

Step 2 Preliminary Analysis Results

DRAFT 9/29/17

Purpose: Most Competitive Project for Federal and State Grant Dollars

Purpose 3: Serves Tampa Bay today and tomorrow

Results of Outreach (as of 9/29/17)

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Preliminary FTA Rating	Rank in Comparison to Other Alternatives	Score	Return on Investment	Rank in Comparison to Other Alternatives	Score	Feasibility (total score)	Rank in Comparison to Other Alternatives	Score	Community Benefits (Total Score)	Rank in Comparison to Other Alternatives	Score	Total Public Opinion Votes	Rank in Comparison to Other Alternatives	Score	Total Score Based on Rank	RANK	Average FINAL Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	Medium-low	5	4	\$2.37	17	1	18.00	1	4.50	7.50	3	3.75	19	11	1.00	14.25	9	2.85
						BRT in Exclusive Lanes	Medium	3	5	\$5.90	2	5	15	2	3.75	7.5	3	3.75	64	2	3.00	20.50	2	4.1
						Commuter Rail	Medium	2	5	\$3.70	14	2	12	13	3.00	6.5	12	3.25	38	4	2.00	15.25	5	3.05
						LRT	Medium-low	5	4	\$5.77	4	5	14	4	3.50	7.5	3	3.75	126	1	5.00	21.25	1	4.25
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/East Bay Drive	CLW	DTSP	BRT	Medium-low	15	1	\$5.64	5	5	13	7	3.25	5.5	13	2.75	16	12	1.00	13.00	12	2.6
						LRT	Medium-low	15	1	\$5.63	7	5	12	13	3.00	5.5	13	2.75	37	5	2.00	13.75	11	2.75
9	15.56	Westshore to Brandon	Selmon/I-275	Westshore	Brandon	BRT in Exclusive Lanes	Medium-low	11	2	\$5.50	10	5	13	7	3.25	7.5	3	3.75	21	10	1.00	15.00	7	3
						LRT	Medium-low	17	1	\$5.86		5	13	7	3.25	7.5	3	3.75	29	7	2.00	15.00	7	3
						Commuter Rail	Medium-low	14	2	\$3.37	15	2	10	16	2.50	8.5	1	4.25	12	13	1.00	11.75	13	2.35
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	Medium-low	12	2	\$5.33	12	4	13	7	3.25	3	15	1.50	8	14	1.00	11.75	13	2.35
						Elevated Rail	Medium-low	12	2	\$6.27	1	5	9	17	2.25	3	15	1.50	2	15	1.00	11.75	13	2.35
						LRT	Medium-low	9	3	\$5.50	11	5	11	15	2.75	3	15	1.50	33	6	2.00	14.25	9	2.85
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	Medium	1	5	\$5.56	9	5	15	2	3.75	7.5	3	3.75	23	9	1.00	18.50	4	3.7
						Commuter Rail	Medium-low	5	4	\$3.33	16	2	13	7	3.25	8	2	4.00	26	8	2.00	15.25	5	3.05
						LRT	Medium	3	5	\$5.64	6	5	13	7	3.25	7.5	3	3.75	58	3	3.00	20.00	3	4

Note: These are preliminary planning estimates that will continue to be refined throughout the analysis and should not be used for implementation purposes.

Step 2 Analysis Results: FTA Ratings (Preliminary Project Justification)

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Mobility Improvements					Environmental Benefits			Congestion Relief		
							Total non-transit dependent linked trips on proposed project	Total transit dependent persons linked trips on proposed project, with a weight of two given to trips made by transit dependent persons	Total weighted annual linked trips	Rating	Score	Percent of Environmental Benefit as Compared to Cost (\$ value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment scaled by annualized capital and operating cost of the	Rating	Score	New trips resulting from implementation of the proposed project	Rating	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	1583	4754	1,647,620	Low	1	34.6%	High	5	2155	Medium-low	2
						BRT in Exclusive Lanes	4276	10576	3,861,520	Medium-low	2	18.2%	High	5	5646	Medium	3
						Commuter Rail	3255	7914	2,903,940	Medium-low	2	11.5%	High	5	4856	Medium	3
						LRT	5683	12926	4,838,340	Medium-low	2	5.1%	Medium-high	4	8076	Medium	3
						LRT/AP	2765	7258	2,605,980	Medium-low	2	4.1%	Medium	3	3798	Medium	3
						LRT/Ferry	3559	8660	3,176,940	Medium-low	2	5.9%	Medium-high	4	5235	Medium	3
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	1416	3696	1,329,120	Low	1	7.7%	Medium-high	4	1823	Medium-low	2
						LRT	1878	4614	1,687,920	Low	1	3.6%	Medium	3	2632	Medium	3
9	15.56	Westshore to Brandon	Selmon/I-275	Westshore	Brandon	BRT in Exclusive Lanes	1071	2386	898,820	Low	1	6.2%	Medium-high	4	1238	Medium-low	2
						Light Rail	1589	3340	1,281,540	Low	1	3.6%	Medium	3	2032	Medium-low	2
						Commuter Rail	835	1830	692,900	Low	1	3.9%	Medium	3	1070	Medium-low	2
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	1106	3020	1,072,760	Low	1	8.0%	Medium-high	4	1472	Medium-low	2
						Elevated Rail	1823	4346	1,603,940	Low	1	1.5%	Medium	3	2513	Medium	3
						LRT	1838	4434	1,630,720	Low	1	6.0%	Medium-high	4	2539	Medium	3
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	2846	5666	2,213,120	Low	1	16.4%	High	5	2778	Medium	3
						Commuter Rail	2196	4464	1,731,600	Low	1	10.349%	High	5	2621	Medium	3
						LRT	3748	7182	2,841,800	Medium-low	2	10.7%	High	5	4366	Medium	3

Step 2 Analysis Results: FTA Ratings (Preliminary Project Justification)

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Corridor ID Number	Length (miles)	Name	Primary Corridor/ Alignment	From	To	Mode	Cost-Effectiveness					Land-use					Avg. Score	Preliminary FTA Rating	Ranking	Percentile/ Score	
							Annual capital and operating and maintenance cost per trip on the proposed project	Rating	Score	Existing corridor employment within 1/2 mile of proposed project	Sub Rating/ Score	Existing station area population density within 1/2 mile of the proposed project's stations	Sub Rating/ Score	Proportion of legally binding affordable housing within 1/2 of of the proposed project's stations	Sub Rating/ Score	Avg Land Use Score					Rating
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	\$11.09	Medium-low	2	193,826	4	70952.0	5	2.44	4	4.333333333	Medium-high	2.87	Medium-low	5	4
						BRT in Exclusive Lanes	\$17.67	Low	1	193,826	4	70952.0	5	2.44	4	4.333333333	Medium-high	3.07	Medium	3	5
						Commuter Rail	\$35.32	Low	1	193,826	4	23610.6	5	2.75	5	4.666666667	Medium-high	3.13	Medium	2	5
						LRT	\$51.12	Low	1	193,826	4	70952.0	5	2.44	4	4.333333333	Medium-high	2.87	Medium-low	5	4
						LRT/AP	\$65.47	Low	1	193,826	4	70952.0	5	2.44	4	4.333333333	Medium-high	2.67	Medium-low	9	3
						LRT/Ferry	\$53.01	Low	1	193,826	4	70952.0	5	2.44	4	4.333333333	Medium-high	2.87	Medium-low	5	4
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	\$31.03	Low	1	156,271	4	41045.6	5	1.98	1	3.333333333	Medium	2.27	Medium-low	15	1
						LRT	\$69.98	Low	1	156,271	4	41045.6	5	1.98	1	3.333333333	Medium	2.27	Medium-low	15	1
9	15.56	Westshore to Brandon	Selmon/I-275	Westshore	Brandon	BRT in Exclusive Lanes	\$29.72	Low	1	149,432	4	41045.6	5	5.90	5	4.666666667	Medium-high	2.53	Medium-low	11	2
						Light Rail	\$81.42	Low	1	0	1	41045.6	5	5.90	5	3.666666667	Medium	2.13	Medium-low	17	1
						Commuter Rail	\$58.99	Low	1	149,432	4	15725.0	5	7.44	5	4.666666667	Medium-high	2.33	Medium-low	14	2
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	\$19.87	Low	1	92,841	3	48542.7	5	2.83	5	4.333333333	Medium-high	2.47	Medium-low	12	2
						Elevated Rail	\$125.93	Low	1	92,841	3	48542.7	5	2.83	5	4.333333333	Medium-high	2.47	Medium-low	12	2
						LRT	\$31.01	Low	1	92,841	3	48542.7	5	2.83	5	4.333333333	Medium-high	2.67	Medium-low	9	3
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	\$9.56	Medium	3	83,804	3	37193.1	5	4.24	5	4.333333333	Medium-high	3.27	Medium	1	5
						Commuter Rail	\$18.94	Low	1	83,804	3	20252.4	5	7.09	5	4.333333333	Medium-high	2.87	Medium-low	5	4
						LRT	\$17.91	Low	1	83,804	3	37193.1	5	4.24	5	4.333333333	Medium-high	3.07	Medium	3	5

Step 2 Analysis Results: Mobility Improvement

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Total Daily Linked Trips	Daily Linked Trips (Transit Dependent)	New Transit Trips	VMT Savings	Total Raw Score by Technology	Average Score	Average Score by Connection
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	2	2	1	2	7	1.75	3.375
						BRT in Exclusive Lanes	4	4	4	4	16	4	
						Commuter Rail	3	3	3	4	13	3.25	
						LRT	5	5	5	20	5		
						LRT/AP	3	3	2	3	11	2.75	
						LRT/Ferry	3	4	4	3	14	3.5	
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	1	1	1	1	4	1	1.375
						LRT	2	2	2	1	7	1.75	
9	15.56	Westshore to Brandon	Selmon/I-275	Westshore	Brandon	BRT in Exclusive Lanes	1	1	1	1	4	1	1
						Light Rail	1	1	1	1	4	1	
						Commuter Rail	1	1	1	1	4	1	
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	1	1	1	1	4	1	1.5
						Elevated Rail	2	2	2	1	7	1.75	
						LRT	2	2	2	1	7	1.75	
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	2	2	2	1	7	1.75	2.1
						Commuter Rail	2	2	2	1	7	1.75	
						LRT	3	3	3	2	11	2.75	

Rubber Tire Solutions operating in existing tolled express lanes considered to have no impact on natural resources as it is not assumed to need additional ROW

Methodology : Score based on FTA rating. Low = 1 pt, Medium Low = 2pts, Medium = 3pts, Medium-High = 4 pts, High = 5 pts

Raw Data - Mobility

Name	Primary Corridor/Alignment	From	To	Mode	Total Daily Linked Trips (Ridership)	Daily Linked Trips (Transit Dependent)	New Transit Trips	VMT Savings
Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	3960	2377	2155	26035
				BRT in Exclusive Lanes	9564	5288	5646	52905
				Commuter Rail	7212	3957	4856	50158
				LRT	12146	6463	8076	69333
				LRT/AP	6394	3629	3798	33053
				LRT/Ferry	7889	4330	5235	42434
Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	3264	1848	1823	13325
				LRT	4185	2307	2632	17954
Westshore to Brandon	Selmon/I-275	Westshore	Westshore	BRT in Exclusive Lanes	2264	1193	1238	7188
				Light Rail	3259	1670	2032	11522
				Commuter Rail	1750	915	1070	6988
South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	2616	1510	1472	7130
				Elevated Rail	3996	2173	2513	12867
				LRT	4055	2217	2539	12943
Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	5679	2833	2778	15285
				Commuter Rail	4428	2232	2621	14889
				LRT	7339	3591	4366	24157

