Arthur D Little

23 - Passenger Operations

Arthur D Little

Appendix C: Cost Model for Amtrak Retention Toilet Systems

Costs by Route

Draft Final Report to Federal Railroad Administration

1990

Arthur D. Little, Inc.
Acorn Park
Cambridge, Massachusetts
02140-2390

Reference 60719-71

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Equipment Type:	Monogram	Modified Vacuum				
Scenario:	Expected					
Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$13,532	$55,896
Coach Super	34000	6	4	40	$7,337	$39,168
Coach-HEP-HLV	39940	4	1	21	$5,208	$33,592
Lounge-HEP-HLV	39970	2	1	6	$3,160	$28,016
Bag Coach Super	31000	5	3	48	$4,927	$36,380
Sleeper Super	32000	12	3	34	$10,416	$55,896
Coach Super	34000	6	5	51	$5,718	$39,168
Trans Dorm Coach	39900	4	1	36	$3,985	$33,592
Sleeper 10-6	2400(30)	17	1	27	$31,746	$69,836
Amlounge II	28000	2	1	13	$4,519	$28,016
Coach (HDCP)	4000	3	1	21	$6,319	$30,804
Coach	4600	2	4	78	$4,514	$28,016
Horizon	54000	2	1	103	$4,682	$28,016
Dome Coach	9400	2	1	12	$4,504	$28,016
Slumbercoach 24-8	2080	32	1	16	$34,595	$111,656
Viewliner-Sleeper	2300	17	1	2	$18,714	$69,836
Sleeper 10-6	2400(30)	17	2	55	$18,676	$69,836
Amcoach II	25000	2	7	119	$2,929	$28,016
Amlounge II	28000	2	1	13	$2,898	$28,016
Amcafe	20000	2	1	45	$4,582	$28,016
Amclub	20100	2	3	24	$4,513	$28,016
Amcoach	21000	2	1	67	$4,759	$28,016
Met-Srvc Dinette	20900	2	1	13	$4,705	$28,016
Met-Srvc Club	20970	2	1	13	$4,891	$28,016
Met-Srvc Coach	21900	2	4	50	$5,393	$28,016
Amdinette	20200	2	1	25	$4,681	$28,016
Amcoach	21000	2	3	200	$5,749	$28,016
Amcoach	21800	2	1	31	$5,328	$28,016
Turbo Power Coach	150-Even	1	1	14	$2,830	$25,228
Turbo Power Club	151-Odd	1	1	6	$2,708	$25,228
Turbo Cafe	170	1	1	3	$2,943	$25,228
Turbo Coach	170	2	3	21	$4,955	$28,016
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$460,103	$1,900,464	#1-2	Sunset Limited	New Orleans/Los Angeles
$296,745	$1,584,128	#1-2	Sunset Limited	New Orleans/Los Angeles
$109,360	$705,432	#1-2	Sunset Limited	New Orleans/Los Angeles
$18,961	$168,096	#1-2	Sunset Limited	New Orleans/Los Angeles
$236,494	$1,746,240	#5-6	California Zephyr	Chicago/Oakland
$354,140	$1,900,464	#5-6	California Zephyr	Chicago/Oakland
$289,073	$1,980,160	#5-6	California Zephyr	Chicago/Oakland
$143,466	$1,209,312	#5-6	California Zephyr	Chicago/Oakland
$859,054	$1,889,762	#58	City of New Orleans	New Orleans/Chicago
$56,489	$350,200	#58	City of New Orleans	New Orleans/Chicago
$132,689	$646,884	#58	City of New Orleans	New Orleans/Chicago
$352,110	$2,185,248	#58	City of New Orleans	New Orleans/Chicago
$482,201	$2,885,648	#58	City of New Orleans	New Orleans/Chicago
$54,053	$336,192	#58	City of New Orleans	New Orleans/Chicago
$553,520	$1,786,496	#87-88	Silver Meteor	New York City/Tampa
$37,428	$139,672	#87-88	Silver Meteor	New York City/Tampa
$1,026,074	$3,836,790	#87-88	Silver Meteor	New York City/Tampa
$348,598	$3,333,904	#87-88	Silver Meteor	New York City/Tampa
$36,227	$350,200	#87-88	Silver Meteor	New York City/Tampa
$206,181	$1,260,720	#193	Benjamin-Franklin	Boston/Philadelphia
$108,312	$672,384	#193	Benjamin-Franklin	Boston/Philadelphia
$316,505	$1,863,064	#193	Benjamin-Franklin	Boston/Philadelphia
$61,169	$364,208	#200	Metroliner	Washington DC/New York Cit
$63,584	$364,208	#200	Metroliner	Washington DC/New York Cit
$269,632	$1,400,800	#200	Metroliner	Washington DC/New York Cit
$117,017	$700,400	#242	Hudson Highlander	Albany/New York City
$1,146,865	$5,589,192	#242	Hudson Highlander	Albany/New York City
$165,183	$868,496	#242	Hudson Highlander	Albany/New York City
$39,621	$353,192	#250	Electric City Express	Schnecetady/New York City
$16,247	$151,368	#250	Electric City Express	Schnecetady/New York City
$8,829	$75,684	#250	Electric City Express	Schnecetady/New York City
$104,052	$588,336	#250	Electric City Express	Schnecetady/New York City
$8,469,980	$43,187,344			
$9,345,007	$47,648,991			

Equipment Type:	Monogram	Self-Cont'd Recirc				
Scenario:	Expected					
Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$20,861	$42,456
Coach Super	34000	6	4	40	$10,581	$21,228
Coach-HEP-HLV	39940	4	1	21	$9,290	$14,152
Lounge-HEP-HLV	39970	2	1	6	$4,773	$7,076
Bag Coach Super	31000	5	3	48	$9,348	$17,690
Sleeper Super	32000	12	3	34	$17,766	$42,456
Coach Super	34000	6	5	51	$11,185	$21,228
Trans Dorm Coach	39900	4	1	36	$5,977	$14,152
Sleeper 10-6	2400(30)	17	1	27	$42,468	$60,146
Amlounge II	28000	2	1	13	$5,126	$7,076
Coach (HDCP)	4000	3	1	21	$7,607	$10,614
Coach	4600	2	4	78	$5,124	$7,076
Horizon	54000	2	1	103	$5,219	$7,076
Dome Coach	9400	2	1	12	$5,118	$7,076
Slumbercoach 24-8	2080	32	1	16	$55,367	$113,216
Viewliner-Sleeper	2300	17	1	2	$29,437	$60,146
Sleeper 10-6	2400(30)	17	2	55	$29,415	$60,146
Amcoach II	25000	2	7	119	$4,636	$7,076
Amlounge II	28000	2	1	13	$3,543	$7,076
Amcafe	20000	2	1	45	$5,168	$7,076
Amclub	20100	2	3	24	$5,128	$7,076
Amcoach	21000	2	1	67	$5,273	$7,076
Met-Srvc Dinette	20900	2	1	13	$5,249	$7,076
Met-Srvc Club	20970	2	1	13	$5,363	$7,076
Met-Srvc Coach	21900	2	4	50	$5,668	$7,076
Amdinette	20200	2	1	25	$5,234	$7,076
Amcoach	21000	2	3	200	$5,885	$7,076
Amcoach	21800	2	1	31	$5,629	$7,076
Turbo Power Coach	150-Even	1	1	14	$2,722	$3,538
Turbo Power Club	151-Odd	1	1	6	$2,648	$3,538
Turbo Cafe	170	1	1	3	$2,790	$3,538
Turbo Coach	170	2	3	21	$5,398	$7,076
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$709,264	$1,443,504	#1-2	Sunset Limited	New Orleans/Los Angeles
$427,926	$858,555	#1-2	Sunset Limited	New Orleans/Los Angeles
$195,089	$297,192	#1-2	Sunset Limited	New Orleans/Los Angeles
$28,637	$42,456	#1-2	Sunset Limited	New Orleans/Los Angeles
$448,723	$849,120	#5-6	California Zephyr	Chicago/Oakland
$604,035	$1,443,504	#5-6	California Zephyr	Chicago/Oakland
$565,449	$1,073,193	#5-6	California Zephyr	Chicago/Oakland
$215,174	$509,472	#5-6	California Zephyr	Chicago/Oakland
$1,149,189	$1,627,551	#58	City of New Orleans	New Orleans/Chicago
$64,080	$88,450	#58	City of New Orleans	New Orleans/Chicago
$159,744	$222,894	#58	City of New Orleans	New Orleans/Chicago
$399,639	$551,928	#58	City of New Orleans	New Orleans/Chicago
$537,547	$728,828	#58	City of New Orleans	New Orleans/Chicago
$61,416	$84,912	#58	City of New Orleans	New Orleans/Chicago
$885,875	$1,811,456	#87-88	Silver Meteor	New York City/Tampa
$58,873	$120,292	#87-88	Silver Meteor	New York City/Tampa
$1,616,069	$3,304,421	#87-88	Silver Meteor	New York City/Tampa
$551,662	$842,044	#87-88	Silver Meteor	New York City/Tampa
$44,291	$88,450	#87-88	Silver Meteor	New York City/Tampa
$232,570	$318,420	#193	Benjamin-Franklin	Boston/Philadelphia
$123,063	$169,824	#193	Benjamin-Franklin	Boston/Philadelphia
$350,657	$470,554	#193	Benjamin-Franklin	Boston/Philadelphia
$68,242	$91,988	#200	Metroliner	Washington DC/New York Cit
$69,714	$91,988	#200	Metroliner	Washington DC/New York Cit
$283,415	$353,800	#200	Metroliner	Washington DC/New York Cit
$130,860	$176,900	#242	Hudson Highlander	Albany/New York City
$1,174,114	$1,411,662	#242	Hudson Highlander	Albany/New York City
$174,505	$219,356	#242	Hudson Highlander	Albany/New York City
$38,102	$49,532	#250	Electric City Express	Schnecetady/New York City
$15,887	$21,228	#250	Electric City Express	Schnecetady/New York City
$8,369	$10,614	#250	Electric City Express	Schnecetady/New York City
$113,353	$148,596	#250	Electric City Express	Schnecetady/New York City
$11,505,536	$19,522,684			
$12,694,163	$21,539,555			

Equipment Type:	Microphor	Gravity				
Scenario:	Expected					
Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$14,293	$74,032
Coach Super	34000	6	4	40	$7,782	$42,304
Coach-HEP-HLV	39940	4	1	21	$5,490	$31,728
Lounge-HEP-HLV	39970	2	1	6	$3,542	$21,152
Bag Coach Super	31000	5	3	48	$5,367	$37,016
Sleeper Super	32000	12	3	34	$11,131	$74,032
Coach Super	34000	6	5	51	$6,228	$42,304
Trans Dorm Coach	39900	4	1	36	$4,087	$31,728
Sleeper 10-6	2400(30)	17	1	27	$32,789	$100,472
Amlounge II	28000	2	1	13	$4,556	$21,152
Coach (HDCP)	4000	3	1	21	$6,408	$26,440
Coach	4600	2	4	78	$4,546	$21,152
Horizon	54000	2	1	103	$4,864	$21,152
Dome Coach	9400	2	1	12	$4,528	$21,152
Slumbercoach 24-8	2080	32	1	16	$36,777	$179,792
Viewliner-Sleeper	2300	17	1	2	$19,754	$100,472
Sleeper 10-6	2400(30)	17	2	55	$19,683	$100,472
Amcoach II	25000	2	7	119	$2,915	$21,152
Amlounge II	28000	2	1	13	$2,856	$21,152
Amcafe	20000	2	1	45	$4,675	$21,152
Amclub	20100	2	3	24	$4,544	$21,152
Amcoach	21000	2	1	67	$5,012	$21,152
Met-Srvc Dinette	20900	2	1	13	$4,909	$21,152
Met-Srvc Club	20970	2	1	13	$5,262	$21,152
Met-Srvc Coach	21900	2	4	50	$6,214	$21,152
Amdinette	20200	2	1	25	$4,863	$21,152
Amcoach	21000	2	3	200	$6,890	$21,152
Amcoach	21800	2	1	31	$6,092	$21,152
Turbo Power Coach	150-Even	1	1	14	$2,913	$15,864
Turbo Power Club	151-Odd	1	1	6	$2,681	$15,864
Turbo Cafe	170	1	1	3	$3,127	$15,864
Turbo Coach	170	2	3	21	$5,383	$21,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$485,972	$2,517,088	#1-2	Sunset Limited	New Orleans/Los Angeles
$314,757	$1,710,962	#1-2	Sunset Limited	New Orleans/Los Angeles
$115,289	$666,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$21,250	$126,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$257,640	$1,776,768	#5-6	California Zephyr	Chicago/Oakland
$378,465	$2,517,088	#5-6	California Zephyr	Chicago/Oakland
$314,864	$2,138,702	#5-6	California Zephyr	Chicago/Oakland
$147,146	$1,142,208	#5-6	California Zephyr	Chicago/Oakland
$887,258	$2,718,772	#58	City of New Orleans	New Orleans/Chicago
$56,948	$264,400	#58	City of New Orleans	New Orleans/Chicago
$134,570	$555,240	#58	City of New Orleans	New Orleans/Chicago
$354,626	$1,649,856	#58	City of New Orleans	New Orleans/Chicago
$501,010	$2,178,656	#58	City of New Orleans	New Orleans/Chicago
$54,334	$253,824	#58	City of New Orleans	New Orleans/Chicago
$588,437	$2,876,672	#87-88	Silver Meteor	New York City/Tampa
$39,508	$200,944	#87-88	Silver Meteor	New York City/Tampa
$1,081,386	$5,519,932	#87-88	Silver Meteor	New York City/Tampa
$346,893	$2,517,088	#87-88	Silver Meteor	New York City/Tampa
$35,697	$264,400	#87-88	Silver Meteor	New York City/Tampa
$210,364	$951,840	#193	Benjamin-Franklin	Boston/Philadelphia
$109,060	$507,648	#193	Benjamin-Franklin	Boston/Philadelphia
$333,304	$1,406,608	#193	Benjamin-Franklin	Boston/Philadelphia
$63,820	$274,976	#200	Metroliner	Washington DC/New York Cit
$68,405	$274,976	#200	Metroliner	Washington DC/New York Cit
$310,709	$1,057,600	#200	Metroliner	Washington DC/New York Cit
$121,563	$528,800	#242	Hudson Highlander	Albany/New York City
$1,374,582	$4,219,824	#242	Hudson Highlander	Albany/New York City
$188,864	$655,712	#242	Hudson Highlander	Albany/New York City
$40,781	$222,096	#250	Electric City Express	Schnecetady/New York City
$16,085	$95,184	#250	Electric City Express	Schnecetady/New York City
$9,381	$47,592	#250	Electric City Express	Schnecetady/New York City
$113,044	$444,192	#250	Electric City Express	Schnecetady/New York City
$9,076,011	$42,282,848			
$10,013,645	$46,651,052			

Equipment Type: Evac Ultimate
Scenario: Expected

Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$13,378	$51,696
Coach Super	34000	6	4	40	$7,091	$32,568
Coach-HEP-HLV	39940	4	1	21	$4,940	$26,192
Lounge-HEP-HLV	39970	2	1	6	$2,859	$19,816
Bag Coach Super	31000	5	3	48	$4,679	$29,380
Sleeper Super	32000	12	3	34	$10,269	$51,696
Coach Super	34000	6	5	51	$5,484	$32,568
Trans Dorm Coach	39900	4	1	36	$3,744	$26,192
Sleeper 10-6	2400(30)	17	1	27	$31,666	$67,636
Amlounge II	28000	2	1	13	$4,241	$19,816
Coach (HDCP)	4000	3	1	21	$6,056	$23,004
Coach	4600	2	4	78	$4,237	$19,816
Horizon	54000	2	1	103	$4,382	$19,816
Dome Coach	9400	2	1	12	$4,229	$19,816
Slumbercoach 24-8	2080	32	1	16	$34,693	$115,456
Viewliner-Sleeper	2300	17	1	2	$18,634	$67,636
Sleeper 10-6	2400(30)	17	2	55	$18,601	$67,636
Amcoach II	25000	2	7	119	$2,659	$19,816
Amlounge II	28000	2	1	13	$2,632	$19,816
Amcafe	20000	2	1	45	$4,296	$19,816
Amclub	20100	2	3	24	$4,236	$19,816
Amcoach	21000	2	1	67	$4,450	$19,816
Met-Srvc Dinette	20900	2	1	13	$4,403	$19,816
Met-Srvc Club	20970	2	1	13	$4,564	$19,816
Met-Srvc Coach	21900	2	4	50	$5,000	$19,816
Amdinette	20200	2	1	25	$4,382	$19,816
Amcoach	21000	2	3	200	$5,309	$19,816
Amcoach	21800	2	1	31	$4,944	$19,816
Turbo Power Coach	150-Even	1	1	14	$2,522	$16,628
Turbo Power Club	151-Odd	1	1	6	$2,416	$16,628
Turbo Cafe	170	1	1	3	$2,620	$16,628
Turbo Coach	170	2	3	21	$4,620	$19,816
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$454,866	$1,757,664	#1-2	Sunset Limited	New Orleans/Los Angeles
$286,805	$1,317,195	#1-2	Sunset Limited	New Orleans/Los Angeles
$103,735	$550,032	#1-2	Sunset Limited	New Orleans/Los Angeles
$17,157	$118,896	#1-2	Sunset Limited	New Orleans/Los Angeles
$224,598	$1,410,240	#5-6	California Zephyr	Chicago/Oakland
$349,130	$1,757,664	#5-6	California Zephyr	Chicago/Oakland
$277,223	$1,646,493	#5-6	California Zephyr	Chicago/Oakland
$134,775	$942,912	#5-6	California Zephyr	Chicago/Oakland
$856,882	$1,830,230	#58	City of New Orleans	New Orleans/Chicago
$53,017	$247,700	#58	City of New Orleans	New Orleans/Chicago
$127,176	$483,084	#58	City of New Orleans	New Orleans/Chicago
$330,492	$1,545,648	#58	City of New Orleans	New Orleans/Chicago
$451,381	$2,041,048	#58	City of New Orleans	New Orleans/Chicago
$50,742	$237,792	#58	City of New Orleans	New Orleans/Chicago
$555,080	$1,847,296	#87-88	Silver Meteor	New York City/Tampa
$37,267	$135,272	#87-88	Silver Meteor	New York City/Tampa
$1,021,949	$3,715,922	#87-88	Silver Meteor	New York City/Tampa
$316,430	$2,358,104	#87-88	Silver Meteor	New York City/Tampa
$32,899	$247,700	#87-88	Silver Meteor	New York City/Tampa
$193,308	$891,720	#193	Benjamin-Franklin	Boston/Philadelphia
$101,664	$475,584	#193	Benjamin-Franklin	Boston/Philadelphia
$295,923	$1,317,764	#193	Benjamin-Franklin	Boston/Philadelphia
$57,238	$257,608	#200	Metroliner	Washington DC/New York Cit
$59,335	$257,608	#200	Metroliner	Washington DC/New York Cit
$249,982	$990,800	#200	Metroliner	Washington DC/New York Cit
$109,539	$495,400	#242	Hudson Highlander	Albany/New York City
$1,059,090	$3,953,292	#242	Hudson Highlander	Albany/New York City
$153,262	$614,296	#242	Hudson Highlander	Albany/New York City
$35,314	$232,792	#250	Electric City Express	Schnecetady/New York City
$14,498	$99,768	#250	Electric City Express	Schnecetady/New York City
$7,861	$49,884	#250	Electric City Express	Schnecetady/New York City
$97,011	$416,136	#250	Electric City Express	Schnecetady/New York City
$8,115,630	$34,243,544			
$8,954,049	$37,781,214			

Equipment Type: Railtech WTS 8300
Scenario: Expected

Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$14,153	$65,184
Coach Super	34000	6	4	40	$9,364	$32,592
Coach-HEP-HLV	39940	4	1	21	$6,524	$21,728
Lounge-HEP-HLV	39970	2	1	6	$4,558	$15,152
Bag Coach Super	31000	5	3	48	$6,279	$29,304
Sleeper Super	32000	12	3	34	$10,953	$65,184
Coach Super	34000	6	5	51	$7,066	$32,592
Trans Dorm Coach	39900	4	1	36	$4,614	$21,728
Sleeper 10-6	2400(30)	17	1	27	$32,630	$94,488
Amlounge II	28000	2	1	13	$4,557	$15,152
Coach (HDCP)	4000	3	1	21	$6,331	$18,440
Coach	4600	2	4	78	$4,544	$15,152
Horizon	54000	2	1	103	$7,134	$15,152
Dome Coach	9400	2	1	12	$4,518	$15,152
Slumbercoach 24-8	2080	32	1	16	$36,571	$173,824
Viewliner-Sleeper	2300	17	1	2	$19,594	$94,488
Sleeper 10-6	2400(30)	17	2	55	$19,495	$94,488
Amcoach II	25000	2	7	119	$3,947	$15,152
Amlounge II	28000	2	1	13	$3,864	$15,152
Amcafe	20000	2	1	45	$4,723	$15,152
Amclub	20100	2	3	24	$4,541	$15,152
Amcoach	21000	2	1	67	$5,194	$15,152
Met-Srvc Dinette	20900	2	1	13	$5,050	$15,152
Met-Srvc Club	20970	2	1	13	$5,543	$15,152
Met-Srvc Coach	21900	2	4	50	$6,872	$15,152
Amdinette	20200	2	1	25	$4,985	$15,152
Amcoach	21000	2	3	200	$7,815	$15,152
Amcoach	21800	2	1	31	$6,702	$15,152
Turbo Power Coach	150-Even	1	1	14	$2,955	$7,576
Turbo Power Club	151-Odd	1	1	6	$2,632	$7,576
Turbo Cafe	170	1	1	3	$3,254	$7,576
Turbo Coach	170	2	3	21	$5,712	$15,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$481,200	$2,216,256	#1-2	Sunset Limited	New Orleans/Los Angeles
$378,729	$1,318,165	#1-2	Sunset Limited	New Orleans/Los Angeles
$137,009	$456,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$27,350	$90,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$301,370	$1,406,592	#5-6	California Zephyr	Chicago/Oakland
$372,401	$2,216,256	#5-6	California Zephyr	Chicago/Oakland
$357,240	$1,647,707	#5-6	California Zephyr	Chicago/Oakland
$166,112	$782,208	#5-6	California Zephyr	Chicago/Oakland
$882,966	$2,556,845	#58	City of New Orleans	New Orleans/Chicago
$56,963	$189,400	#58	City of New Orleans	New Orleans/Chicago
$132,948	$387,240	#58	City of New Orleans	New Orleans/Chicago
$354,432	$1,181,856	#58	City of New Orleans	New Orleans/Chicago
$734,763	$1,560,656	#58	City of New Orleans	New Orleans/Chicago
$54,215	$181,824	#58	City of New Orleans	New Orleans/Chicago
$585,140	$2,781,184	#87-88	Silver Meteor	New York City/Tampa
$39,188	$188,976	#87-88	Silver Meteor	New York City/Tampa
$1,071,039	$5,191,171	#87-88	Silver Meteor	New York City/Tampa
$469,661	$1,803,088	#87-88	Silver Meteor	New York City/Tampa
$48,299	$189,400	#87-88	Silver Meteor	New York City/Tampa
$212,536	$681,840	#193	Benjamin-Franklin	Boston/Philadelphia
$108,978	$363,648	#193	Benjamin-Franklin	Boston/Philadelphia
$345,394	$1,007,608	#193	Benjamin-Franklin	Boston/Philadelphia
$65,654	$196,976	#200	Metroliner	Washington DC/New York Cit
$72,053	$196,976	#200	Metroliner	Washington DC/New York Cit
$343,588	$757,600	#200	Metroliner	Washington DC/New York Cit
$124,628	$378,800	#242	Hudson Highlander	Albany/New York City
$1,559,146	$3,022,824	#242	Hudson Highlander	Albany/New York City
$207,755	$469,712	#242	Hudson Highlander	Albany/New York City
$41,377	$106,064	#250	Electric City Express	Schnecetady/New York City
$15,790	$45,456	#250	Electric City Express	Schnecetady/New York City
$9,763	$22,728	#250	Electric City Express	Schnecetady/New York City
$119,945	$318,192	#250	Electric City Express	Schnecetady/New York City
$9,877,631	**$33,914,448**			
$10,898,080	**$37,418,120**			

Equipment Type:	Monogram	Modified Vacuum				
Scenario:	Unfavorable					
Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$16,798	$55,896
Coach Super	34000	6	4	40	$9,262	$39,168
Coach-HEP-HLV	39940	4	1	21	$6,665	$33,592
Lounge-HEP-HLV	39970	2	1	6	$4,176	$28,016
Bag Coach Super	31000	5	3	48	$6,414	$36,380
Sleeper Super	32000	12	3	34	$13,228	$55,896
Coach Super	34000	6	5	51	$7,396	$39,168
Trans Dorm Coach	39900	4	1	36	$5,232	$33,592
Sleeper 10-6	2400(30)	17	1	27	$37,998	$69,836
Amlounge II	28000	2	1	13	$5,698	$28,016
Coach (HDCP)	4000	3	1	21	$7,831	$30,804
Coach	4600	2	4	78	$5,692	$28,016
Horizon	54000	2	1	103	$5,913	$28,016
Dome Coach	9400	2	1	12	$5,679	$28,016
Slumbercoach 24-8	2080	32	1	16	$42,463	$111,656
Viewliner-Sleeper	2300	17	1	2	$23,103	$69,836
Sleeper 10-6	2400(30)	17	2	55	$23,054	$69,836
Amcoach II	25000	2	7	119	$3,871	$28,016
Amlounge II	28000	2	1	13	$3,830	$28,016
Amcafe	20000	2	1	45	$5,781	$28,016
Amclub	20100	2	3	24	$5,690	$28,016
Amcoach	21000	2	1	67	$6,016	$28,016
Met-Srvc Dinette	20900	2	1	13	$5,944	$28,016
Met-Srvc Club	20970	2	1	13	$6,189	$28,016
Met-Srvc Coach	21900	2	4	50	$6,851	$28,016
Amdinette	20200	2	1	25	$5,912	$28,016
Amcoach	21000	2	3	200	$7,322	$28,016
Amcoach	21800	2	1	31	$6,767	$28,016
Turbo Power Coach	150-Even	1	1	14	$3,711	$25,228
Turbo Power Club	151-Odd	1	1	6	$3,550	$25,228
Turbo Cafe	170	1	1	3	$3,860	$25,228
Turbo Coach	170	2	3	21	$6,274	$28,016
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$571,147	$1,900,464	#1-2	Sunset Limited	New Orleans/Los Angeles
$374,597	$1,584,128	#1-2	Sunset Limited	New Orleans/Los Angeles
$139,963	$705,432	#1-2	Sunset Limited	New Orleans/Los Angeles
$25,057	$168,096	#1-2	Sunset Limited	New Orleans/Los Angeles
$307,864	$1,746,240	#5-6	California Zephyr	Chicago/Oakland
$449,742	$1,900,464	#5-6	California Zephyr	Chicago/Oakland
$373,922	$1,980,160	#5-6	California Zephyr	Chicago/Oakland
$188,362	$1,209,312	#5-6	California Zephyr	Chicago/Oakland
$1,028,224	$1,889,762	#58	City of New Orleans	New Orleans/Chicago
$71,229	$350,200	#58	City of New Orleans	New Orleans/Chicago
$164,448	$646,884	#58	City of New Orleans	New Orleans/Chicago
$443,965	$2,185,248	#58	City of New Orleans	New Orleans/Chicago
$609,014	$2,885,648	#58	City of New Orleans	New Orleans/Chicago
$68,146	$336,192	#58	City of New Orleans	New Orleans/Chicago
$679,409	$1,786,496	#87-88	Silver Meteor	New York City/Tampa
$46,207	$139,672	#87-88	Silver Meteor	New York City/Tampa
$1,266,574	$3,836,790	#87-88	Silver Meteor	New York City/Tampa
$460,699	$3,333,904	#87-88	Silver Meteor	New York City/Tampa
$47,877	$350,200	#87-88	Silver Meteor	New York City/Tampa
$260,147	$1,260,720	#193	Benjamin-Franklin	Boston/Philadelphia
$136,566	$672,384	#193	Benjamin-Franklin	Boston/Philadelphia
$400,039	$1,863,064	#193	Benjamin-Franklin	Boston/Philadelphia
$77,273	$364,208	#200	Metroliner	Washington DC/New York Cit
$80,461	$364,208	#200	Metroliner	Washington DC/New York Cit
$342,575	$1,400,800	#200	Metroliner	Washington DC/New York Cit
$147,790	$700,400	#242	Hudson Highlander	Albany/New York City
$1,460,644	$5,589,192	#242	Hudson Highlander	Albany/New York City
$209,771	$868,496	#242	Hudson Highlander	Albany/New York City
$51,960	$353,192	#250	Electric City Express	Schnecetady/New York City
$21,301	$151,368	#250	Electric City Express	Schnecetady/New York City
$11,581	$75,684	#250	Electric City Express	Schnecetady/New York City
$131,745	$588,336	#250	Electric City Express	Schnecetady/New York City
$10,648,298	$43,187,344			
$11,748,365	$47,648,991			

Equipment Type: Monogram Self-Cont'd Recirc
Scenario: Unfavorable

Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$26,429	$42,456
Coach Super	34000	6	4	40	$13,386	$21,228
Coach-HEP-HLV	39940	4	1	21	$11,480	$14,152
Lounge-HEP-HLV	39970	2	1	6	$5,886	$7,076
Bag Coach Super	31000	5	3	48	$11,762	$17,690
Sleeper Super	32000	12	3	34	$22,891	$42,456
Coach Super	34000	6	5	51	$14,076	$21,228
Trans Dorm Coach	39900	4	1	36	$7,693	$14,152
Sleeper 10-6	2400(30)	17	1	27	$52,201	$60,146
Amlounge II	28000	2	1	13	$6,290	$7,076
Coach (HDCP)	4000	3	1	21	$9,340	$10,614
Coach	4600	2	4	78	$6,287	$7,076
Horizon	54000	2	1	103	$6,396	$7,076
Dome Coach	9400	2	1	12	$6,280	$7,076
Slumbercoach 24-8	2080	32	1	16	$70,177	$113,216
Viewliner-Sleeper	2300	17	1	2	$37,308	$60,146
Sleeper 10-6	2400(30)	17	2	55	$37,283	$60,146
Amcoach II	25000	2	7	119	$5,729	$7,076
Amlounge II	28000	2	1	13	$4,481	$7,076
Amcafe	20000	2	1	45	$6,338	$7,076
Amclub	20100	2	3	24	$6,291	$7,076
Amcoach	21000	2	1	67	$6,458	$7,076
Met-Srvc Dinette	20900	2	1	13	$6,431	$7,076
Met-Srvc Club	20970	2	1	13	$6,560	$7,076
Met-Srvc Coach	21900	2	4	50	$6,909	$7,076
Amdinette	20200	2	1	25	$6,413	$7,076
Amcoach	21000	2	3	200	$7,157	$7,076
Amcoach	21800	2	1	31	$6,865	$7,076
Turbo Power Coach	150-Even	1	1	14	$3,326	$3,538
Turbo Power Club	151-Odd	1	1	6	$3,242	$3,538
Turbo Cafe	170	1	1	3	$3,404	$3,538
Turbo Coach	170	2	3	21	$6,600	$7,076
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$898,570	$1,443,504	#1-2	Sunset Limited	New Orleans/Los Angeles
$541,388	$858,555	#1-2	Sunset Limited	New Orleans/Los Angeles
$241,073	$297,192	#1-2	Sunset Limited	New Orleans/Los Angeles
$35,316	$42,456	#1-2	Sunset Limited	New Orleans/Los Angeles
$564,580	$849,120	#5-6	California Zephyr	Chicago/Oakland
$778,308	$1,443,504	#5-6	California Zephyr	Chicago/Oakland
$711,639	$1,073,193	#5-6	California Zephyr	Chicago/Oakland
$276,965	$509,472	#5-6	California Zephyr	Chicago/Oakland
$1,412,559	$1,627,551	#58	City of New Orleans	New Orleans/Chicago
$78,625	$88,450	#58	City of New Orleans	New Orleans/Chicago
$196,150	$222,894	#58	City of New Orleans	New Orleans/Chicago
$490,371	$551,928	#58	City of New Orleans	New Orleans/Chicago
$658,762	$728,828	#58	City of New Orleans	New Orleans/Chicago
$75,365	$84,912	#58	City of New Orleans	New Orleans/Chicago
$1,122,838	$1,811,456	#87-88	Silver Meteor	New York City/Tampa
$74,615	$120,292	#87-88	Silver Meteor	New York City/Tampa
$2,048,343	$3,304,421	#87-88	Silver Meteor	New York City/Tampa
$681,793	$842,044	#87-88	Silver Meteor	New York City/Tampa
$56,009	$88,450	#87-88	Silver Meteor	New York City/Tampa
$285,202	$318,420	#193	Benjamin-Franklin	Boston/Philadelphia
$150,995	$169,824	#193	Benjamin-Franklin	Boston/Philadelphia
$429,431	$470,554	#193	Benjamin-Franklin	Boston/Philadelphia
$83,598	$91,988	#200	Metroliner	Washington DC/New York Cit
$85,280	$91,988	#200	Metroliner	Washington DC/New York Cit
$345,467	$353,800	#200	Metroliner	Washington DC/New York Cit
$160,337	$176,900	#242	Hudson Highlander	Albany/New York City
$1,427,887	$1,411,662	#242	Hudson Highlander	Albany/New York City
$212,805	$219,356	#242	Hudson Highlander	Albany/New York City
$46,565	$49,532	#250	Electric City Express	Schnecetady/New York City
$19,450	$21,228	#250	Electric City Express	Schnecetady/New York City
$10,212	$10,614	#250	Electric City Express	Schnecetady/New York City
$138,604	$148,596	#250	Electric City Express	Schnecetady/New York City
$14,339,101	$19,522,684			
$15,820,461	$21,539,555			

Equipment Type:	Microphor	Gravity				
Scenario:	Unfavorable					
Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$18,032	$74,032
Coach Super	34000	6	4	40	$10,145	$42,304
Coach-HEP-HLV	39940	4	1	21	$7,288	$31,728
Lounge-HEP-HLV	39970	2	1	6	$4,596	$21,152
Bag Coach Super	31000	5	3	48	$6,999	$37,016
Sleeper Super	32000	12	3	34	$14,394	$74,032
Coach Super	34000	6	5	51	$8,098	$42,304
Trans Dorm Coach	39900	4	1	36	$5,379	$31,728
Sleeper 10-6	2400(30)	17	1	27	$39,717	$100,472
Amlounge II	28000	2	1	13	$5,720	$21,152
Coach (HDCP)	4000	3	1	21	$7,945	$26,440
Coach	4600	2	4	78	$5,707	$21,152
Horizon	54000	2	1	103	$6,151	$21,152
Dome Coach	9400	2	1	12	$5,681	$21,152
Slumbercoach 24-8	2080	32	1	16	$46,080	$179,792
Viewliner-Sleeper	2300	17	1	2	$24,820	$100,472
Sleeper 10-6	2400(30)	17	2	55	$24,720	$100,472
Amcoach II	25000	2	7	119	$3,817	$21,152
Amlounge II	28000	2	1	13	$3,734	$21,152
Amcafe	20000	2	1	45	$5,886	$21,152
Amclub	20100	2	3	24	$5,704	$21,152
Amcoach	21000	2	1	67	$6,358	$21,152
Met-Srvc Dinette	20900	2	1	13	$6,214	$21,152
Met-Srvc Club	20970	2	1	13	$6,707	$21,152
Met-Srvc Coach	21900	2	4	50	$8,038	$21,152
Amdinette	20200	2	1	25	$6,149	$21,152
Amcoach	21000	2	3	200	$8,983	$21,152
Amcoach	21800	2	1	31	$7,868	$21,152
Turbo Power Coach	150-Even	1	1	14	$3,788	$15,864
Turbo Power Club	151-Odd	1	1	6	$3,464	$15,864
Turbo Cafe	170	1	1	3	$4,087	$15,864
Turbo Coach	170	2	3	21	$6,876	$21,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$613,079	$2,517,088	#1-2	Sunset Limited	New Orleans/Los Angeles
$410,325	$1,710,962	#1-2	Sunset Limited	New Orleans/Los Angeles
$153,058	$666,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$27,573	$126,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$335,945	$1,776,768	#5-6	California Zephyr	Chicago/Oakland
$489,382	$2,517,088	#5-6	California Zephyr	Chicago/Oakland
$409,394	$2,138,702	#5-6	California Zephyr	Chicago/Oakland
$193,627	$1,142,208	#5-6	California Zephyr	Chicago/Oakland
$1,074,751	$2,718,772	#58	City of New Orleans	New Orleans/Chicago
$71,500	$264,400	#58	City of New Orleans	New Orleans/Chicago
$166,838	$555,240	#58	City of New Orleans	New Orleans/Chicago
$445,138	$1,649,856	#58	City of New Orleans	New Orleans/Chicago
$633,548	$2,178,656	#58	City of New Orleans	New Orleans/Chicago
$68,169	$253,824	#58	City of New Orleans	New Orleans/Chicago
$737,276	$2,876,672	#87-88	Silver Meteor	New York City/Tampa
$49,640	$200,944	#87-88	Silver Meteor	New York City/Tampa
$1,358,142	$5,519,932	#87-88	Silver Meteor	New York City/Tampa
$454,262	$2,517,088	#87-88	Silver Meteor	New York City/Tampa
$46,680	$264,400	#87-88	Silver Meteor	New York City/Tampa
$264,878	$951,840	#193	Benjamin-Franklin	Boston/Philadelphia
$136,888	$507,648	#193	Benjamin-Franklin	Boston/Philadelphia
$422,788	$1,406,608	#193	Benjamin-Franklin	Boston/Philadelphia
$80,781	$274,976	#200	Metroliner	Washington DC/New York Cit
$87,190	$274,976	#200	Metroliner	Washington DC/New York Cit
$401,899	$1,057,600	#200	Metroliner	Washington DC/New York Cit
$153,716	$528,800	#242	Hudson Highlander	Albany/New York City
$1,792,077	$4,219,824	#242	Hudson Highlander	Albany/New York City
$243,900	$655,712	#242	Hudson Highlander	Albany/New York City
$53,031	$222,096	#250	Electric City Express	Schnecetady/New York City
$20,782	$95,184	#250	Electric City Express	Schnecetady/New York City
$12,262	$47,592	#250	Electric City Express	Schnecetady/New York City
$144,401	$444,192	#250	Electric City Express	Schnecetady/New York City
$11,552,918	$42,282,848			
$12,746,439	$46,651,052			

Equipment Type: Evac Ultimate
Scenario: Unfavorable

Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$16,547	$51,696
Coach Super	34000	6	4	40	$8,861	$32,568
Coach-HEP-HLV	39940	4	1	21	$6,227	$26,192
Lounge-HEP-HLV	39970	2	1	6	$3,685	$19,816
Bag Coach Super	31000	5	3	48	$6,008	$29,380
Sleeper Super	32000	12	3	34	$12,986	$51,696
Coach Super	34000	6	5	51	$7,012	$32,568
Trans Dorm Coach	39900	4	1	36	$4,833	$26,192
Sleeper 10-6	2400(30)	17	1	27	$37,867	$67,636
Amlounge II	28000	2	1	13	$5,241	$19,816
Coach (HDCP)	4000	3	1	21	$7,398	$23,004
Coach	4600	2	4	78	$5,236	$19,816
Horizon	54000	2	1	103	$5,424	$19,816
Dome Coach	9400	2	1	12	$5,225	$19,816
Slumbercoach 24-8	2080	32	1	16	$42,629	$115,456
Viewliner-Sleeper	2300	17	1	2	$22,972	$67,636
Sleeper 10-6	2400(30)	17	2	55	$22,930	$67,636
Amcoach II	25000	2	7	119	$3,425	$19,816
Amlounge II	28000	2	1	13	$3,390	$19,816
Amcafe	20000	2	1	45	$5,312	$19,816
Amclub	20100	2	3	24	$5,234	$19,816
Amcoach	21000	2	1	67	$5,511	$19,816
Met-Srvc Dinette	20900	2	1	13	$5,450	$19,816
Met-Srvc Club	20970	2	1	13	$5,659	$19,816
Met-Srvc Coach	21900	2	4	50	$6,223	$19,816
Amdinette	20200	2	1	25	$5,423	$19,816
Amcoach	21000	2	3	200	$6,624	$19,816
Amcoach	21800	2	1	31	$6,151	$19,816
Turbo Power Coach	150-Even	1	1	14	$3,208	$16,628
Turbo Power Club	151-Odd	1	1	6	$3,070	$16,628
Turbo Cafe	170	1	1	3	$3,335	$16,628
Turbo Coach	170	2	3	21	$5,731	$19,816
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$562,593	$1,757,664	#1-2	Sunset Limited	New Orleans/Los Angeles
$358,384	$1,317,195	#1-2	Sunset Limited	New Orleans/Los Angeles
$130,764	$550,032	#1-2	Sunset Limited	New Orleans/Los Angeles
$22,109	$118,896	#1-2	Sunset Limited	New Orleans/Los Angeles
$288,368	$1,410,240	#5-6	California Zephyr	Chicago/Oakland
$441,524	$1,757,664	#5-6	California Zephyr	Chicago/Oakland
$354,508	$1,646,493	#5-6	California Zephyr	Chicago/Oakland
$174,005	$942,912	#5-6	California Zephyr	Chicago/Oakland
$1,024,674	$1,830,230	#58	City of New Orleans	New Orleans/Chicago
$65,514	$247,700	#58	City of New Orleans	New Orleans/Chicago
$155,368	$483,084	#58	City of New Orleans	New Orleans/Chicago
$408,378	$1,545,648	#58	City of New Orleans	New Orleans/Chicago
$558,647	$2,041,048	#58	City of New Orleans	New Orleans/Chicago
$62,695	$237,792	#58	City of New Orleans	New Orleans/Chicago
$682,057	$1,847,296	#87-88	Silver Meteor	New York City/Tampa
$45,945	$135,272	#87-88	Silver Meteor	New York City/Tampa
$1,259,791	$3,715,922	#87-88	Silver Meteor	New York City/Tampa
$407,614	$2,358,104	#87-88	Silver Meteor	New York City/Tampa
$42,377	$247,700	#87-88	Silver Meteor	New York City/Tampa
$239,021	$891,720	#193	Benjamin-Franklin	Boston/Philadelphia
$125,622	$475,584	#193	Benjamin-Franklin	Boston/Philadelphia
$366,506	$1,317,764	#193	Benjamin-Franklin	Boston/Philadelphia
$70,856	$257,608	#200	Metroliner	Washington DC/New York Cit
$73,571	$257,608	#200	Metroliner	Washington DC/New York Cit
$311,165	$990,800	#200	Metroliner	Washington DC/New York Cit
$135,569	$495,400	#242	Hudson Highlander	Albany/New York City
$1,321,413	$3,953,292	#242	Hudson Highlander	Albany/New York City
$190,686	$614,296	#242	Hudson Highlander	Albany/New York City
$44,909	$232,792	#250	Electric City Express	Schnecetady/New York City
$18,422	$99,768	#250	Electric City Express	Schnecetady/New York City
$10,004	$49,884	#250	Electric City Express	Schnecetady/New York City
$120,352	$416,136	#250	Electric City Express	Schnecetady/New York City
$10,073,411	**$34,243,544**			
$11,114,086	**$37,781,214**			

