

## How Much Has New Rail Transit Cost?

Rail transit projects have huge up-front capital costs, but tracking down these costs can be difficult. This is partly because of inflation, which has halved the value of the dollar since 1982, yet which is rarely accounted for in published accounts of construction costs.

For rail transit lines that opened since 1970, actual capital costs are available from a variety of published sources (table 1). These numbers are adjusted for inflation to 2009 dollars using GDP deflators.

To compare with annual data such as operating costs and fares, FTA guidelines specify that capital expenses be amortized at a 7 percent discount rate over the useful life of the improvements. The FTA further specifies that rail structures, track, and signals have a useful life of 30 years, parking lots and grade crossings have a useful life of 20 years, rail cars and locomotives have a useful life of 25 years, and right of way has a useful life of 100 years.<sup>1</sup> Because few of the available sources have broken down costs into these categories, I amortized all capital costs over 30 years.

Table 1  
New Rail Transit Capital Costs in Millions of 2009 Dollars

Urban Area	Mode	Capital Cost	Annualized Cost	Miles	Cost/Mile	Source
Dallas-Ft. Worth (Irving)	AG	\$74	\$5.9	5.5	\$13	Panayotova <sup>2</sup>
Detroit	AG	360	28.7	2.9	124	<i>Washington Post</i> <sup>3</sup>
Jacksonville	AG	236	18.8	5.4	44	<i>Florida Times-Union</i> <sup>4</sup>
Miami	AG	608	48.5	9.4	65	Miami-Dade Transit <sup>5</sup>
Albuquerque	CR	400	31.6	97.0	4	MRCOG <sup>6</sup>
Boston-Portland ME	CR	5	0.4	57.0	0	NTD <sup>7</sup>
Dallas-Ft. Worth	CR	544	43.4	23.8	23	NTD
Los Angeles	CR	1,574	125.7	327.9	5	NTD
Miami	CR	857	68.4	76.1	11	NTD
Nashville	CR	43	3.4	16.5	3	<i>Metro Jacksonville</i> <sup>8</sup>
Portland	CR	172	13.8	14.7	12	<i>Tigard Times</i> <sup>9</sup>
Salt Lake City	CR	758	60.5	26.1	29	NTD
San Diego	CR	433	34.6	48.9	9	NTD
San Jose	CR	98	7.8	45.0	2	NTD
Seattle	CR	1,230	98.2	70.4	17	NTD
Washington MARC	CR	707	56.4	235.5	3	NTD
Washington VRE	CR	354	28.3	80.8	4	NTD
Atlanta	HR	4,187	334.2	51.9	81	Baum-Snow <sup>10</sup> , New Starts
Baltimore	HR	2,706	216.0	17.0	159	Baum-Snow, Kozel <sup>11</sup>
Los Angeles	HR	7,801	622.8	17.1	458	Baum-Snow
Miami	HR	2,008	160.3	28.0	72	Miami-Dade Transit
San Francisco	HR	13,279	1,060.2	133.8	99	Webber <sup>12</sup> , NTD
San Juan	HR	1,988	158.7	12.8	156	New Starts <sup>13</sup>
Washington	HR	18,232	1,455.6	106.3	172	NTD, FTA <sup>14</sup>
Baltimore	LR	760	60.7	28.8	26	Baum-Snow
Buffalo	LR	1,240	99.0	7.1	176	Baum-Snow
Charlotte	LR	472	37.7	4.7	100	NTD
Dallas	LR	3,560	284.2	49.2	72	NTD
Denver	LR	1,523	121.6	36.2	42	Baum-Snow, RTD
Houston	LR	434	34.7	9.1	48	NTD
Los Angeles	LR	4,472	357.0	58.2	77	Baum-Snow, New Starts <sup>15</sup>
Minneapolis	LR	701	56.0	13.3	53	NTD
New York (Hudson-Bergen)	LR	1,394	111.3	7.0	201	Dantata <sup>16</sup>

Urban Area	Mode	Capital		Miles	Cost/ Mile	Source
		Cost	Annualized			
Philadelphia (River Line)	LR	1,288	102.8	34.0	38	<i>New York Times</i> <sup>17</sup>
Phoenix	LR	1,476	117.8	19.6	75	NTD
Portland	LR	2,970	237.1	48.0	62	Pickrell <sup>18</sup> , NTD
Sacramento	LR	1,084	86.5	36.6	30	Pickrell, NTD
Salt Lake City	LR	1,112	88.8	20.1	55	NTD
San Diego	LR	1,846	147.4	51.3	36	Baum-Snow, New Starts <sup>19</sup>
San Diego (North County)	LR	315	25.1	16.3	19	NTD
San Jose	LR	1,698	135.5	39.8	43	Baum-Snow
Seattle	LR	2,866	228.8	13.9	206	NTD
St. Louis	LR	1,940	154.9	48.2	40	Baum-Snow, <i>St. Louis P-D</i> <sup>20</sup>
Kenosha	SC	2	0.2	1.9	1	NTD
Little Rock	SC	35	2.8	3.5	10	NTD
Memphis	SC	129	10.3	10.5	12	NTD
Portland	SC	122	9.7	3.9	31	City of Portland <sup>21</sup>
Seattle	SC	46	3.7	2.6	18	NTD
Tacoma	SC	97	7.7	2.7	36	<i>Tacoma News-Tribune</i> <sup>22</sup>
Tampa	SC	10	0.8	3.2	3	NTD
National total/average	AG	\$1,278	\$102.0	23.2	\$55	
National total/average	CR	7,174	572.5	1,119.5	7	
National total/average	HR	50,201	4,007.8	366.7	137	
National total/average	LR	31,151	2,487.0	541.0	58	
National total/average	SC	441	35.2	28.3	16	
National total/average	All	90,246	7,205.5	2,078.7	45	

Since 1960, American cities have spent \$90 billion building 2,000 miles of new rail transit lines. See endnotes for complete sources.

### Notes

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16. Nasiru A. Dantata, Ali Touran, and Donald C. Schneck, *Trends in U.S. Rail Transit Project Cost Overrun*, paper presented to the Transportation Research Board, 2006, table 2, [tinyurl.com/34g9rd](http://tinyurl.com/34g9rd).
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