

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY

Introduction

TLU 7 was analyzed using the Vehicle Energy and Greenhouse Gas Assessment Tool (VEGA Tool). The following pages summarize the parameters, data sources, calculations, and results of the analysis.

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY

General Parameters

Baseline Parameters

Parameter	Source
VMT Forecasts	Florida Inventory & Forecast (based on linear regression of historic data).
VMT Distribution by Vehicle Classes	Florida Vehicle Registration Data.
VMT Distribution by Vehicle Age	Fleet turnover rate based on Florida Vehicle Registration Data, combined with Mobile 6 default mileage accumulation rates.
Fuel Economy by Vehicle Class	Assume fuel economies (mpg) maximize at levels specified by new Federal CAFÉ standards.

TLU 7 Policy Option Parameters

Parameter	Source
VMT Forecasts	Same as Baseline.
VMT Distribution by Vehicle Classes	Same as Baseline.
VMT Distribution by Vehicle Age	Same as Baseline.
Fuel Economy by Vehicle Class	Same as Baseline PLUS ADJUSTMENT (see next page).

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY

Affect of Incentives on Fuel Economy

2.00% Percent improvement to average fuel economy (mpg) of NEW VEHICLES targeted by this policy.

2015 Model year by which full targeted improvement will be reached; target year.

2011 Model year when improvement will begin to be phased in; start year.

Model Year	% MPG Improved
2009	0.00%
2010	0.00%
2011	0.40%
2012	0.80%
2013	1.20%
2014	1.60%
2015	2.00%
2016	2.00%
2017	2.00%
2018	2.00%
2019	2.00%
2020	2.00%
2021	2.00%
2022	2.00%
2023	2.00%
2024	2.00%
2025	2.00%

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY
Baseline: Fuel Consumption by Year and Vehicle Type

Calendar Year	LDGV	LDDV	LDGT1	LDGT2	LDGT3	LDGT4	LDLT12	LDLT34
2008	4,172,141,266	91,098,453	1,784,593,042	1,784,593,042	1,636,601,904	204,575,238	44,432,840	389,526,475
2009	4,324,196,150	94,418,562	1,825,258,032	1,825,258,032	1,671,964,787	208,995,598	45,435,885	397,915,622
2010	4,482,810,216	97,881,891	1,863,366,251	1,863,366,251	1,705,973,214	213,246,652	46,369,596	405,975,535
2011	4,578,390,989	99,968,891	1,889,756,117	1,889,756,117	1,728,638,587	216,079,823	46,956,912	411,217,155
2012	4,640,248,857	101,319,554	1,901,951,202	1,901,951,202	1,737,960,964	217,245,120	47,152,081	413,187,300
2013	4,690,873,217	102,424,934	1,903,293,356	1,903,293,356	1,735,203,233	216,900,404	47,055,866	412,241,857
2014	4,734,925,349	103,386,809	1,901,505,572	1,901,505,572	1,728,284,020	216,035,502	46,910,263	410,350,537
2015	4,764,600,635	104,034,767	1,898,622,734	1,898,622,734	1,721,080,463	215,135,058	46,765,622	408,447,129
2016	4,799,080,956	104,787,643	1,895,529,497	1,895,529,497	1,714,842,871	214,355,359	46,644,514	406,836,592
2017	4,833,644,794	105,542,342	1,888,167,834	1,888,167,834	1,706,331,227	213,291,403	46,418,975	404,699,509
2018	4,853,163,661	105,968,536	1,875,088,677	1,875,088,677	1,692,762,446	211,595,306	46,050,563	401,362,654
2019	4,861,556,153	106,151,785	1,857,388,155	1,857,388,155	1,674,809,366	209,351,171	45,568,254	396,988,401
2020	4,857,783,028	106,069,399	1,835,536,641	1,835,536,641	1,654,346,907	206,793,363	44,987,444	392,006,247
2021	4,860,399,382	106,126,527	1,817,318,139	1,817,318,139	1,637,231,934	204,653,992	44,531,947	387,889,565
2022	4,867,281,212	106,276,791	1,804,449,104	1,804,449,104	1,627,130,325	203,391,291	44,244,396	385,516,928
2023	4,875,925,809	106,465,546	1,797,217,706	1,797,217,706	1,621,469,107	202,683,638	44,123,274	384,283,267
2024	4,888,928,893	106,749,467	1,794,308,697	1,794,308,697	1,621,655,664	202,706,958	44,126,489	384,481,867
2025	4,905,336,481	107,107,726	1,795,579,249	1,795,579,249	1,626,489,097	203,311,137	44,241,372	385,811,456
TOTAL	84,991,287,047	1,855,779,623	33,328,930,004	33,328,930,004	30,242,776,116	3,780,347,015	822,016,294	7,178,738,095

Corresponds to sample calculations shown on next page.

