

# APPENDIX L: COST ESTIMATING TOOLS



## Roadway Cost Per Centerline Mile

Revised June 2014

	Construction Cost From LRE	MOT *	Mobilization *	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Total Project Cost **
<b>Rural Arterial</b>									
New Construction (2-Lane Roadway) with 5' Paved Shoulders	\$3,351,896	\$335,190	\$368,709	\$4,055,794	\$1,013,949	<b>\$5,069,743</b>	\$760,461	\$760,461	<b>\$6,590,666</b>
New Construction (4-Lane Roadway) with 5' Paved Shoulders	\$5,449,902	\$544,990	\$599,489	\$6,594,381	\$1,648,595	<b>\$8,242,976</b>	\$1,236,446	\$1,236,446	<b>\$10,715,869</b>
New Construction (6-Lane Roadway) with 5' Paved Shoulders	\$6,945,143	\$694,514	\$763,966	\$8,403,624	\$2,100,906	<b>\$10,504,529</b>	\$1,575,679	\$1,575,679	<b>\$13,655,888</b>
Milling and Resurfacing (4-Lane Roadway) with 5' Paved Shoulders	\$1,145,229	\$114,523	\$125,975	\$1,385,727	\$346,432	<b>\$1,732,158</b>	\$259,824	\$259,824	<b>\$2,251,806</b>
Milling and Resurfacing (6-Lane Roadway) with 5' Paved Shoulders	\$1,668,122	\$166,812	\$183,493	\$2,018,428	\$504,607	<b>\$2,523,035</b>	\$378,455	\$378,455	<b>\$3,279,945</b>
Add Lanes (2 to 4 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$3,895,621	\$389,562	\$428,518	\$4,713,701	\$1,178,425	<b>\$5,892,127</b>	\$883,819	\$883,819	<b>\$7,659,764</b>
Add Lanes (4 to 6 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$4,364,817	\$436,482	\$480,130	\$5,281,428	\$1,320,357	<b>\$6,601,785</b>	\$990,268	\$990,268	<b>\$8,582,321</b>
Add Lanes (4 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$5,855,972	\$585,597	\$644,157	\$7,085,726	\$1,771,432	<b>\$8,857,157</b>	\$1,328,574	\$1,328,574	<b>\$11,514,305</b>
Add Lanes (6 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$5,489,564	\$548,956	\$603,852	\$6,642,373	\$1,660,593	<b>\$8,302,966</b>	\$1,245,445	\$1,245,445	<b>\$10,793,856</b>
Add 1 Through Lane on Inside (To Existing) with 5' Paved Shoulders	\$852,034	\$85,203	\$93,724	\$1,030,962	\$257,740	<b>\$1,288,702</b>	\$193,305	\$193,305	<b>\$1,675,313</b>
Add 1 Through Lane on Outside (To Existing) with 5' Paved Shoulders	\$1,334,043	\$133,404	\$146,745	\$1,614,192	\$403,548	<b>\$2,017,740</b>	\$302,661	\$302,661	<b>\$2,623,062</b>
Add 300' Exclusive Left Turn Lane	\$43,253	\$6,488	\$7,461	\$57,203	\$14,301	<b>\$71,503</b>	\$10,725	\$10,725	<b>\$92,954</b>
Add 300' Exclusive Right Turn Lane	\$102,384	\$15,358	\$17,661	\$135,403	\$33,851	<b>\$169,254</b>	\$25,388	\$25,388	<b>\$220,030</b>
<b>Urban Arterial</b>									
New Construction (2-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$4,840,624	\$484,062	\$532,469	\$5,857,155	\$1,464,289	<b>\$7,321,444</b>	\$1,098,217	\$1,098,217	<b>\$9,517,877</b>
New Construction (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$6,832,753	\$683,275	\$751,603	\$8,267,631	\$2,066,908	<b>\$10,334,539</b>	\$1,550,181	\$1,550,181	<b>\$13,434,900</b>
New Construction (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$8,353,372	\$835,337	\$918,871	\$10,107,580	\$2,526,895	<b>\$12,634,475</b>	\$1,895,171	\$1,895,171	<b>\$16,424,818</b>
Milling and Resurfacing (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$1,227,295	\$122,729	\$135,002	\$1,485,027	\$371,257	<b>\$1,856,283</b>	\$278,442	\$278,442	<b>\$2,413,168</b>
Milling and Resurfacing (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$1,740,670	\$174,067	\$191,474	\$2,106,211	\$526,553	<b>\$2,632,764</b>	\$394,915	\$394,915	<b>\$3,422,593</b>
Add Lanes (2 to 4 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$4,477,530	\$447,753	\$492,528	\$5,417,812	\$1,354,453	<b>\$6,772,265</b>	\$1,015,840	\$1,015,840	<b>\$8,803,944</b>
Add Lanes (4 to 6 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$5,002,273	\$500,227	\$550,250	\$6,052,750	\$1,513,188	<b>\$7,565,938</b>	\$1,134,891	\$1,134,891	<b>\$9,835,719</b>
Add Lanes (4 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$6,581,386	\$658,139	\$723,952	\$7,963,477	\$1,990,869	<b>\$9,954,346</b>	\$1,493,152	\$1,493,152	<b>\$12,940,650</b>
Add Lanes (6 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$5,969,158	\$596,916	\$656,607	\$7,222,681	\$1,805,670	<b>\$9,028,351</b>	\$1,354,253	\$1,354,253	<b>\$11,736,856</b>
Add 1 Through Lane on Inside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$894,894	\$89,489	\$98,438	\$1,082,822	\$270,705	<b>\$1,353,527</b>	\$203,029	\$203,029	<b>\$1,759,585</b>
Add 1 Through Lane on Outside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$2,420,914	\$242,091	\$266,300	\$2,929,305	\$732,326	<b>\$3,661,632</b>	\$549,245	\$549,245	<b>\$4,760,121</b>
Add 300' Exclusive Left Turn Lane	\$63,013	\$9,452	\$10,870	\$83,334	\$20,834	<b>\$104,168</b>	\$15,625	\$15,625	<b>\$135,418</b>
Add 300' Exclusive Right Turn Lane	\$132,149	\$19,822	\$22,796	\$174,767	\$43,692	<b>\$218,459</b>	\$32,769	\$32,769	<b>\$283,996</b>

