BENEFIT-COST (BCA) METHODOLOGY AND ASSUMPTIONS

The benefit-cost analyses outlined in this report compared the total project cost for planned transportation improvements to the aggregate value of the following quantified project benefits:

- Time-savings for operators of passenger vehicles
- Time-savings for operators of heavy trucks
- Passenger-vehicle mobile-source emissions savings
- Heavy-truck mobile-source emissions savings
- Passenger-vehicle social cost of carbon savings
- Heavy-truck social cost of carbon savings

Because the project includes a costly elevated section that would be designed and built to last for decades benefits were projected over the 50-year period from 2025 to 2074. All future benefits except the social cost of carbon were discounted at an annual rate of seven percent. For benefits related to the social cost of carbon, future unit values developed by the U. S. Environmental Protection Agency, incorporating a three-percent per annum discount rate, were applied. Benefits were derived by comparing the costs associated with the build and no-build alternatives and calculating the difference for each year.

The costs used to calculate benefits were based on output from the Gulf Regional Planning Commission (GRPC) Travel Demand Forecasting Model for the Mississippi Gulf Coast Area (Hancock, Harrison and Jackson counties). Output data for streets and highways in Harrison County were used to compare vehicle-miles traveled (VMT) and vehicle-hours traveled (VHT) for the build and no-build alternatives by year. Data were derived for both heavy trucks and passenger vehicles in order to apply factors and unit values appropriate to each category.

Project Cost

The total estimated cost for construction of the proposed project is $95,000,000. The estimated annual cost for maintenance of the two-and-a-half-mile corridor is $54,222. The undiscounted aggregate cost for roadway construction and maintenance over the 50-year life of the project, from 2025 to 2074, totals an estimated $97,711,120.

Existing and Improved Network Assignments

The GRPC Travel Demand Forecasting Model was used to generate daily traffic assignments for the existing street and highway network from 2020 to 2040. Data for subsequent years were extrapolated by deriving and applying annual growth factors. Aggregate operating data for streets and highways in Harrison County were extracted from the model output and used to establish the baseline condition for the analysis.

Daily VMT on the existing network were projected to increase from 7,278,250 in 2025 to 11,187,393 in 2074 (see Table 1-1). Daily VHT were projected to increase from 194,582 in 2025 to 329,551 in 2074. Data from the model assignments were also used to derive passenger-vehicle

and truck factors for use in distributing VMT and VHT (see Table 1-2). This made it possible to apply rates appropriate to each vehicle type in projecting emissions, time-savings and carbon output.

Projected Travel Time Savings

Traffic assignments were also generated for the improved network, and output VMT and VHT were compared to base network data in order to measure the projected reduction in both overall distance traveled and the amount of time spent traveling. Annual reductions in VHT were substantial, increasing from 833,205 hours in 2025 to 1,378,028 in 2074. Recommended values from the "Benefit-Cost Analysis (BCA) Resource Guide" were updated to 2015 dollars and used to assign value to these time-savings. A unit value corresponding to local travel for all purposes ($13.23) was used to monetize passenger-vehicle time-savings; another representing intercity travel for all purposes ($19.33) was adopted for trucks. The total projected value of time-savings over the 50 years from 2025 until 2074 amounted to more than $729 million in real dollars.

Projected Vehicle Emissions Savings

Annual passenger-vehicle emissions for four criteria pollutants regulated by the U. S. Environmental Protection Agency (EPA), in conformance with the National Ambient Air Quality Standards (NAAQS), were estimated using the South Coast Air Quality Management District EMFAC2007 factors for passenger vehicles (including light-duty delivery trucks) and heavy-duty combination trucks. Factors associating VMT with output in pounds were used to estimate annual emissions for oxides of nitrogen (NOX), particulate matter (PM10 and PM2.5) and sulfur dioxide (SOX). Passenger-vehicle and truck emissions were projected for the existing network from 2025 to 2074 (see tables 1-3 and 1-4). Recommended values per metric ton from the "Benefit-Cost Analysis (BCA) Resource Guide" were used to generate annual costs associated with each of the pollutants.

While not a designated pollutant, carbon dioxide has been targeted for reduction, and Federal agencies have priced and discounted the social cost of carbon well into the future, making it possible to monetize benefits associated with cutting carbon emissions. The analysis determined the social cost of carbon associated with passenger-vehicles and trucks operating on the existing network over the 50-year period from 2025 to 2074 (see Table 1-5).

The same methodology was applied to output for the improved network, yielding annual passenger-vehicle and truck emissions costs and the long-term social cost of carbon for the project. The results are presented in tables 1-6, 1-7 and 1-8.

Overall Benefit Calculations

Having already calculated total travel time-savings, emissions savings were derived by finding the difference between annual costs associated with the existing street-and-highway network and the improved network. Savings related to travel time, passenger-vehicle emissions and pollutant output from trucks were then summed to yield the total non-carbon savings for each year from 2025 to 2074 (see Table 1-9).