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY
Baseline: Sample Fuel Consumption Calculation

2011 Calendar Year - Baseline Conditions

Vehicle Age (as of July 1)	Model Year	LDGV				LDDV			
		VMT Distribution	VMT (millions)	MPG	Gallons	VMT Distribution	VMT (millions)	MPG	Gallons
1	2008	9.69%	10,142	24.00	422,585,586	9.69%	221	24.00	9,227,131
2	2007	10.38%	10,868	21.04	516,550,527	10.38%	237	21.04	11,278,850
3	2006	9.09%	9,510	21.04	451,985,315	9.09%	208	21.04	9,869,072
4	2005	7.86%	8,223	23.40	351,411,659	7.86%	180	23.40	7,673,052
5	2004	7.71%	8,067	23.40	344,740,420	7.71%	176	23.40	7,527,386
6	2003	7.08%	7,407	23.30	317,915,759	7.08%	162	23.30	6,941,671
7	2002	6.38%	6,681	23.50	284,289,927	6.38%	146	23.50	6,207,453
8	2001	6.53%	6,830	23.10	295,671,458	6.53%	149	23.10	6,455,968
9	2000	5.33%	5,574	23.20	240,249,902	5.33%	122	23.20	5,245,842
10	1999	4.54%	4,756	23.10	205,897,911	4.54%	104	23.10	4,495,768
11	1998	4.30%	4,504	23.00	195,821,325	4.30%	98	23.00	4,275,747
12	1997	3.70%	3,875	22.90	169,201,594	3.70%	85	22.90	3,694,507
13	1996	3.77%	3,942	23.00	171,406,920	3.77%	86	23.00	3,742,660
14	1995	2.95%	3,085	23.40	131,829,857	2.95%	67	23.40	2,878,497
15	1994	2.56%	2,675	23.40	114,334,802	2.56%	58	23.40	2,496,494
16	1993	1.93%	2,024	23.30	86,877,600	1.93%	44	23.30	1,896,967
17	1992	1.52%	1,587	23.40	67,817,866	1.52%	35	23.40	1,480,799
18	1991	1.22%	1,280	23.30	54,929,772	1.22%	28	23.30	1,199,388
19	1990	0.99%	1,033	23.50	43,937,467	0.99%	23	23.50	959,372
20	1989	0.74%	770	23.10	33,336,260	0.74%	17	23.10	727,895
21	1988	0.56%	584	23.40	24,937,473	0.56%	13	23.40	544,508
22	1987	0.42%	436	23.30	18,725,682	0.42%	10	23.30	408,874
23	1986	0.30%	316	23.70	13,318,151	0.30%	7	23.70	290,801
24	1985	0.47%	497	24.10	20,617,756	0.47%	11	24.10	450,187
25	1984	0.00%	0	23.80	0	0.00%	0	23.80	0
TOTAL		100.00%	104,666		4,578,390,989	100.00%	2,285		99,968,891

