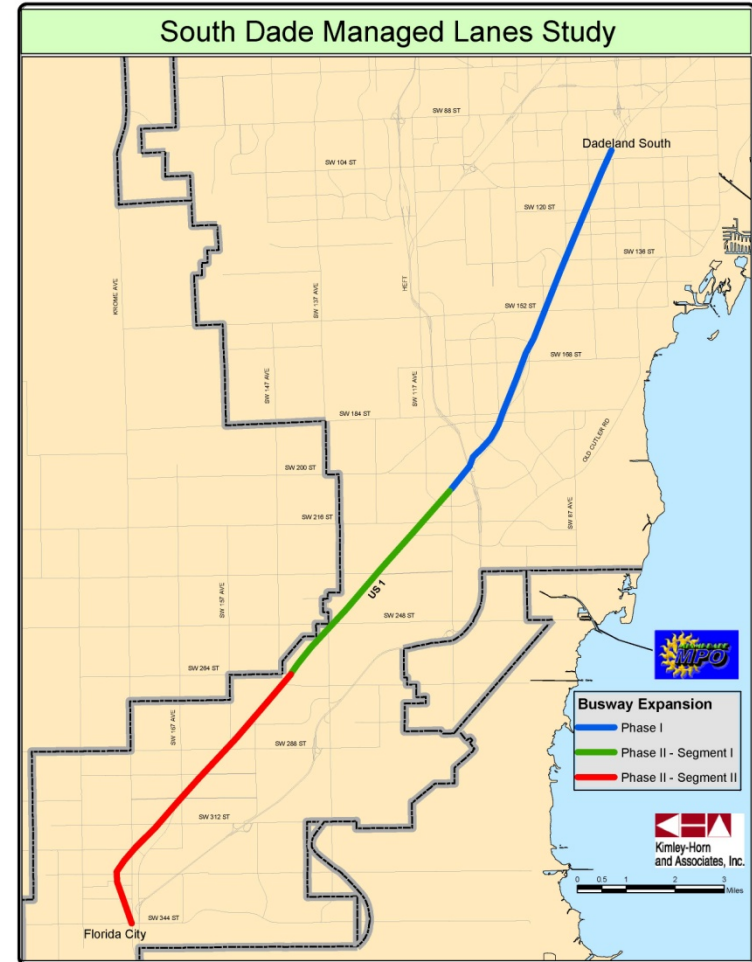


Study Purpose

- To determine if reasonable alternatives exist for developing managed lanes in the South Dade Busway right-of-way
- To evaluate the revenue generating potential for rapid transit improvements in the South Dade corridor

