum Bart station with the airport and will include the following elements:

- Cars operate within their own guideways;
- Stations are physically integrated with the Oakland Coliseum BART station and airport terminal;
- No vehicle operator required.

Approach

BART is exploring innovative project financing mechanisms to fund the project. The project will likely be a Design-Build-Operate-Maintain (DBOM) for a term of 20 years or more. The total project budget for the Oakland Airport Connector project is estimated to be $500 million in 2009 dollars. It is a collaborative partnership between the following entities:

- BART
- Federal Transit Administration (FTA)
- Alameda County Transportation Improvement Authority (ACTIA)
- Alameda County Congestion Management Agency (ACCMA)
- Metropolitan Transportation Commission (MTC)

- California Department of Transportation (Caltrans)
- City of Oakland
- Port of Oakland

The following table shows the total committed public funding:

Source	Funds ($ millions)
Alameda County Transportation Improvement Authority (ACTIA) sales tax	89
Port of Oakland	44
State Transportation Improvement Program (STIP)	21
Regional Measure 1 (1988 Bridge Toll)	31
Regional Measure 2 (2004 Bridge Toll)	78
MTC SLLP—Resolution 3434	20
Seismic Under runs (reallocated Regional Measure 2)	50
American Recovery and Reinvestment Act of 2009 (ARRA)	70
FTA's Public-Private Partnership Pilot Program (P5)	25
Total committed public funding	430

The remaining funds will be sought through public, private, or TIFIA financing.

BART will likely tender the project as separate design-build and operate-maintain contracts. This intended structure is a re-launching of the effort to build the project. Factors driving the new approach include the fact that the passenger forecast has decreased and costs have gone up. Prior to the re-launch, BART had attempted the following efforts:

- A previous round of bidding failed to attract a single final proposal by its October 28, 2008 deadline. That structure was to be a 35-year P3 concession and attracted $272 million in financing from state, local, and federal sources. This effort was launched in 2005.
- The 2005 P3 effort replaced a 2002 design-build tender, which was cancelled because California at the time lacked the funds to procure it using that method.

Results

BART has already advertised a Request for Proposals and bids are due in September 2009. The project schedule is below:

- March 2002: BART Board project adoption
- May 20, 2009: RFP released
- December 2009: Award contract
- Revenue Operation: Mid-2013

Relevance

This project is relevant as an example of innovative finance:

- Various funding sources including federal, state, and regional (sales tax, toll receipts);
- Possibly to be funded with a TIFIA loan;

- Collaborative partnership between several entities adds complexity;
- Potential P3 as a DBOM.

The project is also relevant as an Automated Guideway Transit system.

DALLAS AREA RAPID TRANSIT (DART)

MOCKINGBIRD STATION TOD
COTTON BELT LINE PROJECT P3

OVERVIEW AND DESCRIPTION OF THE SYSTEM

Dallas Area Rapid Transit (DART) provides an example of a major American transit system that has 1) both created significant economic and transit-oriented development from its facilities and stations, and 2) is considering alternative funding sources, including public-private partnerships (P3s) to build a major expansion.

DART is responsible for light rail, bus, paratransit, high occupancy vehicle (HOV) lane services and, jointly with Fort Worth's "T," commuter rail (TRE) in the Dallas metropolitan area. DART began construction of its first light rail line in 1996, currently has 45 miles of operational light rail lines, and expects to double that number by 2013.

DART's O&M and capital costs are primarily funded through a one percent sales tax on DART-member communities. DART charges fares that are considered average compared to similar systems in the south and southwest U.S. DART also funds capital costs through grants, such as USDOT Congestion Mitigation and Air Quality Improvement Program (CMAQ) monies, which have been used in several instances to fund TOD improvements. It also engages in advertising, such as allowing "wrapped" bus advertising.

MOCKINGBIRD STATION: TRANSIT-ORIENTED DEVELOPMENT (TOD)

Issue/Needs

As the Dallas area has grown tremendously in the last two decades, the demand for living areas has changed from traditional suburban single-family home developments, shopping malls and corporate office parks to more mixed-use "new urbanist" neighborhoods, with greater density, serving as "entertainment destination" venues, typical of downtown cores of older, revitalized cities in the U.S. and in Europe.

Hughes Development understood this demand in the late 1990s and purchased and developed a large assembly building and office building next to the DART Mockingbird Station, then at the end of the DART's first line, about 15 minutes from downtown Dallas, and now which extends to Garland and Plano. The 10-acre project was oriented towards the train station of the same name and not the nearby freeway, as would be the case in a traditional real estate development.

Approach

Hughes developed the project primarily as a private venture without any public funding and minimal public support. Because TOD was not fostered by the City of Dallas nor DART at the time, Hughes did not receive special consideration, now common to many TODs. For instance, Hughes had to pay for all road improvements and for the full cost of connection the project to the rail platform. Nor did the developer benefit from a special tax district or permit abatements nor mixed-use parking reduction credit, common for projects adjacent to train stations. The latter could have saved the developer from building an estimated 200+ parking spaces. Furthermore, Hughes helped obtain, on behalf of Dallas and DART, federal funding for pedestrian access improvements.

However, the development took advantage of the fact that it was built near the wealthy Park neighborhood and Southern Methodist University, with over 10,000 students who had a strong interest in using transit and providing demand for its restaurants and entertainment facilities.

Results

The developer has succeeded in building 137,000 and 178,000 square feet of office space and retail space, respectively, 211 loft apartments units, 1,580 parking spaces, an eight-screen movie theater, and six restaurants at a cost of approximately $145 million. In 2001, lofts were rented at about 30 percent over the market, when they opened. The rail and office space are approximately 88 and 92 percent occupied as of 2008, respectively. This density is unprecedented outside of Dallas' central business district.

For parts of the Dallas region, Mockingbird Station has become a "me too" project for other suburban areas attempting to build similar TOD projects, spurring further demand for DART services and strengthening broad political support for DART.

Now, DART is allowed to enter into TOD-related projects, including selling surplus property for affordable housing and other projects with a public benefit. For instance it has sold air rights at its Arena station for 55% of the property land value.

DART reports that its rail System is responsible for $7 billion in current, planned and projected transit-oriented development.

Relevance

Mockingbird Station is a valuable example of how private development can thrive around transit stations without public financial and other support, in a then-relatively transit-hostile region of Dallas. It also shows how "inner suburbs" can better compete with outlying suburbs. The University of North Texas Center for Economic Development and Research studies underscore the increased value of these transit-adjacent facilities—from at least 12 to 13% higher valuation growth for residential and commercial facilities,

respectively, compared to control properties and as much as 25%, in some instances. To make Mockingbird successful required:

- Adequate density allowances
- Well-thought siting between the transit station and the development; in Mockingbird's case the project was convenient for transit *and* driving, which may be unique
- Location near traffic generators, such as the Southern Methodist University and an affluent neighborhood.

While DART did not (and probably could not at the time) directly capture any of the value in the Mockingbird TOD through value capture mechanisms, the success of this project in a region that was considered less hospitable towards transit, and many subsequent "copy cat" projects, confirms the empirical findings that transit facilities create significant value around transit stations and along some transit corridors in Dallas and elsewhere in the U.S. With such a clear demonstration of value created and significant value, in many instances, this suggests that value capture mechanisms, including benefit assessment districts, joint development agreements, TIF districts, can be source of funding for some capital and/or O&M costs.

COTTON BELT RAIL LINE EXTENSION: P3

Issue/Needs

DART is also currently evaluating how to fund a $500 M new commuter "Cotton Belt Line" in the Dallas and Fort Worth region's northern areas, using P3s and innovative finance.

The Cotton Belt Line is a 67.7 mile line in DART's northern communities that will link three of DART's light rail lines and the Dallas Fort Worth International Airport.. It will also link the Fort Worth T's extension to DFW, which may or may not be a P3.

Approach

DART has initiated a Request for Information (RFI) for the Cotton Belt Rail Line public-private partnership. DART is holding the RFI because it wants to start the project much early than the planned 2027 date, as early as 2013. It is seeking private partners who will be willing to share in underwriting the debt and operation subsidy from 2013 to 2027, after which DART will have financial capacity from its sales tax. DART is seeking a revenue/cost neutral solution with a private partner.

The private team would have the right to set rates, set service standards and schedules within guidelines.

Results

The RFI submission was due at the end of July 2009. Based on the type of submissions received, DART may initiative a formal RFQ/RFP process for private partners.

Relevance

Miami may consider initiating a P3 process for one or more segments of the Orange Line, including first an RFI, followed by an RFQ/RFP process. The DART process will be worth watching, since the project has some similarities in terms of order of magnitude of costs ($500 M versus $1 B for the northern or east-west segments), possibility of light rail, facilities that extend into less urbanized regions.

PORTLAND TRIMET AND STREETCAR

TRIMET LIGHT RAIL DEVELOPMENT
STREETCAR SYSTEM

TRIMET: AIRPORT MAX LIGHT RAIL

OVERVIEW AND DESCRIPTION OF THE SYSTEM

TriMet, founded in 1969, is the transit provider for the Portland area operating 600 buses on 91 bus routes with 7,625 bus stops and 1,110 bus shelters. In addition to bus services, TriMet operates 44 miles of light rail, 4 miles (end to end) of Streetcar, 21 park and ride lots as well as paratransit services. TriMet is a special district of Oregon and is funded primarily through a payroll tax that provides 57% of funding with passenger revenue contributing 21% and state/federal operating grants at 13%.

Issue/Needs

Light rail to Portland's international airport was initially included in the master plan in the 1980s, but it was not until 1997 that the project began to take shape. In the late 1990's the airport was one of the fastest growing airports in the US. TriMet was providing bus service to the airport; however, as congestion at the airport increased additional access or modes of transport were needed. The project cost was $125 million and included 5.5 miles of track, 4 new stations and 1 park and ride with 193 spaces.

Approach

In 1997 Bechtel Enterprises approached the City of Portland with an unsolicited bid to design and build a MAX (Portland's light rail system) extension to the airport using a public private partnership. Under this proposal, Bechtel contributed 25% of the project's funding and contracted to build the light rail extension. In exchange for this service, the Port of Portland and the City of Portland provided Bechtel the development rights to a 120-acre mix use commercial site near the entrance to the airport. No federal funds were required and construction began in 1999.

Funding Source	Amount in Millions
City of Portland	$23.8
Bechtel Enterprises for Cascade Station	$28.2
Port of Portland	$28.3
Trimet: bonds, regional compact	$45.5
Total	$125 million

Results

Overall the results have been positive. The system went into revenue operations in 2001 only 4 years after Bechtel presented the unsolicited bid. TriMet did not need to apply for Federal funds and the project did not exceed cost estimates because Bechtel assumed construction cost overrun risk. For Bechtel, however, the development project on the 120 acres has not met expectations. The system opened the day before the terrorist attacks of September 11th 2001, and proved to be very useful in shuttling people out of the airport that day; however, the real estate development planned for that site has changed. Bechtel eventually sold its interest in the 120 acre parcel to Trammel Crow after the City allowed a change in land use restrictions. Trammel Crow brought in an IKEA store and other big box retailers, which are unfortunately not the type of retail conducive to transit use

Relevance

Given the current real estate market in Miami, this model may be difficult to duplicate. However it provides an interesting example of private sector willingness to engage in development of transit systems in exchange for development rights to public land. The model also highlights a critical link between different city agencies, which exemplifies the importance of public-public-private partnerships.

PORTLAND STREETCAR

OVERVIEW AND DESCRIPTION OF THE SYSTEM

Opened in 2001, the Portland Streetcar is often cited as a model for streetcar systems in the US. The Portland Streetcar is a noteworthy example as it is part of a public-private partnership and overall strategy to link transit service with city redevelopment.

Issues/Needs

The project was designed to connect two redevelopment areas in the city: 70 acres of rail yards and a brownfield site north of downtown called the River District and another 128 acres of vacant industrial land that needed environmental remediation at the South Waterfront.