Step 2 Analysis Results: Cost Effectiveness

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	COST PER MILE		COST RANGE PER ALTERNATIVE			ANNUALIZED CAPITAL COST PER ALT.			OPERATING COSTS		TOTAL ANNUAL COST PER ALT.			COST PER TRIP					
							Minimum Capital Cost Per Mile in Millions (per FTA Database)	Maximum Capital Cost Per Mile in Millions (per FTA Database)	LOW (millions)	HIGH (millions)	AVERAGE	Fleet Cost (millions)	Annualized Capital Cost (LOW/millions)	Annualized Capital Cost (HIGH/millions)	Annualized Capital Cost (AVERAGE/millions)	Operating Cost per Mile (millions)	Total Annual Operating Cost (millions)	Total Annual Project Cost (LOW millions)	Total Annual Project Cost (High millions)	Total Annual Project Cost (AVERAGE millions)	Total Project Cost per Project Trip (LOW Annual)	Total Project Cost per Project Trip (HIGH Annual)	Average Cost Per Trip	Quintile	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	\$1.830	\$3.679	\$74.242	\$149.236	\$111.739	\$24.269	\$3.284	\$5.783	\$4.534	\$0.129	\$5.240	\$8.523	\$14.307	\$11.415	\$8.28	\$ 13.90	\$11.09	5	5
						BRT in Exclusive Lanes	\$5.333	\$43.402	\$216.339	\$1,760.520	\$988.429	\$21.887	\$7.941	\$59.414	\$33.677	\$0.155	\$6.288	\$14.229	\$73.642	\$43.935	\$5.72	\$ 29.62	\$17.67	5	5
						Commuter Rail	\$11.754	\$38.597	\$476.770	\$1,565.646	\$1,021.208	\$96.913	\$19.123	\$55.419	\$37.271	\$0.478	\$19.406	\$38.529	\$93.948	\$66.238	\$20.55	\$ 50.10	\$35.32	4	4
						LRT	\$23.248	\$118.839	\$943.014	\$4,820.539	\$2,881.776	\$59.290	\$33.410	\$162.661	\$98.036	\$0.305	\$12.371	\$45.781	\$208.442	\$127.112	\$18.41	\$ 83.82	\$51.12	4	4
						LRT/AP	\$23.248	\$118.839	\$927.279	\$4,282.664	\$2,604.972	\$53.102	\$32.679	\$144.526	\$88.602	\$0.44	\$17.821	\$50.500	\$195.026	\$122.763	\$26.93	\$ 104.01	\$65.47	3	3
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/East Bay Drive	CLW	DTSP	BRT	\$5.333	\$43.402	\$127.396	\$1,036.722	\$582.059	\$16.654	\$4.802	\$35.113	\$19.957	\$0.166	\$3.976	\$8.778	\$43.890	\$26.334	\$10.34	\$ 51.72	\$31.03	5	5
						LRT	\$23.248	\$118.839	\$555.315	\$2,838.683	\$1,696.999	\$41.594	\$19.897	\$96.009	\$57.953	\$0.345	\$8.247	\$28.144	\$124.154	\$76.149	\$25.87	\$ 114.10	\$69.98	3	3
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	\$5.333	\$43.402	\$82.962	\$675.129	\$379.046	\$11.006	\$3.132	\$22.871	\$13.002	\$0.188	\$2.928	\$6.060	\$28.931	\$17.496	\$10.30	\$ 49.15	\$29.72	5	5
						Light Rail	\$23.248	\$118.839	\$361.630	\$1,848.594	\$1,105.112	\$23.963	\$12.853	\$62.419	\$37.636	\$0.248	\$3.862	\$16.715	\$79.134	\$47.924	\$28.40	\$ 134.43	\$81.42	2	2
						Commuter Rail	\$11.754	\$38.597	\$182.833	\$600.398	\$391.616	\$52.887	\$7.857	\$21.776	\$14.817	\$0.520	\$8.096	\$15.953	\$37.730	\$26.842	\$35.06	\$ 82.92	\$58.99	3	3
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	\$12.055	\$50.123	\$109.818	\$456.619	\$283.219	\$7.333	\$3.905	\$15.465	\$9.685	\$0.206	\$1.880	\$5.785	\$21.250	\$13.518	\$8.51	\$ 31.24	\$19.87	5	5
						Elevated Rail	\$138.086	\$567.148	\$1,257.962	\$5,166.714	\$3,212.338	\$15.445	\$42.447	\$172.739	\$107.593	\$0.22	\$2.017	\$44.464	\$217.203	\$130.833	\$42.80	\$ 209.06	\$125.93	1	1
						LRT	\$29.969	\$125.561	\$273.019	\$1,143.857	\$708.438	\$16.654	\$9.656	\$38.684	\$24.170	\$0.406	\$3.699	\$13.355	\$52.038	\$32.697	\$12.67	\$ 49.36	\$31.01	5	5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	\$12.055	\$50.123	\$115.824	\$481.594	\$298.709	\$6.821	\$4.088	\$16.280	\$10.184	\$0.196	\$1.880	\$5.968	\$22.249	\$14.109	\$4.04	\$ 15.07	\$9.56	5	5
						Commuter Rail	\$18.475	\$45.319	\$177.512	\$435.434	\$306.473	\$27.340	\$6.828	\$15.426	\$11.127	\$0.756	\$7.262	\$14.091	\$29.516	\$21.803	\$12.24	\$ 25.64	\$18.94	5	5
						LRT	\$29.969	\$125.561	\$287.951	\$1,206.419	\$747.185	\$15.490	\$10.115	\$40.730	\$25.423	\$0.385	\$3.699	\$13.814	\$54.544	\$34.179	\$7.24	\$ 28.58	\$17.91	5	5

Rubber Tire Solutions operating in existing tolled express lanes considered to have no impact on natural resources as it is not assumed to need additional ROW

Methodology: Score based on FTA rating. Low = 1 pt, Medium Low = 2pts, Medium = 3pts, Medium-High = 4 pts, High = 5 pts

	# of Projects Evaluated	Average Cost Per Mile (millions)	Min Cost Per Mile (millions)	Max Cost Per Mile (millions)	Notes
Commuter Rail	5	\$22.63	\$11.75	\$38.60	Projects include: Northstar Commuter Line (Minneapolis), Wilsonville to Beaverton (Portland), Weber Co Commuter Rail (Salt Lake City), Redlands Passenger Rail (San Bernardino), and TEX Rail (Fort Worth)
LRT	16	\$73.11	\$23.25	\$118.84	19 completed projects evaluated in the FTA Capital Cost Database
BRT Fixed Guideway	5	\$14.19	\$5.33	\$43.40	Projects include: Euclid Ave BRT (Cleveland) and Airport Busway (Pittsburgh) from the FTA Capital Cost Database; and Madison Street bRT (Seattle), Swift II BRT (Everett), and West End Transitway (Alexandria, VA) from Small Starts PD documents
BRT Lite/Corridor	4	\$2.71	\$1.83	\$3.68	Projects include: Transit Spine BRT (Flagstaff, AZ), First Coast Flyer East Corridor (Jacksonville, FL), FCF BRT Southwest Corridor (Jacksonville, FL), and Montana RTS Corridor (El Paso, TX), from Small Starts PD documentation
Elevated Rail	8	\$321.91	\$131.36	\$560	Heavy Rail assumed. Note: No examples in the FTA database for elevated Commuter Rail
Ferry	1	\$4.35	\$0.9033	\$0.5785	Ocracoke-Hatteras Passenger Ferry Feasibility Study, 2015
Aerial Propelled	5	\$31.50	\$21.00	\$42.00	Aerial cable transtl feasibility study, Miami-Dade MPO 2016

Other notes on methodology
For corridors 1, 44 and 61, average cost per mile is for LRT only.
For corridor 1, total cost is calculated based on 32.66 miles, or total mileage of 40.56 minus bay mileage of 7.9 miles.
*All project costs from the FTA database escalated to \$2017 dollars. All other projects reflect actual project costs.

Useful life assumptions:
BRT Buses 12 years
LRT Vehicles 25 years
CRT Vehicles 25 years
Ferry 25 years

Fleet Estimation Assumptions
1. 10-minute headways are assumed for both Fixed Guideway BRT, as well as Express BRT; 20-minutes headways for Commuter Rail
2. Average travel speed for BRT is based on similar systems in operation, but can vary
3. Average travel speed for Commuter Rail is based on Average travel speed for SunRail (Orlando, FL)
4. Commuter Rail train sets are assumed to be one (1) locomotive and one (1) passenger car
5. Assumes 1.6% inflation rate for vehicle replacements. Columns Y, Z and AA are hard keyed.

Regional Transit Feasibility Plan
Step 2 Analysis Results: Jobs and Population Served within Station Areas

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	# of Affordable Housing Units within 1/2-mile of Hillsborough County Station Areas	Total Housing Units within 1/2-mile of Hillsborough County Station Areas	Ratio A: Affordable Units/Total Units (Station Area)	Ratio B: Affordable/Total (Hillsborough County)	Availability Ratio (Station Area/County) - Hillsborough County	# of Affordable Housing Units within 1/2-mile of Pinellas County Station Areas	Total Housing Units within 1/2-mile of Pinellas County Station Areas	Ratio A: Affordable Units/Total Units (Station Area)	Ratio B: Affordable/Total (Pinellas County)	Availability Ratio (Station Area/County) - Pinellas County	# of Affordable Housing Units within 1/2-mile of Pasco County Station Areas	Total Housing Units within 1/2-mile of Pasco County Station Areas	Ratio A: Affordable Units/Total Units (Station Area)	Ratio B: Affordable/Total (Pasco County)	Availability Ratio (Station Area/County) - Pasco County	Average Availability Ratio (3 county area)	FTA Rating	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	3,180	18,042	0.176	0.039	4.55	3,625	13,221	0.274	0.099	2.763	0	690	0.000	0.016	0	2.438	Medium-High	4
						BRT in Exclusive Lanes	3,180	18,042	0.176	0.039	4.55	3,625	13,221	0.274	0.099	2.763	0	690	0.000	0.016	0	2.438	Medium-High	4
						Commuter Rail	1,304	5,006	0.260	0.039	6.73	725	4,763	0.152	0.099	1.534	0	357	0.000	0.016	0	2.753	High	5
						LRT	3,180	18,042	0.176	0.039	4.55	3,625	13,221	0.274	0.099	2.763	0	690	0.000	0.016	0	2.438	Medium-High	4
						LRT/AP	3,180	18,042	0.176	0.039	4.55	3,625	13,221	0.274	0.099	2.763	0	690	0.000	0.016	0	2.438	Medium-High	4
						LRT/Ferry	3,180	18,042	0.176	0.039	4.55	3,625	13,221	0.274	0.099	2.763	0	690	0.000	0.016	0	2.438	Medium-High	4
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/East Bay Drive	CLW	DTSP	BRT	N/A	N/A	N/A	N/A	N/A	4,055	20,619	0.197	0.099	1.982	N/A	N/A	N/A	N/A	N/A	1.982	Low	1
						LRT	N/A	N/A	N/A	N/A	N/A	4,055	20,619	0.197	0.099	1.982	N/A	N/A	N/A	N/A	N/A	1.982	Low	1
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	2,674	11,703	0.228	0.039	5.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.900	High	5
						Light Rail	2,674	11,703	0.228	0.039	5.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.900	High	5
						Commuter Rail	1,434	4,979	0.288	0.039	7.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.437	High	5
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	2,556	23,298	0.110	0.039	2.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.833	High	5
						Elevated Rail	2,556	23,298	0.110	0.039	2.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.833	High	5
						LRT	2,556	23,298	0.110	0.039	2.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.833	High	5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	2,204	13,429	0.164	0.039	4.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.238	High	5
						Commuter Rail	1,817	6,617	0.275	0.039	7.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.091	High	5
						LRT	2,204	13,429	0.164	0.039	4.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.238	High	5

Methodology: Score based on FTA rating. Low = 1 pt, Medium Low = 2pts, Medium = 3pts, Medium-High = 4 pts, High = 5 pts. Station-specific totals provided below for informational purposes.