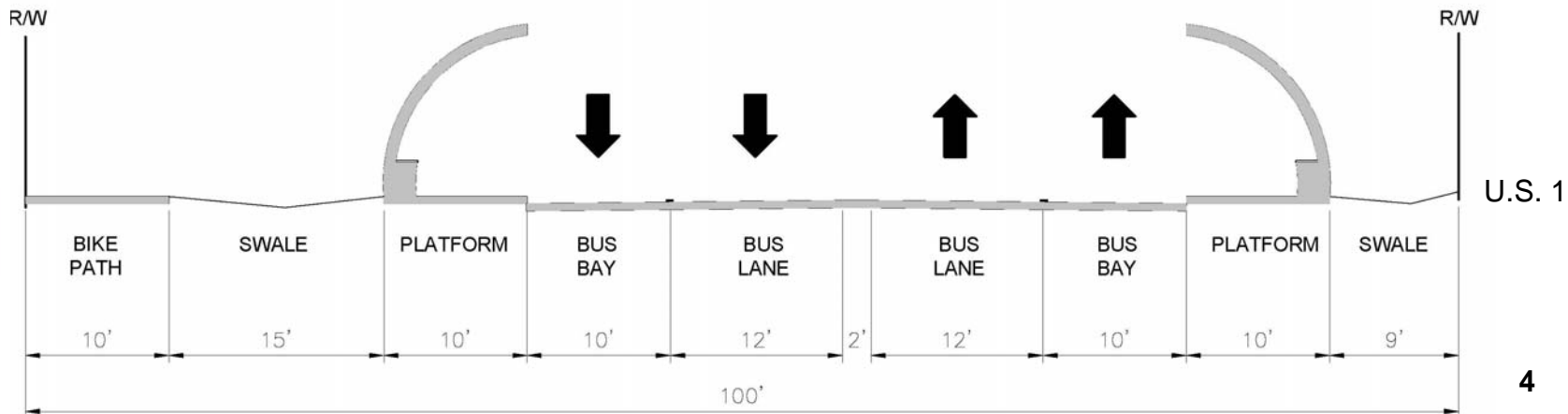


South Link Altern. Analysis

- ➔ In 2006, the MPO completed a transit alternatives analysis (AA) for the South Link (South Dade Busway) Corridor
- ➔ Although there is support for a Metrorail extension, projected ridership was not enough to offset costs
- ➔ Locally Preferred Alternative (LPA)
 - Modified Enhanced Bus Rapid Transit
 - BRT enhancements and features
 - Metrorail extension to SW 104th Street
 - Grade separation at several major intersections

Typical Section

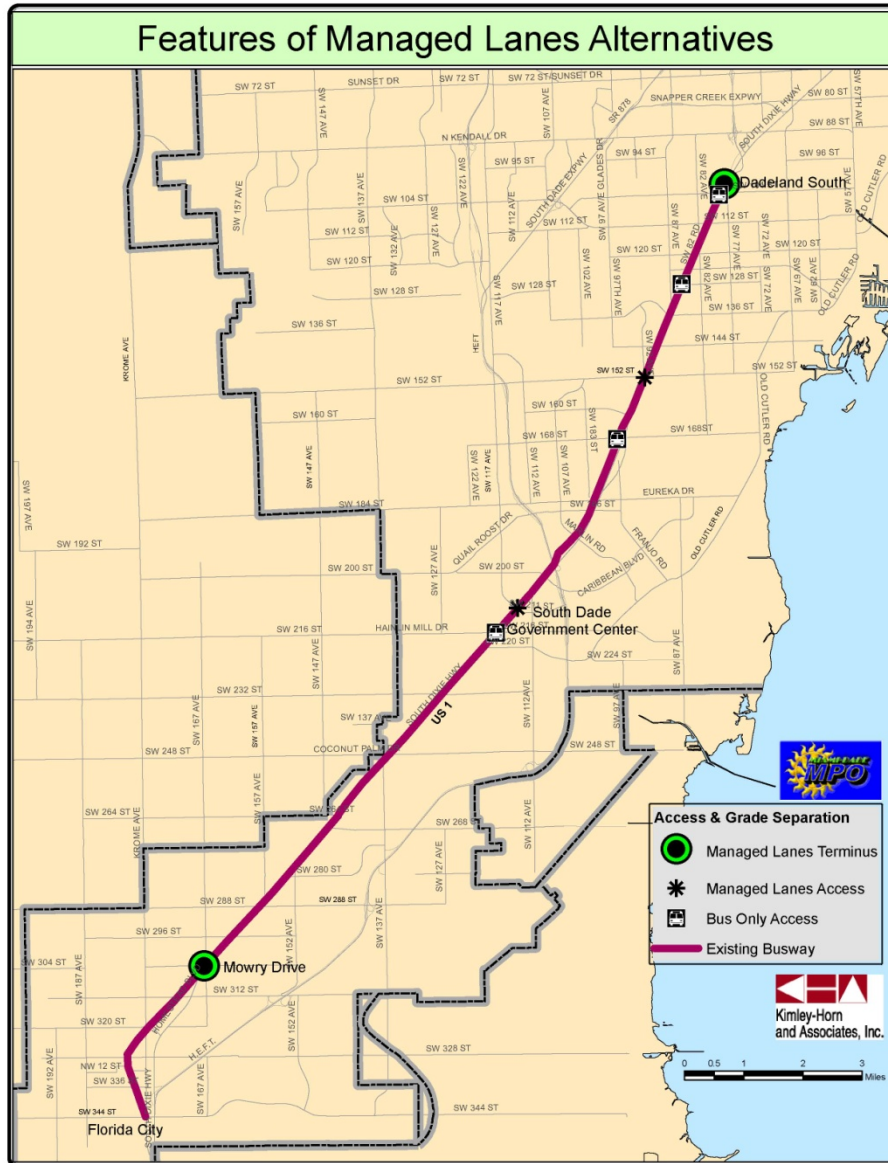
- Right-of-way = 100 feet
- 1 lane in each direction
- 1 bay and 1 platform per direction @ stations
- South Dade Trail bike path