Approach

The system is owned and operated by the City of Portland in partnership with TriMet, which contributes a portion of operating funding. The City of Portland contracts with Portland Streetcar, Inc. to construct and operate the Streetcar system. Portland Streetcar, Inc. is a private non-profit corporation that sets the operation and maintenance requirements for TriMet. Service is free within the downtown area and very inexpensive outside of the central downtown core. In addition, modern Skoda cars and dynamic signs to alert riders when the next train will arrive make riding the Streetcar easy and enjoyable.

Total alignment cost for the existing 4 miles (end to end, double tracked) was $103 million. The overall average cost per track mile is approximately $12.9 million.

Funding Sources	Amount in Millions
Revenue Bonds from a $0.20/hr short term parking rate increase in City parking garages	$28.6
Tax Increment Financing from the Portland Development Commission	$21.5
Property Owner Contribution through a Local Improvement District on non-owner occupied residences	$19.4
Regional Transportation Funds	$10
City Funds	$8.75
Connect Oregon	$2.10
TriMet	$5
Transportation land sale	$3.10
Other	$4.70
Total Cost	$103.15 million

The local improvement district was created to include property owners that would receive the greatest benefit from their proximity to the Streetcar.

In addition to adding a finer grain of transit service, the city reduced the parking ratio requirements in the new redevelopment areas.

Results

The development impacts have been substantial. Since the original Streetcar alignment was identified, properties along the alignment have witnessed $3.5 billion invested within 2 blocks of the alignment and over 10,200 new housing units, 5.4 million square feet of office, institutional, retail and hotel construction have been constructed. In addition to development benefits, the Streetcar has exceeded ridership estimates of 3,500 weekday rides to now serving 9,000 riders each week day.

Two extensions to the Streetcar system are in active planning: the Streetcar Loop, which will extend Streetcar service across the Willamette to OSMI, and the Willamette Shoreline project, which would extend service to Lake Oswego. Portland's Streetcar was the first project to be awarded a Small Starts grant under the FTA's grant program for extensions to the Streetcar.

Relevance

Portland Streetcar is held up as a model that incorporates public-private partnerships to provide a finer grain of transit service in Portland. The system also feeds into the light rail and is easy to use. Innovative uses of local improvement districts in non-owner occupied properties and the use of revenue bonds backed by an increase in City parking garages demonstrate the City's willingness to use all available means to

promote redevelopment in former industrial areas. Project planners often call the Streetcar system "development oriented transit," as the primary objective was to revitalize older parts of the city.

GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA)

"HEALTHLINE" NAMING RIGHTS

OVERVIEW AND DESCRIPTION OF THE SYSTEM

The Greater Cleveland Regional Transit Authority (GCRTA) serves Cleveland, OH and surrounding suburbs of Cuyahoga County. It operates 108 rail cars on 34 miles of track and 624 buses on 1,606 route miles. GCRTA services include rapid transit (rail), light rail, bus, bus rapid transit (BRT), and paratransit. According to the National Transit Database (NTD), in 2007, fare revenues comprised 18 percent of total operating funds expended ($237 million). Local funds (sales tax revenue derived from a 1 percent county surtax) comprised 66 percent of operating funds expended.

HEALTHLINE: NAMING RIGHTS

Project Overview

The Euclid Corridor project, the nation's first federally-funded Bus Rapid Transit (BRT) project, commenced operations in October 2008. Originally called the Silver Line, this was later renamed the HealthLine, as discussed below. The system includes a faster commute through dedicated transit lanes and stations, off-board fare payment, and traffic signal prioritization. The total cost of the project was more than $193 million. The line connects the region's two largest employment centers: downtown and University Circle. The line will also be connected to the Cleveland Clinic and University Hospitals, the purchasers of the naming rights.

Approach

GCRTA hired a local firm, the Superlative Group, to broker a naming rights deal for the Silver Line. The agency turned to naming rights because it wanted to avoid cluttering the "clean and sleek" Euclid Corridor buses with traditional advertisements.

Results

The Cleveland Clinic and University Hospitals will pay $250,000 annually over 25 years (total of $6.25 million over this time period) to name the nine-mile route the HealthLine. These revenues are expected to more than cover the loss of advertising revenue and help with maintenance and landscaping. The logo will appear on the route's 21 vehicles, 62 stations, schedules, and promotions. The deal has the potential to grow to $18 million if GCRTA can sell sponsorships for 10 stations along the corridor over the life of the agreement.

Relevance

Based on the GCRTA experience, MDT could undertake the following:

- Aggressively pursue naming rights opportunities for stations or major routes;
- Possibly hire a company on commission to find buyers for naming rights.

DENVER REGIONAL TRANSPORTATION DISTRICT (RTD)

OVERVIEW AND DESCRIPTION OF THE SYSTEM

The Denver Regional Transportation District (RTD), created 1969, covers parts of eight counties and 2,377 square miles, serving a population of 2.7 million (about 55% of the total population of Colorado). The RTD is governed by a 15-member Board of Directors.

The RTD system includes 35 miles of light rail to 37 stations, 621 RTD-owned buses and 439 leased to private operators, park-and-ride, and a number of special services such as shuttles and paratransit. RTD reports that ridership in fiscal 2008 was over 102 million. The 2009 RTD budget is $382.9 million.

Funding from the RTD includes a 1.0% sales tax, including a 0.4% increase approved in 2004 to finance the FasTracks transit improvement program. The tax provided $413 million in 2008, equal to 63% of RTD's revenue. 2008 tax revenue was down 1.3% compared to 2007. Fares comprised 14% of 2008 revenue, and RTD's farebox recovery rate was just 23%.

The RTD recently completed the T-Rex project, the design-build of a light rail project. T-Rex was completed under budget and ahead of schedule, and includes private bus operations.

FASTRACKS: P3

Issue/Needs

In order to better serve its rapidly-growing population area, RTD embarked on a major service expansion, called FasTracks, in 2004. The FasTracks plan calls for 122 miles of new light rail and commuter rail, 18 miles of bus rapid transit (BRT), 31 new park-and-ride facilities with over 21,000 new spaces, enhanced bus network and transit hubs, and redevelopment of the historic Denver Union Station. The total cost estimate for FasTracks is currently $6.9 billion, down from $7.9 billion in the 2008 estimate due to decreasing commodities prices.

Approach

Portions of the FasTracks program have been selected for private development under the FTA's Public-Private Partnership Pilot Program (Penta-P). These projects, collectively known as the Eagle P3, include the design-build-finance of two commuter rail lines, a maintenance facility, Denver Union Station systems, commuter rail cars, as well as the operation and maintenance of two commuter rail corridors, and all commuter rail cars. Details of the key projects are as follows:

- The East Corridor is a proposed 23.6 miles commuter rail to connect downtown to Denver International Airport. Estimated cost is $1.14 billion. The draft EIS has been completed for the corridor.

- The Gold Line is an 11.2 mile commuter rail line using electric multiple units to connect downtown to Wheat Ridge, west of Denver. Estimated cost is $550 million. The draft EIS has been completed.
- The commuter rail maintenance facility (CRMF) would service electric and diesel rail cars. Estimated cost is $200 million.

Proposed financing for Eagle P3 projects includes $1.89 billion. The plan of finance includes $940 million in New Starts funds from FTA, $355 million from RTD, $550 million in P3 funds, and $45 million local funds. The concessionaire will repaid through availability payments from RTD, and will not take ridership risk. RTD proposed funding for the project includes a TIFIA loan and Private Activity Bonds.

Results

The RTD undertook an RFQ process in 2008 to qualify firms for the Eagle P3. Three consortia, providing full services including planning, design, engineering, and construction and financing, were qualified to compete for the project. However, the RFP is currently on hold as RTD awaits its full-funding grant agreement from FTA.

In addition, RTD will likely seek an additional 0.4% sales tax in 2010 to provide funds for the project. Sales tax revenue forecasts for the 2005-2035 period have steadily declined, from $13.7 billion in the 2004 forecast to only $9.1 billion in the 2009 forecast. The increased sales tax is needed to fill this gap.

Relevance

Denver RTD is a leader in utilizing P3s to fund transit projects. Although currently on hold, the Eagle P3 is among the most advanced Penta-P projects in the country. RTD did not jump into complex P3s, but began with the T-Rex design-build program, which included innovative concepts such as private operation of bus lines. Building on that success, RTD is seeking a more challenging procurement through the Eagle P3 program.

In selecting the FasTracks projects to include in the Eagle P3, RTD looked at where it was appropriate to assign risk, and which projects (such as light rail) could be better completed through traditional public financing. RTD also carefully selected the project elements that would be build on a design-build bases, which would have private operation long-term, and where the private sector could best provide financing. The Eagle P3 also includes innovative concepts such as availability payments

However, the issues causing delay in the Eagle P3 are also instructive. Having environmental studies complete and federal funding in place is required before going through with selecting a P3 concessionaire. In addition, the project demonstrates that P3s are not a panacea for financial difficulties, as additional sales tax revenue will be needed to complete the planned projects.

DENVER UNION STATION REDEVELOPMENT: TOD

Issue/Need

Built in 1881 and remodeled in 1914, the historic Denver Union Station (DUS), although perfectly located to serve as a regional hub for transportation, currently has service only from two daily Amtrak trains. Denver sought to redevelop the site to serve the needs of the community, including historic preservation and sustainable development, in addition to supporting transportation.

RTD acquired the 19.5-acre station site in 2001, and, in cooperation with the Colorado DOT, the Denver Regional Council of Governments, and the City and County of Denver regional, intends to implement a master plan to redeveloped the station into a crossroads facility into a multi-modal transportation facility that will bring together light rail, commuter rail, intercity rail, bus, parking, taxi, pedestrian, and bicycles. The vision is for the station to serve as a mixed-use transit—oriented development that will become a hub for urban activity including office, retail, and residential uses. Public elements of the plan are expected to cost $434.5 million and include the following elements:

Element	Cost
Light Rail Transit	$18.5 million
Regional Bus Facility	$158.7 million
Passenger Rail	$129.8 million
Streets and Utilities	$17.7 million
Shuttle and circulator	$2 million
Street ROW improvements	$16 million
Parking Deck	$4 million
Other	$87.8 million
TOTAL	$434.5 million
Source: Final EIS, based on April 2008 analysis	

Approach

RTD conducted a two-year master planning process that included public participation and outreach and formed a 60-member technical advisory committee and the 99-member Union Station Advisory Committee (USAC) to represent the interests of 36 stakeholder groups. The resulting master plan was endorsed by each of the partner agencies as well as the USAC in 2004, and has been updated twice in the interim. Denver created the Denver Union Station Project Authority (DUSPA), comprised of representatives of all partner agencies, to serve as the financing and contracting entity for the project.

Following the master plan approval, an RFQ process was undertaken to select a master developer. From 11 competing entities, Continuum/East-West Development Partners (now called Union Station Neighborhood Committee or "USNC") was selected in 2006. The master plan calls for about 1 million square feet of office space, up to 300 residential units, a hotel, and 100,000 square feet of retail/commercial space.

Partial financing for DUS includes funds provided from real estate development around the station. Key elements include a TIF district that will produce revenue as the master developer takes down property. Because TIF revenues are not bankable, financial advisors have suggested that the RTD convert its

contribution into the form of a long-term lease payment instead of an upfront payment from the developer in order to provide annual revenues to cover debt service.

RTD is also seeking subsidized loans for the project, including $155 million from the US DOT TIFIA program and $227 million for commuter rail from the Railroad Rehabilitation & Improvement Financing Act (RRIF) program.

Finally, RTD plans to pay about $208 million, with the rest coming from federal and local sources. The DUS received $18.6 million in federal stimulus funds in June 2009.

Results

The Record of Decision for the EIS was issued in October 2008, clearing the way for the redevelopment to proceed. DUSPA is in working to secure financing for the project, particularly the TIFIA and RRIF loans. The transportation elements of the project will take 3-4 years to complete once begun, and the real estate development will follow.