Step 2 Analysis Results: Return on Investment

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	STOPS Input: Farebox Recovery	STOPS Input: Annual VMT Reduction (MVT)	STOPS Input: Total Trips (Annual)	STOPS Input: Annual Air Quality Emission Reduction (Kg)	Crash Reduction Cost Benefit (millions)	Annual Farebox Recovery (millions)	Energy Savings Benefit (millions)	Green House Gas Reduction Benefit (millions)	Air Quality Reduction Benefit (millions)	Increase in Revenue (Millions), (Federal, State, and Local Annualized)	Annualized Total Benefit	Annualized Total Cost	Annual ROI	RANK	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	\$1.50	6,769,043	1,029,600	123.81	\$1.456	\$1.544	\$0.880	\$0.137	\$1.472	\$32.944	\$38.434	\$ 11.42	237%	17	1
						BRT in Exclusive Lanes	\$1.50	13,755,319	2,486,640	251.58	\$2.959	\$3.730	\$1.788	\$0.278	\$2.992	\$291.421	\$303.169	\$ 43.94	590%	2	5
						Commuter Rail	\$1.50	13,041,072	1,875,120	238.52	\$2.806	\$2.813	\$1.696	\$0.264	\$2.837	\$301.086	\$311.500	\$ 66.24	370%	14	2
						LRT	\$1.50	18,026,580	3,157,960	157.18	\$1.849	\$4.737	\$2.344	\$0.364	\$1.869	\$849.642	\$860.806	\$ 127.11	577%	4	5
						LRT/Ferry	\$1.50	8,593,780	1,662,440	157.18	\$1.849	\$2.494	\$1.117	\$0.174	\$1.869	\$768.031	\$775.534	\$ 122.76	532%	13	4
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	\$1.50	3,464,594	848,640	63.37	\$0.745	\$1.273	\$0.450	\$0.070	\$0.754	\$171.610	\$174.903	\$ 26.33	564%	5	5
						LRT	\$1.50	4,668,130	1,088,100	85.38	\$1.004	\$1.632	\$0.607	\$0.094	\$1.015	\$500.331	\$504.684	\$ 76.15	563%	7	5
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	\$1.50	1,868,797	588,640	34.18	\$0.402	\$0.883	\$0.243	\$0.038	\$0.406	\$111.755	\$113.727	\$ 17.50	550%	10	5
						LRT	\$1.50	2,995,720	847,340	54.79	\$0.645	\$1.271	\$0.389	\$0.061	\$0.652	\$325.823	\$328.840	\$ 47.92	586%	3	5
						Commuter Rail	\$1.50	1,816,797	455,000	33.23	\$0.391	\$0.683	\$0.236	\$0.037	\$0.395	\$115.461	\$117.203	\$ 26.84	337%	15	2
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	\$1.50	1,853,725	680,160	33.90	\$0.399	\$1.020	\$0.241	\$0.037	\$0.403	\$83.502	\$85.603	\$ 13.52	533%	12	4
						Elevated Rail	\$1.50	3,345,522	1,038,960	61.19	\$0.720	\$1.558	\$0.435	\$0.068	\$0.728	\$947.103	\$950.611	\$ 130.83	627%	1	5
						LRT	\$1.50	3,365,116	1,054,300	61.55	\$0.724	\$1.581	\$0.438	\$0.068	\$0.732	\$208.871	\$212.414	\$ 32.70	550%	11	5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	\$1.50	3,974,043	1,476,540	72.69	\$0.855	\$2.215	\$0.517	\$0.080	\$0.864	\$88.069	\$92.600	\$ 14.11	556%	9	5
						Commuter Rail	\$1.50	3,871,174	1,151,280	70.80	\$0.833	\$1.727	\$0.503	\$0.078	\$0.842	\$90.358	\$94.342	\$ 21.80	333%	16	2
						LRT	\$1.50	6,280,884	1,908,140	114.88	\$1.351	\$2.862	\$0.817	\$0.127	\$1.366	\$220.295	\$226.818	\$ 34.18	564%	6	5

Methodology : Score based on FTA rating. Low = 1 pt, Medium Low = 2pts, Medium = 3pts, Medium-High = 4 pts, High = 5 pts

Measure	Savings Amount	Unit
Crash Reduction Cost Benefit	Calculation - inputs below	
GHG Emission Reduction Benefit ¹	\$38.00	Metric Ton
Gas Cost Per Mile ²	\$2.30	per Mile
Average Fuel Consumption ³	25.3	miles/gallon
Automobile	0.007559	million BTU/VMT
Energy Use Factor - Bus, Diesel	0.041436	million BTU/VMT
Energy Use Factor - Hybrid	0.033149	million BTU/VMT
Energy Use Factor - Commuter Rail	0.096138	million BTU/VMT
Energy Savings Monetization Factor ⁴	\$1.72	per 1M BTU (for gas)

¹ Source: https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf

² Source: <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/110907/103159.pdf?sequence=1&isAllowed=y>

³ Source: https://www.transportation.gov/sites/dot.dev/files/docs/vot_guidance_092811c.pdf. Reported VTTS from 2011.

⁴ Source: Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program, June 2016

Crash Info	Measure	Unit
% Fatal Crashes	0.74%	Percent
% Injury Crashes	41.95%	Percent
% Property Damage Crashes	57.31%	Percent
Cost per Fatal Crash	\$10,082,000	Dollars
Cost per Injury Crash	\$11,030	Dollars
Cost per Property Damage Only Crash	\$466	Dollars
Generalized Crash Rate	1.81	Crashes/MVMT

Source: FIRES 2016 Data (<https://firesportal.com/Pages/Public/QuickStats.aspx>), 2017

Source: National Safety Council, "Estimating the Costs of Unintentional Injuries", 2015. Used Average Comprehensive Costs

Source: Florida General Interest Highway Statistics Source Book (2016) and FIRES website. 2015 data used.

Jobs Info	Measure	Unit
Jobs Created per \$1B Investment	50,731	Jobs
Tax Revenue per \$1B Investment	\$295	\$ Millions

Source: "Economic Impact of Public Transportation Spending, 2014 Update" APTA, Page 42 Exhibit 4-6, Tax revenue per billion in capital

Calculations:

Crash Reduction Benefit = Annual VMT Reduction X Crash Rate X (% Fatal Crashes * Cost/crash + % Injury Crash * Cost/Crash + % Property Crashes*Cost/Crash)

Transit Availability Benefit = (Average trip length * gas cost/mile* Total Trips) - (Average Fare * Total Trips)

Congestion Savings Benefit = Annual Travel Time Savings * (% trip HBW * VTTS Business + % trips HBO * VTTS Personal + % all other trips*VTTS Other)

GHG Reduction Benefit = GHG Reduction * GHG Reduction Benefit

Jobs/Tax Revenue Benefit = Capital Cost Investment (in Billions)*Tax Revenue per \$1B investment

Step 2 Analysis Results: Feasibility

DRAFT 7: 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Utility Conflicts Per Mile	Rank (Most Number of Utilities Present Per Mile)	Score	Noise Sensitive Receptors (Weighted by FTA Category/per mile)	Rank (Most Number of Noise Receptors Present Per Mile)	Score	Natural Resources Present (percent of connection centerline miles where natural resources are present)	Rank (Greatest percentage of natural resources)	Score	Cultural Resources Present (Number of cultural resources present per centerline mile)	Rank (Most Number of Cultural Resources Present Per Mile)	Score	Total Score	Avg Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	0.91	5	5	32.76	10	3	26.21%	1	5	78.10	4	5	18.00	4.50
						BRT in Exclusive Lanes		5	5	11.33	16	5		1	1		4	4	15.00	3.75
						Commuter Rail		5	5	51.59	5	2		1	1		4	4	12.00	3.00
						LRT		5	5	22.94	11	4		1	1		4	4	14.00	3.50
						LRT/AP		5	5	22.94	11	4		1	1		4	4	14.00	3.50
						LRT/Ferry		5	5	22.94	11	4		1	1		4	4	14.00	3.50
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	1.21	4	2	51.26	6	2	10.43%	4	4	35.42	5	5	13.00	3.25
						LRT		4	2	61.77	3	1		4	4		5	5	12.00	3.00
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon		BRT in Exclusive Lanes	1.67	3	3	5.75	17	5	16.66%	3	3	118.74	2	2	13.00	3.25
						Light Rail		3	3	13.53	15	5		3	3		2	2	13.00	3.25
						Commuter Rail		3	3	48.79	7	2		3	3		2	2	10.00	2.50
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	3.18	1	5	20.64	14	5	20.11%	2	2	126.89	1	1	13.00	3.25
						Elevated Rail		1	5	75.63	2	1		2	2		1	1	9.00	2.25
						LRT		1	5	35.89	9	3		2	2		1	1	11.00	2.75
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	2.19	2	4	41.84	8	3	8.78%	5	5	85.97	3	3	15.00	3.75
						Commuter Rail		2	4	108.81	1	1		5	5		3	3	13.00	3.25
						LRT		2	4	59.64	4	1		5	5		3	3	13.00	3.25

Step 2 Analysis Results:

Utilities

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Bright House Networks - East Pasco (Fiber, Cable)	Bright House Networks, LLC (Cable/Cable TV)	Bright House Networks - South Pinellas (Cable/Telephone/Fiber)	Bright House Networks Tampa Bay (CATV)	Frontier Communications (Cable/Fiber/Phone)	Level 3 Communications (Fiber Optic)	Pasco County Traffic Operations Division (Traffic Control/Street Lights)	Pasco County Utilities (Reclaimed Water)	Teco People's Gas - Tampa (Gas)	Teco People's Gas - St. Petersburg (Gas)	City of Tampa Water (Water)
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP	x	x	x		x	x	x	x	x	x	x
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/ East Bay Drive	CLW	DTSP			x	x	x	x				x	
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore		x			x	x			x		x
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA		x			x	x			x		x
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF		x			x	x			x		x

Methodology: Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results:

Utilities

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	City of Tampa Sewer (Sewer)	Tampa Electric Company (Electric)	TECO Fiber (Fiber)	Withlacoochee River Elec. Cooperative (Electric)	Fiberlight LLC. (Fiber Optic)	American Traffic Solutions (Communications/Electric.)	ATT (Communications/ Fiber Optic)	Fla. Gas Trans.- Safety (Gas Pipeline)	Fibernet Direct (Fiber)	Hillsborough County Water Resources Services (Water)	MCI (Communications/Fiber Optic)
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP	x	x	x	x	x	x	x	x	x	x	x
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/ East Bay Drive	CLW	DTSP					x		x		x		x
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	x	x	x		x		x	x	x	x	x
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	x	x	x		x	x	x		x		x
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	x	x	x		x		x		x		x

Methodology : Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results: Utilities

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Corridor ID Number	Length (miles)	Name	Primary Corridor/ Alignment	From	To	Crown Castle NG (Fiber)	C/O Tampa Transport (Traff. Sign/Sig. Infrastr)	Tampa Pipeline Corporation (Jeta Pipeline)	XO Communications - Tampa (Fiber Optic)	City of Pinellas Park (Water, Sewer & Reclaim Lines, Drainage)	Fla. Gas Trans.- Safety (Gas Pipeline)	Duke Energy - St. Petersburg (Electric)	Duke Energy Florida LLC (Gas)	Duke Energy (Electric)	Duke Energy (Fiber)	Knology Broadband of FI, DBA Wide Open West-WOW (Fiber Optic)
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP	x	x	x	x		x	x	x	x	x	x
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	x					x	x	x	x	x	x
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore		x	x	x							
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA		x	x	x		x					
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	x	x		x							

Methodology : Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results: Utilities

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Pinellas County Utilities (Sewer Lines/Water)	Pinellas County Hwy/Eng (Fiber Optic, Conduit, Signal Cable)	Pinellas County Utilities-Sewer (Sewer Lines)	City of St. Petersburg ICS Department (Fiber Optic/Copper/Electric/Traffic)	City of St. Petersburg (Water/Sewer/Reclaimed Water/Storm Water)	Kinder Morgan/Central Florida Pipeline (Gas Pipeline)	Hillsborough County Sheriff's Office (Fiber)	Hillsborough County Clerk of Circuit Court	Hillsborough County Aviation (Unknown)	Hillsborough County ITS (Fiber/Telephone)	Hillsborough County Traffic Service Unit (Comm/F.O., Street Lights/Traffic Signals, Traff
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP		x	x	x	x						x
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/East Bay Drive	CLW	DTSP	x	x	x	x	x						
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore						x	x	x	x		x
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA							x	x		x	x
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF							x	x			

Methodology : Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results:

Utilities

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Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Century Link, Formerly Qwest Communications (Fiber Optic)	Tampa Hillsborough Expressway Authority (Cable TV/Electric/Fiber)	Sprint (Fiber Optic)	Tampa Bay Water (Water/Sewer)	Windstream Communications (Comm/F.O.)	All Childrens Hospital (Fiber Telecommunications)	City of Clearwater Traffic Operations Division (Fiber, Traffic Control/Street Lights)	City of Largo (Reclaimed Water, Sanitary Sewer)	Clearwater Gas System (Gas)	City of Clearwater W/S/Drng. (Water/Sewer/Drainage)	City of Pinellas Park (Water/Sewer/Drainage / Reclaimed Lines)
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP											x
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/ East Bay Drive	CLW	DTSP					x	x	x	x	x	x	x
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	x	x	x	x							
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	x	x	x		x						
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	x		x								

Methodology: Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results: Utilities

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Corridor ID Number	Length (miles)	Name	Primary Corridor/ Alignment	From	To	Church of Scientology - Flag Service Org. (Fiber Optic)	Deltacom (Fiber Optic)	Hotwire Communications (Fiber/Telephone/CATV/Coax)	Tower Cloud Inc. (Fiber)	Tampa Port Authority (Fiber/Telephone/Water/Sewer/Electric)	Raw Total	Per mile	Percentile	Score
1	40.56	Wesley Chapel, USF, Tampa, St.	I-275	SR 54/56	DTSP						37	0.912149511	5	1
3	23.89	Clearwater, Gateway, St.	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	x					29	1.21406212	4	2
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore						26	1.671443874	3	3
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA		x	x	x	x	29	3.183315038	1	5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF		x			x	21	2.185619265	2	4

Methodology: Each utility=1 point. Raw Total = # of utilities within buffer. Based on range of raw total counts, break range into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points.

Step 2 Analysis Results: Potential Noise Impacts

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Screening Distance (feet)	FTA Activity Category 1: Number of Noise-Sensitive Uses (Parcels)	FTA Activity Category 2: Number of Noise-Sensitive Uses (Parcels)	FTA Activity Category 3: Number of Noise-Sensitive Uses (Parcels)	Weighted Number of Sensitive Recievers	Weighted Number of Recivers Per Mile	Quintile	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	500	1	712	259	1329.00	32.76	3	3
						BRT in Exclusive Lanes	200	1	253	78	459.50	11.33	1	5
						Commuter Rail	750	3	1041	525	2092.50	51.59	4	2
						LRT	350	1	503	174	930.50	22.94	2	4
						LRT/AP	350	1	503	174	930.50	22.94	2	4
						LRT/Ferry	350	1	503	174	930.50	22.94	2	4
3	23.89	Pinellas AAA LRT	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	200	1	709	159	1224.50	51.26	4	2
						LRT	350	1	843	209	1475.50	61.77	5	1
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	200	0	35	37	89.50	5.75	1	5
						LRT	350	0	99	62	210.50	13.53	1	5
						Commuter Rail	750	1	386	178	759.00	48.79	4	2
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	200	0	94	47	188.00	20.64	1	5
						Elevated Rail	700	0	374	128	689.00	75.63	5	1
						LRT	350	0	176	63	327.00	35.89	3	3
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	200	0	236	48	402.00	41.84	3	3
						Commuter Rail	750	1	577	178	1045.50	108.81	5	1
						LRT	350	0	322	90	573.00	59.64	5	1

Methodology: Number of noise-sensitive parcels present within each screening buffer were summed. Screening distances per FTA guidance. A weighted count of parcels is completed by double counting Cat 1 receivers (at a factor of 2), and Cat 2 receivers at a factor 1.5; raw totals are used for Cat 3. The weighted number of receivers for each alignment/mode pairing is divided into quintiles to assign scoring. Top 20% (most impacts) = 1point, Lowest 20% (Least Impacts) = 5 points.

Step 2 Analysis Results: Potential Natural Resources Impacts

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Centerline Miles Impacted by Floodplains	Centerline Miles Impacted by Wetlands	Centerline Miles Impacted by T&E Habitats/ Consultation Areas	Centerline Miles Impacted by Section 4(f) Resources	Total Centerline Miles Impacted by Natural Resources	Percent of Alternative	Quintile	Score	Score by Mode Type**
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	7.31	3.39	0.07	4.11	10.63	26.21%	5	1	5
						BRT in Exclusive Lanes									1
						Commuter Rail									1
						LRT									5
						LRT/AP									1
						LRT/Ferry									1
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	2.29	0.34	0.00	0.00	2.49	10.43%	2	4	4
						LRT									4
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	2.48	0.46	0.00	0.00	2.59	16.66%	3	3	3
						LRT									3
						Commuter Rail									3
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	1.75	0.17	0.00	0.04	1.83	20.11%	4	2	2
						Elevated Rail									2
						LRT									2
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	0.18	0.22	0.00	0.55	0.84	8.78%	1	5	5
						Commuter Rail									5
						LRT									5

Methodology: Based on total centerline miles impacted by various resource types, break into quintiles and assign scoring by quintile. Top 20% (most impacts) = 1 point, Lowest 20% (least impacts) = 5 points. Total lane miles may not be the sum of the individual resource types as they may overlap; lane miles for individual resource types provided for informational purposes only.

**Analysis assumes 1 additional lane needed in each direction for BRT in exclusive lanes, LRT, commuter rail. Assumes that BRT in Express Lanes will be implemented in existing lanes and therefore have no impacts - these alternatives receive scores of "5" regardless of presence of natural resources.

Step 2 Analysis Results: Potential Cultural Resource Impacts

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Number of Community Resources (non-Section 4(f) parcels within 1/4-mile)	Number of NRHP listed or NRHP-eligible resources within 1/4-mile	Number other Historic and Archaeologically Significant resources within 1/4-mile	Mode	Total Cultural Resources parcels within 1/4-mile	Total Cultural Resources Per Mile	Quintile	Raw Score	Score by Mode
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	139	12	3017	BRT in Express Lanes	3168.00	78.10	2	4	5
									BRT in Exclusive Lanes					4
									Commuter Rail					4
									LRT					4
									LRT/AP					4
									LRT/Ferry					4
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	30	12	804	BRT	846.00	35.42	1	5	5
									LRT					5
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	84	5	1758	BRT in Exclusive Lanes	1847.00	118.74	4	2	2
									LRT					2
									Commuter Rail					2
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	63	16	1077	BRT in Exclusive Lanes	1156.00	126.89	5	1	1
									Elevated Rail					1
									LRT					1
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	95	9	722	BRT in Exclusive Lanes	826.00	85.97	3	3	3
									Commuter Rail					3
									LRT					3

Rubber Tire Solutions operating in existing tolled express lanes considered to have no impact on natural resources as it is not assumed to need additional ROW

Methodology (Cultural Resources): Counts based on parcels impacted within prescribed buffers. Parcel totals for each cultural resource type are summed and then placed into quintiles to establish scoring. Top 20% (most impacts) = 1point, Lowest 20% (Least Impacts) = 5 points

Step 2 Analysis Results: Serves Tampa Bay

DRAFT 7: 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	2040 Employment within 1/2-mile of Corridor	2040 Population Density within 1/2-mile of Station Areas (persons/sqmi)	Score	% Stations Serving Environmental Justice Populations	Rank (Most Number of Noise Receptors Present Per Mile)	Score	Total Score	Avg. Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	266,412	7,110	3.50	80.95%	9	4	7.50	3.75
						BRT in Exclusive Lanes		7,110	3.50	80.95%	9	4	7.5	3.75
						Commuter Rail		7,500	3.50	75.00%	14	3	6.5	3.25
						LRT		7,110	3.50	80.95%	9	4	7.5	3.75
						LRT/AP		7,110	3.50	80.95%	9	4	7.5	3.75
						LRT/Ferry		7,110	3.50	80.95%	9	4	7.5	3.75
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	172,595	4,038	1.50	87.50%	7	4	5.5	2.75
						LRT		4,038	1.50	87.50%	7	4	5.5	2.75
9	15.56	Westshore to Brandon	Selmon/I-275	Westshore	Brandon	BRT in Exclusive Lanes	230,448	5,384	2.50	100.00%	1	5	7.5	3.75
						Light Rail		5,384	2.50	100.00%	1	5	7.5	3.75
						Commuter Rail		8,934	3.50	100.00%	1	5	8.5	4.25
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	128,958	9,430	2.00	54.55%	15	1	3	1.5
						Elevated Rail		9,430	2.00	54.55%	15	1	3	1.5
						LRT		9,430	2.00	54.55%	15	1	3	1.5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	137,011	10,794	2.50	100.00%	1	5	7.5	3.75
						Commuter Rail		14,102	3.00	100.00%	1	5	8	4
						LRT		10,794	2.50	100.00%	1	5	7.5	3.75

