

**System Requirements and Performance (Dollars are in millions except as noted.)**

<b>Empire Corridor Results</b> ("N/Av" means "Not Available." "N/Ap" means "Not Applicable.")	<b>Accelerail 125F: Extension</b>	<b>New HSR: Empire/Northeast System</b>	<b>New HSR: NEC Alone</b>	<b>New HSR: Empire Corridor Proper</b>	<b>Maglev: Empire/Northeast System</b>	<b>Maglev: NEC Alone</b>	<b>Maglev: Empire Corridor Proper</b>
<b>Physical, production, and traffic factors (traffic data is for the year 2020)</b>							
Route-miles	467	880	441	438	878	441	437
Trip-time, hours, New York-Buffalo	5.2	3.3	N/Ap	3.3	2.4	N/Ap	2.4
Average train speed (mph)	86	114	110	120	166	163	170
Average fare per passenger-mile (dollars)	0.192	0.309	0.332	0.255	0.350	0.379	0.289
Trains per day in each direction, New York-Buffalo	50	50	N/Ap	50	47	N/Ap	47
Passengers, Millions of Trips (2020)	9.4	32.6	24.8	7.8	33.9	25.8	8.2
Passenger-Miles, Millions (2020)	2,229	6,885	4,773	2,112	7,448	5,094	2,355
Average trip length (miles)	237	211	193	271	219	198	287
Average trip length as % of route length	N/Av	24%	44%	N/Av	25%	45%	N/Av
HSGT traffic density per route-mile (millions of passenger-miles per route-mile)	4.8	7.8	10.8	4.8	8.5	11.5	5.4
Percent of air traffic diverted	N/Av	24.5%	27.0%	N/Av	31.8%	35.2%	N/Av
Percent of intercity auto traffic diverted	N/Av	2.6%	0.7%	N/Av	2.6%	0.7%	N/Av
Percent of HSGT traffic by source:							
Diverted from air	N/Av	24%	22%	N/Av	29%	27%	N/Av
Diverted from auto	N/Av	11%	2%	N/Av	11%	2%	N/Av
Diverted from conventional rail	N/Av	58%	70%	N/Av	55%	66%	N/Av
Diverted from bus	N/Av	1%	0%	N/Av	0%	0%	N/Av
Induced	N/Av	6%	5%	N/Av	6%	5%	N/Av
<b>Operating efficiency factors, 2020</b>							
Train-miles, millions	19.6	64.2	39.4	24.8	60.1	36.7	23.4
Passenger-miles per train mile	114	107	121	85	124	139	101
Seat-miles, millions	5,393	18,241	11,203	7,039	19,545	11,932	7,613
Load factor	41%	38%	43%	30%	38%	43%	31%
Gross ton-miles, millions	6,563	25,178	15,463	9,715	10,825	6,609	4,216
Passenger-miles per gross ton-mile	0.34	0.27	0.31	0.22	0.69	0.77	0.56
Train-hours, millions	0.23	0.56	0.36	0.21	0.36	0.23	0.14
Passenger-miles per train hour	9,726	12,187	13,306	10,241	20,536	22,612	17,133
Operating ratio	51%	37%	34%	45%	28%	26%	36%
<b>Operating results for 2020</b>							
Revenues:							
Passenger transportation revenue	\$427	\$2,124	\$1,587	\$537	\$2,610	\$1,931	\$679
Income from ancillary activities	\$2	\$61	\$43	\$18	\$63	\$45	\$18
System revenues	\$429	\$2,185	\$1,630	\$555	\$2,674	\$1,976	\$698
<i>Percent of system revenues from ancillary activities</i>	<i>0.4%</i>	<i>2.8%</i>	<i>2.7%</i>	<i>3.2%</i>	<i>2.4%</i>	<i>2.3%</i>	<i>2.6%</i>
Operating and maintenance expenses:							
Maintenance of way	\$14	\$57	\$43	\$14	\$56	\$33	\$24
Maintenance of equipment	\$32	\$136	\$88	\$47	\$81	\$53	\$29