The DUSPA entered into a letter of intent with USNC in January 2008 to develop the station site. Kiewit Construction will complete the transportation elements of the work under a guaranteed maximum price contract. USNC will receive a development management fee of $10.4 million to plan and design elements of the site. USNC commits to purchase various development parcels from RTD that will eventually total $27 million, and have agreed on a takedown rate of 8% per year for USNC to retain rights to develop.

Relevance

The Denver Union Station project provides an example of how disparate stakeholders, funding sources, and project elements can be combined to create major regional benefit. The project has elements of a wide variety of innovative funding sources and financing mechanisms, including TOD, TIF, P3s, and innovative loan programs.

The project also demonstrates that flexibility in financial planning is essential to success. With the financial markets unavailable due to the financial crisis, RTD is turning to TIFIA and RRIF funds as a replacement. This would be a highly innovative use of RRIF, which typically funds freight, not commuter rail.

MIAMI DADELAND NORTH AND SOUTH (MDT)

DADELAND NORTH METRORAIL STATION
DADELAND SOUTH METRORAIL STATION

OVERVIEW AND DESCRIPTION OF THE SYSTEM

Miami-Dade County adopted a joint development ordinance in 1978, a full 6 years before its Metrorail system opened. In 1982, Miami-Dade Transit entered into its first joint development agreement at its Dadeland South station. Since that time, 21 joint development projects have been initiated or completed.

DADELAND NORTH METRORAIL STATION

The Dadeland North Metrorail Station is a joint development project located at 8300 South Dixie Highway. It was a joint development project initiated in 1994 by a competitive request for proposal process. The lease commenced in 1994 and expires in 2084 (a 90 year lease). Miami-Dade Transit receives the greater of $400,000 or 5 percent of gross revenues annually from developed phases. The annual revenues for FY 2007 were $458,000. Phase I of the project was completed in 1996. Phase B was occupied in 2000, with Phase II occupied in May 2005.

The project includes the following components:

Dadeland Station (Phase I) - Total 354,879 sq. feet, housing major retailers – Bed Bath & Beyond, Best Buy, Michaels, Sports Authority, and Target – and 9,600 sq. ft. ground floor transit-oriented retail with 1,487 space garage. There is also a 15,617 sq. ft, 2-story retail building.

Dadeland Vista (Phase B) - 51,664 sq. ft 4-story 48 unit market-rate rental apartments.

Towers of Dadeland (Phase II) - Total 195,367 sq. ft, 188,955 sq ft 14-story market-rate rental residential with option to convert to condominium, 110 units with 10 two-story townhouses on 3rd and 4th floors; 5th and 6th floors. It includes 96,000 sq. ft. with 214-space parking garage, and 6,412 sq. ft. for ground floor retail.

Towers of Dadeland Executive Office Building II (Phase III) - It includes 126,920 gross sq. ft. with 14-story office building (8-floor office), and 8,409 sq. ft. ground floor retail, with 362-space parking garage.

DADELAND SOUTH METRORAIL STATION

Dadeland South Metrorail Station Project is a joint development project located at US1 between Dadeland Boulevard and Palmetto Expressway Overpass. The project includes the following components:

Datran Center I and II (Phases 1 & 3) – The Datran Center is located at 9100 and 9130 South Dadeland Boulevard. It includes two Class A office building, with 476,412 rentable square feet, and 35,000 sq. ft. of retail space. It includes 3,500 parking spaces, with 1,100 designated for MDT patron usage.

Miami Marriott Dadeland Hotel and Conference Center (Phase 2) – It includes 302 luxury hotel rooms.

Dadeland Center I (Phase 4A) – It includes an 18-story Class A office building (8 floors offices, 9 floors parking) for a total of 152,014 sq. ft.

Dadeland Center II (Phase 4B) – It includes a 15-story Class A office building (8 floors offices, 6 floors parking) for a total of 119,516 sq. ft. with ground floor retail. The construction on this phase started in 2005 and was completed in 2007.

The project was initiated through a land swap of property owned by Green Datran Center Ltd., to the County in exchange for development rights on and above station site and related areas. The lease commenced in July 1982. The initial term of the agreement is through December 2038, with an automatic 44-year renewal to December 2082, and a 50-year renewal to 2132. Phases 1, 2 and 3 have been in operation since 1984. Phase 4A started in 2005, and Phase 4B commenced in 2008.

Miami-Dade Transit receives a significant guaranteed annual rent or participation rent (percentage of total gross income) generated from all uses. The project generates over one million dollars annually from MDT.

Dadeland South Parking Lot Extension

Construction of the Dadeland South Parking lot extension started in January 31, 2009. It is estimated that the project would be completed at the end of 2009

Results/Relevance

The implementation of the Dadeland projects demonstrates that, under the right circumstances, joint development can work in Miami-Dade County. However, the program was not without difficulty. A case study developed by the Transit Cooperative Research Program (TCRP) found that the structure of the land development agreement for Miami-Dade Transit's Dadeland South project proved problematic from the developer's perspective. Developers were subject to local equal-opportunity and DBE rules, which added time and cost to the project.

CONTRACT SERVICES & OUTSOURCING

VEOLIA TRANSPORTATION
PACE SUBURBAN BUS SERVICE

VEOLIA TRANSPORTATION

OVERVIEW AND DESCRIPTION OF THE COMPANY

Veolia Transportation is one of the largest private providers of multiple modes of transportation in North America. It operates service under 200 contracts with 18,000 employees in the U.S. and Canada. Modes of public transportation operated include bus, rail, paratransit, taxi, and shuttle services. Veolia Transportation is the North American business unit of Veolia Transport—one of four subsidiaries of Paris-based Veolia Environnement. The other divisions of Veolia Environnement include Veolia Water, Veolia Environmental Services, and Veolia Energy.

There are other private bus and transit operating companies, including MV Transportation and FirstGroup America. We provide the Veolia example to show what the private sector's role in this area could be.

Major Contracts

Veolia Transportation offers five different contract options in North America. These are:

- **Transit Management Contracts**: the private sector management of public employees and assets; e.g. Foothill Transit (Los Angeles), Phoenix, Cincinnati, Richmond;
- **Brokerage Call Center**: a form of management contract in which a central authority receives service requests from eligible customers, and organizes the service for delivery by multiple private contractors, in the most efficient and effective way possible; e.g. San Francisco, Boston;
- **Operating Contracts**: provides the on-street operation and vehicle maintenance for a transit organization, with assets and facilities provided by either Veolia Transportation or the public agency; e.g. Greensboro's HEAT service, San Diego MTS system re-routing scheme, MUNI fare system;
- **Delegated Management**: when a policy board delegates the management and operation of an entire transit organization to a private provider; common in Europe; e.g. New Orleans;
- **Public-Private Partnership**: occurs when the public and private sectors combine to design, build, finance, operate and maintain a transit network over the life of the project, e.g. Denver's FasTracks project and Houston's Light Rail.

Veolia Transportation lists its major contracts as being in the following locations:

- Bus
  - Las Vegas
  - San Diego
  - Denver
  - Phoenix
  - Tucson
- Commuter rail
  - Boston
  - Los Angeles
  - Miami
  - Austin
- Light rail

- Bus Rapid Transit
  - Toronto
  - Las Vegas
  - Bogota
- Paratransit
  - Seattle
  - San Francisco
  - Orange County
  - Baltimore
  - Dallas
  - San Diego
  - Nice & Lyon

Below are summary descriptions of some recently awarded contracts:

Houston Light Rail

Veolia Transportation announced in July 2009 that it has been awarded an operations and maintenance contract by the Metropolitan Transit Authority of Harris County (METRO) for its light rail expansion project in Houston, TX. The work will take place through a joint venture company, Houston Operation and Maintenance LLC (HOM), formed by Veolia Transportation and Parsons. Per this contract:

- Veolia Transportation will initially be responsible for planning and development services and advising in the planning, design, and integration of the rail lines, systems, and maintenance facilities and the light rail vehicles for the project;
- Once revenue service begins, Veolia Transportation will be responsible for all aspects of the new light rail network for an initial period of five years, which can be extended up to 35 years;
- The design-build portion of the project to be completed by Houston Rapid Transit (HRT), a Parsons-led joint venture that includes Granite Construction Company, Kiewit Texas Construction LP and Stacy and Witbeck Inc.
- The light rail vehicles will be manufactured by Houston LRV 100 LLC, an entity owned by CAF USA Inc. and Parsons.

New Orleans

Veolia Transportation was recently awarded a "Delegated Management" contract in New Orleans by the New Orleans Regional Transit Authority (RTA). According to Veolia Transportation, some highlights of the agreement include:

- Agreement is first of its kind in the U.S.;
- 10-year contract (5 year initial term with a 5-year renewal term based upon performance goals);
- New contract commences on September 1, 2009; prior to this, the company had been operating under a traditional management contract since October 2008;
- Company to be responsible for all aspects of public transportation in New Orleans including operations, safety, maintenance, customer care, routes and schedules, capital planning, and grant administration;
- Company to be compensated approx. $56.3 million per year by RTA and will be responsible to pay all salaries, benefits, and operating expenses;
- New Orleans RTA employees to become employees of the company;
- New contract will include operation of 32 transit routes in New Orleans, starting with 93 buses, 66 streetcars, 42 paratransit vehicles, and 10 "L'l'Easy" vans.

Las Vegas Contract Extension

Veolia operates the nation's largest contracted fixed route bus system in Las Vegas for the Regional Transportation Commission of Southern Nevada. Its original contract was awarded in 1992 for 16 years but was recently extended through September 2011. The operations contract includes the "MAX" bus rapid transit (BRT) service, and "Deuce," double decker buses that run along the Las Vegas Strip. Included in the system are two facilities and a fleet of around 400 vehicles. The ACE Downtown Connector, a second BRT line, is scheduled to begin operating in late 2009.

Relevance

Companies such as Veolia demonstrate that operators with significant transit management and operations experience are available should MDT seek to outsource transit routes or other services.

PACE SUBURBAN BUS SERVICE

Overview and Description of the System

Pace, the suburban bus division of the Regional Transportation Authority (RTA) in the Chicago metropolitan area, was created in 1983 by the RTA Act, which established the formula that provides funding to Chicago Transit Authority (CTA), Metra and Pace. Pace operates bus, demand response, and vanpool services. Pace serves the counties of Cook, Lake, Will, Kane, McHenry, and Du Page. Additionally, some of Pace's buses go to Chicago and Indiana. Finally, Pace delivers paratransit services in Chicago in addition to its regular service area.

Outsourcing to Private Contractors

According to a performance audit produced by the State of Illinois Office of the Auditor General (OAG) in 2007, Pace contracted for about 12 percent of its total bus miles through six private contractors in different and scattered parts of the service area. These services carried about 10 percent of the total fixed route boardings. The performance audit found that unit costs of the contract services were very similar to those of the directly operated bus service. The following list shows some of the private contractors that operate bus or paratransit service for Pace:

- Academy Coach Lines
- Colonial Coach Lines
- First Student
- MV Transportation

VI. Survey of Literature on Value Capture

This section provides an overview of the practical issues affecting transit funding and finance to provide a context to the alternative ways to fund capital projects described discussed in Section V of this report. A considerable number of studies have been written on transit finance and alternative financing sources over the last decade. These include well-researched studies from the Federal Transit Administration, Transit Cooperative Research Program (TCRP) and non-profit groups. In this section, we review some of the key findings from this literature to provide further context on alternative ways to fund capital projects.