Equipment Type: Railtech WTS 8300
Scenario: Unfavorable

Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$21,688	$65,184
Coach Super	34000	6	4	40	$11,688	$32,592
Coach-HEP-HLV	39940	4	1	21	$8,193	$21,728
Lounge-HEP-HLV	39970	2	1	6	$5,819	$15,152
Bag Coach Super	31000	5	3	48	$8,018	$29,304
Sleeper Super	32000	12	3	34	$16,687	$65,184
Coach Super	34000	6	5	51	$8,998	$32,592
Trans Dorm Coach	39900	4	1	36	$5,860	$21,728
Sleeper 10-6	2400(30)	17	1	27	$39,438	$94,488
Amlounge II	28000	2	1	13	$8,142	$15,152
Coach (HDCP)	4000	3	1	21	$7,786	$18,440
Coach	4600	2	4	78	$8,123	$15,152
Horizon	54000	2	1	103	$8,754	$15,152
Dome Coach	9400	2	1	12	$8,086	$15,152
Slumbercoach 24-8	2080	32	1	16	$45,719	$173,824
Viewliner-Sleeper	2300	17	1	2	$24,538	$94,488
Sleeper 10-6	2400(30)	17	2	55	$24,397	$94,488
Amcoach II	25000	2	7	119	$4,949	$15,152
Amlounge II	28000	2	1	13	$4,832	$15,152
Amcafe	20000	2	1	45	$5,925	$15,152
Amclub	20100	2	3	24	$5,666	$15,152
Amcoach	21000	2	1	67	$6,595	$15,152
Met-Srvc Dinette	20900	2	1	13	$6,390	$15,152
Met-Srvc Club	20970	2	1	13	$7,091	$15,152
Met-Srvc Coach	21900	2	4	50	$8,981	$15,152
Amdinette	20200	2	1	25	$6,298	$15,152
Amcoach	21000	2	3	200	$10,323	$15,152
Amcoach	21800	2	1	31	$8,739	$15,152
Turbo Power Coach	150-Even	1	1	14	$3,807	$7,576
Turbo Power Club	151-Odd	1	1	6	$3,347	$7,576
Turbo Cafe	170	1	1	3	$4,232	$7,576
Turbo Coach	170	2	3	21	$7,331	$15,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$737,391	$2,216,256	#1-2	Sunset Limited	New Orleans/Los Angeles
$472,729	$1,318,165	#1-2	Sunset Limited	New Orleans/Los Angeles
$172,044	$456,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$34,916	$90,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$384,863	$1,406,592	#5-6	California Zephyr	Chicago/Oakland
$567,358	$2,216,256	#5-6	California Zephyr	Chicago/Oakland
$454,918	$1,647,707	#5-6	California Zephyr	Chicago/Oakland
$210,969	$782,208	#5-6	California Zephyr	Chicago/Oakland
$1,067,195	$2,556,845	#58	City of New Orleans	New Orleans/Chicago
$101,772	$189,400	#58	City of New Orleans	New Orleans/Chicago
$163,510	$387,240	#58	City of New Orleans	New Orleans/Chicago
$633,607	$1,181,856	#58	City of New Orleans	New Orleans/Chicago
$901,647	$1,560,656	#58	City of New Orleans	New Orleans/Chicago
$97,033	$181,824	#58	City of New Orleans	New Orleans/Chicago
$731,507	$2,781,184	#87-88	Silver Meteor	New York City/Tampa
$49,077	$188,976	#87-88	Silver Meteor	New York City/Tampa
$1,340,379	$5,191,171	#87-88	Silver Meteor	New York City/Tampa
$588,976	$1,803,088	#87-88	Silver Meteor	New York City/Tampa
$60,395	$189,400	#87-88	Silver Meteor	New York City/Tampa
$266,625	$681,840	#193	Benjamin-Franklin	Boston/Philadelphia
$135,978	$363,648	#193	Benjamin-Franklin	Boston/Philadelphia
$438,548	$1,007,608	#193	Benjamin-Franklin	Boston/Philadelphia
$83,076	$196,976	#200	Metroliner	Washington DC/New York Cit
$92,178	$196,976	#200	Metroliner	Washington DC/New York Cit
$449,058	$757,600	#200	Metroliner	Washington DC/New York Cit
$157,444	$378,800	#242	Hudson Highlander	Albany/New York City
$2,059,461	$3,022,824	#242	Hudson Highlander	Albany/New York City
$270,920	$469,712	#242	Hudson Highlander	Albany/New York City
$53,302	$106,064	#250	Electric City Express	Schnecetady/New York City
$20,080	$45,456	#250	Electric City Express	Schnecetady/New York City
$12,697	$22,728	#250	Electric City Express	Schnecetady/New York City
$153,954	$318,192	#250	Electric City Express	Schnecetady/New York City
$12,963,606	$33,914,448			
$14,302,865	$37,418,120			

Equipment Type: Monogram Modified Vacuum
Scenario: Favorable

Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars In Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$10,283	$55,896
Coach Super	34000	6	4	40	$5,441	$39,168
Coach-HEP-HLV	39940	4	1	21	$3,778	$33,592
Lounge-HEP-HLV	39970	2	1	6	$2,177	$28,016
Bag Coach Super	31000	5	3	48	$3,463	$36,380
Sleeper Super	32000	12	3	34	$7,617	$55,896
Coach Super	34000	6	5	51	$4,061	$39,168
Trans Dorm Coach	39900	4	1	36	$2,750	$33,592
Sleeper 10-6	2400(30)	17	1	27	$25,503	$69,836
Amlounge II	28000	2	1	13	$3,359	$28,016
Coach (HDCP)	4000	3	1	21	$4,823	$30,804
Coach	4600	2	4	78	$3,355	$28,016
Horizon	54000	2	1	103	$3,482	$28,016
Dome Coach	9400	2	1	12	$3,348	$28,016
Slumbercoach 24-8	2080	32	1	16	$26,737	$111,656
Viewliner-Sleeper	2300	17	1	2	$14,333	$69,836
Sleeper 10-6	2400(30)	17	2	55	$14,304	$69,836
Amcoach II	25000	2	7	119	$2,002	$28,016
Amlounge II	28000	2	1	13	$1,978	$28,016
Amcafe	20000	2	1	45	$3,407	$28,016
Amclub	20100	2	3	24	$3,354	$28,016
Amcoach	21000	2	1	67	$3,541	$28,016
Met-Srvc Dinette	20900	2	1	13	$3,500	$28,016
Met-Srvc Club	20970	2	1	13	$3,641	$28,016
Met-Srvc Coach	21900	2	4	50	$4,022	$28,016
Amdinette	20200	2	1	25	$3,482	$28,016
Amcoach	21000	2	3	200	$4,292	$28,016
Amcoach	21800	2	1	31	$3,973	$28,016
Turbo Power Coach	150-Even	1	1	14	$1,978	$25,228
Turbo Power Club	151-Odd	1	1	6	$1,886	$25,228
Turbo Cafe	170	1	1	3	$2,064	$25,228
Turbo Coach	170	2	3	21	$3,690	$28,016
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$349,629	$1,900,464	#1-2	Sunset Limited	New Orleans/Los Angeles
$220,049	$1,584,128	#1-2	Sunset Limited	New Orleans/Los Angeles
$79,334	$705,432	#1-2	Sunset Limited	New Orleans/Los Angeles
$13,063	$168,096	#1-2	Sunset Limited	New Orleans/Los Angeles
$166,213	$1,746,240	#5-6	California Zephyr	Chicago/Oakland
$258,973	$1,900,464	#5-6	California Zephyr	Chicago/Oakland
$205,326	$1,980,160	#5-6	California Zephyr	Chicago/Oakland
$98,988	$1,209,312	#5-6	California Zephyr	Chicago/Oakland
$690,116	$1,889,762	#58	City of New Orleans	New Orleans/Chicago
$41,988	$350,200	#58	City of New Orleans	New Orleans/Chicago
$101,290	$646,884	#58	City of New Orleans	New Orleans/Chicago
$261,711	$2,185,248	#58	City of New Orleans	New Orleans/Chicago
$358,672	$2,885,648	#58	City of New Orleans	New Orleans/Chicago
$40,174	$336,192	#58	City of New Orleans	New Orleans/Chicago
$427,790	$1,786,496	#87-88	Silver Meteor	New York City/Tampa
$28,665	$139,672	#87-88	Silver Meteor	New York City/Tampa
$785,871	$3,836,790	#87-88	Silver Meteor	New York City/Tampa
$238,230	$3,333,904	#87-88	Silver Meteor	New York City/Tampa
$24,728	$350,200	#87-88	Silver Meteor	New York City/Tampa
$153,294	$1,260,720	#193	Benjamin-Franklin	Boston/Philadelphia
$80,504	$672,384	#193	Benjamin-Franklin	Boston/Philadelphia
$235,502	$1,863,064	#193	Benjamin-Franklin	Boston/Philadelphia
$45,503	$364,208	#200	Metroliner	Washington DC/New York Cit
$47,336	$364,208	#200	Metroliner	Washington DC/New York Cit
$201,094	$1,400,800	#200	Metroliner	Washington DC/New York Cit
$87,040	$700,400	#242	Hudson Highlander	Albany/New York City
$856,266	$5,589,192	#242	Hudson Highlander	Albany/New York City
$123,169	$868,496	#242	Hudson Highlander	Albany/New York City
$27,697	$353,192	#250	Electric City Express	Schnecetady/New York City
$11,314	$151,368	#250	Electric City Express	Schnecetady/New York City
$6,192	$75,684	#250	Electric City Express	Schnecetady/New York City
$77,483	$588,336	#250	Electric City Express	Schnecetady/New York City
$6,343,200	**$43,187,344**			
$6,998,511	**$47,648,991**			

Equipment Type: Monogram Self-Cont'd Recirc
Scenario: Favorable

Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$15,293	$42,456
Coach Super	34000	6	4	40	$7,775	$21,228
Coach-HEP-HLV	39940	4	1	21	$7,100	$14,152
Lounge-HEP-HLV	39970	2	1	6	$3,660	$7,076
Bag Coach Super	31000	5	3	48	$6,935	$17,690
Sleeper Super	32000	12	3	34	$12,640	$42,456
Coach Super	34000	6	5	51	$8,293	$21,228
Trans Dorm Coach	39900	4	1	36	$4,261	$14,152
Sleeper 10-6	2400(30)	17	1	27	$32,735	$60,146
Amlounge II	28000	2	1	13	$3,963	$7,076
Coach (HDCP)	4000	3	1	21	$5,873	$10,614
Coach	4600	2	4	78	$3,960	$7,076
Horizon	54000	2	1	103	$4,042	$7,076
Dome Coach	9400	2	1	12	$3,956	$7,076
Slumbercoach 24-8	2080	32	1	16	$40,557	$113,216
Viewliner-Sleeper	2300	17	1	2	$21,565	$60,146
Sleeper 10-6	2400(30)	17	2	55	$21,547	$60,146
Amcoach II	25000	2	7	119	$3,542	$7,076
Amlounge II	28000	2	1	13	$2,606	$7,076
Amcafe	20000	2	1	45	$3,999	$7,076
Amclub	20100	2	3	24	$3,964	$7,076
Amcoach	21000	2	1	67	$4,088	$7,076
Met-Srvc Dinette	20900	2	1	13	$4,068	$7,076
Met-Srvc Club	20970	2	1	13	$4,165	$7,076
Met-Srvc Coach	21900	2	4	50	$4,427	$7,076
Amdinette	20200	2	1	25	$4,055	$7,076
Amcoach	21000	2	3	200	$4,613	$7,076
Amcoach	21800	2	1	31	$4,394	$7,076
Turbo Power Coach	150-Even	1	1	14	$2,117	$3,538
Turbo Power Club	151-Odd	1	1	6	$2,054	$3,538
Turbo Cafe	170	1	1	3	$2,176	$3,538
Turbo Coach	170	2	3	21	$4,195	$7,076
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$519,959	$1,443,504	#1-2	Sunset Limited	New Orleans/Los Angeles
$314,464	$858,555	#1-2	Sunset Limited	New Orleans/Los Angeles
$149,105	$297,192	#1-2	Sunset Limited	New Orleans/Los Angeles
$21,958	$42,456	#1-2	Sunset Limited	New Orleans/Los Angeles
$332,865	$849,120	#5-6	California Zephyr	Chicago/Oakland
$429,762	$1,443,504	#5-6	California Zephyr	Chicago/Oakland
$419,259	$1,073,193	#5-6	California Zephyr	Chicago/Oakland
$153,382	$509,472	#5-6	California Zephyr	Chicago/Oakland
$885,819	$1,627,551	#58	City of New Orleans	New Orleans/Chicago
$49,534	$88,450	#58	City of New Orleans	New Orleans/Chicago
$123,338	$222,894	#58	City of New Orleans	New Orleans/Chicago
$308,908	$551,928	#58	City of New Orleans	New Orleans/Chicago
$416,333	$728,828	#58	City of New Orleans	New Orleans/Chicago
$47,467	$84,912	#58	City of New Orleans	New Orleans/Chicago
$648,913	$1,811,456	#87-88	Silver Meteor	New York City/Tampa
$43,131	$120,292	#87-88	Silver Meteor	New York City/Tampa
$1,183,796	$3,304,421	#87-88	Silver Meteor	New York City/Tampa
$421,530	$842,044	#87-88	Silver Meteor	New York City/Tampa
$32,572	$88,450	#87-88	Silver Meteor	New York City/Tampa
$179,937	$318,420	#193	Benjamin-Franklin	Boston/Philadelphia
$95,132	$169,824	#193	Benjamin-Franklin	Boston/Philadelphia
$271,882	$470,554	#193	Benjamin-Franklin	Boston/Philadelphia
$52,887	$91,988	#200	Metroliner	Washington DC/New York Cit
$54,148	$91,988	#200	Metroliner	Washington DC/New York Cit
$221,363	$353,800	#200	Metroliner	Washington DC/New York Cit
$101,384	$176,900	#242	Hudson Highlander	Albany/New York City
$920,342	$1,411,662	#242	Hudson Highlander	Albany/New York City
$136,206	$219,356	#242	Hudson Highlander	Albany/New York City
$29,640	$49,532	#250	Electric City Express	Schnecetady/New York City
$12,323	$21,228	#250	Electric City Express	Schnecetady/New York City
$6,527	$10,614	#250	Electric City Express	Schnecetady/New York City
$88,103	$148,596	#250	Electric City Express	Schnecetady/New York City
$8,671,971	$19,522,684			
$9,567,864	$21,539,555			

Equipment Type:	Microphor	Gravity				
Scenario:	Favorable					
Car Type	Typical Car Number	Toilets per Car	Cars In Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$10,601	$74,032
Coach Super	34000	6	4	40	$5,698	$42,304
Coach-HEP-HLV	39940	4	1	21	$3,976	$31,728
Lounge-HEP-HLV	39970	2	1	6	$2,366	$21,152
Bag Coach Super	31000	5	3	48	$3,785	$37,016
Sleeper Super	32000	12	3	34	$7,904	$74,032
Coach Super	34000	6	5	51	$4,267	$42,304
Trans Dorm Coach	39900	4	1	36	$2,828	$31,728
Sleeper 10-6	2400(30)	17	1	27	$25,883	$100,472
Amlounge II	28000	2	1	13	$3,444	$21,152
Coach (HDCP)	4000	3	1	21	$4,918	$26,440
Coach	4600	2	4	78	$3,437	$21,152
Horizon	54000	2	1	103	$3,664	$21,152
Dome Coach	9400	2	1	12	$3,424	$21,152
Slumbercoach 24-8	2080	32	1	16	$27,502	$179,792
Viewliner-Sleeper	2300	17	1	2	$14,711	$100,472
Sleeper 10-6	2400(30)	17	2	55	$14,660	$100,472
Amcoach II	25000	2	7	119	$2,053	$21,152
Amlounge II	28000	2	1	13	$2,010	$21,152
Amcafe	20000	2	1	45	$3,529	$21,152
Amclub	20100	2	3	24	$3,435	$21,152
Amcoach	21000	2	1	67	$3,770	$21,152
Met-Srvc Dinette	20900	2	1	13	$3,697	$21,152
Met-Srvc Club	20970	2	1	13	$3,949	$21,152
Met-Srvc Coach	21900	2	4	50	$4,631	$21,152
Amdinette	20200	2	1	25	$3,663	$21,152
Amcoach	21000	2	3	200	$5,115	$21,152
Amcoach	21800	2	1	31	$4,544	$21,152
Turbo Power Coach	150-Even	1	1	14	$2,119	$15,864
Turbo Power Club	151-Odd	1	1	6	$1,953	$15,864
Turbo Cafe	170	1	1	3	$2,272	$15,864
Turbo Coach	170	2	3	21	$4,036	$21,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$360,423	$2,517,088	#1-2	Sunset Limited	New Orleans/Los Angeles
$230,456	$1,710,962	#1-2	Sunset Limited	New Orleans/Los Angeles
$83,504	$666,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$14,198	$126,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$181,663	$1,776,768	#5-6	California Zephyr	Chicago/Oakland
$268,736	$2,517,088	#5-6	California Zephyr	Chicago/Oakland
$215,720	$2,138,702	#5-6	California Zephyr	Chicago/Oakland
$101,808	$1,142,208	#5-6	California Zephyr	Chicago/Oakland
$700,398	$2,718,772	#58	City of New Orleans	New Orleans/Chicago
$43,047	$264,400	#58	City of New Orleans	New Orleans/Chicago
$103,284	$555,240	#58	City of New Orleans	New Orleans/Chicago
$268,089	$1,649,856	#58	City of New Orleans	New Orleans/Chicago
$377,437	$2,178,656	#58	City of New Orleans	New Orleans/Chicago
$41,084	$253,824	#58	City of New Orleans	New Orleans/Chicago
$440,030	$2,876,672	#87-88	Silver Meteor	New York City/Tampa
$29,423	$200,944	#87-88	Silver Meteor	New York City/Tampa
$805,445	$5,519,932	#87-88	Silver Meteor	New York City/Tampa
$244,258	$2,517,088	#87-88	Silver Meteor	New York City/Tampa
$25,126	$264,400	#87-88	Silver Meteor	New York City/Tampa
$158,798	$951,840	#193	Benjamin-Franklin	Boston/Philadelphia
$82,449	$507,648	#193	Benjamin-Franklin	Boston/Philadelphia
$250,726	$1,406,608	#193	Benjamin-Franklin	Boston/Philadelphia
$48,057	$274,976	#200	Metroliner	Washington DC/New York Cit
$51,339	$274,976	#200	Metroliner	Washington DC/New York Cit
$231,540	$1,057,600	#200	Metroliner	Washington DC/New York Cit
$91,581	$528,800	#242	Hudson Highlander	Albany/New York City
$1,020,374	$4,219,824	#242	Hudson Highlander	Albany/New York City
$140,852	$655,712	#242	Hudson Highlander	Albany/New York City
$29,666	$222,096	#250	Electric City Express	Schnecetady/New York City
$11,718	$95,184	#250	Electric City Express	Schnecetady/New York City
$6,817	$47,592	#250	Electric City Express	Schnecetady/New York City
$84,753	$444,192	#250	Electric City Express	Schnecetady/New York City
$6,742,796	$42,282,848			
$7,439,389	$46,651,052			

Equipment Type:	Evac	Ultimate				
Scenario:	Favorable					
Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$10,222	$51,696
Coach Super	34000	6	4	40	$5,343	$32,568
Coach-HEP-HLV	39940	4	1	21	$3,673	$26,192
Lounge-HEP-HLV	39970	2	1	6	$2,059	$19,816
Bag Coach Super	31000	5	3	48	$3,367	$29,380
Sleeper Super	32000	12	3	34	$7,561	$51,696
Coach Super	34000	6	5	51	$3,971	$32,568
Trans Dorm Coach	39900	4	1	36	$2,663	$26,192
Sleeper 10-6	2400(30)	17	1	27	$25,472	$67,636
Amlounge II	28000	2	1	13	$3,256	$19,816
Coach (HDCP)	4000	3	1	21	$4,726	$23,004
Coach	4600	2	4	78	$3,252	$19,816
Horizon	54000	2	1	103	$3,365	$19,816
Dome Coach	9400	2	1	12	$3,246	$19,816
Slumbercoach 24-8	2080	32	1	16	$26,764	$115,456
Viewliner-Sleeper	2300	17	1	2	$14,301	$67,636
Sleeper 10-6	2400(30)	17	2	55	$14,276	$67,636
Amcoach II	25000	2	7	119	$1,904	$19,816
Amlounge II	28000	2	1	13	$1,883	$19,816
Amcafe	20000	2	1	45	$3,298	$19,816
Amclub	20100	2	3	24	$3,252	$19,816
Amcoach	21000	2	1	67	$3,417	$19,816
Met-Srvc Dinette	20900	2	1	13	$3,381	$19,816
Met-Srvc Club	20970	2	1	13	$3,505	$19,816
Met-Srvc Coach	21900	2	4	50	$3,842	$19,816
Amdinette	20200	2	1	25	$3,364	$19,816
Amcoach	21000	2	3	200	$4,081	$19,816
Amcoach	21800	2	1	31	$3,799	$19,816
Turbo Power Coach	150-Even	1	1	14	$1,859	$16,628
Turbo Power Club	151-Odd	1	1	6	$1,777	$16,628
Turbo Cafe	170	1	1	3	$1,935	$16,628
Turbo Coach	170	2	3	21	$3,548	$19,816
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$347,565	$1,757,664	#1-2	Sunset Limited	New Orleans/Los Angeles
$216,090	$1,317,195	#1-2	Sunset Limited	New Orleans/Los Angeles
$77,137	$550,032	#1-2	Sunset Limited	New Orleans/Los Angeles
$12,351	$118,896	#1-2	Sunset Limited	New Orleans/Los Angeles
$161,639	$1,410,240	#5-6	California Zephyr	Chicago/Oakland
$257,060	$1,757,664	#5-6	California Zephyr	Chicago/Oakland
$200,760	$1,646,493	#5-6	California Zephyr	Chicago/Oakland
$95,858	$942,912	#5-6	California Zephyr	Chicago/Oakland
$689,262	$1,830,230	#58	City of New Orleans	New Orleans/Chicago
$40,697	$247,700	#58	City of New Orleans	New Orleans/Chicago
$99,251	$483,084	#58	City of New Orleans	New Orleans/Chicago
$253,692	$1,545,648	#58	City of New Orleans	New Orleans/Chicago
$346,564	$2,041,048	#58	City of New Orleans	New Orleans/Chicago
$38,950	$237,792	#58	City of New Orleans	New Orleans/Chicago
$428,222	$1,847,296	#87-88	Silver Meteor	New York City/Tampa
$28,603	$135,272	#87-88	Silver Meteor	New York City/Tampa
$784,330	$3,715,922	#87-88	Silver Meteor	New York City/Tampa
$226,539	$2,358,104	#87-88	Silver Meteor	New York City/Tampa
$23,534	$247,700	#87-88	Silver Meteor	New York City/Tampa
$148,400	$891,720	#193	Benjamin-Franklin	Boston/Philadelphia
$78,039	$475,584	#193	Benjamin-Franklin	Boston/Philadelphia
$227,228	$1,317,764	#193	Benjamin-Franklin	Boston/Philadelphia
$43,948	$257,608	#200	Metroliner	Washington DC/New York Cit
$45,568	$257,608	#200	Metroliner	Washington DC/New York Cit
$192,084	$990,800	#200	Metroliner	Washington DC/New York Cit
$84,103	$495,400	#242	Hudson Highlander	Albany/New York City
$814,061	$3,953,292	#242	Hudson Highlander	Albany/New York City
$117,758	$614,296	#242	Hudson Highlander	Albany/New York City
$26,029	$232,792	#250	Electric City Express	Schnecetady/New York City
$10,664	$99,768	#250	Electric City Express	Schnecetady/New York City
$5,805	$49,884	#250	Electric City Express	Schnecetady/New York City
$74,509	$416,136	#250	Electric City Express	Schnecetady/New York City
$6,196,299	$34,243,544			
$6,836,433	$37,781,214			

Equipment Type: Railtech WTS 8300
Scenario: Favorable

Car Type	Typical Car Number	Toilets per Car	Cars in Consist	Cars in Service	Operating Cost/Car	Capital Cost/Car
Sleeper Super	32000	12	3	34	$10,607	$65,184
Coach Super	34000	6	4	40	$7,160	$32,592
Coach-HEP-HLV	39940	4	1	21	$4,971	$21,728
Lounge-HEP-HLV	39970	2	1	6	$3,434	$15,152
Bag Coach Super	31000	5	3	48	$4,634	$29,304
Sleeper Super	32000	12	3	34	$7,885	$65,184
Coach Super	34000	6	5	51	$5,225	$32,592
Trans Dorm Coach	39900	4	1	36	$3,429	$21,728
Sleeper 10-6	2400(30)	17	1	27	$25,857	$94,488
Amlounge II	28000	2	1	13	$3,505	$15,152
Coach (HDCP)	4000	3	1	21	$4,947	$18,440
Coach	4600	2	4	78	$3,496	$15,152
Horizon	54000	2	1	103	$5,647	$15,152
Dome Coach	9400	2	1	12	$3,477	$15,152
Slumbercoach 24-8	2080	32	1	16	$27,465	$173,824
Viewliner-Sleeper	2300	17	1	2	$14,685	$94,488
Sleeper 10-6	2400(30)	17	2	55	$14,615	$94,488
Amcoach II	25000	2	7	119	$3,005	$15,152
Amlounge II	28000	2	1	13	$2,951	$15,152
Amcafe	20000	2	1	45	$3,621	$15,152
Amclub	20100	2	3	24	$3,493	$15,152
Amcoach	21000	2	1	67	$3,952	$15,152
Met-Srvc Dinette	20900	2	1	13	$3,851	$15,152
Met-Srvc Club	20970	2	1	13	$4,197	$15,152
Met-Srvc Coach	21900	2	4	50	$5,130	$15,152
Amdinette	20200	2	1	25	$3,805	$15,152
Amcoach	21000	2	3	200	$5,793	$15,152
Amcoach	21800	2	1	31	$5,011	$15,152
Turbo Power Coach	150-Even	1	1	14	$2,228	$7,576
Turbo Power Club	151-Odd	1	1	6	$2,000	$7,576
Turbo Cafe	170	1	1	3	$2,438	$7,576
Turbo Coach	170	2	3	21	$4,316	$15,152
		Total:		1,239		
		Entire Fleet:		1,367		

Operating Cost/Fleet	Capital Cost/Fleet	Route Number	Route Name	Origin/ Destination
$360,648	$2,216,256	#1-2	Sunset Limited	New Orleans/Los Angeles
$289,563	$1,318,165	#1-2	Sunset Limited	New Orleans/Los Angeles
$104,384	$456,288	#1-2	Sunset Limited	New Orleans/Los Angeles
$20,607	$90,912	#1-2	Sunset Limited	New Orleans/Los Angeles
$222,422	$1,406,592	#5-6	California Zephyr	Chicago/Oakland
$268,098	$2,216,256	#5-6	California Zephyr	Chicago/Oakland
$264,166	$1,647,707	#5-6	California Zephyr	Chicago/Oakland
$123,438	$782,208	#5-6	California Zephyr	Chicago/Oakland
$699,703	$2,556,845	#58	City of New Orleans	New Orleans/Chicago
$43,809	$189,400	#58	City of New Orleans	New Orleans/Chicago
$103,886	$387,240	#58	City of New Orleans	New Orleans/Chicago
$272,657	$1,181,856	#58	City of New Orleans	New Orleans/Chicago
$581,598	$1,560,656	#58	City of New Orleans	New Orleans/Chicago
$41,727	$181,824	#58	City of New Orleans	New Orleans/Chicago
$439,434	$2,781,184	#87-88	Silver Meteor	New York City/Tampa
$29,369	$188,976	#87-88	Silver Meteor	New York City/Tampa
$802,945	$5,191,171	#87-88	Silver Meteor	New York City/Tampa
$357,587	$1,803,088	#87-88	Silver Meteor	New York City/Tampa
$36,884	$189,400	#87-88	Silver Meteor	New York City/Tampa
$162,959	$681,840	#193	Benjamin-Franklin	Boston/Philadelphia
$83,840	$363,648	#193	Benjamin-Franklin	Boston/Philadelphia
$262,806	$1,007,608	#193	Benjamin-Franklin	Boston/Philadelphia
$50,065	$196,976	#200	Metroliner	Washington DC/New York Cit
$54,559	$196,976	#200	Metroliner	Washington DC/New York Cit
$256,511	$757,600	#200	Metroliner	Washington DC/New York Cit
$95,134	$378,800	#242	Hudson Highlander	Albany/New York City
$1,155,659	$3,022,824	#242	Hudson Highlander	Albany/New York City
$155,336	$469,712	#242	Hudson Highlander	Albany/New York City
$31,189	$106,064	#250	Electric City Express	Schnecetady/New York City
$12,002	$45,456	#250	Electric City Express	Schnecetady/New York City
$7,313	$22,728	#250	Electric City Express	Schnecetady/New York City
$90,627	$318,192	#250	Electric City Express	Schnecetady/New York City
$7,480,925	$33,914,448			
$8,253,773	$37,418,120			

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	36.4	34.9	21.3	41.7	NA	NA
Capacity Req'd/day (gals)	70.1	67.3	41.1	80.3	NA	NA
Adj. Capacity Req'd w/ Buffer	87.6	84.1	51.4	100.4	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	64	67	110	56	NA	NA
As a percentage of 72 hours	89%	93%	152%	78%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.7	2.8	4.6	2.3	NA	NA
As a percentage of 3 days	89.45%	93.18%	152.47%	78.01%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$15,000	$10,000	$30,000	$5,000	NA	NA
- Total Equip Cost	$36,000	$31,000	$51,000	$26,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$39,168	$33,592	$55,896	$28,016	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,296	$864	$2,592	$432	NA	NA
Annual spare parts cost per yr	$1,080	$930	$1,530	$780	NA	NA
Total- Oprtng Non-Trip Related	$2,376	$1,794	$4,122	$1,212	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.70	$0.67	$0.41	$0.80	NA	NA
- Pump out minutes	1.17	1.12	0.69	1.34	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.13	$2.05	$1.25	$2.45	NA	NA
Subtotal- End of Day/Trip Srvc	$38.83	$26.72	$73.66	$15.25	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$39	$27	$74	$15	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	23,251	5,366	17,374	1,533	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,961	$3,414	$9,410	$1,948	NA	NA
Annual Non-Trip Related per Car	$2,376	$1,794	$4,122	$1,212	NA	NA
Annual Oprtng Trip Related per Car Type	$451,460	$71,686	$639,909	$11,689	NA	NA
Annual Non-Trip Related per Car Type	$216,216	$37,674	$280,296	$7,272	NA	NA
Total OPRTNG COST per Car	$7,337	$5,208	$13,532	$3,160	NA	NA
Total CAPITAL COST per Car	$39,168	$33,592	$55,896	$28,016	NA	NA
Total OPRTNG COST for all cars	$667,676	$109,360	$920,205	$18,961	NA	NA
Total CAPITAL COST for all cars	$3,564,288	$705,432	$3,800,928	$168,096	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	33.7	32.3	19.8	38.6	NA	NA
Adj. Capacity Req'd w/ Buffer	42.1	40.4	24.7	48.3	NA	NA
Tank Capacity per Car (gals)	81	54	162	27	NA	NA
Continuous Service Hours Supported	46	32	157	13	NA	NA
As a percentage of 72 hours	64%	45%	219%	19%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.9	1.3	6.6	0.6	NA	NA
As a percentage of 3 days	64.14%	44.54%	218.67%	18.65%	NA	NA
Consecutive Trips before pumpout	1.0	0.0	3.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$19,500	$13,000	$39,000	$6,500	NA	NA
- Total Equip Cost	$19,500	$13,000	$39,000	$6,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$1,728	$1,152	$3,456	$576	NA	NA
Total Capital Cost	$21,228	$14,152	$42,456	$7,076	NA	NA

Amtrak Route:	Sunset Limited		Route Number:	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,728	$1,152	$3,456	$576	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$5,184	$3,456	$10,368	$1,728	NA	NA
Annual spare parts cost per yr	$585	$390	$1,170	$195	NA	NA
Total- Oprtng Non-Trip Related	$5,769	$3,846	$11,538	$1,923	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.34	$8.40	$0.20	$4.32	NA	NA
- Pump out minutes	0.56	0.00	0.33	0.19	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Waste Disposal	$1.33	$1.27	$0.78	$1.52	NA	NA
Subtotal- End of Day/Trip Srvc	$37.66	$33.67	$72.98	$17.84	NA	NA
Train Delay:						
- Pump out volume req'd	0	54	0	27	NA	NA
- # of stops req'd	0	1	0	1	NA	NA
- Pump out minutes	0.0	0.9	0.0	0.5	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Total Time Delay(mins/car)	0	15	0	7	NA	NA
Average Cost Per Delay	$0	$9	$0	$4	NA	NA
Subtotal- Oprtng Trip Related	$38	$43	$73	$22	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	23,251	5,366	17,374	1,533	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,812	$5,444	$9,323	$2,850	NA	NA
Annual Non-Trip Related per Car	$5,769	$3,846	$11,538	$1,923	NA	NA
Annual Oprtng Trip Related per Car Type	$437,855	$114,323	$633,945	$17,099	NA	NA
Annual Non-Trip Related per Car Type	$524,979	$80,766	$784,584	$11,538	NA	NA
Total OPRTNG COST per Car	$10,581	$9,290	$20,861	$4,773	NA	NA
Total CAPITAL COST per Car	$21,228	$14,152	$42,456	$7,076	NA	NA
Total OPRTNG COST for all cars	$962,834	$195,089	$1,418,529	$28,637	NA	NA
Total CAPITAL COST for all cars	$1,931,748	$297,192	$2,887,008	$42,456	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	99.3	95.4	58.3	113.9	NA	NA
Capacity Req'd/day (gals)	133.0	127.7	78.0	152.5	NA	NA
Adj. Capacity Req'd w/ Buffer	166.3	159.6	97.5	190.6	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	43	45	74	38	NA	NA
As a percentage of 72 hours	60%	63%	103%	52%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.8	1.9	3.1	1.6	NA	NA
As a percentage of 3 days	60.15%	62.65%	102.53%	52.45%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	1.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$30,000	$20,000	$60,000	$10,000	NA	NA
- Total Equip Cost	$40,000	$30,000	$70,000	$20,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,304	$1,728	$4,032	$1,152	NA	NA
Total Capital Cost	$42,304	$31,728	$74,032	$21,152	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,296	$864	$2,592	$432	NA	NA
Annual spare parts cost per yr	$1,200	$900	$2,100	$600	NA	NA
Total- Oprtng Non-Trip Related	$2,496	$1,764	$4,692	$1,032	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.33	$1.28	$0.78	$0.00	NA	NA
- Pump out minutes	2.22	2.13	1.30	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$4.05	$3.89	$2.38	$4.65	NA	NA
Subtotal- End of Day/Trip Srvc	$41.38	$29.17	$75.16	$16.65	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	300	NA	NA
- # of stops req'd	0	0	0	1	NA	NA
- Pump out minutes	0.0	0.0	0.0	5.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	5	NA	NA
Average Cost Per Delay	$0	$0	$0	$3	NA	NA
Subtotal- Oprtng Trip Related	$41	$29	$75	$20	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	23,251	5,366	17,374	1,533	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$5,286	$3,726	$9,601	$2,510	NA	NA
Annual Non-Trip Related per Car	$2,496	$1,764	$4,692	$1,032	NA	NA
Annual Oprtng Trip Related per Car Type	$481,066	$78,245	$652,888	$15,058	NA	NA
Annual Non-Trip Related per Car Type	$227,136	$37,044	$319,056	$6,192	NA	NA
Total OPRTNG COST per Car	$7,782	$5,490	$14,293	$3,542	NA	NA
Total CAPITAL COST per Car	$42,304	$31,728	$74,032	$21,152	NA	NA
Total OPRTNG COST for all cars	$708,202	$115,289	$971,944	$21,250	NA	NA
Total CAPITAL COST for all cars	$3,849,664	$666,288	$5,034,176	$126,912	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	27.1	26.1	15.9	31.1	NA	NA
Capacity Req'd/day (gals)	60.8	58.4	35.7	69.7	NA	NA
Adj. Capacity Req'd w/ Buffer	76.0	73.0	44.6	87.2	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	63	66	108	55	NA	NA
As a percentage of 72 hours	88%	91%	149%	76%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.6	2.7	4.5	2.3	NA	NA
As a percentage of 3 days	87.69%	91.35%	149.48%	76.48%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$17,400	$11,600	$34,800	$5,800	NA	NA
- Total Equip Cost	$29,400	$23,600	$46,800	$17,800	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$32,568	$26,192	$51,696	$19,816	NA	NA