Study Alternatives

- ➔ Alternative One – 2-lane at-grade
 - Allowing private vehicles to utilize existing busway for a toll, plus TSP improvements
 - Zero elevated stations
- ➔ Alternative Two – 4-lane with grade separations at South Link locations
 - Approximately 6-8 elevated stations
- ➔ Alternative Three – 4-lane fully elevated facility
 - Approximately 22 elevated stations

Common Features of Study Alternatives



- Access locations
 - Termini (2)
 - Buses only (4)
 - Managed lanes plus buses (2)
- Vehicle Eligibility
 - All private vehicles tolled
 - Buses use managed lanes free

Demand Analysis

- ➔ U.S. 1 demand / laneage deficiencies vary throughout the corridor

Intersection	Direction	Existing Lanes	Laneage Deficiency	
			AM	PM
U.S. 1 at SW 312 th Street	Northbound	2	0	1
	Southbound	2	0	1
U.S. 1 at SW 117 th Avenue/ SW 211 th Street	Northbound	2	1	1
	Southbound	2	0	2
U.S. 1 at SW 200 th Street	Northbound	3	0	0
	Southbound	3	0	2
U.S. 1 at SW 184 th Street	Northbound	3	1	1
	Southbound	3	0	2
U.S. 1 at SW 152 nd Street	Northbound	3	2	1
	Southbound	3	0	2
U.S. 1 at SW 136 th Street	Northbound	3	3	1
	Southbound	3	0	2
U.S. 1 at SW 112 th Street	Northbound	3	3	2
	Southbound	3	0	3
U.S. 1 at SW 104 th Street	Northbound	3	3	2
	Southbound	4	0	3



Traffic Projections

- ➔ Estimated 2030 Weekday Daily Volume
 - Alternative One – 2-lane at-grade
 - 3,400 – 5,900 vpd (LOS C)
 - Alternative Two – 4-lane with grade separations at South Link locations
 - 11,300 – 13,500 vpd (LOS B)
 - Alternative Three – 4-lane fully elevated facility
 - 21,000 – 26,200 vpd (LOS B)

Bus Routes

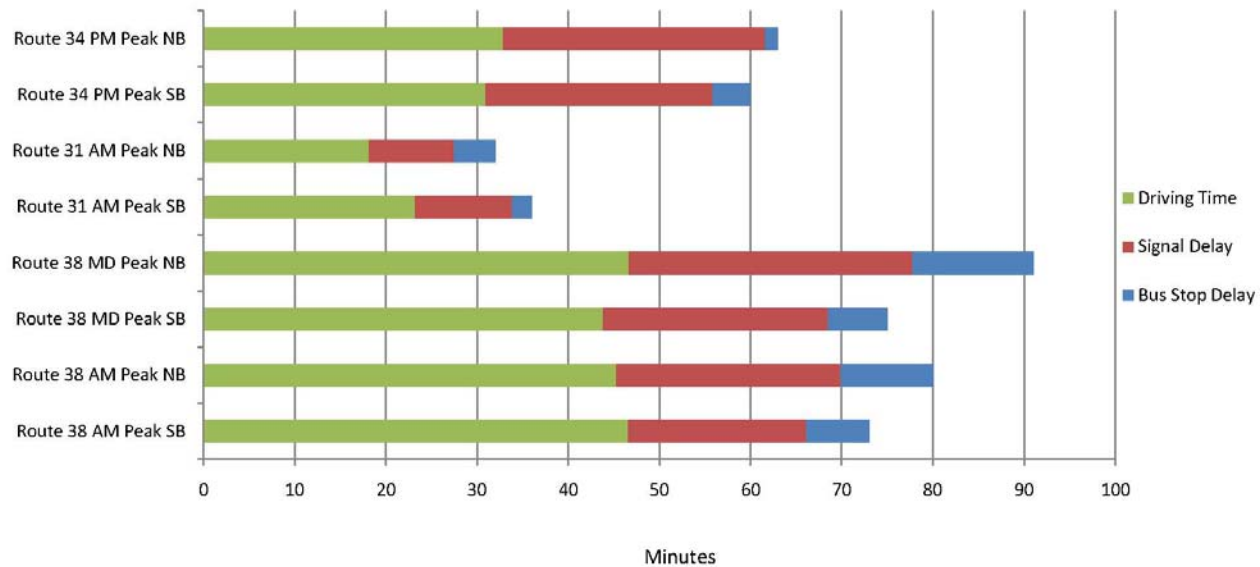
- Nine bus routes on the northern segment of the Busway
- Approximately 27 buses per hour per direction (in the peak hour)
- MDT Ridership Data – 20,000 / day