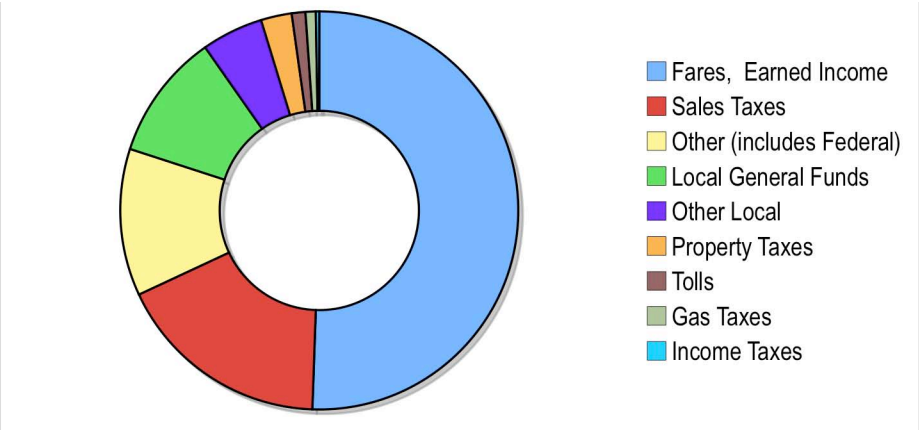
Current Breakdown of Transit Funding Sources

According to the 2005 National Transit Database (NTD), one of the primary data sources for transit operational and financial information collected by the FTA, the primary sources of transit funding are 1) fares and other earned revenues and 2) a variety of local, state and federal grants.

As the chart below indicates, fares and other earned income make up approximately half of the operating and capital funding sources for public transportation systems located in urbanized areas with a population of over 200,000 or greater. Fares tend to play a much more important role in funding operations than capital funds.

Among public funding sources, sales taxes are the largest component, especially in covering operating costs. Federal grants play a large role in capital funding. In general, alternative funding sources, such as from transit-oriented development (TOD), play a de minimus role in transit financing, at least until now.

Figure 6-1: Local and Regional Public Transportation Sources for Urbanized Areas with Population Over 200,000 (2005)



Source: National Transit Database, 2005, www.ntdprogram.gov/ntdprogram. From TCRP 129.

In addition to the growth of sales taxes as a key funding source, over time, there has been change from straight general funding support toward fares and other directly earned revenues and non-fare sources such as joint development income (TCRP 129). Therefore, for comparable transit systems to MDT, alternative funding sources have not played a major role in transit financial plans, until now.

Transit Impact on Land Value

A number of studies have documented that property near or adjacent to transit facilities has a higher value than comparable properties without such access. While this may be obvious to transit advocates, property value variation differs by transit property, type of facility and urban area, among other factors. As the table below informs, residential property values can be up to 45% higher when it is near light rail, rapid transit or commuter rail facilities. Bus malls also have positive impacts. However, properties too close to such facilities may have a negligible value benefit, or as in Santa Clara County, facilities within 900 feet of a station actually are worth 10.8% less.

Figure 6-2: Effect of Transit on Land Values

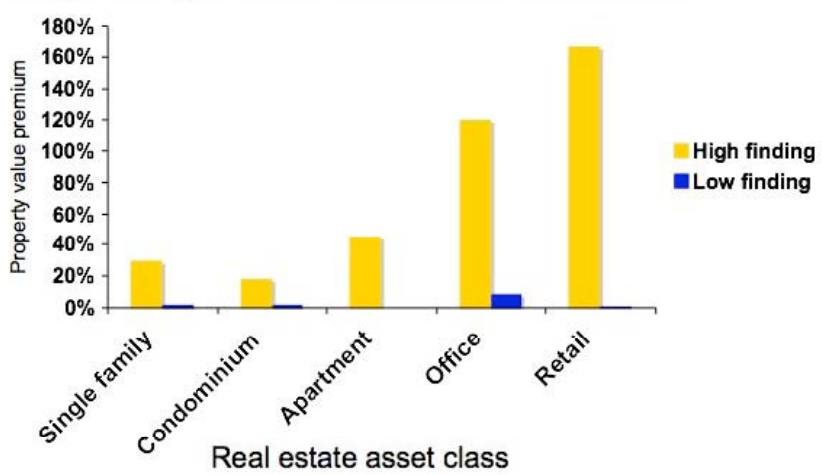
Variable/Location	Premium Effect	Transit Type	Year	Source
Single-family home sales price:				
San Francisco Bay Area BART System	+17% w/in 500 ft of station	Rapid Transit	1979	Bloyney-Dyett Associates/David M. Dornusch & Co., Inc. "Land Use and Urban Development Impacts of BART," San Francisco: Metropolitan Transportation Commission, 1979
San Diego San Diego Trolley System	+2% w/in 200ft of station	Light Rail	1992	YNI Rainbow Appraisal Service. "Analysis of the Impact of Light Rail Transit on Real Estate Values," San Diego Metropolitan Transit Development Board, 1992
Portland MAX Light Rail System	+10.6% w/in 1,500 ft of station	Light Rail	1993	Al-Masaind, M. et al. "Light Rail Transit Stations and Property Values: A Hedonic Price Approach," Transportation Research Record, 1400:90-94, 1993.
Sacramento Sacramento Light Rail System	+6.2% w/in 900 ft of station	Light Rail	1995	Landis, J. et al "Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Systems," Institute of Urban and Regional Development, UC Berkeley, 1995.
Santa Clara County VTA Light Rail	-10.8% w/in 900 ft of station	Light Rail	1995	Landis, J. et al "Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Systems," Institute of Urban and Regional Development, UC Berkeley, 1995.
Chicago METRA Commuter Rail System	+20% w/in 1,000 ft of station	Commuter Rail	1997	Gruen, A. *The Effect of CTA and METRA Stations on Residential Property Values,* Regional Transportation Authority, 1997
St. Louis MetroLink Light Rail System	+32% w/in 100ft	Light Rail	2004	Garrett, T. "Light Rail Transit in America: Policy Issues and Prospects for Economic Development," Federal Reserve Bank of St. Louis, 2004.
Condominium sales price:				
San Diego San Diego Trolley System	+2% to 18% w/in 2,640 ft of station	Light Rail	2001	Cervero, R. et al, "Land Value Impacts of Rail Transit Services in San Diego County," Urban Land Institute, 2002.
Apartment rental rate:				

San Francisco Bay Area BART System	+5% w/in 1,320 ft of station	Rapid Transit	1991	Bernick, M. et al. "A Stufy of Housing Built Near Rail Transit Stations: Northern California," Institute of Urban and Regional Development, UC Berkeley, 1991,
San Diego San Diego Trolley System	+0% to 4% w/in 2,640 ft of station	Light Rail	2001	Cervero, R. et al, "Land Value Impacts of Rail Transit Services in San Diego County," Urban Land Institute, 2002.
Santa Clara County VTA Light Rail	+4.5% w/in 1,320 ft of station	Light Rail	2002	Cervero, R. "Benefits of Proximity to Rail on Housing Markets: Experiences in Santa Clara County," Journal of Public Transportation, Vol. 5, No. 1, 2002.

Sources: Cambridge Systematics Inc. et al, Economic Impact Analysis of Transit Investments, Transportation Research Board, 1998; PriceWaterhouseCoopers, Review of Property Value Impacts at Rapid Transit Stations, Richmond/Airport – Vancouver Raid Transit Project, April 2001; Smith, J. et al, Financing Transit Systems Through Value Capture, Victoria Transport Policy Institute, September, 2006.

A summary of transit impacts for major real estate uses include the following in Figure 6-3 below.

Figure 6-3: Study Findings of Land Price Premiums Near Transit



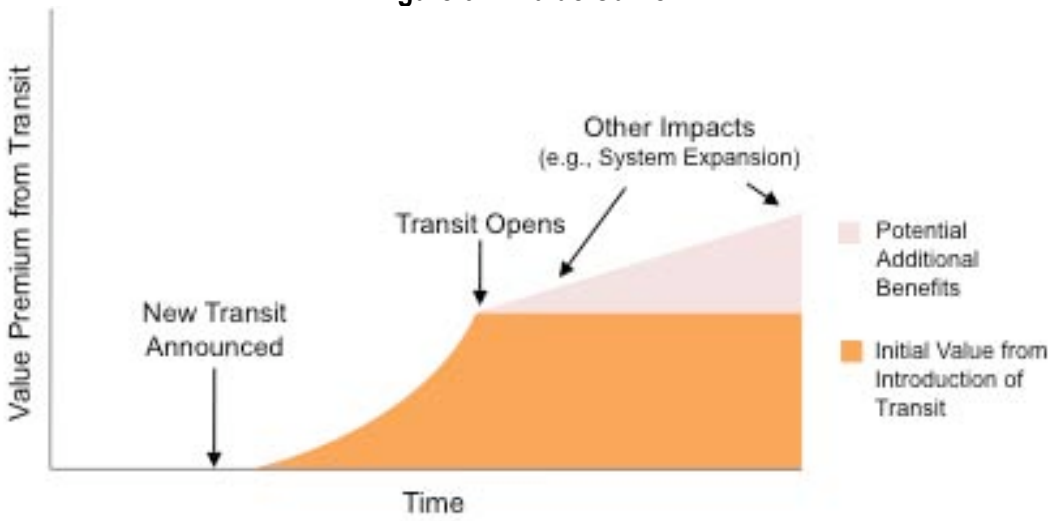
Source: Fogarty

These studies help to buttress the argument that appropriate value-capture mechanisms—that take some of that added value to pay the transit facilities themselves—can be fair, if they truly capture a portion of the added value.

The challenge, however, is that there is often a funding gap or timing mismatch between the actual construction of the facility and the eventual rise in residential and other property values. For instance Fogarty categorizes this as the "value curve" in which property value increases exponentially from announcement of the new facility until opening with further value increases with system expansion and enhancements. Financing may be able to bridge some of that gap, funding early capital needs with repayment paid from the capture of future land values. However, as construction major transit projects can easily take five to ten years and real markets tend to have significant down cycles that may easily last five years, it is very conceivable that the time from the first construction draw until first debt repayment could be

fifteen or more years, usually very difficult to finance even with innovative finance mechanisms provided by the TIFIA program or state infrastructure bank loans.

Figure 6-4: Value Curve



Source: Strategic Economics in Fogarty

Furthermore, developers and transit planners have to believe that there will be a development opportunity in the future. In other words, they must believe in the catalytic impact of transit on property values and/or that a new transit facility will complement existing positive property development trends. It may be difficult or near impossible for a transit facility to spur growth in an area where residential and other property growth has been weak or non-existent, regardless of transit's positive impact on some residential property values as discussed above. This is especially the case if new development requires other extensive infrastructure, such as roads and water utilities.

The Opportunities and Contradictions of Parking

Parking is often a critical component of transit development. First, there is a clear recognition in the construction of transit facilities over the last four decades that well-located parking facilities spur transit use, because the other feeder transportation modes—bus, bikes, walking—can be very limited due to the U.S.' tradition of low-density residential development and resource constraints for other modes. Second, some parking facilities, in theory, can be funding sources for transit capital projects either through parking fees, or, more recently through the long-term sale of parking to private investors (who rely primarily on parking fees, as well as additional services), as discussed above.

There are several contradictions in relying on parking, however, as a key monetary source, for the following reasons:

- By definition building large parking lots near transit stations appears to contradict that role of transit to spur non-automobile development.
- Extensive parking facilities around transit stations may not only be a physical blight, but it may kill some of the attractiveness of transit-oriented development by forcing such development further away from the train station. It also may reduce the viability of retail near or adjacent to stations—which depends on street visibility and accessibility. "Broad expanses of surface parking separate

stations from surrounding neighborhoods and create an urban landscape that encourages people to flee transit stations as quickly as possible." (TCRP 102 - 107)

- Structured parking can be very expensive, from $15,000 a space to as much as $45,000 a space if there is a "retail wrap." Zoning codes that do not relax parking requirements for developments near or adjacent to transit stations (such as two parking spaces per residential unit) or allow for shared parking between transit and adjoining developments, may stifle TOD opportunities. (TCRP – 102)

Understanding the Market for Retail

Similar to parking, building retail facilities at or adjacent to stations appears to be an obvious opportunity, especially for the following:

- Banking
- Eating establishments, including food stands and vending machines
- Convenience retail (newsstands, drug stores, convenience stores, florists, child care facilities, photo-processing, gift stores)
- personal retail (dry cleaners, hair styling, shoe repair)
- Business retail (office supply, copy and print stores, overnight delivery, health clubs, grocery stores, eating establishments, drug stores) (Dittmar)

It is important to understand whether retail is oriented toward transit users, nearby residents, residents who travel specifically to shop at this location or all three; most frequently it is people in the area and NOT directly transit riders who support the retail portion of a TOD (TCRP 102). Related to this and as mentioned above, a successful retail plan requires excellent visibility, so that large structured parking that blocks pedestrian and street visibility can be problematic.