Amtrak Route:	Sunset Limited		Route Number:	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,296	$864	$2,592	$432	NA	NA
Annual spare parts cost per yr	$882	$708	$1,404	$534	NA	NA
Total- Oprtng Non-Trip Related	$2,178	$1,572	$3,996	$966	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.61	$0.58	$0.36	$0.70	NA	NA
- Pump out minutes	1.01	0.97	0.59	1.16	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.85	$1.78	$1.09	$2.12	NA	NA
Subtotal- End of Day/Trip Srvc	$38.46	$26.36	$73.44	$14.82	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$38	$26	$73	$15	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	23,251	5,366	17,374	1,533	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,913	$3,368	$9,382	$1,893	NA	NA
Annual Non-Trip Related per Car	$2,178	$1,572	$3,996	$966	NA	NA
Annual Oprtng Trip Related per Car Type	$447,114	$70,723	$638,004	$11,361	NA	NA
Annual Non-Trip Related per Car Type	$198,198	$33,012	$271,728	$5,796	NA	NA
Total OPRTNG COST per Car	$7,091	$4,940	$13,378	$2,859	NA	NA
Total CAPITAL COST per Car	$32,568	$26,192	$51,696	$19,816	NA	NA
Total OPRTNG COST for all cars	$645,312	$103,735	$909,732	$17,157	NA	NA
Total CAPITAL COST for all cars	$2,963,688	$550,032	$3,515,328	$118,896	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	152.0	145.9	89.2	174.3	NA	NA
Capacity Req'd/day (gals)	185.6	178.2	108.9	212.9	NA	NA
Adj. Capacity Req'd w/ Buffer	232.1	222.8	136.1	266.1	NA	NA
Tank Capacity per Car (gals)	150	100	300	100	NA	NA
Continuous Service Hours Supported	16	11	53	9	NA	NA
As a percentage of 72 hours	22%	15%	73%	13%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	0.6	0.4	2.2	0.4	NA	NA
As a percentage of 3 days	21.55%	14.96%	73.45%	12.53%	NA	NA
Consecutive Trips before pumpout	0.0	0.0	1.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$8,000	$24,000	$8,000	NA	NA
Toilet Cost per Car	$18,000	$12,000	$36,000	$6,000	NA	NA
- Total Equip Cost	$30,000	$20,000	$60,000	$14,000	NA	NA
Equipment Installation						
Collection System per Car	$864	$576	$1,728	$576	NA	NA
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,592	$1,728	$5,184	$1,152	NA	NA
Total Capital Cost	$32,592	$21,728	$65,184	$15,152	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,296	$864	$2,592	$432	NA	NA
Annual spare parts cost per yr	$900	$600	$1,800	$420	NA	NA
Total- Oprtng Non-Trip Related	$2,196	$1,464	$4,392	$852	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$6.66	$4.98	$1.09	$5.33	NA	NA
- Pump out minutes	0.59	1.30	1.82	1.88	NA	NA
- Connect/Disc. minutes	10.5	7.0	0.0	7.0	NA	NA
- Waste Disposal	$5.65	$5.43	$3.32	$6.48	NA	NA
Subtotal- End of Day/Trip Srvc	$48.31	$34.41	$76.41	$23.81	NA	NA
Train Delay:						
- Pump out volume req'd	150	100	0	100	NA	NA
- # of stops req'd	1	1	0	1	NA	NA
- Pump out minutes	2.5	1.7	0.0	1.7	NA	NA
- Connect/Disc. minutes	10.5	7.0	0.0	7.0	NA	NA
- Total Time Delay(mins/car)	13	9	0	9	NA	NA
Average Cost Per Delay	$8	$5	$0	$5	NA	NA
Subtotal- Oprtng Trip Related	$56	$40	$76	$29	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	23,251	5,366	17,374	1,533	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$7,168	$5,060	$9,761	$3,706	NA	NA
Annual Non-Trip Related per Car	$2,196	$1,464	$4,392	$852	NA	NA
Annual Oprtng Trip Related per Car Type	$652,305	$106,265	$663,743	$22,238	NA	NA
Annual Non-Trip Related per Car Type	$199,836	$30,744	$298,656	$5,112	NA	NA
Total OPRTNG COST per Car	$9,364	$6,524	$14,153	$4,558	NA	NA
Total CAPITAL COST per Car	$32,592	$21,728	$65,184	$15,152	NA	NA
Total OPRTNG COST for all cars	$852,141	$137,009	$962,399	$27,350	NA	NA
Total CAPITAL COST for all cars	$2,965,872	$456,288	$4,432,512	$90,912	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	19.4	21.3	37.8	36.4	NA	NA
Capacity Req'd/day (gals)	37.4	41.1	72.9	70.1	NA	NA
Adj. Capacity Req'd w/ Buffer	46.7	51.4	91.1	87.6	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	121	110	62	64	NA	NA
As a percentage of 72 hours	168%	152%	86%	89%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	5.0	4.6	2.6	2.7	NA	NA
As a percentage of 3 days	167.72%	152.47%	86.01%	89.45%	NA	NA
Consecutive Trips before pumpout	2.0	2.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$10,000	$30,000	$12,500	$15,000	NA	NA
- Total Equip Cost	$31,000	$51,000	$33,500	$36,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$33,592	$55,896	$36,380	$39,168	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$864	$2,592	$1,080	$1,296	NA	NA
Annual spare parts cost per yr	$930	$1,530	$1,005	$1,080	NA	NA
Total- Oprtng Non-Trip Related	$1,794	$4,122	$2,085	$2,376	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.37	$0.41	$0.73	$0.70	NA	NA
- Pump out minutes	0.62	0.69	1.21	1.17	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.35	$1.49	$2.64	$2.54	NA	NA
Subtotal- End of Day/Trip Srvc	$25.73	$73.90	$33.37	$39.24	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$26	$74	$33	$39	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	9,198	17,374	12,264	23,251	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,191	$6,294	$2,842	$3,342	NA	NA
Annual Non-Trip Related per Car	$1,794	$4,122	$2,085	$2,376	NA	NA
Annual Oprtng Trip Related per Car Type	$78,882	$427,984	$136,414	$304,115	NA	NA
Annual Non-Trip Related per Car Type	$64,584	$280,296	$100,080	$216,216	NA	NA
Total OPRTNG COST per Car	$3,985	$10,416	$4,927	$5,718	NA	NA
Total CAPITAL COST per Car	$33,592	$55,896	$36,380	$39,168	NA	NA
Total OPRTNG COST for all cars	$143,466	$708,280	$236,494	$520,331	NA	NA
Total CAPITAL COST for all cars	$1,209,312	$3,800,928	$1,746,240	$3,564,288	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	18.0	19.8	35.0	33.7	NA	NA
Adj. Capacity Req'd w/ Buffer	22.5	24.7	43.8	42.1	NA	NA
Tank Capacity per Car (gals)	54	162	67.5	81	NA	NA
Continuous Service Hours Supported	58	157	37	46	NA	NA
As a percentage of 72 hours	80%	219%	51%	64%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.4	6.6	1.5	1.9	NA	NA
As a percentage of 3 days	80.18%	218.67%	51.40%	64.14%	NA	NA
Consecutive Trips before pumpout	1.0	3.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$13,000	$39,000	$16,250	$19,500	NA	NA
- Total Equip Cost	$13,000	$39,000	$16,250	$19,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,152	$3,456	$1,440	$1,728	NA	NA
Total Capital Cost	$14,152	$42,456	$17,690	$21,228	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,152	$3,456	$1,440	$1,728	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$3,456	$10,368	$4,320	$5,184	NA	NA
Annual spare parts cost per yr	$390	$1,170	$488	$585	NA	NA
Total- Oprtng Non-Trip Related	$3,846	$11,538	$4,808	$5,769	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.18	$0.20	$10.50	$12.60	NA	NA
- Pump out minutes	0.30	0.33	0.00	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Waste Disposal	$0.84	$0.93	$1.64	$1.58	NA	NA
Subtotal- End of Day/Trip Srvc	$25.02	$73.12	$42.14	$50.18	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	68	81	NA	NA
- # of stops req'd	0	0	1	1	NA	NA
- Pump out minutes	0.0	0.0	1.1	1.4	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Total Time Delay(mins/car)	0	0	19	22	NA	NA
Average Cost Per Delay	$0	$0	$11	$13	NA	NA
Subtotal- Oprtng Trip Related	$25	$73	$53	$64	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	9,198	17,374	12,264	23,251	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,131	$6,228	$4,541	$5,416	NA	NA
Annual Non-Trip Related per Car	$3,846	$11,538	$4,808	$5,769	NA	NA
Annual Oprtng Trip Related per Car Type	$76,718	$423,487	$217,963	$492,830	NA	NA
Annual Non-Trip Related per Car Type	$138,456	$784,584	$230,760	$524,979	NA	NA
Total OPRTNG COST per Car	$5,977	$17,766	$9,348	$11,185	NA	NA
Total CAPITAL COST per Car	$14,152	$42,456	$17,690	$21,228	NA	NA
Total OPRTNG COST for all cars	$215,174	$1,208,071	$448,723	$1,017,809	NA	NA
Total CAPITAL COST for all cars	$509,472	$2,887,008	$849,120	$1,931,748	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	53.0	58.3	103.3	99.3	NA	NA
Capacity Req'd/day (gals)	70.9	78.0	138.3	133.0	NA	NA
Adj. Capacity Req'd w/ Buffer	88.7	97.5	172.9	166.3	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	81	74	42	43	NA	NA
As a percentage of 72 hours	113%	103%	58%	60%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	3.4	3.1	1.7	1.8	NA	NA
As a percentage of 3 days	112.78%	102.53%	57.83%	60.15%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$20,000	$60,000	$25,000	$30,000	NA	NA
- Total Equip Cost	$30,000	$70,000	$35,000	$40,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$4,032	$2,016	$2,304	NA	NA
Total Capital Cost	$31,728	$74,032	$37,016	$42,304	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$864	$2,592	$1,080	$1,296	NA	NA
Annual spare parts cost per yr	$900	$2,100	$1,050	$1,200	NA	NA
Total- Oprtng Non-Trip Related	$1,764	$4,692	$2,130	$2,496	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.71	$0.78	$0.00	$0.00	NA	NA
- Pump out minutes	1.18	1.30	0.00	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.57	$2.83	$5.01	$4.82	NA	NA
Subtotal- End of Day/Trip Srvc	$27.28	$75.61	$35.01	$40.82	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	300	300	NA	NA
- # of stops req'd	0	0	1	1	NA	NA
- Pump out minutes	0.0	0.0	5.0	5.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	5	5	NA	NA
Average Cost Per Delay	$0	$0	$3	$3	NA	NA
Subtotal- Oprtng Trip Related	$27	$76	$38	$44	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	9,198	17,374	12,264	23,251	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,323	$6,439	$3,237	$3,732	NA	NA
Annual Non-Trip Related per Car	$1,764	$4,692	$2,130	$2,496	NA	NA
Annual Oprtng Trip Related per Car Type	$83,642	$437,874	$155,400	$339,619	NA	NA
Annual Non-Trip Related per Car Type	$63,504	$319,056	$102,240	$227,136	NA	NA
Total OPRTNG COST per Car	$4,087	$11,131	$5,367	$6,228	NA	NA
Total CAPITAL COST per Car	$31,728	$74,032	$37,016	$42,304	NA	NA
Total OPRTNG COST for all cars	$147,146	$756,930	$257,640	$566,755	NA	NA
Total CAPITAL COST for all cars	$1,142,208	$5,034,176	$1,776,768	$3,849,664	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	14.5	15.9	28.2	27.1	NA	NA
Capacity Req'd/day (gals)	32.4	35.7	63.3	60.8	NA	NA
Adj. Capacity Req'd w/ Buffer	40.5	44.6	79.1	76.0	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	118	108	61	63	NA	NA
As a percentage of 72 hours	164%	149%	84%	88%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	4.9	4.5	2.5	2.6	NA	NA
As a percentage of 3 days	164.43%	149.48%	84.32%	87.69%	NA	NA
Consecutive Trips before pumpout	2.0	2.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$11,600	$34,800	$14,500	$17,400	NA	NA
- Total Equip Cost	$23,600	$46,800	$26,500	$29,400	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$26,192	$51,696	$29,380	$32,568	NA	NA

Amtrak Route:	California Zephyr		Route Number: #5-6			
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$864	$2,592	$1,080	$1,296	NA	NA
Annual spare parts cost per yr	$708	$1,404	$795	$882	NA	NA
Total- Oprtng Non-Trip Related	$1,572	$3,996	$1,875	$2,178	NA	NA
Trip Related Costs:						
Toilet maintenance enroute End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.32	$0.36	$0.63	$0.61	NA	NA
- Pump out minutes	0.54	0.59	1.05	1.01	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.18	$1.29	$2.29	$2.20	NA	NA
Subtotal- End of Day/Trip Srvc	$25.50	$73.65	$32.93	$38.81	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$26	$74	$33	$39	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	9,198	17,374	12,264	23,251	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,172	$6,273	$2,804	$3,306	NA	NA
Annual Non-Trip Related per Car	$1,572	$3,996	$1,875	$2,178	NA	NA
Annual Oprtng Trip Related per Car Type	$78,183	$426,532	$134,598	$300,804	NA	NA
Annual Non-Trip Related per Car Type	$56,592	$271,728	$90,000	$198,198	NA	NA
Total OPRTNG COST per Car	$3,744	$10,269	$4,679	$5,484	NA	NA
Total CAPITAL COST per Car	$26,192	$51,696	$29,380	$32,568	NA	NA
Total OPRTNG COST for all cars	$134,775	$698,260	$224,598	$499,002	NA	NA
Total CAPITAL COST for all cars	$942,912	$3,515,328	$1,410,240	$2,963,688	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	81.1	89.2	158.1	152.0	NA	NA
Capacity Req'd/day (gals)	99.0	108.9	193.1	185.6	NA	NA
Adj. Capacity Req'd w/ Buffer	123.8	136.1	241.3	232.1	NA	NA
Tank Capacity per Car (gals)	100	300	150	150	NA	NA
Continuous Service Hours Supported	19	53	15	16	NA	NA
As a percentage of 72 hours	27%	73%	21%	22%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	0.8	2.2	0.6	0.6	NA	NA
As a percentage of 3 days	26.93%	73.45%	20.72%	21.55%	NA	NA
Consecutive Trips before pumpout	0.0	1.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$24,000	$12,000	$12,000	NA	NA
Toilet Cost per Car	$12,000	$36,000	$15,000	$18,000	NA	NA
- Total Equip Cost	$20,000	$60,000	$27,000	$30,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$1,728	$864	$864	NA	NA
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$5,184	$2,304	$2,592	NA	NA
Total Capital Cost	$21,728	$65,184	$29,304	$32,592	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$864	$2,592	$1,080	$1,296	NA	NA
Annual spare parts cost per yr	$600	$1,800	$810	$900	NA	NA
Total- Oprtng Non-Trip Related	$1,464	$4,392	$1,890	$2,196	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.20	$1.09	$6.73	$6.66	NA	NA
- Pump out minutes	0.00	1.82	0.72	0.59	NA	NA
- Connect/Disc. minutes	7.0	0.0	10.5	10.5	NA	NA
- Waste Disposal	$3.59	$3.95	$7.00	$6.73	NA	NA
Subtotal- End of Day/Trip Srvc	$31.79	$77.04	$43.73	$49.39	NA	NA
Train Delay:						
- Pump out volume req'd	100	0	150	150	NA	NA
- # of stops req'd	1	0	1	1	NA	NA
- Pump out minutes	1.7	0.0	2.5	2.5	NA	NA
- Connect/Disc. minutes	7.0	0.0	10.5	10.5	NA	NA
- Total Time Delay(mins/car)	9	0	13	13	NA	NA
Average Cost Per Delay	$5	$0	$8	$8	NA	NA
Subtotal- Oprtng Trip Related	$37	$77	$52	$57	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	9,198	17,374	12,264	23,251	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$3,150	$6,561	$4,389	$4,870	NA	NA
Annual Non-Trip Related per Car	$1,464	$4,392	$1,890	$2,196	NA	NA
Annual Oprtng Trip Related per Car Type	$113,408	$446,146	$210,650	$443,196	NA	NA
Annual Non-Trip Related per Car Type	$52,704	$298,656	$90,720	$199,836	NA	NA
Total OPRTNG COST per Car	$4,614	$10,953	$6,279	$7,066	NA	NA
Total CAPITAL COST per Car	$21,728	$65,184	$29,304	$32,592	NA	NA
Total OPRTNG COST for all cars	$166,112	$744,802	$301,370	$643,032	NA	NA
Total CAPITAL COST for all cars	$782,208	$4,432,512	$1,406,592	$2,965,872	NA	NA

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	39.8	23.3	21.3	22.3	23.8	10.7
Capacity Req'd/day (gals)	58.5	34.2	31.4	32.8	35.0	15.7
Adj. Capacity Req'd w/ Buffer	73.1	42.8	39.2	41.0	43.7	19.6
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	77	132	144	137	129	287
As a percentage of 72 hours	107%	183%	200%	191%	179%	399%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	4.2	7.2	7.8	7.5	7.0	15.7
As a percentage of 3 days	140.26%	239.61%	261.39%	250.02%	234.72%	522.78%
Consecutive Trips before pumpout	4.0	7.0	7.0	7.0	7.0	15.0
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$7,500	$5,000	$5,000	$42,500
- Total Equip Cost	$26,000	$26,000	$28,500	$26,000	$26,000	$63,500
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$648	$432	$432	$3,672
Annual spare parts cost per yr	$780	$780	$855	$780	$780	$1,905
Total- Oprtng Non-Trip Related	$1,212	$1,212	$1,503	$1,212	$1,212	$5,577
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.59	$0.34	$0.31	$0.33	$0.35	$0.16
- Pump out minutes	0.98	0.57	0.52	0.55	0.58	0.26
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.99	$0.58	$0.53	$0.56	$0.59	$0.27
Subtotal- End of Day/Trip Srvc	$13.58	$12.92	$18.85	$12.89	$12.94	$102.42
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$14	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	26,317	19,929	5,366	3,066	6,388	20,951
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,470	$3,302	$4,816	$3,292	$3,307	$26,169
Annual Non-Trip Related per Car	$1,212	$1,212	$1,503	$1,212	$1,212	$5,577
Annual Oprtng Trip Related per Car Type	$357,365	$257,574	$101,126	$39,509	$82,679	$2,145,880
Annual Non-Trip Related per Car Type	$124,836	$94,536	$31,563	$14,544	$30,300	$457,314
Total OPRTNG COST per Car	$4,682	$4,514	$6,319	$4,504	$4,519	$31,746
Total CAPITAL COST per Car	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836
Total OPRTNG COST for all cars	$482,201	$352,110	$132,689	$54,053	$112,979	$2,603,194
Total CAPITAL COST for all cars	$2,885,648	$2,185,248	$646,884	$336,192	$700,400	$5,726,552

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Req'd/day (gals)	28.1	16.5	15.1	15.8	16.8	7.5
Adj. Capacity Req'd w/ Buffer	35.1	20.6	18.9	19.7	21.0	9.4
Tank Capacity per Car (gals)	27	27	40.5	27	27	229.5
Continuous Service Hours Supported	18	31	52	33	31	584
As a percentage of 72 hours	26%	44%	72%	46%	43%	811%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	1.0	1.7	2.8	1.8	1.7	31.9
As a percentage of 3 days	33.53%	57.27%	93.72%	59.76%	56.10%	1062.14%
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	1.0	31.0
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
- Total Equip Cost	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$576	$576	$864	$576	$576	$4,896
Total Capital Cost	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$864	$576	$576	$4,896
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,728	$1,728	$2,592	$1,728	$1,728	$14,688
Annual spare parts cost per yr	$195	$195	$293	$195	$195	$1,658
Total- Oprtng Non-Trip Related	$1,923	$1,923	$2,885	$1,923	$1,923	$16,346
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.28	$0.16	$0.15	$0.16	$0.17	$0.08
- Pump out minutes	0.47	0.27	0.25	0.26	0.28	0.13
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.62	$0.36	$0.33	$0.35	$0.37	$0.17
Subtotal- End of Day/Trip Srvc	$12.90	$12.53	$18.48	$12.50	$12.54	$102.24
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$18	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	26,317	19,929	5,366	3,066	6,388	20,951
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,296	$3,201	$4,722	$3,195	$3,203	$26,123
Annual Non-Trip Related per Car	$1,923	$1,923	$2,885	$1,923	$1,923	$16,346
Annual Oprtng Trip Related per Car Type	$339,478	$249,645	$99,170	$38,340	$80,085	$2,142,060
Annual Non-Trip Related per Car Type	$198,069	$149,994	$60,575	$23,076	$48,075	$1,340,331
Total OPRTNG COST per Car	$5,219	$5,124	$7,607	$5,118	$5,126	$42,468
Total CAPITAL COST per Car	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146
Total OPRTNG COST for all cars	$537,547	$399,639	$159,744	$61,416	$128,160	$3,482,391
Total CAPITAL COST for all cars	$728,828	$551,928	$222,894	$84,912	$176,900	$4,931,972

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	108.6	63.6	58.3	60.9	64.9	29.1
Capacity Req'd/day (gals)	111.1	65.0	59.6	62.3	66.4	29.8
Adj. Capacity Req'd w/ Buffer	138.8	81.3	74.5	77.9	83.0	37.2
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	52	89	97	92	87	193
As a percentage of 72 hours	72%	123%	134%	128%	121%	268%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	2.8	4.8	5.3	5.0	4.7	10.5
As a percentage of 3 days	94.31%	161.12%	175.76%	168.12%	157.83%	351.53%
Consecutive Trips before pumpout	2.0	4.0	5.0	5.0	4.0	10.0
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$15,000	$10,000	$10,000	$85,000
- Total Equip Cost	$20,000	$20,000	$25,000	$20,000	$20,000	$95,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$5,472
Total Capital Cost	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472

Amtrak Route:	City of New Orleans		Route Number: #58			
Origin/Destination:	New Orleans-Chicago					
Length in Miles:	924					
Length in Hours:	18.33					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$648	$432	$432	$3,672
Annual spare parts cost per yr	$600	$600	$750	$600	$600	$2,850
Total- Oprtng Non-Trip Related	$1,032	$1,032	$1,398	$1,032	$1,032	$6,522
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.11	$0.65	$0.60	$0.62	$0.66	$0.30
- Pump out minutes	1.85	1.08	0.99	1.04	1.11	0.50
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$1.89	$1.11	$1.01	$1.06	$1.13	$0.51
Subtotal- End of Day/Trip Srvc	$15.00	$13.76	$19.61	$13.68	$13.79	$102.80
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$15	$14	$20	$14	$14	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	26,317	19,929	5,366	3,066	6,388	20,951
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,832	$3,514	$5,010	$3,496	$3,524	$26,267
Annual Non-Trip Related per Car	$1,032	$1,032	$1,398	$1,032	$1,032	$6,522
Annual Oprtng Trip Related per Car Type	$394,714	$274,130	$105,212	$41,950	$88,096	$2,153,858
Annual Non-Trip Related per Car Type	$106,296	$80,496	$29,358	$12,384	$25,800	$534,804
Total OPRTNG COST per Car	$4,864	$4,546	$6,408	$4,528	$4,556	$32,789
Total CAPITAL COST per Car	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472
Total OPRTNG COST for all cars	$501,010	$354,626	$134,570	$54,334	$113,896	$2,688,662
Total CAPITAL COST for all cars	$2,178,656	$1,649,856	$555,240	$253,824	$528,800	$8,238,704

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	29.7	17.4	15.9	16.6	17.7	8.0
Capacity Req'd/day (gals)	50.8	29.7	27.3	28.5	30.3	13.6
Adj. Capacity Req'd w/ Buffer	63.5	37.2	34.1	35.6	37.9	17.0
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	76	129	141	135	127	282
As a percentage of 72 hours	105%	179%	196%	187%	176%	391%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	4.1	7.0	7.7	7.4	6.9	15.4
As a percentage of 3 days	137.50%	234.90%	256.26%	245.12%	230.11%	512.51%
Consecutive Trips before pumpout	4.0	7.0	7.0	7.0	6.0	15.0
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$8,700	$5,800	$5,800	$49,300
- Total Equip Cost	$17,800	$17,800	$20,700	$17,800	$17,800	$61,300
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$648	$432	$432	$3,672
Annual spare parts cost per yr	$534	$534	$621	$534	$534	$1,839
Total- Oprtng Non-Trip Related	$966	$966	$1,269	$966	$966	$5,511
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.51	$0.30	$0.27	$0.28	$0.30	$0.14
- Pump out minutes	0.85	0.50	0.45	0.47	0.51	0.23
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.86	$0.51	$0.46	$0.48	$0.52	$0.23
Subtotal- End of Day/Trip Srvc	$13.37	$12.80	$18.74	$12.77	$12.82	$102.37
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	26,317	19,929	5,366	3,066	6,388	20,951
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,416	$3,271	$4,787	$3,263	$3,275	$26,155
Annual Non-Trip Related per Car	$966	$966	$1,269	$966	$966	$5,511
Annual Oprtng Trip Related per Car Type	$351,883	$255,144	$100,527	$39,150	$81,884	$2,144,709
Annual Non-Trip Related per Car Type	$99,498	$75,348	$26,649	$11,592	$24,150	$451,902
Total OPRTNG COST per Car	$4,382	$4,237	$6,056	$4,229	$4,241	$31,666
Total CAPITAL COST per Car	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636
Total OPRTNG COST for all cars	$451,381	$330,492	$127,176	$50,742	$106,034	$2,596,611
Total CAPITAL COST for all cars	$2,041,048	$1,545,648	$483,084	$237,792	$495,400	$5,546,152

Amtrak Route:	City of New Orleans	Route Number:	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	166.2	97.3	89.2	93.2	99.3	44.6
Capacity Req'd/day (gals)	155.0	90.7	83.2	87.0	92.6	41.6
Adj. Capacity Req'd w/ Buffer	193.8	113.4	104.0	108.7	115.8	52.0
Tank Capacity per Car (gals)	100	100	100	100	100	450
Continuous Service Hours Supported	12	21	23	22	21	208
As a percentage of 72 hours	17%	29%	32%	31%	29%	289%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	0.7	1.2	1.3	1.2	1.1	11.3
As a percentage of 3 days	22.52%	38.48%	41.97%	40.15%	37.69%	377.77%
Consecutive Trips before pumpout	0.0	1.0	1.0	1.0	1.0	11.0
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	$8,000	$8,000	$36,000
Toilet Cost per Car	$6,000	$6,000	$9,000	$6,000	$6,000	$51,000
- Total Equip Cost	$14,000	$14,000	$17,000	$14,000	$14,000	$87,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$2,592
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$7,488
Total Capital Cost	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488

Amtrak Route:	City of New Orleans		Route Number: #58			
Origin/Destination:	New Orleans-Chicago					
Length in Miles:	924					
Length in Hours:	18.33					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$648	$432	$432	$3,672
Annual spare parts cost per yr	$420	$420	$510	$420	$420	$2,610
Total- Oprtng Non-Trip Related	$852	$852	$1,158	$852	$852	$6,282
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.75	$0.91	$0.83	$0.87	$0.93	$0.42
- Pump out minutes	0.92	1.51	1.39	1.45	1.54	0.69
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$2.64	$1.54	$1.41	$1.48	$1.57	$0.71
Subtotal- End of Day/Trip Srvc	$19.39	$14.45	$20.25	$14.35	$14.50	$103.12
Train Delay:						
- Pump out volume req'd	100	0	0	0	0	0
- # of stops req'd	1	0	0	0	0	0
- Pump out minutes	1.7	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	9	0	0	0	0	0
Average Cost Per Delay	$5	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$25	$14	$20	$14	$15	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	26,317	19,929	5,366	3,066	6,388	20,951
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$6,282	$3,692	$5,173	$3,666	$3,705	$26,348
Annual Non-Trip Related per Car	$852	$852	$1,158	$852	$852	$6,282
Annual Oprtng Trip Related per Car Type	$647,007	$287,976	$108,630	$43,991	$92,626	$2,160,529
Annual Non-Trip Related per Car Type	$87,756	$66,456	$24,318	$10,224	$21,300	$515,124
Total OPRTNG COST per Car	$7,134	$4,544	$6,331	$4,518	$4,557	$32,630
Total CAPITAL COST per Car	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488
Total OPRTNG COST for all cars	$734,763	$354,432	$132,948	$54,215	$113,926	$2,675,653
Total CAPITAL COST for all cars	$1,560,656	$1,181,856	$387,240	$181,824	$378,800	$7,748,016

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	28.6	23.8	10.7	19.4	16.5	NA
Capacity Req'd/day (gals)	53.5	44.4	19.9	36.2	30.8	NA
Adj. Capacity Req'd w/ Buffer	66.8	55.5	24.9	45.3	38.5	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	84	102	226	124	146	NA
As a percentage of 72 hours	117%	141%	314%	173%	203%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	3.6	4.4	9.7	5.3	6.3	NA
As a percentage of 3 days	120.85%	145.51%	324.10%	178.25%	209.71%	NA
Consecutive Trips before pumpout	3.0	4.0	9.0	5.0	6.0	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$42,500	$80,000	$42,500	NA
- Total Equip Cost	$26,000	$26,000	$63,500	$101,000	$63,500	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$28,016	$28,016	$69,836	$111,656	$69,836	NA

Amtrak Route:	Silver Meteor		**Route Number:**	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$3,672	$6,912	$3,672	NA
Annual spare parts cost per yr	$780	$780	$1,905	$3,030	$1,905	NA
Total- Oprtng Non-Trip Related	$1,212	$1,212	$5,577	$9,942	$5,577	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.53	$0.44	$0.20	$0.36	$0.31	NA
- Pump out minutes	0.89	0.74	0.33	0.60	0.51	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.91	$0.75	$0.34	$0.62	$0.52	NA
Subtotal- End of Day/Trip Srvc	$13.44	$13.20	$102.54	$192.98	$102.83	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$13	$13	$103	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	30,404	6,388	20,951	4,088	511	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,717	$1,686	$13,099	$24,653	$13,137	NA
Annual Non-Trip Related per Car	$1,212	$1,212	$5,577	$9,942	$5,577	NA
Annual Oprtng Trip Related per Car Type	$204,370	$42,153	$1,074,139	$394,448	$26,274	NA
Annual Non-Trip Related per Car Type	$144,228	$30,300	$457,314	$159,072	$11,154	NA
Total OPRTNG COST per Car	$2,929	$2,898	$18,676	$34,595	$18,714	NA
Total CAPITAL COST per Car	$28,016	$28,016	$69,836	$111,656	$69,836	NA
Total OPRTNG COST for all cars	$348,598	$72,453	$1,531,453	$553,520	$37,428	NA
Total CAPITAL COST for all cars	$3,333,904	$700,400	$5,726,552	$1,786,496	$139,672	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	NA
Capacity Req'd/day (gals)	25.7	21.3	9.6	17.4	14.8	NA
Adj. Capacity Req'd w/ Buffer	32.1	26.7	12.0	21.8	18.5	NA
Tank Capacity per Car (gals)	27	27	229.5	432	229.5	NA
Continuous Service Hours Supported	20	24	460	476	298	NA
As a percentage of 72 hours	28%	34%	639%	661%	413%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.9	1.0	19.8	20.5	12.8	NA
As a percentage of 3 days	28.89%	34.78%	658.47%	681.71%	426.07%	NA
Consecutive Trips before pumpout	0.0	1.0	19.0	20.0	12.0	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$55,250	$104,000	$55,250	NA
- Total Equip Cost	$6,500	$6,500	$55,250	$104,000	$55,250	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$576	$576	$4,896	$9,216	$4,896	NA
Total Capital Cost	$7,076	$7,076	$60,146	$113,216	$60,146	NA

Amtrak Route:	Silver Meteor		**Route Number:**	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$4,896	$9,216	$4,896	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,728	$1,728	$14,688	$27,648	$14,688	NA
Annual spare parts cost per yr	$195	$195	$1,658	$3,120	$1,658	NA
Total- Oprtng Non-Trip Related	$1,923	$1,923	$16,346	$30,768	$16,346	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.20	$0.21	$0.10	$0.17	$0.15	NA
- Pump out minutes	0.00	0.36	0.16	0.29	0.25	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.57	$0.47	$0.21	$0.38	$0.33	NA
Subtotal- End of Day/Trip Srvc	$16.77	$12.68	$102.31	$192.56	$102.47	NA
Train Delay:						
- Pump out volume req'd	27	0	0	0	0	NA
- # of stops req'd	1	0	0	0	0	NA
- Pump out minutes	0.5	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	7	0	0	0	0	NA
Average Cost Per Delay	$4	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$21	$13	$102	$193	$102	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	30,404	6,388	20,951	4,088	511	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$2,713	$1,620	$13,070	$24,599	$13,091	NA
Annual Non-Trip Related per Car	$1,923	$1,923	$16,346	$30,768	$16,346	NA
Annual Oprtng Trip Related per Car Type	$322,825	$40,506	$1,071,713	$393,587	$26,182	NA
Annual Non-Trip Related per Car Type	$228,837	$48,075	$1,340,331	$492,288	$32,691	NA
Total OPRTNG COST per Car	$4,636	$3,543	$29,415	$55,367	$29,437	NA
Total CAPITAL COST per Car	$7,076	$7,076	$60,146	$113,216	$60,146	NA
Total OPRTNG COST for all cars	$551,662	$88,581	$2,412,044	$885,875	$58,873	NA
Total CAPITAL COST for all cars	$842,044	$176,900	$4,931,972	$1,811,456	$120,292	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	78.1	64.9	29.1	53.0	45.0	NA
Capacity Req'd/day (gals)	101.5	84.3	37.8	68.8	58.5	NA
Adj. Capacity Req'd w/ Buffer	126.9	105.4	47.3	86.0	73.1	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	57	68	152	84	98	NA
As a percentage of 72 hours	79%	95%	211%	116%	137%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	2.4	2.9	6.5	3.6	4.2	NA
As a percentage of 3 days	81.26%	97.85%	217.93%	119.86%	141.01%	NA
Consecutive Trips before pumpout	2.0	2.0	6.0	3.0	4.0	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$85,000	$160,000	$85,000	NA
- Total Equip Cost	$20,000	$20,000	$95,000	$170,000	$95,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$5,472	$9,792	$5,472	NA
Total Capital Cost	$21,152	$21,152	$100,472	$179,792	$100,472	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$3,672	$6,912	$3,672	NA
Annual spare parts cost per yr	$600	$600	$2,850	$5,100	$2,850	NA
Total- Oprtng Non-Trip Related	$1,032	$1,032	$6,522	$12,012	$6,522	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.01	$0.84	$0.38	$0.69	$0.58	NA
- Pump out minutes	1.69	1.40	0.63	1.15	0.97	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$1.73	$1.43	$0.64	$1.17	$0.99	NA
Subtotal- End of Day/Trip Srvc	$14.74	$14.28	$103.02	$193.86	$103.58	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$15	$14	$103	$194	$104	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	30,404	6,388	20,951	4,088	511	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,883	$1,824	$13,161	$24,765	$13,232	NA
Annual Non-Trip Related per Car	$1,032	$1,032	$6,522	$12,012	$6,522	NA
Annual Oprtng Trip Related per Car Type	$224,085	$45,593	$1,079,205	$396,245	$26,464	NA
Annual Non-Trip Related per Car Type	$122,808	$25,800	$534,804	$192,192	$13,044	NA
Total OPRTNG COST per Car	$2,915	$2,856	$19,683	$36,777	$19,754	NA
Total CAPITAL COST per Car	$21,152	$21,152	$100,472	$179,792	$100,472	NA
Total OPRTNG COST for all cars	$346,893	$71,393	$1,614,009	$588,437	$39,508	NA
Total CAPITAL COST for all cars	$2,517,088	$528,800	$8,238,704	$2,876,672	$200,944	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	21.4	17.7	8.0	14.5	12.3	NA
Capacity Req'd/day (gals)	46.4	38.5	17.3	31.5	26.7	NA
Adj. Capacity Req'd w/ Buffer	58.0	48.2	21.6	39.3	33.4	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	83	100	222	122	144	NA
As a percentage of 72 hours	115%	138%	308%	170%	199%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	3.6	4.3	9.5	5.2	6.2	NA
As a percentage of 3 days	118.48%	142.66%	317.74%	174.75%	205.59%	NA
Consecutive Trips before pumpout	3.0	4.0	9.0	5.0	6.0	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$49,300	$92,800	$49,300	NA
- Total Equip Cost	$17,800	$17,800	$61,300	$104,800	$61,300	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$19,816	$19,816	$67,636	$115,456	$67,636	NA

Amtrak Route:	Silver Meteor		**Route Number:**	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$3,672	$6,912	$3,672	NA
Annual spare parts cost per yr	$534	$534	$1,839	$3,144	$1,839	NA
Total- Oprtng Non-Trip Related	$966	$966	$5,511	$10,056	$5,511	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.46	$0.39	$0.17	$0.31	$0.27	NA
- Pump out minutes	0.77	0.64	0.29	0.52	0.45	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.79	$0.66	$0.29	$0.53	$0.45	NA
Subtotal- End of Day/Trip Srvc	$13.25	$13.04	$102.47	$192.85	$102.72	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$13	$13	$102	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	30,404	6,388	20,951	4,088	511	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,693	$1,666	$13,090	$24,637	$13,123	NA
Annual Non-Trip Related per Car	$966	$966	$5,511	$10,056	$5,511	NA
Annual Oprtng Trip Related per Car Type	$201,476	$41,649	$1,073,395	$394,184	$26,245	NA
Annual Non-Trip Related per Car Type	$114,954	$24,150	$451,902	$160,896	$11,022	NA
Total OPRTNG COST per Car	$2,659	$2,632	$18,601	$34,693	$18,634	NA
Total CAPITAL COST per Car	$19,816	$19,816	$67,636	$115,456	$67,636	NA
Total OPRTNG COST for all cars	$316,430	$65,799	$1,525,297	$555,080	$37,267	NA
Total CAPITAL COST for all cars	$2,358,104	$495,400	$5,546,152	$1,847,296	$135,272	NA

Amtrak Route:	Silver Meteor	Route Number:	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	119.6	99.3	44.6	81.1	68.9	NA
Capacity Req'd/day (gals)	141.7	117.7	52.8	96.0	81.6	NA
Adj. Capacity Req'd w/ Buffer	177.1	147.1	66.0	120.1	102.0	NA
Tank Capacity per Car (gals)	100	100	450	800	450	NA
Continuous Service Hours Supported	14	16	164	160	106	NA
As a percentage of 72 hours	19%	23%	227%	222%	147%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.6	0.7	7.0	6.9	4.5	NA
As a percentage of 3 days	19.41%	23.37%	234.20%	228.99%	151.54%	NA
Consecutive Trips before pumpout	0.0	0.0	7.0	6.0	4.0	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$36,000	$64,000	$36,000	NA
Toilet Cost per Car	$6,000	$6,000	$51,000	$96,000	$51,000	NA
- Total Equip Cost	$14,000	$14,000	$87,000	$160,000	$87,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$2,592	$4,608	$2,592	NA
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$7,488	$13,824	$7,488	NA
Total Capital Cost	$15,152	$15,152	$94,488	$173,824	$94,488	NA