2012 Calendar Year - Baseline Conditions

Vehicle Age (as of July 1)	Model Year	LDGV				LDDV			
		VMT Distribution	VMT (millions)	MPG	Gallons	VMT Distribution	VMT (millions)	MPG	Gallons
1	2009	9.69%	10,387	25.28	410,891,301	9.69%	227	25.28	8,971,787
2	2008	10.38%	11,131	24.00	463,794,291	10.38%	243	24.00	10,126,920
3	2007	9.09%	9,740	21.04	462,916,243	9.09%	213	21.04	10,107,748
4	2006	7.86%	8,422	21.04	400,280,454	7.86%	184	21.04	8,740,100
5	2005	7.71%	8,262	23.40	353,077,711	7.71%	180	23.40	7,709,431
6	2004	7.08%	7,587	23.40	324,212,844	7.08%	166	23.40	7,079,168
7	2003	6.38%	6,842	23.30	293,664,539	6.38%	149	23.30	6,412,147
8	2002	6.53%	6,995	23.50	297,667,634	6.53%	153	23.50	6,499,555
9	2001	5.33%	5,709	23.10	247,125,362	5.33%	125	23.10	5,395,967
10	2000	4.54%	4,871	23.20	209,968,444	4.54%	106	23.20	4,584,648
11	1999	4.30%	4,613	23.10	199,688,905	4.30%	101	23.10	4,360,195
12	1998	3.70%	3,968	23.00	172,540,158	3.70%	87	23.00	3,767,404
13	1997	3.77%	4,038	22.90	176,318,872	3.77%	88	22.90	3,849,912
14	1996	2.95%	3,159	23.00	137,366,204	2.95%	69	23.00	2,999,383
15	1995	2.56%	2,740	23.40	117,099,904	2.56%	60	23.40	2,556,869
16	1994	1.93%	2,073	23.40	88,598,420	1.93%	45	23.40	1,934,541
17	1993	1.52%	1,625	23.30	69,756,094	1.52%	35	23.30	1,523,120
18	1992	1.22%	1,311	23.40	56,017,788	1.22%	29	23.40	1,223,145
19	1991	0.99%	1,058	23.30	45,386,329	0.99%	23	23.30	991,008
20	1990	0.74%	789	23.50	33,561,324	0.74%	17	23.50	732,809
21	1989	0.56%	598	23.10	25,872,262	0.56%	13	23.10	564,919
22	1988	0.42%	447	23.40	19,096,589	0.42%	10	23.40	416,973
23	1987	0.30%	323	23.30	13,874,408	0.30%	7	23.30	302,947
24	1986	0.47%	509	23.70	21,472,776	0.47%	11	23.70	468,857
25	1985	0.00%	0	24.10	0	0.00%	0	24.10	0
TOTAL		100.00%	107,197		4,640,248,857	100.00%	2,341		101,319,554

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY
Policy Option: Fuel Consumption by Year and Vehicle Type

Calendar Year	LDGV	LDDV	LDGT1	LDGT2	LDGT3	LDGT4	LDDT12	LDDT34
2008	4,172,141,266	91,098,453	1,784,593,042	1,784,593,042	1,636,601,904	204,575,238	44,432,840	389,526,475
2009	4,324,196,150	94,418,562	1,825,258,032	1,825,258,032	1,671,964,787	208,995,598	45,435,885	397,915,622
2010	4,482,810,216	97,881,891	1,863,366,251	1,863,366,251	1,705,973,214	213,246,652	46,369,596	405,975,535
2011	4,576,707,381	99,932,129	1,889,086,413	1,889,086,413	1,727,984,773	215,998,097	46,936,818	411,054,607
2012	4,635,140,029	101,208,003	1,899,761,788	1,899,761,788	1,735,741,318	216,967,665	47,087,584	412,637,748
2013	4,680,836,347	102,205,779	1,898,822,003	1,898,822,003	1,730,677,259	216,334,657	46,926,235	411,125,067
2014	4,718,618,538	103,030,751	1,894,071,399	1,894,071,399	1,720,688,121	215,086,015	46,697,590	408,482,118
2015	4,740,747,591	103,513,938	1,887,642,426	1,887,642,426	1,709,758,921	213,719,865	46,455,187	405,670,238
2016	4,767,818,600	104,105,031	1,880,997,375	1,880,997,375	1,699,884,978	212,485,622	46,239,578	403,179,284
2017	4,795,335,410	104,705,859	1,870,476,871	1,870,476,871	1,688,241,368	211,030,171	45,933,515	400,291,201
2018	4,808,181,536	104,986,354	1,854,654,418	1,854,654,418	1,672,045,048	209,005,631	45,498,378	396,330,918
2019	4,810,459,530	105,036,094	1,834,619,505	1,834,619,505	1,651,958,105	206,494,763	44,961,836	391,456,812
2020	4,801,250,801	104,835,021	1,810,735,009	1,810,735,009	1,629,917,044	203,739,631	44,335,938	386,109,950
2021	4,798,705,906	104,779,454	1,790,738,110	1,790,738,110	1,611,514,231	201,439,279	43,841,955	381,698,241
2022	4,800,691,516	104,822,810	1,776,297,476	1,776,297,476	1,600,301,516	200,037,689	43,520,662	379,071,815
2023	4,804,721,152	104,910,796	1,767,675,355	1,767,675,355	1,593,658,294	199,207,287	43,369,769	377,614,368
2024	4,813,399,262	105,100,282	1,763,514,428	1,763,514,428	1,593,008,135	199,126,017	43,346,126	377,622,200
2025	4,825,729,747	105,369,518	1,763,707,618	1,763,707,618	1,597,052,426	199,631,553	43,437,711	378,771,300
TOTAL	84,357,490,978	1,841,940,724	33,056,017,519	33,056,017,519	29,976,971,443	3,747,121,430	814,827,202	7,114,533,498