As a measure of the potential for concessions as a source of revenue, the New York Metropolitan Transit Authority (MTA) estimates that the minimum threshold to support a single store is 5,000 passengers a day.

Lenders Views On Transit-Oriented Development

For several reasons, commercial banking and other lenders, such as real estate investment trusts (REITS), may not view fully value the "TO" in TOD. Since TOD projects are not that common in the U.S., most lenders do not have unique experience or marketing understanding with such projects and therefore do not treat them as a separate class. In general, lenders and property insurance providers need to categorize loans in clearly defined groups—residential, retail, office, light industrial, etc.—making multi-functional projects challenging to obtain internal approvals. Thus, a TOD that includes retail on the first floor with offices and residential on the top, is still challenging despite an increasing push for mixed-use zoning. To overcome these obstacles, developers and planners need to segregate the construction of these functions horizontally, i.e. keeping the grocery store separate from the residential condominium, even if they are adjacent to one another.

On a related topic, lenders prefer to obtain simple interest in a TOD property and not a ground lease. Not only may ground leases limit the developer and lender's ability to fully amortize the cost of the real estate project, but they add a level of complexity to a project that already has significant complexity—multi-uses, unique zoning variances, potentially more expensive built-up structures, and a more unique market.

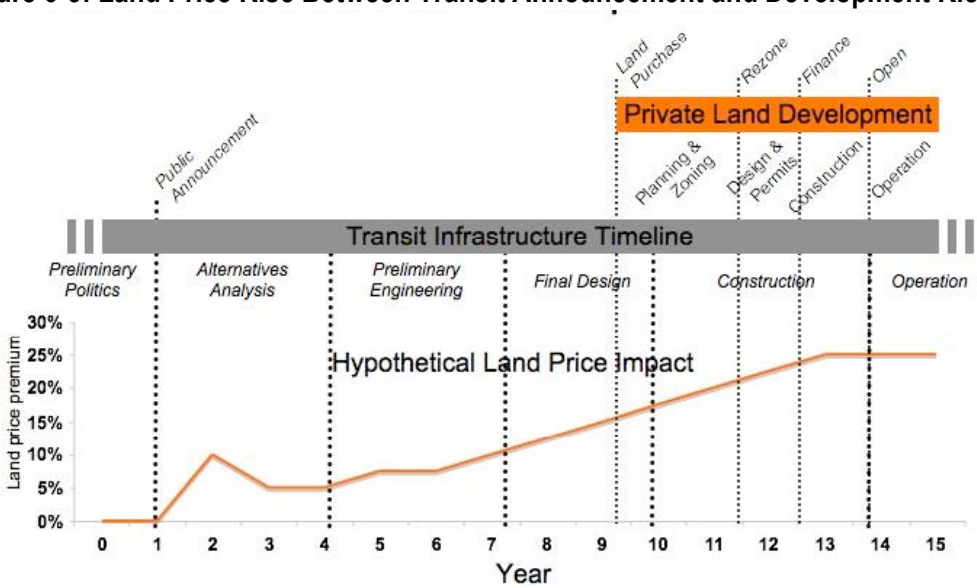
Linking Transit Planning, Transit Finance and Transit-Oriented Development

An emerging theme that is discussed in several studies is that there is a lack of coordination between transit planning, transit finance and transit-oriented development. Firstly, to minimize alignments costs (and complying with FTA least cost guidelines) and to spur economic development, transit projects may be located in areas where there may not be attractive real estate development opportunities, at least immediately. To obtain environmental and other approvals, many transit planners often "have followed the path of least resistance, seeking out disused freight lines, power transmission easements, and freeway medians where right-of-way acquisition and disruption costs are minimal (TCRP – 102 p. 101)." Furthermore, finding a less expensive alignments a challenge since the location of the alignment is usually well-known to the real estate markets, as most public planning processes are public, so that land speculation can also become an issue. Speculators bid up likely transit locations to levels that may limit reasonable value capture mechanisms or may force transit planners to leak less optimal alignments in order to save land acquisition costs. (Fogarty)

Under "TOD 1.0," TOD developer Fleissig goes further to say that transit development is too often used to "overcome poor real estate markets rather than coordinating transit investments with viable real estate markets (Fleissig)." While this may be a "chicken and egg issue," Fleissig's experience is that early TODs tended to have too high expectations of what transit can do to transform less advantaged neighborhoods and have made too many demand on developers, including for low-income housing and large, structured parking lots, higher finishes and diverse pedestrian, auto and transit accommodations to make them economically attractive to most developers.

Furthermore, Fleissig believes that "TOD 2.0" must address the time lag between transit planning and real estate development as illustrated in the figure below, ensuring that transit planners optimally prepare for future land development which may take five to ten years in many typical projects.

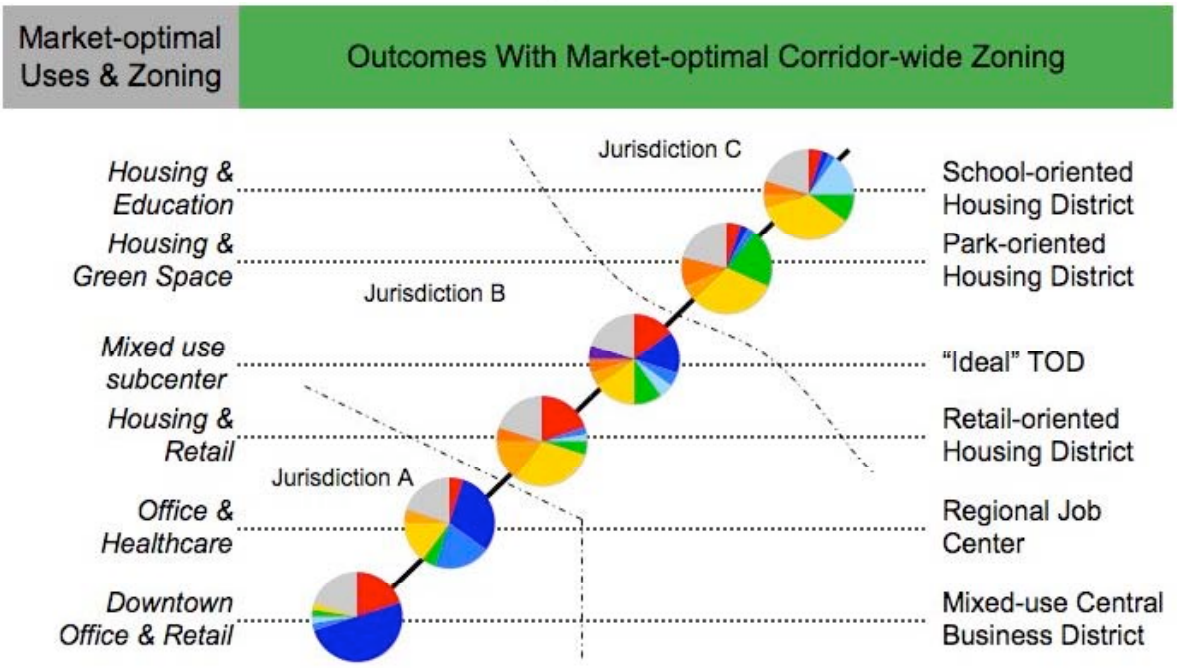
Figure 6-5: Land Price Rise Between Transit Announcement and Development Kick-Off



Source: Emerson, Donald; "Successfully Navigating the FTA New Starts Process"; PB Consulting, 2006 from Fleissig

Fleissig goes further to say that under "TOD 3.0," planners need to combine transit and real estate development into a highly coordinated process and must consider development at the "corridor scale," not just station by station. As the schematic below suggests, a corridor approach takes better into account the differences among sub-real estate markets allowing for different private developments and public amenities at each station, yet linking these together, through corridor-wide zoning.

Figure 6-6: Schematic of market-Based zoning at Corridor Level



Source: Fleissig

Fleissig sees a need for coordination between transit planners, public officials and developers to ensure that the transit project has a true "corridor" perspective over a period of 10-15 years. Coordination issues include:

- Align route with existing and future destinations
- Locate stations as part of larger development plan
- Manage integration of planning, engineering, and funding
- Facilitate PPP for value capture
- Execute inter-governmental agreements to balance benefits and burdens along corridor
- Acquire key parcels that are essential for TOD implementation
- Allocate uses and entitle station areas across entire length of corridor
- Extend corridor mobility with frequent shuttles.

Because of this real estate focus, Fleissig and others feel it is important that at the least transit agencies to hire staff with significant real estate expertise—not just transportation planners. Furthermore, transit agencies and municipalities have begun contemplating "master developer approaches" where one

development team receives the right to develop a number of stations along a corridor (Fogarty). Cherokee Investment Partners is doing this in Raleigh, NC for Triangle Transit in the development of its transit lines, giving them giving them access to a number of stations along a corridor.

Limitations of Transit-Oriented Development

According to TCRP 102, the following factors limit transit-oriented development:

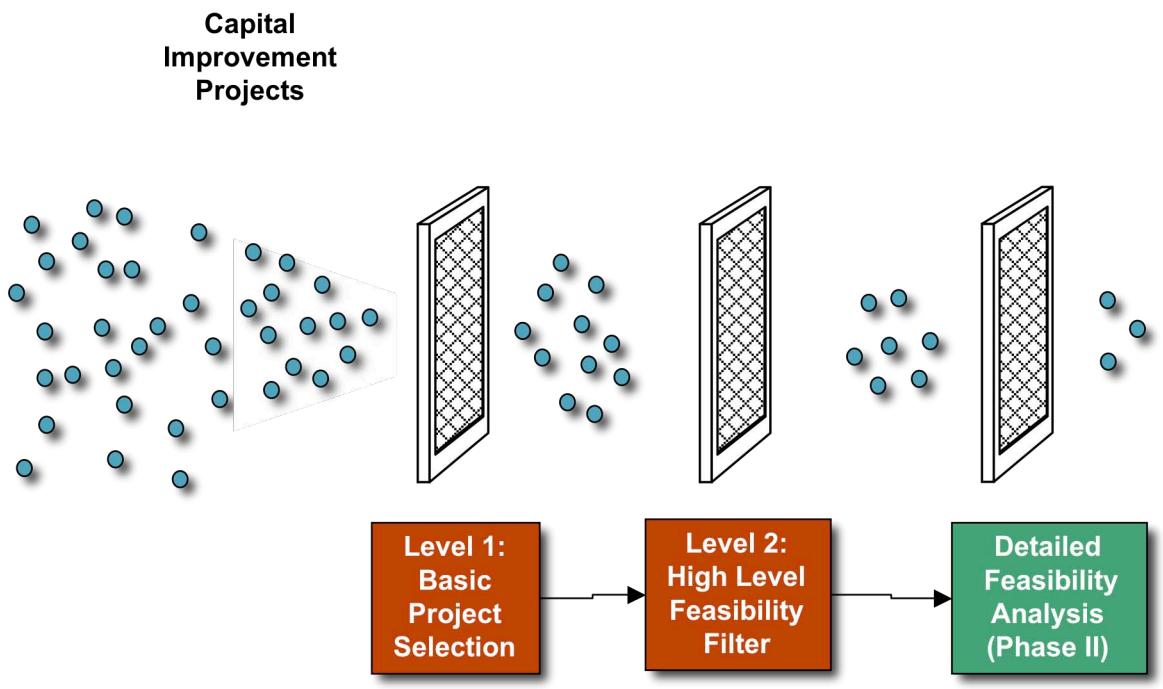
- Politics has created uncertainty and risk for private developers. For example, the Board of County Commissioners has issued and then rescinded requests for proposals for transit oriented developments, and proceeded to negotiate development agreements. This uncertainty may discourage private developers from investing time and money into joint development projects.
- The County's establishment of rapid transit zones and associated zoning has aided transit oriented development, but the zoning policy does not completely eliminate uncertainty and risk of building under two jurisdictional bodies, and because the zoning is project specific, it does not set firm rules for developers to follow.
- The typically high density and commercial zoning of areas around transit oriented developments has not substantially contributed to ridership, apparently due to the absence of an urban design framework and poor pedestrian connections between surrounding residential buildings and the station. Area developments are more "transit adjacent" than "transit oriented."