The social cost of carbon was isolated at this stage because the discounted cost of future carbon emissions is built into the recommended values utilized in the analysis. Annual maintenance costs were next subtracted from the summed non-carbon cost savings, and a discount rate of

seven percent per annum was applied to the result to yield the discounted net non-carbon benefit for each year. Adding this to the previously calculated yearly benefit accruing from reductions in the social cost of carbon provided the total annual discounted net project benefit.

The aggregate net benefit discounted at seven percent over 50 years amounted to $226,530,860. Comparing this to the initial construction cost of $95,000,000 yielded a benefit-cost ratio of 2.38 (see Table 1-10). Discounting at three percent resulted in an aggregate net project benefit of $407,513,749 and a benefit-cost ratio of 4.29 (see Table 1-11).

Table 1-1:

POPP'S FERRY PHASE 3 PROJECTED ANNUAL REDUCTION IN VEHICLE MILES AND HOURS TRAVELED: 2025-2074

	EXISTING NETWORK		IMPROVED NETWORK		DAILY REDUCTION (3)		ANNUAL REDUCTION (4)	
YEAR	DAILY VMT (1)	DAILY VHT (2)	DAILY VMT (1)	DAILY VHT (2)	VMT	VHT	VMT	VHT
2025	7,278,250.233	194,582.078	7,263,634.064	192,299.324	14,616.168	2,282.754	5,334,901.384	833,205.160
2026	7,349,789.271	196,888.953	7,334,877.122	194,590.088	14,912.150	2,298.864	5,442,934.610	839,085.520
2027	7,422,031.478	199,223.177	7,406,818.944	196,908.141	15,212.534	2,315.036	5,552,575.004	844,987.971
2028	7,494,983.765	201,585.074	7,479,466.385	199,253.808	15,517.380	2,331.266	5,663,843.711	850,912.209
2029	7,568,653.111	203,974.973	7,552,826.365	201,627.417	15,826.746	2,347.556	5,776,762.136	856,857.918
2030	7,643,046.564	206,393.206	7,626,905.874	204,029.302	16,140.690	2,363.904	5,891,351.883	862,824.937
2031	7,709,514.240	208,599.951	7,693,635.720	206,210.713	15,878.521	2,389.238	5,795,660.086	872,071.961
2032	7,776,559.952	210,830.291	7,760,949.403	208,415.447	15,610.550	2,414.844	5,697,850.613	881,418.086
2033	7,844,188.727	213,084.477	7,828,852.031	210,643.753	15,336.695	2,440.724	5,597,893.800	890,864.375
2034	7,912,405.634	215,362.765	7,897,348.758	212,895.883	15,056.876	2,466.882	5,495,759.627	900,411.900
2035	7,981,215.789	217,665.412	7,966,444.781	215,172.092	14,771.007	2,493.320	5,391,417.714	910,061.746
2036	8,050,624.350	219,992.679	8,036,145.344	217,472.638	14,479.006	2,520.041	5,284,837.316	919,815.011
2037	8,120,636.523	222,344.829	8,106,455.735	219,797.781	14,180.787	2,547.049	5,175,987.320	929,672.803
2038	8,191,257.555	224,722.129	8,177,381.292	222,147.783	13,876.264	2,574.346	5,064,836.241	939,636.241
2039	8,262,492.743	227,124.846	8,248,927.394	224,522.910	13,565.349	2,601.936	4,951,352.218	949,706.459
2040	8,334,347.427	229,553.252	8,321,099.473	226,923.432	13,247.953	2,629.820	4,835,502.946	959,884.474
2041	8,406,826.994	232,007.624	8,393,463.830	229,349.685	13,363.164	2,657.938	4,877,554.848	970,147.508
2042	8,479,936.879	234,488.237	8,466,457.503	231,801.880	13,479.377	2,686.357	4,919,972.454	980,520.274
2043	8,553,682.564	236,995.373	8,540,085.964	234,280.293	13,596.600	2,715.079	4,962,758.944	991,003.945
2044	8,628,069.577	239,529.315	8,614,354.734	236,785.206	13,714.843	2,744.109	5,005,917.526	1,001,599.707