Corresponds to sample calculations shown on next page.

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY
Policy Option: Sample Fuel Consumption Calculation

2011 Calendar Year with Policy Option

Vehicle Age (as of July 1)	Model Year	LDGV				LDDV			
		VMT Distribution	VMT (millions)	MPG	Gallons	VMT Distribution	VMT (millions)	MPG	Gallons
1	2008	9.69%	10,142	24.10	420,901,978	9.69%	221	24.10	9,190,369
2	2007	10.38%	10,868	21.04	516,550,527	10.38%	237	21.04	11,278,850
3	2006	9.09%	9,510	21.04	451,985,315	9.09%	208	21.04	9,869,072
4	2005	7.86%	8,223	23.40	351,411,659	7.86%	180	23.40	7,673,052
5	2004	7.71%	8,067	23.40	344,740,420	7.71%	176	23.40	7,527,386
6	2003	7.08%	7,407	23.30	317,915,759	7.08%	162	23.30	6,941,671
7	2002	6.38%	6,681	23.50	284,289,927	6.38%	146	23.50	6,207,453
8	2001	6.53%	6,830	23.10	295,671,458	6.53%	149	23.10	6,455,968
9	2000	5.33%	5,574	23.20	240,249,902	5.33%	122	23.20	5,245,842
10	1999	4.54%	4,756	23.10	205,897,911	4.54%	104	23.10	4,495,768
11	1998	4.30%	4,504	23.00	195,821,325	4.30%	98	23.00	4,275,747
12	1997	3.70%	3,875	22.90	169,201,594	3.70%	85	22.90	3,694,507
13	1996	3.77%	3,942	23.00	171,406,920	3.77%	86	23.00	3,742,660
14	1995	2.95%	3,085	23.40	131,829,857	2.95%	67	23.40	2,878,497
15	1994	2.56%	2,675	23.40	114,334,802	2.56%	58	23.40	2,496,494
16	1993	1.93%	2,024	23.30	86,877,600	1.93%	44	23.30	1,896,967
17	1992	1.52%	1,587	23.40	67,817,866	1.52%	35	23.40	1,480,799
18	1991	1.22%	1,280	23.30	54,929,772	1.22%	28	23.30	1,199,388
19	1990	0.99%	1,033	23.50	43,937,467	0.99%	23	23.50	959,372
20	1989	0.74%	770	23.10	33,336,260	0.74%	17	23.10	727,895
21	1988	0.56%	584	23.40	24,937,473	0.56%	13	23.40	544,508
22	1987	0.42%	436	23.30	18,725,682	0.42%	10	23.30	408,874
23	1986	0.30%	316	23.70	13,318,151	0.30%	7	23.70	290,801
24	1985	0.47%	497	24.10	20,617,756	0.47%	11	24.10	450,187
25	1984	0.00%	0	23.80	0	0.00%	0	23.80	0
TOTAL		100.00%	104,666		4,576,707,381	100.00%	2,285		99,932,129