Table 4. A.M. Peak Hour Headway (Dadeland South)

Route	Northbound Headway (min)	Southbound Headway (min)
1	24	30
31 Busway Local	15	15
34 Busway Flyer	15	15
38 Busway Max	10	15
52	30	30
65	N/A	30
136	30	30
252 Coral Reef Max	15	15
287 Saga Bay Max	30	30

Bus Travel Time Analysis

Busway Travel Times with Delays



	<u>Avg. Travel Time (min)</u>	<u>Avg. Signal Delay (min)</u>	<u>Pct.</u>
Route 34 (Busway Flyer) - limited stop to Florida City	61.5	26.8	43.6%
Route 31 (Busway Local) - to South Dade Government Center	34.0	10.0	29.4%
Route 38 (Busway Max) - to Florida City	79.8	25.0	31.3%

Based on a series of travel time runs conducted aboard Metrobus routes 31, 34, and 38 operating in the South Dade Busway on May 14 and May 15, 2008.



Bus Travel Time Projections

- ➔ Estimated 2030 Weekday Peak Hour
 - Alternative One – 2-lane at-grade
 - 0% - 10% increase *
 - Alternative Two – 4-lane with grade separations at South Link locations
 - 10% - 15% reduction
 - Alternative Three – 4-lane fully elevated facility
 - 25% - 35% reduction

* - May need to be re-evaluated if TSP is initiated before managed lanes



Cost Projections

➔ Design and Construction

- Alternative One – 2-lane at-grade
 - \$22 - \$30 million
- Alternative Two – 4-lane with grade separations at South Link locations
 - \$500 - \$550 million
- Alternative Three – 4-lane fully elevated facility
 - \$1.4 - \$1.5 billion



Revenue Projections

→ Revenues in 2030 Dollars

- Alternative One – 2-lane at-grade
 - Annual revenue - \$11 million
 - Peak direction toll - \$12.75*
- Alternative Two – 4-lane with grade separations at South Link locations
 - Annual revenue - \$22 million
 - Peak direction toll - \$11.25*
- Alternative Three – 4-lane fully elevated facility
 - Annual revenue - \$37 million
 - Peak direction toll - \$12.75*

* *For entire length of managed lanes*

Summary of Alternatives

	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C	Alternative 3
Average Daily Traffic	4,900	12,500	12,500	6,130	24,100
Peak hour, peak-direction capacity	900	1,800	1,800	900	2,940
Construction Cost (2008 \$)	\$23 million	\$496 million	\$531 million	\$196 million	\$1,537 million
Annual Revenue (2030 \$)	\$11.2 million	\$21.8 million	\$21.8 million	\$14.0 million	\$37.2 million
Annualized Const Cost (assuming 30-year term)	\$1.4 million	\$30.3 million	\$32.5 million	\$12.0 million	\$93.4 million
Annual Operational Cost (2008 \$)	\$0.82 million	\$1.5 million	\$1.5 million	\$0.97 million	\$2.3 million
Peak direction toll per mile (2030 \$)	\$0.75	\$0.60	\$0.60	\$0.75	\$0.75
Estimated (2030) daily volume on US 1	143,000	137,200	137,200	141,800	133,000