2045	8,703,103.496	242,090.349	8,689,269.382	239,316.901	13,834.114	2,773.449	5,049,451.437	1,012,308.758
2046	8,778,789.946	244,678.767	8,764,835.525	241,875.664	13,954.422	2,803.102	5,093,363.940	1,023,132.309
2047	8,855,134.604	247,294.859	8,841,058.827	244,461.786	14,075.776	2,833.073	5,137,658.327	1,034,071.586
2048	8,932,143.191	249,938.922	8,917,945.005	247,075.559	14,198.186	2,863.364	5,182,337.921	1,045,127.824
2049	9,009,821.483	252,611.256	8,995,499.823	249,717.277	14,321.660	2,893.979	5,227,406.070	1,056,302.275
2050	9,088,175.304	255,312.162	9,073,729.095	252,387.241	14,446.209	2,924.921	5,272,866.153	1,067,596.203
2051	9,167,210.528	258,041.946	9,152,638.688	255,085.752	14,571.840	2,956.194	5,318,721.580	1,079,010.885
2052	9,246,933.080	260,800.917	9,232,234.516	257,813.116	14,698.564	2,987.802	5,364,975.788	1,090,547.613
2053	9,327,348.939	263,589.387	9,312,522.550	260,569.640	14,826.390	3,019.747	5,411,632.245	1,102,207.690
2054	9,408,464.134	266,407.671	9,393,508.807	263,355.637	14,955.327	3,052.034	5,458,694.449	1,113,992.436
2055	9,490,284.747	269,256.087	9,475,199.360	266,171.421	15,085.386	3,084.666	5,506,165.930	1,125,903.184
2056	9,572,816.911	272,134.959	9,557,600.335	269,017.312	15,216.576	3,117.647	5,554,050.246	1,137,941.281
2057	9,656,066.815	275,044.612	9,640,717.909	271,893.631	15,348.907	3,150.981	5,602,350.987	1,150,108.089
2058	9,740,040.702	277,985.374	9,724,558.313	274,800.703	15,482.388	3,184.671	5,651,071.775	1,162,404.984
2059	9,824,744.866	280,957.579	9,809,127.836	277,738.857	15,617.031	3,218.722	5,700,216.263	1,174,833.356
2060	9,910,185.660	283,961.563	9,894,432.816	280,708.427	15,752.844	3,253.136	5,749,788.136	1,187,394.612
2061	9,996,369.488	286,997.664	9,980,479.650	283,709.746	15,889.839	3,287.918	5,799,791.109	1,200,090.173
2062	10,083,302.813	290,066.228	10,067,274.789	286,743.156	16,028.024	3,323.073	5,850,228.934	1,212,921.473
2063	10,170,992.153	293,167.601	10,154,824.741	289,808.998	16,167.412	3,358.603	5,901,105.390	1,225,889.965
2064	10,259,444.083	296,302.134	10,243,136.071	292,907.621	16,308.012	3,394.513	5,952,424.293	1,238,997.116
2065	10,348,665.234	299,470.180	10,332,215.399	296,039.374	16,449.834	3,430.807	6,004,189.490	1,252,244.407
2066	10,438,662.295	302,672.100	10,422,069.405	299,204.611	16,592.890	3,467.489	6,056,404.862	1,265,633.338
2067	10,529,442.015	305,908.254	10,512,704.825	302,403.691	16,737.190	3,504.563	6,109,074.325	1,279,165.423
2068	10,621,011.200	309,179.008	10,604,128.455	305,636.975	16,882.745	3,542.033	6,162,201.828	1,292,842.192
2069	10,713,376.716	312,484.734	10,696,347.150	308,904.829	17,029.565	3,579.905	6,215,791.353	1,306,665.192
2070	10,806,545.487	315,825.804	10,789,367.824	312,207.623	17,177.663	3,618.181	6,269,846.919	1,320,635.987
2071	10,900,524.499	319,202.597	10,883,197.451	315,545.731	17,327.048	3,656.866	6,324,372.579	1,334,756.157
2072	10,995,320.799	322,615.494	10,977,843.067	318,919.529	17,477.733	3,695.965	6,379,372.420	1,349,027.299
2073	11,090,941.494	326,064.882	11,073,311.767	322,329.400	17,629.728	3,735.482	6,434,850.567	1,363,451.027
2074	11,187,393.754	329,551.150	11,169,610.710	325,775.729	17,783.044	3,775.422	6,490,811.180	1,378,028.973
TOTAL	455,861,769.812	12,844,562.881	455,097,520.807	12,697,253.511	764,249.005	147,309.370	278,950,886.874	53,767,920.017