\* A 15% MOT and Mobilization factor was used for exclusive left and right turn lanes. A 10% factor was used for all other figures.

\*\* Total cost shown is derived from a standard typical section. Costs will need to be adjusted to account for signals, bridges, or any additional item not deemed typical.

**Note:**

1. Estimates were derived from FDOT LRE system
2. These figures exclude costs for intersections/interchanges, improvements to cross streets, bridges over 20', right-of-way, landscaping, ITS, and traffic signals.
3. The figures are based on market costs for Hillsborough County.
4. Costs shown are present day costs.
5. The costs developed for this report are not project-specific and should be used for preliminary estimating purposes only.

**Roadway Cost Per Centerline Mile**  
**Revised June 2014**

	Construction Cost From LRE	MOT (10%)	Mobilization (10%)	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Total Project Cost
<b>Rural Arterial</b>									
Add Lanes (4 to 6 Lanes) with 5' Paved Shoulders, 2 Traffic Signals, Highway Lighting, Fiber Based Communication Backbone, Widening 150' Low Level Bridge, and Milling & Resurfacing Existing 4 Lanes	\$5,974,792	\$597,479	\$657,227	\$7,229,498	\$1,807,375	<b>\$9,036,873</b>	\$1,355,531	\$1,355,531	<b>\$11,747,935</b>
<b>Urban Arterial</b>									
Add Lanes (4 to 6 Lanes) with 5' Sidewalk, Bike Lanes, 2 Traffic Signals, Highway Lighting, Fiber Based Communication Backbone, Widening 150' Low Level Bridge, and Milling & Resurfacing Existing 4 Lanes	\$6,282,391	\$628,239	\$691,063	\$7,601,693	\$1,900,423	<b>\$9,502,116</b>	\$1,425,317	\$1,425,317	<b>\$12,352,751</b>

**Note:**

1. Estimates were derived from FDOT LRE system
2. These figures exclude costs for intersections/interchanges, cross street improvements, right-of-way, ITS, and landscaping.
3. The figures are based on market costs for Hillsborough County.
4. Costs shown are present day costs.
5. The costs developed for this report are not site-specific and should be used for preliminary estimating purposes only.