Step 2 Analysis Results: Jobs and Population Served within Station Areas

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/ Alignment	From	To	Mode	Number of stations	2017 Employment within 1/2-mile of Corridor	Quintile	2040 Employment within 1/2-mile of Corridor	Quintile	Sub Score	2017 Population within 1/2-mile of Corridor	2017 Population Density within 1/2-mile of Station Areas (persons/sqmi)	Quintile	2040 Population within 1/2-mile of Corridor	2040 Population Density within 1/2-mile of Station Areas (persons/sqmi)	Quintile	Sub Score (see reference)	Total Score	Avg Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	21	193,826	5	266,412	5	5	70,952	4,304	2	117,208	7,110	2	2	7.0	3.5
						BRT in Exclusive Lanes	21		5		5	70,952	4,304	2	117,208	7,110	2	2	7.0	3.5	
						Commuter Rail	8		5		5	23,611	3,760	1	47,101	7,500	2	2	7.0	3.5	
						LRT	21		5		5	70,952	4,304	2	117,208	7,110	2	2	7.0	3.5	
						LRT/AP	21		5		5	70,952	4,304	2	117,208	7,110	2	2	7.0	3.5	
						LRT/Ferry	21	5	5	70,952	4,304	2	117,208	7,110	2	2	7.0	3.5			
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	16	156,271	4	172,595	2	2	41,046	3,268	1	50,715	4,038	1	1	3.0	1.5
						LRT	16		4		2	41,046	3,268	1	50,715	4,038	1	1	3.0	1.5	
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	12	149,432	3	230,448	4	4	41,046	4,357	2	50,715	5,384	1	1	5.0	2.5
						LRT	12		3		4	41,046	4,357	2	50,715	5,384	1	1	5.0	2.5	
						Commuter Rail	5		3		4	15,725	4,006	2	35,067	8,934	3	3	7.0	3.5	
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	11	92,841	1	128,958	1	1	48,543	5,622	4	81,424	9,430	3	3	4.0	2.0
						Elevated Rail	11		1		1	48,543	5,622	4	81,424	9,430	3	3	4.0	2.0	
						LRT	11		1		1	48,543	5,622	4	81,424	9,430	3	3	4.0	2.0	
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	8	83,804	1	137,011	1	1	37,193	5,922	5	67,789	10,794	4	4	5.0	2.5
						Commuter Rail	4		1		1	20,252	6,450	5	44,282	14,102	5	5	6.0	3.0	
						LRT	8		1		1	37,193	5,922	5	67,789	10,794	4	4	5.0	2.5	

Methodology : Score based on FTA rating. Low = 1 pt, Medium Low = 2pts, Medium = 3pts, Medium-High = 4 pts, High = 5 pts. Station-specific totals provided below for informational purposes.

Step 2 Analysis Results: Environmental Justice Areas Served

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Number of Stations	% Stations Serving Larger than Average Elderly Populations	% Stations Serving Larger Than Average Low Income Populations	% Stations Serving Larger Than Average Minority Populations	% Stations Serving Environmental Justice Populations	Quintile (% of Station Serving EJ Populations)	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	21	23.81%	47.62%	71.43%	81.0%	4	4
						BRT in Exclusive Lanes	21	23.81%	47.62%	71.43%	81.0%	4	4
						Commuter Rail	8	37.50%	37.50%	62.50%	75.0%	3	3
						LRT	21	23.81%	47.62%	66.67%	81.0%	4	4
						LRT/AP	21	23.81%	47.62%	66.67%	81.0%	4	4
						LRT/Ferry	21	23.81%	47.62%	66.67%	81.0%	4	4
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	16	68.75%	31.25%	37.50%	87.5%	4	4
						LRT	16	68.75%	31.25%	37.50%	87.5%	4	4
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	12	8.33%	50.00%	100.00%	100.0%	5	5
						LRT	12	8.33%	50.00%	100.00%	100.0%	5	5
						Commuter Rail	5	20.00%	60.00%	100.00%	100.0%	5	5
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	11	18.18%	18.18%	36.36%	54.5%	1	1
						Elevated Rail	11	18.18%	18.18%	36.36%	54.5%	1	1
						LRT	11	18.18%	18.18%	36.36%	54.5%	1	1
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	8	12.50%	37.50%	100.00%	100.0%	5	5
						Commuter Rail	4	25.00%	50.00%	100.00%	100.0%	5	5
						LRT	8	12.50%	37.50%	100.00%	100.0%	5	5

Rubber Tire Solutions operating in existing tolled express lanes considered to have no impact on natural resources as it is not assumed to need additional ROW

Methodology (EJ): For each station area (1/2 mile buffer) the percentage of the population that is elderly, low income, or minority is noted below. If the population within the station area meets EJ criteria (listed below) that cell is highlighted below. Scoring based on the percentage of stations that meet EJ criteria in one or more of the three EJ categories analyzed. Top 20% (greatest percentage of station areas meeting EJ criteria) = 5 points, Lowest 20% (least percentage of station areas meeting EJ criteria) = 1 point. *EJ populations identified based on Census definition: Significant Minority/Elderly Populations = block groups w/population percentage higher than 3-county average. Significant Low Income Populations = % HH in block group below poverty line > % HH in 3 County Area below poverty line. % HH in block group below poverty line is defined by USHHD criteria for a 3-person HH <https://aspe.hhs.gov/poverty-guidelines>.

Step 2 Analysis Results: Cost Effectiveness

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Mode	Pasco County Workshop				Hillsborough County Workshop				Pinellas County Workshop				Total Vote	Quintile	Score
							Number of Votes Based on Preference/Priority			Subtotal	Number of Votes Based on Preference/Priority			Subtotal	Number of Votes Based on Preference/Priority			Subtotal			
							1st	2nd	3rd		1st	2nd	3rd		1st	2nd	3rd				
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg	I-275	SR 54/56	DTSP	BRT in Express Lanes	1	0	2	5	0	0	3	3	2	1	3	11	19	5	1
						BRT in Exclusive Lanes	4	1	3	17	3	4	2	19	4	6	4	28	64	3	3
						Commuter Rail	2	2	1	11	5	1	1	18	1	2	2	9	38	4	2
						LRT	1	3	2	11	12	7	8	58	17	3	0	57	126	1	5
						LRT/AP	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1
						LRT/Ferry	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1
3	23.89	Clearwater, Gateway, St. Petersburg	I-275/Ulmerton/ East Bay Drive	CLW	DTSP	BRT	0	0	0	0	0	0	1	1	0	5	5	15	16	5	1
						LRT	0	0	0	0	0	0	2	2	3	8	10	35	37	4	2
9	15.56	Westshore to Brandon	Selmon/I-275	Brandon	Westshore	BRT in Exclusive Lanes	0	0	1	1	5	0	3	18	0	0	2	2	21	5	1
						Light Rail	0	2	1	5	1	8	3	22	0	0	2	2	29	4	2
						Commuter Rail	0	2	1	5	1	1	1	6	0	0	1	1	12	5	1
49	9.11	South Tampa to Downtown Tampa	CSX/Selmon	Port Tampa	DTPA	BRT in Exclusive Lanes	0	0	0	0	1	1	2	7	0	0	1	1	8	5	1
						Elevated Rail	0	0	0	0	0	1	0	2	0	0	0	0	2	5	1
						LRT	1	1	1	6	1	9	6	27	0	0	0	0	33	4	2
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	BRT in Exclusive Lanes	0	0	0	0	1	4	5	16	1	2	0	7	23	5	1
						Commuter Rail	3	1	1	12	3	2	1	14	0	0	0	0	26	4	2
						LRT	1	1	0	5	12	3	3	45	0	4	0	8	58	3	3
Total Votes							13	13	13		45	41	41		28	31	30				

Methodology : Public vote of a number 1 priority receives a score of 3, 2nd priority receives 2 pnts, and 3rd priority receives 1 pnt

Step 2 Analysis Results: Parking Availability and Cost

DRAFT 8/14/17

Corridor ID Number	Length (miles)	Name	Primary Corridor/Alignment	From	To	Greatest Daily Parking Cost in USF Activity Center =	Greatest Daily Parking Cost in Gateway Activity Center =	Greatest Daily Parking Cost in Westshore Activity Center =	Greatest Daily Parking Cost in Tampa Activity Center =	Greatest Parking Daily Cost in Ybor Activity Center =	Greatest Parking Daily Cost in Clearwater Activity Center =	Greatest Daily Parking Cost in St. Pete Activity Center =	Average Greatest Parking Cost Per Day	Parking Spaces/Employee in USF Activity Center =	Parking Spaces/Employee in Gateway Activity Center =	Parking Spaces/Employee in Westshore Activity Center =	Parking Spaces/Employee in Tampa Activity Center =	Parking Spaces/Employee in Ybor Activity Center =	Parking Spaces/Employee in Clearwater Activity Center =	Parking Spaces/Employee in St. Pete Activity Center =	Average Parking Spaces/Employee in Activity Centers Served	FTA Rating	Score
1	40.56	Wesley Chapel, USF, Tampa, St. Petersburg, Clearwater, Gateway, St. Petersburg	I-275	SR 54/56	DTSP	N/A	\$ -	\$ -	\$ 9.50	N/A	N/A	\$ 7.00	\$ 4.13	N/A	1	1	0.138	N/A	N/A	0.215	0.588	Low	1
3	23.89	Westshore to Brandon	I-275/Ulmerton/East Bay Drive	CLW	DTSP	N/A	\$ -	N/A	N/A	N/A	\$ 5.00	\$ 7.00	\$ 4.00	N/A	1	N/A	N/A	N/A	0.085	0.215	0.433	Medium-low	2
9	15.56	South Tampa to Downtown Tampa	Selmon/I-275	Brandon	Westshore	N/A	N/A	\$ -	\$ 9.50	\$ 8.00	N/A	N/A	\$ 5.83	N/A	N/A	1	0.138	0.282	N/A	N/A	0.473	Low-Medium	2
49	9.11	Downtown Tampa to USF	CSX/Selmon	Port Tampa	DTPA	N/A	N/A	N/A	\$ 9.50	N/A	N/A	N/A	\$ 9.50	N/A	N/A	N/A	0.138	N/A	N/A	N/A	0.138	High	5
20	9.61	Downtown Tampa to USF	CSX - Fixed Guideway	DTPA	USF	\$ 12.00	N/A	N/A	\$ 9.50	\$ 8.00	N/A	N/A	\$ 9.83	0.150	N/A	N/A	0.138	0.282	N/A	N/A	0.190	High	5

Methodology: Averages calculated based on activity centers served by each alternative. Score based on FTA rating. FTA rating assigned based on lowest rating for parking cost vs. space/employee. Low = 1 pt, Low-Medium = 2pts, Medium = 3pts, Medium-