Notes: (1) VMT - Vehicle miles traveled. (2) VHT - Vehicle hours traveled. Existing network includes all major roadways in Harrison County and some local streets required for continuity in modeling future traffic. (3) Existing network VMT or VHT less improved network VMT or VHT. (4) Projected daily reductions in VMT and VHT were multiplied by 365 to project annual reductions: Historical traffic data for principal arterials in the vicinity of the project indicate annual average daily traffic (AADT) generally equals or exceeds annual average weekday traffic. The travel demand forecasting model replicates weekday traffic conditions.

Source: Mississippi Gulf Coast Regional Travel Demand Forecasting Model (2016). Calculations by Neel-Schaffer, Inc.

Table 1-2:

POPP'S FERRY PHASE 3 PROJECTED ANNUAL PASSENGER-VEHICLE AND TRUCK TRAVEL TIME-SAVINGS: 2021-2045

	ANNUAL VHT	PASSENGER VEHICLE			TRUCK			TOTAL ANNUAL
YEAR	REDUCTION (1)	FACTOR (2)	REDUCED VHT (3)	SAVINGS (4)	FACTOR (2)	REDUCED VHT (3)	SAVINGS (4)	TIME-SAVINGS
2025	833,205.160	0.9462	788,345.39	$10,429,809.57	0.0538	44,859.77	$867,139.27	$11,296,948.84
2026	839,085.520	0.9461	793,816.86	$10,502,197.00	0.0540	45,268.66	$875,043.27	$11,377,240.28
2027	844,987.971	0.9459	799,307.92	$10,574,843.80	0.0541	45,680.05	$882,995.36	$11,457,839.16
2028	850,912.209	0.9458	804,818.29	$10,647,746.04	0.0542	46,093.91	$890,995.36	$11,538,741.40
2029	856,857.918	0.9457	810,347.67	$10,720,899.67	0.0543	46,510.25	$899,043.09	$11,619,942.76
2030	862,824.937	0.9456	815,895.89	$10,794,302.61	0.0544	46,929.05	$907,138.50	$11,701,441.11
2031	872,071.961	0.9455	824,544.04	$10,908,717.64	0.0545	47,527.92	$918,714.73	$11,827,432.37
2032	881,418.086	0.9454	833,283.84	$11,024,345.26	0.0546	48,134.24	$930,434.89	$11,954,780.16
2033	890,864.375	0.9453	842,116.28	$11,141,198.33	0.0547	48,748.10	$942,300.75	$12,083,499.08
2034	900,411.900	0.9452	851,042.32	$11,259,289.83	0.0548	49,369.58	$954,314.07	$12,213,603.90
2035	910,061.746	0.9451	860,062.95	$11,378,632.88	0.0549	49,998.79	$966,476.66	$12,345,109.54
2036	919,815.011	0.9449	869,179.20	$11,499,240.75	0.0551	50,635.82	$978,790.33	$12,478,031.08
2037	929,672.803	0.9448	878,392.05	$11,621,126.84	0.0552	51,280.75	$991,256.93	$12,612,383.77
2038	939,636.241	0.9447	887,702.55	$11,744,304.69	0.0553	51,933.70	$1,003,878.33	$12,748,183.01
2039	949,706.459	0.9446	897,111.72	$11,868,787.99	0.0554	52,594.74	$1,016,656.40	$12,885,444.39
2040	959,884.474	0.9445	906,620.48	$11,994,589.02	0.0555	53,263.99	$1,029,592.92	$13,024,181.93
2041	970,147.508	0.9443	916,110.29	$12,120,139.17	0.0557	54,037.22	$1,044,539.39	$13,164,678.56
2042	980,520.274	0.9442	925,807.24	$12,248,429.82	0.0558	54,713.03	$1,057,602.89	$13,306,032.72
2043	991,003.945	0.9441	935,606.82	$12,378,078.29	0.0559	55,397.12	$1,070,826.34	$13,448,904.63
2044	1,001,599.707	0.9440	945,510.12	$12,509,098.93	0.0560	56,089.58	$1,084,211.65	$13,593,310.58
2045	1,012,308.758	0.9439	955,518.24	$12,641,506.27	0.0561	56,790.52	$1,097,760.78	$13,739,267.04