VII. Aligning the Projects with the Development Alternatives and Funding

Methodology for Project Selection

The key question driving the Team's research is to see if innovative funding and financing techniques can be used to help fill capital, and possibly operating funding gaps, for key capital improvement projects. In order to assess this, the Team examined projects from both the Miami Dade Transit "Capital Improvement Project" list as well as the People's Transportation Plan. We reviewed approximately 50 projects from the MDT CIP (see Appendix for project list). A series of filters were applied to projects based on the following criteria:

Figure 7-1: Capital Improvement Projects Filter



Level 1: Basic project selection filter. The project must:

- Be in planning or development stage, since projects too far along in the development process would be difficult to restructure and already have funding in place
- Have a cost of at least $20 million or more, since larger capital projects are more challenging to fund and develop
- Be a discrete project that is well defined

After the Level 1 filter was applied, the Team was left with about 23 projects that were larger and were in a phase of development where the Team felt the process could still be influenced. The Level 2 filter was applied to the list of projects based on the following criteria:

Level 2: High-Level Feasibility

- Project cost

- Development schedule
- Ridership or traffic demand is high
- Potential for innovative finance or joint development with easy access and parking, high boarding rate, potential area development
- Strong tax increment financing district potential – high potential for property value increase stemming from project implementation
- Potential for subsidy financing like the new markets tax credits.

The Level 2 analysis included a more detailed assessment of some of the considerations under the Level 1 filter. For example, the Team examined in more detail the stage of planning and design, the total cost of the project, the development around each of the proposed capital improvements, and assessed the feasibility or applicability of subsidy financing. In addition to the North Corridor and East-West Corridor metrorail lines, six other projects passed the Level 2 filter. These are discussed in detail below.

Discussion of MDT Projects With Potential for Attracting Outside Investment

The number of MDT projects passing the Level 1 and Level 2 filter was limited to approximately 15 CIP projects, as well as the North and East West Corridor extensions. The following section includes a discussion of these projects, and identifies the innovative finance tools that have the most potential to be successful for these projects. Developing a specific innovative finance plan for the projects will require in-depth research and analysis, and is envisioned to be part of the next phase of this work.

In addition to looking at proposed projects, properties acquired by MDT intended to support the future development of the transit system were reviewed for their potential to promote private investment on transportation projects. The properties may be classified into five categories, as follows:

- Properties associated with the North Corridor listed under Contract No. N200, including the locations for the Overtown/Arena Station, Culmer Station, Civic Center, Santa Clara Station, and Allapatah Station.
- Properties associated with the MIC-Earlington Heights Connector Project, comprising those purchased for the project, plus easements obtained by agreement from Miami-Dade Expressway Authority, and crossing easements from Florida Department of Transportation.
- Properties associated with the Hialeah Corridor, including those listed under Contract H400, and include the locations for the Brownsville Station, Martin Luther King, Jr. Station, Hialeah Station, and the Okeechobee Station.
- Properties associated with Florida East Coast Railway purchased under Contract S000, located at Snapper Creek Canal, on Southwest 80th Street and approximately SW 94th Avenue, at US1 and North Kendall Drive, and at US 1 and Dadeland Boulevard.
- Properties functions
- Other properties in the Miami-Dade Properties Inventory associated with other potential expansion projects or operation and maintenance:
  - Properties where the Miami-Dade Transit Department administrative offices are located
  - Metromover stations
  - Rail stations along US 1
  - The busway along US 1
  - Lehman Maintenance Yard

- Park and Ride lots.

The property analysis concluded that most of the properties in the inventory relate to existing facilities and the only properties that could be considered in developing alternative development and attract financing from outside sources, mainly private, are the Park and Ride lots. These facilities may be reviewed collectively and individually to assess the potential of the park and ride lots to promote participation of the private sector.

Innovative Finance Opportunities

1. **North Corridor**
2. **East-West Corridor Metrorail 8th Street Alignment**
3. **East-West Corridor State Road 836 Alignment**
4. **Partnership with MDX and FDOT on Corridor Development**
5. **Other Corridors**

The table below lists the projects that passed the Level 2 filter, and identifies the major innovative finance opportunities that deserve further exploration for each project. Following the table, each project is described. A checkmark in the table indicates that there is at least some potential for the innovative finance opportunity specified. However, the opportunity is not necessarily equivalent for all projects and for all opportunities for a given project. Furthermore, in the current environment, with MDT struggling to close gaps in its operations and maintenance budget and the uncertainty of how much County general fund money will be available to MDT, short-term opportunities are likely to be very limited. However, since planning for an innovative finance project can take many months or years, it is important to move forward on investigating the potential opportunities.

We have not identified specific financing mechanisms at this time, as further research is needed to understand the cost, traditional and innovative funding likely to be available, and structure of each project to select appropriate development alternatives. These activities would be conducted under Phase II of this work.

Innovative Finance Opportunities for Planned Stations and Other Capital Projects

MDT Planned Station	Joint Develop-ment	TIF	BAD	Parking	Naming Rights
North Corridor					
NW 215th Street	○	○		○	○
NW 199th Street	○	○		○	○
NW 183rd Street	○	○		○	
NW 163rd Street				○	
Veterans Way or Ali Baba Avenue		○			
MDC North Campus or NW 119th Street	○			○	○
NW 82nd Street	○	○		○	

MDT Planned Station	Joint Develop-ment	TIF	BAD	Parking	Naming Rights
East-West Corridor – 8th Street Alignment					
Lejeune	○		○	○	○
57th Avenue	○		○	○	
Blue Lagoon/Waterford Way	○		○	○	○
72nd Avenue				○	
Mall of the Americas	○		○	○	○
87th Avenue				○	
97th Avenue				○	
FIU	○			○	○
127th Avenue				○	
137th Avenue	○		○	○	
East-West Corridor – State Road 836 Alignment	○			○	
Other Capital Projects					
MDX Projects	○			○	
South Florida East Coast Corridor	○		○	○	○
Park and Ride Facility at Kendall and SW 127th Avenue	○			○	
Park and Ride Facility at NW 186th Street and 73rd Avenue	○			○	
Park and Ride at SW 186th Street and SW 97th Avenue	○			○	
South Miami-Dade Busway	○	○		○	○

1. Description of Planned MDT Stations: North Corridor

North Corridor

Unlike the East-West Corridor, the North Corridor is mostly characterized by lower-value real estate and less commercial/retail areas. Because of this, the North Corridor lends itself better to tax-increment financing (as opposed to benefit assessment districts), since it will likely be difficult to attract private investment until the economic climate changes. Joint development and parking opportunities may exist, particularly at the two stations nearest the Broward County line, which have significant park-and-ride potential. A description of the potential at each station follows.

NW 215th Street: The NW 215th Street station is the northern terminus of the line. To the north are the Florida Turnpike and Broward County. The 220-acre Calder Race Course and a high-rise hotel lie on the eastern side of the station area. There is mostly single-residential development to the west. There is also a strip mall along NW 27th Avenue. A proposed Park and Ride structure can accommodate up to 1,300

parking spaces. While this area presents opportunities for development, it competes with the nearby Park and Ride for the I-95 express bus line. The racetrack is exploring possible casino rights.

NW 199th Street: This station area is near a Walmart and the Dolphin Stadium. NW 199th Street is a major thoroughfare. Within the half-mile radius is primarily multi-family residential; outside of this is generally single-family residential. There is some vacant land southeast of the station site that is zoned for high-density commercial development. One of the downsides of development potential in this area is that the Florida Marlins will be moving from this stadium to another facility, thereby reducing traffic. Around 227 parking spaces are proposed.

NW 183rd Street: This station area is located near the intersection of NW 183rd Street and NW 27th Avenue on the Carol City Shopping Center site. There is commercial development on all four corners of the intersection, which is a heavily used bus transfer site. There is approximately 300,000 s.f. of retail space within the half-mile radius of the proposed station. There is a multi-family residential development nearby. The area outside of a quarter-mile radius is primarily single-family residential. A 500-space parking lot is proposed.

NW 163rd Street: This station area is bordered by SR 826 one-quarter mile to the north and Biscayne Canal one-half mile to the south. The surrounding area is primarily single-family residential and there is very little vacant land. There is a shopping mall north of the station area. 554 parking spaces are proposed.

Veterans Way or Ali Baba Avenue: This station area is located in a mixed-use area immediately east of downtown Opa-locka. Twenty of Opa-locka's buildings are listed on the National Register of Historic Places. The Jackson North Maternity Hospital is located a quarter-mile to the north in a densely developed industrial zone. Vacant and underutilized properties in the industrial area present opportunities for redevelopment. The quarter-mile radius is split between industrial and single-family residential uses. The Tri-Rail station is about a half-mile away. 70-100 parking spaces are proposed.

MDC North Campus Station or NW 119th Street: This station would be near the army reserve facility (this facility could potentially be relocated to Homestead Air Base). The land uses in this station area are a mix of institutional, commercial, industrial, residential, and open space. The nearby Miami Dade College (MDC) campus occupies 245 acres in the southwest of the station area and has a commuting student enrollment of 49,000. Single-family subdivisions and multi-family apartment complexes are located within a half-mile radius. 500 parking spaces are proposed with MDC giving potentially 250 spaces.

NW 82nd Street: This proposed station is across from the Northside Shopping Center, which features a flea market and medical center. Additional commercial properties including auto-oriented retail and strip malls line NW 27th Avenue in this station area. Parking is proposed for the FP&L substation site (up to 590 parking spaces). At the southern end of the station area lie additional undeveloped parcels that could incorporate infill and redevelopment.

2. Description of Planned MDT Stations: East-West Corridor – 8th Street Alignment

The density of development and strong economic activity in the region make the proposed East-West rail corridor a strong candidate for innovative finance to support traditional funding planned for the project. Many of the stations have at least some potential for joint development and/or parking projects. Given the strong economy of the areas adjacent to the line, a benefit assessment district for key stations, or for the entire line, may be possible. If the corridor is developed as a BRT, there would still be potential for benefit assessment districts and other innovative financing tools. A description of the potential at each rail station follows.

Lejeune: This station area is adjacent to a hotel (Marriott) property and south of the Dolphin Expressway. Shared parking with the hotel is proposed. There is residential development to the east. There is a lot of commercial land use in this area, which poses an opportunity for a Benefit Assessment District (BAD).

57th Avenue: The surrounding area is primarily commercial/office park. 700 parking spaces are proposed. Miami-Dade Transit acquired some right-of-way with Miami-Dade Expressway along nearby 836. There is some vacant space that can be developed and, therefore, the potential for Joint Development with Miami-Dade Expressway here.

Blue Lagoon/Waterford Way: This area is near an existing U.S. Post Office and the surrounding is generally undeveloped. It is located to the south of a canal. There are many single-family homes nearby. 350 surface parking or 1,500 parking structure spaces are proposed.

72nd Avenue: The surrounding area is mostly multi-family and single-family residential. 800 surface parking or 1,380 parking structure (3-level) spaces are proposed.

Mall of the Americas: This is a very commercial area with the Mall of the Americas and a Home Depot nearby. The possible use of 120 existing parking spaces is being considered for the station. There is some multi-family residential use near the mall.