Amtrak Route:	Silver Meteor	Route Number:	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$3,672	$6,912	$3,672	NA
Annual spare parts cost per yr	$420	$420	$2,610	$4,800	$2,610	NA
Total- Oprtng Non-Trip Related	$852	$852	$6,282	$11,712	$6,282	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.62	$4.38	$0.53	$0.96	$0.82	NA
- Pump out minutes	0.69	0.29	0.88	1.60	1.36	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Waste Disposal	$2.41	$2.00	$0.90	$1.63	$1.39	NA
Subtotal- End of Day/Trip Srvc	$19.02	$18.38	$103.43	$194.59	$104.20	NA
Train Delay:						
- Pump out volume req'd	100	100	0	0	0	NA
- # of stops req'd	1	1	0	0	0	NA
- Pump out minutes	1.7	1.7	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	9	9	0	0	0	NA
Average Cost Per Delay	$5	$5	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$24	$24	$103	$195	$104	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	30,404	6,388	20,951	4,088	511	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$3,095	$3,012	$13,213	$24,859	$13,312	NA
Annual Non-Trip Related per Car	$852	$852	$6,282	$11,712	$6,282	NA
Annual Oprtng Trip Related per Car Type	$368,273	$75,298	$1,083,441	$397,748	$26,624	NA
Annual Non-Trip Related per Car Type	$101,388	$21,300	$515,124	$187,392	$12,564	NA
Total OPRTNG COST per Car	$3,947	$3,864	$19,495	$36,571	$19,594	NA
Total CAPITAL COST per Car	$15,152	$15,152	$94,488	$173,824	$94,488	NA
Total OPRTNG COST for all cars	$469,661	$96,598	$1,598,565	$585,140	$39,188	NA
Total CAPITAL COST for all cars	$1,803,088	$378,800	$7,748,016	$2,781,184	$188,976	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	25.7	40.7	19.9	NA	NA	NA
Capacity Req'd/day (gals)	27.0	42.8	20.9	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	33.8	53.5	26.1	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	167	105	216	NA	NA	NA
As a percentage of 72 hours	232%	146%	300%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	12.7	8.0	16.5	NA	NA	NA
As a percentage of 3 days	424.86%	268.07%	549.21%	NA	NA	NA
Consecutive Trips before pumpout	25.0	16.0	32.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Benjamin Franklin		Route Number: #193			
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$780	$780	$780	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,212	$1,212	$1,212	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.27	$0.43	$0.21	NA	NA	NA
- Pump out minutes	0.45	0.71	0.35	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.92	$1.46	$0.71	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.19	$13.88	$12.92	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$14	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	11,498	67,963	6,132	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,370	$3,547	$3,301	NA	NA	NA
Annual Non-Trip Related per Car	$1,212	$1,212	$1,212	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$151,641	$943,629	$79,224	NA	NA	NA
Annual Non-Trip Related per Car Type	$54,540	$322,392	$29,088	NA	NA	NA
Total OPRTNG COST per Car	$4,582	$4,759	$4,513	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$206,181	$1,266,021	$108,312	NA	NA	NA
Total CAPITAL COST for all cars	$1,260,720	$7,452,256	$672,384	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	13.0	20.6	10.0	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	16.2	25.7	12.6	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	40	25	52	NA	NA	NA
As a percentage of 72 hours	55%	35%	72%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	3.0	1.9	3.9	NA	NA	NA
As a percentage of 3 days	101.55%	64.07%	131.28%	NA	NA	NA
Consecutive Trips before pumpout	6.0	3.0	7.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,728	$1,728	$1,728	NA	NA	NA
Annual spare parts cost per yr	$195	$195	$195	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,923	$1,923	$1,923	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.21	$0.10	NA	NA	NA
- Pump out minutes	0.22	0.34	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.57	$0.91	$0.44	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$12.70	$13.11	$12.54	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$13	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	11,498	67,963	6,132	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,245	$3,350	$3,205	NA	NA	NA
Annual Non-Trip Related per Car	$1,923	$1,923	$1,923	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$146,035	$891,109	$76,911	NA	NA	NA
Annual Non-Trip Related per Car Type	$86,535	$511,518	$46,152	NA	NA	NA
Total OPRTNG COST per Car	$5,168	$5,273	$5,128	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$232,570	$1,402,627	$123,063	NA	NA	NA
Total CAPITAL COST for all cars	$318,420	$1,882,216	$169,824	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	70.2	111.2	54.3	NA	NA	NA
Capacity Req'd/day (gals)	51.3	81.3	39.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	64.1	101.6	49.6	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	112	71	145	NA	NA	NA
As a percentage of 72 hours	156%	98%	202%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	8.6	5.4	11.1	NA	NA	NA
As a percentage of 3 days	285.68%	180.25%	369.30%	NA	NA	NA
Consecutive Trips before pumpout	17.0	10.0	22.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$600	$600	$600	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,032	$1,032	$1,032	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.51	$0.81	$0.40	NA	NA	NA
- Pump out minutes	0.86	1.36	0.66	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.74	$2.76	$1.35	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$14.26	$15.58	$13.75	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$14	$16	$14	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	11,498	67,963	6,132	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,643	$3,980	$3,512	NA	NA	NA
Annual Non-Trip Related per Car	$1,032	$1,032	$1,032	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$163,924	$1,058,704	$84,292	NA	NA	NA
Annual Non-Trip Related per Car Type	$46,440	$274,512	$24,768	NA	NA	NA
Total OPRTNG COST per Car	$4,675	$5,012	$4,544	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$210,364	$1,333,216	$109,060	NA	NA	NA
Total CAPITAL COST for all cars	$951,840	$5,626,432	$507,648	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	19.2	30.4	14.8	NA	NA	NA
Capacity Req'd/day (gals)	23.5	37.2	18.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	29.3	46.5	22.7	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	164	103	212	NA	NA	NA
As a percentage of 72 hours	227%	143%	294%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	12.5	7.9	16.2	NA	NA	NA
As a percentage of 3 days	416.52%	262.80%	538.43%	NA	NA	NA
Consecutive Trips before pumpout	24.0	15.0	32.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Benjamin Franklin		Route Number: #193			
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Expected					
* All data on per car basis (unless noted otherwise)						
	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$534	$534	$534	NA	NA	NA
Total- Oprtng Non-Trip Related	$966	$966	$966	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.23	$0.37	$0.18	NA	NA	NA
- Pump out minutes	0.39	0.62	0.30	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.80	$1.26	$0.62	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.03	$13.64	$12.80	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$14	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	11,498	67,963	6,132	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,330	$3,484	$3,270	NA	NA	NA
Annual Non-Trip Related per Car	$966	$966	$966	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$149,838	$926,737	$78,480	NA	NA	NA
Annual Non-Trip Related per Car Type	$43,470	$256,956	$23,184	NA	NA	NA
Total OPRTNG COST per Car	$4,296	$4,450	$4,236	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$193,308	$1,183,693	$101,664	NA	NA	NA
Total CAPITAL COST for all cars	$891,720	$5,271,056	$475,584	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	107.4	170.2	83.1	NA	NA	NA
Capacity Req'd/day (gals)	71.6	113.5	55.4	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	89.5	141.9	69.2	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	27	17	35	NA	NA	NA
As a percentage of 72 hours	37%	23%	48%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	2.0	1.3	2.6	NA	NA	NA
As a percentage of 3 days	68.22%	43.05%	88.19%	NA	NA	NA
Consecutive Trips before pumpout	4.0	2.0	5.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin		**Route Number:** #193			
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$420	$420	$420	NA	NA	NA
Total- Oprtng Non-Trip Related	$852	$852	$852	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.72	$1.13	$0.55	NA	NA	NA
- Pump out minutes	1.19	1.89	0.92	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$2.43	$3.86	$1.88	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.15	$16.99	$14.44	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$15	$17	$14	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	11,498	67,963	6,132	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,871	$4,342	$3,689	NA	NA	NA
Annual Non-Trip Related per Car	$852	$852	$852	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$174,196	$1,154,943	$88,530	NA	NA	NA
Annual Non-Trip Related per Car Type	$38,340	$226,632	$20,448	NA	NA	NA
Total OPRTNG COST per Car	$4,723	$5,194	$4,541	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$212,536	$1,381,575	$108,978	NA	NA	NA
Total CAPITAL COST for all cars	$681,840	$4,030,432	$363,648	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	11.2	29.1	16.0	NA	NA	NA
Capacity Req'd/day (gals)	14.9	39.0	21.4	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	18.7	48.7	26.8	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	302	116	211	NA	NA	NA
As a percentage of 72 hours	420%	161%	293%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	18.1	6.9	12.6	NA	NA	NA
As a percentage of 3 days	603.87%	231.48%	420.88%	NA	NA	NA
Consecutive Trips before pumpout	108.0	41.0	75.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$780	$780	$780	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,212	$1,212	$1,212	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.15	$0.39	$0.21	NA	NA	NA
- Pump out minutes	0.25	0.65	0.36	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.52	$3.97	$2.19	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.67	$16.36	$14.40	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$14	$16	$14	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,322	12,775	3,322	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,493	$4,181	$3,679	NA	NA	NA
Annual Non-Trip Related per Car	$1,212	$1,212	$1,212	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$45,413	$209,032	$47,828	NA	NA	NA
Annual Non-Trip Related per Car Type	$15,756	$60,600	$15,756	NA	NA	NA
Total OPRTNG COST per Car	$4,705	$5,393	$4,891	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$61,169	$269,632	$63,584	NA	NA	NA
Total CAPITAL COST for all cars	$364,208	$1,400,800	$364,208	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	7.2	18.7	10.3	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	9.0	23.4	12.9	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	72	28	50	NA	NA	NA
As a percentage of 72 hours	100%	38%	70%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	4.3	1.7	3.0	NA	NA	NA
As a percentage of 3 days	144.34%	55.33%	100.60%	NA	NA	NA
Consecutive Trips before pumpout	25.0	9.0	18.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,728	$1,728	$1,728	NA	NA	NA
Annual spare parts cost per yr	$195	$195	$195	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,923	$1,923	$1,923	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.07	$0.19	$0.10	NA	NA	NA
- Pump out minutes	0.12	0.31	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.95	$2.47	$1.36	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.02	$14.66	$13.46	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$15	$13	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,322	12,775	3,322	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,326	$3,745	$3,440	NA	NA	NA
Annual Non-Trip Related per Car	$1,923	$1,923	$1,923	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$43,243	$187,265	$44,715	NA	NA	NA
Annual Non-Trip Related per Car Type	$24,999	$96,150	$24,999	NA	NA	NA
Total OPRTNG COST per Car	$5,249	$5,668	$5,363	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$68,242	$283,415	$69,714	NA	NA	NA
Total CAPITAL COST for all cars	$91,988	$353,800	$91,988	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	30.5	79.5	43.7	NA	NA	NA
Capacity Req'd/day (gals)	28.3	74.0	40.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	35.4	92.4	50.8	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	203	78	142	NA	NA	NA
As a percentage of 72 hours	282%	108%	197%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	12.2	4.7	8.5	NA	NA	NA
As a percentage of 3 days	406.06%	155.65%	283.01%	NA	NA	NA
Consecutive Trips before pumpout	73.0	28.0	50.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$600	$600	$600	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,032	$1,032	$1,032	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.28	$0.74	$0.41	NA	NA	NA
- Pump out minutes	0.47	1.23	0.68	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$2.89	$7.54	$4.15	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.17	$20.28	$16.56	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$15	$20	$17	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,322	12,775	3,322	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,877	$5,182	$4,230	NA	NA	NA
Annual Non-Trip Related per Car	$1,032	$1,032	$1,032	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$50,404	$259,109	$54,989	NA	NA	NA
Annual Non-Trip Related per Car Type	$13,416	$51,600	$13,416	NA	NA	NA
Total OPRTNG COST per Car	$4,909	$6,214	$5,262	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$63,820	$310,709	$68,405	NA	NA	NA
Total CAPITAL COST for all cars	$274,976	$1,057,600	$274,976	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	8.3	21.7	11.9	NA	NA	NA
Capacity Req'd/day (gals)	13.0	33.8	18.6	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	16.2	42.3	23.2	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	296	114	206	NA	NA	NA
As a percentage of 72 hours	411%	158%	287%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	17.8	6.8	12.4	NA	NA	NA
As a percentage of 3 days	592.02%	226.94%	412.62%	NA	NA	NA
Consecutive Trips before pumpout	106.0	40.0	74.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$534	$534	$534	NA	NA	NA
Total- Oprtng Non-Trip Related	$966	$966	$966	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.34	$0.19	NA	NA	NA
- Pump out minutes	0.22	0.56	0.31	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.32	$3.45	$1.90	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.45	$15.79	$14.08	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$16	$14	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,322	12,775	3,322	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,437	$4,034	$3,598	NA	NA	NA
Annual Non-Trip Related per Car	$966	$966	$966	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$44,680	$201,682	$46,777	NA	NA	NA
Annual Non-Trip Related per Car Type	$12,558	$48,300	$12,558	NA	NA	NA
Total OPRTNG COST per Car	$4,403	$5,000	$4,564	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$57,238	$249,982	$59,335	NA	NA	NA
Total CAPITAL COST for all cars	$257,608	$990,800	$257,608	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	46.6	121.6	66.9	NA	NA	NA
Capacity Req'd/day (gals)	39.6	103.2	56.8	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	49.5	129.0	71.0	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	49	19	34	NA	NA	NA
As a percentage of 72 hours	67%	26%	47%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	2.9	1.1	2.0	NA	NA	NA
As a percentage of 3 days	96.97%	37.17%	67.59%	NA	NA	NA
Consecutive Trips before pumpout	17.0	6.0	12.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$420	$420	$420	NA	NA	NA
Total- Oprtng Non-Trip Related	$852	$852	$852	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.40	$1.03	$0.57	NA	NA	NA
- Pump out minutes	0.66	1.72	0.95	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$4.04	$10.53	$5.79	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$16.43	$23.56	$18.36	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$24	$18	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,322	12,775	3,322	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,198	$6,020	$4,691	NA	NA	NA
Annual Non-Trip Related per Car	$852	$852	$852	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$54,578	$300,988	$60,977	NA	NA	NA
Annual Non-Trip Related per Car Type	$11,076	$42,600	$11,076	NA	NA	NA
Total OPRTNG COST per Car	$5,050	$6,872	$5,543	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$65,654	$343,588	$72,053	NA	NA	NA
Total CAPITAL COST for all cars	$196,976	$757,600	$196,976	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	40.7	11.2	29.1	NA	NA	NA
Capacity Req'd/day (gals)	51.4	14.1	36.7	NA	NA	NA
Adj. Capacity Req'd w/Buffer	64.2	17.6	45.9	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	88	321	123	NA	NA	NA
As a percentage of 72 hours	122%	445%	171%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	5.6	20.4	7.8	NA	NA	NA
As a percentage of 3 days	186.16%	679.88%	260.62%	NA	NA	NA
Consecutive Trips before pumpout	33.0	122.0	46.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$780	$780	$780	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,212	$1,212	$1,212	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.51	$0.14	$0.37	NA	NA	NA
- Pump out minutes	0.86	0.23	0.61	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$5.24	$1.44	$3.74	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$17.76	$13.58	$16.11	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$18	$14	$16	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	67,963	6,388	7,920	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,537	$3,469	$4,116	NA	NA	NA
Annual Non-Trip Related per Car	$1,212	$1,212	$1,212	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,206,761	$86,717	$127,611	NA	NA	NA
Annual Non-Trip Related per Car Type	$322,392	$30,300	$37,572	NA	NA	NA
Total OPRTNG COST per Car	$5,749	$4,681	$5,328	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$1,529,153	$117,017	$165,183	NA	NA	NA
Total CAPITAL COST for all cars	$7,452,256	$700,400	$868,496	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	24.7	6.8	17.6	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	30.9	8.5	22.1	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	21	77	29	NA	NA	NA
As a percentage of 72 hours	29%	106%	41%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	1.3	4.9	1.9	NA	NA	NA
As a percentage of 3 days	44.50%	162.51%	62.29%	NA	NA	NA
Consecutive Trips before pumpout	8.0	29.0	11.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$1,728	$1,728	$1,728	NA	NA	NA
Annual spare parts cost per yr	$195	$195	$195	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,923	$1,923	$1,923	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.25	$0.07	$0.18	NA	NA	NA
- Pump out minutes	0.41	0.11	0.29	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.26	$0.89	$2.33	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.51	$12.96	$14.51	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$13	$15	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	67,963	6,388	7,920	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,962	$3,311	$3,706	NA	NA	NA
Annual Non-Trip Related per Car	$1,923	$1,923	$1,923	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,053,968	$82,785	$114,892	NA	NA	NA
Annual Non-Trip Related per Car Type	$511,518	$48,075	$59,613	NA	NA	NA
Total OPRTNG COST per Car	$5,885	$5,234	$5,629	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$1,565,486	$130,860	$174,505	NA	NA	NA
Total CAPITAL COST for all cars	$1,882,216	$176,900	$219,356	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	111.2	30.5	79.5	NA	NA	NA
Capacity Req'd/day (gals)	97.6	26.7	69.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	122.0	33.4	87.1	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	59	216	83	NA	NA	NA
As a percentage of 72 hours	82%	299%	115%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	3.8	13.7	5.3	NA	NA	NA
As a percentage of 3 days	125.18%	457.16%	175.25%	NA	NA	NA
Consecutive Trips before pumpout	22.0	82.0	31.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$600	$600	$600	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,032	$1,032	$1,032	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.98	$0.27	$0.70	NA	NA	NA
- Pump out minutes	1.63	0.45	1.16	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$9.95	$2.73	$7.11	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$22.93	$14.99	$19.81	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$23	$15	$20	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	67,963	6,388	7,920	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,858	$3,831	$5,060	NA	NA	NA
Annual Non-Trip Related per Car	$1,032	$1,032	$1,032	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,558,264	$95,763	$156,872	NA	NA	NA
Annual Non-Trip Related per Car Type	$274,512	$25,800	$31,992	NA	NA	NA
Total OPRTNG COST per Car	$6,890	$4,863	$6,092	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$1,832,776	$121,563	$188,864	NA	NA	NA
Total CAPITAL COST for all cars	$5,626,432	$528,800	$655,712	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	30.4	8.3	21.7	NA	NA	NA
Capacity Req'd/day (gals)	44.6	12.2	31.9	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	55.8	15.3	39.8	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	86	314	120	NA	NA	NA
As a percentage of 72 hours	120%	437%	167%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	5.5	20.0	7.7	NA	NA	NA
As a percentage of 3 days	182.50%	666.53%	255.50%	NA	NA	NA
Consecutive Trips before pumpout	32.0	119.0	45.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$534	$534	$534	NA	NA	NA
Total- Oprtng Non-Trip Related	$966	$966	$966	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.45	$0.12	$0.32	NA	NA	NA
- Pump out minutes	0.74	0.20	0.53	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$4.55	$1.25	$3.25	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$17.00	$13.37	$15.57	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$17	$13	$16	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	67,963	6,388	7,920	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,343	$3,416	$3,978	NA	NA	NA
Annual Non-Trip Related per Car	$966	$966	$966	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,155,164	$85,389	$123,316	NA	NA	NA
Annual Non-Trip Related per Car Type	$256,956	$24,150	$29,946	NA	NA	NA
Total OPRTNG COST per Car	$5,309	$4,382	$4,944	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$1,412,120	$109,539	$153,262	NA	NA	NA
Total CAPITAL COST for all cars	$5,271,056	$495,400	$614,296	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	170.2	46.6	121.6	NA	NA	NA
Capacity Req'd/day (gals)	136.2	37.3	97.3	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	170.2	46.6	121.6	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	14	51	20	NA	NA	NA
As a percentage of 72 hours	20%	72%	27%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	0.9	3.3	1.3	NA	NA	NA
As a percentage of 3 days	29.89%	109.18%	41.85%	NA	NA	NA
Consecutive Trips before pumpout	5.0	19.0	7.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$432	$432	$432	NA	NA	NA
Annual spare parts cost per yr	$420	$420	$420	NA	NA	NA
Total- Oprtng Non-Trip Related	$852	$852	$852	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.36	$0.37	$0.97	NA	NA	NA
- Pump out minutes	2.27	0.62	1.62	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$13.89	$3.80	$9.92	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$27.25	$16.18	$22.90	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$27	$16	$23	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	67,963	6,388	7,920	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$6,963	$4,133	$5,850	NA	NA	NA
Annual Non-Trip Related per Car	$852	$852	$852	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,852,229	$103,328	$181,343	NA	NA	NA
Annual Non-Trip Related per Car Type	$226,632	$21,300	$26,412	NA	NA	NA
Total OPRTNG COST per Car	$7,815	$4,985	$6,702	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$2,078,861	$124,628	$207,755	NA	NA	NA
Total CAPITAL COST for all cars	$4,030,432	$378,800	$469,712	NA	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	13.1	34.9	25.2	19.4	NA	NA
Capacity Req'd/day (gals)	12.7	34.0	24.5	18.9	NA	NA
Adj. Capacity Req'd w/ Buffer	15.9	42.5	30.7	23.6	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	354	133	184	239	NA	NA
As a percentage of 72 hours	492%	185%	255%	332%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	29.2	11.0	15.2	19.7	NA	NA
As a percentage of 3 days	974.31%	365.37%	505.89%	657.66%	NA	NA
Consecutive Trips before pumpout	116.0	43.0	60.0	78.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$2,500	$5,000	$2,500	$2,500	NA	NA
- Total Equip Cost	$23,500	$26,000	$23,500	$23,500	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$25,228	$28,016	$25,228	$25,228	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$216	$432	$216	$216	NA	NA
Annual spare parts cost per yr	$705	$780	$705	$705	NA	NA
Total- Oprtng Non-Trip Related	$921	$1,212	$921	$921	NA	NA
Trip Related Costs:						
Toilet maintenance enroute End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.34	$0.25	$0.19	NA	NA
- Pump out minutes	0.21	0.57	0.41	0.31	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.87	$2.31	$1.67	$1.28	NA	NA
Subtotal- End of Day/Trip Srvc	$6.99	$14.65	$7.91	$7.47	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$15	$8	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,533	5,366	767	3,577	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,787	$3,743	$2,022	$1,909	NA	NA
Annual Non-Trip Related per Car	$921	$1,212	$921	$921	NA	NA
Annual Oprtng Trip Related per Car Type	$10,721	$78,600	$6,066	$26,727	NA	NA
Annual Non-Trip Related per Car Type	$5,526	$25,452	$2,763	$12,894	NA	NA
Total OPRTNG COST per Car	$2,708	$4,955	$2,943	$2,830	NA	NA
Total CAPITAL COST per Car	$25,228	$28,016	$25,228	$25,228	NA	NA
Total OPRTNG COST for all cars	$16,247	$104,052	$8,829	$39,621	NA	NA
Total CAPITAL COST for all cars	$151,368	$588,336	$75,684	$353,192	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	6.1	16.3	11.8	9.1	NA	NA
Adj. Capacity Req'd w/ Buffer	7.7	20.4	14.7	11.3	NA	NA
Tank Capacity per Car (gals)	13.5	27	13.5	13.5	NA	NA
Continuous Service Hours Supported	42	32	22	29	NA	NA
As a percentage of 72 hours	59%	44%	31%	40%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	3.5	2.6	1.8	2.4	NA	NA
As a percentage of 3 days	116.44%	87.33%	60.46%	78.60%	NA	NA
Consecutive Trips before pumpout	13.0	10.0	7.0	9.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$3,250	$6,500	$3,250	$3,250	NA	NA
- Total Equip Cost	$3,250	$6,500	$3,250	$3,250	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$288	$576	$288	$288	NA	NA
Total Capital Cost	$3,538	$7,076	$3,538	$3,538	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$576	$288	$288	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$864	$1,728	$864	$864	NA	NA
Annual spare parts cost per yr	$98	$195	$98	$98	NA	NA
Total- Oprtng Non-Trip Related	$962	$1,923	$962	$962	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.06	$0.16	$0.12	$0.09	NA	NA
- Pump out minutes	0.10	0.27	0.20	0.15	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.54	$1.44	$1.04	$0.80	NA	NA
Subtotal- End of Day/Trip Srvc	$6.60	$13.60	$7.16	$6.89	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$7	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,533	5,366	767	3,577	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,686	$3,475	$1,828	$1,760	NA	NA
Annual Non-Trip Related per Car	$962	$1,923	$962	$962	NA	NA
Annual Oprtng Trip Related per Car Type	$10,118	$72,970	$5,485	$24,641	NA	NA
Annual Non-Trip Related per Car Type	$5,769	$40,383	$2,885	$13,461	NA	NA
Total OPRTNG COST per Car	$2,648	$5,398	$2,790	$2,722	NA	NA
Total CAPITAL COST per Car	$3,538	$7,076	$3,538	$3,538	NA	NA
Total OPRTNG COST for all cars	$15,887	$113,353	$8,369	$38,102	NA	NA
Total CAPITAL COST for all cars	$21,228	$148,596	$10,614	$49,532	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	35.8	95.4	68.9	53.0	NA	NA
Capacity Req'd/day (gals)	24.2	64.5	46.6	35.8	NA	NA
Adj. Capacity Req'd w/ Buffer	30.2	80.6	58.2	44.8	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	238	89	124	161	NA	NA
As a percentage of 72 hours	331%	124%	172%	223%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	19.7	7.4	10.2	13.3	NA	NA
As a percentage of 3 days	655.14%	245.68%	340.17%	442.22%	NA	NA
Consecutive Trips before pumpout	78.0	29.0	40.0	53.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$5,000	$10,000	$5,000	$5,000	NA	NA
- Total Equip Cost	$15,000	$20,000	$15,000	$15,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$864	$1,152	$864	$864	NA	NA
Total Capital Cost	$15,864	$21,152	$15,864	$15,864	NA	NA

Amtrak Route:	Electric City Express		Route Number: #250			
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$216	$432	$216	$216	NA	NA
Annual spare parts cost per yr	$450	$600	$450	$450	NA	NA
Total- Oprtng Non-Trip Related	$666	$1,032	$666	$666	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.24	$0.64	$0.47	$0.36	NA	NA
- Pump out minutes	0.40	1.07	0.78	0.60	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.64	$4.38	$3.17	$2.44	NA	NA
Subtotal- End of Day/Trip Srvc	$7.89	$17.03	$9.63	$8.79	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$8	$17	$10	$9	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,533	5,366	767	3,577	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,015	$4,351	$2,461	$2,247	NA	NA
Annual Non-Trip Related per Car	$666	$1,032	$666	$666	NA	NA
Annual Oprtng Trip Related per Car Type	$12,089	$91,372	$7,383	$31,457	NA	NA
Annual Non-Trip Related per Car Type	$3,996	$21,672	$1,998	$9,324	NA	NA
Total OPRTNG COST per Car	$2,681	$5,383	$3,127	$2,913	NA	NA
Total CAPITAL COST per Car	$15,864	$21,152	$15,864	$15,864	NA	NA
Total OPRTNG COST for all cars	$16,085	$113,044	$9,381	$40,781	NA	NA
Total CAPITAL COST for all cars	$95,184	$444,192	$47,592	$222,096	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	9.8	26.1	18.8	14.5	NA	NA
Capacity Req'd/day (gals)	11.1	29.5	21.3	16.4	NA	NA
Adj. Capacity Req'd w/ Buffer	13.8	36.9	26.6	20.5	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	347	130	180	234	NA	NA
As a percentage of 72 hours	482%	181%	250%	326%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	28.7	10.7	14.9	19.3	NA	NA
As a percentage of 3 days	955.18%	358.19%	495.96%	644.75%	NA	NA
Consecutive Trips before pumpout	114.0	42.0	59.0	77.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$2,900	$5,800	$2,900	$2,900	NA	NA
- Total Equip Cost	$14,900	$17,800	$14,900	$14,900	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$16,628	$19,816	$16,628	$16,628	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Expected					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$216	$432	$216	$216	NA	NA
Annual spare parts cost per yr	$447	$534	$447	$447	NA	NA
Total- Oprtng Non-Trip Related	$663	$966	$663	$663	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.11	$0.29	$0.21	$0.16	NA	NA
- Pump out minutes	0.18	0.49	0.35	0.27	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.75	$2.00	$1.45	$1.11	NA	NA
Subtotal- End of Day/Trip Srvc	$6.86	$14.30	$7.66	$7.28	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$8	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,533	5,366	767	3,577	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,753	$3,654	$1,957	$1,859	NA	NA
Annual Non-Trip Related per Car	$663	$966	$663	$663	NA	NA
Annual Oprtng Trip Related per Car Type	$10,520	$76,725	$5,872	$26,032	NA	NA
Annual Non-Trip Related per Car Type	$3,978	$20,286	$1,989	$9,282	NA	NA
Total OPRTNG COST per Car	$2,416	$4,620	$2,620	$2,522	NA	NA
Total CAPITAL COST per Car	$16,628	$19,816	$16,628	$16,628	NA	NA
Total OPRTNG COST for all cars	$14,498	$97,011	$7,861	$35,314	NA	NA
Total CAPITAL COST for all cars	$99,768	$416,136	$49,884	$232,792	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	7.00	7.00	7.00	7.00	7.00	7.00
Flush efficiency adjustment	1.10	1.10	1.10	1.10	1.10	1.10
Adj. # Flushes/Person-day	7.7	7.7	7.7	7.7	7.7	7.7
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	54.7	145.9	105.4	81.1	NA	NA
Capacity Req'd/day (gals)	33.8	90.0	65.0	50.0	NA	NA
Adj. Capacity Req'd w/ Buffer	42.2	112.5	81.3	62.5	NA	NA
Tank Capacity per Car (gals)	50	100	50	50	NA	NA
Continuous Service Hours Supported	28	21	15	19	NA	NA
As a percentage of 72 hours	40%	30%	21%	27%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	2.3	1.8	1.2	1.6	NA	NA
As a percentage of 3 days	78.23%	58.67%	40.62%	52.80%	NA	NA
Consecutive Trips before pumpout	9.0	7.0	4.0	6.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$4,000	$8,000	$4,000	$4,000	NA	NA
Toilet Cost per Car	$3,000	$6,000	$3,000	$3,000	NA	NA
- Total Equip Cost	$7,000	$14,000	$7,000	$7,000	NA	NA
Equipment Installation						
Collection System per Car	$288	$576	$288	$288	NA	NA
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$576	$1,152	$576	$576	NA	NA
Total Capital Cost	$7,576	$15,152	$7,576	$7,576	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Expected		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	3	3	3	3	3	3
Servicing Cost/Year	$216	$432	$216	$216	NA	NA
Annual spare parts cost per yr	$210	$420	$210	$210	NA	NA
Total- Oprtng Non-Trip Related	$426	$852	$426	$426	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.34	$0.90	$0.65	$0.50	NA	NA
- Pump out minutes	0.56	1.50	1.08	0.83	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.30	$6.12	$4.42	$3.40	NA	NA
Subtotal- End of Day/Trip Srvc	$8.63	$19.02	$11.07	$9.90	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$9	$19	$11	$10	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,533	5,366	767	3,577	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,206	$4,860	$2,828	$2,529	NA	NA
Annual Non-Trip Related per Car	$426	$852	$426	$426	NA	NA
Annual Oprtng Trip Related per Car Type	$13,234	$102,053	$8,485	$35,413	NA	NA
Annual Non-Trip Related per Car Type	$2,556	$17,892	$1,278	$5,964	NA	NA
Total OPRTNG COST per Car	$2,632	$5,712	$3,254	$2,955	NA	NA
Total CAPITAL COST per Car	$7,576	$15,152	$7,576	$7,576	NA	NA
Total OPRTNG COST for all cars	$15,790	$119,945	$9,763	$41,377	NA	NA
Total CAPITAL COST for all cars	$45,456	$318,192	$22,728	$106,064	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	28.4	27.2	16.6	32.5	NA	NA
Capacity Req'd/day (gals)	62.0	59.5	36.4	71.1	NA	NA
Adj. Capacity Req'd w/ Buffer	77.5	74.4	45.5	88.9	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	73	76	124	63	NA	NA
As a percentage of 72 hours	101%	105%	172%	88%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	3.0	3.2	5.2	2.6	NA	NA
As a percentage of 3 days	101.03%	105.24%	172.22%	88.11%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$15,000	$10,000	$30,000	$5,000	NA	NA
- Total Equip Cost	$36,000	$31,000	$51,000	$26,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$39,168	$33,592	$55,896	$28,016	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$864	$576	$1,728	$288	NA	NA
Annual spare parts cost per yr	$360	$310	$510	$260	NA	NA
Total- Oprtng Non-Trip Related	$1,224	$886	$2,238	$548	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.62	$0.60	$0.36	$0.71	NA	NA
- Pump out minutes	1.03	0.99	0.61	1.19	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.89	$1.81	$1.11	$2.17	NA	NA
Subtotal- End of Day/Trip Srvc	$38.51	$26.41	$73.47	$14.88	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$39	$26	$73	$15	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	19,929	4,599	14,892	1,314	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,217	$2,892	$8,045	$1,629	NA	NA
Annual Non-Trip Related per Car	$1,224	$886	$2,238	$548	NA	NA
Annual Oprtng Trip Related per Car Type	$383,727	$60,728	$547,074	$9,775	NA	NA
Annual Non-Trip Related per Car Type	$111,384	$18,606	$152,184	$3,288	NA	NA
Total OPRTNG COST per Car	$5,441	$3,778	$10,283	$2,177	NA	NA
Total CAPITAL COST per Car	$39,168	$33,592	$55,896	$28,016	NA	NA
Total OPRTNG COST for all cars	$495,111	$79,334	$699,258	$13,063	NA	NA
Total CAPITAL COST for all cars	$3,564,288	$705,432	$3,800,928	$168,096	NA	NA

Amtrak Route:	Sunset Limited		Route Number:	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	33.7	32.3	19.8	38.6	NA	NA
Adj. Capacity Req'd w/ Buffer	42.1	40.4	24.7	48.3	NA	NA
Tank Capacity per Car (gals)	81	54	162	27	NA	NA
Continuous Service Hours Supported	46	32	157	13	NA	NA
As a percentage of 72 hours	64%	45%	219%	19%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.9	1.3	6.6	0.6	NA	NA
As a percentage of 3 days	64.14%	44.54%	218.67%	18.65%	NA	NA
Consecutive Trips before pumpout	1.0	0.0	3.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$19,500	$13,000	$39,000	$6,500	NA	NA
- Total Equip Cost	$19,500	$13,000	$39,000	$6,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$1,728	$1,152	$3,456	$576	NA	NA
Total Capital Cost	$21,228	$14,152	$42,456	$7,076	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,728	$1,152	$3,456	$576	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$3,456	$2,304	$6,912	$1,152	NA	NA
Annual spare parts cost per yr	$195	$130	$390	$65	NA	NA
Total- Oprtng Non-Trip Related	$3,651	$2,434	$7,302	$1,217	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.34	$8.40	$0.20	$4.32	NA	NA
- Pump out minutes	0.56	0.00	0.33	0.19	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Waste Disposal	$1.33	$1.27	$0.78	$1.52	NA	NA
Subtotal- End of Day/Trip Srvc	$37.66	$33.67	$72.98	$17.84	NA	NA
Train Delay:						
- Pump out volume req'd	0	54	0	27	NA	NA
- # of stops req'd	0	1	0	1	NA	NA
- Pump out minutes	0.0	0.9	0.0	0.5	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Total Time Delay(mins/car)	0	15	0	7	NA	NA
Average Cost Per Delay	$0	$9	$0	$4	NA	NA
Subtotal- Oprtng Trip Related	$38	$43	$73	$22	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	19,929	4,599	14,892	1,314	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,124	$4,666	$7,991	$2,443	NA	NA
Annual Non-Trip Related per Car	$3,651	$2,434	$7,302	$1,217	NA	NA
Annual Oprtng Trip Related per Car Type	$375,304	$97,991	$543,381	$14,656	NA	NA
Annual Non-Trip Related per Car Type	$332,241	$51,114	$496,536	$7,302	NA	NA
Total OPRTNG COST per Car	$7,775	$7,100	$15,293	$3,660	NA	NA
Total CAPITAL COST per Car	$21,228	$14,152	$42,456	$7,076	NA	NA
Total OPRTNG COST for all cars	$707,545	$149,105	$1,039,917	$21,958	NA	NA
Total CAPITAL COST for all cars	$1,931,748	$297,192	$2,887,008	$42,456	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	77.4	74.3	45.4	88.8	NA	NA
Capacity Req'd/day (gals)	111.1	106.6	65.2	127.4	NA	NA
Adj. Capacity Req'd w/ Buffer	138.8	133.3	81.5	159.2	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	52	54	88	45	NA	NA
As a percentage of 72 hours	72%	75%	123%	63%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.2	2.3	3.7	1.9	NA	NA
As a percentage of 3 days	72.02%	75.02%	122.77%	62.81%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$30,000	$20,000	$60,000	$10,000	NA	NA
- Total Equip Cost	$40,000	$30,000	$70,000	$20,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,304	$1,728	$4,032	$1,152	NA	NA
Total Capital Cost	$42,304	$31,728	$74,032	$21,152	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$864	$576	$1,728	$288	NA	NA
Annual spare parts cost per yr	$400	$300	$700	$200	NA	NA
Total- Oprtng Non-Trip Related	$1,264	$876	$2,428	$488	NA	NA
Trip Related Costs:						
Toilet maintenance enroute End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.11	$1.07	$0.65	$1.27	NA	NA
- Pump out minutes	1.85	1.78	1.09	2.12	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$3.38	$3.25	$1.98	$3.88	NA	NA
Subtotal- End of Day/Trip Srvc	$40.49	$28.31	$74.64	$17.15	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$40	$28	$75	$17	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	19,929	4,599	14,892	1,314	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,434	$3,100	$8,173	$1,878	NA	NA
Annual Non-Trip Related per Car	$1,264	$876	$2,428	$488	NA	NA
Annual Oprtng Trip Related per Car Type	$403,502	$65,108	$555,743	$11,270	NA	NA
Annual Non-Trip Related per Car Type	$115,024	$18,396	$165,104	$2,928	NA	NA
Total OPRTNG COST per Car	$5,698	$3,976	$10,601	$2,366	NA	NA
Total CAPITAL COST per Car	$42,304	$31,728	$74,032	$21,152	NA	NA
Total OPRTNG COST for all cars	$518,526	$83,504	$720,847	$14,198	NA	NA
Total CAPITAL COST for all cars	$3,849,664	$666,288	$5,034,176	$126,912	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	21.2	20.3	12.4	24.3	NA	NA
Capacity Req'd/day (gals)	54.8	52.6	32.2	62.9	NA	NA
Adj. Capacity Req'd w/ Buffer	68.5	65.8	40.2	78.6	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	70	73	119	61	NA	NA
As a percentage of 72 hours	97%	101%	166%	85%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.9	3.0	5.0	2.5	NA	NA
As a percentage of 3 days	97.28%	101.33%	165.82%	84.84%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$17,400	$11,600	$34,800	$5,800	NA	NA
- Total Equip Cost	$29,400	$23,600	$46,800	$17,800	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$32,568	$26,192	$51,696	$19,816	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$864	$576	$1,728	$288	NA	NA
Annual spare parts cost per yr	$294	$236	$468	$178	NA	NA
Total- Oprtng Non-Trip Related	$1,158	$812	$2,196	$466	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.55	$0.53	$0.32	$0.63	NA	NA
- Pump out minutes	0.91	0.88	0.54	1.05	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.67	$1.60	$0.98	$1.91	NA	NA
Subtotal- End of Day/Trip Srvc	$38.22	$26.13	$73.30	$14.54	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$38	$26	$73	$15	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	19,929	4,599	14,892	1,314	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$4,185	$2,861	$8,026	$1,593	NA	NA
Annual Non-Trip Related per Car	$1,158	$812	$2,196	$466	NA	NA
Annual Oprtng Trip Related per Car Type	$380,825	$60,085	$545,801	$9,555	NA	NA
Annual Non-Trip Related per Car Type	$105,378	$17,052	$149,328	$2,796	NA	NA
Total OPRTNG COST per Car	$5,343	$3,673	$10,222	$2,059	NA	NA
Total CAPITAL COST per Car	$32,568	$26,192	$51,696	$19,816	NA	NA
Total OPRTNG COST for all cars	$486,203	$77,137	$695,129	$12,351	NA	NA
Total CAPITAL COST for all cars	$2,963,688	$550,032	$3,515,328	$118,896	NA	NA

Amtrak Route:	Sunset Limited			**Route Number:**	#1-2	
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	* Favorable					
* All data on per car basis (unless noted otherwise)						
	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	118.4	113.7	69.5	135.8	NA	NA
Capacity Req'd/day (gals)	152.1	146.0	89.2	174.4	NA	NA
Adj. Capacity Req'd w/ Buffer	190.1	182.5	111.5	218.0	NA	NA
Tank Capacity per Car (gals)	150	100	300	100	NA	NA
Continuous Service Hours Supported	19	13	65	11	NA	NA
As a percentage of 72 hours	26%	18%	90%	15%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	0.8	0.5	2.7	0.5	NA	NA
As a percentage of 3 days	26.30%	18.26%	89.66%	15.29%	NA	NA
Consecutive Trips before pumpout	0.0	0.0	1.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$8,000	$24,000	$8,000	NA	NA
Toilet Cost per Car	$18,000	$12,000	$36,000	$6,000	NA	NA
- Total Equip Cost	$30,000	$20,000	$60,000	$14,000	NA	NA
Equipment Installation						
Collection System per Car	$864	$576	$1,728	$576	NA	NA
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,592	$1,728	$5,184	$1,152	NA	NA
Total Capital Cost	$32,592	$21,728	$65,184	$15,152	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$864	$576	$1,728	$288	NA	NA
Annual spare parts cost per yr	$300	$200	$600	$140	NA	NA
Total- Oprtng Non-Trip Related	$1,164	$776	$2,328	$428	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$6.32	$4.66	$0.89	$4.94	NA	NA
- Pump out minutes	0.03	0.77	1.49	1.24	NA	NA
- Connect/Disc. minutes	10.5	7.0	0.0	7.0	NA	NA
- Waste Disposal	$4.63	$4.45	$2.72	$5.31	NA	NA
Subtotal- End of Day/Trip Srvc	$46.95	$33.11	$75.61	$22.26	NA	NA
Train Delay:						
- Pump out volume req'd	150	100	0	100	NA	NA
- # of stops req'd	1	1	0	1	NA	NA
- Pump out minutes	2.5	1.7	0.0	1.7	NA	NA
- Connect/Disc. minutes	10.5	7.0	0.0	7.0	NA	NA
- Total Time Delay(mins/car)	13	9	0	9	NA	NA
Average Cost Per Delay	$8	$5	$0	$5	NA	NA
Subtotal- Oprtng Trip Related	$55	$38	$76	$27	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	19,929	4,599	14,892	1,314	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$5,996	$4,195	$8,279	$3,006	NA	NA
Annual Non-Trip Related per Car	$1,164	$776	$2,328	$428	NA	NA
Annual Oprtng Trip Related per Car Type	$545,592	$88,088	$562,993	$18,039	NA	NA
Annual Non-Trip Related per Car Type	$105,924	$16,296	$158,304	$2,568	NA	NA
Total OPRTNG COST per Car	$7,160	$4,971	$10,607	$3,434	NA	NA
Total CAPITAL COST per Car	$32,592	$21,728	$65,184	$15,152	NA	NA
Total OPRTNG COST for all cars	$651,516	$104,384	$721,297	$20,607	NA	NA
Total CAPITAL COST for all cars	$2,965,872	$456,288	$4,432,512	$90,912	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	15.1	16.6	29.5	28.4	NA	NA
Capacity Req'd/day (gals)	33.1	36.4	64.5	62.0	NA	NA
Adj. Capacity Req'd w/ Buffer	41.4	45.5	80.6	77.5	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	136	124	70	73	NA	NA
As a percentage of 72 hours	189%	172%	97%	101%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	5.7	5.2	2.9	3.0	NA	NA
As a percentage of 3 days	189.44%	172.22%	97.15%	101.03%	NA	NA
Consecutive Trips before pumpout	2.0	2.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$10,000	$30,000	$12,500	$15,000	NA	NA
- Total Equip Cost	$31,000	$51,000	$33,500	$36,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$33,592	$55,896	$36,380	$39,168	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$576	$1,728	$720	$864	NA	NA
Annual spare parts cost per yr	$310	$510	$335	$360	NA	NA
Total- Oprtng Non-Trip Related	$886	$2,238	$1,055	$1,224	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.33	$0.36	$0.65	$0.62	NA	NA
- Pump out minutes	0.55	0.61	1.08	1.03	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.20	$1.32	$2.34	$2.25	NA	NA
Subtotal- End of Day/Trip Srvc	$25.53	$73.68	$32.98	$38.87	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$26	$74	$33	$39	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	7,884	14,892	10,512	19,929	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$1,864	$5,379	$2,408	$2,837	NA	NA
Annual Non-Trip Related per Car	$886	$2,238	$1,055	$1,224	NA	NA
Annual Oprtng Trip Related per Car Type	$67,092	$365,761	$115,573	$258,203	NA	NA
Annual Non-Trip Related per Car Type	$31,896	$152,184	$50,640	$111,384	NA	NA
Total OPRTNG COST per Car	$2,750	$7,617	$3,463	$4,061	NA	NA
Total CAPITAL COST per Car	$33,592	$55,896	$36,380	$39,168	NA	NA
Total OPRTNG COST for all cars	$98,988	$517,945	$166,213	$369,587	NA	NA
Total CAPITAL COST for all cars	$1,209,312	$3,800,928	$1,746,240	$3,564,288	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	18.0	19.8	35.0	33.7	NA	NA
Adj. Capacity Req'd w/ Buffer	22.5	24.7	43.8	42.1	NA	NA
Tank Capacity per Car (gals)	54	162	67.5	81	NA	NA
Continuous Service Hours Supported	58	157	37	46	NA	NA
As a percentage of 72 hours	80%	219%	51%	64%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.4	6.6	1.5	1.9	NA	NA
As a percentage of 3 days	80.18%	218.67%	51.40%	64.14%	NA	NA
Consecutive Trips before pumpout	1.0	3.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$13,000	$39,000	$16,250	$19,500	NA	NA
- Total Equip Cost	$13,000	$39,000	$16,250	$19,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,152	$3,456	$1,440	$1,728	NA	NA
Total Capital Cost	$14,152	$42,456	$17,690	$21,228	NA	NA

