

Saving the Arctic National Wildlife Refuge from the Voracious Clutches of the Oil Barons

The most optimistic estimate of the Arctic National Wildlife Refuge (ANWR) petroleum content is 3.2 billion barrels of crude, and the best estimate of the retrieval of that amount is 10 to 12 years. In order to save that much crude in one year by increasing the fuel efficiency of the average passenger vehicle, the average mpg per vehicle (in 1998, 131,839,000 passenger vehicles) would have to increase from the 1998 base of 21.4 mpg to 136.41 mpg, an utterly impossible efficiency increase of 537.19%! (See Table 1.) However, the Fare-Free All Bus USA Urban Mass Transit System (see the analytic paper, “Fare-Free Mass Transit: A Case Study of What Is Now, and What Can Be In Any Large Metropolitan Region of the USA”, by Professor John Bachar, CSULB Mathematics Department, jbachar@csulb.edu) easily produces an annual savings of 3,050,530,090 barrels of crude! (See Table 2.) **In 10 years, the use of this system would save TEN times the amount of crude in ANWR!** It is sheer madness to rape this pristine cathedral of Nature for the benefit of the greedy barons of the oil industry and their misguided, uninformed followers. Only by conservation measures, such as the aforementioned system, can we extend our Earth supply of non-renewable petroleum resources and simultaneously reduce the massive USA dependence on foreign oil.

1998 passenger car data (U.S. Department of Transportation, Federal Highway Administration)						
Number of vehicles:	131,839,000					
Vehicle miles travelled:	1,545,830,000,000					
Fuel consumed (gallons):	72,209,000,000 (equivalent to 3,800,473,664 barrels of crude)					
Average miles travelled per vehicle:	11,725					
Average mpg per vehicle:	21.41 (1998 base mpg)		1 barrel crude yields			
Average fuel consumed per vehicle:	548		19 gals fuel			
New average mpg per vehicle	Increase in base mpg per vehicle	Percentage increase in 1998 base mpg	Annual savings (gallons)	Annual savings (barrels crude)	Fuel consumption at new mpg (in barrels of crude)	# years to save 3.2 billion barrels of crude at new mpg
22.41	1.00	4.67%	3,222,505,564	169,605,556	3,630,868,128	18.87
23.41	2.00	9.34%	6,169,674,132	324,719,691	3,475,753,993	9.85
24.41	3.00	14.01%	8,875,347,905	467,123,574	3,333,350,110	6.85
25.41	4.00	18.68%	11,368,041,226	598,317,959	3,202,155,725	5.35
26.41	5.00	23.36%	13,671,949,344	719,576,281	3,080,897,403	4.45
31.41	10.00	46.71%	22,990,844,831	1,210,044,465	2,590,429,219	2.64
36.41	15.00	70.07%	29,750,147,003	1,565,797,211	2,234,676,474	2.04
41.41	20.00	93.42%	34,877,071,856	1,835,635,361	1,964,838,323	1.74
46.41	25.00	116.78%	38,899,239,799	2,047,328,410	1,753,145,274	1.56
51.41	30.00	140.14%	42,139,002,298	2,217,842,226	1,582,631,458	1.44
56.41	35.00	163.49%	44,804,417,431	2,358,127,233	1,442,346,451	1.36
61.41	40.00	186.85%	47,035,780,433	2,475,567,391	1,324,906,293	1.29
66.41	45.00	210.20%	48,931,133,854	2,575,322,834	1,225,150,850	1.24
71.41	50.00	233.56%	50,561,060,309	2,661,108,437	1,139,365,247	1.20
76.41	55.00	256.92%	51,977,667,158	2,735,666,693	1,064,806,992	1.17
81.41	60.00	280.27%	53,220,260,184	2,801,066,325	999,407,359	1.14
86.41	65.00	303.63%	54,319,047,421	2,858,897,233	941,576,452	1.12
91.41	70.00	326.98%	55,297,627,388	2,910,401,441	890,072,243	1.10
96.41	75.00	350.34%	56,174,703,038	2,956,563,318	843,910,366	1.08
101.41	80.00	373.70%	56,965,288,660	2,998,173,087	802,300,597	1.07
106.41	85.00	397.05%	57,681,576,513	3,035,872,448	764,601,236	1.05
111.41	90.00	420.41%	58,333,570,090	3,070,187,899	730,285,785	1.04
116.41	95.00	443.77%	58,929,554,188	3,101,555,484	698,918,201	1.03
121.41	100.00	467.12%	59,476,448,813	3,130,339,411	670,134,273	1.02
126.41	105.00	490.48%	59,980,079,100	3,156,846,268	643,627,416	1.01
131.41	110.00	513.83%	60,445,383,610	3,181,335,979	619,137,705	1.01
136.41	115.00	537.19%	60,876,576,818	3,204,030,359	596,443,325	1.00
141.41	120.00	560.55%	61,277,277,120	3,225,119,848	575,353,836	0.99

Table 2						
Comparison of Modes of Urban Transportation:						
Current all auto* mode versus all fare-free bus mode						
Annual cost						
Urban region(s)	All auto mode	All fare-free bus mode	Ratio: bus cost to auto cost	For every \$1 of bus cost, auto cost is:	Annual Cost Savings: annual auto cost minus annual bus cost	
SCR	\$ 52,815,967,200	\$ 5,562,309,692	10.53%	\$9.50	\$ 47,253,657,508	
California	\$ 99,833,340,000	\$ 10,531,553,253	10.55%	\$9.48	\$ 89,301,786,747	
USA	\$ 640,696,740,000	\$ 70,936,082,388	11.07%	\$9.03	\$ 569,760,657,612	
Annual fuel consumption (gallons)						
Urban region(s)	All auto mode	All fare-free bus mode	Ratio: bus fuel use to auto fuel use	For every gallon of bus fuel use, auto fuel use is:	Annual Fuel Savings: annual bus use minus auto use	Equivalent savings in barrels of crude***
SCR	5,740,866,000	500,764,044	8.72%	11.464	5,240,101,956	275,794,840
California	9,983,334,000	946,197,938	9.48%	10.551	9,037,136,062	475,638,740
USA	64,069,674,000	6,109,602,297	9.54%	10.487	57,960,071,703	3,050,530,090
Annual pollution comparison						
Urban region(s)	Annual bus miles	Annual auto miles	Ratio**	***1 barrel crude yields 19 gals gasoline		
SCR	2,328,052,039	114,817,320,000	10.14%			
California	4,398,874,215	217,029,000,000	10.13%			
USA	28,403,541,077	1,392,819,000,000	10.20%			

*Here, "auto" means "non-commercial vehicle"

**Assumes a bus pollutes 5 times as much as an auto per mile; the ratio of the annual bus pollution to the annual auto pollution is 5 x #annual bus miles traveled / #annual auto miles travelled

SCR (6 county southern California region of Los Angeles, Ventura, San Bernardino, Riverside, Orange, and Imperial)

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