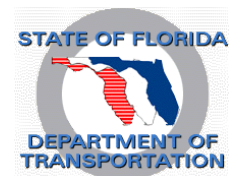


Investigation of the Feasibility of Toll and Transit Agency Equity Sharing: White Paper

Final Report

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Executive Summary

To meet growing trip demand in our urban centers, an evolution of highways from construction of general purpose “free” lanes to High Occupancy Vehicle (HOV) Lanes to High Occupancy Toll (HOT) Lanes is underway. There is little evidence of any instance in the US where a toll and transit agency have collaborated to finance a facility with the initial intent of using its excess capacity as a revenue source to either pay down the capital costs of the construction of a facility or as a revenue generator. The concept of Bus Toll Lanes has been developed by Mr. Joseph Waggoner, Executive Director of the Tampa-Hillsborough County Expressway Authority (THEA) in Tampa, FL. In order to develop this concept further, there are several policy, programmatic and regulatory questions that required investigation.

The paper provides some background on the issue, discusses various models of toll and transit agency partnerships, explores a hypothetical Bus Toll Lane (BTL) project and summarizes a review of federal and state issues that present opportunities and obstacles for the BTL concept.

Major findings include that an explicit change to ensure that BTLs are considered fixed guideway transit facilities in the Federal Transit Administration statute and regulations would be the single most significant change that could pave the way for the implementation of Bus Toll Lanes. Anticipated resistance to any moves towards allowing BTLs to compete with other New Starts is understandable in light of the fierce competition for the limited funds. While there continues to be a push for more intermodal cooperation, the current economic uncertainties and general stagnation of transportation funding levels can move policy makers to protect limited resources from what will be perceived by some as a “raid.”

There appear to be no obstacles presented in the federal tolling provisions to the implementation of a Bus Toll Lane project, even if it involved an Interstate Highway. In fact, the SAFETEA-LU provisions on tolling appear to fully support the concept of the construction of Bus Toll Lane facilities.

Unlike the High Occupancy Toll lanes the BTL concept is based on the premise that there is no discounted or free, passage for carpools or fuel-efficient automobiles. The equity arguments for this approach are sound but the public education involved in their explanation will be difficult.

Reauthorization presents an opportunity to advance the BTL approach without a wholesale change to New Starts eligibility. The new authorization bill could contain provisions for applications for a limited number of proposals for the funding of BTLs that might include New Starts funding. This would provide an opportunity for a few of projects to compete with other fixed guideway proposals and for the evaluation of those projects.

In order for Bus Toll Lanes to become a routine alternative for consideration in Florida’s toolbox of transportation solutions, the statutes of the several expressway authorities need to be modified to allow them to construct, operate and maintain public transportation facilities.

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List of Acronyms

AET	Electronic toll collection
ARRA	American Recovery and Reinvestment Act
BRT	Bus rapid transit
BTL	Bus toll lanes
CUTR	Center for Urban Transportation Research
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HOT	High-occupancy/Toll
HOV	High-occupancy vehicle
M&O	Maintenance and operation
NCTR	National Center for Transit Research
NHS	National Highway System
P2	Public public partnership
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
TFRTF	Toll Facilities Revolving Trust Fund
THEA	Tampa-Hillsborough County Expressway Authority
VPPP	Value pricing pilot program

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“White Paper” Prospects for Equity Sharing Between Transit and Toll Agencies

Introduction

Today and in the future, transportation agencies face growing travel demand and are required to address that demand with traditional funding sources that are flat or decreasing in actual buying power. This is occurring in the face of diminishing physical opportunities to establish new routes and alignments for new service and volatile energy costs that are seriously impacting operating budgets and plans.

To meet growing trip demand in our urban centers, an evolution of highways from construction of general purpose “free” lanes to High Occupancy Vehicle (HOV) Lanes to High Occupancy Toll (HOT) Lanes is underway. HOV and HOT concepts often include Bus Rapid Transit (BRT) service as an element of their operations and, in some cases, in the original facility design. There is little evidence of any instance in the US where a toll and transit agency have collaborated to finance a facility with the initial intent of using its excess capacity as a revenue source to either pay down the capital costs of the construction of a facility or as a revenue generator. There is potential for a “Bus-Toll Lane” to cover the infrastructure maintenance and operation (M&O) costs and preservation costs from tolls and to create a new revenue source capable of supporting capital-financing.

The concept of Bus Toll Lanes has been developed by Mr. Joseph Waggoner, Executive Director of the Tampa-Hillsborough County Expressway Authority (THEA) in Tampa, FL. In order to develop this concept further, there are several policy, programmatic and regulatory questions that required investigation. This paper is a product of a project funded through the National Center for Transit Research (NCTR) at the University of South Florida’s Center for Urban Transportation Research (CUTR) by the Florida Department of Transportation (FDOT) with encouragement from the Project Manager, Mr. Ed Coven, FDOT’s State Transit Manager.

The paper provides some background on the issue and attempts to distinguish Bus Toll Lanes (BTL) from other price-managed projects that have been implemented. Some discussion of the various models of toll and transit agency partnerships is presented along with a brief listing of High Occupancy Toll projects that have been implemented and are being considered. The paper then explores a hypothetical Bus Toll Lane project and summarizes a review of federal and state issues that present opportunities and obstacles for the BTL concept. Finally, findings, conclusions and recommendations are presented.

Background on Bus Toll Lanes

This “new” concept of Bus Toll Lanes, proposes to move transit forward by making transit agencies a partner in the toll road trade. The idea is to create bus lanes with transit agencies as an equity holder or full-owner of the required highway infrastructure. The bus lanes would be open to use by all light-duty 2-axle vehicles and would be price-managed to assure the desired level of service on the facility. The “Bus Toll Lanes” (BTL) concept could provide transit agencies access to an inflation sensitive toll revenue source that might be used to pay operating costs or finance construction of new transit service. The

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transit agency share of “excess” toll revenue would be based on the equity share provided for construction of the BTL facility in a partnership arrangement.

A public-public (P2) partnership between toll and transit agencies would combine transit and highway funding sources to develop a new facility faster than either agency could do individually. Assembling pieces of the “funding pie” also adds to the potential “buy-down” of construction costs from sources other than the toll revenue. This could mean a greater portion of toll revenue is available sooner as an excess revenue stream.

The concept also relies on a management concept of exploiting the relative expertise of two heretofore separate transportation providers. Transit agencies’ proficiency lies in the scheduling of bus service, the maintenance of rolling stock, customer service sensitivity, and marketing of its services. Toll agencies on the other hand, routinely oversee the planning, design and construction of highway lanes and are expert in the collection of tolls at highway speeds and at raising capital for construction projects.

One of the most intriguing aspects of this concept is the potential for some shift in the business attitude within a transit agency towards more of an enterprise model. Although transit agencies routinely exhibit entrepreneurial behavior through joint development, advertising, and funding initiatives, they ultimately rely on “outside” sources of funding. It is recognized that public transportation in the U.S. requires subsidies to operate and significant federal assistance for capital needs. Toll agencies have been known to self-finance facilities through borrowing against future toll revenues; although many toll road projects do, in fact, enjoy direct state or local subsidies to make them viable. The toll authority model seems to inherently foster a more entrepreneurial atmosphere as the agency routinely has sole responsibility for supporting its operation and debt through the revenues it generates. Typically, its debt is not backed by the “full faith and credit” of a larger government entity and, therefore, should require a high degree of financial discipline. A model where a transit agency could enjoy the on-going benefits of a revenue stream that is not dependent on general purpose funding could cause a move towards more financial discipline, but, more importantly, it could create an untapped source of funds for critical public transportation needs.