Policy Decisions

- ➔ Percent of revenue returned to transit
- ➔ System-wide HOV compatibility
- ➔ Duration of bonding
- ➔ Availability of other MDX funds to support project
- ➔ Maintenance of envelope for Metrorail extension





Next Steps

- ➔ Amendment of the LRTP to include the South Dade Managed Lanes as a Need
- ➔ MDX proceed with a more detailed PD&E Study
- ➔ Negotiations between MDX and MDT to determine the level of revenue returned for current and future transit service
- ➔ FDOT and MDT to continue discussions with FHWA and FTA to determine what will be federal position on the potential Busway conversion to managed lanes

Traffic Impacts on US 1

Segment	No-Build	Alternative 1		Alternative 2		Alternative 3	
		Volume	Percent Change	Volume	Percent Change	Volume	Percent Change
#3 - Dadeland South to SW 152 nd Street	143,500 (LOS F)	143,000 (LOS F)	<0.5%	137,200 (LOS F)	4.5%	133,000 (LOS F)	7.5%
#2 - SW 152 nd Street to SW 211 th Street	68,800 (LOS F)	65,000 (LOS F)	5.5%	66,000 (LOS F)	4.0%	63,400 (LOS F)	8.5%
#1 - SW 211 th Street to SW 304 th Street	66,700 (LOS F)	62,400 (LOS F)	6.5%	61,200 (LOS F)	8.0%	60,800 (LOS F)	9.0%

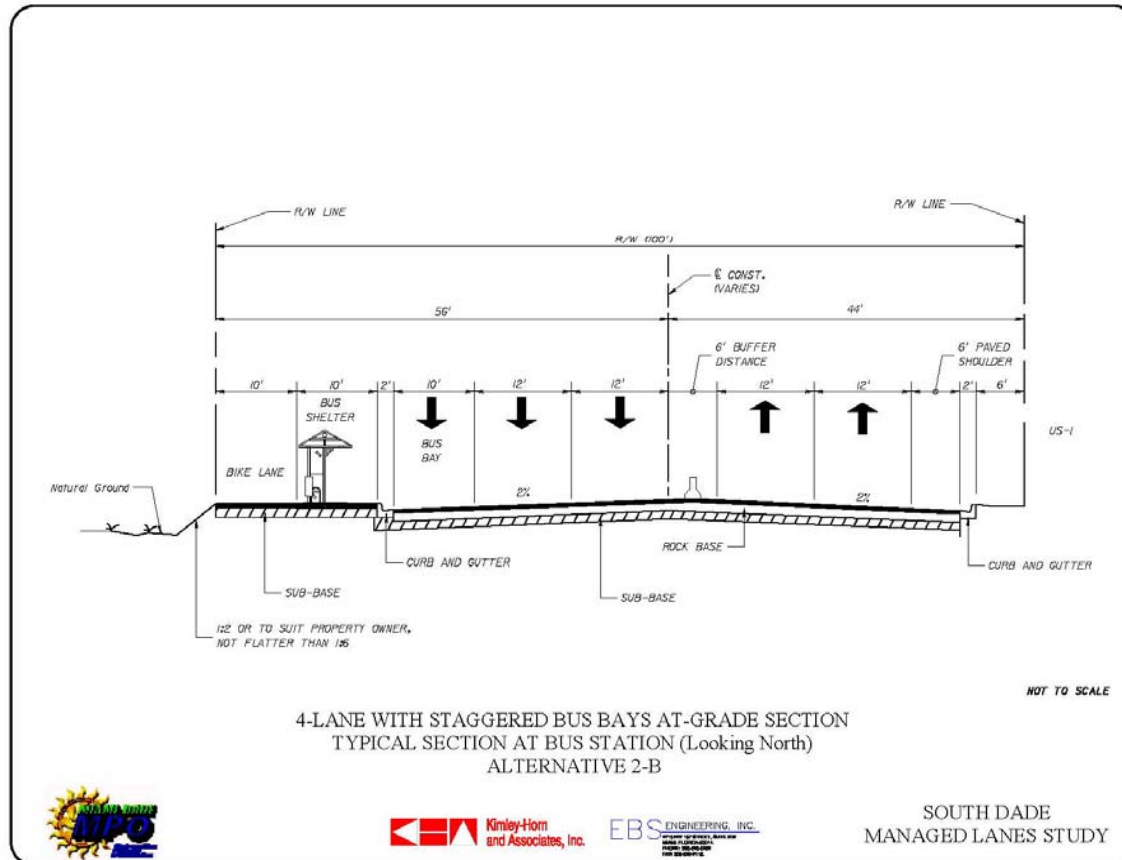
Design and Construction Cost Projections

