

Central Broward East-West Transit Analysis

Broward County MPO

Information on the Central Broward East-West Transit Analysis



April 14, 2005

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Proposed Schedule

March	April	May	June	Future
<p><u>Guidance</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> BRT or LRT <input type="checkbox"/> Finance options 	<p><u>Decisions</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> MPO adopts LPA into LRTP <input type="checkbox"/> Implementation Plan 	<p><u>Action</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> County Commission considers resolution to pursue revenue source 	<p><u>Submittal</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> PE/"New Starts" Application to FTA 	<p><u>Policy Changes</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Land use/TOD <input type="checkbox"/> Parking strategies <input type="checkbox"/> Make transit as attractive as automobile

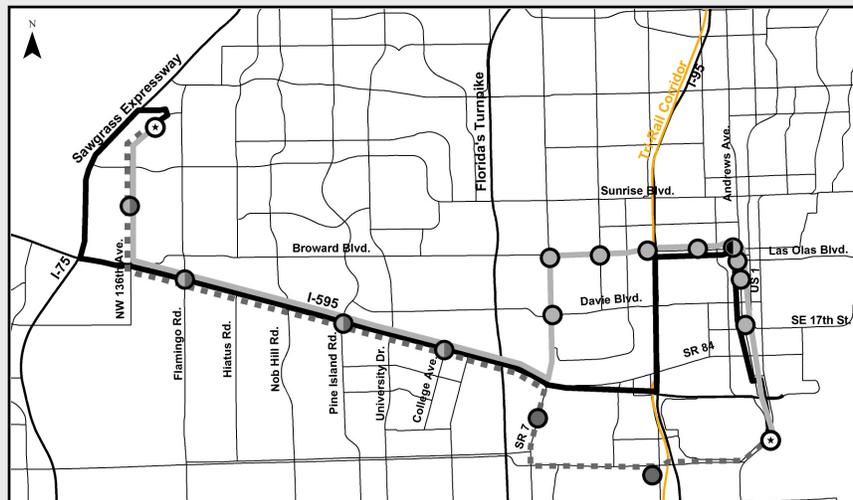


Alternatives Decision

- No Build
- Enhanced Facilities & Services
- Build



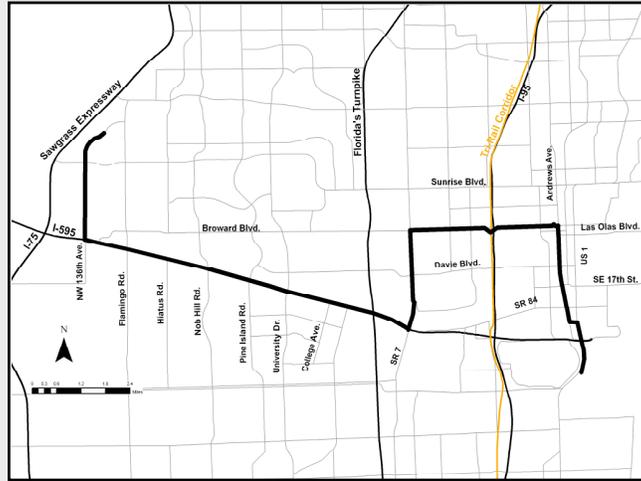
Enhanced Facilities and Services



Components: Three (3) express bus routes and Park & Ride facilities at Sawgrass, Flamingo and Pine Island



Build Alignment



Technology Decision

- Bus Rapid Transit (BRT)
- Light Rail Transit (LRT)



Build Technology Options

- Bus Rapid Transit



- Light Rail Transit



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 TRANSPORTATION GROUP

Technology Components

Enhanced Facilities & Services	Bus Rapid Transit	Light Rail Transit
<ul style="list-style-type: none"> • Express buses • Park & ride lots • TSP/ITS • Low cost • Lower speed • Less reliable • Low capacity 	<ul style="list-style-type: none"> • Standard 40 ft. urban buses/articulated • Park & ride lots • TSP/ITS • Low to high cost guideway • Enhanced stations • Faster, more reliable • Moderate to high capacity 	<ul style="list-style-type: none"> • Range of vehicle styles and sizes – high cost • Park & ride lots • TSP/ITS • Moderate to high cost guideway • Traction power system (overhead wires) • Faster, more reliable • Moderate to high capacity

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Guideway Decision

- Exclusive (Elevated)
- Semi-Exclusive (At-grade)
- Mixed Traffic (Shared or Exclusive Lane)



Exclusive (Elevated)



Semi-Exclusive (At-Grade)



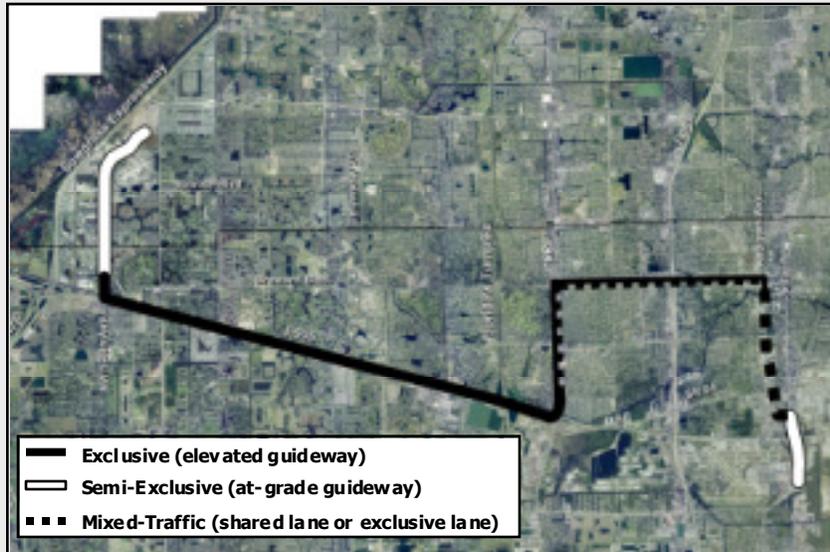
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Mixed-Traffic (Shared Lane)