Throughout the preparation of this paper, there has been difficulty in distinguishing between the BTL concept and other High Occupancy Toll lanes (HOT) and managed lane projects where some portion of the revenue is used to fund a transit component of the project (either operating costs of express buses, transit vehicle acquisition costs, or both). Again, what makes the BTL different is that the capital costs of the construction of a facility are shared between a transit and toll agency, and revenues are shared as well.

Differences between an HOT and Bus Toll Lane

Much of what has been written and presented on the Bus Toll Lane concept has come from Joseph Waggoner of the Tampa-Hillsborough County Expressway Authority. In the Autumn 2009 edition of the International Bridge Tunnel and Turnpike’s publication “*Tollways*,” Stone and Waggoner describe the concept in detail and lay out the case for considering the BTL as an effective future strategy for

addressing some of the urban congestion issues. In their article, Stone and Waggoner explain that the combination of enhanced transit service and congestion pricing can lead to greater mobility and transportation choice (1).

Although their study explored the vertical and horizontal equity issues of using existing highway lanes for price-managed and exclusive bus lanes, Kim and Schonfeld did address the concept of using the tolls to routinely fund transit facilities in a specific corridor. They make that the point that in addition to making a managed lane project more politically acceptable, using a substantive portion of the toll revenues for reinvestment in transit “can be more progressive than conventional subsidization for public transit...(2).”

Barker and Polzin described very well the synergies that are possible when BRT and HOTs are integrated in a congested urban corridor (3). Their paper examined and modeled the various circumstances under which Bus Rapid Transit would most appropriately be used in conjunction with price-managed lanes.

Much of the interest in the issue of HOTs in the early to mid 2000s can be traced to the Reason Foundation’s Policy Study 305 (4). In that study, Poole and Orski described the potential for a network of High Occupancy Toll Lanes employing BRT. The network would be developed by the conversion of existing HOVs to HOTs and extending them to create a connected system. The concept of “selling off” excess capacity to private automobiles to provide a free-flow BRT facility was then coined as a “Virtual Exclusive Busway” in Poole’s subsequent work with Balaker in their study “Virtual Exclusive Busways: Improving Urban Transit While Relieving Congestion (5).”

These studies and papers represent just a sampling of the work that has been performed examining the integration of price-managed lanes with reliable transit service. Each has contributed to the evolution of the concept, but none have addressed the possibility of a toll and transit agency collaborating in the financing of new lanes and the subsequent sharing of ensuing revenue. An additional difference between HOTs and a BTL is that every vehicle, aside from the transit bus, would pay the price-managed toll. Free passage for carpools or hybrid-electric cars is not contemplated in the BTL concept. (This is also true of the Virtual Exclusive Busway.)

The following pages include a list of High Occupancy Toll Lanes in operation in the fall of 2009. It is followed by a table that illustrates those facilities that were under development during the conduct of this effort.

Examples of HOT lanes in the US

I-95 Express Toll Lanes in Miami, FL (6)

- **Opened:** 2008
- **Project Cost:** \$122 million
- **Funding:** FHWA’s Interstate Maintenance Discretionary Program (\$43.4 million) – used to convert HOV lanes to HOT lanes; FTA’s (Section 5309) Bus and Bus-related Facilities Discretionary Grant Program (\$19.5 million) – used for vehicle acquisition;

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- **Toll Exempt:** Registered vanpools, registered carpools HOV-3, registered hybrid vehicles, motorcycles and emergency vehicles (no registration required), transit buses, school buses

SR-167 HOT Lanes Pilot in Seattle, WA (7)

- **Opened:** 2008
- **Project Cost:** \$18.7 million
- **Funding:** 9.5 cent gas tax (\$12.74 million), FHWA formula funds (\$5.13 million)
- **Toll Exempt:** Carpools HOV-2, vanpools, transit vehicles and motorcycles; No transponder is needed

I-25 Express Lanes in Denver, CO (8)

- **Opened:** 2006
- **Project Cost:** \$10 million
- **Funding:** \$2.8 million federal participation, state funding
- **Toll Exempt:** Carpools, buses and motorcycles, registered hybrids (with transponders); Number of hybrid permits capped at 2000 and they expired in September 2009

I-15 Express Lanes Pilot in Salt Lake City, UT (9)

- **Opened:** 2006
- **Project Cost:** \$2.6 million
- **Toll Exempt:** Carpools HOV-2, motorcycles, emergency vehicles, buses, clean-fuel vehicles (with a current “C” plate from the DMV); Solo drivers purchase permits for \$50/month

I-394 in Minneapolis, MN (10)

- **Opened:** 2005
- **Project Cost:** \$10 million, 25% private partner contribution (Wilbur Smith)
- **Funding:** grant from FHWA’s Value Pricing Pilot Program, state funds, private funds (through public private partnership)
- **Toll Exempt:** Transit buses, carpools HOV-2, and motorcycles

I-15 Express Lanes in San Diego, CA (11)

- **Opened:** 1998
- **Project Cost:** \$1.3 billion (including extensions, to be complete by 2012)
- **Funding:** half-cent sales tax for transportation (\$350 million), State Transportation Improvement Program (\$50 million), local funding, Federal funding (\$280 million)
- **Toll Exempt:** Carpools HOV-2, vanpools, transit vehicles, and motorcycles (no registration is required), permitted clean air vehicles (with special clean air vehicles decals from DMV)

I-10 Katy Freeway HOT Lanes, and US-290 Northwest Freeway, Houston, TX (12)

- **Opened:** 1998
- **Project Cost:** \$2.8 billion
- **Funding:** FHWA Value Pricing Pilot Program (VPPP), local toll authority funds (\$500 million)
- **Toll Exempt:** Carpools HOV-3, transit vehicles; SOV – not allowed in HOT lanes

SR-91 Express Lanes in Orange County, CA (13)

- **Opened:** 1995
- **Project Cost:** \$134 million
- **Toll Exempt:** Carpools, HOV-2

I-35W HOT Lanes in Minneapolis, MN (14)

- **Opened:** 2009
- **Project Cost:** \$183 million
- **Funding:** Conversion and relocation of bus only shoulder lanes and HOV lanes through a USDOT Urban Partnership Agreement; Interstate Maintenance Discretionary Program (\$6.6 million), Transportation, Community, and System Preservation Program ("TCSP" \$16.4 million), VPPP (\$5.0 million), Section 5309 Bus and Bus-related Facilities Discretionary Grant Program for BRT system implementation (\$85.9 million) on an off I-35W
- **Toll Exempt:** Transit buses, carpools HOV-2, and motorcycles

Table 1. High Occupancy Toll Lanes Under Development

HOT Lanes Under Development	
Location	Facility
Atlanta, GA	I-75 and I-575
Austin, TX	Loop 1
Baltimore, MD	I-95
Dallas, TX	I-30 and I-635
Fort Lauderdale, FL	I-595
Los Angeles, CA	I-10 and I-110
Northern Virginia	I-95 and I-395
Oakland, CA	I-680
Portland, OR	Highway 217
Raleigh, NC	I-40
Santa Cruz, CA	Highway 1
Washington, DC	I-95, I-395, and I-495

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Toll and Transit Agency Collaboration

There is a long tradition in the U.S. of toll agencies and transit agencies collaborating. The most common linkage historically has been using “excess toll revenue” to financially assist public transportation. These arrangements take various forms ranging from a statutory “set asides” that occur in Oakland (18% of certain toll revenues) to surplus toll revenues supporting transit (New York City’s MTA) to pooled revenues from various modes of transportation (Golden Gate Bridge, Highway and Transportation District) to low interest/no interest loans from toll authorities for transit capital construction (Maryland’s Baltimore Light Rail System).