87th Avenue: Within a quarter-mile to the north of this area is primarily single-family residential. 100 surface parking or 300 parking structure spaces are proposed. This area poses limited opportunities for development.

97th Avenue: There is strip mall nearby. The Florida Power & Light (FP&L) facility site is proposed to commuter parking (680 surface park and ride spaces). The quarter-mile radius is primarily single-family residential. This area poses limited opportunities for development.

FIU: There appears to be considerable open space near the proposed station. North of the station within a quarter of a mile lie primarily single-family residential uses. A total parking capacity of 850 spaces is proposed.

127th Avenue: The surrounding quarter-mile radius is primarily single-family residential. The area does not appear to be very dense. There appears to be some vacant land nearby but overall the area poses limited opportunities for Joint Development. About 800 parking spaces are proposed on a parcel currently owned by Miami-Dade County.

137th Avenue: This area is on the border of a vacant lot rezoned to support mixed-use development. There is a strip mall across the street.

3. East-West Corridor – State Road 836 Alignment

MDX staff have expressed a willingness to provide right-of-way and/or invest in capital for transit projects, so long as those projects will be self-sustaining operationally, and has specifically identified SR 836 (Dolphin Expressway) for providing such service. This alignment and capital costs could be paid for in part by MDX. Large intercept park and ride facilities as well as benefit assessment districts could be considered for this alignment. Similar to the East West Corridor along the 8th Street Alignment, this area already has significant development and as such a BAD along the corridor or at station stops could provide additional funding to support project development and long term operations.

4. Partnership with MDX and FDOT on Corridor Development

MDX has developed a long-term vision that includes many new toll roads to improve mobility in the County. MDX understands that its mission is mobility, and is not mode-specific. In approving the 2035 Miami-Dade Long-Range Transportation Plan, MDX recognized that MDX should be "compatible with an interconnecting system for transit", and the MDX Board listed transit as one of three criteria for identifying future projects. In addition, MDX is analyzing the potential for funding improvements to the U.S. 1 busway corridor, such as grade separating intersecting roads, if access could be granted to some automobiles. This provides a unique opportunity for MDT to work with MDX for joint solutions.

South Florida East Coast Corridor (SFECC)
The Florida Department of Transportation (FDOT) is leading a regional partnership that is conducting the South Florida East Coast Corridor (SFECC) Transit Analysis Study. The scope of this study is to develop and analyze alternatives that potentially integrate passenger and freight transport along the SFECC, which is centered along the existing Florida East Coast (FEC) Railway. Various alignments and transit technologies will be considered. The technologies considered include bus, waterway transit, light rail, commuter rail, and heavy rail. The study partners currently include:

- FDOT
- Palm Beach MPO

- Broward County MPO
- Miami-Dade MPO
- PalmTran
- Broward County Transit
- Miami-Dade Transit (MDT)

Although not an MDT project, the SFECC has the potential to be a major Miami-Dade County PPP.

5. Other Corridors

▪ South Miami-Dade Busway

The South Miami-Dade busway is the alternative to daily traffic congestion. It is the fastest way to Metrorail from Cutler Ridge, Naranja and Florida City. The busway began operating in 1997, and was built by the Florida Department of Transportation for Metrobus routes. The busway is dedicated to express buses that shuttle passengers between Dadeland south Metrorail Station and SW 344 Street in less than an hour.

The initial phase of the Busway, which consists of 8.2 miles, opened on February 2, 1997. The first segment of the extension to Florida City, opened on April 2005, and extended the Busway 5 miles from SW 112 Avenue to SW 264 Street in Naranja. The second and final segment of the extension, which opened on December 16, 2007, now extends the Busway another 6.5 miles south from SW 264 Street to SW 344 Street in Florida City, Miami-Dade County's southernmost municipality.

Each Busway station contains transit information, customer comfort and convenience. There are a total of 56 shelters, 30 shelters – two at each station – that were installed in the initial phase and 26 shelters – two at each station – that were installed during the construction of the Busway extension. The designs of the shelters reflect the neighborhood's ambience and history.

Buses operating on the Busway and in adjacent neighborhoods enter the exclusive lanes at major intersections. Local and limited stop service is offered between Florida City and Dadeland south Metrorail station. To provide commuters with accessibility to the expanded Bus Rapid Transit expressway, there are five Park and Ride lots located at intervals along the Busway at SW 152, SW 168, SW 244 and SW 296 streets, and in Cutler Bay. Work on the park and ride facility at SW 168 Street and the Busway is included in the FY 2009-10 Proposed Budget at a cost of $2.87 million. Miami-Dade Transit is working on a new park and ride lot on SW 112 Avenue and SW 204 Street. The Department is in the process of acquiring right-of-way. This project is being completed to promote use of the rapid bus way along US 1. Plans for a new Park and Ride Facility at SW 344 Street and US1 are being developed. This project is included in the FY 2009-10 Proposed Budget for $2.99 million. The Environmental Assessment for the site was completed and submitted to the Federal Transit Administration on January 31, 2009.

▪ Park and Ride Facilities

Park and Ride Facilities are provided by Miami-Dade County Transit Department to promote use of the transit system. The patrons of Metrobus Park and Ride facilities park for free at any of the convenient locations and ride public transit. It is an easy and convenient way to connect with major Metrobus routes for transfers to Metrorail. Parking at Metrorail surface lot or parking garage costs only $4 per day, seven days a week, including holidays. Monthly parking permits are available for $10 to Metropass users.

Park and Ride Facility at Kendall and SW 127 Avenue – Miami-Dade Transit is in the process of acquiring right-of-way on this site. The planning and construction phase of this facility is included in the FY 2009-10 Proposed Budget in the amount of $321,000, and it is part of the current programs and initiatives to alleviate crowded roads. MDT is working with the Florida Department of Transportation and the Metropolitan Planning Organization to implement the Kendall Bus Rapid Transit (BRT) corridor. Revenue service is expected to begin in mid-2010. It includes enhanced bus stops with real-time arrival information, new hybrid buses, and Traffic Signal Prioritization. On May 6, 2008, the Board of County Commissioners executed a Joint Participation Agreement with the Florida Department of Transportation to provide State funding from its Transit Regional Incentive Program to implement capital elements in the amount of $5 million. The estimated total project cost is $12 million. Miami-Dade Transit is responsible for all expenditures in excess of $10 million combined funding. Miami-Dade is currently working on the procurement of the 60 foot buses through a piggy-back on the Washington Metropolitan Area Transit Authority contract for New Flyer buses and the procurement of the Transit Signal Priority system. Notice to proceed to purchase 60 foot articulated diesel/electric hybrids was issued on June 1, 2009. Funding issues have forced Miami-Dade Transit to develop a new implementation schedule for the Kendall Enhanced Bus Service. It is now expected to be implemented in September 2010.

Park and Ride Facility at NW 186 Street and 73 Avenue – Miami-Dade Transit completed design on this facility on November 30, 2008 to accommodate current and anticipated ridership. This facility will be completed during FY 2009-10. The project is included in the FY 2009-10 Proposed Budget for $1.18 million. Security cameras, enhanced bus stops with real-time arrival information and other improvements are planned for this park and ride facility.

Park and Ride at SW 186 Street and SW 97 Avenue – Miami-Dade Transit is in the process of acquiring right of way for this park and ride facility.

Recommended Projects for Further Analysis

Of the proposed projects reviewed above, there are four that, based on preliminary analysis, have strong potential for innovative finance to significantly benefit development. Further analysis of these projects in Phase II of this study will be needed to determine the innovative finance options most likely to be successful for these high-potential projects, which include the following:

1. The Real Estate Market Provides Some Opportunities for the North Corridor. Although funding for improved transit service on North Corridor is highly uncertain, there is a clear opportunity to take advantage of the park-and-ride potential of the stations near the Broward County line at NW 215th and NW 199th street for future rail or express bus service. Land is available for significant parking, with good access to I-95 and other highways. Private involvement in the park-and-ride lots may have potential to offset some of the cost of development. Joint development programs at other North Corridor stations may have potential, but will be more difficult to implement due to the economic realities in the corridor. However, reduced real estate prices provide an opportunity to acquire land at low cost, and to implement tax-increment financing (TIF) districts that will produce revenue for the project as property values rise, and help set the groundwork for future selected joint developments. Furthermore, All of these options should be aggressively pursued in order to bring higher speed transit service to the corridor as quickly as possible.

2. Explore Innovative Finance on East-West Corridor. Despite real concern over the availability of funds for a rail line, as well as the ability of MDT to have funds to operate expanded service, there is strong potential for innovative finance in the corridor should development proceed. As a densely developed corridor with high-value real estate, solutions such as joint development and benefit assessment districts are likely to attract interest if a rail line is developed. As shown in the Dulles Metro rail extension, Fairfax county used a benefit assessment district along the rail corridor instead of only near stations. As discussed below, partnership with MDX in this corridor is also an option, should a BRT solution be selected with an alignment along the Route 836 Dolphin Expressway.

3. Partner with MDX and FDOT on corridor development. Unlike the MDT system, which requires operating subsidies, the positive cash flow of the MDX toll roads provides a revenue stream that can be directed for transit uses. While mostly longer-term in horizon, providing transit options in MDT corridors has a high potential for innovative finance options as a public project or a P3. As part of its future vision, MDX includes plans for transit such as dedicating right-of-way for rapid bus service and, potentially, investing toll revenues in the capital costs for stations. MDX will not, however, contribute to ongoing operating and maintenance costs of transit service. Should BRT service be developed in MDX corridors, other innovative finance tools could be part of the financing package to pay for capital and operating costs.

Regarding FDOT, funds and property may be available for local transit uses, as has occurred near the Miami Intermodal Center. The proposed 85-mile rail line along the South Florida East Coast Corridor (FEC), currently in Phase 2 of study, provides an opportunity for linking with FDOT and using innovative finance tools. MDT is also a partner agency in this project.

4. Develop South Miami-Dade Busway. The busway serves a congested and expanding corridor, creating the potential that corridor users will be willing to pay for improved service and access. This could take the form of additional park-and-ride lots, higher-speed transit, and transit-oriented development in the corridor. Furthermore, MDX has expressed willingness to invest in transit in the corridor if some access for cars could be permitted. All options for investment in the busway corridor should be analyzed for short and medium/long term innovative financing potential.

VIII. CONCLUSIONS AND NEXT STEPS

The purpose of this report has been to survey the potential innovative funding sources and financing instruments that may help MDT close its budget gaps and achieve its expansion goals as quickly as possible. While we provided a general overview of which solutions might apply to specific projects, further study is needed to quantify the potential benefits and analyze the feasibility of implementation for each project.

Key Lessons Learned and Recommendations

Our survey of best practices within Miami-Dade County and at other transit agencies, as well as literature and expert input, reveal some difficult truths.

1. There are no silver bullets. Particularly in light of the current economy, even the most innovative transit agencies are struggling to implement innovate financing on a scale that is capable of funding major capital investment and ongoing operations. The fits and starts of implementing P3 solutions at Denver RTD is a prime example. The falloff in surtax revenues in Miami will continue to make expansion of the system a challenge.

2. Real estate is the key. Most of the innovative financing solutions, from TIF districts to BADs to joint development, require private investment in new office, commercial, industrial, and residential real estate projects. It is well established that public transportation, when coupled with transit-oriented development and the full support of the public and political community, can be a driver of economic development and growth and development in transit corridors. However, these are most likely to be successful in areas where real estate demand is already high. On the flip side, the current real estate market provides an opportunity for MDT to purchase property at far lower cost than in the past, and to implement TIF districts that will start at the current low assessment base and provide revenue when real estate prices rebound.

3. Short-term wins will be difficult. Most of the innovative solutions discussed in this report work best when the real estate market is on the upswing and developers are willing to invest new capital in projects and take on development risk. With the U.S. as a whole, and Miami-Dade County in particular, still in a major real estate downturn, many of the most promising innovative will probably not be feasible until the market begins to rebound. This does not mean there is no opportunity for some short to medium-term innovative finance. However, a large-scale project such as one that can provide real support to the Orange Line, is unlikely at this time.

