

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

Texas Triangle	90	110	125F	125E	150F	150E	New HSR	Maglev
<i>Physical, production, and traffic factors (traffic data is for the year 2020)</i>								
Route-miles	792	783	783	783	783	783	436	436
Trip-time, hours, Dallas-San Antonio	4.4	3.7	3.5	3.4	3.1	3.1	2.6	1.7
Average train speed (mph)	74	88	94	95	103	104	123	179
Average fare per passenger-mile (dollars)	0.177	0.178	0.177	0.177	0.188	0.188	0.217	0.284
Trains per day in each direction	10	15	16	17	18	18	22	47
Passengers, Millions of Trips (2020)	3.2	4.7	5.2	5.3	5.6	5.6	7.5	8.1
Passenger-Miles, Millions (2020)	653	982	1,111	1,124	1,208	1,215	1,650	1,840
Average trip length (miles)	205	210	212	213	215	215	220	226
Average trip length as % of route length	26%	27%	27%	27%	27%	27%	50%	52%
HSGT traffic density per route-mile (millions of passenger-miles per route-mile)	0.8	1.3	1.4	1.4	1.5	1.6	3.8	4.2
Percent of air traffic diverted	7.4%	13.3%	15.6%	15.9%	17.7%	17.9%	25.9%	31.4%
Percent of intercity auto traffic diverted	3.3%	4.4%	4.8%	4.8%	5.0%	5.0%	5.5%	5.1%
Percent of HSGT traffic by source:								
Diverted from air	35%	42%	44%	44%	47%	47%	57%	64%
Diverted from auto	44%	40%	39%	39%	37%	37%	29%	25%
Diverted from conventional rail	2%	2%	1%	1%	1%	1%	1%	1%
Diverted from bus	9%	7%	7%	7%	6%	6%	4%	3%
Induced	9%	9%	9%	9%	9%	9%	8%	8%
<i>Operating efficiency factors, 2020</i>								
Train-miles, millions	5.0	7.3	8.0	8.2	8.9	8.9	11.5	24.6
Passenger-miles per train mile	131	134	139	137	136	137	144	75
Seat-miles, millions	1,312	1,937	2,110	2,171	2,344	2,343	3,252	3,686
Load factor	50%	51%	53%	52%	52%	52%	51%	50%
Gross ton-miles, millions	1,799	2,539	2,605	2,599	2,805	2,716	4,489	2,212
Passenger-miles per gross ton-mile	0.36	0.39	0.43	0.43	0.43	0.45	0.37	0.83
Train-hours, millions	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.14
Passenger-miles per train hour	9,732	11,751	13,073	12,975	14,078	14,224	17,774	13,438
Operating ratio	67%	60%	56%	62%	51%	59%	49%	38%
<i>Operating results for 2020</i>								
Revenues:								
Passenger transportation revenue	\$115	\$175	\$197	\$199	\$228	\$229	\$359	\$523
Income from ancillary activities	\$4	\$5	\$6	\$6	\$6	\$6	\$9	\$9
System revenues	\$119	\$180	\$203	\$205	\$234	\$235	\$367	\$533
<i>Percent of system revenues from ancillary activities</i>	3%	3%	3%	3%	3%	3%	2%	2%
Operating and maintenance expenses:								
Maintenance of way	\$8	\$9	\$7	\$16	\$6	\$17	\$24	\$23
Maintenance of equipment	\$10	\$14	\$15	\$13	\$16	\$15	\$26	\$17
Transportation	\$18	\$25	\$26	\$31	\$27	\$34	\$38	\$63
Passenger traffic and services	\$21	\$29	\$31	\$32	\$33	\$34	\$45	\$54
General and administrative	\$21	\$29	\$31	\$31	\$33	\$35	\$44	\$43
Total O&M expense	\$78	\$105	\$110	\$123	\$117	\$134	\$176	\$199
<i>Per passenger-mile (dollars):</i>								
Maintenance of way	\$0.012	\$0.009	\$0.006	\$0.015	\$0.005	\$0.014	\$0.014	\$0.012
Maintenance of equipment	\$0.015	\$0.014	\$0.013	\$0.012	\$0.013	\$0.012	\$0.016	\$0.009
Transportation	\$0.027	\$0.025	\$0.023	\$0.027	\$0.023	\$0.028	\$0.023	\$0.034
Passenger traffic and services	\$0.033	\$0.029	\$0.028	\$0.028	\$0.028	\$0.028	\$0.027	\$0.029
General and administrative	\$0.032	\$0.029	\$0.028	\$0.028	\$0.028	\$0.029	\$0.027	\$0.024
Total O&M expense	\$0.119	\$0.107	\$0.099	\$0.110	\$0.096	\$0.110	\$0.107	\$0.108
Operating surplus	\$41	\$75	\$93	\$82	\$117	\$101	\$192	\$333
<i>Operating surplus per passenger-mile (dollars)</i>	\$0.063	\$0.076	\$0.084	\$0.073	\$0.097	\$0.083	\$0.116	\$0.181
Year showing first operating surplus	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000