Amtrak Route:	California Zephyr	Route Number:	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,152	$3,456	$1,440	$1,728	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$2,304	$6,912	$2,880	$3,456	NA	NA
Annual spare parts cost per yr	$130	$390	$163	$195	NA	NA
Total- Oprtng Non-Trip Related	$2,434	$7,302	$3,043	$3,651	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.18	$0.20	$10.50	$12.60	NA	NA
- Pump out minutes	0.30	0.33	0.00	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Waste Disposal	$0.84	$0.93	$1.64	$1.58	NA	NA
Subtotal- End of Day/Trip Srvc	$25.02	$73.12	$42.14	$50.18	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	68	81	NA	NA
- # of stops req'd	0	0	1	1	NA	NA
- Pump out minutes	0.0	0.0	1.1	1.4	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Total Time Delay(mins/car)	0	0	19	22	NA	NA
Average Cost Per Delay	$0	$0	$11	$13	NA	NA
Subtotal- Oprtng Trip Related	$25	$73	$53	$64	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	7,884	14,892	10,512	19,929	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$1,827	$5,338	$3,892	$4,642	NA	NA
Annual Non-Trip Related per Car	$2,434	$7,302	$3,043	$3,651	NA	NA
Annual Oprtng Trip Related per Car Type	$65,758	$362,989	$186,825	$422,425	NA	NA
Annual Non-Trip Related per Car Type	$87,624	$496,536	$146,040	$332,241	NA	NA
Total OPRTNG COST per Car	$4,261	$12,640	$6,935	$8,293	NA	NA
Total CAPITAL COST per Car	$14,152	$42,456	$17,690	$21,228	NA	NA
Total OPRTNG COST for all cars	$153,382	$859,525	$332,865	$754,666	NA	NA
Total CAPITAL COST for all cars	$509,472	$2,887,008	$849,120	$1,931,748	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	41.3	45.4	80.5	77.4	NA	NA
Capacity Req'd/day (gals)	59.2	65.2	115.5	111.1	NA	NA
Adj. Capacity Req'd w/ Buffer	74.1	81.5	144.4	138.8	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	97	88	50	52	NA	NA
As a percentage of 72 hours	135%	123%	69%	72%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	4.1	3.7	2.1	2.2	NA	NA
As a percentage of 3 days	135.04%	122.77%	69.25%	72.02%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	0.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$20,000	$60,000	$25,000	$30,000	NA	NA
- Total Equip Cost	$30,000	$70,000	$35,000	$40,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$4,032	$2,016	$2,304	NA	NA
Total Capital Cost	$31,728	$74,032	$37,016	$42,304	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$576	$1,728	$720	$864	NA	NA
Annual spare parts cost per yr	$300	$700	$350	$400	NA	NA
Total- Oprtng Non-Trip Related	$876	$2,428	$1,070	$1,264	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.59	$0.65	$0.00	$1.11	NA	NA
- Pump out minutes	0.99	1.09	0.00	1.85	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.15	$2.36	$4.19	$4.03	NA	NA
Subtotal- End of Day/Trip Srvc	$26.74	$75.01	$34.19	$41.14	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	300	0	NA	NA
- # of stops req'd	0	0	1	0	NA	NA
- Pump out minutes	0.0	0.0	5.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	5	0	NA	NA
Average Cost Per Delay	$0	$0	$3	$0	NA	NA
Subtotal- Oprtng Trip Related	$27	$75	$37	$41	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	7,884	14,892	10,512	19,929	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$1,952	$5,476	$2,715	$3,003	NA	NA
Annual Non-Trip Related per Car	$876	$2,428	$1,070	$1,264	NA	NA
Annual Oprtng Trip Related per Car Type	$70,272	$372,367	$130,303	$273,271	NA	NA
Annual Non-Trip Related per Car Type	$31,536	$165,104	$51,360	$115,024	NA	NA
Total OPRTNG COST per Car	$2,828	$7,904	$3,785	$4,267	NA	NA
Total CAPITAL COST per Car	$31,728	$74,032	$37,016	$42,304	NA	NA
Total OPRTNG COST for all cars	$101,808	$537,471	$181,663	$388,295	NA	NA
Total CAPITAL COST for all cars	$1,142,208	$5,034,176	$1,776,768	$3,849,664	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	11.3	12.4	22.0	21.2	NA	NA
Capacity Req'd/day (gals)	29.2	32.2	57.0	54.8	NA	NA
Adj. Capacity Req'd w/ Buffer	36.6	40.2	71.3	68.5	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	131	119	67	70	NA	NA
As a percentage of 72 hours	182%	166%	94%	97%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	5.5	5.0	2.8	2.9	NA	NA
As a percentage of 3 days	182.40%	165.82%	93.54%	97.28%	NA	NA
Consecutive Trips before pumpout	2.0	2.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$11,600	$34,800	$14,500	$17,400	NA	NA
- Total Equip Cost	$23,600	$46,800	$26,500	$29,400	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$26,192	$51,696	$29,380	$32,568	NA	NA

Amtrak Route:	California Zephyr	Route Number:	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$576	$1,728	$720	$864	NA	NA
Annual spare parts cost per yr	$236	$468	$265	$294	NA	NA
Total- Oprtng Non-Trip Related	$812	$2,196	$985	$1,158	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.29	$0.32	$0.57	$0.55	NA	NA
- Pump out minutes	0.49	0.54	0.95	0.91	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.06	$1.17	$2.07	$1.99	NA	NA
Subtotal- End of Day/Trip Srvc	$25.35	$73.49	$32.64	$38.54	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$25	$73	$33	$39	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	7,884	14,892	10,512	19,929	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$1,851	$5,365	$2,382	$2,813	NA	NA
Annual Non-Trip Related per Car	$812	$2,196	$985	$1,158	NA	NA
Annual Oprtng Trip Related per Car Type	$66,626	$364,792	$114,359	$255,991	NA	NA
Annual Non-Trip Related per Car Type	$29,232	$149,328	$47,280	$105,378	NA	NA
Total OPRTNG COST per Car	$2,663	$7,561	$3,367	$3,971	NA	NA
Total CAPITAL COST per Car	$26,192	$51,696	$29,380	$32,568	NA	NA
Total OPRTNG COST for all cars	$95,858	$514,120	$161,639	$361,369	NA	NA
Total CAPITAL COST for all cars	$942,912	$3,515,328	$1,410,240	$2,963,688	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	63.2	69.5	123.2	118.4	NA	NA
Capacity Req'd/day (gals)	81.1	89.2	158.2	152.1	NA	NA
Adj. Capacity Req'd w/ Buffer	101.4	111.5	197.7	190.1	NA	NA
Tank Capacity per Car (gals)	100	300	150	150	NA	NA
Continuous Service Hours Supported	24	65	18	19	NA	NA
As a percentage of 72 hours	33%	90%	25%	26%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.0	2.7	0.8	0.8	NA	NA
As a percentage of 3 days	32.87%	89.66%	25.29%	26.30%	NA	NA
Consecutive Trips before pumpout	0.0	1.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$24,000	$12,000	$12,000	NA	NA
Toilet Cost per Car	$12,000	$36,000	$15,000	$18,000	NA	NA
- Total Equip Cost	$20,000	$60,000	$27,000	$30,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$1,728	$864	$864	NA	NA
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$5,184	$2,304	$2,592	NA	NA
Total Capital Cost	$21,728	$65,184	$29,304	$32,592	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$576	$1,728	$720	$864	NA	NA
Annual spare parts cost per yr	$200	$600	$270	$300	NA	NA
Total- Oprtng Non-Trip Related	$776	$2,328	$990	$1,164	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.20	$0.89	$6.38	$6.32	NA	NA
- Pump out minutes	0.00	1.49	0.14	0.03	NA	NA
- Connect/Disc. minutes	7.0	0.0	10.5	10.5	NA	NA
- Waste Disposal	$2.94	$3.23	$5.73	$5.51	NA	NA
Subtotal- End of Day/Trip Srvc	$31.14	$76.13	$42.12	$47.83	NA	NA
Train Delay:						
- Pump out volume req'd	100	0	150	150	NA	NA
- # of stops req'd	1	0	1	1	NA	NA
- Pump out minutes	1.7	0.0	2.5	2.5	NA	NA
- Connect/Disc. minutes	7.0	0.0	10.5	10.5	NA	NA
- Total Time Delay(mins/car)	9	0	13	13	NA	NA
Average Cost Per Delay	$5	$0	$8	$8	NA	NA
Subtotal- Oprtng Trip Related	$36	$76	$50	$56	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	7,884	14,892	10,512	19,929	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,653	$5,557	$3,644	$4,061	NA	NA
Annual Non-Trip Related per Car	$776	$2,328	$990	$1,164	NA	NA
Annual Oprtng Trip Related per Car Type	$95,502	$377,892	$174,902	$369,575	NA	NA
Annual Non-Trip Related per Car Type	$27,936	$158,304	$47,520	$105,924	NA	NA
Total OPRTNG COST per Car	$3,429	$7,885	$4,634	$5,225	NA	NA
Total CAPITAL COST per Car	$21,728	$65,184	$29,304	$32,592	NA	NA
Total OPRTNG COST for all cars	$123,438	$536,196	$222,422	$475,499	NA	NA
Total CAPITAL COST for all cars	$782,208	$4,432,512	$1,406,592	$2,965,872	NA	NA

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	31.0	18.1	16.6	17.4	18.5	8.3
Capacity Req'd/day (gals)	51.8	30.3	27.8	29.1	30.9	13.9
Adj. Capacity Req'd w/ Buffer	64.7	37.9	34.7	36.3	38.7	17.4
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	87	149	162	155	146	325
As a percentage of 72 hours	121%	207%	225%	216%	202%	451%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	4.8	8.1	8.9	8.5	8.0	17.7
As a percentage of 3 days	158.42%	270.64%	295.24%	282.40%	265.11%	590.48%
Consecutive Trips before pumpout	4.0	8.0	8.0	8.0	7.0	17.0
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$7,500	$5,000	$5,000	$42,500
- Total Equip Cost	$26,000	$26,000	$28,500	$26,000	$26,000	$63,500
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$432	$288	$288	$2,448
Annual spare parts cost per yr	$260	$260	$285	$260	$260	$635
Total- Oprtng Non-Trip Related	$548	$548	$717	$548	$548	$3,083
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.52	$0.30	$0.28	$0.29	$0.31	$0.14
- Pump out minutes	0.86	0.51	0.46	0.48	0.52	0.23
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.88	$0.52	$0.47	$0.49	$0.53	$0.24
Subtotal- End of Day/Trip Srvc	$13.40	$12.82	$18.75	$12.78	$12.84	$102.38
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	22,557	17,082	4,599	2,628	5,475	17,958
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,934	$2,807	$4,106	$2,800	$2,811	$22,420
Annual Non-Trip Related per Car	$548	$548	$717	$548	$548	$3,083
Annual Oprtng Trip Related per Car Type	$302,228	$218,967	$86,233	$33,598	$70,275	$1,838,454
Annual Non-Trip Related per Car Type	$56,444	$42,744	$15,057	$6,576	$13,700	$252,806
Total OPRTNG COST per Car	$3,482	$3,355	$4,823	$3,348	$3,359	$25,503
Total CAPITAL COST per Car	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836
Total OPRTNG COST for all cars	$358,672	$261,711	$101,290	$40,174	$83,975	$2,091,260
Total CAPITAL COST for all cars	$2,885,648	$2,185,248	$646,884	$336,192	$700,400	$5,726,552

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Req'd/day (gals)	28.1	16.5	15.1	15.8	16.8	7.5
Adj. Capacity Req'd w/ Buffer	35.1	20.6	18.9	19.7	21.0	9.4
Tank Capacity per Car (gals)	27	27	40.5	27	27	229.5
Continuous Service Hours Supported	18	31	52	33	31	584
As a percentage of 72 hours	26%	44%	72%	46%	43%	811%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	1.0	1.7	2.8	1.8	1.7	31.9
As a percentage of 3 days	33.53%	57.27%	93.72%	59.76%	56.10%	1062.14%
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	1.0	31.0
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
- Total Equip Cost	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$576	$576	$864	$576	$576	$4,896
Total Capital Cost	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$864	$576	$576	$4,896
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$1,152	$1,152	$1,728	$1,152	$1,152	$9,792
Annual spare parts cost per yr	$65	$65	$98	$65	$65	$553
Total- Oprtng Non-Trip Related	$1,217	$1,217	$1,826	$1,217	$1,217	$10,345
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.28	$0.16	$0.15	$0.16	$0.17	$0.08
- Pump out minutes	0.47	0.27	0.25	0.26	0.28	0.13
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.62	$0.36	$0.33	$0.35	$0.37	$0.17
Subtotal- End of Day/Trip Srvc	$12.90	$12.53	$18.48	$12.50	$12.54	$102.24
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$18	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	22,557	17,082	4,599	2,628	5,475	17,958
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,825	$2,743	$4,048	$2,739	$2,746	$22,391
Annual Non-Trip Related per Car	$1,217	$1,217	$1,826	$1,217	$1,217	$10,345
Annual Oprtng Trip Related per Car Type	$290,982	$213,982	$85,003	$32,863	$68,644	$1,836,051
Annual Non-Trip Related per Car Type	$125,351	$94,926	$38,336	$14,604	$30,425	$848,249
Total OPRTNG COST per Car	$4,042	$3,960	$5,873	$3,956	$3,963	$32,735
Total CAPITAL COST per Car	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146
Total OPRTNG COST for all cars	$416,333	$308,908	$123,338	$47,467	$99,069	$2,684,300
Total CAPITAL COST for all cars	$728,828	$551,928	$222,894	$84,912	$176,900	$4,931,972

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	84.6	49.5	45.4	47.5	50.6	22.7
Capacity Req'd/day (gals)	92.8	54.3	49.8	52.0	55.4	24.9
Adj. Capacity Req'd w/ Buffer	115.9	67.9	62.2	65.0	69.3	31.1
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	62	106	116	111	104	231
As a percentage of 72 hours	86%	147%	161%	154%	144%	321%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	3.4	5.8	6.3	6.0	5.7	12.6
As a percentage of 3 days	112.93%	192.93%	210.46%	201.31%	188.99%	420.93%
Consecutive Trips before pumpout	3.0	5.0	6.0	6.0	5.0	12.0
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$15,000	$10,000	$10,000	$85,000
- Total Equip Cost	$20,000	$20,000	$25,000	$20,000	$20,000	$95,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$5,472
Total Capital Cost	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472

Amtrak Route:	City of New Orleans	Route Number:	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$432	$288	$288	$2,448
Annual spare parts cost per yr	$200	$200	$250	$200	$200	$950
Total- Oprtng Non-Trip Related	$488	$488	$682	$488	$488	$3,398
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.93	$0.54	$0.50	$0.52	$0.55	$0.25
- Pump out minutes	1.55	0.90	0.83	0.87	0.92	0.41
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$1.58	$0.92	$0.85	$0.88	$0.94	$0.42
Subtotal- End of Day/Trip Srvc	$14.50	$13.47	$19.34	$13.40	$13.50	$102.67
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$15	$13	$19	$13	$13	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	22,557	17,082	4,599	2,628	5,475	17,958
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,176	$2,949	$4,236	$2,936	$2,956	$22,485
Annual Non-Trip Related per Car	$488	$488	$682	$488	$488	$3,398
Annual Oprtng Trip Related per Car Type	$327,173	$230,025	$88,962	$35,228	$73,893	$1,843,782
Annual Non-Trip Related per Car Type	$50,264	$38,064	$14,322	$5,856	$12,200	$278,636
Total OPRTNG COST per Car	$3,664	$3,437	$4,918	$3,424	$3,444	$25,883
Total CAPITAL COST per Car	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472
Total OPRTNG COST for all cars	$377,437	$268,089	$103,284	$41,084	$86,093	$2,122,418
Total CAPITAL COST for all cars	$2,178,656	$1,649,856	$555,240	$253,824	$528,800	$8,238,704

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	23.1	13.5	12.4	13.0	13.8	6.2
Capacity Req'd/day (gals)	45.8	26.8	24.6	25.7	27.4	12.3
Adj. Capacity Req'd w/ Buffer	57.2	33.5	30.7	32.1	34.2	15.4
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	84	143	156	150	140	313
As a percentage of 72 hours	116%	199%	217%	208%	195%	434%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	4.6	7.8	8.5	8.2	7.7	17.1
As a percentage of 3 days	152.53%	260.58%	284.27%	271.91%	255.26%	568.53%
Consecutive Trips before pumpout	4.0	7.0	8.0	8.0	7.0	17.0
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$8,700	$5,800	$5,800	$49,300
- Total Equip Cost	$17,800	$17,800	$20,700	$17,800	$17,800	$61,300
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$432	$288	$288	$2,448
Annual spare parts cost per yr	$178	$178	$207	$178	$178	$613
Total- Oprtng Non-Trip Related	$466	$466	$639	$466	$466	$3,061
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.46	$0.27	$0.25	$0.26	$0.27	$0.12
- Pump out minutes	0.76	0.45	0.41	0.43	0.46	0.20
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.78	$0.46	$0.42	$0.44	$0.47	$0.21
Subtotal- End of Day/Trip Srvc	$13.24	$12.72	$18.66	$12.69	$12.74	$102.33
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	22,557	17,082	4,599	2,628	5,475	17,958
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,899	$2,786	$4,087	$2,780	$2,790	$22,411
Annual Non-Trip Related per Car	$466	$466	$639	$466	$466	$3,061
Annual Oprtng Trip Related per Car Type	$298,566	$217,344	$85,832	$33,358	$69,744	$1,837,671
Annual Non-Trip Related per Car Type	$47,998	$36,348	$13,419	$5,592	$11,650	$251,002
Total OPRTNG COST per Car	$3,365	$3,252	$4,726	$3,246	$3,256	$25,472
Total CAPITAL COST per Car	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636
Total OPRTNG COST for all cars	$346,564	$253,692	$99,251	$38,950	$81,394	$2,088,673
Total CAPITAL COST for all cars	$2,041,048	$1,545,648	$483,084	$237,792	$495,400	$5,546,152

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	129.5	75.8	69.5	72.6	77.4	34.7
Capacity Req'd/day (gals)	127.0	74.3	68.1	71.2	75.9	34.1
Adj. Capacity Req'd w/ Buffer	158.8	92.9	85.2	89.1	94.9	42.6
Tank Capacity per Car (gals)	100	100	100	100	100	450
Continuous Service Hours Supported	15	26	28	27	25	254
As a percentage of 72 hours	21%	36%	39%	37%	35%	352%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	0.8	1.4	1.5	1.5	1.4	13.8
As a percentage of 3 days	27.49%	46.96%	51.23%	49.01%	46.01%	461.10%
Consecutive Trips before pumpout	0.0	1.0	1.0	1.0	1.0	13.0
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	$8,000	$8,000	$36,000
Toilet Cost per Car	$6,000	$6,000	$9,000	$6,000	$6,000	$51,000
- Total Equip Cost	$14,000	$14,000	$17,000	$14,000	$14,000	$87,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$2,592
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$7,488
Total Capital Cost	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$432	$288	$288	$2,448
Annual spare parts cost per yr	$140	$140	$170	$140	$140	$870
Total- Oprtng Non-Trip Related	$428	$428	$602	$428	$428	$3,318
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.47	$0.74	$0.68	$0.71	$0.76	$0.34
- Pump out minutes	0.45	1.24	1.14	1.19	1.26	0.57
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$2.16	$1.26	$1.16	$1.21	$1.29	$0.58
Subtotal- End of Day/Trip Srvc	$18.63	$14.01	$19.84	$13.92	$14.05	$102.92
Train Delay:						
- Pump out volume req'd	100	0	0	0	0	0
- # of stops req'd	1	0	0	0	0	0
- Pump out minutes	1.7	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	9	0	0	0	0	0
Average Cost Per Delay	$5	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$24	$14	$20	$14	$14	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	22,557	17,082	4,599	2,628	5,475	17,958
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,219	$3,068	$4,345	$3,049	$3,077	$22,539
Annual Non-Trip Related per Car	$428	$428	$602	$428	$428	$3,318
Annual Oprtng Trip Related per Car Type	$537,514	$239,273	$91,244	$36,591	$76,919	$1,848,238
Annual Non-Trip Related per Car Type	$44,084	$33,384	$12,642	$5,136	$10,700	$272,076
Total OPRTNG COST per Car	$5,647	$3,496	$4,947	$3,477	$3,505	$25,857
Total CAPITAL COST per Car	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488
Total OPRTNG COST for all cars	$581,598	$272,657	$103,886	$41,727	$87,619	$2,120,314
Total CAPITAL COST for all cars	$1,560,656	$1,181,856	$387,240	$181,824	$378,800	$7,748,016

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	22.3	18.5	8.3	15.1	12.9	NA
Capacity Req'd/day (gals)	47.3	39.3	17.6	32.1	27.3	NA
Adj. Capacity Req'd w/ Buffer	59.2	49.1	22.1	40.1	34.1	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	95	115	256	141	165	NA
As a percentage of 72 hours	132%	159%	355%	195%	230%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	4.1	4.9	11.0	6.0	7.1	NA
As a percentage of 3 days	136.50%	164.36%	366.07%	201.34%	236.87%	NA
Consecutive Trips before pumpout	4.0	4.0	10.0	6.0	7.0	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$42,500	$80,000	$42,500	NA
- Total Equip Cost	$26,000	$26,000	$63,500	$101,000	$63,500	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$28,016	$28,016	$69,836	$111,656	$69,836	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$2,448	$4,608	$2,448	NA
Annual spare parts cost per yr	$260	$260	$635	$1,010	$635	NA
Total- Oprtng Non-Trip Related	$548	$548	$3,083	$5,618	$3,083	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.47	$0.39	$0.18	$0.32	$0.27	NA
- Pump out minutes	0.79	0.66	0.29	0.53	0.45	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.80	$0.67	$0.30	$0.55	$0.46	NA
Subtotal- End of Day/Trip Srvc	$13.28	$13.06	$102.48	$192.87	$102.74	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$13	$13	$102	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	26,061	5,475	17,958	3,504	438	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,454	$1,430	$11,221	$21,119	$11,250	NA
Annual Non-Trip Related per Car	$548	$548	$3,083	$5,618	$3,083	NA
Annual Oprtng Trip Related per Car Type	$173,018	$35,755	$920,137	$337,902	$22,499	NA
Annual Non-Trip Related per Car Type	$65,212	$13,700	$252,806	$89,888	$6,166	NA
Total OPRTNG COST per Car	$2,002	$1,978	$14,304	$26,737	$14,333	NA
Total CAPITAL COST per Car	$28,016	$28,016	$69,836	$111,656	$69,836	NA
Total OPRTNG COST for all cars	$238,230	$49,455	$1,172,943	$427,790	$28,665	NA
Total CAPITAL COST for all cars	$3,333,904	$700,400	$5,726,552	$1,786,496	$139,672	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	NA
Capacity Req'd/day (gals)	25.7	21.3	9.6	17.4	14.8	NA
Adj. Capacity Req'd w/ Buffer	32.1	26.7	12.0	21.8	18.5	NA
Tank Capacity per Car (gals)	27	27	229.5	432	229.5	NA
Continuous Service Hours Supported	20	24	460	476	298	NA
As a percentage of 72 hours	28%	34%	639%	661%	413%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.9	1.0	19.8	20.5	12.8	NA
As a percentage of 3 days	28.89%	34.78%	658.47%	681.71%	426.07%	NA
Consecutive Trips before pumpout	0.0	1.0	19.0	20.0	12.0	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$55,250	$104,000	$55,250	NA
- Total Equip Cost	$6,500	$6,500	$55,250	$104,000	$55,250	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$576	$576	$4,896	$9,216	$4,896	NA
Total Capital Cost	$7,076	$7,076	$60,146	$113,216	$60,146	NA

Amtrak Route:	Silver Meteor	Route Number:	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$4,896	$9,216	$4,896	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$1,152	$1,152	$9,792	$18,432	$9,792	NA
Annual spare parts cost per yr	$65	$65	$553	$1,040	$553	NA
Total- Oprtng Non-Trip Related	$1,217	$1,217	$10,345	$19,472	$10,345	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.20	$0.21	$0.10	$0.17	$0.15	NA
- Pump out minutes	0.00	0.36	0.16	0.29	0.25	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.57	$0.47	$0.21	$0.38	$0.33	NA
Subtotal- End of Day/Trip Srvc	$16.77	$12.68	$102.31	$192.56	$102.47	NA
Train Delay:						
- Pump out volume req'd	27	0	0	0	0	NA
- # of stops req'd	1	0	0	0	0	NA
- Pump out minutes	0.5	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	7	0	0	0	0	NA
Average Cost Per Delay	$4	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$21	$13	$102	$193	$102	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	26,061	5,475	17,958	3,504	438	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$2,325	$1,389	$11,203	$21,085	$11,221	NA
Annual Non-Trip Related per Car	$1,217	$1,217	$10,345	$19,472	$10,345	NA
Annual Oprtng Trip Related per Car Type	$276,707	$34,719	$918,611	$337,361	$22,442	NA
Annual Non-Trip Related per Car Type	$144,823	$30,425	$848,249	$311,552	$20,689	NA
Total OPRTNG COST per Car	$3,542	$2,606	$21,547	$40,557	$21,565	NA
Total CAPITAL COST per Car	$7,076	$7,076	$60,146	$113,216	$60,146	NA
Total OPRTNG COST for all cars	$421,530	$65,144	$1,766,860	$648,913	$43,131	NA
Total CAPITAL COST for all cars	$842,044	$176,900	$4,931,972	$1,811,456	$120,292	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	60.9	50.6	22.7	41.3	35.1	NA
Capacity Req'd/day (gals)	84.8	70.4	31.6	57.5	48.8	NA
Adj. Capacity Req'd w/ Buffer	105.9	88.0	39.5	71.8	61.1	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	68	82	182	100	118	NA
As a percentage of 72 hours	94%	114%	253%	139%	164%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	2.9	3.5	7.8	4.3	5.1	NA
As a percentage of 3 days	97.31%	117.16%	260.96%	143.53%	168.85%	NA
Consecutive Trips before pumpout	2.0	3.0	7.0	4.0	5.0	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$85,000	$160,000	$85,000	NA
- Total Equip Cost	$20,000	$20,000	$95,000	$170,000	$95,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$5,472	$9,792	$5,472	NA
Total Capital Cost	$21,152	$21,152	$100,472	$179,792	$100,472	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$2,448	$4,608	$2,448	NA
Annual spare parts cost per yr	$200	$200	$950	$1,700	$950	NA
Total- Oprtng Non-Trip Related	$488	$488	$3,398	$6,308	$3,398	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.85	$0.70	$0.32	$0.57	$0.49	NA
- Pump out minutes	1.41	1.17	0.53	0.96	0.81	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$1.44	$1.20	$0.54	$0.98	$0.83	NA
Subtotal- End of Day/Trip Srvc	$14.29	$13.90	$102.85	$193.55	$103.32	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$14	$14	$103	$194	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	26,061	5,475	17,958	3,504	438	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,565	$1,522	$11,262	$21,194	$11,313	NA
Annual Non-Trip Related per Car	$488	$488	$3,398	$6,308	$3,398	NA
Annual Oprtng Trip Related per Car Type	$186,186	$38,053	$923,520	$339,102	$22,627	NA
Annual Non-Trip Related per Car Type	$58,072	$12,200	$278,636	$100,928	$6,796	NA
Total OPRTNG COST per Car	$2,053	$2,010	$14,660	$27,502	$14,711	NA
Total CAPITAL COST per Car	$21,152	$21,152	$100,472	$179,792	$100,472	NA
Total OPRTNG COST for all cars	$244,258	$50,253	$1,202,156	$440,030	$29,423	NA
Total CAPITAL COST for all cars	$2,517,088	$528,800	$8,238,704	$2,876,672	$200,944	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	16.6	13.8	6.2	11.3	9.6	NA
Capacity Req'd/day (gals)	41.8	34.7	15.6	28.4	24.1	NA
Adj. Capacity Req'd w/ Buffer	52.3	43.4	19.5	35.5	30.1	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	92	111	246	135	159	NA
As a percentage of 72 hours	127%	154%	342%	188%	221%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	3.9	4.7	10.6	5.8	6.8	NA
As a percentage of 3 days	131.43%	158.25%	352.46%	193.86%	228.07%	NA
Consecutive Trips before pumpout	3.0	4.0	10.0	5.0	6.0	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$49,300	$92,800	$49,300	NA
- Total Equip Cost	$17,800	$17,800	$61,300	$104,800	$61,300	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$19,816	$19,816	$67,636	$115,456	$67,636	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$2,448	$4,608	$2,448	NA
Annual spare parts cost per yr	$178	$178	$613	$1,048	$613	NA
Total- Oprtng Non-Trip Related	$466	$466	$3,061	$5,656	$3,061	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.42	$0.35	$0.16	$0.28	$0.24	NA
- Pump out minutes	0.70	0.58	0.26	0.47	0.40	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.71	$0.59	$0.27	$0.48	$0.41	NA
Subtotal- End of Day/Trip Srvc	$13.13	$12.94	$102.42	$192.77	$102.65	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$13	$13	$102	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	26,061	5,475	17,958	3,504	438	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,438	$1,417	$11,215	$21,108	$11,240	NA
Annual Non-Trip Related per Car	$466	$466	$3,061	$5,656	$3,061	NA
Annual Oprtng Trip Related per Car Type	$171,085	$35,418	$919,640	$337,726	$22,481	NA
Annual Non-Trip Related per Car Type	$55,454	$11,650	$251,002	$90,496	$6,122	NA
Total OPRTNG COST per Car	$1,904	$1,883	$14,276	$26,764	$14,301	NA
Total CAPITAL COST per Car	$19,816	$19,816	$67,636	$115,456	$67,636	NA
Total OPRTNG COST for all cars	$226,539	$47,068	$1,170,642	$428,222	$28,603	NA
Total CAPITAL COST for all cars	$2,358,104	$495,400	$5,546,152	$1,847,296	$135,272	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	93.2	77.4	34.7	63.2	53.7	NA
Capacity Req'd/day (gals)	116.1	96.4	43.3	78.7	66.9	NA
Adj. Capacity Req'd w/ Buffer	145.1	120.5	54.1	98.4	83.6	NA
Tank Capacity per Car (gals)	100	100	450	800	450	NA
Continuous Service Hours Supported	17	20	200	195	129	NA
As a percentage of 72 hours	23%	28%	277%	271%	179%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.7	0.9	8.6	8.4	5.5	NA
As a percentage of 3 days	23.69%	28.52%	285.86%	279.51%	184.97%	NA
Consecutive Trips before pumpout	0.0	0.0	8.0	8.0	5.0	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$36,000	$64,000	$36,000	NA
Toilet Cost per Car	$6,000	$6,000	$51,000	$96,000	$51,000	NA
- Total Equip Cost	$14,000	$14,000	$87,000	$160,000	$87,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$2,592	$4,608	$2,592	NA
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$7,488	$13,824	$7,488	NA
Total Capital Cost	$15,152	$15,152	$94,488	$173,824	$94,488	NA