2046	1,023,132.309	0.9439	965,734.59	$12,776,668.58	0.0561	57,397.72	$1,109,497.98	$13,886,166.56
2047	1,034,071.586	0.9439	976,060.17	$12,913,276.04	0.0561	58,011.42	$1,121,360.67	$14,034,636.71
2048	1,045,127.824	0.9439	986,496.15	$13,051,344.11	0.0561	58,631.67	$1,133,350.20	$14,184,694.31
2049	1,056,302.275	0.9439	997,043.72	$13,190,888.39	0.0561	59,258.56	$1,145,467.92	$14,336,356.31
2050	1,067,596.203	0.9439	1,007,704.06	$13,331,924.67	0.0561	59,892.15	$1,157,715.20	$14,489,639.87
2051	1,079,010.885	0.9439	1,018,478.37	$13,474,468.90	0.0561	60,532.51	$1,170,093.43	$14,644,562.33
2052	1,090,547.613	0.9439	1,029,367.89	$13,618,537.21	0.0561	61,179.72	$1,182,604.01	$14,801,141.21
2053	1,102,207.690	0.9439	1,040,373.84	$13,764,145.88	0.0561	61,833.85	$1,195,248.35	$14,959,394.23
2054	1,113,992.436	0.9439	1,051,497.46	$13,911,311.40	0.0561	62,494.98	$1,208,027.88	$15,119,339.28
2055	1,125,903.184	0.9439	1,062,740.02	$14,060,050.41	0.0561	63,163.17	$1,220,944.05	$15,280,994.46
2056	1,137,941.281	0.9439	1,074,102.78	$14,210,379.72	0.0561	63,838.51	$1,233,998.32	$15,444,378.04
2057	1,150,108.089	0.9439	1,085,587.03	$14,362,316.35	0.0561	64,521.06	$1,247,192.16	$15,609,508.51
2058	1,162,404.984	0.9439	1,097,194.06	$14,515,877.47	0.0561	65,210.92	$1,260,527.08	$15,776,404.55
2059	1,174,833.356	0.9439	1,108,925.21	$14,671,080.46	0.0561	65,908.15	$1,274,004.56	$15,945,085.03
2060	1,187,394.612	0.9439	1,120,781.77	$14,827,942.88	0.0561	66,612.84	$1,287,626.15	$16,115,569.03
2061	1,200,090.173	0.9439	1,132,765.11	$14,986,482.46	0.0561	67,325.06	$1,301,393.38	$16,287,875.84
2062	1,212,921.473	0.9439	1,144,876.58	$15,146,717.13	0.0561	68,044.89	$1,315,307.81	$16,462,024.95
2063	1,225,889.965	0.9439	1,157,117.54	$15,308,665.03	0.0561	68,772.43	$1,329,371.02	$16,638,036.05
2064	1,238,997.116	0.9439	1,169,489.38	$15,472,344.47	0.0561	69,507.74	$1,343,584.58	$16,815,929.05
2065	1,252,244.407	0.9439	1,181,993.50	$15,637,773.95	0.0561	70,250.91	$1,357,950.11	$16,995,724.07
2066	1,265,633.338	0.9439	1,194,631.31	$15,804,972.20	0.0561	71,002.03	$1,372,469.25	$17,177,441.45
2067	1,279,165.423	0.9439	1,207,404.24	$15,973,958.13	0.0561	71,761.18	$1,387,143.61	$17,361,101.74
2068	1,292,842.192	0.9439	1,220,313.74	$16,144,750.84	0.0561	72,528.45	$1,401,974.88	$17,546,725.72
2069	1,306,665.192	0.9439	1,233,361.27	$16,317,369.66	0.0561	73,303.92	$1,416,964.72	$17,734,334.38
2070	1,320,635.987	0.9439	1,246,548.31	$16,491,834.12	0.0561	74,087.68	$1,432,114.83	$17,923,948.95
2071	1,334,756.157	0.9439	1,259,876.34	$16,668,163.93	0.0561	74,879.82	$1,447,426.93	$18,115,590.86
2072	1,349,027.299	0.9439	1,273,346.87	$16,846,379.06	0.0561	75,680.43	$1,462,902.74	$18,309,281.80
2073	1,363,451.027	0.9439	1,286,961.42	$17,026,499.65	0.0561	76,489.60	$1,478,544.02	$18,505,043.67
2074	1,378,028.973	0.9439	1,300,721.55	$17,208,546.08	0.0561	77,307.43	$1,494,352.53	$18,702,898.61
TOTAL	53,767,920.017		50,772,634.435	$671,721,953.58		2,995,285.581	$57,898,870.29	$729,620,823.87