More recently with the advent of HOT facilities, stronger ties have developed. Examples include the provision of Bus Rapid Transit (BRT) or Express Bus Service using priced managed lanes as demonstrated in Florida with the I-95 Express lanes (and the planned I-595 managed lanes) and in other states.

Hypothetical Bus Toll Lane Facility

One way to assess the obstacles and opportunities of the Bus Toll Lane concept is to create a scenario that would include the financial partners’ roles and financial responsibilities. As will be discussed later, this proved to be somewhat of a challenge. In discussions with agencies, there was a reluctance to use a “real” corridor as a research example for fear that it may be construed as a counter alternative to what was actually being planned. This can prove to be a useful exercise in a future effort to examine BTLs further in that traffic forecasts, mode shares, congestion levels, and capital costs may be available for analysis.

In this case, the hypothetical project involves the construction of a two-lane facility mostly in the median of an existing interstate highway with a connection to an existing express tolled facility. The BTL would connect suburban areas north of town to a downtown core with access to the facility at major east-west highway connections. The existing facilities are graphically depicted in Figure 1 below.

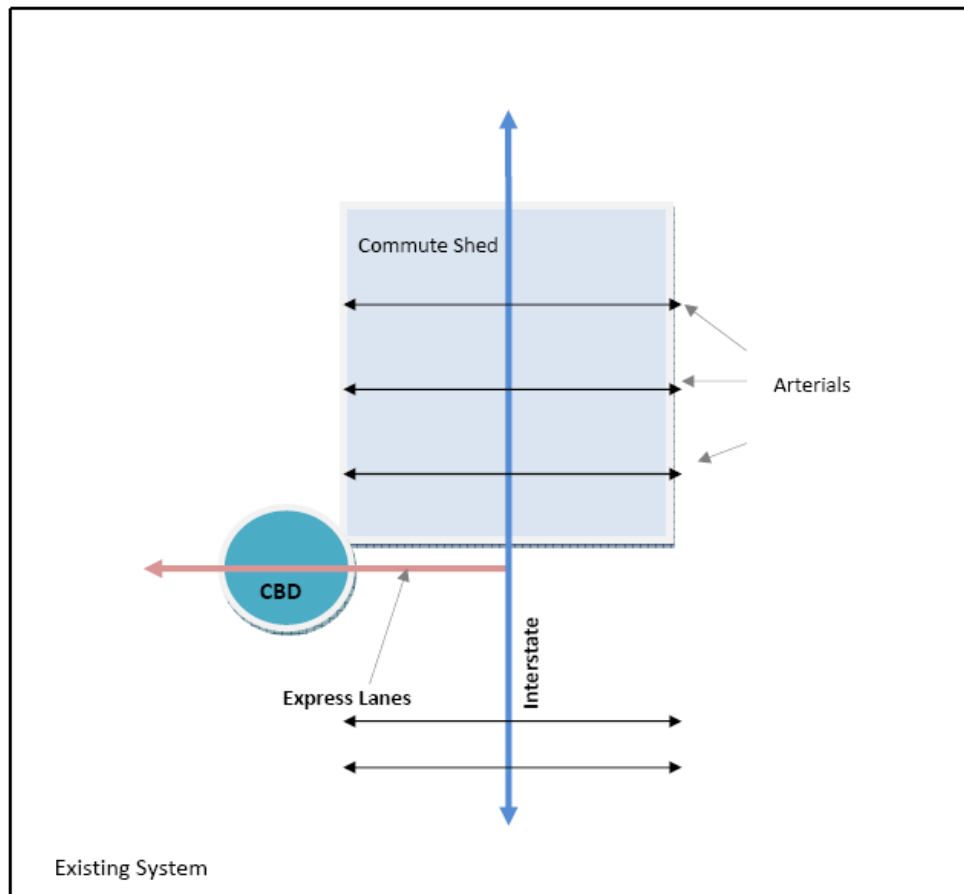


Figure 1. Hypothetical Highway System

A local expressway authority and a transit agency are the assumed partners in the project. The construction consists of 22 miles of new facility with six interchanges and eight toll collection points. An existing all electronic toll collection equipped express facility is then used to gain direct access to the Central Business District and requires little, if any, modification. A representation of the BTL facility is included in Figure 2.