Amtrak Route:	Silver Meteor	Route Number:	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$2,448	$4,608	$2,448	NA
Annual spare parts cost per yr	$140	$140	$870	$1,600	$870	NA
Total- Oprtng Non-Trip Related	$428	$428	$3,318	$6,208	$3,318	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.36	$4.20	$0.43	$0.79	$0.67	NA
- Pump out minutes	0.27	0.00	0.72	1.31	1.11	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Waste Disposal	$1.97	$1.64	$0.74	$1.34	$1.14	NA
Subtotal- End of Day/Trip Srvc	$18.33	$17.84	$103.17	$194.12	$103.81	NA
Train Delay:						
- Pump out volume req'd	100	100	0	0	0	NA
- # of stops req'd	1	1	0	0	0	NA
- Pump out minutes	1.7	1.7	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	9	9	0	0	0	NA
Average Cost Per Delay	$5	$5	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$24	$23	$103	$194	$104	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	26,061	5,475	17,958	3,504	438	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$2,577	$2,523	$11,297	$21,257	$11,367	NA
Annual Non-Trip Related per Car	$428	$428	$3,318	$6,208	$3,318	NA
Annual Oprtng Trip Related per Car Type	$306,655	$63,068	$926,350	$340,106	$22,733	NA
Annual Non-Trip Related per Car Type	$50,932	$10,700	$272,076	$99,328	$6,636	NA
Total OPRTNG COST per Car	$3,005	$2,951	$14,615	$27,465	$14,685	NA
Total CAPITAL COST per Car	$15,152	$15,152	$94,488	$173,824	$94,488	NA
Total OPRTNG COST for all cars	$357,587	$73,768	$1,198,426	$439,434	$29,369	NA
Total CAPITAL COST for all cars	$1,803,088	$378,800	$7,748,016	$2,781,184	$188,976	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	20.0	31.8	15.5	NA	NA	NA
Capacity Req'd/day (gals)	23.9	37.9	18.5	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	29.9	47.4	23.1	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	189	119	244	NA	NA	NA
As a percentage of 72 hours	262%	165%	339%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	14.4	9.1	18.6	NA	NA	NA
As a percentage of 3 days	479.88%	302.78%	620.34%	NA	NA	NA
Consecutive Trips before pumpout	28.0	18.0	37.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$260	$260	$260	NA	NA	NA
Total- Oprtng Non-Trip Related	$548	$548	$548	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.24	$0.38	$0.19	NA	NA	NA
- Pump out minutes	0.40	0.63	0.31	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.81	$1.29	$0.63	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.05	$13.67	$12.81	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$14	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	9,855	58,254	5,256	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,859	$2,993	$2,806	NA	NA	NA
Annual Non-Trip Related per Car	$548	$548	$548	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$128,634	$796,238	$67,352	NA	NA	NA
Annual Non-Trip Related per Car Type	$24,660	$145,768	$13,152	NA	NA	NA
Total OPRTNG COST per Car	$3,407	$3,541	$3,354	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$153,294	$942,006	$80,504	NA	NA	NA
Total CAPITAL COST for all cars	$1,260,720	$7,452,256	$672,384	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	13.0	20.6	10.0	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	16.2	25.7	12.6	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	40	25	52	NA	NA	NA
As a percentage of 72 hours	55%	35%	72%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	3.0	1.9	3.9	NA	NA	NA
As a percentage of 3 days	101.55%	64.07%	131.28%	NA	NA	NA
Consecutive Trips before pumpout	6.0	3.0	7.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$1,152	$1,152	$1,152	NA	NA	NA
Annual spare parts cost per yr	$65	$65	$65	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,217	$1,217	$1,217	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.21	$0.10	NA	NA	NA
- Pump out minutes	0.22	0.34	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.57	$0.91	$0.44	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$12.70	$13.11	$12.54	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$13	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	9,855	58,254	5,256	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,782	$2,871	$2,747	NA	NA	NA
Annual Non-Trip Related per Car	$1,217	$1,217	$1,217	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$125,172	$763,808	$65,924	NA	NA	NA
Annual Non-Trip Related per Car Type	$54,765	$323,722	$29,208	NA	NA	NA
Total OPRTNG COST per Car	$3,999	$4,088	$3,964	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$179,937	$1,087,530	$95,132	NA	NA	NA
Total CAPITAL COST for all cars	$318,420	$1,882,216	$169,824	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	54.7	86.7	42.3	NA	NA	NA
Capacity Req'd/day (gals)	42.8	67.9	33.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	53.6	84.9	41.4	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	134	85	174	NA	NA	NA
As a percentage of 72 hours	187%	118%	241%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	10.3	6.5	13.3	NA	NA	NA
As a percentage of 3 days	342.09%	215.84%	442.21%	NA	NA	NA
Consecutive Trips before pumpout	20.0	12.0	26.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$200	$200	$200	NA	NA	NA
Total- Oprtng Non-Trip Related	$488	$488	$488	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.43	$0.68	$0.33	NA	NA	NA
- Pump out minutes	0.71	1.13	0.55	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.46	$2.31	$1.13	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.89	$14.99	$13.46	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$14	$15	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	9,855	58,254	5,256	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,041	$3,282	$2,947	NA	NA	NA
Annual Non-Trip Related per Car	$488	$488	$488	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$136,838	$873,098	$70,737	NA	NA	NA
Annual Non-Trip Related per Car Type	$21,960	$129,808	$11,712	NA	NA	NA
Total OPRTNG COST per Car	$3,529	$3,770	$3,435	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$158,798	$1,002,906	$82,449	NA	NA	NA
Total CAPITAL COST for all cars	$951,840	$5,626,432	$507,648	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	14.9	23.7	11.6	NA	NA	NA
Capacity Req'd/day (gals)	21.1	33.5	16.4	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	26.4	41.9	20.4	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	182	115	235	NA	NA	NA
As a percentage of 72 hours	252%	159%	326%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	13.9	8.7	17.9	NA	NA	NA
As a percentage of 3 days	462.05%	291.53%	597.28%	NA	NA	NA
Consecutive Trips before pumpout	27.0	17.0	35.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$178	$178	$178	NA	NA	NA
Total- Oprtng Non-Trip Related	$466	$466	$466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.21	$0.34	$0.16	NA	NA	NA
- Pump out minutes	0.35	0.56	0.27	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.72	$1.14	$0.56	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$12.93	$13.47	$12.72	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$13	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	9,855	58,254	5,256	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,832	$2,951	$2,786	NA	NA	NA
Annual Non-Trip Related per Car	$466	$466	$466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$127,430	$784,956	$66,855	NA	NA	NA
Annual Non-Trip Related per Car Type	$20,970	$123,956	$11,184	NA	NA	NA
Total OPRTNG COST per Car	$3,298	$3,417	$3,252	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$148,400	$908,912	$78,039	NA	NA	NA
Total CAPITAL COST for all cars	$891,720	$5,271,056	$475,584	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	83.7	132.6	64.7	NA	NA	NA
Capacity Req'd/day (gals)	58.7	93.0	45.4	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	73.3	116.2	56.7	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	33	21	42	NA	NA	NA
As a percentage of 72 hours	45%	29%	59%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	2.5	1.6	3.2	NA	NA	NA
As a percentage of 3 days	83.28%	52.54%	107.65%	NA	NA	NA
Consecutive Trips before pumpout	4.0	3.0	6.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$140	$140	$140	NA	NA	NA
Total- Oprtng Non-Trip Related	$428	$428	$428	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.59	$0.93	$0.45	NA	NA	NA
- Pump out minutes	0.98	1.55	0.76	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.99	$3.16	$1.54	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$14.58	$16.09	$14.00	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$15	$16	$14	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	9,855	58,254	5,256	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,193	$3,524	$3,065	NA	NA	NA
Annual Non-Trip Related per Car	$428	$428	$428	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$143,699	$937,376	$73,568	NA	NA	NA
Annual Non-Trip Related per Car Type	$19,260	$113,848	$10,272	NA	NA	NA
Total OPRTNG COST per Car	$3,621	$3,952	$3,493	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$162,959	$1,051,224	$83,840	NA	NA	NA
Total CAPITAL COST for all cars	$681,840	$4,030,432	$363,648	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	8.7	22.7	12.5	NA	NA	NA
Capacity Req'd/day (gals)	13.2	34.5	19.0	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	16.5	43.1	23.7	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	341	131	238	NA	NA	NA
As a percentage of 72 hours	474%	182%	330%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	20.5	7.8	14.3	NA	NA	NA
As a percentage of 3 days	682.08%	261.46%	475.39%	NA	NA	NA
Consecutive Trips before pumpout	122.0	47.0	85.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$260	$260	$260	NA	NA	NA
Total- Oprtng Non-Trip Related	$548	$548	$548	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.34	$0.19	NA	NA	NA
- Pump out minutes	0.22	0.57	0.32	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.35	$3.52	$1.93	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.48	$15.86	$14.12	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$16	$14	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	2,847	10,950	2,847	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,952	$3,474	$3,093	NA	NA	NA
Annual Non-Trip Related per Car	$548	$548	$548	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$38,379	$173,694	$40,212	NA	NA	NA
Annual Non-Trip Related per Car Type	$7,124	$27,400	$7,124	NA	NA	NA
Total OPRTNG COST per Car	$3,500	$4,022	$3,641	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$45,503	$201,094	$47,336	NA	NA	NA
Total CAPITAL COST for all cars	$364,208	$1,400,800	$364,208	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	7.2	18.7	10.3	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	9.0	23.4	12.9	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	72	28	50	NA	NA	NA
As a percentage of 72 hours	100%	38%	70%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	4.3	1.7	3.0	NA	NA	NA
As a percentage of 3 days	144.34%	55.33%	100.60%	NA	NA	NA
Consecutive Trips before pumpout	25.0	9.0	18.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$1,152	$1,152	$1,152	NA	NA	NA
Annual spare parts cost per yr	$65	$65	$65	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,217	$1,217	$1,217	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.07	$0.19	$0.10	NA	NA	NA
- Pump out minutes	0.12	0.31	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.95	$2.47	$1.36	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.02	$14.66	$13.46	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$15	$13	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	2,847	10,950	2,847	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,851	$3,210	$2,948	NA	NA	NA
Annual Non-Trip Related per Car	$1,217	$1,217	$1,217	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$37,066	$160,513	$38,327	NA	NA	NA
Annual Non-Trip Related per Car Type	$15,821	$60,850	$15,821	NA	NA	NA
Total OPRTNG COST per Car	$4,068	$4,427	$4,165	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$52,887	$221,363	$54,148	NA	NA	NA
Total CAPITAL COST for all cars	$91,988	$353,800	$91,988	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	23.7	61.9	34.1	NA	NA	NA
Capacity Req'd/day (gals)	23.7	61.8	34.0	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	29.6	77.2	42.5	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	243	93	170	NA	NA	NA
As a percentage of 72 hours	338%	130%	236%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	14.6	5.6	10.2	NA	NA	NA
As a percentage of 3 days	486.23%	186.39%	338.88%	NA	NA	NA
Consecutive Trips before pumpout	87.0	33.0	60.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$200	$200	$200	NA	NA	NA
Total- Oprtng Non-Trip Related	$488	$488	$488	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.24	$0.62	$0.34	NA	NA	NA
- Pump out minutes	0.39	1.03	0.57	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$2.41	$6.30	$3.46	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$14.65	$18.92	$15.80	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$15	$19	$16	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	2,847	10,950	2,847	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,209	$4,143	$3,461	NA	NA	NA
Annual Non-Trip Related per Car	$488	$488	$488	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$41,713	$207,140	$44,995	NA	NA	NA
Annual Non-Trip Related per Car Type	$6,344	$24,400	$6,344	NA	NA	NA
Total OPRTNG COST per Car	$3,697	$4,631	$3,949	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$48,057	$231,540	$51,339	NA	NA	NA
Total CAPITAL COST for all cars	$274,976	$1,057,600	$274,976	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	6.5	16.9	9.3	NA	NA	NA
Capacity Req'd/day (gals)	11.7	30.5	16.8	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	14.6	38.1	21.0	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	329	126	229	NA	NA	NA
As a percentage of 72 hours	456%	175%	318%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	19.7	7.6	13.7	NA	NA	NA
As a percentage of 3 days	656.73%	251.74%	457.72%	NA	NA	NA
Consecutive Trips before pumpout	118.0	45.0	82.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$178	$178	$178	NA	NA	NA
Total- Oprtng Non-Trip Related	$466	$466	$466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.12	$0.30	$0.17	NA	NA	NA
- Pump out minutes	0.19	0.51	0.28	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.19	$3.11	$1.71	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.31	$15.41	$13.88	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$15	$14	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	2,847	10,950	2,847	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,915	$3,376	$3,039	NA	NA	NA
Annual Non-Trip Related per Car	$466	$466	$466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$37,890	$168,784	$39,510	NA	NA	NA
Annual Non-Trip Related per Car Type	$6,058	$23,300	$6,058	NA	NA	NA
Total OPRTNG COST per Car	$3,381	$3,842	$3,505	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$43,948	$192,084	$45,568	NA	NA	NA
Total CAPITAL COST for all cars	$257,608	$990,800	$257,608	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	36.3	94.7	52.1	NA	NA	NA
Capacity Req'd/day (gals)	32.4	84.6	46.5	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	40.5	105.7	58.1	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	59	23	41	NA	NA	NA
As a percentage of 72 hours	82%	32%	57%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	3.6	1.4	2.5	NA	NA	NA
As a percentage of 3 days	118.36%	45.37%	82.50%	NA	NA	NA
Consecutive Trips before pumpout	21.0	8.0	14.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$140	$140	$140	NA	NA	NA
Total- Oprtng Non-Trip Related	$428	$428	$428	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.32	$0.85	$0.47	NA	NA	NA
- Pump out minutes	0.54	1.41	0.78	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.31	$8.63	$4.74	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.63	$21.47	$17.21	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$21	$17	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	2,847	10,950	2,847	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,423	$4,702	$3,769	NA	NA	NA
Annual Non-Trip Related per Car	$428	$428	$428	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$44,501	$235,111	$48,995	NA	NA	NA
Annual Non-Trip Related per Car Type	$5,564	$21,400	$5,564	NA	NA	NA
Total OPRTNG COST per Car	$3,851	$5,130	$4,197	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$50,065	$256,511	$54,559	NA	NA	NA
Total CAPITAL COST for all cars	$196,976	$757,600	$196,976	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	31.8	8.7	22.7	NA	NA	NA
Capacity Req'd/day (gals)	45.5	12.5	32.5	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	56.9	15.6	40.6	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	99	362	139	NA	NA	NA
As a percentage of 72 hours	138%	503%	193%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	6.3	23.0	8.8	NA	NA	NA
As a percentage of 3 days	210.27%	767.93%	294.37%	NA	NA	NA
Consecutive Trips before pumpout	37.0	138.0	52.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$260	$260	$260	NA	NA	NA
Total- Oprtng Non-Trip Related	$548	$548	$548	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.46	$0.12	$0.33	NA	NA	NA
- Pump out minutes	0.76	0.21	0.54	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$4.64	$1.27	$3.32	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$17.10	$13.40	$15.64	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$17	$13	$16	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	58,254	5,475	6,789	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,744	$2,934	$3,425	NA	NA	NA
Annual Non-Trip Related per Car	$548	$548	$548	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$995,920	$73,340	$106,181	NA	NA	NA
Annual Non-Trip Related per Car Type	$145,768	$13,700	$16,988	NA	NA	NA
Total OPRTNG COST per Car	$4,292	$3,482	$3,973	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$1,141,688	$87,040	$123,169	NA	NA	NA
Total CAPITAL COST for all cars	$7,452,256	$700,400	$868,496	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	24.7	6.8	17.6	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	30.9	8.5	22.1	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	21	77	29	NA	NA	NA
As a percentage of 72 hours	29%	106%	41%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	1.3	4.9	1.9	NA	NA	NA
As a percentage of 3 days	44.50%	162.51%	62.29%	NA	NA	NA
Consecutive Trips before pumpout	8.0	29.0	11.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$1,152	$1,152	$1,152	NA	NA	NA
Annual spare parts cost per yr	$65	$65	$65	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,217	$1,217	$1,217	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.25	$0.07	$0.18	NA	NA	NA
- Pump out minutes	0.41	0.11	0.29	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.26	$0.89	$2.33	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.51	$12.96	$14.51	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$13	$15	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	58,254	5,475	6,789	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,396	$2,838	$3,177	NA	NA	NA
Annual Non-Trip Related per Car	$1,217	$1,217	$1,217	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$903,401	$70,959	$98,479	NA	NA	NA
Annual Non-Trip Related per Car Type	$323,722	$30,425	$37,727	NA	NA	NA
Total OPRTNG COST per Car	$4,613	$4,055	$4,394	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$1,227,123	$101,384	$136,206	NA	NA	NA
Total CAPITAL COST for all cars	$1,882,216	$176,900	$219,356	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	86.7	23.7	61.9	NA	NA	NA
Capacity Req'd/day (gals)	81.5	22.3	58.2	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	101.9	27.9	72.8	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	71	258	99	NA	NA	NA
As a percentage of 72 hours	98%	359%	137%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	4.5	16.4	6.3	NA	NA	NA
As a percentage of 3 days	149.89%	547.42%	209.85%	NA	NA	NA
Consecutive Trips before pumpout	26.0	98.0	37.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$200	$200	$200	NA	NA	NA
Total- Oprtng Non-Trip Related	$488	$488	$488	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.81	$0.22	$0.58	NA	NA	NA
- Pump out minutes	1.36	0.37	0.97	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$8.31	$2.28	$5.94	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$21.13	$14.50	$18.52	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$21	$14	$19	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	58,254	5,475	6,789	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,627	$3,175	$4,056	NA	NA	NA
Annual Non-Trip Related per Car	$488	$488	$488	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,230,690	$79,381	$125,724	NA	NA	NA
Annual Non-Trip Related per Car Type	$129,808	$12,200	$15,128	NA	NA	NA
Total OPRTNG COST per Car	$5,115	$3,663	$4,544	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$1,360,498	$91,581	$140,852	NA	NA	NA
Total CAPITAL COST for all cars	$5,626,432	$528,800	$655,712	NA	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:**	#242		
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	23.7	6.5	16.9	NA	NA	NA
Capacity Req'd/day (gals)	40.2	11.0	28.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	50.3	13.8	35.9	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	95	349	134	NA	NA	NA
As a percentage of 72 hours	133%	484%	186%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	6.1	22.2	8.5	NA	NA	NA
As a percentage of 3 days	202.45%	739.39%	283.43%	NA	NA	NA
Consecutive Trips before pumpout	36.0	133.0	51.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$178	$178	$178	NA	NA	NA
Total- Oprtng Non-Trip Related	$466	$466	$466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.40	$0.11	$0.29	NA	NA	NA
- Pump out minutes	0.67	0.18	0.48	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$4.10	$1.12	$2.93	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$16.50	$13.23	$15.22	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$17	$13	$15	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	58,254	5,475	6,789	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,615	$2,898	$3,333	NA	NA	NA
Annual Non-Trip Related per Car	$466	$466	$466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$961,459	$72,453	$103,312	NA	NA	NA
Annual Non-Trip Related per Car Type	$123,956	$11,650	$14,446	NA	NA	NA
Total OPRTNG COST per Car	$4,081	$3,364	$3,799	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$1,085,415	$84,103	$117,758	NA	NA	NA
Total CAPITAL COST for all cars	$5,271,056	$495,400	$614,296	NA	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:**	#242		
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	132.6	36.3	94.7	NA	NA	NA
Capacity Req'd/day (gals)	111.6	30.6	79.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	139.5	38.2	99.6	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	17	63	24	NA	NA	NA
As a percentage of 72 hours	24%	87%	33%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	1.1	4.0	1.5	NA	NA	NA
As a percentage of 3 days	36.49%	133.26%	51.08%	NA	NA	NA
Consecutive Trips before pumpout	6.0	23.0	9.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$288	$288	$288	NA	NA	NA
Annual spare parts cost per yr	$140	$140	$140	NA	NA	NA
Total- Oprtng Non-Trip Related	$428	$428	$428	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.12	$0.31	$0.80	NA	NA	NA
- Pump out minutes	1.86	0.51	1.33	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$11.38	$3.12	$8.13	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$24.50	$15.42	$20.93	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$24	$15	$21	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	58,254	5,475	6,789	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,365	$3,377	$4,583	NA	NA	NA
Annual Non-Trip Related per Car	$428	$428	$428	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,427,031	$84,434	$142,068	NA	NA	NA
Annual Non-Trip Related per Car Type	$113,848	$10,700	$13,268	NA	NA	NA
Total OPRTNG COST per Car	$5,793	$3,805	$5,011	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$1,540,879	$95,134	$155,336	NA	NA	NA
Total CAPITAL COST for all cars	$4,030,432	$378,800	$469,712	NA	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	10.2	27.2	19.7	15.1	NA	NA
Capacity Req'd/day (gals)	11.3	30.1	21.7	16.7	NA	NA
Adj. Capacity Req'd w/ Buffer	14.1	37.6	27.1	20.9	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	400	150	208	270	NA	NA
As a percentage of 72 hours	556%	208%	289%	375%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	33.0	12.4	17.1	22.3	NA	NA
As a percentage of 3 days	1100.49%	412.68%	571.41%	742.83%	NA	NA
Consecutive Trips before pumpout	132.0	49.0	68.0	89.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$2,500	$5,000	$2,500	$2,500	NA	NA
- Total Equip Cost	$23,500	$26,000	$23,500	$23,500	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$25,228	$28,016	$25,228	$25,228	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$144	$288	$144	$144	NA	NA
Annual spare parts cost per yr	$235	$260	$235	$235	NA	NA
Total- Oprtng Non-Trip Related	$379	$548	$379	$379	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.11	$0.30	$0.22	$0.17	NA	NA
- Pump out minutes	0.19	0.50	0.36	0.28	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.77	$2.04	$1.48	$1.14	NA	NA
Subtotal- End of Day/Trip Srvc	$6.88	$14.35	$7.69	$7.30	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$8	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,314	4,599	657	3,066	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,507	$3,142	$1,685	$1,599	NA	NA
Annual Non-Trip Related per Car	$379	$548	$379	$379	NA	NA
Annual Oprtng Trip Related per Car Type	$9,040	$65,975	$5,055	$22,391	NA	NA
Annual Non-Trip Related per Car Type	$2,274	$11,508	$1,137	$5,306	NA	NA
Total OPRTNG COST per Car	$1,886	$3,690	$2,064	$1,978	NA	NA
Total CAPITAL COST per Car	$25,228	$28,016	$25,228	$25,228	NA	NA
Total OPRTNG COST for all cars	$11,314	$77,483	$6,192	$27,697	NA	NA
Total CAPITAL COST for all cars	$151,368	$588,336	$75,684	$353,192	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	6.1	16.3	11.8	9.1	NA	NA
Adj. Capacity Req'd w/ Buffer	7.7	20.4	14.7	11.3	NA	NA
Tank Capacity per Car (gals)	13.5	27	13.5	13.5	NA	NA
Continuous Service Hours Supported	42	32	22	29	NA	NA
As a percentage of 72 hours	59%	44%	31%	40%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	3.5	2.6	1.8	2.4	NA	NA
As a percentage of 3 days	116.44%	87.33%	60.46%	78.60%	NA	NA
Consecutive Trips before pumpout	13.0	10.0	7.0	9.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$3,250	$6,500	$3,250	$3,250	NA	NA
- Total Equip Cost	$3,250	$6,500	$3,250	$3,250	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$288	$576	$288	$288	NA	NA
Total Capital Cost	$3,538	$7,076	$3,538	$3,538	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$576	$288	$288	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$576	$1,152	$576	$576	NA	NA
Annual spare parts cost per yr	$33	$65	$33	$33	NA	NA
Total- Oprtng Non-Trip Related	$609	$1,217	$609	$609	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.06	$0.16	$0.12	$0.09	NA	NA
- Pump out minutes	0.10	0.27	0.20	0.15	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.54	$1.44	$1.04	$0.80	NA	NA
Subtotal- End of Day/Trip Srvc	$6.60	$13.60	$7.16	$6.89	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$7	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,314	4,599	657	3,066	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,445	$2,978	$1,567	$1,509	NA	NA
Annual Non-Trip Related per Car	$609	$1,217	$609	$609	NA	NA
Annual Oprtng Trip Related per Car Type	$8,672	$62,546	$4,701	$21,121	NA	NA
Annual Non-Trip Related per Car Type	$3,651	$25,557	$1,826	$8,519	NA	NA
Total OPRTNG COST per Car	$2,054	$4,195	$2,176	$2,117	NA	NA
Total CAPITAL COST per Car	$3,538	$7,076	$3,538	$3,538	NA	NA
Total OPRTNG COST for all cars	$12,323	$88,103	$6,527	$29,640	NA	NA
Total CAPITAL COST for all cars	$21,228	$148,596	$10,614	$49,532	NA	NA

Amtrak Route:	Electric City Express			**Route Number:**	#250	
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	27.9	74.3	53.7	41.3	NA	NA
Capacity Req'd/day (gals)	20.2	53.8	38.9	29.9	NA	NA
Adj. Capacity Req'd w/ Buffer	25.2	67.3	48.6	37.4	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	285	107	148	193	NA	NA
As a percentage of 72 hours	396%	149%	206%	267%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	23.5	8.8	12.2	15.9	NA	NA
As a percentage of 3 days	784.49%	294.18%	407.33%	529.53%	NA	NA
Consecutive Trips before pumpout	94.0	35.0	48.0	63.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$5,000	$10,000	$5,000	$5,000	NA	NA
- Total Equip Cost	$15,000	$20,000	$15,000	$15,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$864	$1,152	$864	$864	NA	NA
Total Capital Cost	$15,864	$21,152	$15,864	$15,864	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$144	$288	$144	$144	NA	NA
Annual spare parts cost per yr	$150	$200	$150	$150	NA	NA
Total- Oprtng Non-Trip Related	$294	$488	$294	$294	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.20	$0.54	$0.39	$0.30	NA	NA
- Pump out minutes	0.34	0.90	0.65	0.50	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.37	$3.66	$2.64	$2.03	NA	NA
Subtotal- End of Day/Trip Srvc	$7.58	$16.20	$9.03	$8.33	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$8	$16	$9	$8	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,314	4,599	657	3,066	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,659	$3,548	$1,978	$1,825	NA	NA
Annual Non-Trip Related per Car	$294	$488	$294	$294	NA	NA
Annual Oprtng Trip Related per Car Type	$9,954	$74,505	$5,935	$25,550	NA	NA
Annual Non-Trip Related per Car Type	$1,764	$10,248	$882	$4,116	NA	NA
Total OPRTNG COST per Car	$1,953	$4,036	$2,272	$2,119	NA	NA
Total CAPITAL COST per Car	$15,864	$21,152	$15,864	$15,864	NA	NA
Total OPRTNG COST for all cars	$11,718	$84,753	$6,817	$29,666	NA	NA
Total CAPITAL COST for all cars	$95,184	$444,192	$47,592	$222,096	NA	NA

Amtrak Route:	Electric City Express			**Route Number:**	#250	
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	7.6	20.3	14.7	11.3	NA	NA
Capacity Req'd/day (gals)	10.0	26.6	19.2	14.8	NA	NA
Adj. Capacity Req'd w/ Buffer	12.5	33.2	24.0	18.5	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	385	144	200	260	NA	NA
As a percentage of 72 hours	535%	201%	278%	361%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	31.8	11.9	16.5	21.5	NA	NA
As a percentage of 3 days	1059.58%	397.34%	550.17%	715.22%	NA	NA
Consecutive Trips before pumpout	127.0	47.0	66.0	85.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$2,900	$5,800	$2,900	$2,900	NA	NA
- Total Equip Cost	$14,900	$17,800	$14,900	$14,900	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$16,628	$19,816	$16,628	$16,628	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$144	$288	$144	$144	NA	NA
Annual spare parts cost per yr	$149	$178	$149	$149	NA	NA
Total- Oprtng Non-Trip Related	$293	$466	$293	$293	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.10	$0.27	$0.19	$0.15	NA	NA
- Pump out minutes	0.17	0.44	0.32	0.25	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.68	$1.81	$1.31	$1.00	NA	NA
Subtotal- End of Day/Trip Srvc	$6.78	$14.07	$7.50	$7.15	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$7	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,314	4,599	657	3,066	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,484	$3,082	$1,642	$1,566	NA	NA
Annual Non-Trip Related per Car	$293	$466	$293	$293	NA	NA
Annual Oprtng Trip Related per Car Type	$8,906	$64,723	$4,926	$21,927	NA	NA
Annual Non-Trip Related per Car Type	$1,758	$9,786	$879	$4,102	NA	NA
Total OPRTNG COST per Car	$1,777	$3,548	$1,935	$1,859	NA	NA
Total CAPITAL COST per Car	$16,628	$19,816	$16,628	$16,628	NA	NA
Total OPRTNG COST for all cars	$10,664	$74,509	$5,805	$26,029	NA	NA
Total CAPITAL COST for all cars	$99,768	$416,136	$49,884	$232,792	NA	NA

Amtrak Route:	Electric City Express			Route Number: #250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Favorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	6.00	6.00	6.00	6.00	6.00	6.00
Flush efficiency adjustment	1.00	1.00	1.00	1.00	1.00	1.00
Adj. # Flushes/Person-day	6	6	6	6	6	6
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	42.6	113.7	82.1	63.2	NA	NA
Capacity Req'd/day (gals)	27.7	73.7	53.3	41.0	NA	NA
Adj. Capacity Req'd w/ Buffer	34.6	92.2	66.6	51.2	NA	NA
Tank Capacity per Car (gals)	50	100	50	50	NA	NA
Continuous Service Hours Supported	35	26	18	23	NA	NA
As a percentage of 72 hours	48%	36%	25%	33%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	2.9	2.1	1.5	1.9	NA	NA
As a percentage of 3 days	95.49%	71.61%	49.58%	64.45%	NA	NA
Consecutive Trips before pumpout	11.0	8.0	5.0	7.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$4,000	$8,000	$4,000	$4,000	NA	NA
Toilet Cost per Car	$3,000	$6,000	$3,000	$3,000	NA	NA
- Total Equip Cost	$7,000	$14,000	$7,000	$7,000	NA	NA
Equipment Installation						
Collection System per Car	$288	$576	$288	$288	NA	NA
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$576	$1,152	$576	$576	NA	NA
Total Capital Cost	$7,576	$15,152	$7,576	$7,576	NA	NA

Amtrak Route:	Electric City Express	Route Number:	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Favorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	2	2	2	2	2	2
Servicing Cost/Year	$144	$288	$144	$144	NA	NA
Annual spare parts cost per yr	$70	$140	$70	$70	NA	NA
Total- Oprtng Non-Trip Related	$214	$428	$214	$214	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.28	$0.74	$0.53	$0.41	NA	NA
- Pump out minutes	0.46	1.23	0.89	0.68	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.88	$5.01	$3.62	$2.79	NA	NA
Subtotal- End of Day/Trip Srvc	$8.16	$17.75	$10.15	$9.20	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$8	$18	$10	$9	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,314	4,599	657	3,066	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,786	$3,888	$2,224	$2,014	NA	NA
Annual Non-Trip Related per Car	$214	$428	$214	$214	NA	NA
Annual Oprtng Trip Related per Car Type	$10,718	$81,639	$6,671	$28,193	NA	NA
Annual Non-Trip Related per Car Type	$1,284	$8,988	$642	$2,996	NA	NA
Total OPRTNG COST per Car	$2,000	$4,316	$2,438	$2,228	NA	NA
Total CAPITAL COST per Car	$7,576	$15,152	$7,576	$7,576	NA	NA
Total OPRTNG COST for all cars	$12,002	$90,627	$7,313	$31,189	NA	NA
Total CAPITAL COST for all cars	$45,456	$318,192	$22,728	$106,064	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	47.3	45.4	27.7	54.2	NA	NA
Capacity Req'd/day (gals)	80.9	77.7	47.5	92.8	NA	NA
Adj. Capacity Req'd w/ Buffer	101.2	97.1	59.3	116.0	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	56	58	95	49	NA	NA
As a percentage of 72 hours	77%	81%	132%	68%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.3	2.4	4.0	2.0	NA	NA
As a percentage of 3 days	77.44%	80.66%	132.00%	67.53%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$15,000	$10,000	$30,000	$5,000	NA	NA
- Total Equip Cost	$36,000	$31,000	$51,000	$26,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$39,168	$33,592	$55,896	$28,016	NA	NA

Amtrak Route:	Sunset Limited		Route Number:	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Unfavorable					
* All data on per car basis (unless noted otherwise)						
	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,728	$1,152	$3,456	$576	NA	NA
Annual spare parts cost per yr	$1,800	$1,550	$2,550	$1,300	NA	NA
Total- Oprtng Non-Trip Related	$3,528	$2,702	$6,006	$1,876	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.81	$0.78	$0.47	$0.93	NA	NA
- Pump out minutes	1.35	1.29	0.79	1.55	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.46	$2.37	$1.45	$2.83	NA	NA
Subtotal- End of Day/Trip Srvc	$39.27	$27.14	$73.92	$15.75	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$39	$27	$74	$16	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	26,572	6,132	19,856	1,752	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$5,734	$3,963	$10,792	$2,300	NA	NA
Annual Non-Trip Related per Car	$3,528	$2,702	$6,006	$1,876	NA	NA
Annual Oprtng Trip Related per Car Type	$521,796	$83,221	$733,886	$13,801	NA	NA
Annual Non-Trip Related per Car Type	$321,048	$56,742	$408,408	$11,256	NA	NA
Total OPRTNG COST per Car	$9,262	$6,665	$16,798	$4,176	NA	NA
Total CAPITAL COST per Car	$39,168	$33,592	$55,896	$28,016	NA	NA
Total OPRTNG COST for all cars	$842,844	$139,963	$1,142,294	$25,057	NA	NA
Total CAPITAL COST for all cars	$3,564,288	$705,432	$3,800,928	$168,096	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	33.7	32.3	19.8	38.6	NA	NA
Adj. Capacity Req'd w/ Buffer	42.1	40.4	24.7	48.3	NA	NA
Tank Capacity per Car (gals)	81	54	162	27	NA	NA
Continuous Service Hours Supported	46	32	157	13	NA	NA
As a percentage of 72 hours	64%	45%	219%	19%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.9	1.3	6.6	0.6	NA	NA
As a percentage of 3 days	64.14%	44.54%	218.67%	18.65%	NA	NA
Consecutive Trips before pumpout	1.0	0.0	3.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$19,500	$13,000	$39,000	$6,500	NA	NA
- Total Equip Cost	$19,500	$13,000	$39,000	$6,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$1,728	$1,152	$3,456	$576	NA	NA
Total Capital Cost	$21,228	$14,152	$42,456	$7,076	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,728	$1,152	$3,456	$576	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$6,912	$4,608	$13,824	$2,304	NA	NA
Annual spare parts cost per yr	$975	$650	$1,950	$325	NA	NA
Total- Oprtng Non-Trip Related	$7,887	$5,258	$15,774	$2,629	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.34	$8.40	$0.20	$4.32	NA	NA
- Pump out minutes	0.56	0.00	0.33	0.19	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Waste Disposal	$1.33	$1.27	$0.78	$1.52	NA	NA
Subtotal- End of Day/Trip Srvc	$37.66	$33.67	$72.98	$17.84	NA	NA
Train Delay:						
- Pump out volume req'd	0	54	0	27	NA	NA
- # of stops req'd	0	1	0	1	NA	NA
- Pump out minutes	0.0	0.9	0.0	0.5	NA	NA
- Connect/Disc. minutes	0.0	14.0	0.0	7.0	NA	NA
- Total Time Delay(mins/car)	0	15	0	7	NA	NA
Average Cost Per Delay	$0	$9	$0	$4	NA	NA
Subtotal- Oprtng Trip Related	$38	$43	$73	$22	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	26,572	6,132	19,856	1,752	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$5,499	$6,222	$10,655	$3,257	NA	NA
Annual Non-Trip Related per Car	$7,887	$5,258	$15,774	$2,629	NA	NA
Annual Oprtng Trip Related per Car Type	$500,405	$130,655	$724,508	$19,542	NA	NA
Annual Non-Trip Related per Car Type	$717,717	$110,418	$1,072,632	$15,774	NA	NA
Total OPRTNG COST per Car	$13,386	$11,480	$26,429	$5,886	NA	NA
Total CAPITAL COST per Car	$21,228	$14,152	$42,456	$7,076	NA	NA
Total OPRTNG COST for all cars	$1,218,122	$241,073	$1,797,140	$35,316	NA	NA
Total CAPITAL COST for all cars	$1,931,748	$297,192	$2,887,008	$42,456	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	129.0	123.8	75.7	147.9	NA	NA
Capacity Req'd/day (gals)	162.7	156.2	95.4	186.5	NA	NA
Adj. Capacity Req'd w/ Buffer	203.3	195.2	119.3	233.2	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	35	37	60	31	NA	NA
As a percentage of 72 hours	49%	51%	84%	43%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	1.5	1.5	2.5	1.3	NA	NA
As a percentage of 3 days	49.18%	51.23%	83.83%	42.89%	NA	NA
Consecutive Trips before pumpout	0.0	0.0	1.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$30,000	$20,000	$60,000	$10,000	NA	NA
- Total Equip Cost	$40,000	$30,000	$70,000	$20,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,304	$1,728	$4,032	$1,152	NA	NA
Total Capital Cost	$42,304	$31,728	$74,032	$21,152	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,728	$1,152	$3,456	$576	NA	NA
Annual spare parts cost per yr	$2,000	$1,500	$3,500	$1,000	NA	NA
Total- Oprtng Non-Trip Related	$3,728	$2,652	$6,956	$1,576	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.00	$0.00	$0.95	$0.00	NA	NA
- Pump out minutes	0.00	0.00	1.59	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$4.95	$4.76	$2.91	$5.68	NA	NA
Subtotal- End of Day/Trip Srvc	$40.95	$28.76	$75.86	$17.68	NA	NA
Train Delay:						
- Pump out volume req'd	300	300	0	300	NA	NA
- # of stops req'd	1	1	0	1	NA	NA
- Pump out minutes	5.0	5.0	0.0	5.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	5	5	0	5	NA	NA
Average Cost Per Delay	$3	$3	$0	$3	NA	NA
Subtotal- Oprtng Trip Related	$44	$32	$76	$21	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	26,572	6,132	19,856	1,752	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$6,417	$4,636	$11,076	$3,020	NA	NA
Annual Non-Trip Related per Car	$3,728	$2,652	$6,956	$1,576	NA	NA
Annual Oprtng Trip Related per Car Type	$583,984	$97,366	$753,150	$18,117	NA	NA
Annual Non-Trip Related per Car Type	$339,248	$55,692	$473,008	$9,456	NA	NA
Total OPRTNG COST per Car	$10,145	$7,288	$18,032	$4,596	NA	NA
Total CAPITAL COST per Car	$42,304	$31,728	$74,032	$21,152	NA	NA
Total OPRTNG COST for all cars	$923,232	$153,058	$1,226,158	$27,573	NA	NA
Total CAPITAL COST for all cars	$3,849,664	$666,288	$5,034,176	$126,912	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	35.3	33.8	20.7	40.4	NA	NA
Capacity Req'd/day (gals)	68.9	66.2	40.4	79.0	NA	NA
Adj. Capacity Req'd w/ Buffer	86.2	82.7	50.5	98.8	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	56	58	95	49	NA	NA
As a percentage of 72 hours	77%	81%	132%	67%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.3	2.4	4.0	2.0	NA	NA
As a percentage of 3 days	77.38%	80.60%	131.90%	67.48%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$17,400	$11,600	$34,800	$5,800	NA	NA
- Total Equip Cost	$29,400	$23,600	$46,800	$17,800	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$3,168	$2,592	$4,896	$2,016	NA	NA
Total Capital Cost	$32,568	$26,192	$51,696	$19,816	NA	NA

Amtrak Route:	Sunset Limited		Route Number: #1-2			
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					
* All data on per car basis (unless noted otherwise)						
	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,728	$1,152	$3,456	$576	NA	NA
Annual spare parts cost per yr	$1,470	$1,180	$2,340	$890	NA	NA
Total- Oprtng Non-Trip Related	$3,198	$2,332	$5,796	$1,466	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.69	$0.66	$0.40	$0.79	NA	NA
- Pump out minutes	1.15	1.10	0.67	1.32	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.10	$2.02	$1.23	$2.41	NA	NA
Subtotal- End of Day/Trip Srvc	$38.79	$26.68	$73.64	$15.20	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$39	$27	$74	$15	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	26,572	6,132	19,856	1,752	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$5,663	$3,895	$10,751	$2,219	NA	NA
Annual Non-Trip Related per Car	$3,198	$2,332	$5,796	$1,466	NA	NA
Annual Oprtng Trip Related per Car Type	$515,345	$81,792	$731,058	$13,313	NA	NA
Annual Non-Trip Related per Car Type	$291,018	$48,972	$394,128	$8,796	NA	NA
Total OPRTNG COST per Car	$8,861	$6,227	$16,547	$3,685	NA	NA
Total CAPITAL COST per Car	$32,568	$26,192	$51,696	$19,816	NA	NA
Total OPRTNG COST for all cars	$806,363	$130,764	$1,125,186	$22,109	NA	NA
Total CAPITAL COST for all cars	$2,963,688	$550,032	$3,515,328	$118,896	NA	NA

Amtrak Route:	Sunset Limited	**Route Number:**	#1-2
Origin/Destination:	New Orleans-Los Angeles		
Length in Miles:	2,033		
Length in Hours:	43.00		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
Quantity of cars	4	1	3	1	NA	NA
Capacity (# people) - seated	75	72	44	86	NA	NA
Toilets per car	6	4	12	2	NA	NA
Average persons/toilet on train	12.5	18.0	3.7	43.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	33.68	32.33	19.76	38.61	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	197.4	189.5	115.8	226.3	NA	NA
Capacity Req'd/day (gals)	231.0	221.8	135.5	264.9	NA	NA
Adj. Capacity Req'd w/ Buffer	288.8	277.3	169.4	331.2	NA	NA
Tank Capacity per Car (gals)	150	100	300	100	NA	NA
Continuous Service Hours Supported	12	9	42	7	NA	NA
As a percentage of 72 hours	17%	12%	59%	10%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	0.5	0.4	1.8	0.3	NA	NA
As a percentage of 3 days	17.31%	12.02%	59.02%	10.07%	NA	NA
Consecutive Trips before pumpout	0.0	0.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$8,000	$24,000	$8,000	NA	NA
Toilet Cost per Car	$18,000	$12,000	$36,000	$6,000	NA	NA
- Total Equip Cost	$30,000	$20,000	$60,000	$14,000	NA	NA
Equipment Installation						
Collection System per Car	$864	$576	$1,728	$576	NA	NA
Toilet Cost per Car	$1,728	$1,152	$3,456	$576	NA	NA
- Total Installation Cost	$2,592	$1,728	$5,184	$1,152	NA	NA
Total Capital Cost	$32,592	$21,728	$65,184	$15,152	NA	NA

Amtrak Route:	Sunset Limited		**Route Number:**	#1-2		
Origin/Destination:	New Orleans-Los Angeles					
Length in Miles:	2,033					
Length in Hours:	43.00					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	34000 Coach Super	39940 Coach-HEP-HLV	32000 Sleeper Super	39970 Lounge-HEP-HLV	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$432	$288	$864	$144	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,728	$1,152	$3,456	$576	NA	NA
Annual spare parts cost per yr	$1,500	$1,000	$3,000	$700	NA	NA
Total- Oprtng Non-Trip Related	$3,228	$2,152	$6,456	$1,276	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$36	$24	$72	$12	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$7.11	$5.42	$12.60	$5.85	NA	NA
- Pump out minutes	1.35	2.03	0.00	2.75	NA	NA
- Connect/Disc. minutes	10.5	7.0	21.0	7.0	NA	NA
- Waste Disposal	$7.04	$6.76	$4.13	$8.07	NA	NA
Subtotal- End of Day/Trip Srvc	$50.15	$36.17	$88.73	$25.92	NA	NA
Train Delay:						
- Pump out volume req'd	150	100	300	100	NA	NA
- # of stops req'd	1	1	1	1	NA	NA
- Pump out minutes	2.5	1.7	5.0	1.7	NA	NA
- Connect/Disc. minutes	10.5	7.0	21.0	7.0	NA	NA
- Total Time Delay(mins/car)	13	9	26	9	NA	NA
Average Cost Per Delay	$8	$5	$16	$5	NA	NA
Subtotal- Oprtng Trip Related	$58	$41	$104	$31	NA	NA
Total # Cars in fleet	91	21	68	6	NA	NA
Total Annual Car-days	33,215	7,665	24,820	2,190	NA	NA
Adjusted Total Car-days	26,572	6,132	19,856	1,752	NA	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$8,460	$6,041	$15,232	$4,543	NA	NA
Annual Non-Trip Related per Car	$3,228	$2,152	$6,456	$1,276	NA	NA
Annual Oprtng Trip Related per Car Type	$769,892	$126,852	$1,035,773	$27,260	NA	NA
Annual Non-Trip Related per Car Type	$293,748	$45,192	$439,008	$7,656	NA	NA
Total OPRTNG COST per Car	$11,688	$8,193	$21,688	$5,819	NA	NA
Total CAPITAL COST per Car	$32,592	$21,728	$65,184	$15,152	NA	NA
Total OPRTNG COST for all cars	$1,063,640	$172,044	$1,474,781	$34,916	NA	NA
Total CAPITAL COST for all cars	$2,965,872	$456,288	$4,432,512	$90,912	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	25.2	27.7	49.1	47.3	NA	NA
Capacity Req'd/day (gals)	43.2	47.5	84.2	80.9	NA	NA
Adj. Capacity Req'd w/ Buffer	54.0	59.3	105.2	101.2	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	105	95	54	56	NA	NA
As a percentage of 72 hours	145%	132%	74%	77%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	4.4	4.0	2.2	2.3	NA	NA
As a percentage of 3 days	145.20%	132.00%	74.46%	77.44%	NA	NA
Consecutive Trips before pumpout	2.0	1.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$10,000	$30,000	$12,500	$15,000	NA	NA
- Total Equip Cost	$31,000	$51,000	$33,500	$36,000	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$33,592	$55,896	$36,380	$39,168	NA	NA

Amtrak Route:	California Zephyr		**Route Number:**	#5-6		
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,152	$3,456	$1,440	$1,728	NA	NA
Annual spare parts cost per yr	$1,550	$2,550	$1,675	$1,800	NA	NA
Total- Oprtng Non-Trip Related	$2,702	$6,006	$3,115	$3,528	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.43	$0.47	$0.84	$0.81	NA	NA
- Pump out minutes	0.72	0.79	1.40	1.35	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.56	$1.72	$3.05	$2.93	NA	NA
Subtotal- End of Day/Trip Srvc	$26.00	$74.20	$33.89	$39.74	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$26	$74	$34	$40	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	10,512	19,856	14,016	26,572	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,530	$7,222	$3,299	$3,868	NA	NA
Annual Non-Trip Related per Car	$2,702	$6,006	$3,115	$3,528	NA	NA
Annual Oprtng Trip Related per Car Type	$91,090	$491,076	$158,344	$352,012	NA	NA
Annual Non-Trip Related per Car Type	$97,272	$408,408	$149,520	$321,048	NA	NA
Total OPRTNG COST per Car	$5,232	$13,228	$6,414	$7,396	NA	NA
Total CAPITAL COST per Car	$33,592	$55,896	$36,380	$39,168	NA	NA
Total OPRTNG COST for all cars	$188,362	$899,484	$307,864	$673,060	NA	NA
Total CAPITAL COST for all cars	$1,209,312	$3,800,928	$1,746,240	$3,564,288	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	18.0	19.8	35.0	33.7	NA	NA
Adj. Capacity Req'd w/ Buffer	22.5	24.7	43.8	42.1	NA	NA
Tank Capacity per Car (gals)	54	162	67.5	81	NA	NA
Continuous Service Hours Supported	58	157	37	46	NA	NA
As a percentage of 72 hours	80%	219%	51%	64%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.4	6.6	1.5	1.9	NA	NA
As a percentage of 3 days	80.18%	218.67%	51.40%	64.14%	NA	NA
Consecutive Trips before pumpout	1.0	3.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$13,000	$39,000	$16,250	$19,500	NA	NA
- Total Equip Cost	$13,000	$39,000	$16,250	$19,500	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,152	$3,456	$1,440	$1,728	NA	NA
Total Capital Cost	$14,152	$42,456	$17,690	$21,228	NA	NA

Amtrak Route:	California Zephyr		**Route Number:** #5-6			
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$1,152	$3,456	$1,440	$1,728	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$4,608	$13,824	$5,760	$6,912	NA	NA
Annual spare parts cost per yr	$650	$1,950	$813	$975	NA	NA
Total- Oprtng Non-Trip Related	$5,258	$15,774	$6,573	$7,887	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.18	$0.20	$10.50	$12.60	NA	NA
- Pump out minutes	0.30	0.33	0.00	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Waste Disposal	$0.84	$0.93	$1.64	$1.58	NA	NA
Subtotal- End of Day/Trip Srvc	$25.02	$73.12	$42.14	$50.18	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	68	81	NA	NA
- # of stops req'd	0	0	1	1	NA	NA
- Pump out minutes	0.0	0.0	1.1	1.4	NA	NA
- Connect/Disc. minutes	0.0	0.0	17.5	21.0	NA	NA
- Total Time Delay(mins/car)	0	0	19	22	NA	NA
Average Cost Per Delay	$0	$0	$11	$13	NA	NA
Subtotal- Oprtng Trip Related	$25	$73	$53	$64	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	10,512	19,856	14,016	26,572	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,435	$7,117	$5,190	$6,189	NA	NA
Annual Non-Trip Related per Car	$5,258	$15,774	$6,573	$7,887	NA	NA
Annual Oprtng Trip Related per Car Type	$87,677	$483,985	$249,100	$563,234	NA	NA
Annual Non-Trip Related per Car Type	$189,288	$1,072,632	$315,480	$717,717	NA	NA
Total OPRTNG COST per Car	$7,693	$22,891	$11,762	$14,076	NA	NA
Total CAPITAL COST per Car	$14,152	$42,456	$17,690	$21,228	NA	NA
Total OPRTNG COST for all cars	$276,965	$1,556,617	$564,580	$1,280,951	NA	NA
Total CAPITAL COST for all cars	$509,472	$2,887,008	$849,120	$1,931,748	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	68.8	75.7	134.2	129.0	NA	NA
Capacity Req'd/day (gals)	86.8	95.4	169.2	162.7	NA	NA
Adj. Capacity Req'd w/Buffer	108.5	119.3	211.5	203.3	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	66	60	34	35	NA	NA
As a percentage of 72 hours	92%	84%	47%	49%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	2.8	2.5	1.4	1.5	NA	NA
As a percentage of 3 days	92.21%	83.83%	47.29%	49.18%	NA	NA
Consecutive Trips before pumpout	1.0	1.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$20,000	$60,000	$25,000	$30,000	NA	NA
- Total Equip Cost	$30,000	$70,000	$35,000	$40,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$4,032	$2,016	$2,304	NA	NA
Total Capital Cost	$31,728	$74,032	$37,016	$42,304	NA	NA