Step 2 Analysis: Capital Cost Resources

	Project	Location	Status (as of July 31, 2017)	Length (in miles)	Description/Features	Est. Capital Cost	Cost per Mile (millions)	Source
Commuter Rail	TEX Rail	Fort Worth, TX	FFGA	26.8	The Fort Worth Transportation Authority (FWTA) is building the TEX Rail project, a 26.8 mile commuter rail line that will operate between downtown Fort Worth and northeast Tarrant County (the county where Fort Worth is located) to the Dallas-Fort Worth International Airport (DFW Airport). The project will serve nine at-grade stations, including two existing Trinity Railway Express stations in downtown Fort Worth. Seven stations will be newly constructed, six of which will contain park-and-ride facilities. The project also includes construction of a maintenance and storage facility and the purchase of eight diesel multiple unit (DMU) rail vehicles. The rail line will use the existing Cotton Belt right-of-way in Fort Worth and northeast Tarrant County and short portions of the Fort Worth and Western, Burlington Northern Santa Fe, and Union Pacific Railroad rights-of-way. The project will be constructed using a single-track alignment, with passing sidings, where necessary, to accommodate operations of 30-minute peak headways and 90-minute off-peak headways on opening day. The estimated ridership is 8,300 daily linked trips, rising to 13,700 by 2035.	\$ 1,034,410,000	\$38.597	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61046/tw-fort-worth-tex-rail-fy-18-profile.pdf
	Northstar Commuter Line	Minneapolis, MN	Complete	40	The Northstar project established commuter rail service on a 40-mile segment of an existing freight rail line between downtown Minneapolis and Big Lake, Minnesota. It also extended the light rail line in downtown Minneapolis by 0.3 miles to provide a direct transfer between the commuter rail and light rail lines. The Northstar Corridor rail line extends along 40 miles of the active BNSF double-tracked mainline freight railroad between Minneapolis and Big Lake. Because commuter service is mixed with freight operations, passenger cars are compliant with safety regulations of the Federal Railroad Administration for mixed operations. Northstar Corridor rail relies on operating easements purchased from BNSF. Consequently, the project included very little track construction for the commuter rail line – only 0.7 miles for track primarily at the terminal stations. The operating easement agreement provided that modifications to signal and communication systems necessary to accommodate commuter rail would be made by BNSF. Current features of the commuter rail line include seven stations (two funded outside the FFGA: Fridley and Ramsey), six locomotives, 18 passenger cars, and a new vehicle maintenance facility at the Big Lake terminus. One of the six locomotives was added to the fleet shortly after the start of revenue service. The station at Ramsey was added three years after revenue service began.	\$ 470,147,000	\$11.754	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FY2013_Before_and_After_Studies_Report_to_Congress_Final.pdf Total capital cost in YOE is \$308,500,000. Total capital (project) cost adjusted for 2017 is derived from FTA's Capital Cost Database.
	Wilsonville to Beaverton	Portland, OR	Complete	14.7	The Wilsonville to Beaverton Commuter Rail project established commuter rail service in an existing railroad corridor between Beaverton and Wilsonville, Oregon. The line is known as the Westside Express Service, or WES. At its northern terminus at the Beaverton Transit Center, WES connects with the Portland area's light rail system. WES is the first commuter rail line in the Portland area. WES opened for revenue service in 2009.	\$ 178,130,000	\$12.118	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FY2013_Before_and_After_Studies_Report_to_Congress_Final.pdf Total capital cost YOE is \$162,000,000. Total (project) capital cost adjusted for 2017 is derived from FTA's Capital Cost Database.
	Weber Co. Commuter Rail	Salt Lake City, UT	Complete	44	The Weber County to Salt Lake Commuter Rail Project, known as FrontRunner North, is a 44-mile commuter rail line extending north from downtown Salt Lake City through Ogden to the northern end of Weber County at Pleasant View, Utah. The project was planned, developed, and built by the Utah Transit Authority (UTA).	\$ 948,275,000	\$21.552	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FY2013_Before_and_After_Studies_Report_to_Congress_Final.pdf Total capital cost YOE is \$614,000,000. Total (project) capital cost adjusted for 2017 is derived from FTA's Capital Cost Database.
	Redlands Passenger Rail	San Bernardino, CA	Small Starts PD	9	San Bernardino Associated Governments (SANBAG) proposes to implement the Redlands Passenger Rail Project, a commuter rail service in the nine mile corridor between the San Bernardino Transit Center and the University of Redlands. SANBAG expects the project to include four new stations and the procurement of three new diesel multiple unit vehicles. SANBAG believes the service, which will be operated by OmniTrans, will provide a valuable transit alternative for a rapidly growing region with highly congested, automobile dependent infrastructure.	\$ 262,000,000	\$29.111	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60796/ca-san-bernardino-redlands-passenger-rail-project-fy-18-profile.pdf
						Average Cost Per Mile	\$22.626	
Commuter Rail Range: \$38.6 Million (High) - \$11.8 Million (Low) per mile.								
BRT Fixed Guideway	Swift II BRT	Everett, WA	Small Starts PD	12.3	The Snohomish County Public Transportation Benefit Area (known as Community Transit) proposes to extend bus rapid transit (BRT) service from a new transit center in Everett to the existing Canyon Park park-and-ride lot. The project includes 3.6 miles of exclusive bus lanes, transit signal priority, a new transit center, intersection and sidewalk improvements to increase access, and the purchase of 13 vehicles. Service is planned to operate for 19 hours a day, seven days a week every 10 minutes during peak periods and every 20 minutes during weekday off-peak periods and on weekends.	\$ 73,630,000	\$5.986	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61056/wa-everett-swift-ii-brt-fy-18-profile.pdf
	North South BRT	Chapel Hill, NC	Small Starts PD	8.2	Chapel Hill Transit (CHT) proposes to implement bus rapid transit (BRT) in an 8.2 mile corridor in the Town of Chapel Hill, North Carolina. The proposed North-South BRT will include 16 stations, 12 vehicles, and dedicated lanes along 85 percent of the alignment. CHT believes the project will provide improved mobility and accessibility in the corridor while accommodating anticipated growth in travel demand by students and seniors. Both of these groups have high rates of transit ridership.	\$ 101,350,000	\$12.360	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60917/nc-chapel-hill-north-south-brt-fy-18-profile.pdf
	West End Transitway	Alexandria, VA	Small Starts PD	5.3	The City of Alexandria proposes to implement the West End Transitway bus rapid transit (BRT) project along a 5.3 mile corridor running from the Van Dorn Street Metrorail Station in the south to the Pentagon Metrorail Station in the north. The West End Transitway project, the second of three BRT projects planned by the City of Alexandria, will have 15 stations, with stops at key destinations including the Shirlington Transit Center and the Mark Center development, which is host to 6,400 workers. The project will also feature 2.7 miles of dedicated bus lanes, off-board fare collection at substantial stations, traffic signal priority, and real-time passenger information. The project will provide efficient, high frequency service to a busy corridor with future growth planned around the transit investments. The capital cost of this project is estimated to range between \$119 and \$140 Million. For purposes of this calculation the mid-range dollar was used, or \$124.5 Million.	\$ 124,500,000	\$23.491	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61051/va-alexandria-west-end-transitway-fy-18-profile.pdf
	Euclid Avenue BRT	Cleveland, OH	Complete	7.1	The Euclid Corridor project comprises a 7.1-mile Bus Rapid Transit (BRT) facility and 2.3 miles of bus-oriented street improvements in a "transit zone" within downtown Cleveland. The project was developed and is now operated by GCRTA. The BRT component operates as "The HealthLine" after the purchase of naming rights by a consortium of the Cleveland Clinic and University Hospitals, two major health care institutions in the Euclid corridor. 4.4 miles of the corridor include mid-street fixed guideway.	\$ 308,151,000	\$43.402	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/2012_Before_and_After_Studies_of_New_Start_Projects.pdf Total project cost YOE is \$194,910,000. Total (project) capital costs is derived from the FTA Capital Costs Database, adjusted for baseyear 2017.
	IndyGo Purple Rapid Transit Line	Indianapolis, IN	Small Starts PD	14.6	The Indianapolis Public Transportation Corporation (IndyGo) proposes to implement Bus Rapid Transit (BRT) in a 14.6-mile corridor that connects the Julia M. Carson Transit Center in downtown Indianapolis to the Major General Emmett J. Bean Federal Center in downtown Lawrence. The proposed project is a fixed-guideway BRT service. It includes 22 new stations that will be served by battery-powered electric buses. Seventy percent (10.2 miles) of the alignment will be in exclusive lanes, part of which will be shared by the Red Line BRT service, which is expected to enter service prior to the Purple Line. The project's current estimated capital cost is \$140 million. IndyGo has not yet identified the amount of Small Starts funding it will seek for the project. IndyGo believes that the project will greatly improve connectivity and accessibility to a corridor that contains some of the highest concentrations of population, poverty, and transit-dependent individuals in the Central Indiana region.	\$ 140,000,000	\$9.589	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/63646/indygo-purple-rapid-transit-line-profile.pdf
	IndyGo Red Line Rapid Transit	Indianapolis, IN	Small Starts PD	13.1	The Indianapolis Public Transportation Corporation (IndyGo) proposes to build a bus rapid transit (BRT) line connecting the Indianapolis central business district (CBD) with the Village of Broad Ripple to the north, and the University of Indianapolis campus to the south. The project includes approximately 7.7 miles of dedicated bus lanes, traffic signal priority at intersections, and stations with weather protection, level vehicle boarding, real-time bus arrival information, and self-service fare vending. The project includes the purchase of 12 60-foot electric battery-powered buses. Service would be provided 20 hours per weekday, with buses every ten minutes during daytime hours and every 30 minutes during the evening. Weekend service would be provided 18 hours per day, with buses every 15 minutes during service hours.	\$ 96,330,000	\$7.353	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60941/indianapolis-red-line-fy-18-profile.pdf
	East-West BRT	Milwaukee, WI	Small Starts PD	9	The Milwaukee County Department of Transportation (MCDOT) proposes to construct the 9-mile long East-West Bus Rapid Transit (BRT) project in downtown Milwaukee, Wisconsin. The project will link the Milwaukee County Regional Medical Center to the Downtown Transit Center, Milwaukee's new streetcar line, bus routes, and planned mixed-use residential development. Other destinations will include Marquette University, MillerCoor's Milwaukee Brewery, and the headquarters of Harley-Davidson Motor Company. MCDOT expects the project will include dedicated BRT lanes, 19 stations, off-board fare payment, level boarding, and real-time information displays.	\$ 48,000,000	\$5.333	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61091/wi-milwaukee-brt-fy-18-profile.pdf
	Capital Area Transportation Authority BRT	Lansing, MI	Small Starts PD	8.5	The Capital Area Transportation Authority (CATA) proposes to build a bus rapid transit (BRT) line that traverses Michigan Avenue/Grand River Avenue from Marsh Road in Meridian Township, passing through downtown East Lansing, along the northern edge of the Michigan State University (MSU) campus, briefly through Lansing Township, and through the City of Lansing to the Capitol. The project includes approximately 7.2 miles of exclusive bus lanes. Project stations will feature off-board fare payment and level boarding. The project also includes traffic signal priority and the purchase of 15 articulated buses. During the weekday, BRT buses will operate between 5:30 a.m. and 2:30 a.m. when Michigan State University (MSU) is in session, and 5:30 a.m. to 11:30 p.m. when MSU is not in session. Service will operate every six to 10 minutes during weekday daytime hours, every 10 to 20 minutes during weekday evenings, and every six to 15 minutes on weekends.	\$ 141,850,000	\$16.688	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60966/mi-lansing-cata-brt-fy-18-profile.pdf
	Metro Orange Line Bus Rapid Transit	Minneapolis, MN	Small Starts PD	17.3	The Metropolitan Council (MC) is planning a bus rapid transit (BRT) line connecting downtown Minneapolis with neighborhoods in south Minneapolis and the suburban municipalities of Richfield, Bloomington and Burnsville. The project alignment generally follows Interstate 35W (I-35W), along which BRT service will operate in existing managed lanes and bus-only shoulders. The project includes 12 new or improved stations, one new park-and-ride facility, two short segments of new dedicated transit lanes, signal priority, off-board fare collection at all stations, and the purchase of 12 articulated buses. Service is planned to operate from 5:00 a.m. to 1:00 a.m. daily with service every 10 minutes during weekday peak periods and every 15 minutes during weekday off-peak periods, weekday evenings and weekends.	\$ 150,700,000	\$8.711	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60976/mn-minneapolis-metro-orange-line-fy-18-profile.pdf
	Albuquerque Rapid Transit	Albuquerque, NM	Small Starts PD	8.8	The City of Albuquerque's Transit Department (ABQRide) is implementing bus rapid transit (BRT) along Central Avenue (Historic Route 66) from Tramway Boulevard in the east to Atrisco Vista Road in the west, although physical right-of-way improvements are planned for only the innermost 8.8 miles. The project includes dedicated stations with raised platforms accommodating level boarding, off-board fare collection, a mix of exclusive bus lanes and operation in mixed traffic, traffic signal priority, and the purchase of 18 vehicles. Service is planned to operate every seven and a half minutes on weekdays, every 10 minutes on Saturdays, and every 15 minutes on Sundays.	\$ 133,670,000	\$15.190	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61011/nm-albuquerque-rapid-transit-fy-18-profile.pdf
Washington/Western BRT	Albany, NY	Small Starts PD	8	The Capital District Transportation Authority (CDTA) proposes to implement BRT in the eight mile Washington/Western corridor that extends from downtown Albany, through the University at Albany, the Harriman State Office Complex, and ends at Crossgates Mall. The project includes 15 stations, dedicated lanes over a majority of the alignment, limited stops, uniquely branded buses and station, transit signal priority, queue bypass lanes, real-time bus arrival information, and transit parking.	\$ 64,000,000	\$8.000	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60906/ny-albany-washington-western-brt-fy-18-profile.pdf	
						Average Cost Per Mile	\$14.191	
BRT Fixed Guideway Range: \$52.5 Million (High) - \$6.0 Million (Low) per mile								