**Other Roadway Related Costs**  
**Revised June 2014**

	Construction Cost From LRE	MOT *	Mobilization (15%)	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Total Project Cost
<b>Intersection Traffic Signalization (Mast Arm Assembly)**</b>									
2-Lane Roadway Intersecting 2-Lane Roadway	\$152,791	\$22,919	\$26,357	\$202,067	\$50,517	\$252,583	\$37,887	\$37,887	\$328,358
4-Lane Roadway Intersecting 4-Lane Roadway	\$192,772	\$28,916	\$33,253	\$254,941	\$63,735	\$318,676	\$47,801	\$47,801	\$414,279
6-Lane Roadway Intersecting 6-Lane Roadway	\$214,028	\$32,104	\$36,920	\$283,052	\$70,763	\$353,815	\$53,072	\$53,072	\$459,959
<b>Bicycle and Pedestrian Facilities</b>									
Sidewalks Per Mile (5' Width - 1 Side)	\$88,939	\$4,447	\$14,008	\$107,393	\$26,848	\$134,242	\$20,136	\$20,136	\$174,514
Sidewalks Per Mile (6' Width - 1 Side)	\$106,726	\$5,336	\$16,809	\$128,872	\$32,218	\$161,090	\$24,164	\$24,164	\$209,417
Multi-Use Trail Per Mile (12' Width - 1 Side)	\$170,032	\$8,502	\$26,780	\$205,314	\$51,329	\$256,643	\$38,496	\$38,496	\$333,635
<b>Stormwater Retention Facilities</b>									
1 Acre Pond Site (6' Depth)	\$217,722	\$10,886	\$34,291	\$262,899	\$65,725	\$328,624	\$49,294	\$49,294	\$427,211
<b>Median Retrofit</b>									
Convert 14' Center Turn Lane to 14' Raised Median (Per Mile)	\$189,476	\$28,421	\$32,685	\$250,582	\$62,646	\$313,228	\$46,984	\$46,984	\$407,197
<b>Cross Street Improvements</b>									
Widen 1-Leg of Existing Rural 2-Lane Cross Street to Accommodate 2 Receiving Lanes, Dual Left Turn lanes, and Exclusive Right Turn Lane (Approximate Length of 0.25 Miles)	\$1,156,434	\$173,465	\$199,485	\$1,529,384	\$382,346	\$1,911,730	\$286,760	\$286,760	\$2,485,249

\* A 15% MOT factor was used for Traffic Signals, Median Retrofit, and Cross Street Improvements. A 5% factor was used for all other figures.

\*\*The cost of traffic signalization assumes the installation of mast arms on all four legs of an intersection. To obtain the cost of signalizing a four-lane roadway intersecting a two-lane roadway, divide the signal cost of a four-lane roadway by two and add this figure to the signal cost of the two-lane roadway divided by two.

Notes:

1. Estimates were derived from FDOT LRE system
2. The figures are based on market costs for Hillsborough County.
3. Costs shown are present day costs.
4. The costs developed for this report are not site-specific and should be used for preliminary estimating purposes only.

**Interchange Cost**  
**Revised June 2014**

	Construction Cost From LRE	MOT (10%)	Mobilization (10%)	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Subtotal Project Cost
Single Point Urban Interchange (SPUI)	\$19,832,201.63	\$1,983,220	\$2,181,542	\$23,996,964	\$5,999,241	\$29,996,205	\$4,499,431	\$4,499,431	\$38,995,066

Note:

1. Cost was derived from an LRE estimate to modify the existing diamond interchange at I-75/SR 54 to a single point urban interchange.
2. Cost shown is for construction only. Does not include Design, CEI, and right-of-way.