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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	\$868	\$1,358	\$1,540	\$1,558	\$1,788	\$1,798	\$2,840	\$4,235
Income from Ancillary Activities	\$27	\$41	\$46	\$46	\$49	\$49	\$69	\$76
System Revenues	\$894	\$1,399	\$1,586	\$1,604	\$1,837	\$1,847	\$2,909	\$4,311
Less: Total O&M expenses	\$646	\$871	\$918	\$1,046	\$971	\$1,134	\$1,510	\$1,735
Operating surplus	\$248	\$528	\$668	\$558	\$866	\$713	\$1,399	\$2,575
Less: Continuing investments	\$53	\$72	\$83	\$73	\$69	\$67	\$232	\$122
Surplus after continuing investments	\$195	\$456	\$586	\$486	\$797	\$646	\$1,168	\$2,453
Initial investment:								
Initial vehicle investment	\$270	\$353	\$353	\$353	\$353	\$353	\$652	\$626
Initial infrastructure investment	\$590	\$1,355	\$3,408	\$4,254	\$3,990	\$5,421	\$4,408	\$9,490
Initial investment for ancillary activities	\$4	\$5	\$6	\$6	\$6	\$6	\$11	\$11
Initial investment, Total	\$863	\$1,714	\$3,767	\$4,613	\$4,349	\$5,780	\$5,071	\$10,127
<i>Percent of total initial investment pertaining to--</i>								
Vehicles	31%	21%	9%	8%	8%	6%	13%	6%
Infrastructure	68%	79%	90%	92%	92%	94%	87%	94%
Ancillary activities	0%	0%	0%	0%	0%	0%	0%	0%
<i>Total initial investment per route-mile</i>	\$1.1	\$2.2	\$4.8	\$5.9	\$5.6	\$7.4	\$11.6	\$23.2
Portion of initial investment that is <u>not</u> covered by surplus after continuing investments	\$668	\$1,258	\$3,182	\$4,128	\$3,552	\$5,134	\$3,903	\$7,674
Percentage of initial investment covered by surplus after continuing investments	23%	27%	16%	11%	18%	11%	23%	24%
Comparison of Benefits and Costs; Assessment of Partnership Potential								
Surplus after continuing investments	\$195	\$456	\$586	\$486	\$797	\$646	\$1,168	\$2,453
Total benefits:								
Benefits to HSGT users:								
System revenues	\$894	\$1,399	\$1,586	\$1,604	\$1,837	\$1,847	\$2,909	\$4,311
Users' consumer surplus	\$1,050	\$1,814	\$2,116	\$2,146	\$2,395	\$2,412	\$3,654	\$4,543
Total benefits to HSGT users	\$1,944	\$3,213	\$3,702	\$3,750	\$4,232	\$4,259	\$6,563	\$8,853
Benefits to the public at large:								
Airport congestion delay savings								
Operation delays	\$26	\$47	\$54	\$55	\$61	\$62	\$101	\$121
Passenger delays	\$36	\$63	\$74	\$75	\$83	\$84	\$143	\$171
Total airport congestion delay savings	\$63	\$110	\$128	\$130	\$144	\$145	\$244	\$292
Highway delay savings	\$302	\$399	\$430	\$433	\$446	\$447	\$418	\$382
Emission savings	\$3	\$57	\$66	\$101	\$46	\$115	\$157	\$155
Total benefits to the public at large	\$367	\$566	\$624	\$664	\$636	\$707	\$819	\$829
Total benefits	\$2,311	\$3,779	\$4,326	\$4,414	\$4,868	\$4,966	\$7,382	\$9,682
Total costs:								
Initial investment	\$863	\$1,714	\$3,767	\$4,613	\$4,349	\$5,780	\$5,071	\$10,127
O&M expense	\$646	\$871	\$918	\$1,046	\$971	\$1,134	\$1,510	\$1,735
Continuing investments	\$53	\$72	\$83	\$73	\$69	\$67	\$232	\$122
Total costs	\$1,562	\$2,657	\$4,768	\$5,732	\$5,389	\$6,981	\$6,812	\$11,984
Incidence of total costs:								
Costs borne by users	\$894	\$1,399	\$1,586	\$1,604	\$1,837	\$1,847	\$2,909	\$4,311
Publicly-borne costs	\$668	\$1,258	\$3,182	\$4,128	\$3,552	\$5,134	\$3,903	\$7,674

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Total benefits less total costs	\$749	\$1,122	(\$441)	(\$1,318)	(\$520)	(\$2,015)	\$570	(\$2,302)
Benefits to HSGT users less costs borne by users	\$1,050	\$1,814	\$2,116	\$2,146	\$2,395	\$2,412	\$3,654	\$4,543
Benefits to the public at large less publicly-borne costs	(\$301)	(\$692)	(\$2,557)	(\$3,464)	(\$2,916)	(\$4,427)	(\$3,084)	(\$6,845)
Ratio of total benefits to total costs	1.48	1.42	0.91	0.77	0.90	0.71	1.08	0.81
Ratio of benefits to HSGT users, to costs borne by users	2.17	2.30	2.33	2.34	2.30	2.31	2.26	2.05
Ratio of benefits to the public at large, to publicly-borne costs	0.55	0.45	0.20	0.16	0.18	0.14	0.21	0.11
Does this case meet the threshold tests for "partnership potential"?	YES	YES	NO	NO	NO	NO	YES	NO