Amtrak Route:	California Zephyr		**Route Number:** #5-6			
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,152	$3,456	$1,440	$1,728	NA	NA
Annual spare parts cost per yr	$1,500	$3,500	$1,750	$2,000	NA	NA
Total- Oprtng Non-Trip Related	$2,652	$6,956	$3,190	$3,728	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.87	$0.95	$0.00	$0.00	NA	NA
- Pump out minutes	1.45	1.59	0.00	0.00	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$3.14	$3.46	$6.13	$5.90	NA	NA
Subtotal- End of Day/Trip Srvc	$28.01	$76.41	$36.13	$41.90	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	300	300	NA	NA
- # of stops req'd	0	0	1	1	NA	NA
- Pump out minutes	0.0	0.0	5.0	5.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	5	5	NA	NA
Average Cost Per Delay	$0	$0	$3	$3	NA	NA
Subtotal- Oprtng Trip Related	$28	$76	$39	$45	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	10,512	19,856	14,016	26,572	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,727	$7,438	$3,809	$4,370	NA	NA
Annual Non-Trip Related per Car	$2,652	$6,956	$3,190	$3,728	NA	NA
Annual Oprtng Trip Related per Car Type	$98,155	$505,755	$182,825	$397,661	NA	NA
Annual Non-Trip Related per Car Type	$95,472	$473,008	$153,120	$339,248	NA	NA
Total OPRTNG COST per Car	$5,379	$14,394	$6,999	$8,098	NA	NA
Total CAPITAL COST per Car	$31,728	$74,032	$37,016	$42,304	NA	NA
Total OPRTNG COST for all cars	$193,627	$978,763	$335,945	$736,909	NA	NA
Total CAPITAL COST for all cars	$1,142,208	$5,034,176	$1,776,768	$3,849,664	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	18.8	20.7	36.7	35.3	NA	NA
Capacity Req'd/day (gals)	36.8	40.4	71.7	68.9	NA	NA
Adj. Capacity Req'd w/ Buffer	46.0	50.5	89.6	86.2	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	104	95	54	56	NA	NA
As a percentage of 72 hours	145%	132%	74%	77%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	4.4	4.0	2.2	2.3	NA	NA
As a percentage of 3 days	145.09%	131.90%	74.40%	77.38%	NA	NA
Consecutive Trips before pumpout	2.0	1.0	1.0	1.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$11,600	$34,800	$14,500	$17,400	NA	NA
- Total Equip Cost	$23,600	$46,800	$26,500	$29,400	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$2,592	$4,896	$2,880	$3,168	NA	NA
Total Capital Cost	$26,192	$51,696	$29,380	$32,568	NA	NA

Amtrak Route:	California Zephyr		Route Number: #5-6			
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					
* All data on per car basis (unless noted otherwise)						
	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,152	$3,456	$1,440	$1,728	NA	NA
Annual spare parts cost per yr	$1,180	$2,340	$1,325	$1,470	NA	NA
Total- Oprtng Non-Trip Related	$2,332	$5,796	$2,765	$3,198	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.37	$0.40	$0.72	$0.69	NA	NA
- Pump out minutes	0.61	0.67	1.19	1.15	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.33	$1.47	$2.60	$2.50	NA	NA
Subtotal- End of Day/Trip Srvc	$25.70	$73.87	$33.31	$39.19	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$26	$74	$33	$39	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	10,512	19,856	14,016	26,572	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$2,501	$7,190	$3,243	$3,814	NA	NA
Annual Non-Trip Related per Car	$2,332	$5,796	$2,765	$3,198	NA	NA
Annual Oprtng Trip Related per Car Type	$90,053	$488,921	$155,648	$347,096	NA	NA
Annual Non-Trip Related per Car Type	$83,952	$394,128	$132,720	$291,018	NA	NA
Total OPRTNG COST per Car	$4,833	$12,986	$6,008	$7,012	NA	NA
Total CAPITAL COST per Car	$26,192	$51,696	$29,380	$32,568	NA	NA
Total OPRTNG COST for all cars	$174,005	$883,049	$288,368	$638,114	NA	NA
Total CAPITAL COST for all cars	$942,912	$3,515,328	$1,410,240	$2,963,688	NA	NA

Amtrak Route:	California Zephyr	**Route Number:**	#5-6
Origin/Destination:	Chicago-Oakland		
Length in Miles:	2,422		
Length in Hours:	51.17		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
Quantity of cars	1	3	3	5	NA	NA
Capacity (# people) - seated	40	44	78	75	NA	NA
Toilets per car	4	12	5	6	NA	NA
Average persons/toilet on train	10.0	3.7	15.6	12.5	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	17.96	19.76	35.02	33.68	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	105.3	115.8	205.3	197.4	NA	NA
Capacity Req'd/day (gals)	123.2	135.5	240.3	231.0	NA	NA
Adj. Capacity Req'd w/ Buffer	154.0	169.4	300.4	288.8	NA	NA
Tank Capacity per Car (gals)	100	300	150	150	NA	NA
Continuous Service Hours Supported	16	42	12	12	NA	NA
As a percentage of 72 hours	22%	59%	17%	17%	NA	NA
Probable Service Hours per Day	24	24	24	24	24	24
Service Days Supported	0.6	1.8	0.5	0.5	NA	NA
As a percentage of 3 days	21.64%	59.02%	16.65%	17.31%	NA	NA
Consecutive Trips before pumpout	0.0	0.0	0.0	0.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$24,000	$12,000	$12,000	NA	NA
Toilet Cost per Car	$12,000	$36,000	$15,000	$18,000	NA	NA
- Total Equip Cost	$20,000	$60,000	$27,000	$30,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$1,728	$864	$864	NA	NA
Toilet Cost per Car	$1,152	$3,456	$1,440	$1,728	NA	NA
- Total Installation Cost	$1,728	$5,184	$2,304	$2,592	NA	NA
Total Capital Cost	$21,728	$65,184	$29,304	$32,592	NA	NA

Amtrak Route:	California Zephyr		Route Number: #5-6			
Origin/Destination:	Chicago-Oakland					
Length in Miles:	2,422					
Length in Hours:	51.17					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	39900 Trans Dorm Coach	32000 Sleeper Super	31000 Bag Coach Super	34000 Coach Super	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$864	$360	$432	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,152	$3,456	$1,440	$1,728	NA	NA
Annual spare parts cost per yr	$1,000	$3,000	$1,350	$1,500	NA	NA
Total- Oprtng Non-Trip Related	$2,152	$6,456	$2,790	$3,228	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$24	$72	$30	$36	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.43	$12.60	$7.20	$7.11	NA	NA
- Pump out minutes	0.39	0.00	1.50	1.35	NA	NA
- Connect/Disc. minutes	7.0	21.0	10.5	10.5	NA	NA
- Waste Disposal	$4.47	$4.91	$8.71	$8.37	NA	NA
Subtotal- End of Day/Trip Srvc	$32.90	$89.51	$45.91	$51.48	NA	NA
Train Delay:						
- Pump out volume req'd	100	300	150	150	NA	NA
- # of stops req'd	1	1	1	1	NA	NA
- Pump out minutes	1.7	5.0	2.5	2.5	NA	NA
- Connect/Disc. minutes	7.0	21.0	10.5	10.5	NA	NA
- Total Time Delay(mins/car)	9	26	13	13	NA	NA
Average Cost Per Delay	$5	$16	$8	$8	NA	NA
Subtotal- Oprtng Trip Related	$38	$105	$54	$59	NA	NA
Total # Cars in fleet	36	68	48	91	NA	NA
Total Annual Car-days	13,140	24,820	17,520	33,215	NA	NA
Adjusted Total Car-days	10,512	19,856	14,016	26,572	NA	NA
Days per Trip (min. of 1)	3	3	3	3	3	3
Annual Oprtng Trip Related per Car	$3,708	$10,231	$5,228	$5,770	NA	NA
Annual Non-Trip Related per Car	$2,152	$6,456	$2,790	$3,228	NA	NA
Annual Oprtng Trip Related per Car Type	$133,497	$695,707	$250,943	$525,104	NA	NA
Annual Non-Trip Related per Car Type	$77,472	$439,008	$133,920	$293,748	NA	NA
Total OPRTNG COST per Car	$5,860	$16,687	$8,018	$8,998	NA	NA
Total CAPITAL COST per Car	$21,728	$65,184	$29,304	$32,592	NA	NA
Total OPRTNG COST for all cars	$210,969	$1,134,715	$384,863	$818,852	NA	NA
Total CAPITAL COST for all cars	$782,208	$4,432,512	$1,406,592	$2,965,872	NA	NA

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	51.7	30.2	27.7	29.0	30.9	13.9
Capacity Req'd/day (gals)	67.6	39.6	36.3	37.9	40.4	18.1
Adj. Capacity Req'd w/ Buffer	84.5	49.4	45.3	47.4	50.5	22.7
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	67	114	124	119	112	249
As a percentage of 72 hours	93%	158%	173%	165%	155%	346%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	3.6	6.2	6.8	6.5	6.1	13.6
As a percentage of 3 days	121.42%	207.43%	226.29%	216.45%	203.20%	452.57%
Consecutive Trips before pumpout	3.0	6.0	6.0	6.0	6.0	13.0
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$7,500	$5,000	$5,000	$42,500
- Total Equip Cost	$26,000	$26,000	$28,500	$26,000	$26,000	$63,500
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$864	$576	$576	$4,896
Annual spare parts cost per yr	$1,300	$1,300	$1,425	$1,300	$1,300	$3,175
Total- Oprtng Non-Trip Related	$1,876	$1,876	$2,289	$1,876	$1,876	$8,071
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.68	$0.40	$0.36	$0.38	$0.40	$0.18
- Pump out minutes	1.13	0.66	0.60	0.63	0.67	0.30
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$1.15	$0.67	$0.62	$0.64	$0.69	$0.31
Subtotal- End of Day/Trip Srvc	$13.82	$13.07	$18.98	$13.02	$13.09	$102.49
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$14	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	30,076	22,776	6,132	3,504	7,300	23,944
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,037	$3,816	$5,542	$3,803	$3,822	$29,927
Annual Non-Trip Related per Car	$1,876	$1,876	$2,289	$1,876	$1,876	$8,071
Annual Oprtng Trip Related per Car Type	$415,786	$297,637	$116,379	$45,634	$95,559	$2,454,009
Annual Non-Trip Related per Car Type	$193,228	$146,328	$48,069	$22,512	$46,900	$661,822
Total OPRTNG COST per Car	$5,913	$5,692	$7,831	$5,679	$5,698	$37,998
Total CAPITAL COST per Car	$28,016	$28,016	$30,804	$28,016	$28,016	$69,836
Total OPRTNG COST for all cars	$609,014	$443,965	$164,448	$68,146	$142,459	$3,115,831
Total CAPITAL COST for all cars	$2,885,648	$2,185,248	$646,884	$336,192	$700,400	$5,726,552

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Req'd/day (gals)	28.1	16.5	15.1	15.8	16.8	7.5
Adj. Capacity Req'd w/ Buffer	35.1	20.6	18.9	19.7	21.0	9.4
Tank Capacity per Car (gals)	27	27	40.5	27	27	229.5
Continuous Service Hours Supported	18	31	52	33	31	584
As a percentage of 72 hours	26%	44%	72%	46%	43%	811%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	1.0	1.7	2.8	1.8	1.7	31.9
As a percentage of 3 days	33.53%	57.27%	93.72%	59.76%	56.10%	1062.14%
Consecutive Trips before pumpout	1.0	1.0	2.0	1.0	1.0	31.0
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
- Total Equip Cost	$6,500	$6,500	$9,750	$6,500	$6,500	$55,250
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$576	$576	$864	$576	$576	$4,896
Total Capital Cost	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$864	$576	$576	$4,896
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$2,304	$2,304	$3,456	$2,304	$2,304	$19,584
Annual spare parts cost per yr	$325	$325	$488	$325	$325	$2,763
Total- Oprtng Non-Trip Related	$2,629	$2,629	$3,944	$2,629	$2,629	$22,347
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.28	$0.16	$0.15	$0.16	$0.17	$0.08
- Pump out minutes	0.47	0.27	0.25	0.26	0.28	0.13
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.62	$0.36	$0.33	$0.35	$0.37	$0.17
Subtotal- End of Day/Trip Srvc	$12.90	$12.53	$18.48	$12.50	$12.54	$102.24
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$13	$13	$18	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	30,076	22,776	6,132	3,504	7,300	23,944
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,767	$3,658	$5,397	$3,651	$3,661	$29,854
Annual Non-Trip Related per Car	$2,629	$2,629	$3,944	$2,629	$2,629	$22,347
Annual Oprtng Trip Related per Car Type	$387,975	$285,309	$113,337	$43,817	$91,525	$2,448,069
Annual Non-Trip Related per Car Type	$270,787	$205,062	$82,814	$31,548	$65,725	$1,832,413
Total OPRTNG COST per Car	$6,396	$6,287	$9,340	$6,280	$6,290	$52,201
Total CAPITAL COST per Car	$7,076	$7,076	$10,614	$7,076	$7,076	$60,146
Total OPRTNG COST for all cars	$658,762	$490,371	$196,150	$75,365	$157,250	$4,280,482
Total CAPITAL COST for all cars	$728,828	$551,928	$222,894	$84,912	$176,900	$4,931,972

Amtrak Route:	City of New Orleans	Route Number:	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	141.0	82.6	75.7	79.1	84.3	37.8
Capacity Req'd/day (gals)	135.8	79.5	72.9	76.2	81.2	36.4
Adj. Capacity Req'd w/ Buffer	169.8	99.4	91.1	95.3	101.5	45.6
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	42	72	79	76	71	158
As a percentage of 72 hours	59%	101%	110%	105%	99%	220%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	2.3	4.0	4.3	4.1	3.9	8.6
As a percentage of 3 days	77.11%	131.73%	143.71%	137.46%	129.04%	287.41%
Consecutive Trips before pumpout	2.0	3.0	4.0	4.0	3.0	8.0
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$15,000	$10,000	$10,000	$85,000
- Total Equip Cost	$20,000	$20,000	$25,000	$20,000	$20,000	$95,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$5,472
Total Capital Cost	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$864	$576	$576	$4,896
Annual spare parts cost per yr	$1,000	$1,000	$1,250	$1,000	$1,000	$4,750
Total- Oprtng Non-Trip Related	$1,576	$1,576	$2,114	$1,576	$1,576	$9,646
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.36	$0.80	$0.73	$0.76	$0.81	$0.36
- Pump out minutes	2.26	1.33	1.21	1.27	1.35	0.61
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$2.31	$1.35	$1.24	$1.30	$1.38	$0.62
Subtotal- End of Day/Trip Srvc	$15.67	$14.15	$19.97	$14.06	$14.19	$102.98
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$16	$14	$20	$14	$14	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	30,076	22,776	6,132	3,504	7,300	23,944
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,575	$4,131	$5,831	$4,105	$4,144	$30,071
Annual Non-Trip Related per Car	$1,576	$1,576	$2,114	$1,576	$1,576	$9,646
Annual Oprtng Trip Related per Car Type	$471,220	$322,210	$122,444	$49,257	$103,599	$2,465,849
Annual Non-Trip Related per Car Type	$162,328	$122,928	$44,394	$18,912	$39,400	$790,972
Total OPRTNG COST per Car	$6,151	$5,707	$7,945	$5,681	$5,720	$39,717
Total CAPITAL COST per Car	$21,152	$21,152	$26,440	$21,152	$21,152	$100,472
Total OPRTNG COST for all cars	$633,548	$445,138	$166,838	$68,169	$142,999	$3,256,821
Total CAPITAL COST for all cars	$2,178,656	$1,649,856	$555,240	$253,824	$528,800	$8,238,704

Amtrak Route:	City of New Orleans	Route Number:	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	38.5	22.6	20.7	21.6	23.0	10.3
Capacity Req'd/day (gals)	57.6	33.7	30.9	32.3	34.4	15.4
Adj. Capacity Req'd w/ Buffer	71.9	42.1	38.6	40.4	43.0	19.3
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	67	114	124	119	112	249
As a percentage of 72 hours	93%	158%	173%	165%	155%	345%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	3.6	6.2	6.8	6.5	6.1	13.6
As a percentage of 3 days	121.33%	207.27%	226.11%	216.28%	203.04%	452.23%
Consecutive Trips before pumpout	3.0	6.0	6.0	6.0	6.0	13.0
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$8,700	$5,800	$5,800	$49,300
- Total Equip Cost	$17,800	$17,800	$20,700	$17,800	$17,800	$61,300
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$2,016	$2,016	$2,304	$2,016	$2,016	$6,336
Total Capital Cost	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$864	$576	$576	$4,896
Annual spare parts cost per yr	$890	$890	$1,035	$890	$890	$3,065
Total- Oprtng Non-Trip Related	$1,466	$1,466	$1,899	$1,466	$1,466	$7,961
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.58	$0.34	$0.31	$0.32	$0.34	$0.15
- Pump out minutes	0.96	0.56	0.51	0.54	0.57	0.26
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Waste Disposal	$0.98	$0.57	$0.53	$0.55	$0.58	$0.26
Subtotal- End of Day/Trip Srvc	$13.55	$12.91	$18.83	$12.87	$12.93	$102.42
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	0
- # of stops req'd	0	0	0	0	0	0
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	0.0
- Total Time Delay(mins/car)	0	0	0	0	0	0
Average Cost Per Delay	$0	$0	$0	$0	$0	$0
Subtotal- Oprtng Trip Related	$14	$13	$19	$13	$13	$102
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	30,076	22,776	6,132	3,504	7,300	23,944
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,958	$3,770	$5,499	$3,759	$3,775	$29,906
Annual Non-Trip Related per Car	$1,466	$1,466	$1,899	$1,466	$1,466	$7,961
Annual Oprtng Trip Related per Car Type	$407,649	$294,030	$115,489	$45,103	$94,379	$2,452,271
Annual Non-Trip Related per Car Type	$150,998	$114,348	$39,879	$17,592	$36,650	$652,802
Total OPRTNG COST per Car	$5,424	$5,236	$7,398	$5,225	$5,241	$37,867
Total CAPITAL COST per Car	$19,816	$19,816	$23,004	$19,816	$19,816	$67,636
Total OPRTNG COST for all cars	$558,647	$408,378	$155,368	$62,695	$131,029	$3,105,073
Total CAPITAL COST for all cars	$2,041,048	$1,545,648	$483,084	$237,792	$495,400	$5,546,152

Amtrak Route:	City of New Orleans	**Route Number:**	#58
Origin/Destination:	New Orleans-Chicago		
Length in Miles:	924		
Length in Hours:	18.33		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
Quantity of cars	1	4	1	1	1	1
Capacity (# people) - seated	82	48	44	46	49	22
Toilets per car	2	2	3	2	2	17
Average persons/toilet on train	41.0	24.0	14.7	23.0	24.5	1.3
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	36.82	21.55	19.76	20.65	22.00	9.88
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	215.8	126.3	115.8	121.1	128.9	57.9
Capacity Req'd/day (gals)	192.9	112.9	103.5	108.2	115.3	51.8
Adj. Capacity Req'd w/ Buffer	241.2	141.2	129.4	135.3	144.1	64.7
Tank Capacity per Car (gals)	100	100	100	100	100	450
Continuous Service Hours Supported	10	17	19	18	17	167
As a percentage of 72 hours	14%	24%	26%	25%	23%	232%
Probable Service Hours per Day	18.33	18.33	18.33	18.33	18.33	18.33
Service Days Supported	0.5	0.9	1.0	1.0	0.9	9.1
As a percentage of 3 days	18.10%	30.92%	33.73%	32.26%	30.29%	303.55%
Consecutive Trips before pumpout	0.0	0.0	1.0	0.0	0.0	9.0
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	$8,000	$8,000	$36,000
Toilet Cost per Car	$6,000	$6,000	$9,000	$6,000	$6,000	$51,000
- Total Equip Cost	$14,000	$14,000	$17,000	$14,000	$14,000	$87,000
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$2,592
Toilet Cost per Car	$576	$576	$864	$576	$576	$4,896
- Total Installation Cost	$1,152	$1,152	$1,440	$1,152	$1,152	$7,488
Total Capital Cost	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488

Amtrak Route:	City of New Orleans		Route Number: #58			
Origin/Destination:	New Orleans-Chicago					
Length in Miles:	924					
Length in Hours:	18.33					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	54000 Horizon	4600 Coach	4000 Coach (HDCP)	9400 Dome Coach	28000 Amlounge II	2400(30) Sleeper 10-6
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$216	$144	$144	$1,224
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$864	$576	$576	$4,896
Annual spare parts cost per yr	$700	$700	$850	$700	$700	$4,350
Total- Oprtng Non-Trip Related	$1,276	$1,276	$1,714	$1,276	$1,276	$9,246
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$18	$12	$12	$102
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$5.13	$4.33	$1.04	$4.28	$4.35	$0.52
- Pump out minutes	1.55	0.22	1.73	0.14	0.25	0.86
- Connect/Disc. minutes	7.0	7.0	0.0	7.0	7.0	0.0
- Waste Disposal	$3.28	$1.92	$1.76	$1.84	$1.96	$0.88
Subtotal- End of Day/Trip Srvc	$20.41	$18.25	$20.80	$18.12	$18.31	$103.40
Train Delay:						
- Pump out volume req'd	100	100	0	100	100	0
- # of stops req'd	1	1	0	1	1	0
- Pump out minutes	1.7	1.7	0.0	1.7	1.7	0.0
- Connect/Disc. minutes	7.0	7.0	0.0	7.0	7.0	0.0
- Total Time Delay(mins/car)	9	9	0	9	9	0
Average Cost Per Delay	$5	$5	$0	$5	$5	$0
Subtotal- Oprtng Trip Related	$26	$23	$21	$23	$24	$103
Total # Cars in fleet	103	78	21	12	25	82
Total Annual Car-days	37,595	28,470	7,665	4,380	9,125	29,930
Adjusted Total Car-days	30,076	22,776	6,132	3,504	7,300	23,944
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$7,478	$6,847	$6,072	$6,810	$6,866	$30,192
Annual Non-Trip Related per Car	$1,276	$1,276	$1,714	$1,276	$1,276	$9,246
Annual Oprtng Trip Related per Car Type	$770,219	$534,079	$127,516	$81,721	$171,643	$2,475,751
Annual Non-Trip Related per Car Type	$131,428	$99,528	$35,994	$15,312	$31,900	$758,172
Total OPRTNG COST per Car	$8,754	$8,123	$7,786	$8,086	$8,142	$39,438
Total CAPITAL COST per Car	$15,152	$15,152	$18,440	$15,152	$15,152	$94,488
Total OPRTNG COST for all cars	$901,647	$633,607	$163,510	$97,033	$203,543	$3,233,923
Total CAPITAL COST for all cars	$1,560,656	$1,181,856	$387,240	$181,824	$378,800	$7,748,016

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	37.2	30.9	13.9	25.2	21.4	NA
Capacity Req'd/day (gals)	61.8	51.3	23.0	41.9	35.6	NA
Adj. Capacity Req'd w/ Buffer	77.2	64.1	28.8	52.3	44.5	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	73	88	196	108	127	NA
As a percentage of 72 hours	101%	122%	272%	150%	176%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	3.1	3.8	8.4	4.6	5.4	NA
As a percentage of 3 days	104.62%	125.97%	280.58%	154.32%	181.55%	NA
Consecutive Trips before pumpout	3.0	3.0	8.0	4.0	5.0	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$42,500	$80,000	$42,500	NA
- Total Equip Cost	$26,000	$26,000	$63,500	$101,000	$63,500	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$28,016	$28,016	$69,836	$111,656	$69,836	NA

Amtrak Route:	Silver Meteor		**Route Number:**	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Modified Vacuum					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$4,896	$9,216	$4,896	NA
Annual spare parts cost per yr	$1,300	$1,300	$3,175	$5,050	$3,175	NA
Total- Oprtng Non-Trip Related	$1,876	$1,876	$8,071	$14,266	$8,071	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.62	$0.51	$0.23	$0.42	$0.36	NA
- Pump out minutes	1.03	0.85	0.38	0.70	0.59	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$1.05	$0.87	$0.39	$0.71	$0.60	NA
Subtotal- End of Day/Trip Srvc	$13.67	$13.38	$102.62	$193.13	$102.96	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$14	$13	$103	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	34,748	7,300	23,944	4,672	584	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,995	$1,954	$14,983	$28,197	$15,032	NA
Annual Non-Trip Related per Car	$1,876	$1,876	$8,071	$14,266	$8,071	NA
Annual Oprtng Trip Related per Car Type	$237,455	$48,854	$1,228,587	$451,153	$30,065	NA
Annual Non-Trip Related per Car Type	$223,244	$46,900	$661,822	$228,256	$16,142	NA
Total OPRTNG COST per Car	$3,871	$3,830	$23,054	$42,463	$23,103	NA
Total CAPITAL COST per Car	$28,016	$28,016	$69,836	$111,656	$69,836	NA
Total OPRTNG COST for all cars	$460,699	$95,754	$1,890,409	$679,409	$46,207	NA
Total CAPITAL COST for all cars	$3,333,904	$700,400	$5,726,552	$1,786,496	$139,672	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	0.0	NA
Capacity Req'd/day (gals)	25.7	21.3	9.6	17.4	14.8	NA
Adj. Capacity Req'd w/ Buffer	32.1	26.7	12.0	21.8	18.5	NA
Tank Capacity per Car (gals)	27	27	229.5	432	229.5	NA
Continuous Service Hours Supported	20	24	460	476	298	NA
As a percentage of 72 hours	28%	34%	639%	661%	413%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.9	1.0	19.8	20.5	12.8	NA
As a percentage of 3 days	28.89%	34.78%	658.47%	681.71%	426.07%	NA
Consecutive Trips before pumpout	0.0	1.0	19.0	20.0	12.0	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$55,250	$104,000	$55,250	NA
- Total Equip Cost	$6,500	$6,500	$55,250	$104,000	$55,250	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$576	$576	$4,896	$9,216	$4,896	NA
Total Capital Cost	$7,076	$7,076	$60,146	$113,216	$60,146	NA

Amtrak Route:	Silver Meteor		Route Number:	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$4,896	$9,216	$4,896	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$2,304	$2,304	$19,584	$36,864	$19,584	NA
Annual spare parts cost per yr	$325	$325	$2,763	$5,200	$2,763	NA
Total- Oprtng Non-Trip Related	$2,629	$2,629	$22,347	$42,064	$22,347	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.20	$0.21	$0.10	$0.17	$0.15	NA
- Pump out minutes	0.00	0.36	0.16	0.29	0.25	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.57	$0.47	$0.21	$0.38	$0.33	NA
Subtotal- End of Day/Trip Srvc	$16.77	$12.68	$102.31	$192.56	$102.47	NA
Train Delay:						
- Pump out volume req'd	27	0	0	0	0	NA
- # of stops req'd	1	0	0	0	0	NA
- Pump out minutes	0.5	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	7	0	0	0	0	NA
Average Cost Per Delay	$4	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$21	$13	$102	$193	$102	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	34,748	7,300	23,944	4,672	584	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$3,100	$1,852	$14,937	$28,113	$14,961	NA
Annual Non-Trip Related per Car	$2,629	$2,629	$22,347	$42,064	$22,347	NA
Annual Oprtng Trip Related per Car Type	$368,942	$46,293	$1,224,815	$449,814	$29,922	NA
Annual Non-Trip Related per Car Type	$312,851	$65,725	$1,832,413	$673,024	$44,693	NA
Total OPRTNG COST per Car	$5,729	$4,481	$37,283	$70,177	$37,308	NA
Total CAPITAL COST per Car	$7,076	$7,076	$60,146	$113,216	$60,146	NA
Total OPRTNG COST for all cars	$681,793	$112,018	$3,057,228	$1,122,838	$74,615	NA
Total CAPITAL COST for all cars	$842,044	$176,900	$4,931,972	$1,811,456	$120,292	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	101.5	84.3	37.8	68.8	58.5	NA
Capacity Req'd/day (gals)	124.1	103.1	46.3	84.2	71.5	NA
Adj. Capacity Req'd w/ Buffer	155.2	128.9	57.9	105.2	89.4	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	46	56	124	68	81	NA
As a percentage of 72 hours	64%	78%	173%	95%	112%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	2.0	2.4	5.3	2.9	3.5	NA
As a percentage of 3 days	66.44%	80.00%	178.18%	98.00%	115.29%	NA
Consecutive Trips before pumpout	1.0	2.0	5.0	2.0	3.0	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$85,000	$160,000	$85,000	NA
- Total Equip Cost	$20,000	$20,000	$95,000	$170,000	$95,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$5,472	$9,792	$5,472	NA
Total Capital Cost	$21,152	$21,152	$100,472	$179,792	$100,472	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$4,896	$9,216	$4,896	NA
Annual spare parts cost per yr	$1,000	$1,000	$4,750	$8,500	$4,750	NA
Total- Oprtng Non-Trip Related	$1,576	$1,576	$9,646	$17,716	$9,646	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.24	$1.03	$0.46	$0.84	$0.72	NA
- Pump out minutes	2.07	1.72	0.77	1.40	1.19	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$2.11	$1.75	$0.79	$1.43	$1.22	NA
Subtotal- End of Day/Trip Srvc	$15.35	$14.78	$103.25	$194.27	$103.93	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$15	$15	$103	$194	$104	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	34,748	7,300	23,944	4,672	584	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$2,241	$2,158	$15,074	$28,364	$15,174	NA
Annual Non-Trip Related per Car	$1,576	$1,576	$9,646	$17,716	$9,646	NA
Annual Oprtng Trip Related per Car Type	$266,718	$53,960	$1,236,106	$453,820	$30,348	NA
Annual Non-Trip Related per Car Type	$187,544	$39,400	$790,972	$283,456	$19,292	NA
Total OPRTNG COST per Car	$3,817	$3,734	$24,720	$46,080	$24,820	NA
Total CAPITAL COST per Car	$21,152	$21,152	$100,472	$179,792	$100,472	NA
Total OPRTNG COST for all cars	$454,262	$93,360	$2,027,078	$737,276	$49,640	NA
Total CAPITAL COST for all cars	$2,517,088	$528,800	$8,238,704	$2,876,672	$200,944	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	27.7	23.0	10.3	18.8	16.0	NA
Capacity Req'd/day (gals)	52.6	43.7	19.6	35.7	30.3	NA
Adj. Capacity Req'd w/ Buffer	65.7	54.6	24.5	44.6	37.9	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	73	88	196	108	127	NA
As a percentage of 72 hours	101%	122%	272%	150%	176%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	3.1	3.8	8.4	4.6	5.4	NA
As a percentage of 3 days	104.54%	125.88%	280.36%	154.20%	181.41%	NA
Consecutive Trips before pumpout	3.0	3.0	8.0	4.0	5.0	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$49,300	$92,800	$49,300	NA
- Total Equip Cost	$17,800	$17,800	$61,300	$104,800	$61,300	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$2,016	$2,016	$6,336	$10,656	$6,336	NA
Total Capital Cost	$19,816	$19,816	$67,636	$115,456	$67,636	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$4,896	$9,216	$4,896	NA
Annual spare parts cost per yr	$890	$890	$3,065	$5,240	$3,065	NA
Total- Oprtng Non-Trip Related	$1,466	$1,466	$7,961	$14,456	$7,961	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.53	$0.44	$0.20	$0.36	$0.30	NA
- Pump out minutes	0.88	0.73	0.33	0.59	0.51	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Waste Disposal	$0.89	$0.74	$0.33	$0.61	$0.52	NA
Subtotal- End of Day/Trip Srvc	$13.42	$13.18	$102.53	$192.96	$102.82	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	0	NA
- # of stops req'd	0	0	0	0	0	NA
- Pump out minutes	0.0	0.0	0.0	0.0	0.0	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	0	0	0	0	0	NA
Average Cost Per Delay	$0	$0	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$13	$13	$103	$193	$103	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	34,748	7,300	23,944	4,672	584	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$1,959	$1,924	$14,969	$28,173	$15,011	NA
Annual Non-Trip Related per Car	$1,466	$1,466	$7,961	$14,456	$7,961	NA
Annual Oprtng Trip Related per Car Type	$233,160	$48,105	$1,227,483	$450,761	$30,023	NA
Annual Non-Trip Related per Car Type	$174,454	$36,650	$652,802	$231,296	$15,922	NA
Total OPRTNG COST per Car	$3,425	$3,390	$22,930	$42,629	$22,972	NA
Total CAPITAL COST per Car	$19,816	$19,816	$67,636	$115,456	$67,636	NA
Total OPRTNG COST for all cars	$407,614	$84,755	$1,880,285	$682,057	$45,945	NA
Total CAPITAL COST for all cars	$2,358,104	$495,400	$5,546,152	$1,847,296	$135,272	NA

Amtrak Route:	Silver Meteor	**Route Number:**	#87-88
Origin/Destination:	New York-Tampa		
Length in Miles:	1,270		
Length in Hours:	23.28		
Expected Trips per Day:	1		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
Quantity of cars	7	1	2	1	1	NA
Capacity (# people) - seated	59	49	22	40	34	NA
Toilets per car	2	2	17	32	17	NA
Average persons/toilet on train	29.5	24.5	1.3	1.3	2.0	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	26.49	22.00	9.88	17.96	15.27	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	155.3	128.9	57.9	105.3	89.5	NA
Capacity Req'd/day (gals)	176.3	146.4	65.7	119.5	101.6	NA
Adj. Capacity Req'd w/ Buffer	220.4	183.0	82.2	149.4	127.0	NA
Tank Capacity per Car (gals)	100	100	450	800	450	NA
Continuous Service Hours Supported	11	13	131	129	85	NA
As a percentage of 72 hours	15%	18%	183%	178%	118%	NA
Probable Service Hours per Day	23.28	23.28	23.28	23.28	23.28	23.28
Service Days Supported	0.5	0.6	5.6	5.5	3.7	NA
As a percentage of 3 days	15.59%	18.78%	188.18%	184.00%	121.77%	NA
Consecutive Trips before pumpout	0.0	0.0	5.0	5.0	3.0	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$36,000	$64,000	$36,000	NA
Toilet Cost per Car	$6,000	$6,000	$51,000	$96,000	$51,000	NA
- Total Equip Cost	$14,000	$14,000	$87,000	$160,000	$87,000	NA
Equipment Installation						
Collection System per Car	$576	$576	$2,592	$4,608	$2,592	NA
Toilet Cost per Car	$576	$576	$4,896	$9,216	$4,896	NA
- Total Installation Cost	$1,152	$1,152	$7,488	$13,824	$7,488	NA
Total Capital Cost	$15,152	$15,152	$94,488	$173,824	$94,488	NA

Amtrak Route:	Silver Meteor		**Route Number:**	#87-88		
Origin/Destination:	New York-Tampa					
Length in Miles:	1,270					
Length in Hours:	23.28					
Expected Trips per Day:	1					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	25000 Amcoach II	28000 Amlounge II	2400(30) Sleeper 10-6	2080 Slumbercoach 24-	2300 Viewliner-Sleeper	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$1,224	$2,304	$1,224	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$4,896	$9,216	$4,896	NA
Annual spare parts cost per yr	$700	$700	$4,350	$8,000	$4,350	NA
Total- Oprtng Non-Trip Related	$1,276	$1,276	$9,246	$17,216	$9,246	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$102	$192	$102	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$4.96	$4.66	$0.66	$1.20	$1.02	NA
- Pump out minutes	1.27	0.77	1.10	1.99	1.69	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Waste Disposal	$3.00	$2.49	$1.12	$2.03	$1.73	NA
Subtotal- End of Day/Trip Srvc	$19.96	$19.15	$103.77	$195.23	$104.74	NA
Train Delay:						
- Pump out volume req'd	100	100	0	0	0	NA
- # of stops req'd	1	1	0	0	0	NA
- Pump out minutes	1.7	1.7	0.0	0.0	0.0	NA
- Connect/Disc. minutes	7.0	7.0	0.0	0.0	0.0	NA
- Total Time Delay(mins/car)	9	9	0	0	0	NA
Average Cost Per Delay	$5	$5	$0	$0	$0	NA
Subtotal- Oprtng Trip Related	$25	$24	$104	$195	$105	NA
Total # Cars in fleet	119	25	82	16	2	NA
Total Annual Car-days	43,435	9,125	29,930	5,840	730	NA
Adjusted Total Car-days	34,748	7,300	23,944	4,672	584	NA
Days per Trip (min. of 1)	2	2	2	2	2	2
Annual Oprtng Trip Related per Car	$3,673	$3,556	$15,151	$28,503	$15,292	NA
Annual Non-Trip Related per Car	$1,276	$1,276	$9,246	$17,216	$9,246	NA
Annual Oprtng Trip Related per Car Type	$437,132	$88,890	$1,242,394	$456,051	$30,585	NA
Annual Non-Trip Related per Car Type	$151,844	$31,900	$758,172	$275,456	$18,492	NA
Total OPRTNG COST per Car	$4,949	$4,832	$24,397	$45,719	$24,538	NA
Total CAPITAL COST per Car	$15,152	$15,152	$94,488	$173,824	$94,488	NA
Total OPRTNG COST for all cars	$588,976	$120,790	$2,000,566	$731,507	$49,077	NA
Total CAPITAL COST for all cars	$1,803,088	$378,800	$7,748,016	$2,781,184	$188,976	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	33.4	52.9	25.8	NA	NA	NA
Capacity Req'd/day (gals)	31.2	49.5	24.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	39.0	61.8	30.2	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	145	91	187	NA	NA	NA
As a percentage of 72 hours	201%	127%	260%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	11.0	7.0	14.3	NA	NA	NA
As a percentage of 3 days	367.81%	232.07%	475.46%	NA	NA	NA
Consecutive Trips before pumpout	22.0	13.0	28.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,300	$1,300	$1,300	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,876	$1,876	$1,876	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.31	$0.49	$0.24	NA	NA	NA
- Pump out minutes	0.52	0.82	0.40	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.06	$1.68	$0.82	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.37	$14.18	$13.06	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$14	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	13,140	77,672	7,008	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,905	$4,140	$3,814	NA	NA	NA
Annual Non-Trip Related per Car	$1,876	$1,876	$1,876	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$175,727	$1,101,138	$91,542	NA	NA	NA
Annual Non-Trip Related per Car Type	$84,420	$499,016	$45,024	NA	NA	NA
Total OPRTNG COST per Car	$5,781	$6,016	$5,690	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$260,147	$1,600,154	$136,566	NA	NA	NA
Total CAPITAL COST for all cars	$1,260,720	$7,452,256	$672,384	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	13.0	20.6	10.0	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	16.2	25.7	12.6	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	40	25	52	NA	NA	NA
As a percentage of 72 hours	55%	35%	72%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	3.0	1.9	3.9	NA	NA	NA
As a percentage of 3 days	101.55%	64.07%	131.28%	NA	NA	NA
Consecutive Trips before pumpout	6.0	3.0	7.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$2,304	$2,304	$2,304	NA	NA	NA
Annual spare parts cost per yr	$325	$325	$325	NA	NA	NA
Total- Oprtng Non-Trip Related	$2,629	$2,629	$2,629	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.21	$0.10	NA	NA	NA
- Pump out minutes	0.22	0.34	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.57	$0.91	$0.44	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$12.70	$13.11	$12.54	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$13	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	13,140	77,672	7,008	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,709	$3,829	$3,662	NA	NA	NA
Annual Non-Trip Related per Car	$2,629	$2,629	$2,629	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$166,897	$1,018,410	$87,899	NA	NA	NA
Annual Non-Trip Related per Car Type	$118,305	$699,314	$63,096	NA	NA	NA
Total OPRTNG COST per Car	$6,338	$6,458	$6,291	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$285,202	$1,717,724	$150,995	NA	NA	NA
Total CAPITAL COST for all cars	$318,420	$1,882,216	$169,824	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	91.2	144.5	70.5	NA	NA	NA
Capacity Req'd/day (gals)	62.7	99.4	48.5	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	78.4	124.3	60.7	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	92	58	119	NA	NA	NA
As a percentage of 72 hours	127%	80%	165%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	7.0	4.4	9.1	NA	NA	NA
As a percentage of 3 days	233.58%	147.38%	301.94%	NA	NA	NA
Consecutive Trips before pumpout	14.0	8.0	18.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin		Route Number: #193			
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					
* All data on per car basis (unless noted otherwise)						
	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,000	$1,000	$1,000	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,576	$1,576	$1,576	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.63	$0.99	$0.49	NA	NA	NA
- Pump out minutes	1.05	1.66	0.81	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$2.13	$3.38	$1.65	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$14.76	$16.38	$14.14	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$15	$16	$14	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	13,140	77,672	7,008	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,310	$4,782	$4,128	NA	NA	NA
Annual Non-Trip Related per Car	$1,576	$1,576	$1,576	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$193,958	$1,271,937	$99,064	NA	NA	NA
Annual Non-Trip Related per Car Type	$70,920	$419,216	$37,824	NA	NA	NA
Total OPRTNG COST per Car	$5,886	$6,358	$5,704	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$264,878	$1,691,153	$136,888	NA	NA	NA
Total CAPITAL COST for all cars	$951,840	$5,626,432	$507,648	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	24.9	39.5	19.3	NA	NA	NA
Capacity Req'd/day (gals)	26.6	42.1	20.6	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	33.2	52.7	25.7	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	144	91	187	NA	NA	NA
As a percentage of 72 hours	201%	127%	259%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	11.0	7.0	14.3	NA	NA	NA
As a percentage of 3 days	367.53%	231.89%	475.09%	NA	NA	NA
Consecutive Trips before pumpout	22.0	13.0	28.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Benjamin Franklin		**Route Number:**	#193		
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					
* All data on per car basis (unless noted otherwise)						
	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$890	$890	$890	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,466	$1,466	$1,466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.27	$0.42	$0.21	NA	NA	NA
- Pump out minutes	0.44	0.70	0.34	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.90	$1.43	$0.70	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.17	$13.85	$12.90	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$14	$13	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	13,140	77,672	7,008	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,846	$4,045	$3,768	NA	NA	NA
Annual Non-Trip Related per Car	$1,466	$1,466	$1,466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$173,051	$1,076,067	$90,438	NA	NA	NA
Annual Non-Trip Related per Car Type	$65,970	$389,956	$35,184	NA	NA	NA
Total OPRTNG COST per Car	$5,312	$5,511	$5,234	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$239,021	$1,466,023	$125,622	NA	NA	NA
Total CAPITAL COST for all cars	$891,720	$5,271,056	$475,584	NA	NA	NA