## Bridge Cost Per Square Foot

### Revised June 2014

	Cost Per Square Foot
<b>New Construction</b>	2014
Low Level	\$120
Mid Level	\$145
High Level	\$170
Overpass (Over Roadway)	\$155
Bascule	\$1,900
Pedestrian Overpass	\$335
<b>Widening</b>	2014
Low Level	\$150
Mid Level	\$170
High Level	\$205
Overpass (Over Roadway)	\$185
<b>Bridge Removal</b>	2014
Concrete Bridge	\$50

Note:

1. Figures are for construction costs per square foot of deck area.
2. All figures exclude costs for right-of-way, bridge approaches, and approach slabs.
3. Figures account for recent increases in concrete and steel, and the effects of labor and material shortages in the construction industry.
4. The costs developed for this report are not site-specific and should be used for preliminary estimating purposes only.

**Roadway Cost Per Centerline Mile Comparison**  
**June 2013 versus June 2014 Costs**

<b>LRE Cost Model</b>	<b>2013</b>	<b>2014</b>	<b>Percent Difference</b>
<b>Rural Arterial</b>			
New Construction (2-Lane Roadway) with 5' Paved Shoulders	\$6,220,090	\$6,590,666	5.96%
New Construction (4-Lane Roadway) with 5' Paved Shoulders	\$9,974,786	\$10,715,869	7.43%
New Construction (6-Lane Roadway) with 5' Paved Shoulders	\$12,689,060	\$13,655,888	7.62%
Milling and Resurfacing (4-Lane Roadway) with 5' Paved Shoulders	\$2,185,199	\$2,251,806	3.05%
Milling and Resurfacing (6-Lane Roadway) with 5' Paved Shoulders	\$3,201,091	\$3,279,945	2.46%
Add Lanes (2 to 4 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$7,534,764	\$7,659,764	1.66%
Add Lanes (4 to 6 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$8,395,445	\$8,582,321	2.23%
Add Lanes (4 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$11,155,949	\$11,514,305	3.21%
Add Lanes (6 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$10,559,816	\$10,793,856	2.22%
Add 1 Through Lane on Inside (To Existing) with 5' Paved Shoulders	\$1,664,859	\$1,675,313	0.63%
Add 1 Through Lane on Outside (To Existing) with 5' Paved Shoulders	\$2,663,500	\$2,623,062	-1.52%
Add 300' Exclusive Left Turn Lane	\$92,096	\$92,954	0.93%
Add 300' Exclusive Right Turn Lane	\$222,566	\$220,030	-1.14%
<b>Total</b>	<b>\$76,559,221</b>	<b>\$79,655,779</b>	<b>4.04%</b>
<b>Urban Arterial</b>			
New Construction (2-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$8,798,189	\$9,517,877	8.18%
New Construction (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$12,387,472	\$13,434,900	8.46%
New Construction (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$15,170,760	\$16,424,818	8.27%
Milling and Resurfacing (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$2,351,378	\$2,413,168	2.63%
Milling and Resurfacing (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$3,337,039	\$3,422,593	2.56%
Add Lanes (2 to 4 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$8,942,637	\$8,803,944	-1.55%
Add Lanes (4 to 6 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$9,968,284	\$9,835,719	-1.33%
Add Lanes (4 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$13,169,187	\$12,940,650	-1.74%
Add Lanes (6 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$11,879,482	\$11,736,856	-1.20%
Add 1 Through Lane on Inside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$1,683,088	\$1,759,585	4.55%
Add 1 Through Lane on Outside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$4,500,989	\$4,760,121	5.76%
Add 300' Exclusive Left Turn Lane	\$127,134	\$135,418	6.52%
Add 300' Exclusive Right Turn Lane	\$274,245	\$283,996	3.56%
<b>Total</b>	<b>\$92,589,884</b>	<b>\$95,469,645</b>	<b>3.11%</b>