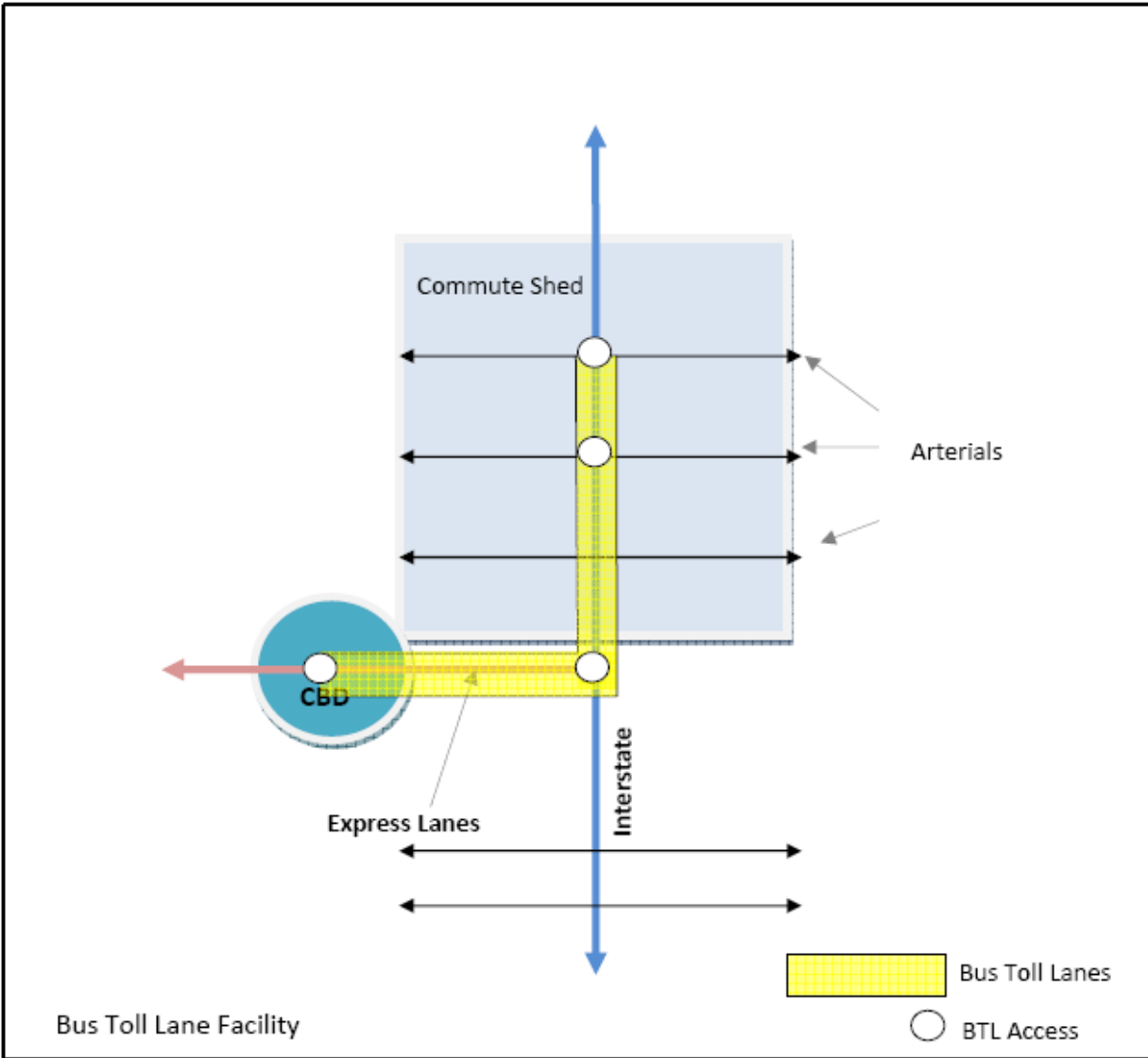


Figure 2. Hypothetical Bus Toll Lane Facility

The following costs, based on sketch level planning estimates, are assumed for the example:

Table 2. Capital and Operating Cost Estimates

Category	Cost
Construction (22 miles @ \$3.9 mill/mi., median)	\$ 172 million
Right of Way	No cost
Parking (3625 spaces, 6 locations @ \$3,000/ space)	\$ 2 million
All Electronic Toll Collection Equipment (8 tolling points @ \$1 mill. Each)	\$ 8 million
Planning & Engineering (20% of Roadway and Toll construction)	\$ 36 million
Rolling Stock *	\$ 5 million
Total Capital	\$ 223 million
Toll Collection Operating Cost (\$0.15/ transaction)	\$.7 million
Annual Facility Maintenance (\$50k/ lane mi.)	\$ 2.2 million
BRT Annual Operating **	\$ 8.0 million

*Assumes 8 articulated buses for new service at \$600k per unit

**Assumes 5% BRT mode share of AADT at \$6.00 per passenger trip

Revenues assumed are based on:

- The facility accommodating 2000 vehicles per hour for a three hour peak in the morning and a three-hour peak in the evening in the peak direction
- No revenue is assumed for tolls in the non-peak direction, although some would be collected
- 73% of the vehicles pay an average \$3.50 one-way toll and the remainder, a \$2.00 average one-way toll
- Average peak hour toll for analysis equals \$0.37/mile
- Four percent of the estimated toll revenue will be “uncollectable”
- Traffic attracted from the “free” lanes represents about 10% of current AADT on existing facilities
- Average cost per transit passenger trip is \$6.00
- Daily transit ridership is 3625 or a 5% transit share of corridor AADT
- One-way transit fare is \$3.00

Table 3. Operating Revenue

Revenue Source	Annual Total
Managed lane tolls	\$ 21.5 million
Less uncollected @ 4%	\$ (0.9) million
BRT fares	\$ 4.0 million
Total Revenue	\$ 24.6 million

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From these “rough” estimates, the hypothetical project would yield \$24.6 million annually and require \$10.9 million per year to operate. This would make about \$9.8 million available to finance some or all of the capital construction estimate of \$223 million. Below is a table of that summarizes these very sketch level planning estimates.

Table 4. Capital and Operating Cost Summary

Hypothetical BTL Cost Summary	
Total Capital Cost	\$ 223 million
Total Operating Cost Annual	\$ 10.9 million/ year
Total Revenue	\$ 24.6 million/year
Available for Debt Service & other	\$ 9.8 million/ year
Average Price Managed Toll per Mile	\$ 0.37/mile
Average Cost per BRT trip	\$ 6.00/ trip
Average Fare per BRT trip	\$ 3.00/ trip

Without accounting for funding of debt service reserve accounts or the capitalization of interest costs during the construction period and ramp-up of the facility, the simple annual interest and principle for 30-year debt with a 5% interest rate for \$223 million would be about \$14 million per year. (A basic calculation makes it obvious that the \$9.8 million available cannot support debt to cover the \$223 million capital investment required.) Herein lies one of the most significant potential benefits of the BTL concept – the potential to cost share with a transit agency for the capital construction costs. Toll agencies, particularly in Florida, have partnered with the state DOT in various ways to make a toll-financed facility feasible, even if it cannot be supported as a “stand-alone” project. Arrangements have ranged from low-interest/no interest loans from infrastructure banks or revolving loan funds for start-up costs to direct State Transportation Trust Fund subsidies. The author is not aware of any circumstance in Florida or the U.S. where transit funds, whether local, state or federal have been a part of the funding mix.

Financial Options for the Hypothetical Project

Several components of the project would be eligible for various forms of federal assistance. For example the procurement of articulated buses could be partially or fully funded by Federal Transit Urban Formula funding. It must be noted that in this scenario the project calls for eight buses to be purchased at an assumed cost of \$600k each, totaling nearly \$5 million. This is not insignificant and could conflict with a local transit agency’s bus replacement program. The other element of the project that seems right for federal assistance are the park and ride lots that would essentially be used as express bus stations. At \$2 million, it seems reasonable to assume that Federal Highway Administration funding is a possibility.

A conservative assumption on the capital that could be financed based on projected toll revenues (without the benefit of an investment grade traffic and revenue study) would be about one half of the

remaining \$216 million or \$108 million. Again, a rudimentary estimate for 30 years of principle and interest on \$108 million would be about \$7 million per year, leaving \$2.8 million of the expected revenue after operating expenses. If the local transit agency could secure a grant for the other half of the remaining capital balance, the financing would be in place with modest revenue available to be split between the transit and toll agencies. While \$108 million is not an insignificant amount, in the world of transit guideway funding it is somewhat modest. The analysis and estimates presented here only account for the incremental transit ridership based on new express bus service added as a result of the construction of the facility. There would undoubtedly be additional transit benefits accrued that would result from existing bus service using the facility to provide reliable and faster travel times in the corridor. How all of this plays into the issue of the Federal Transit Administration’s view of such a concept is at the heart of subsequent sections of this paper. Table 5 illustrates some theoretical sources for the capital funding of the project.