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Guideway Options by Segment



Projected Ridership & Costs

	Projected 2025 Daily Ridership	Annual Operating Cost (in millions)	Capital Cost (\$ in millions)
Enhanced Facilities & Services	9,900	\$16.7	\$156.3
Bus Rapid Transit	14,900 – 16,400	\$19.7	At-grade: \$ 657.1 Elevated: \$ 882.7
Light Rail Transit	17,700 – 23,000	\$20.8	At-grade: \$ 869.5 Elevated: \$ 1,070.2



Cost Effectiveness

(Dollars spent per user hour saved)

Alternative	< \$15 Highly Recommended	\$15-\$20 Recommended	\$20-\$25 Recommended to Not Recommended	> \$25 Not Recommended
LRT Dedicated				
LRT At-grade				
BRT Dedicated				
BRT At-grade				



Total Annual Local Funding Required for Capital & Operations (Millions of 2004 \$)

	Capital	Operating	Total
25% Local			
Enhanced FAC & SVC	\$7.5	\$9.2	\$16.7
BRT At-Grade	\$10.5	\$10.8	\$21.4
BRT Dedicated	\$14.1	\$10.8	\$25.0
LRT At-Grade	\$13.9	\$10.8	\$24.7
LRT Dedicated	\$17.1	\$11.4	\$28.6
100% Local			
Enhanced FAC & SVC	\$10.0	\$11.8	\$21.8
BRT At-Grade	\$42.1	\$14.0	\$56.1
BRT Dedicated	\$56.5	\$14.0	\$52.8
LRT At-Grade	\$55.7	\$14.0	\$69.6
LRT Dedicated	\$68.5	\$14.8	\$83.3



25% Local Potential Incremental Tax Rates

Source	2004 Estimated		Required Additional Tax Rate if Applied as Sole Source						
	Tax Base	Units	Example	TSM	BRT		LRT		
					At-Grade	Dedicated	At-Grade	Dedicated	
Annual Local Funding Required (\$ millions)			\$100.0	\$16.7	\$21.4	\$25.0	\$24.7	\$28.6	
Retail Sales	\$25,668	Millions of Dollars	0.39%	0.06%	0.08%	0.10%	0.10%	0.11%	of retail sales
Real Property	\$85,310	Millions of Dollars	0.117%	0.020%	0.025%	0.029%	0.029%	0.033%	of assessed value
			\$1.17	\$0.20	\$0.25	\$0.29	\$0.29	\$0.33	mils (\$ per \$1,000 assessed value)
Licensed Drivers	1,447	Million Licenses	\$69.13	\$11.52	\$14.76	\$17.26	\$17.09	\$19.75	per licensed driver per year
Registered Vehicles	1,434	Million Vehicles	\$69.74	\$11.63	\$14.89	\$17.41	\$17.25	\$19.93	per vehicle per year
Motor Fuel									
Gasoline	860,588	Million Gallons							
Diesel Fuel	96,226	Million Gallons							
Total Fuel	956,814	Million Gallons	\$0.105	\$0.017	\$0.022	\$0.026	\$0.026	\$0.030	per gallon



100% Local Potential Incremental Tax Rates

Source	2004 Estimated		Required Additional Tax Rate if Applied as Sole Source						
	Tax Base	Units	Example	TSM	BRT		LRT		
					At-Grade	Dedicated	At-Grade	Dedicated	
Annual Local Funding Required (\$ millions)			\$100.0	\$21.8	\$56.1	\$70.5	\$69.6	\$83.3	
Retail Sales	\$25,668	Millions of Dollars	0.39%	0.09%	0.22%	0.27%	0.27%	0.32%	of retail sales
Real Property	\$85,310	Millions of Dollars	0.117%	0.026%	0.066%	0.083%	0.082%	0.098%	of assessed value
			\$1.17	\$0.26	\$0.66	\$0.83	\$0.82	\$0.98	mils (\$ per \$1,000 assessed value)
Licensed Drivers	1,447	Million Licenses	\$69.13	\$15.10	\$38.75	\$48.73	\$48.13	\$57.57	per licensed driver per year
Registered Vehicles	1,434	Million Vehicles	\$69.74	\$15.23	\$39.09	\$49.17	\$48.56	\$58.08	per vehicle per year
Motor Fuel									
Gasoline	860,588	Million Gallons							
Diesel Fuel	96,226	Million Gallons							
Total Fuel	956,814	Million Gallons	\$0.105	\$0.023	\$0.059	\$0.074	\$0.073	\$0.087	per gallon



If Build Alternative is Bus Rapid Transit

- Most cost-effective
- Forms a system with Rapid Bus network in LRTP
- Lower total costs



If Build Alternative is Light Rail Transit

- Consider:
 - Higher local share
 - Phased implementation
 - Greater residential density and intensity than BRT



Resolutions Needed

- Supportive land use policies
 - Identify areas to apply new Broward County TOD land use category
 - Revise City Future Land Use Elements and Land Development Regulations to implement TOD
 - Establish minimum residential and employment densities
 - Implement parking policies in major nodes
- Pursue local dedicated revenue source



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