

Category	Fixed or variable with inflation	Present value	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
			Capital Costs												
Trainset and Capital Spares costs	Fixed	\$1,101,636,846	\$64,000,000	\$131,000,000	\$128,000,000	\$128,000,000	\$64,000,000	\$0	\$0	\$327,000,000	\$320,000,000	\$320,000,000	\$320,000,000	\$0	
rolling stock maintenance costs															
Maintenance	TSSSA	Variable	\$951,798,755	\$53,045,000	\$54,636,350	\$56,275,441	\$57,963,704	\$59,702,615	\$61,493,693	\$63,338,504	\$65,238,659	\$67,195,819	\$69,211,694	\$71,288,044	\$73,426,686
	Light Maintenance Labor	Variable	\$43,565,810	\$123,330	\$381,089	\$654,202	\$943,359	\$1,110,469	\$1,143,783	\$1,178,096	\$1,971,838	\$2,812,145	\$3,701,095	\$4,640,852	\$4,780,077
	Total		\$995,364,565	\$53,168,330	\$55,017,439	\$56,929,642	\$58,907,063	\$60,813,083	\$62,637,476	\$64,516,600	\$67,210,498	\$70,007,964	\$72,912,789	\$75,928,896	\$78,206,763
power consumption															
electricity consumed		Variable	\$442,068,568	\$1,156,923	\$3,592,246	\$6,196,624	\$8,978,908	\$10,620,766	\$10,992,493	\$11,377,230	\$19,135,079	\$27,422,040	\$36,265,648	\$45,694,716	\$47,294,031
electricity regenerated		Variable	-\$98,237,460	-\$257,094	-\$798,277	-\$1,377,028	-\$1,995,313	-\$2,360,170	-\$2,442,776	-\$2,528,273	-\$4,252,240	-\$6,093,787	-\$8,059,033	-\$10,154,381	-\$10,509,785
	power consumption		\$343,831,109	\$899,829	\$2,793,969	\$4,819,597	\$6,983,595	\$8,260,596	\$8,549,717	\$8,848,957	\$14,882,839	\$21,328,253	\$28,206,615	\$35,540,335	\$36,784,247
Variable Track charges (VTISM)															
VTISM	Variable		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total at inflated prices			\$5,575,002,082	\$118,068,159	\$188,811,408	\$189,749,239	\$193,890,658	\$133,073,679	\$71,187,193	\$73,365,557	\$409,093,337	\$411,336,217	\$421,119,404	\$431,469,231	\$114,991,009
Present Value at base prices			\$2,440,832,519	\$104,906,974	\$158,137,761	\$149,803,922	\$144,289,859	\$93,348,399	\$47,070,885	\$45,727,609	\$240,350,190	\$227,800,566	\$219,836,037	\$212,314,301	\$53,337,062

Discount Rate Calculation (including discount for inflation)

Base Date	2014
Years from base date	
Real Discount Rate	3.50%
Inflation Rate	2.50%
Electricity Inflation rate	3.50%
Maintenance inflation rate	3.00%
Total annual discount rate applied to nominal cashflows	6.09%