Table 5. Capital Funding Sources

Project Element	Cost	Source
Planning & Engineering	\$ 36 million	Expressway Authority loan from state infrastructure bank to be repaid from bond proceeds, Authority cash, FHWA funds
Construction	\$ 172 million	50% Transit sources - 50% from Expressway Authority bond financing (toll revenue)
Park and Ride/ Station Lots	\$ 2 million	FTA 5307 funds 80% - Local 20%, Several FHWA sources, Toll credits for local match Expressway Authority funds, Local funding
Electronic Tolling Equipment	\$ 8 million	Expressway Authority bond financing (toll revenue)
Rolling Stock	\$ 5 million	FTA 5309 funds 80% - Local 20%,
Total	\$ 223 million	

Operating Costs

In this financing scenario, the capital costs are shared 42% by the local transit agency and 58% by the local expressway authority as indicated in Table 6. This could be the basis for revenue sharing, assuming that there will be revenue available after all operating costs. One approach to dealing with the operating cost and revenue could be to simply split what remains after any debt service requirements and have the respective agencies pay for their portion of the operating costs of the facility out of the proceeds. This distribution is shown in Table 7. This becomes problematic in that the project is primarily a transit facility and the associated annual operating costs will be more substantial for the transit agency than the expressway authority.

Table 6. Capital Cost Sharing

Transit	Expressway
Construction \$86 million	Construction \$ 86 million
Rolling Stock \$5 million	Planning & Engineering \$36 million
Park and Ride/ Station Lots \$2 million	Electronic Collection \$8 million
Total Transit Investment \$93 million (42%)	Total Expressway Investment \$130 million (58%)

Table 7. Revenue Sharing

Total Toll Revenue	\$ 21,456,948
Debt Service	\$ 7,000,000
Remaining	\$ 14,456,948
Expressway Authority @ 58%	\$ 8,385,030
Transit Agency @ 42%	\$ 6,071,918

As illustrated in Tables 2 and 4 the annual operating costs for the hypothetical project are assumed at the time of the opening of the project to be \$8 million for the BRT operation, \$2.2 million for the BTL maintenance, and \$700,000 for the toll collection operation. This totals \$10.9 million for the first year of operations.

The treatment of operating costs and revenues in a practical application and implementation of an actual BTL project would necessarily be a product of discussions and negotiations with the funding partners. In this exploration of the topic, several issues have been identified.

- If transit operating subsidies for the BTL are to be taken “off the top” of the revenue stream, consideration must be given to the treatment of any existing bus service that is re-routed to the BTL. This raises the question of the subsidies for the “existing bus service” that now has the travel time advantage of access to the BTL. Should these operating costs be considered a priority for use of the revenues being generated from the BTL facility and how future route adjustments play into this issue are questions that would have to be addressed.
- There will undoubtedly be violations and toll premiums associated with the BTL, and the allocation of these revenues will also need to be addressed. The issue becomes even more relevant in the hypothetical example given that part of the BTL facility is already in existence, and revenues from all tolls collected on the express lanes are most likely pledged against some form of existing debt.
- Related to the issues above, is that of the leakage or uncollectable tolls. A disincentive to maximize revenue on the part of the toll agency could arise (e.g., underfunding enforcement activities on the BTL) if the difference between indicated revenue and actual revenue is treated as a routine cost of operating the BTL. The indicated revenue might be the better basis for

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determining the revenue that should be available for paying debt service and sharing with the financial partners.

- Unlike the bus operating subsidy, toll leakage, maintenance of the facility, and cost to collect tolls, the annual debt service payments must be considered as a first call on the BTL revenues in order for the facility to be financed. Once bonds are issued, there is no real opportunity to distort the operation of the facility to impact these costs.
- One potential method of dealing with the operating cost issues is simply not to include them in any part of a calculation, and base the revenue sharing arrangement solely on the capital investment, leaving the respective agencies to apply their share of BTL revenue to each of their general agency needs. This approach may have the benefit of having the operating partners running their parts of the BTL as efficiently as possible, if the costs associated with operating the BTL are not assumed to be “covered” by “excess” revenues. Stated differently, keeping the operating costs and subsidies separate from the revenue sharing arrangement may preclude the temptation for either operating partner to “off load” expenses to the BTL.
- If operating revenue were shared strictly along pro rata capital contribution lines, the hypothetical project does not cover the assumed operating costs for the transit agency. While this may appear to make this particular project not feasible, the fact that the pricing of the lanes must ensure free flow conditions will likely result in the generation of higher annual operating revenue in the future. There are a myriad of ways to mitigate this transit “operating deficit” in the early years of operation that are familiar in many toll-financed projects. These same concepts, like use of revolving loan funds, or specific BTL-project provisions (for example a different revenue sharing arrangement in the early years of operation) could remedy the problem.

Feasibility of the BTLs

With a hypothetical case having been developed, the issues surrounding obstacles and opportunities of the implementation of the Bus Toll Lanes can more easily be addressed. Federal and Florida statutes and regulations were reviewed to identify relevant issues. The writer interviewed experts from various transportation sectors and governmental levels including former and incumbent officials from:

- Federal Transit Administration
- Federal Highway Administration
- State Transportation Departments
- Local Transit Agencies
- Local Expressway Authorities
- Transit Agencies

Although there seemed to be interest across those interviewed, there was a general skepticism to the implementation of BTLs that was shared by many.

Federal Transit Administration Funding Participation

The main concern expressed had to do with the limited amount of federal transit funding available for fixed guideway projects coupled with the competition for those funds. Usually the first obstacle raised was BTL eligibility for “New Starts” funding under 49 U.S.C. 5309. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized \$6.6 billion in New Starts funding through fiscal year 2009, and it designated over 330 projects nationwide to compete for these discretionary federal dollars (15).

For determining formula Federal Transit Administration (FTA) funding, in section 5302 (49 U.S.C.) “fixed guideway” is defined as a mass transportation facility:

- using and occupying a separate right-of-way or rail for the exclusive use of mass transportation and other high occupancy vehicles, or
- using a fixed catenary system and a right-of-way usable by other forms of transportation.

It is not explicitly stated in the statutes if HOT lanes fit the definition of “fixed guideway.” The amount of federal transit aid through FTA formula funds (Section 5307) and New Starts funds (Section 5309) is determined by counting the number of miles of “guideway” used by the transit agency. While both funding sources explicitly list HOV lanes as eligible projects for attracting funds, there is no statutory statement on the status of HOT lanes (5).

The New Starts program provides funds for construction of new fixed-guideway systems or extension of existing fixed guideway systems. Eligible recipients for capital funds are public bodies and agencies (transit authorities and other state and local public bodies) including states, municipalities, other political subdivisions of states, public agencies and instrumentalities of one or more states, certain public corporations, and boards and commissions established under state law (16).

A “fixed guideway” refers to any transit service that uses *exclusive or controlled* rights-of-way or rails, *entirely or in part*. This includes heavy rail, light rail, commuter rail, trolleybus, and high-occupancy-vehicle (HOV) lanes. Eligible New Starts projects must involve a total cost of \$250 million or greater with federal assistance of \$75 million or greater. The project must be rated “recommended” or “highly recommended” by FTA, based on the results of alternatives analysis, project justification criteria, and the degree of local financial commitment.

Projects are evaluated by FTA on the basis of cost effectiveness, mobility improvement, and land use planning that supports transit. Typical federal participation is now about 50 percent and FTA continues to encourage project sponsors to request a federal New Starts funding share as low as possible (17).