Alternative	Total Construction Cost (2008 \$)	Construction Cost per Mile
Alternative 1: Two-Lane At-Grade	\$23 million	\$1.3 million
Alternative 2A: Three-Lane Partial Grade Separation	\$496 million	\$28.2 million
Alternative 2B: Four-Lane Partial Grade Separation	\$531 million	\$30.3 million
Alternative 2C: Two-Lane Partial Grade Separation	\$196 million	\$12.0 million
Alternative 3: Four-Lane Elevated	\$1,537 million	\$92.0 million

Study Alternatives

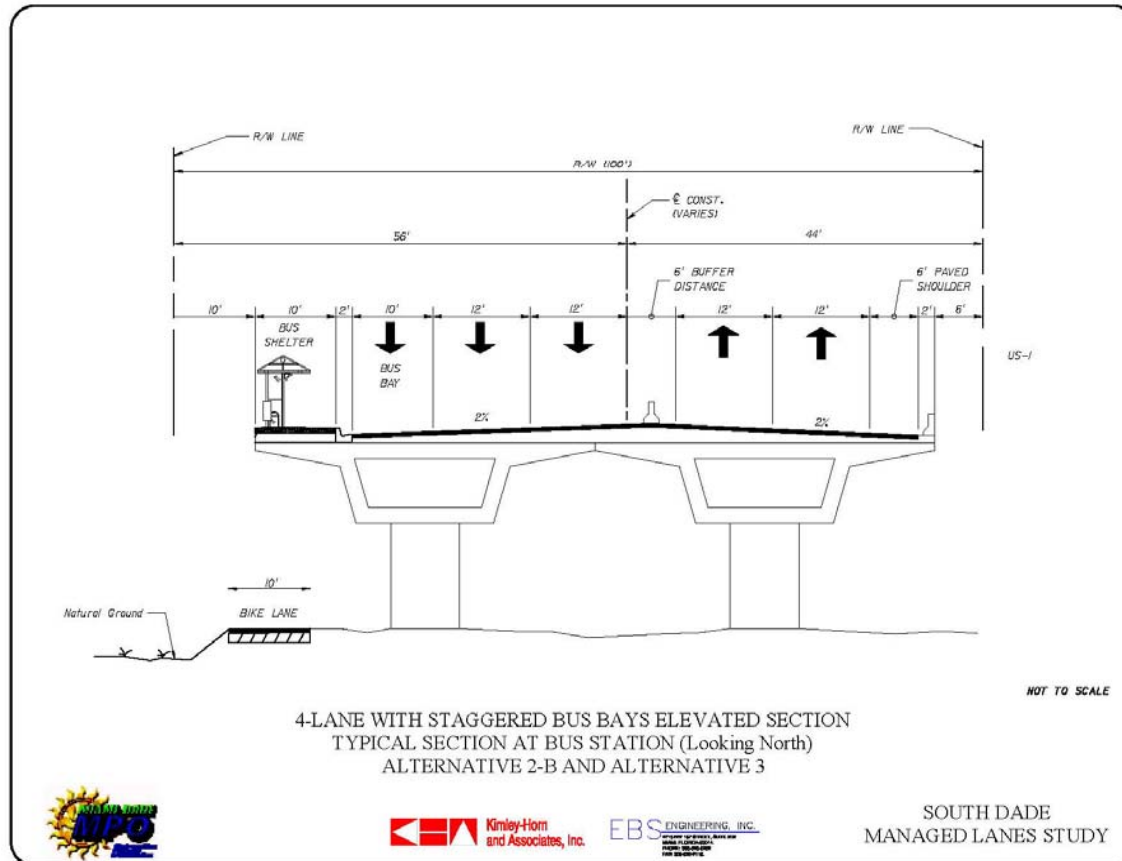
- ➔ Alternative Two – 4-lane with grade separations at South Link locations