	Project	Location	Status (as of July 31, 2017)	Length (in miles)	Description/Features	Est. Capital Cost	Cost per Mile (millions)	Source
BRT Lite (Minimal or No Fixed Guideway/Corridor-Based)	Transit Spine BRT	Flagstaff, AZ	Small Starts PD	13	The Northern Arizona Intergovernmental Public Transportation Authority (NAIPTA) proposes to implement corridor-based bus rapid transit (BRT) service in a 13 mile corridor between the Flagstaff Pulliam Regional Airport and the Flagstaff Mall. The project would connect key activity centers and transit routes along an east-west alignment. Stations will be spaced in increments of approximately two-thirds of a mile and will include stops in downtown Flagstaff and on the campus of Northern Arizona University. Other features of the project will include traffic signal prioritization, queue jump lanes, and some bus-only lanes.	\$ 32,900,000	\$2.531	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60726/az-flagstaff-transit-spine-brt-fy-18-profile.pdf
	First Coast Flyer BRT East Corridor	Jacksonville, FL	Small Starts PD	18.5	The Jacksonville Transportation Authority (JTA), in coordination with the City of Jacksonville and the Florida Department of Transportation (FDOT), proposes to implement a bus rapid transit (BRT) line from the Rosa Parks Transit Station to Jacksonville Beach. The line would also serve Regency Mall, Florida State College-Jacksonville and the University of North Florida. The project includes traffic signal priority at 32 intersections, real-time bus arrival information at stations, up to six intersection queue jumper lanes, and procurement of 19 40-foot compressed natural gas buses.	\$ 33,860,000	\$1.830	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60846/fl-jacksonville-first-coast-flyer-east-corridor-fy-18-profile.pdf
	FCF BRT Southwest Corridor	Jacksonville, FL	Small Starts PD	12.9	The Jacksonville Transportation Authority (JTA), in coordination with the City of Jacksonville and the Florida Department of Transportation (FDOT), proposes to implement a bus rapid transit (BRT) line from the Convention Center in downtown Jacksonville via Florida State College-Jacksonville (Kent Campus) to Orange Park Mall in Clay County. JTA expects that the project will include traffic signal priority at 24 intersections, real-time bus arrival information at stations, two queue jump lanes and the purchase of 15 40-foot compressed natural gas buses. The project would operate in mixed traffic except for a one-mile segment with existing dedicated bus lanes.	\$ 47,460,000	\$3.679	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/60861/fl-jacksonville-first-coast-flyer-sw-corridor-fy-18-profile.pdf
	Montana RTS Corridor	El Paso, TX	Small Starts PD	16.8	The City of El Paso is planning a Bus Rapid Transit (BRT) line operating in mixed traffic along a route that begins at the existing Five Points Transfer Center, travels through Downtown El Paso, serves the existing Eastside Transfer Center, the El Paso International Airport and ends at the proposed Far East Transfer Center. The project includes construction of BRT stations, traffic signal priority at 34 intersections, the purchase of 12 articulated buses, branded shelters, off-vehicle fare collection machines, and real-time arrival information at all stations. Service is planned to be operated six days a week, every 10 minutes during weekday peak periods, every 15 minutes during weekday off-peak periods, and every 20 minutes on Saturdays. No Sunday service is planned.	\$ 46,990,000	\$2.797	https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/61041/tx-el-paso-montana-avenue-rts-fy-18-profile.pdf
	Average Cost Per Mile							\$2.709
BRT Lite Range: \$3.7 Million (High) - \$1.8 Million (Low) per mile								
Light Rail Transit (LRT)	Southwest Corridor	Denver, CO	Complete	8.46	RTD constructed an 8.7-mile, 5 station light rail extension of the initial line that extends light rail service from Denver to Littleton. This segment of the light rail line extends from the I-25/Broadway station on the initial Central Corridor line south to Mineral Avenue in Littleton, running parallel to Santa Fe Drive over an exclusive, grade-separated right-of-way.	\$ 433,972,000	\$51.297	FTA Capital Cost Database: Average Unit Cost Per Element for a Group of Projects. Selected Base Year is 2017.
	Long Beach Blue Line	Los Angeles, CA	Complete	22.59	The Metro Blue Line connects Long Beach with downtown Los Angeles along a 22.6-mile, mostly at-grade or elevated fill, and dedicated alignment, that includes a subway section and connection to the Metro Red Line in downtown Los Angeles. There are 28 highway, 4 pedestrian and two at-grade railroad crossings that required warning and control systems. The full alignment is double-tracked except for the one-directional loop in downtown Long Beach. There are 22 stations with only 5 offering parking facilities.	\$ 2,532,739,000	\$112.118	
	Hiawatha Corridor	Minneapolis, MN	Complete	11.6	The Hiawatha Line is a 12 mi (19.3 km) light rail corridor in Hennepin County, Minnesota that extends from downtown Minneapolis to the southern suburb of Bloomington, connecting to the Minneapolis-St. Paul International Airport and the Mall of America. LRT alignment begins in the Central Business District (CBD) and operates on the existing transit mall along 5th Street. The LRT exits the CBD near the Hubert Humphrey Metrodome, following the former Soo Line Railroad to Franklin Avenue then generally parallel Hiawatha Avenue.	\$ 1,279,948,000	\$110.340	
	Southern NJ LRT System	New Jersey	Complete	28.01	The Southern New Jersey Light Rail Transit System (SNJLRTS) is a 34 mile light rail line connecting Trenton to Camden along the Delaware River waterfront. It is built along an active freight line that was augmented for passenger operation using advanced articulated, diesel propelled, light rail vehicles. The passenger operation is planned for daytime and evening operation, while freight service is limited to late night periods, giving Federal Railway Administration (FRA) time period and access separation. The project was constructed and is operated through a design-build-operate-maintain project delivery. The Southern New Jersey Light Rail Transit System connects the towns that developed along the Delaware River waterfront with the governmental, commercial and entertainment areas along the waterfront. In addition, the line connects with the regional bus and rail services operated by New Jersey Transit, Southeastern Pennsylvania Transit Authority (SEPTA) and the extended interstate rail services operated by Amtrak. The 34 mile includes 20 stations serving these waterfront towns with direct access to the rail services. Three of these stations provide park-and-ride facilities for wider access to residents throughout the area. More than twenty bridges were reconstructed and about 50 grade crossings were upgraded.	\$ 1,365,945,000	\$48.766	
	Central Phoenix/East Valley	Phoenix, AZ	Complete	19.7	The Central Phoenix/East Valley Light Rail Transit Project consists of the design and construction of a 19.6-mile light rail system from 19th Avenue and Bethany Home Road in north central Phoenix through the City of Tempe to Main Street and Sycamore Street in the City of Mesa. The Project track alignment is located mostly in street median. The Project includes the construction of 27 stations and seven new surface parking lots, the purchase of approximately 36 vehicles, and the construction of a bridge over Town Lake in Tempe and a bridge at 48th Street in Phoenix. The Project includes the construction of a maintenance and storage facility that is located south of Washington Street and east of 48th Street in Phoenix.	\$ 2,267,354,000	\$115.094	
	Light Rail Stage I	Pittsburgh, PA	Complete	15.57	Stage I includes 12.5 miles of new alignment construction and 12 miles of complete right-of-way rehabilitation.	\$ 1,850,327,000	\$118.839	
	South Corridor/Portland Mall	Portland, OR	Complete	8.37	The South Corridor I-205/Portland Mall Light Rail Project (Project) consists of design and construction of approximately 8.3 miles of new alignment in two segments, with 15 new stations. The I-205 segment extends approximately 6.5 miles from Gateway Transit Center to Clackamas Town Center. The Portland Mall segment extends approximately 1.8 miles from the Steel Bridge through the Central Business District to Portland State University. Eight new stations will be built along the 6.5-mile portion paralleling I-205—six in Multnomah County and two in Clackamas County.	\$ 896,674,000	\$107.130	
	Max Segment I	Portland, OR	Complete	19.58	Portland MAX Segment I is a 15-mile east-west, initial segment that is primarily at-grade but with some elevated sections along joint highway alignments. The line utilizes reserved rights-of-way in city streets, arterials and highway medians to connect the city of Gresham and other eastern suburbs with central Portland. Passenger access is through 25 at-grade stations that provide spacing of less than one mile and easy walk-on accessibility for most of the alignment length. Only 5 stations offer park-and-ride facilities, but almost all stations have coordinated bus transfer facilities. A 26 vehicle articulated fleet was procured to operate the peak service schedule requirement (for this segment) of 22 peak vehicles with the remaining 4 for scheduled maintenance.	\$ 1,056,887,000	\$53.978	
	Folsom Corridor	Sacramento, CA	Complete	12.89	The Amtrak / Folsom Corridor Project extends light rail service from the Sacramento Valley station in downtown Sacramento to the historic railroad block near the former railroad depot in downtown Folsom. The Amtrak/Folsom Corridor Project consists of five areas of improvements that will add a 0.7 mile double track extension from the existing downtown Sacramento stations to the Amtrak Station, station enhancements at existing stations including additional boarding platforms, 10.9 miles of additional track along the existing segments of the Folsom Line, nine new stations, enhanced signaling and 14 new light rail vehicles.	\$ 516,498,000	\$40.070	
	South Corridor	Sacramento, CA	Complete	6.3	The South Sacramento Corridor Light Rail Project is a two-phased light rail project that extends 11.2 miles south to the community of Elk Grove. Phase I of the South Corridor Light Rail Project will extend light rail service from Downtown Sacramento 6.3 miles to Meadowview Road. The entire alignment will be at-grade with surface level street crossings.	\$ 432,656,000	\$68.676	
	Stage 1 Sacramento	Sacramento, CA	Complete	21.2	Sacramento Stage I includes both the Northeast and Folsom Lines connected through downtown Sacramento. The 20.6-mile line, which links both the eastern and northeastern suburbs with Downtown Sacramento utilizes unused freeway and abandoned railroad rights-of-way for most of its length. There are 101 grade crossings along this first phase development. The light rail system includes 36 miles of track with 31 stations in the system.	\$ 492,854,000	\$23.248	
	Mid Jordan LRT	Salt Lake City, UT	Complete	10.6	The Mid-Jordan LRT is a 10.6-mile southwestern extension of the Utah Transit Authority's (UTA) TRAX light rail transit (LRT) system. The project will operate largely on existing Bingham Branch Line rail right-of-way (ROW) purchased from the Union Pacific Railroad in September 2002. The Mid-Jordan LRT alignment would serve the growing suburban communities of Midvale and West Jordan, as well as the planned Kennecott Daybreak Development near the project terminus at South Jordan. The project scope includes nine (agency says ten) new stations, over 3,000 park-and-ride spaces, and 28 low-floor light rail vehicles. Service would operate daily between 5:00 a.m. and 12:00 a.m. with 15-minute headways during both peak and off-peak periods, and one additional train will be deployed during the peak hour. Mid-Jordan LRT service would interline with UTA's existing Sandy/Salt Lake TRAX Line at the existing Fashion Place West station, providing a direct connection to the Salt Lake City central business district and the University of Utah. The project is expected to serve 9,500 average weekday boardings in 2030.	\$ 735,015,000	\$69.341	
	North South Corridor	Salt Lake City, UT	Complete	15.05	The North/South LRT Line travels approximately 15 miles south from the Delta Center Station in the CBD to the Sandy Civic Center Station near 10000 South in Sandy. This line consists mainly of double track, with two single track sections at the I-215 overpass and the State Street Bridge (U.S. Highway 89). The line includes 16 stations with access ramps to accommodate people with disabilities in compliance with ADA regulations.	\$ 791,427,000	\$52.587	
	North Corridor Santa Clara VTA	Santa Clara, CA	Complete	15.58	This initial nine-mile segment from Santa Clara through downtown San Jose was completed in June 1988. This portion of the Guadalupe Corridor Project opened in December 1987, connecting the cities of San Jose and Santa Clara with the surrounding suburban areas. The initial phase of the light rail system consisted of a 20-mile North Line that is mainly located along the median area of major roadways and along a transitway through downtown San Jose. The alignment is at-grade along the full length and included very little in new structural requirements. Only one bridge and two overpasses in new guideway facilities were necessary to connect the full length of the alignment. Almost the entire line is double-tracked with only two small sections of single-track operation. There were 22 stations in operation with the expansion to 30 upon completion of that full line length to the southern sections of San Jose.	\$ 927,525,000	\$59.533	
	Tasman West Santa Clara VTA	Santa Clara, CA	Complete	7.46	The project is a 7.5-mile extension of the pre-existing 21-mile light rail transit system that radiates from downtown San Jose. Running east-to-west across the northern part of the county, the line links employment centers and residential areas in Mountain View, San Jose, Santa Clara, and Sunnyvale. The extension serves 12 new stations within the four cities. Many of the stops are adjacent to major employers such as Cisco Systems, Inc., Lockheed Martin, NASA/Ames Research Center, and Rolm Siemens. The light rail also provides direct service to the Whisman area in Mountain View, where Netscape and other large businesses are located. The area is already densely developed, and major new road construction was not feasible. In downtown Mountain View, a multimodal transit center with park-and-ride facilities provides connections between light rail, Santa Clara VTA buses and shuttles, and Caltrain, the commuter train service between Gilroy and San Francisco. In addition to connecting the cities it serves, the transit center enables passengers to connect with Amtrak service to Sacramento, bike routes, and county expressways.	\$ 702,898,000	\$94.222	
St. Clair County Extension	St Louis, MO	Complete	17.4	St. Louis St. Clair County Extension is a 17.4-mile Light Rail Transit (LRT) extension from the existing MetroLink line in East St. Louis, Illinois, to Southwestern Illinois College (SWIC) in St. Clair County, Illinois. The project included 8 new stations and modifications to the existing station at 5th Street/Missouri, 7 park-and-ride lots, 20 new light rail vehicles, and a new vehicle maintenance facility in East St. Louis, Illinois.	\$ 775,624,000	\$44.576		
Average Cost Per Mile							\$73.113	
Light Rail Range: \$198,472,000 (High) - \$23,248,000 (Low) per mile								