Given these statutory parameters, it would seem that Bus Toll Lanes do not meet the definition of New Starts program eligibility. The ambiguity surrounding HOTs for the calculation of formula funding BTL

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eligibility remains questionable. An explicit change to ensure that BTLs are considered fixed guideway transit facilities in the FTA statute and regulation would be the single most significant modification that could pave the way for the implementation of Bus Toll Lanes.

Interestingly, the FTA considers a HOT that was a HOV as a fixed guideway for funding allocation purposes. Recent FTA policy on HOV to HOT conversion allows the resulting HOT lanes to qualify as a fixed guideway provided certain conditions are met. FTA will classify HOT lanes as fixed guideway for the purposes of funding formulas administered under 49 U.S.C. 5307 and 49 U.S.C. 5309 provided that each of the following conditions is satisfied:

- HOT lanes were previously HOV lanes reported in the National Transit Database as fixed guideway;
- HOT lanes are continuously monitored and continue to meet performance standards that preserve free flow traffic
- Program income from the HOT lanes facility (toll revenue) is used solely for “permissible uses”, including debt service, reasonable return on investment of any private financing, and operation and maintenance of the facility (18)

Facilities that were not eligible HOV lanes prior to conversion to HOT lanes are not be eligible for inclusion as fixed guideway miles in FTA’s funding formulas. According to this FTA policy, neither non-HOV facilities converted into HOT lanes, nor newly constructed HOT lanes can be classified as fixed guideway and are not eligible for federal assistance under Sec. 5307 and/or Sec. 5309. It must be concluded that without a change or clarification in the fixed guideway definition that a Bus Toll Lane will be treated similarly.

Aside from the competition for New Starts funding, the writer detected that there may be resistance to making changes that would allow BTL eligibility for 5309 New Starts funding that may be based on a modal bias. There seems to be an attitude in some corners that funding a project that would benefit single occupant automobiles with transit capital funds would not be acceptable from a policy standpoint. If, however, the change was made to explicitly include Bus Toll Lanes in the definition of fixed guideway, any BTL proposal would be evaluated through the rigors of the Alternatives Analysis process and would be accepted or rejected based on its cost effectiveness and contribution to federal transportation policy goals.

There are other FTA funding categories that could be tapped to supplement the capital requirement of a Bus Toll Lane. The Bus and Bus Facilities Program provides a large number of small grants for bus-related capital projects. This program can be used to fund bus procurement (for BRT projects), bus maintenance facilities, passenger amenities (e.g., shelters), intermodal terminals, etc. These funds currently can be used for an HOV to HOT conversion that involves elements of Bus Rapid Transit (a seemingly good fit with a BTL proposal), but the grants are typically small (\$50,000 to \$15 million) requiring a 20 percent local match.

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Another potential funding source is the FTA “Small Starts” Program (49 U.S.C. Section 5309) that was introduced in SAFETEA-LU in 2005. The Small Starts grants can be applied to the capital requirements for new fixed guideway systems, extensions, and *bus corridor improvements* for small-scale, low cost capital projects. The program provides a more simple evaluation and approval process compared to New Starts. Some of the New Starts project rating requirements are eliminated but eligible projects must request less than \$75 million in Small Starts funding for a total project budget of less than \$250 million. A major benefit of this funding category is that up to 80 percent federal share is possible.

Depending on the cost and complexity of a BTL proposal, other FTA program funding may be appropriate, including the relatively recent “Very Small Start” Program created by FTA. The program offers an even more streamlined application process, but total project costs are limited to less than \$50 million (17).

Federal Highway Funding for Transit Capital

There is also the potential for a transit agency or transit project to access Federal Highway Administration (FHWA) funding. The current provisions for transferring funds between transit and highway projects were introduced in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and continue today. With appropriate approvals, the flexible funding program allows for the transfer of FHWA funds for transit projects from funding categories such as:

- The Surface Transportation Program
- The Congestion Mitigation and Air Quality Improvement Program
- The National Highway System (NHS) for transit projects in an NHS corridor

These transferred funds can be used for virtually any transportation capital project, including public transit, corridor parking facilities, bus terminals, and bus facilities. The transfer of FHWA funds to transit projects offers the potential of higher federal participation and requires the approval of the state. These transfer provisions could prove helpful in assembling the capital required to fund a Bus Toll Lane facility.

A more recent potential funding source is from the American Recovery and Reinvestment Act (ARRA) of 2009 that provides 100 percent of federal funding for transit projects. However, use of these funds involves no waiver of FTA program requirements and cannot be “mixed” with other federal funds (19).

Federal Tolling Provisions

The prospect of overcoming the issue of BTL eligibility for FTA funding and subsequent inclusion of their riders in the funding calculation may seem to be a difficult policy challenge. When viewed in the context of the changes that have been made in the long-held resistance to the introduction of tolls on Interstate Highways, it may not appear so formidable.

After decades of prohibition, the Federal Highway Administration policies now allow tolling both on and off the Interstate Highway System. These policies allow states and other public entities to toll motor vehicles to finance interstate highway construction and reconstruction (including conversion of HOV

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lanes to HOT lanes) (20). Prior to passage of SAFETEA-LU in 2005, there were limitations placed on states that desired to use tolls on federally funded roads. SAFETEA-LU loosened the previous limitations on the use of tolling and pricing on the Interstate Highway System. Section 129 of 23 U.S.C. permits the imposition of tolls on free interstate and non-interstate highways. Section 129 permits Federal participation in the initial construction of toll highways, bridges, tunnels, or reconstruction of toll-free Federal-aid highway and conversion of it to a toll facility. The ownership of such facility can be either public or private (21).

Before the Secretary of Transportation permits federal participation, the public authority (including the state DOT) having jurisdiction over the highway must enter into the agreement with the Secretary guaranteeing that all toll revenues from this facility will be used first for debt service, for reasonable return on investment of any private person financing the project, and for the costs necessary for proper operation of the facility, including reconstruction, resurfacing, restoration, and rehabilitation (21). These provisions support totally the BTL concept.

A State may loan to a public or private entity constructing or proposing to construct a toll facility (under section 129, 23 U.S.C.) or non-toll facility an amount equal to all or part of the Federal share of the cost of the project if the project has a revenue source specifically dedicated to it (21).

Now, new toll roads can be financed using tax funds, tolls, or a mix of tolls, federal aid, and other sources. Existing non-interstate federal-aid highways can be converted to toll roads, if reconstruction, rehabilitation, or capacity expansion is to occur (20).

Section 1121 of SAFETEA-LU allows States to charge tolls to vehicles that do not meet the established occupancy requirements to use an HOV lane, provided the agency meets certain criteria to enroll participants, collect fees electronically, manage demand by varying tolls, and enforce violations (i.e., this permits the conversion of HOV lanes into HOT lanes) (22). A toll agreement must be executed between the FHWA, the State Department of Transportation, and operating agencies.

There would appear to be no obstacles presented in the federal tolling provisions to the implementation of a Bus Toll Lane project even if it involved an Interstate Highway. In fact, the SAFETEA-LU provisions on tolling appear to fully support the construction of Bus Toll Lane facilities.