4. Operating costs are critical. In our discussions with County staff and leaders, the primary focus is on increasing revenue. While this is a worthy goal, reducing costs can also provide financial flexibility to expand (or at least retain) service. The County, and MDT, should aggressively seek out operating cost savings at every opportunity.

5. Focus on smaller wins, but with an eye toward the future. The County has experimented with some of the innovative solutions discussed, such as joint development on the Dadeland South and Overtown areas, special assessment districts, and TIFIA loans. However, whether due to political

or logistical constraints, use of these techniques has been limited. Opportunities may exist for small innovate projects such parking development, particularly along the busway, as well as innovative advertising and concessions. Where labor contracts or political issues prevent implementation of innovative ideas, County leaders can focus on a medium-term goal of altering laws or bargaining provisions so that these roadblocks can be removed when the opportunity next arises.

6. Coordination is critical. Every example of successful innovative finance we reviewed has a common thread – wide support and involvement of key public and private stakeholders. While MDT alone can make some gains, support from County leaders and communication with the public will make for a far more effective platform for reaching innovative finance solutions.

Next Steps

The following steps, beyond this analysis, are recommended to move forward with achieving the CITT's goal of advancing key transit projects using innovative finance techniques.

1. Request input on the future direction of the transit system and the conclusions of this report from MDT and MDX. Our interviews with County staff found a wealth of experience, ideas and interest in innovative finance techniques, and this input from the key action agencies will help to understand the potential for success.

2. Select projects for detailed innovative finance analysis. Based on our preliminary analysis in this report, four projects have high potential for innovative solutions. Phase II of this analysis would examine the potential revenue that could be generated through innovative techniques for each project, and the financing mechanisms most appropriate to leverage traditional and innovate funding sources to deliver the projects as quickly as possible. This analysis will enable decision makers to focus on innovative finance opportunities that have the maximum potential to enable projects to be completed ahead of schedule.

3. Review legal and contractual issues. Preliminary discussions with County attorneys found that the legal basis exists for most innovative financing techniques discussed in this report. However, a review of the legal process for high-likelihood projects is needed to determine feasibility. In addition, union and other contractual issues may affect the projects. While this report has not been constrained by legal or contractual issues, a next step is to identify any roadblocks so steps can be taken to clear the path for innovative finance.

IX. Appendices

Appendix 1 – Meetings/Interviews

Name	Title	Agency
Barbara Jordan	Chair	Transit, Infrastructure and Roads Committee Miami-Dade County Board of County Commissioners
	Strategic and Financial Planning Committee	Citizen Independent Transportation Trust
Charles Scurr	Executive Director	Citizen Independent Transportation Trust
Patrice Koonce Rosemond	Special Projects Administrator	Citizen Independent Transportation Trust
Nestor Toledo	Municipality Liaison	Citizen Independent Transportation Trust
Alberto Hernandez	Assistant Director for Engineering Planning and Development	Miami-Dade Transit
Clinton Forbes	Assistant to the Director	Miami-Dade Transit
David Clodfelter	Chief, Budget, Audit and Reporting	Miami-Dade Transit
Harpal Kapoor	Director	Miami-Dade Transit
Ernest J. Polo, P.E	Project Director	Miami-Dade Transit
Richard Pereira, P.E.	Senior Professional Engineer and Capital Program Management	Miami-Dade Transit
Humberto Alonso	Vice President, District Director South Florida	Chair of Transportation Committee of the Greater Miami Chamber of Commerce
Jerry Borbolla, E.I	Chief, Right of Way and Utilities	Miami-Dade Transit
Javier Rodriguez, P.E.	Executive Director	Miami Dade Expressway Authority
Bill Walker	Attorney	White & Case law firm
Gus Pego	District Secretary	Florida Department of Transportation
Oswaldo Fernandez	Coordinator for Transit Maintenance and Production	Miami-Dade Transit
Ivor Myers	Acting Chief of Metrorail Metromover	Miami-Dade Transit
Jennifer Wilkings	Special Projects - Rail Mover Rehab	Miami-Dade Transit
Wilson Fernandez	Director	Metropolitan Planning Organization
Bruce Libhaber	County Attorney	Miami-Dade County
Rafael Rodon	Vice President, District Director South Florida	Codina Group

Wilson Fernandez	Transportation Systems Manager	MPO
George Burgess	County Manager	Miami-Dade County
Ysela Llort	Assistant County Manager	Miami-Dade County
Jennifer Glazer-Moon	Strategic Business Management	Miami-Dade County
Johnny Martinez	Director	Office of Capital Improvements
Jose Abreu	Director	Miami-Dade Aviation Department
Joni Armstrong-Coffey	County Attorney	Miami-Dade County
John Spillman	Principal	P3 Development Company

Appendix 2 – CIP and PTP Projects Analyzed

1	Bus Bay @ SW 152 St. & 152 Avenue
2	Busway (Phase 1) Safety Improvements
3	Busway Extension to Florida City Segment No. 2
4	Central Control Upgrade and Palmetto TP - CE&I Services
5	Coconut Grove Metrorail Station Pedestrian Overpass
6	Coconut Grove Metrorail Station Pedestrian Safety Improvements
7	Coconut Grove Metrorail Station Pedestrian Safety Improvements
8	Coral Way Maintenance Facility - Employee Access to Parking
9	Dadeland North Metrorail Station Park and Ride Facility
10	Dadeland South Metrorail Parking Lot Expansion
11	Dadeland South Metrorail Station Comfort Station
12	Douglas Road Metrorail Station Parking Lot Facility Under Guideway
13	Project Cost Estimate
14	Existing Metrorail Station (Phase 1) - Graphics and Signage Upgrade Development
15	Existing Metrorail Stations (Phase 1) - Repair to Stairs Railing
16	Kendall Corridor
17	Lehman Center Test Track
18	Lehman Yard Rehabilitation - Expansion Phase 1
19	Lehman Yard Rehabilitation - Expansion Phase 2
20	Metromover Escalator Covers and Replacement
21	Metromover Stations: Oil/Water Separators
22	Metrorail Central Control Upgrade
23	Metrorail Central Control Upgrade Management
24	MIC-EH Parcel Demolition (Various Contracts)
25	Mover Vehicle Phase 1
26	Mover Vehicle Phase 2
27	NE Corridor (SFECC)
28	NE Passenger Activity Center - Concept Development
29	NW 7th Avenue Transit Village
30	Orange Line Phase 1: MIC-EHT Connector

31	Orange Line Phase 2 : North Corridor Metrorail Extension
32	Orange Line Phase 3: East-West Corridor Metrorail Extension
33	Palmetto Traction Power Sub-Station
34	Palmetto Traction Power Sub-Station (TPSS) - CE&I Services
35	Park & Ride Lot @ SW 186 St and SW 97 Ave - Land Acquisition
36	Park & Ride Lot @ SW 112 Ave and SW 204 Street Busway - Land Acquisition
37	Park and Ride Facility at Kendall and SW 127 Avenue
38	Park and Ride Facility at NW 186 Street & 73 Avenue
39	Park and Ride Facility at SW 344 Street and Busway
40	Pedestrian Overpass at South Miami Metrorail Station
41	Pedestrian Overpass at University Metrorail Station
42	Program Management Consulting Services for the Implementation of the People's Transportation Plan
43	South Florida East Coast Corridor (Northeast)
44	South Miami-Dade Busway Between SW 200 St and SW 88 St – ADA Improvements
45	South Miami-Dade Corridor
46	SW 204th Street & Busway - Park & Ride Repairs
47	System Wide Traction Power Feeder Jumper Cable Replacement
48	Track and Guideway Rehab Subset
49	Miami Dade Expressway Collaboration
50	Bus Operations and Maintenance

Appendix 3 – Data Sources for Case Studies

WMATA SOURCES

Dulles Corridor Metrorail Project website:
http://www.dullesmetro.com/

Metropolitan Washington Airports Authority
Preliminary Official Statement Dated July 21, 2009:
Dulles Toll Road Revenue Bonds, Series 2009 (approximately $827 million)
(Dulles Metrorail and Capital Improvement Projects)

National Council for Public-Private Partnerships:
http://www.ncppp.org/

National Transit Database:
http://204.68.195.57/ntdprogram/data.htm

"The New Transit Town: Best Practices in Transit-Oriented Development," Hank Dittmar & Gloria Ohland (Washington, D.C.: Island Press, 2004).

WMATA website:

http://www.wmata.com/index.cfm

MARTA SOURCES

"The New Transit Town: Best Practices in Transit-Oriented Development," Hank Dittmar & Gloria Ohland (Washington, D.C.: Island Press, 2004).

"Overcoming Financial and Institutional Barriers to TOD: Lindbergh Station Case Study," Eric Dumbaugh, Journal of Public Transportation, Vol. 7, No. 3, 2004.

http://www.beltline.org/

http://www.itsmarta.com/

BART SOURCES

BART website:
http://www.bart.gov/

National Transit Database:
http://204.68.195.57/ntdprogram/data.htm

DART Sources

Urban Land Institute, ULI Development Case Studies, 2008;
http://casestudies.uli.org/Profile.aspx?j=8262&p=2&c=4

"The New Transit Town: Best Practices in Transit-Oriented Development," Hank Dittmar &Gloria Ohland (Washington, D.C.: Island Press, 2004).

"An Assessment of the DART LRT on Taxable Property Valuations and Transit Oriented Development," Bernard L. Weinstein, Ph.D., Terry L. Clower, University of North Texas, Center for Economic Development and Research, September 2002.

http://www.dart.org/cottonbeltppp/

GCRTA SOURCES

GCRTA website:
http://www.riderta.com/

National Transit Database:
http://204.68.195.57/ntdprogram/data.htm

Various news articles

http://en.wikipedia.org/wiki/Greater_Cleveland_Regional_Transit_Authority

PORTLAND SOURCES

Portland's Trimet website:
www.trimet.org

Interviews with:

Olivia Clark	Executive Director of Governmental Affairs	Trimet, Oregon
Rick Gustafson	President	Streetcar Inc, Oregon
Alan Lehto	Director Project Planning, Capital Projects and Facilities, Project Planning	Trimet, Oregon
Bob Clay	Supervising planner	Bureau of Planning, Oregon

VEOLIA SOURCES

Veolia Transportation website:
http://www.veoliatransportation.com/index

PACE SOURCES

Pace website:
http://www.pacebus.com/

http://en.wikipedia.org/wiki/Pace_(transit)

DENVER RTD SOURCES:

RTD website: http://www.rtd-denver.com, including a number of presentations and reports contained therein

Denver Union Station Final EIS

Letter of Intent for the Project Agreements on Transportation Infrastructure and Redevelopment: Denver Union Station Site, January 31, 2008

The Denver Post: *Union Station Plan Aims to Tap U.S. Loans*, August 3, 2009

Denver Business Journal: *RTD to get $18.6M From Stimulus for Union Station*

Interview with Goldman Sachs, financial advisor to RTD

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Hank Dittmar (Editor) and Gloria Ohland (Editor). The New Transit Town: Best Practices In Transit-Oriented Development. Washington, D.C.: Island Press, 2004.

Transit Cooperative Research Program. TCRP Report 129: Local and Regional Funding Mechanisms for Public Transportation. Washington, D.C.: Transportation Research Board, 2009.

Transit Cooperative Research Program. TCRP Report 102: Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. Washington, D.C.: Transportation Research Board, 2004.

William Kohn Fleissig and Ian R. Carlton. "Aligning Transit And Real Estate: An Integrated Financial Strategy" in Convening on Transit Oriented Development The Investment/Finance Perspective. Boston: Center for Transit Oriented Development (CTOD), Living Cities Boston College Institute for Responsible Investment, February 2009

Nadine Fogarty. Capturing the Value of Transit. Washington, D.C.: Federal Transit Administration, 2008.