	Project	Location	Status (as of July 31, 2017)	Length (in miles)	Description/Features	Est. Capital Cost	Cost per Mile (millions)	Source
Elevated/Heavy Rail	MBTA Orange Line	Boston, MA	Complete	4.7	The Orange Line (Southwest Corridor Project) is an 11-mile heavy rail line providing service from Oak Grove to Forest Hills. The Orange Line includes storage track south of Forest Hills station, crossovers for turnbacks or reverse running, and an automatic train control system with cab signaling designed for 6-car trains at 90-second headways.	\$ 2,593,600,000	\$551.830	FTA Capital Cost Database: Average Unit Cost Per Element for a Group of Projects. Selected Base Year is 2017.
	CTA Blue Line Douglas	Chicago, IL	Complete	5.57	The Blue Line Cermak (Douglas) Branch stretches along 6.6 miles (35,000 feet) of track that runs parallel to Cermak Road from the terminal at 54th/Cermak east to Paulina, where it turns north and meets with the Blue Line Forest Park (Congress) Branch at Harrison Street. The Blue Line Cermak (Douglas) Branch Rehabilitation involves the replacement of 5 miles of track, the reconstruction of 8 stations, installation of escalators at the Polk Street station and new rail traffic signals and communications equipment to improve the operations of the rail system, and the reconstruction of the rail yard at 54th/Cermak.	\$ 769,304,000	\$138.116	
	Southwest Orange Line	Chicago, IL	Complete	9	The Southwest Transit Project (Orange Line) provides heavy rail transit service to the southwest side of Chicago. The entire line consists of 9 miles of double-track fixed guideway, 8 stations, and a maintenance facility to support vehicle maintenance and maintenance-of-way. Approximately 2.7 miles of the fixed guideway is aerial structure and the remaining 6.3 miles is on embankment. The project was constructed primarily along existing railroad right-of-way, from Midway Airport to the area of the Dan Ryan Line at Clark Street and continuing to the Downtown Loop.	\$ 1,182,281,000	\$131.365	
	Miami-Dade MetroRail	Miami, FL	Complete	21	The fixed guideway of the Metrorail is a 21-mile completely elevated guideway heavy rail system with approximately 1/2 mile of at-grade guideway. Metrorail runs from Kendall through South Miami and downtown Miami to Medley in northwest Miami-Dade. The trackwork is direct fixation along the elevated guideway with special considerations for attenuating noise and vibration including continuous welded rail and vibration dampening track fasteners. The 21 Metrorail stations provide easy access for bus riders, pedestrians, and passengers being dropped off and picked up. The stations have escalators to transport riders to the elevated platforms and canopies for weather protection and are handicapped accessible with elevators located in each and warning strips along the edge of the platform for the visually impaired. All stations have kiss-and-ride facilities, and parking is available at 17 Metrorail stations.	\$ 4,217,997,000	\$200.857	
	SEPTA Frankford Rehab	Philadelphia, PA	Complete	5.05	This Frankford portion of the Market-Frankford Line was rehabilitated over a 20-year period. This rehabilitation began in the 1980s with the rebuilding of the physical assets of the elevated line, including structural, track, and systems elements. This process started under operational conditions and concluded with the construction of a new Frankford Transportation Center (FTC) Terminal, connecting bus facilities, and the construction of a new rail guideway approach to the FTC Terminal.	\$ 1,875,246,000	\$371.336	
	Tren Urbano	San Juan, PR	Complete	10.69	The San Juan Tren Urbano line starts in the Santurce section of San Juan and extends southward through the commercial district and into the underground section at University of Puerto Rico (UPR) and Rio Piedras. The line then curves westward through several commercial and residential districts and terminates in Bayamon. The 17.2-kilometer-long connection includes 16 stations running from Bayamon to Santurce. There is a centrally located storage and maintenance yard where the operations center will also be located.	\$ 5,990,956,000	\$560.426	
	Anacostia Outer (f)	Washington, DC	Complete	6.67	Anacostia Outer (F) is a 6.67 mile segment that includes a mix of above-grade and below grade-alignment.	\$ 1,997,398,000	\$299.460	
						Average Cost Per Mile	\$321.913	
Elevated/Heavy Rail Range: \$2,649,728,000 (High) - \$131,365,000 (Low) Per mile								

Step 2 Analysis: Vehicle Cost Resources

DRAFT 8/14/17

Vehicle Type	Description	Unit Cost	Source
Commuter Rail Car	Passenger coach (requires locomotive).	\$ 2,110,760	Actual cost of Weber Co. Commuter Rail passenger car adjusted to 2017\$ per FTA Capital Cost Database is \$2,110,760
Commuter Rail Locomotive	Pushes or pulls commuter rail car, but does not hold passengers	\$ 4,650,016	Actual cost of Weber Co. Commuter Rail locomotive adjusted to 2017\$ per FTA Capital Cost Database is \$4,650,016
BRT	40 ft.	\$ 681,844	APTA: U.S. Average New Vehicle Costs for 2014 and 2015 Vehicles by Type, http://www.apta.com/resources/statistics/Documents/Table23-VehCostTransitLength-2015-Vehicle.pdf
Articulated Vehicle	Extra-long (54-60 ft.) bus with accordion-like mechanism connecting two sections. Can hold about 60 passengers.	\$ 787,673	APTA: U.S. Average New Vehicle Costs for 2014 and 2015 Vehicles by Type, http://www.apta.com/resources/statistics/Documents/Table23-VehCostTransitLength-2015-Vehicle.pdf
Light Rail Vehicle	Single-articulated, 1 level, 2 cabs	\$ 3,374,510	APTA: U.S. Average New Vehicle Costs for 2014 and 2015 Vehicles by Type, http://www.apta.com/resources/statistics/Documents/Table23-VehCostTransitLength-2015-Vehicle.pdf
Heavy Rail Vehicle		\$ 3,350,341	FTA Capital Cost Database: Average unit cost (adjusted to 2017\$) for heavy rail vehicle (FTA cost category 70.020) derived from five projects in the Heavy Rail/Elevated filter.
Ferryboat		\$ 113,500,000	APTA: U.S. Average New Vehicle Costs for 2014 and 2015 Vehicles by Type, http://www.apta.com/resources/statistics/Documents/Table23-VehCostTransitLength-2015-Vehicle.pdf