Its Sheet

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Lease costs beyond 20th year are to be ignored and will not be considered in the model																	
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$75,629,486	\$77,898,371	\$80,235,322	\$82,642,382	\$85,121,653	\$87,675,303	\$90,305,562	\$93,014,729	\$95,805,170	\$98,679,326	\$101,639,705	\$104,688,896	\$107,829,563	\$111,064,450	\$114,396,384	\$117,828,275	\$121,363,124	\$125,004,017
\$4,923,480	\$5,071,184	\$5,223,319	\$5,380,019	\$5,541,420	\$5,707,662	\$5,878,892	\$6,055,259	\$6,236,917	\$6,424,024	\$6,616,745	\$6,815,247	\$7,019,705	\$7,230,296	\$7,447,205	\$7,670,621	\$7,900,739	\$8,137,762
\$80,552,966	\$82,969,555	\$85,458,641	\$88,022,401	\$90,663,073	\$93,382,965	\$96,184,454	\$99,069,987	\$102,042,087	\$105,103,350	\$108,256,450	\$111,504,144	\$114,849,268	\$118,294,746	\$121,843,588	\$125,498,896	\$129,263,863	\$133,141,779
\$48,949,322	\$50,662,549	\$52,435,738	\$54,270,989	\$56,170,473	\$58,136,440	\$60,171,215	\$62,277,208	\$64,456,910	\$66,712,902	\$69,047,853	\$71,464,528	\$73,965,787	\$76,554,589	\$79,234,000	\$82,007,190	\$84,877,442	\$87,848,152
-\$10,877,627	-\$11,258,344	-\$11,652,386	-\$12,060,220	-\$12,482,327	-\$12,919,209	-\$13,371,381	-\$13,839,380	-\$14,323,758	-\$14,825,089	-\$15,343,967	-\$15,881,006	-\$16,436,842	-\$17,012,131	-\$17,607,556	-\$18,223,820	-\$18,861,654	-\$19,521,812
\$38,071,695	\$39,404,204	\$40,783,352	\$42,210,769	\$43,688,146	\$45,217,231	\$46,799,834	\$48,437,828	\$50,133,152	\$51,887,813	\$53,703,886	\$55,583,522	\$57,528,945	\$59,542,458	\$61,626,444	\$63,783,370	\$66,015,788	\$68,326,341
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$118,624,661	\$122,373,759	\$126,241,993	\$130,233,170	\$134,351,219	\$138,600,196	\$142,984,288	\$147,507,816	\$152,175,239	\$156,991,162	\$161,960,336	\$167,087,666	\$172,378,213	\$177,837,204	\$183,470,033	\$189,282,266	\$195,279,651	\$201,468,119
\$51,865,190	\$50,434,193	\$49,042,929	\$47,690,289	\$46,375,194	\$45,096,595	\$43,853,475	\$42,644,842	\$41,469,735	\$40,327,217	\$39,216,380	\$38,136,340	\$37,086,238	\$36,065,239	\$35,072,531	\$34,107,327	\$33,168,859	\$32,256,383

Sample results page - this workbook can be deleted without impacting the model

	Discounted price	% of total
Capital Costs	\$ 1,101,636,846	45.1%
Maintenance Costs	\$ 995,364,565	40.8%
Power Consumption	\$ 343,831,109	14.1%
VTISM	\$ -	0.0%
Total	\$ 2,440,832,519	100.0%

Amtrak Life Cycle Cost Model Completion Instructions

The Life Cycle Cost Model contains four (4) tabs:

- 1.) Input Constants
- 2.) DCF Results
- 3.) Total
- 4.) Instructions

Offerors must provide the requested data and costs **only** in the yellow cells contained within the "**Input Constants**" tab of the workbook. The remainder of the cells and the other workbook tabs will be driven by the Offeror's inputs.

To be completed by the Offeror:

Input Constants Tab:

Cell(s): Description:

Power Consumption:

- D 16 Electricity consumed per Trainset per mile - / kWh/mile
D 17 Electricity regenerated per Trainset per mile - / kWh/mile

Track Maintenance Costs:

- D 33 Input the projected necessary track maintenance cost per vehicle mile

Light Maintenance Labor Costs:

- D 37 Input the projected annual routine maintenance hours required for Trainset operation

Capital Costs:

- D 42 The Offeror's per Trainset cost for rolling stock as included in proposal
D 43 The Offeror's projected total cost of recommended capital spares included in proposal

Delivery Profile and TSSSA Costs / Year:

- J 7 - J 36 Input the number of completed Trainsets to be delivered / calendar year
L 7 - L 36 Input a projected percentage of the delivery of capital spares in the recommended year (total of 100%)
N 7 - N 36 Input the per year costs of the proposed TSSSA agreement in the corresponding year