

# Investigation of the Feasibility of Toll and Transit Agency Equity Sharing

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## Presentation Outline

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## Project Background

- ▶ **Client:** Florida Department of Transportation
- ▶ **Duration:** 9 Months
- ▶ **Budget:** \$60K
- ▶ **Objective:**
  - Research institutional/legal constraints to equity sharing between toll and transit agencies
  - Identify statutory, regulatory, and policy changes required
  - Lay out Pros and Cons of implementing BTL



## Project Background

- ▶ Concept of Toll/ Transit equity sharing developed at Tampa-Hillsborough County Expressway Authority
- ▶ Interest developed in identifying institutional or regulatory issues prior to new federal surface authorization
- ▶ Proposed project to National Bus Rapid Transit Institute – referred to National Center for Transit Research (NCTR at CUTR)



## Project Background

- ▶ Task Order approved by FDOT Research Center February 2009
  - Ed Coven – Project Manager
  - Steve Reich – Principal Investigator
- ▶ Original completion date February 2010
- ▶ Difficulties resulted in no cost extension
- ▶ Project Completed in May 2010



## Project Challenges

- ▶ Difficulty in distinguishing between BTLs and other HOT/HOV and Urban Partnership Agreement projects
- ▶ Lack of a concrete project proposal
- ▶ Reluctance in speaking on the record about institutional issues
- ▶ Modal bias towards rail



## Summary of Findings

### Background on Bus Toll Lanes

- ▶ Partnership between transit agencies and toll authorities to construct and operate a facility
- ▶ Create bus lanes with transit agencies as an equity holder or full owner
- ▶ Provide transit agencies access to an inflation sensitive toll revenue source
- ▶ Exploits the expertise of two separate transportation providers
- ▶ Could foster a more entrepreneurial atmosphere



## Differences Between HOV and Bus Toll 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
  - Described the potential for a network of High Occupancy Toll Lanes employing BRT
  - Developed by the conversion of existing HOVs to HOTs and extending them to create a connected system
  - "Selling off" excess capacity to private automobiles to provide a free-flow BRT facility was then referred to as "Virtual Exclusive Busway"



## Differences Between HOV and Bus Toll Lanes

- ▶ Other works cited that blend BRT with HOTs examined the integration of price-managed lanes with reliable transit service
- ▶ None has addressed the possibility of a toll and transit agency collaborating in the financing of new lanes and the subsequent sharing of revenue
- ▶ No free passage for carpools or hybrid-electric cars under BTL concept



## Toll and Transit Agency Collaboration

- ▶ There is a long tradition in the U.S. of toll agencies and transit agencies collaborating
  - Using “excess toll revenue” to financially assist public transportation
  - Statutory “set asides”
  - Pooled revenues from various modes of transportation
  - Low interest/no interest loans from toll authorities for transit capital construction
- ▶ The advent of HOT facilities has led to stronger toll and transit ties

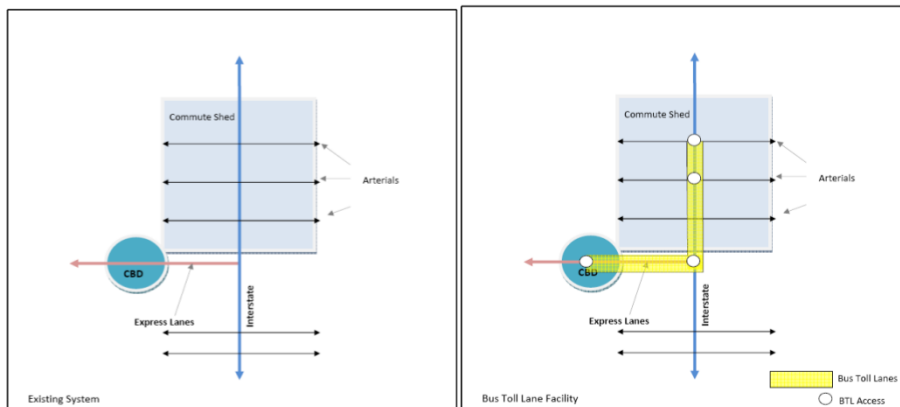


## Hypothetical Facility

- ▶ Reluctance to use a “real” corridor as a research example
- ▶ Construction of a two-lane facility mostly in the median of an existing interstate highway
- ▶ Connection to an existing express tolled facility
- ▶ Link suburban areas north of town to a downtown core with high speed/reliable express transit service