Notes: (1) From Table 1-1. (2) Passenger vehicle/truck share of VMT calculated on the basis of model output. (3) Annual VMT multiplied by factor. (4) At $13.23 per hour for passenger-vehicle travel and $19.33 for truck travel, based on recommended rates for local and intercity travel for all purposes, updated to 2015 dollars using the Bureau of Labor Statistics Inflation Calculator.

Source: Mississippi Gulf Coast Regional Travel Demand Forecasting Model (2016). "Benefit-Cost Analysis (BCA) Resource Guide."

Table 1-3:

PROJECTED VALUE OF TOTAL ANNUAL PASSENGER-VEHICLE EMISSIONS FOR EXISTING NETWORK: 2025-2074

			OXIDES OF NITROGEN (NOX)			PARTICULATE MATTER >2.5 µm (PM10)			PARTICULATE MATTER ≤2.5 µm (PM2.5)			SULFUR DIOXIDE (SOX)			TOTAL ANNUAL
	DAILY PASS VEH	NOX	DAILY EMISSIONS		PM10	DAILY EMISSIONS		PM2.5	DAILY EMISSIONS		SOX	DAILY EMISSIONS			EMISSIONS
YEAR	MILES (1)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)		VALUE (5)
2025	6,886,389.24	0.00028846	0.9009	$7,219.78	0.00009679	0.3023	$110,840.77	0.00006418	0.2004	$73,489.10	0.00001070	0.0334	$1,583.68		$70,493,665.95
2026	6,953,268.14	0.00027141	0.8559	$6,858.91	0.00009687	0.3055	$112,010.43	0.00006415	0.2023	$74,172.19	0.00001076	0.0339	$1,607.11		$71,046,753.94
2027	7,020,796.46	0.00027141	0.8642	$6,925.52	0.00009687	0.3085	$113,098.24	0.00006415	0.2043	$74,892.53	0.00001076	0.0343	$1,622.72		$71,736,741.38
2028	7,088,980.49	0.00027141	0.8726	$6,992.78	0.00009687	0.3114	$114,196.62	0.00006415	0.2062	$75,619.87	0.00001076	0.0346	$1,638.48		$72,433,428.82
2029	7,157,826.62	0.00027141	0.8810	$7,060.69	0.00009687	0.3145	$115,305.67	0.00006415	0.2082	$76,354.27	0.00001076	0.0349	$1,654.39		$73,136,881.30
2030	7,227,341.26	0.00027141	0.8896	$7,129.26	0.00009687	0.3175	$116,425.48	0.00006415	0.2103	$77,095.80	0.00001076	0.0353	$1,670.46		$73,847,164.52
2031	7,289,345.71	0.00027141	0.8972	$7,190.43	0.00009687	0.3203	$117,424.31	0.00006415	0.2121	$77,757.21	0.00001076	0.0356	$1,684.79		$74,480,710.50
2032	7,351,882.01	0.00027141	0.9049	$7,252.11	0.00009687	0.3230	$118,431.71	0.00006415	0.2139	$78,424.30	0.00001076	0.0359	$1,699.24		$75,119,690.76
2033	7,414,954.72	0.00027141	0.9127	$7,314.33	0.00009687	0.3258	$119,447.75	0.00006415	0.2157	$79,097.12	0.00001076	0.0362	$1,713.82		$75,764,151.88
2034	7,478,568.43	0.00027141	0.9205	$7,377.08	0.00009687	0.3286	$120,472.51	0.00006415	0.2176	$79,775.70	0.00001076	0.0365	$1,728.53		$76,414,140.89
2035	7,542,727.79	0.00027141	0.9284	$7,440.37	0.00009687	0.3314	$121,506.05	0.00006415	0.2194	$80,460.10	0.00001076	0.0368	$1,743.35		$77,069,705.18
2036	7,607,437.48	0.00027141	0.9364	$7,504.20	0.00009687	0.3342	$122,548.46	0.00006415	0.2213	$81,150.38	0.00001076	0.0371	$1,758.31		$77,730,892.56
2037	7,672,702.21	0.00027141	0.9444	$7,568.58	0.00009687	0.3371	$123,599.81	0.00006415	0.2232	$81,846.57	0.00001076	0.0374	$1,773.40		$78,397,751.27
2038	7,738,526.75	0.00027141	0.9525	$7,633.51	0.00009687	0.3400	$124,660.18	0.00006415	0.2251	$82,548.74	0.00001076	0.0378	$1,788.61		$79,070,329.93
2039	7,804,915.89	0.00027141	0.9607	$7,699.00	0.00009687	0.3429	$125,729.65	0.00006415	0.2271	$83,256.93	0.00001076	0.0381	$1,803.95		$79,748,677.59
2040	7,871,874.49	0.00027141	0.9689	$7,765.05	0.00009687	0.3458	$126,808.29	0.00006415	0.2290	$83,971.19	0.00001076	0.0384	$1,819.43		$80,432,843.74
2041	7,938,566.73	0.00027141	0.9771	$7,830.84	0.00009687	0.3488	$127,882.63	0.00006415	0.2310	$84,682.61	0.00001076	0.0387	$1,834.84		$81,114,288.39
2042	8,006,756.40	0.00027141	0.9855	$7,898.10	0.00009687	0.3518	$128,981.10	0.00006415	0.2329	$85,410.01	0.00001076	0.0391	$1,850.61		$81,811,033.38
2043	8,075,531.71	0.00027141	0.9940	$7,965.94	0.00009687	0.3548	$130,089.01	0.00006415	0.2349	$86,143.65	0.00001076	0.0394	$1,866.50		$82,513,762.26
2044	8,144,897.68	0.00027141	1.0025	$8,034.37	0.00009687	0.3578	$131,206.43	0.00006415	0.2370	$86,883.59	0.00001076	0.0397	$1,882.53		$83,222,526.41
2045	8,214,859.39	0.00027141	1.0112	$8,103.38	0.00009687	0.3609	$132,333.44	0.00006415	0.2390	$87,629.89	0.00001076	0.0401	$1,898.70		$83,937,377.64
2046	8,285,422.04	0.00027141	1.0198	$8,172.98	0.00009687	0.3640	$133,470.14	0.00006415	0.2410	$88,382.60	0.00001076	0.0404	$1,915.01		$84,658,369.19