Transportation	\$64	\$220	\$138	\$82	\$247	\$154	\$93
Passenger traffic and services	\$63	\$212	\$156	\$56	\$218	\$160	\$58
General and administrative	\$47	\$158	\$114	\$44	\$135	\$95	\$40
Total O&M expense	\$220	\$783	\$540	\$244	\$738	\$494	\$244
<i>Per passenger-mile (dollars):</i>							
Maintenance of way	<i>\$0.006</i>	<i>\$0.008</i>	<i>\$0.009</i>	<i>\$0.006</i>	<i>\$0.008</i>	<i>\$0.006</i>	<i>\$0.010</i>
Maintenance of equipment	<i>\$0.014</i>	<i>\$0.020</i>	<i>\$0.018</i>	<i>\$0.022</i>	<i>\$0.011</i>	<i>\$0.010</i>	<i>\$0.012</i>
Transportation	<i>\$0.029</i>	<i>\$0.032</i>	<i>\$0.029</i>	<i>\$0.039</i>	<i>\$0.033</i>	<i>\$0.030</i>	<i>\$0.040</i>
Passenger traffic and services	<i>\$0.028</i>	<i>\$0.031</i>	<i>\$0.033</i>	<i>\$0.027</i>	<i>\$0.029</i>	<i>\$0.031</i>	<i>\$0.025</i>
General and administrative	<i>\$0.021</i>	<i>\$0.023</i>	<i>\$0.024</i>	<i>\$0.021</i>	<i>\$0.018</i>	<i>\$0.019</i>	<i>\$0.017</i>
Total O&M expense	<i>\$0.099</i>	<i>\$0.114</i>	<i>\$0.113</i>	<i>\$0.115</i>	<i>\$0.099</i>	<i>\$0.097</i>	<i>\$0.104</i>
Operating surplus	\$209	\$1,402	\$1,090	\$311	\$1,935	\$1,482	\$453
<i>Operating surplus per passenger-mile (dollars)</i>	<i>\$0.094</i>	<i>\$0.204</i>	<i>\$0.228</i>	<i>\$0.147</i>	<i>\$0.260</i>	<i>\$0.291</i>	<i>\$0.193</i>

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<i>Life-Cycle Measures</i> (All amounts are present values, as of the year 2000, of cash inflows/outflows between 2000 and 2040. )							
Revenues:							
Passenger Transportation Revenues	\$3,576	\$17,633	\$13,089	\$4,544	\$21,618	\$15,917	\$5,700
Income from Ancillary Activities	\$15	\$497	\$353	\$144	\$515	\$367	\$148
System Revenues	\$3,591	\$18,129	\$13,442	\$4,687	\$22,133	\$16,285	\$5,848
Less: Total O&M expenses	\$1,930	\$6,832	\$4,687	\$2,145	\$6,523	\$4,328	\$2,194
Operating surplus	\$1,661	\$11,297	\$8,755	\$2,542	\$15,610	\$11,956	\$3,654
Less: Continuing investments	\$188	\$767	\$478	\$289	\$552	\$349	\$203
Surplus after continuing investments	<b>\$1,473</b>	<b>\$10,530</b>	<b>\$8,277</b>	<b>\$2,253</b>	<b>\$15,059</b>	<b>\$11,607</b>	<b>\$3,451</b>
Initial investment:							
Initial vehicle investment	\$404	\$2,739	\$1,826	\$913	\$2,311	\$1,541	\$770
Initial infrastructure investment	\$1,487	\$26,908	\$17,232	\$9,676	\$30,961	\$20,524	\$10,437
Initial investment for ancillary activities	\$40	\$93	\$70	\$23	\$96	\$73	\$24
Initial investment, Total	\$1,932	\$29,739	\$19,127	\$10,612	\$33,369	\$22,137	\$11,232
Percent of total initial investment pertaining to--							
Vehicles	21%	9%	10%	9%	7%	7%	7%
Infrastructure	77%	90%	90%	91%	93%	93%	93%
Ancillary activities	2%	0%	0%	0%	0%	0%	0%
Total initial investment per route-mile	\$4.1	\$33.8	\$43.4	\$24.2	\$38.0	\$50.2	\$25.7