# Hypothetical Facility



# Capital & Operating Cost Estimates

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
<b>Total Capital</b>	<b>\$ 223 million</b>
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

## Revenue Assumptions

- ▶ Accommodate 2,000 vph for a 3 hr. AM peak and a 3hr. PM peak in the peak direction
- ▶ No revenue is assumed for tolls in the non-peak direction
- ▶ 73% of the vehicles pay an average \$3.50 one-way toll; the remainder pay \$2.00
- ▶ Average peak hour toll is \$0.37/mile
- ▶ 4% 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 3,625 or a 5% transit share of corridor AADT
- ▶ One-way transit fare is \$3.00

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



## 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





## Financial Options

Project Element	Cost	Source
Planning & Engineering	\$ 36 million	Expressway Authority loan from state infrastructure bank to be repaid from bond proceeds
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%
Electronic Tolling Equipment	\$ 8 million	Expressway Authority bond financing (toll revenue)
Rolling Stock	\$ 5 million	FTA 5309 funds 80% - Local 20%
<b>Total</b>	<b>\$ 223 million</b>	



## Financial Options

**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
<b>Total Transit Investment \$93 million (42%)</b>	<b>Total Expressway Investment \$130 million (58%)</b>

**Table 7. Revenue Sharing**

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



## Financial Options – Potential Issues

- ▶ 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
- ▶ Treatment of leakage or uncollectable tolls
- ▶ 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 for toll agency



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## Financial Options – Potential Issues

- ▶ Separating operating costs/subsidies from the revenue sharing arrangement may preclude the temptation to “off load” expenses
- ▶ If operating revenue were shared strictly based on pro rata capital contribution the project does not cover the assumed operating costs for transit (\$8 mill vs. \$6 mill)
- ▶ Early year deficits could be covered with revolving loans or front-end loaded transit share



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## Feasibility of BTLs

- ▶ Main concern – limited amount of federal transit funding for fixed guideway projects coupled with competition
- ▶ A “fixed guideway” refers to any transit service that uses *exclusive or controlled* rights-of-way or rails, *entirely or in part*
- ▶ No explicit statement if HOT lanes fit the definition of “fixed guideway”
- ▶ **Bus Toll Lanes do not meet the definition of New Starts program eligibility**



## Feasibility of BTLs

- ▶ Potential for a transit agency or transit project to access FHWA funding
  - The Surface Transportation Program
  - The Congestion Mitigation and Air Quality Improvement Program
  - The National Highway System for transit projects in an NHS corridor
- ▶ No obstacles presented in the federal tolling provisions to the implementation of a Bus Toll Lane project – SAFETEA-LU fully supports



## Feasibility of BTLs

- ▶ Florida Issues and Opportunities
  - FDOT's long-standing support for public transportation
  - Toll Facilities Revolving Trust Fund
  - Taking full advantage of the "toll credits"
  - State and Federally funded State Infrastructure Banks
  - MDX is a Part I authority and is the only one of the three currently permitted to construct facilities for public transportation



## Barriers & Opportunities

Barriers	Opportunities
New Starts Definition	Support for transit revenue sharing
Modal Silos	All Electronic Tolling is gaining acceptance
Competition for New Starts	Mainstreaming of BRT
Contribution to Transit vs. Investment	Increased demand for innovation and new methods in tight economic times
Resistance to Tolls and Price-managed Lanes	
No Free Passage for HOV or "green" vehicles	Bond covenants could protect pricing and access
Limitations on some Florida Expressway Authorities	
No Actual Project Proposal	



## Conclusions & Recommendations

- ▶ The most definitive action that could be taken to facilitate the implementation of BTLs is to convince policy-makers to broaden the FTA New Starts eligibility criteria
- ▶ Identify real BRT or HOT project for a demonstration
- ▶ New authorization bill could contain a few projects including New Starts funding
- ▶ Seek state statutory changes for expressway authorities



## Next Steps

- ▶ BTL Proof of Concept Study – Started in 2011
- ▶ Funded by THEA; 18 Months
- ▶ Analysis of Real Data: Traffic, Land Use, etc
- ▶ Technical Analysis – by Engineering/Planning Consultants
- ▶ CUTR Involvement:
  - Policy analysis of implementing BTL concept
  - Specific statutory/regulatory recommendations
  - Evaluate impact of BLT concept on transit performance
  - Final Report and Presentation



Questions?