Florida-Specific Issues

The research plan for this project also included a review of any issues that may be particular to Florida that could present challenges and/or opportunities for Bus Toll Lanes. The most apparent opportunities for Florida start with the strong multi-modal commitment of the Florida Department of Transportation (FDOT). FDOT's long-standing support for public transportation initiatives backed with State Transportation Trust Fund dollars could mean the difference in making a BTL project financially feasible. In the past this support has included funding up to 50 percent of the non-federal share of transit capital projects.

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In addition, FDOT has several well developed mechanisms to “jump start” local projects that are toll funded. These tools include the Toll Facilities Revolving Trust Fund (TFRTF). The TFRTF is a loan program created by Florida legislature (s. 338.251 F.S.) to develop and enhance the financial feasibility of revenue-producing road projects undertaken by local governmental entities and the Turnpike Enterprise. The loans are extended for planning and design activities, preliminary engineering, and advanced right-of-way acquisition for revenue producing road projects.

The Department may advance funds sufficient to defray the shortages in toll revenues for the first 5 years of operation, up to a maximum of \$5 million per year (any amount in excess of \$1.5 million annually needs a specific appropriation by the Legislature). This assistance is not available for government entities or expressway authorities that failed to repay any previous advance. Eligible recipients of the loan include local government entities (expressway and bridge authorities, counties and municipalities) and the Turnpike Enterprise. While it is not clear if transit agencies would qualify for a TFRTF loan, it seems that a partnership between a toll authority and a transit agency would not be precluded from using this assistance for a BTL.

Florida has also been taking full advantage of the “toll credits” innovative fund management technique. States may apply toll revenues used for capital expenditures to build or improve public highway facilities to earn toll credits. They are earned when a State, toll authority, or a private entity funds a capital highway investment with toll revenues from existing toll facilities. The amount of credits is equivalent to the dollar amount of toll revenue spent on capital improvement projects and can be used to substitute the required non-federal share of federal-aid projects. This can effectively increase the federal funding share of a project to 100 percent. The acceptance and use of this mechanism by the FDOT since 1993 certainly presents an opportunity for funding BTLs in Florida, as many toll credits have been used on transit projects.

Other potential pieces of the funding picture for a BTL project in Florida include both State and Federally funded State Infrastructure Banks. These revolving loan programs present yet another opportunity for Bus Toll Lanes and have an established history in the state.

A promising development for BTLs in Florida could involve the conversion and extension of the South Dade Busway, currently operated by Miami-Dade Transit, into a price managed facility allowing toll-paying single occupant vehicles. The concept was studied by the Miami Dade Metropolitan Planning Organization in 2008 and is now under more detailed review by the Miami-Dade Expressway Authority. The Busway, opened in 1997, was built on former railroad right of way and connects the Miami MetroRail Dadeland South terminus 8.5 miles to Cutler Ridge to the south. The \$60 million facility currently only allows use by transit buses and is under consideration to be extended to Florida City as an HOT facility. Although not currently being considered as a Bus Toll Lane as conceived in this report, it could break new, significant policy ground if it were implemented, as “excess transit capacity” would be allowed to be “sold off” to toll-paying automobiles. It should be noted that this significant policy precedent would be set if there were no requirement to repay any federal transit capital that was used to fund the current facility’s construction.

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Except for Florida’s Turnpike Enterprise, most of Florida’s toll agencies are established within Florida Statute Chapter 348 Expressway and Bridge Authorities, Parts I through X. Part I, entitled the “Florida Expressway Act and Related Provisions,” details the power for any county or counties to establish an expressway authority. One significant difference between Part I authorities and the others is the explicit permission to construct operate and maintain not only expressways, but also a “public transportation facility.(23)” In contemplating the BTL concept for application in Florida, two of the three operating expressway authorities (Tampa-Hillsborough County Expressway Authority and Orlando-Orange County Expressway Authority) are not created under Part I. The Miami-Dade County Expressway Authority is a Part I authority and is the only one of the three currently permitted to construct facilities for public transportation. In order for Bus Toll Lanes to become a routine alternative for consideration in Florida’s toolbox of transportation solutions, the statutes of the non-Part I expressway authorities need to be modified to allow them to construct, operate and maintain public transportation facilities. An alternative solution is to add each BTL project as it arises to an authority’s enabling statute that describes its “system” rather than a blanket change in legislation.

Conclusions and Recommendations

As with any new idea for dealing with urban transportation solutions, there are pros and cons and supporting and detracting forces that have been found in this examination of the feasibility of Bus Toll Lanes. The concept has appeal to virtually all that were talked with in the conduct of this effort; nonetheless there are certainly barriers to the implementation of BTL facilities.

Barriers

As mentioned in the report, the biggest obstacle to widespread implementation of BTLs is the FTA definition of eligibility for the New Starts funding program. There have been attempts to change this definition in the past. The feasibility of getting this definition modified would hinge on how strong the “modal bias” and “modal silos” that have been described in the interviews really are at a policy level. While there continues to be a push for more intermodal cooperation, the current economic uncertainties and general stagnation of transportation funding levels can move policy makers to protect limited resources from what will be perceived by some as a “raid.” Anticipated resistance to any moves towards allowing BTLs to compete with other new starts is understandable in light of the fierce competition for the limited funds. While BTL may show to be a very cost effective way to implement reliable, high speed transit service, there are potential questions as to a project’s contribution to satisfying transit travel demand in relation to the size of the potential investment. Any future assessment by FTA of a project of this nature is sure to include an evaluation of the number of transit riders that will benefit compared to the capital investment and other non-transit beneficiaries.

Another potential “sticking point” with a jointly funded project could involve the mechanics and specifics of grant and capital fund management. In a typical transit capital project the transit agency is already a “designated recipient” of FTA funds and access to those federal dollars is routine. In the BTL concept, funds from toll revenue bond proceeds, other toll funds and transit capital grants would need to be combined for at least the construction phase of a project. If the transit agency were the

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contracting entity for the major construction portion of the project (other components, for example toll collection equipment acquisition/ installation, park and ride lot and station construction, could be contacted by either agency and financed with their respective funding sources) then significant capital funds need to be transferred from the toll agency to the transit organization. Conversely, if the toll agency that does have experience constructing these types of projects were the contracting entity, the issue of accessing any federal transit grants could present difficulties. The same would be true if some sort of new partnership entity were created in order to implement a BTL project. Access to federal transit grants by “non-traditional” entities has been addressed somewhat through changes to the FTA’s “TEAM” grants management system subsequent to SAFETEA-LU to deal with federal earmarks. While the mechanics of blending the capital is certainly not a “fatal flaw” these details are another set of issues identified that must be dealt with early in the planning for a BTL facility involving shared equity.

Another barrier to the implementation of Bus Toll Lanes is the general public resistance to tolls and price-managed lanes. Although this reluctance is waning as evidenced by all of the projects involving congestion pricing listed earlier in this paper, it will continue to be a factor in gaining stakeholder acceptance of a particular project.

Unlike the High Occupancy Toll lane examples that have been examined, the BTL concept is based on the premise that there is no discounted or free, passage for carpools or fuel-efficient automobiles. The equity arguments for this approach are sound but the public education involved in their explanation will be difficult. This issue could exacerbate the perception that a BTL facility is less “green” than a traditional rail facility, even if analysis were to show the contrary.