At-grade section



Study Alternatives

- Alternative Two – 4-lane with grade separations at South Link locations



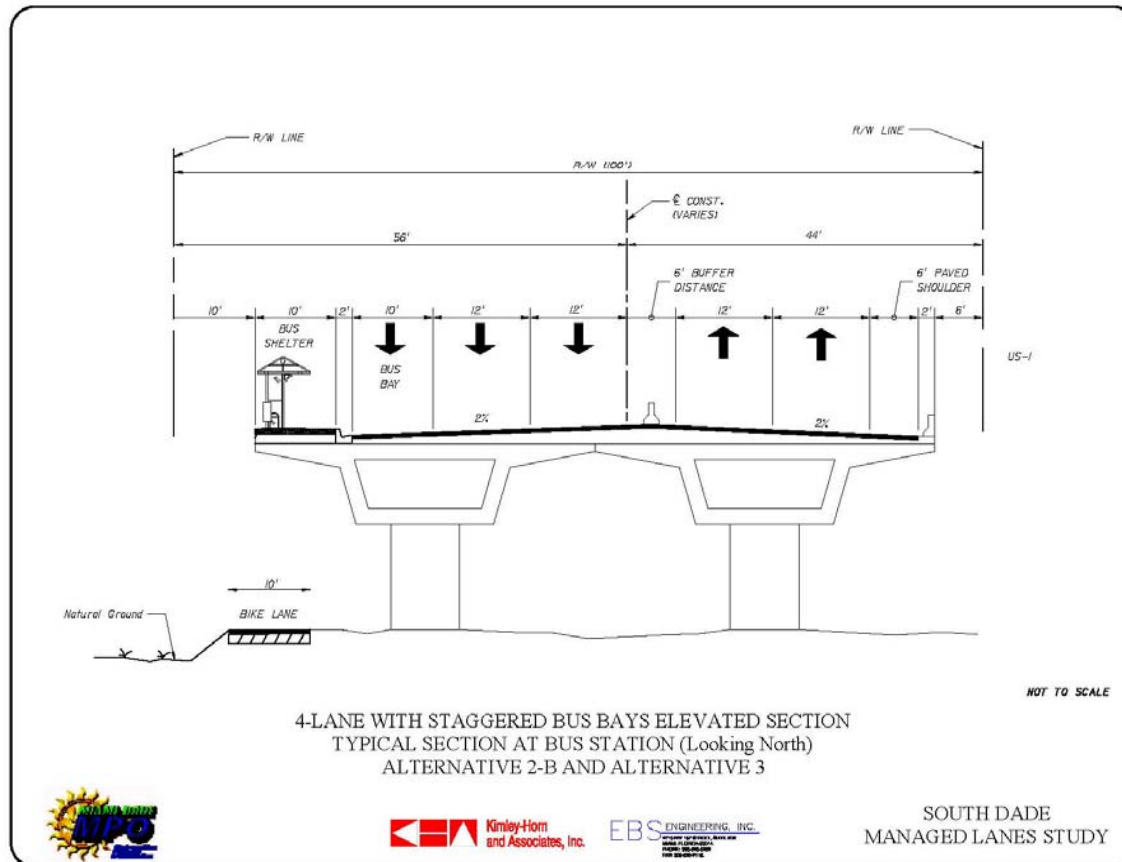
Elevated section

Elevated stations similar to Metromover stations



Study Alternatives

- ➔ Alternative Three – 4-lane fully elevated facility



Elevated stations similar to Metromover stations