Amtrak Route:	Benjamin Franklin	**Route Number:**	#193
Origin/Destination:	Boston-Philadelphia		
Length in Miles:	322		
Length in Hours:	6.55		
Expected Trips per Day:	2		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
Quantity of cars	1	1	3	NA	NA	NA
Capacity (# people) - seated	53	84	41	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	26.5	42.0	20.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	23.80	37.72	18.41	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	139.5	221.1	107.9	NA	NA	NA
Capacity Req'd/day (gals)	89.1	141.2	68.9	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	111.4	176.6	86.2	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	22	14	28	NA	NA	NA
As a percentage of 72 hours	30%	19%	39%	NA	NA	NA
Probable Service Hours per Day	13.1	13.1	13.1	13.1	13.1	13.1
Service Days Supported	1.6	1.0	2.1	NA	NA	NA
As a percentage of 3 days	54.82%	34.59%	70.87%	NA	NA	NA
Consecutive Trips before pumpout	3.0	2.0	4.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Benjamin Franklin		**Route Number:**	#193		
Origin/Destination:	Boston-Philadelphia					
Length in Miles:	322					
Length in Hours:	6.55					
Expected Trips per Day:	2					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	20000 Amcafe	21000 Amcoach	20100 Amclub	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$700	$700	$700	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,276	$1,276	$1,276	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.89	$1.41	$0.69	NA	NA	NA
- Pump out minutes	1.49	2.35	1.15	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.03	$4.80	$2.34	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.92	$18.21	$15.03	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$18	$15	NA	NA	NA
Total # Cars in fleet	45	266	24	NA	NA	NA
Total Annual Car-days	16,425	97,090	8,760	NA	NA	NA
Adjusted Total Car-days	13,140	77,672	7,008	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,649	$5,319	$4,390	NA	NA	NA
Annual Non-Trip Related per Car	$1,276	$1,276	$1,276	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$209,205	$1,414,777	$105,354	NA	NA	NA
Annual Non-Trip Related per Car Type	$57,420	$339,416	$30,624	NA	NA	NA
Total OPRTNG COST per Car	$5,925	$6,595	$5,666	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$266,625	$1,754,193	$135,978	NA	NA	NA
Total CAPITAL COST for all cars	$681,840	$4,030,432	$363,648	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	14.5	37.8	20.8	NA	NA	NA
Capacity Req'd/day (gals)	17.2	45.0	24.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	21.6	56.2	30.9	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	262	100	182	NA	NA	NA
As a percentage of 72 hours	363%	139%	253%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	15.7	6.0	10.9	NA	NA	NA
As a percentage of 3 days	522.78%	200.40%	364.36%	NA	NA	NA
Consecutive Trips before pumpout	94.0	36.0	65.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,300	$1,300	$1,300	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,876	$1,876	$1,876	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.17	$0.45	$0.25	NA	NA	NA
- Pump out minutes	0.29	0.75	0.41	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.76	$4.59	$2.52	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.93	$17.04	$14.77	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$14	$17	$15	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,796	14,600	3,796	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,068	$4,975	$4,313	NA	NA	NA
Annual Non-Trip Related per Car	$1,876	$1,876	$1,876	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$52,885	$248,775	$56,073	NA	NA	NA
Annual Non-Trip Related per Car Type	$24,388	$93,800	$24,388	NA	NA	NA
Total OPRTNG COST per Car	$5,944	$6,851	$6,189	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$77,273	$342,575	$80,461	NA	NA	NA
Total CAPITAL COST for all cars	$364,208	$1,400,800	$364,208	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	7.2	18.7	10.3	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	9.0	23.4	12.9	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	72	28	50	NA	NA	NA
As a percentage of 72 hours	100%	38%	70%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	4.3	1.7	3.0	NA	NA	NA
As a percentage of 3 days	144.34%	55.33%	100.60%	NA	NA	NA
Consecutive Trips before pumpout	25.0	9.0	18.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Metroliner		Route Number:	#200		
Origin/Destination:	Washington DC-New York					
Length in Miles:	225					
Length in Hours:	2.78					
Expected Trips per Day:	6					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$2,304	$2,304	$2,304	NA	NA	NA
Annual spare parts cost per yr	$325	$325	$325	NA	NA	NA
Total- Oprtng Non-Trip Related	$2,629	$2,629	$2,629	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.07	$0.19	$0.10	NA	NA	NA
- Pump out minutes	0.12	0.31	0.17	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$0.95	$2.47	$1.36	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.02	$14.66	$13.46	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$13	$15	$13	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,796	14,600	3,796	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,802	$4,280	$3,931	NA	NA	NA
Annual Non-Trip Related per Car	$2,629	$2,629	$2,629	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$49,421	$214,017	$51,103	NA	NA	NA
Annual Non-Trip Related per Car Type	$34,177	$131,450	$34,177	NA	NA	NA
Total OPRTNG COST per Car	$6,431	$6,909	$6,560	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$83,598	$345,467	$85,280	NA	NA	NA
Total CAPITAL COST for all cars	$91,988	$353,800	$91,988	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	39.6	103.2	56.8	NA	NA	NA
Capacity Req'd/day (gals)	34.7	90.4	49.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	43.3	113.1	62.2	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	166	64	116	NA	NA	NA
As a percentage of 72 hours	231%	88%	161%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	10.0	3.8	6.9	NA	NA	NA
As a percentage of 3 days	332.00%	127.27%	231.39%	NA	NA	NA
Consecutive Trips before pumpout	59.0	22.0	41.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Metroliner		Route Number:	#200		
Origin/Destination:	Washington DC-New York					
Length in Miles:	225					
Length in Hours:	2.78					
Expected Trips per Day:	6					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,000	$1,000	$1,000	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,576	$1,576	$1,576	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.35	$0.90	$0.50	NA	NA	NA
- Pump out minutes	0.58	1.51	0.83	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.54	$9.23	$5.07	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.88	$22.13	$17.57	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$22	$18	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,796	14,600	3,796	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,638	$6,462	$5,131	NA	NA	NA
Annual Non-Trip Related per Car	$1,576	$1,576	$1,576	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$60,293	$323,099	$66,702	NA	NA	NA
Annual Non-Trip Related per Car Type	$20,488	$78,800	$20,488	NA	NA	NA
Total OPRTNG COST per Car	$6,214	$8,038	$6,707	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$80,781	$401,899	$87,190	NA	NA	NA
Total CAPITAL COST for all cars	$274,976	$1,057,600	$274,976	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	10.8	28.2	15.5	NA	NA	NA
Capacity Req'd/day (gals)	14.7	38.3	21.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	18.4	47.9	26.3	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	261	100	182	NA	NA	NA
As a percentage of 72 hours	363%	139%	253%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	15.7	6.0	10.9	NA	NA	NA
As a percentage of 3 days	522.38%	200.25%	364.08%	NA	NA	NA
Consecutive Trips before pumpout	94.0	36.0	65.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Metroliner		**Route Number:**	#200		
Origin/Destination:	Washington DC-New York					
Length in Miles:	225					
Length in Hours:	2.78					
Expected Trips per Day:	6					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$890	$890	$890	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,466	$1,466	$1,466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.15	$0.38	$0.21	NA	NA	NA
- Pump out minutes	0.24	0.64	0.35	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$1.50	$3.91	$2.15	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$13.65	$16.29	$14.36	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$14	$16	$14	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,796	14,600	3,796	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$3,984	$4,757	$4,193	NA	NA	NA
Annual Non-Trip Related per Car	$1,466	$1,466	$1,466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$51,798	$237,865	$54,513	NA	NA	NA
Annual Non-Trip Related per Car Type	$19,058	$73,300	$19,058	NA	NA	NA
Total OPRTNG COST per Car	$5,450	$6,223	$5,659	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$70,856	$311,165	$73,571	NA	NA	NA
Total CAPITAL COST for all cars	$257,608	$990,800	$257,608	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
Quantity of cars	1	4	1	NA	NA	NA
Capacity (# people) - seated	23	60	33	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	11.5	30.0	16.5	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	10.33	26.94	14.82	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	60.5	157.9	86.8	NA	NA	NA
Capacity Req'd/day (gals)	49.2	128.5	70.7	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	61.6	160.6	88.3	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	39	15	27	NA	NA	NA
As a percentage of 72 hours	54%	21%	38%	NA	NA	NA
Probable Service Hours per Day	16.68	16.68	16.68	16.68	16.68	16.68
Service Days Supported	2.3	0.9	1.6	NA	NA	NA
As a percentage of 3 days	77.92%	29.87%	54.31%	NA	NA	NA
Consecutive Trips before pumpout	14.0	5.0	9.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Metroliner	**Route Number:**	#200
Origin/Destination:	Washington DC-New York		
Length in Miles:	225		
Length in Hours:	2.78		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	20900 Met-Srvc Dinette	21900 Met-Srvc Coach	20970 Met-Srvc Club	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$700	$700	$700	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,276	$1,276	$1,276	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.49	$1.28	$0.71	NA	NA	NA
- Pump out minutes	0.82	2.14	1.18	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$5.02	$13.10	$7.21	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$17.52	$26.39	$19.91	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$18	$26	$20	NA	NA	NA
Total # Cars in fleet	13	50	13	NA	NA	NA
Total Annual Car-days	4,745	18,250	4,745	NA	NA	NA
Adjusted Total Car-days	3,796	14,600	3,796	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,114	$7,705	$5,815	NA	NA	NA
Annual Non-Trip Related per Car	$1,276	$1,276	$1,276	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$66,488	$385,258	$75,590	NA	NA	NA
Annual Non-Trip Related per Car Type	$16,588	$63,800	$16,588	NA	NA	NA
Total OPRTNG COST per Car	$6,390	$8,981	$7,091	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$83,076	$449,058	$92,178	NA	NA	NA
Total CAPITAL COST for all cars	$196,976	$757,600	$196,976	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	52.9	14.5	37.8	NA	NA	NA
Capacity Req'd/day (gals)	59.4	16.3	42.4	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	74.2	20.3	53.0	NA	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	76	278	106	NA	NA	NA
As a percentage of 72 hours	106%	386%	148%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	4.8	17.7	6.8	NA	NA	NA
As a percentage of 3 days	161.16%	588.58%	225.62%	NA	NA	NA
Consecutive Trips before pumpout	29.0	105.0	40.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$5,000	$5,000	$5,000	NA	NA	NA
- Total Equip Cost	$26,000	$26,000	$26,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$28,016	$28,016	$28,016	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,300	$1,300	$1,300	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,876	$1,876	$1,876	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.59	$0.16	$0.42	NA	NA	NA
- Pump out minutes	0.99	0.27	0.71	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$6.06	$1.66	$4.33	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$18.65	$13.82	$16.75	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$19	$14	$17	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	77,672	7,300	9,052	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,446	$4,036	$4,891	NA	NA	NA
Annual Non-Trip Related per Car	$1,876	$1,876	$1,876	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,448,510	$100,890	$151,615	NA	NA	NA
Annual Non-Trip Related per Car Type	$499,016	$46,900	$58,156	NA	NA	NA
Total OPRTNG COST per Car	$7,322	$5,912	$6,767	NA	NA	NA
Total CAPITAL COST per Car	$28,016	$28,016	$28,016	NA	NA	NA
Total OPRTNG COST for all cars	$1,947,526	$147,790	$209,771	NA	NA	NA
Total CAPITAL COST for all cars	$7,452,256	$700,400	$868,496	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	NA	NA	NA
Capacity Req'd/day (gals)	24.7	6.8	17.6	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	30.9	8.5	22.1	NA	NA	NA
Tank Capacity per Car (gals)	27	27	27	NA	NA	NA
Continuous Service Hours Supported	21	77	29	NA	NA	NA
As a percentage of 72 hours	29%	106%	41%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	1.3	4.9	1.9	NA	NA	NA
As a percentage of 3 days	44.50%	162.51%	62.29%	NA	NA	NA
Consecutive Trips before pumpout	8.0	29.0	11.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$6,500	$6,500	$6,500	NA	NA	NA
- Total Equip Cost	$6,500	$6,500	$6,500	NA	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$576	$576	$576	NA	NA	NA
Total Capital Cost	$7,076	$7,076	$7,076	NA	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:**	#242		
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$576	$576	$576	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$2,304	$2,304	$2,304	NA	NA	NA
Annual spare parts cost per yr	$325	$325	$325	NA	NA	NA
Total- Oprtng Non-Trip Related	$2,629	$2,629	$2,629	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.25	$0.07	$0.18	NA	NA	NA
- Pump out minutes	0.41	0.11	0.29	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$3.26	$0.89	$2.33	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$15.51	$12.96	$14.51	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$16	$13	$15	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	77,672	7,300	9,052	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$4,528	$3,784	$4,236	NA	NA	NA
Annual Non-Trip Related per Car	$2,629	$2,629	$2,629	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,204,535	$94,612	$131,306	NA	NA	NA
Annual Non-Trip Related per Car Type	$699,314	$65,725	$81,499	NA	NA	NA
Total OPRTNG COST per Car	$7,157	$6,413	$6,865	NA	NA	NA
Total CAPITAL COST per Car	$7,076	$7,076	$7,076	NA	NA	NA
Total OPRTNG COST for all cars	$1,903,849	$160,337	$212,805	NA	NA	NA
Total CAPITAL COST for all cars	$1,882,216	$176,900	$219,356	NA	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Self-Cont'd Recirc		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.000	0.000	0.000	0.000	0.000	0.000
Flush Fluids/day (gals)	0.0	0.0	0.0	0.0	NA	NA
Capacity Req'd/day (gals)	6.1	16.3	11.8	9.1	NA	NA
Adj. Capacity Req'd w/ Buffer	7.7	20.4	14.7	11.3	NA	NA
Tank Capacity per Car (gals)	13.5	27	13.5	13.5	NA	NA
Continuous Service Hours Supported	42	32	22	29	NA	NA
As a percentage of 72 hours	59%	44%	31%	40%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	3.5	2.6	1.8	2.4	NA	NA
As a percentage of 3 days	116.44%	87.33%	60.46%	78.60%	NA	NA
Consecutive Trips before pumpout	13.0	10.0	7.0	9.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$3,250	$6,500	$3,250	$3,250	NA	NA
- Total Equip Cost	$3,250	$6,500	$3,250	$3,250	NA	NA
Equipment Installation						
Collection System per Car	$0	$0	$0	$0	$0	$0
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$288	$576	$288	$288	NA	NA
Total Capital Cost	$3,538	$7,076	$3,538	$3,538	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:**	#242		
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	144.5	39.6	103.2	NA	NA	NA
Capacity Req'd/day (gals)	119.3	32.7	85.2	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	149.2	40.8	106.6	NA	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	48	176	68	NA	NA	NA
As a percentage of 72 hours	67%	245%	94%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	3.1	11.2	4.3	NA	NA	NA
As a percentage of 3 days	102.35%	373.78%	143.28%	NA	NA	NA
Consecutive Trips before pumpout	18.0	67.0	25.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$10,000	$10,000	$10,000	NA	NA	NA
- Total Equip Cost	$20,000	$20,000	$20,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$21,152	$21,152	$21,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$1,000	$1,000	$1,000	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,576	$1,576	$1,576	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.19	$0.33	$0.85	NA	NA	NA
- Pump out minutes	1.99	0.54	1.42	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$12.17	$3.33	$8.69	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$25.37	$15.66	$21.55	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$25	$16	$22	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	77,672	7,300	9,052	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$7,407	$4,573	$6,292	NA	NA	NA
Annual Non-Trip Related per Car	$1,576	$1,576	$1,576	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,970,220	$114,316	$195,044	NA	NA	NA
Annual Non-Trip Related per Car Type	$419,216	$39,400	$48,856	NA	NA	NA
Total OPRTNG COST per Car	$8,983	$6,149	$7,868	NA	NA	NA
Total CAPITAL COST per Car	$21,152	$21,152	$21,152	NA	NA	NA
Total OPRTNG COST for all cars	$2,389,436	$153,716	$243,900	NA	NA	NA
Total CAPITAL COST for all cars	$5,626,432	$528,800	$655,712	NA	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:** #242			
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	39.5	10.8	28.2	NA	NA	NA
Capacity Req'd/day (gals)	50.6	13.8	36.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	63.2	17.3	45.1	NA	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	76	277	106	NA	NA	NA
As a percentage of 72 hours	105%	385%	148%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	4.8	17.6	6.8	NA	NA	NA
As a percentage of 3 days	161.04%	588.13%	225.45%	NA	NA	NA
Consecutive Trips before pumpout	28.0	105.0	40.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$5,800	$5,800	$5,800	NA	NA	NA
- Total Equip Cost	$17,800	$17,800	$17,800	NA	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$2,016	$2,016	$2,016	NA	NA	NA
Total Capital Cost	$19,816	$19,816	$19,816	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Evac		
Equipment:	Ultimate		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$890	$890	$890	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,466	$1,466	$1,466	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.51	$0.14	$0.36	NA	NA	NA
- Pump out minutes	0.84	0.23	0.60	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$5.16	$1.41	$3.68	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$17.66	$13.55	$16.05	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$18	$14	$16	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	77,672	7,300	9,052	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$5,158	$3,957	$4,685	NA	NA	NA
Annual Non-Trip Related per Car	$1,466	$1,466	$1,466	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$1,371,928	$98,919	$145,240	NA	NA	NA
Annual Non-Trip Related per Car Type	$389,956	$36,650	$45,446	NA	NA	NA
Total OPRTNG COST per Car	$6,624	$5,423	$6,151	NA	NA	NA
Total CAPITAL COST per Car	$19,816	$19,816	$19,816	NA	NA	NA
Total OPRTNG COST for all cars	$1,761,884	$135,569	$190,686	NA	NA	NA
Total CAPITAL COST for all cars	$5,271,056	$495,400	$614,296	NA	NA	NA

Amtrak Route:	Hudson Highlander		**Route Number:**	#242		
Origin/Destination:	Albany-New York City					
Length in Miles:	142					
Length in Hours:	2.62					
Expected Trips per Day:	6					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
Quantity of cars	3	1	1	NA	NA	NA
Capacity (# people) - seated	84	23	60	NA	NA	NA
Toilets per car	2	2	2	NA	NA	NA
Average persons/toilet on train	42.0	11.5	30.0	NA	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	37.72	10.33	26.94	NA	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	221.1	60.5	157.9	NA	NA	NA
Capacity Req'd/day (gals)	169.5	46.4	121.1	NA	NA	NA
Adj. Capacity Req'd w/ Buffer	211.9	58.0	151.3	NA	NA	NA
Tank Capacity per Car (gals)	100	100	100	NA	NA	NA
Continuous Service Hours Supported	11	41	16	NA	NA	NA
As a percentage of 72 hours	16%	57%	22%	NA	NA	NA
Probable Service Hours per Day	15.72	15.72	15.72	15.72	15.72	15.72
Service Days Supported	0.7	2.6	1.0	NA	NA	NA
As a percentage of 3 days	24.02%	87.73%	33.63%	NA	NA	NA
Consecutive Trips before pumpout	4.0	15.0	6.0	NA	NA	NA
CAPITAL COSTS						
Collection System per Car	$8,000	$8,000	$8,000	NA	NA	NA
Toilet Cost per Car	$6,000	$6,000	$6,000	NA	NA	NA
- Total Equip Cost	$14,000	$14,000	$14,000	NA	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	NA	NA	NA
Toilet Cost per Car	$576	$576	$576	NA	NA	NA
- Total Installation Cost	$1,152	$1,152	$1,152	NA	NA	NA
Total Capital Cost	$15,152	$15,152	$15,152	NA	NA	NA

Amtrak Route:	Hudson Highlander	**Route Number:**	#242
Origin/Destination:	Albany-New York City		
Length in Miles:	142		
Length in Hours:	2.62		
Expected Trips per Day:	6		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	21000 Amcoach	20200 Amdinette	21800 Amcoach	NA NA	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$144	$144	$144	NA	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$576	$576	$576	NA	NA	NA
Annual spare parts cost per yr	$700	$700	$700	NA	NA	NA
Total- Oprtng Non-Trip Related	$1,276	$1,276	$1,276	NA	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$12	$12	$12	NA	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$1.69	$0.46	$1.21	NA	NA	NA
- Pump out minutes	2.82	0.77	2.02	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Waste Disposal	$17.29	$4.73	$12.35	NA	NA	NA
Subtotal- End of Day/Trip Srvc	$30.98	$17.20	$25.56	NA	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	NA	NA	NA
- # of stops req'd	0	0	0	NA	NA	NA
- Pump out minutes	0.0	0.0	0.0	NA	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	NA	NA	NA
- Total Time Delay(mins/car)	0	0	0	NA	NA	NA
Average Cost Per Delay	$0	$0	$0	NA	NA	NA
Subtotal- Oprtng Trip Related	$31	$17	$26	NA	NA	NA
Total # Cars in fleet	266	25	31	NA	NA	NA
Total Annual Car-days	97,090	9,125	11,315	NA	NA	NA
Adjusted Total Car-days	77,672	7,300	9,052	NA	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$9,047	$5,022	$7,463	NA	NA	NA
Annual Non-Trip Related per Car	$1,276	$1,276	$1,276	NA	NA	NA
Annual Oprtng Trip Related per Car Type	$2,406,532	$125,544	$231,364	NA	NA	NA
Annual Non-Trip Related per Car Type	$339,416	$31,900	$39,556	NA	NA	NA
Total OPRTNG COST per Car	$10,323	$6,298	$8,739	NA	NA	NA
Total CAPITAL COST per Car	$15,152	$15,152	$15,152	NA	NA	NA
Total OPRTNG COST for all cars	$2,745,948	$157,444	$270,920	NA	NA	NA
Total CAPITAL COST for all cars	$4,030,432	$378,800	$469,712	NA	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.063	0.063	0.063	0.063	0.063	0.063
Flush Fluids/day (gals)	17.0	45.4	32.8	25.2	NA	NA
Capacity Req'd/day (gals)	14.7	39.2	28.3	21.8	NA	NA
Adj. Capacity Req'd w/ Buffer	18.4	49.0	35.4	27.2	NA	NA
Tank Capacity per Car (gals)	235	235	235	235	235	235
Continuous Service Hours Supported	307	115	159	207	NA	NA
As a percentage of 72 hours	426%	160%	221%	288%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	25.3	9.5	13.1	17.1	NA	NA
As a percentage of 3 days	843.47%	316.30%	437.95%	569.34%	NA	NA
Consecutive Trips before pumpout	101.0	37.0	52.0	68.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000
Toilet Cost per Car	$2,500	$5,000	$2,500	$2,500	NA	NA
- Total Equip Cost	$23,500	$26,000	$23,500	$23,500	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$25,228	$28,016	$25,228	$25,228	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Monogram		
Equipment:	Modified Vacuum		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$288	$576	$288	$288	NA	NA
Annual spare parts cost per yr	$1,175	$1,300	$1,175	$1,175	NA	NA
Total- Oprtng Non-Trip Related	$1,463	$1,876	$1,463	$1,463	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.15	$0.39	$0.28	$0.22	NA	NA
- Pump out minutes	0.25	0.65	0.47	0.36	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$1.00	$2.67	$1.93	$1.48	NA	NA
Subtotal- End of Day/Trip Srvc	$7.15	$15.06	$8.21	$7.70	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$15	$8	$8	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,752	6,132	876	4,088	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,087	$4,398	$2,397	$2,248	NA	NA
Annual Non-Trip Related per Car	$1,463	$1,876	$1,463	$1,463	NA	NA
Annual Oprtng Trip Related per Car Type	$12,523	$92,349	$7,192	$31,478	NA	NA
Annual Non-Trip Related per Car Type	$8,778	$39,396	$4,389	$20,482	NA	NA
Total OPRTNG COST per Car	$3,550	$6,274	$3,860	$3,711	NA	NA
Total CAPITAL COST per Car	$25,228	$28,016	$25,228	$25,228	NA	NA
Total OPRTNG COST for all cars	$21,301	$131,745	$11,581	$51,960	NA	NA
Total CAPITAL COST for all cars	$151,368	$588,336	$75,684	$353,192	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Monogram					
Equipment:	Self-Cont'd Recirc					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$288	$576	$288	$288	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$1,152	$2,304	$1,152	$1,152	NA	NA
Annual spare parts cost per yr	$163	$325	$163	$163	NA	NA
Total- Oprtng Non-Trip Related	$1,315	$2,629	$1,315	$1,315	NA	NA
Trip Related Costs:						
Toilet maintenance enroute End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.06	$0.16	$0.12	$0.09	NA	NA
- Pump out minutes	0.10	0.27	0.20	0.15	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.54	$1.44	$1.04	$0.80	NA	NA
Subtotal- End of Day/Trip Srvc	$6.60	$13.60	$7.16	$6.89	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$14	$7	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,752	6,132	876	4,088	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$1,927	$3,971	$2,089	$2,012	NA	NA
Annual Non-Trip Related per Car	$1,315	$2,629	$1,315	$1,315	NA	NA
Annual Oprtng Trip Related per Car Type	$11,563	$83,395	$6,268	$28,162	NA	NA
Annual Non-Trip Related per Car Type	$7,887	$55,209	$3,944	$18,403	NA	NA
Total OPRTNG COST per Car	$3,242	$6,600	$3,404	$3,326	NA	NA
Total CAPITAL COST per Car	$3,538	$7,076	$3,538	$3,538	NA	NA
Total OPRTNG COST for all cars	$19,450	$138,604	$10,212	$46,565	NA	NA
Total CAPITAL COST for all cars	$21,228	$148,596	$10,614	$49,532	NA	NA

Amtrak Route:	Electric City Express	**Route Number:**	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Microphor		
Equipment:	Gravity		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.172	0.172	0.172	0.172	0.172	0.172
Flush Fluids/day (gals)	46.4	123.8	89.4	68.8	NA	NA
Capacity Req'd/day (gals)	29.6	78.9	57.0	43.8	NA	NA
Adj. Capacity Req'd w/ Buffer	37.0	98.6	71.2	54.8	NA	NA
Tank Capacity per Car (gals)	300	300	300	300	300	300
Continuous Service Hours Supported	195	73	101	131	NA	NA
As a percentage of 72 hours	271%	101%	140%	183%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	16.1	6.0	8.3	10.8	NA	NA
As a percentage of 3 days	535.65%	200.87%	278.13%	361.57%	NA	NA
Consecutive Trips before pumpout	64.0	24.0	33.0	43.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Toilet Cost per Car	$5,000	$10,000	$5,000	$5,000	NA	NA
- Total Equip Cost	$15,000	$20,000	$15,000	$15,000	NA	NA
Equipment Installation						
Collection System per Car	$576	$576	$576	$576	$576	$576
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$864	$1,152	$864	$864	NA	NA
Total Capital Cost	$15,864	$21,152	$15,864	$15,864	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Microphor					
Equipment:	Gravity					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$288	$576	$288	$288	NA	NA
Annual spare parts cost per yr	$750	$1,000	$750	$750	NA	NA
Total- Oprtng Non-Trip Related	$1,038	$1,576	$1,038	$1,038	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.30	$0.79	$0.57	$0.44	NA	NA
- Pump out minutes	0.49	1.31	0.95	0.73	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.01	$5.36	$3.87	$2.98	NA	NA
Subtotal- End of Day/Trip Srvc	$8.31	$18.15	$10.44	$9.42	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$8	$18	$10	$9	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,752	6,132	876	4,088	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,426	$5,300	$3,049	$2,750	NA	NA
Annual Non-Trip Related per Car	$1,038	$1,576	$1,038	$1,038	NA	NA
Annual Oprtng Trip Related per Car Type	$14,554	$111,305	$9,148	$38,499	NA	NA
Annual Non-Trip Related per Car Type	$6,228	$33,096	$3,114	$14,532	NA	NA
Total OPRTNG COST per Car	$3,464	$6,876	$4,087	$3,788	NA	NA
Total CAPITAL COST per Car	$15,864	$21,152	$15,864	$15,864	NA	NA
Total OPRTNG COST for all cars	$20,782	$144,401	$12,262	$53,031	NA	NA
Total CAPITAL COST for all cars	$95,184	$444,192	$47,592	$222,096	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.047	0.047	0.047	0.047	0.047	0.047
Flush Fluids/day (gals)	12.7	33.8	24.4	18.8	NA	NA
Capacity Req'd/day (gals)	12.5	33.4	24.1	18.6	NA	NA
Adj. Capacity Req'd w/ Buffer	15.7	41.8	30.2	23.2	NA	NA
Tank Capacity per Car (gals)	200	200	200	200	200	200
Continuous Service Hours Supported	306	115	159	207	NA	NA
As a percentage of 72 hours	426%	160%	221%	287%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	25.3	9.5	13.1	17.1	NA	NA
As a percentage of 3 days	842.82%	316.06%	437.62%	568.91%	NA	NA
Consecutive Trips before pumpout	101.0	37.0	52.0	68.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Toilet Cost per Car	$2,900	$5,800	$2,900	$2,900	NA	NA
- Total Equip Cost	$14,900	$17,800	$14,900	$14,900	NA	NA
Equipment Installation						
Collection System per Car	$1,440	$1,440	$1,440	$1,440	$1,440	$1,440
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$1,728	$2,016	$1,728	$1,728	NA	NA
Total Capital Cost	$16,628	$19,816	$16,628	$16,628	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Evac					
Equipment:	Ultimate					
Scenario:	Unfavorable					

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$288	$576	$288	$288	NA	NA
Annual spare parts cost per yr	$745	$890	$745	$745	NA	NA
Total- Oprtng Non-Trip Related	$1,033	$1,466	$1,033	$1,033	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.13	$0.33	$0.24	$0.19	NA	NA
- Pump out minutes	0.21	0.56	0.40	0.31	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$0.85	$2.27	$1.64	$1.26	NA	NA
Subtotal- End of Day/Trip Srvc	$6.98	$14.61	$7.88	$7.45	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$7	$15	$8	$7	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,752	6,132	876	4,088	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,037	$4,265	$2,302	$2,175	NA	NA
Annual Non-Trip Related per Car	$1,033	$1,466	$1,033	$1,033	NA	NA
Annual Oprtng Trip Related per Car Type	$12,224	$89,566	$6,905	$30,447	NA	NA
Annual Non-Trip Related per Car Type	$6,198	$30,786	$3,099	$14,462	NA	NA
Total OPRTNG COST per Car	$3,070	$5,731	$3,335	$3,208	NA	NA
Total CAPITAL COST per Car	$16,628	$19,816	$16,628	$16,628	NA	NA
Total OPRTNG COST for all cars	$18,422	$120,352	$10,004	$44,909	NA	NA
Total CAPITAL COST for all cars	$99,768	$416,136	$49,884	$232,792	NA	NA

Amtrak Route:	Electric City Express		**Route Number:**	#250		
Origin/Destination:	Schenectady-New York City					
Length in Miles:	160					
Length in Hours:	3.03					
Expected Trips per Day:	4					
Manufacturer:	Railtech					
Equipment:	WTS 8300					
Scenario:	Unfavorable					

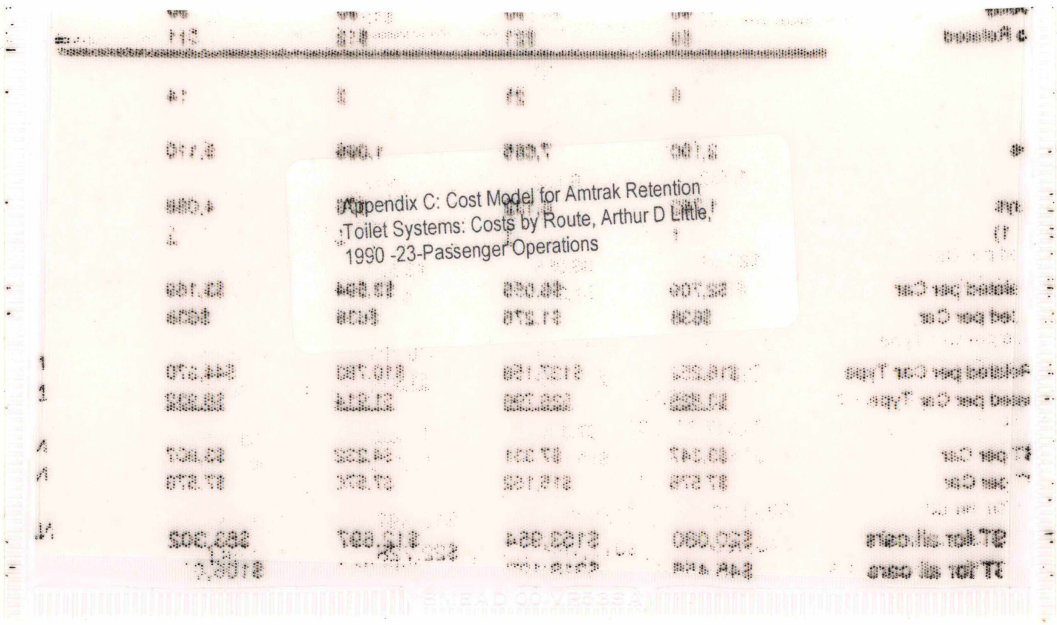
* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
Quantity of cars	1	3	1	1	NA	NA
Capacity (# people) - seated	27	72	52	40	NA	NA
Toilets per car	1	2	1	1	NA	NA
Average persons/toilet on train	27.0	36.0	52.0	40.0	NA	NA
Car Waste Data (per car)						
Black Water:						
Human Waste/day (gals)	12.12	32.33	23.35	17.96	NA	NA
# Flushes/Person-day	8.00	8.00	8.00	8.00	8.00	8.00
Flush efficiency adjustment	1.25	1.25	1.25	1.25	1.25	1.25
Adj. # Flushes/Person-day	10	10	10	10	10	10
Flush Fluids/flush (gals)	0.263	0.263	0.263	0.263	0.263	0.263
Flush Fluids/day (gals)	71.1	189.5	136.8	105.3	NA	NA
Capacity Req'd/day (gals)	42.0	112.0	80.9	62.2	NA	NA
Adj. Capacity Req'd w/ Buffer	52.5	140.0	101.1	77.8	NA	NA
Tank Capacity per Car (gals)	50	100	50	50	NA	NA
Continuous Service Hours Supported	23	17	12	15	NA	NA
As a percentage of 72 hours	32%	24%	16%	21%	NA	NA
Probable Service Hours per Day	12.12	12.12	12.12	12.12	12.12	12.12
Service Days Supported	1.9	1.4	1.0	1.3	NA	NA
As a percentage of 3 days	62.86%	47.14%	32.64%	42.43%	NA	NA
Consecutive Trips before pumpout	7.0	5.0	3.0	5.0	NA	NA
CAPITAL COSTS						
Collection System per Car	$4,000	$8,000	$4,000	$4,000	NA	NA
Toilet Cost per Car	$3,000	$6,000	$3,000	$3,000	NA	NA
- Total Equip Cost	$7,000	$14,000	$7,000	$7,000	NA	NA
Equipment Installation						
Collection System per Car	$288	$576	$288	$288	NA	NA
Toilet Cost per Car	$288	$576	$288	$288	NA	NA
- Total Installation Cost	$576	$1,152	$576	$576	NA	NA
Total Capital Cost	$7,576	$15,152	$7,576	$7,576	NA	NA

Amtrak Route:	Electric City Express	Route Number:	#250
Origin/Destination:	Schenectady-New York City		
Length in Miles:	160		
Length in Hours:	3.03		
Expected Trips per Day:	4		
Manufacturer:	Railtech		
Equipment:	WTS 8300		
Scenario:	Unfavorable		

* All data on per car basis (unless noted otherwise)

	151-Odd Turbo Power Club	170 Turbo Coach	170 Turbo Cafe	150-Even Turbo Power Coac	NA NA	NA NA
OPERATING COSTS						
Non-Trip Related Costs:						
Labor cost/major servicing	$72	$144	$72	$72	NA	NA
Frequency per Year	4	4	4	4	4	4
Servicing Cost/Year	$288	$576	$288	$288	NA	NA
Annual spare parts cost per yr	$350	$700	$350	$350	NA	NA
Total- Oprtng Non-Trip Related	$638	$1,276	$638	$638	NA	NA
Trip Related Costs:						
Toilet maintenance enroute						
End of Day/Trip Servicing						
- Cleaning	$6	$12	$6	$6	NA	NA
- Light Repair	$0	$0	$0	$0	$0	$0
Pump out and Disposal						
- Pump out Cost	$0.42	$1.12	$0.81	$0.62	NA	NA
- Pump out minutes	0.70	1.87	1.35	1.04	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Waste Disposal	$2.86	$7.62	$5.50	$4.23	NA	NA
Subtotal- End of Day/Trip Srvc	$9.28	$20.74	$12.31	$10.85	NA	NA
Train Delay:						
- Pump out volume req'd	0	0	0	0	NA	NA
- # of stops req'd	0	0	0	0	NA	NA
- Pump out minutes	0.0	0.0	0.0	0.0	NA	NA
- Connect/Disc. minutes	0.0	0.0	0.0	0.0	NA	NA
- Total Time Delay(mins/car)	0	0	0	0	NA	NA
Average Cost Per Delay	$0	$0	$0	$0	NA	NA
Subtotal- Oprtng Trip Related	$9	$21	$12	$11	NA	NA
Total # Cars in fleet	6	21	3	14	NA	NA
Total Annual Car-days	2,190	7,665	1,095	5,110	NA	NA
Adjusted Total Car-days	1,752	6,132	876	4,088	NA	NA
Days per Trip (min. of 1)	1	1	1	1	1	1
Annual Oprtng Trip Related per Car	$2,709	$6,055	$3,594	$3,169	NA	NA
Annual Non-Trip Related per Car	$638	$1,276	$638	$638	NA	NA
Annual Oprtng Trip Related per Car Type	$16,252	$127,158	$10,783	$44,370	NA	NA
Annual Non-Trip Related per Car Type	$3,828	$26,796	$1,914	$8,932	NA	NA
Total OPRTNG COST per Car	$3,347	$7,331	$4,232	$3,807	NA	NA
Total CAPITAL COST per Car	$7,576	$15,152	$7,576	$7,576	NA	NA
Total OPRTNG COST for all cars	$20,080	$153,954	$12,697	$53,302	NA	NA
Total CAPITAL COST for all cars	$45,456	$318,192	$22,728	$106,064	NA	NA



Appendix C: Cost Model for Amtrak Retention
Toilet Systems: Costs by Route, Arthur D Little,
1990 -23-Passenger Operations

Arthur D Little

Amsterdam
Brussels
Cambridge
Caracas
Copenhagen
Hong Kong
Houston
London
Los Angeles
Madrid
Mexico City
Milan
Munich
New York
Paris
Riyadh
San Francisco
São Paulo
Singapore
Taipei
Tokyo
Toronto
Washington
Wiesbaden