2047	8,356,590.81	0.00027141	1.0286	$8,243.19	0.00009687	0.3671	$134,616.60	0.00006415	0.2431	$89,141.78	0.00001076	0.0408	$1,931.46		$85,385,553.80
2048	8,428,370.88	0.00027141	1.0374	$8,313.99	0.00009687	0.3703	$135,772.91	0.00006415	0.2452	$89,907.47	0.00001076	0.0411	$1,948.05		$86,118,984.66
2049	8,500,767.52	0.00027141	1.0463	$8,385.41	0.00009687	0.3735	$136,939.15	0.00006415	0.2473	$90,679.74	0.00001076	0.0415	$1,964.79		$86,858,715.42
2050	8,573,786.03	0.00027141	1.0553	$8,457.44	0.00009687	0.3767	$138,115.40	0.00006415	0.2494	$91,458.65	0.00001076	0.0418	$1,981.66		$87,604,800.20
2051	8,647,431.73	0.00027141	1.0644	$8,530.08	0.00009687	0.3799	$139,301.76	0.00006415	0.2516	$92,244.25	0.00001076	0.0422	$1,998.69		$88,357,293.57
2052	8,721,710.02	0.00027141	1.0735	$8,603.35	0.00009687	0.3832	$140,498.32	0.00006415	0.2537	$93,036.59	0.00001076	0.0426	$2,015.85		$89,116,250.59
2053	8,796,626.34	0.00027141	1.0828	$8,677.25	0.00009687	0.3865	$141,705.14	0.00006415	0.2559	$93,835.74	0.00001076	0.0429	$2,033.17		$89,881,726.78
2054	8,872,186.16	0.00027141	1.0921	$8,751.79	0.00009687	0.3898	$142,922.34	0.00006415	0.2581	$94,641.76	0.00001076	0.0433	$2,050.63		$90,653,778.12
2055	8,948,395.02	0.00027141	1.1014	$8,826.96	0.00009687	0.3931	$144,149.99	0.00006415	0.2603	$95,454.69	0.00001076	0.0437	$2,068.25		$91,432,461.11
2056	9,025,258.47	0.00027141	1.1109	$8,902.78	0.00009687	0.3965	$145,388.19	0.00006415	0.2626	$96,274.62	0.00001076	0.0440	$2,086.01		$92,217,832.70
2057	9,102,782.16	0.00027141	1.1204	$8,979.25	0.00009687	0.3999	$146,637.02	0.00006415	0.2648	$97,101.58	0.00001076	0.0444	$2,103.93		$93,009,950.35
2058	9,180,971.75	0.00027141	1.1301	$9,056.38	0.00009687	0.4034	$147,896.58	0.00006415	0.2671	$97,935.65	0.00001076	0.0448	$2,122.00		$93,808,872.00
2059	9,259,832.96	0.00027141	1.1398	$9,134.17	0.00009687	0.4068	$149,166.96	0.00006415	0.2694	$98,776.88	0.00001076	0.0452	$2,140.23		$94,614,656.10
2060	9,339,371.56	0.00027141	1.1496	$9,212.63	0.00009687	0.4103	$150,448.25	0.00006415	0.2717	$99,625.34	0.00001076	0.0456	$2,158.61		$95,427,361.59
2061	9,419,593.36	0.00027141	1.1594	$9,291.76	0.00009687	0.4138	$151,740.54	0.00006415	0.2740	$100,481.08	0.00001076	0.0460	$2,177.16		$96,247,047.92
2062	9,500,504.24	0.00027141	1.1694	$9,371.58	0.00009687	0.4174	$153,043.94	0.00006415	0.2764	$101,344.18	0.00001076	0.0464	$2,195.86		$97,073,775.06
2063	9,582,110.12	0.00027141	1.1794	$9,452.08	0.00009687	0.4210	$154,358.53	0.00006415	0.2788	$102,214.69	0.00001076	0.0468	$2,214.72		$97,907,603.49
2064	9,664,416.96	0.00027141	1.1896	$9,533.27	0.00009687	0.4246	$155,684.41	0.00006415	0.2812	$103,092.67	0.00001076	0.0472	$2,233.74		$98,748,594.20
2065	9,747,430.79	0.00027141	1.1998	$9,615.15	0.00009687	0.4282	$157,021.68	0.00006415	0.2836	$103,978.20	0.00001076	0.0476	$2,252.93		$99,596,808.71
2066	9,831,157.68	0.00027141	1.2101	$9,697.74	0.00009687	0.4319	$158,370.44	0.00006415	0.2860	$104,871.34	0.00001076	0.0480	$2,272.28		$100,452,309.08
2067	9,915,603.74	0.00027141	1.2205	$9,781.04	0.00009687	0.4356	$159,730.79	0.00006415	0.2885	$105,772.14	0.00001076	0.0484	$2,291.80		$101,315,157.89
2068	10,000,775.17	0.00027141	1.2310	$9,865.06	0.00009687	0.4394	$161,102.82	0.00006415	0.2910	$106,680.69	0.00001076	0.0488	$2,311.48		$102,185,418.25
2069	10,086,678.20	0.00027141	1.2416	$9,949.80	0.00009687	0.4431	$162,486.63	0.00006415	0.2934	$107,597.04	0.00001076	0.0492	$2,331.34		$103,063,153.83
2070	10,173,319.09	0.00027141	1.2522	$10,035.26	0.00009687	0.4470	$163,882.33	0.00006415	0.2960	$108,521.26	0.00001076	0.0496	$2,351.36		$103,948,428.84
2071	10,260,704.21	0.00027141	1.2630	$10,121.46	0.00009687	0.4508	$165,290.02	0.00006415	0.2985	$109,453.41	0.00001076	0.0501	$2,371.56		$104,841,308.05
2072	10,348,839.92	0.00027141	1.2738	$10,208.40	0.00009687	0.4547	$166,709.80	0.00006415	0.3011	$110,393.58	0.00001076	0.0505	$2,391.93		$105,741,856.76
2073	10,437,732.70	0.00027141	1.2848	$10,296.09	0.00009687	0.4586	$168,141.78	0.00006415	0.3037	$111,341.82	0.00001076	0.0509	$2,412.48		$106,650,140.85
2074	10,527,389.02	0.00027141	1.2958	$10,384.53	0.00009687	0.4625	$169,586.06	0.00006415	0.3063	$112,298.21	0.00001076	0.0514	$2,433.20		$107,566,226.78
TOTAL	430,023,908.29		52.9842	$424,615.11		18.8925	$6,927,177.05		12.5107	$4,587,199.39		2.0979	$99,383.66		$4,394,006,954.21