A barrier that may or may not be unique to Florida is that expressway authorities have varying abilities to construct and fund transit projects. In fact, of the operating local toll agencies at this time, only the Miami-Dade County Expressway Authority is explicitly granted this power.

One of the largest concerns that emerges from this effort is the traffic and revenue models and forecasts that are necessary for any toll-financed project will be more complex and critical in a BTL situation. The dichotomy that surfaces is that as the transit service becomes more successful, it could have the desired effect of reducing congestion in the corridor and the undesired effect of limiting revenue growth from the price-managed tolls. Perhaps growth in vehicle miles of travel and demand for single occupant vehicle mobility will mitigate this concern, but it points out the importance of the forecasts that are complicated at best for a less complex project.

Lastly, the biggest barrier to embracing the concept of Bus Toll Lanes is the lack of an actual project and financial proposal that can be studied, debated and forwarded to federal transportation agencies for their review. This difficulty was apparent in the conduct of the research preparing this paper. Aside from the difficulty of explaining the difference between a BTL and a HOT lane, the existence of an actual project proposal would have helped all involved to seek potential funding and institutional solutions. An actual project would have a “champion” that could advocate for the required changes to make it a reality.

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Opportunities

The Bus Toll Lane concept seems to have appeal based on the interviews conducted. The prospect of an equity sharing arrangement between a toll authority and a transit agency is intriguing to most of those transportation experts consulted. There are events occurring and trends emerging that perhaps make the idea of BTLs even more feasible than in the past.

A Bus Toll Lane relies on the assumption that all electronic toll collection (AET) is feasible, acceptable and can be implemented. AET is becoming more common place and is also a prerequisite for HOT lanes. Aside from all of the HOT projects that were listed earlier in this report, in Florida there are projects underway that will implement AET in the near future. In Tampa, where AET was first introduced on its elevated express lanes, all electronic toll collection on its entire system is probably less than a year away and MDX and Florida’s Turnpike Enterprise (47 miles by 2011) are moving in that direction as well. While no Florida agency is currently implementing price-managed lanes (FDOT’s I-595 project in Broward County will implement them), the ability to do so will be in place with the implementation of AET. Before the introduction of AET, there is the step of electronic toll collection or ETC. ETC is well established in Florida with some toll facilities collecting as much as 70 percent of their revenue electronically.

Another trend that supports Bus Toll Lanes is the growing implementation and “mainstreaming” of Bus Rapid Transit in the U.S. and in Florida. At the national level, new starts funding requests for BRT projects have been the fastest growing category of projects in the last several years. In Florida, the South Dade Busway, the Lynx LYMMO in Orlando and the integration of BRT into the I-95 Express Lanes project are examples of the growing acceptance and implementation of Bus Rapid Transit.

As the demands for transportation funding grow in a time of dwindling resources and a contracted economy, there is an increased demand for innovation, creativity and for new ways of doing business. If BTL facilities can prove to offer a more cost effective solution than other alternatives, this may be an opportune time to overcome any of the challenges. Transit agencies in particular have been hit hard financially in recent times, and the prospect of an on-going revenue stream in conjunction with providing high level public transportation service may be even more appealing now.

Current efforts to reauthorize the federal surface transportation program also include proposals that could ease the way for the implementation of BTLs. Versions of the bill to federally support and fund highway and transit projects include the concept of a Metropolitan Mobility Program that would essentially be mode neutral, support price managed facilities, and be based on performance measures. The concept was recommended by the federally mandated National Surface Transportation Policy and Revenue Study Commission and would create a federally funded program targeted at metropolitan areas of 1 million or more to employ cross-modal strategies to reduce delay and congestion.

Along with the Metropolitan Mobility Program, a current House of Representatives bill also includes the creation of the Office of Public Benefit that would regulate tolling of interstates and other public-private partnerships (P3s). Proponents of public-private partnerships have been critical of a new federal Office

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of Public Benefit. However, if the new transportation bill includes both the Metropolitan Mobility Program and oversight of P3s, this may establish a favorable environment for toll and transit equity sharing arrangements like Bus Toll Lanes. Some have referred to the BTL concept as a “public-public partnership” or a P2.

Another opportunity presented by this BTL concept that should be mentioned is the financial protections that a project could be afforded in the toll-transit partnership. If a BTL project is financed in the manner described in this paper, a toll agency would issue toll revenue bonds to raise some portion of the capital required for its construction. When those bonds are issued, there will be covenants that protect the holders of the bonds against public opinion or political shifts that could compromise the BTL concept and the associated revenue stream. Pressures to include free passage for some classes of vehicles, or a push to artificially suppress toll rates will be able to be stopped because of the legal contract that will be made with the bondholders.

Summary of Major Findings

- An explicit change to ensure that BTLs are considered fixed guideway transit facilities in the Federal Transit Administration statute and regulations would be the single most significant change that could pave the way for the implementation of Bus Toll Lanes.
- There appear to be no obstacles presented in the federal tolling provisions to the implementation of a Bus Toll Lane project, even if it involved an Interstate Highway. In fact, the SAFETEA-LU provisions on tolling appear to fully support the concept of the construction of Bus Toll Lane facilities.
- In Florida while it is not clear if transit agencies would qualify for a Toll Facilities Revolving Trust Fund loan, it seems that a partnership between a toll authority and a transit agency would not be precluded from using this assistance for a Bus Toll Lane Project.
- The acceptance and use the “toll credits” mechanism by FDOT since 1993 presents an opportunity for a contribution to funding BTLs in Florida, as many toll credits have been used on transit projects.
- In order for Bus Toll Lanes to become a routine alternative for consideration in Florida’s toolbox of transportation solutions, the statutes of the non-Part I expressway authorities need to be modified to allow them to construct, operate and maintain public transportation facilities. An alternative solution is to add legislatively each BTL project as it arises to an authority’s enabling statute that describes its “system” rather than a blanket change.

Recommended Approach

As has been stated, the most straight forward and definitive action that could be taken to facilitate the implementation of Bus Toll Lanes is to convince policy-makers at the national level of the wisdom of broadening the FTA New Starts eligibility criteria. This would provide access to a large potential funding source for a transit agency to contribute as an equity partner in a BTL facility or system. There is the opportunity to attempt this change through the federal surface transportation authorization efforts that are going on today.

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Another, or even parallel, approach is to identify a BRT or HOT project that is well along in its project development and use it as a proposed demonstration of the concepts presented here and elsewhere for Bus Toll Lanes. This has the advantages of being able to develop a real plan of finance that can be examined and can serve to allow skeptics and supporters to “test the waters” without making what may be seen as a significant shift in federal transit funding policy. This demonstration could be proposed with using New Starts program funding, or by employing any of the other transit capital funding sources that may not be so controversial.

Reauthorization presents another opportunity to advance the BTL approach without a wholesale change to New Starts eligibility. The approach that was used to begin the changes to Interstate Highway tolling policy could be employed here. The new authorization bill could contain provisions for applications for a limited number of proposals for the funding of BTLs that might include New Starts funding. This provides an opportunity for a handful of projects to compete with other fixed guideway proposals and for the evaluation of those projects that were ultimately implemented.

At the state level, statutory changes should be sought for those expressway authorities interested in expanding their project portfolios beyond the traditional tolled highways.

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