2012 Calendar Year with Policy Option

Vehicle Age (as of July 1)	Model Year	LDGV				LDDV			
		VMT Distribution	VMT (millions)	MPG	Gallons	VMT Distribution	VMT (millions)	MPG	Gallons
1	2009	9.69%	10,387	25.48	407,630,259	9.69%	227	25.48	8,900,582
2	2008	10.38%	11,131	24.10	461,946,505	10.38%	243	24.10	10,086,574
3	2007	9.09%	9,740	21.04	462,916,243	9.09%	213	21.04	10,107,748
4	2006	7.86%	8,422	21.04	400,280,454	7.86%	184	21.04	8,740,100
5	2005	7.71%	8,262	23.40	353,077,711	7.71%	180	23.40	7,709,431
6	2004	7.08%	7,587	23.40	324,212,844	7.08%	166	23.40	7,079,168
7	2003	6.38%	6,842	23.30	293,664,539	6.38%	149	23.30	6,412,147
8	2002	6.53%	6,995	23.50	297,667,634	6.53%	153	23.50	6,499,555
9	2001	5.33%	5,709	23.10	247,125,362	5.33%	125	23.10	5,395,967
10	2000	4.54%	4,871	23.20	209,968,444	4.54%	106	23.20	4,584,648
11	1999	4.30%	4,613	23.10	199,688,905	4.30%	101	23.10	4,360,195
12	1998	3.70%	3,968	23.00	172,540,158	3.70%	87	23.00	3,767,404
13	1997	3.77%	4,038	22.90	176,318,872	3.77%	88	22.90	3,849,912
14	1996	2.95%	3,159	23.00	137,366,204	2.95%	69	23.00	2,999,383
15	1995	2.56%	2,740	23.40	117,099,904	2.56%	60	23.40	2,556,869
16	1994	1.93%	2,073	23.40	88,598,420	1.93%	45	23.40	1,934,541
17	1993	1.52%	1,625	23.30	69,756,094	1.52%	35	23.30	1,523,120
18	1992	1.22%	1,311	23.40	56,017,788	1.22%	29	23.40	1,223,145
19	1991	0.99%	1,058	23.30	45,386,329	0.99%	23	23.30	991,008
20	1990	0.74%	789	23.50	33,561,324	0.74%	17	23.50	732,809
21	1989	0.56%	598	23.10	25,872,262	0.56%	13	23.10	564,919
22	1988	0.42%	447	23.40	19,096,589	0.42%	10	23.40	416,973
23	1987	0.30%	323	23.30	13,874,408	0.30%	7	23.30	302,947
24	1986	0.47%	509	23.70	21,472,776	0.47%	11	23.70	468,857
25	1985	0.00%	0	24.10	0	0.00%	0	24.10	0
TOTAL		100.00%	107,197		4,635,140,029	100.00%	2,341		101,208,003

TLU 7 - FUEL ECONOMY INCENTIVES - CALCULATION SUMMARY
Change in Onroad Transportation Fuel Consumption
and GHG Emissions due to Policy Option

Calendar Year	FUEL CONSUMPTION (Gallons)			GHG EMISSIONS (MMTCO2e)		
	Baseline	Change	With Policy Option	Baseline	Change	With Policy Option
2008	12,075,647,310	0	12,075,647,310	104.82	0.00	104.82
2009	12,485,018,692	0	12,485,018,692	108.49	0.00	108.49
2010	12,894,408,998	0	12,894,408,998	112.29	0.00	112.29
2011	13,320,162,857	-3,977,961	13,316,184,896	115.70	-0.03	115.67
2012	13,729,808,984	-12,710,357	13,717,098,627	119.22	-0.11	119.12
2013	14,139,736,706	-25,536,872	14,114,199,834	122.86	-0.21	122.64
2014	14,559,244,360	-42,157,694	14,517,086,667	126.60	-0.35	126.25
2015	14,971,586,437	-62,158,551	14,909,427,886	130.47	-0.52	129.95
2016	15,386,722,599	-81,899,088	15,304,823,512	133.94	-0.69	133.25
2017	15,804,062,650	-99,772,652	15,704,289,998	137.51	-0.84	136.67
2018	16,223,494,430	-115,723,818	16,107,770,612	141.18	-0.97	140.21
2019	16,644,863,595	-129,595,287	16,515,268,308	144.95	-1.09	143.86
2020	17,067,973,691	-141,401,269	16,926,572,422	148.82	-1.19	147.63
2021	17,495,709,569	-152,014,340	17,343,695,229	152.38	-1.28	151.10
2022	17,923,438,120	-161,698,191	17,761,739,929	156.03	-1.36	154.68
2023	18,351,146,388	-170,553,678	18,180,592,709	159.78	-1.43	158.35
2024	18,778,822,239	-178,635,853	18,600,186,386	163.62	-1.50	162.12
2025	19,206,454,303	-186,048,276	19,020,406,027	167.56	-1.56	166.00
TOTAL	281,058,301,927	-1,563,883,886	279,494,418,041	2,446.23	-13.14	2,433.09