Portion of initial investment that is <u>not</u> covered by surplus after continuing investments	\$459	\$19,210	\$10,851	\$8,359	\$18,310	\$10,530	\$7,780
Percentage of initial investment covered by surplus after continuing investments	76%	35%	43%	21%	45%	52%	31%
<b>Comparison of Benefits and Costs; Assessment of Partnership Potential</b>							
<b>Surplus after continuing investments</b>	<b>\$1,473</b>	<b>\$10,530</b>	<b>\$8,277</b>	<b>\$2,253</b>	<b>\$15,059</b>	<b>\$11,607</b>	<b>\$3,451</b>
Total benefits:							
Benefits to HSGT users:							
System revenues	\$3,591	\$18,129	\$13,442	\$4,687	\$22,133	\$16,285	\$5,848
Users' consumer surplus	\$4,374	\$12,479	\$7,550	\$4,929	\$14,352	\$8,642	\$5,710
Total benefits to HSGT users	\$7,965	\$30,609	\$20,993	\$9,616	\$36,485	\$24,927	\$11,558
Benefits to the public at large:							
Airport congestion delay savings							
Operation delays	\$343	\$1,299	\$1,011	\$288	\$1,496	\$1,209	\$287
Passenger delays	\$609	\$2,241	\$1,717	\$524	\$2,580	\$2,055	\$525
Total airport congestion delay savings	\$951	\$3,541	\$2,728	\$812	\$4,076	\$3,264	\$812
Highway delay savings	\$652	\$1,201	\$521	\$680	\$1,416	\$719	\$697
Emission savings	\$113	\$293	\$143	\$150	\$243	\$101	\$141
Total benefits to the public at large	\$1,716	\$5,034	\$3,392	\$1,643	\$5,735	\$4,084	\$1,651
<b>Total benefits</b>	<b>\$9,681</b>	<b>\$35,643</b>	<b>\$24,384</b>	<b>\$11,259</b>	<b>\$42,219</b>	<b>\$29,011</b>	<b>\$13,209</b>
Total costs:							
Initial investment	\$1,932	\$29,739	\$19,127	\$10,612	\$33,369	\$22,137	\$11,232
O&M expense	\$1,930	\$6,832	\$4,687	\$2,145	\$6,523	\$4,328	\$2,194
Continuing investments	\$188	\$767	\$478	\$289	\$552	\$349	\$203
<b>Total costs</b>	<b>\$4,050</b>	<b>\$37,339</b>	<b>\$24,293</b>	<b>\$13,046</b>	<b>\$40,443</b>	<b>\$26,815</b>	<b>\$13,629</b>
Incidence of total costs:							
Costs borne by users	\$3,591	\$18,129	\$13,442	\$4,687	\$22,133	\$16,285	\$5,848
Publicly-borne costs	\$459	\$19,210	\$10,851	\$8,359	\$18,310	\$10,530	\$7,780
<b>Total benefits less total costs</b>	<b>\$5,631</b>	<b>(\$1,696)</b>	<b>\$91</b>	<b>(\$1,787)</b>	<b>\$1,776</b>	<b>\$2,196</b>	<b>(\$420)</b>
Benefits to HSGT users less costs borne by users	\$4,374	\$12,479	\$7,550	\$4,929	\$14,352	\$8,642	\$5,710
Benefits to the public at large less publicly-borne costs	\$1,257	(\$14,175)	(\$7,459)	(\$6,716)	(\$12,576)	(\$6,446)	(\$6,130)
<b>Ratio of total benefits to total costs</b>	<b>2.39</b>	<b>0.95</b>	<b>1.00</b>	<b>0.86</b>	<b>1.04</b>	<b>1.08</b>	<b>0.97</b>

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Ratio of benefits to HSGT users, to costs borne by users	2.22	1.69	1.56	2.05	1.65	1.53	1.98
Ratio of benefits to the public at large, to publicly-borne costs	3.74	0.26	0.31	0.20	0.31	0.39	0.21
<b>Does this case meet the threshold tests for "partnership potential"?</b>	YES	YES	YES	NO	YES	YES	YES