Notes: (1) Vehicle-miles traveled from Table 1-1 multiplied by passenger vehicle factor from Table 1-2. (2) Emission factors are from South Coast Air Quality Management District (2007), "EMFAC 2007 Emission Factors." NOX - Oxides of nitrogen. PM 10 - Particulate matter less than 10 micrometers in diameter but greater than 2.5 micrometers. PM2.5 - Particulate matter 2.5 micrometers or less in diameter. SOX - Sulfur dioxide. (3) Metric tons. (4) Assumed values are based on National Highway Transportation Safety Administration (2012) recommended amounts updated to 2015 dollars per the Bureau of LaborStatistics Inflation Calculator: $8,014 per metric ton for NOX, $366,663 per metric ton for particulate matter, $47,372 per metric ton for SOX. (5) Sum of daily emissions values multiplied by 365.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-4:

PROJECTED VALUE OF TOTAL ANNUAL TRUCK EMISSIONS FOR EXISTING NETWORK: 2025-2074

			OXIDES OF NITROGEN (NOX) DAILY EMISSIONS			PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS			PARTICULATE MATTER ≤2.5 µm (PM2.5) DAILY EMISSIONS			SULFUR DIOXIDE (SOX) DAILY EMISSIONS		
YEAR	DAILY PASS VEH MILES (1)	NOX FACTOR (2)	TONS (3)	VALUE (4)	PM10 FACTOR (2)	TONS (3)	VALUE (4)	PM2.5 FACTOR (2)	TONS (3)	VALUE (4)	SOX FACTOR (2)	TONS (3)	VALUE (4)	TOTAL ANNUAL EMISSIONS VALUE (5)
2025	391,860.99	0.00932573	1.6573	$13,281.75	0.00048541	0.0863	$31,630.23	0.00036326	0.0646	$23,670.31	0.00004018	0.0071	$338.29	$25,156,011.76
2026	396,521.13	0.00898990	1.6166	$12,955.73	0.00046717	0.0840	$30,803.59	0.00034564	0.0622	$22,790.50	0.00003946	0.0071	$336.13	$24,413,370.48
2027	401,235.02	0.00898990	1.6359	$13,109.75	0.00046717	0.0850	$31,169.79	0.00034564	0.0629	$23,061.43	0.00003946	0.0072	$340.12	$24,703,599.54
2028	406,003.27	0.00898990	1.6553	$13,265.54	0.00046717	0.0860	$31,540.21	0.00034564	0.0636	$23,335.49	0.00003946	0.0073	$344.17	$24,997,175.38
2029	410,826.49	0.00898990	1.6750	$13,423.14	0.00046717	0.0870	$31,914.90	0.00034564	0.0644	$23,612.71	0.00003946	0.0074	$348.25	$25,294,135.76
2030	415,705.30	0.00898990	1.6949	$13,582.54	0.00046717	0.0881	$32,293.91	0.00034564	0.0652	$23,893.13	0.00003946	0.0074	$352.39	$25,594,518.84
2031	420,168.53	0.00898990	1.7130	$13,728.37	0.00046717	0.0890	$32,640.63	0.00034564	0.0659	$24,149.66	0.00003946	0.0075	$356.17	$25,869,314.61
2032	424,677.94	0.00898990	1.7314	$13,875.71	0.00046717	0.0900	$32,990.94	0.00034564	0.0666	$24,408.84	0.00003946	0.0076	$360.00	$26,146,954.20
2033	429,234.01	0.00898990	1.7500	$14,024.57	0.00046717	0.0909	$33,344.88	0.00034564	0.0673	$24,670.71	0.00003946	0.0077	$363.86	$26,427,466.31
2034	433,837.20	0.00898990	1.7688	$14,174.98	0.00046717	0.0919	$33,702.48	0.00034564	0.0680	$24,935.28	0.00003946	0.0078	$367.76	$26,710,879.90
2035	438,488.00	0.00898990	1.7877	$14,326.93	0.00046717	0.0929	$34,063.77	0.00034564	0.0687	$25,202.59	0.00003946	0.0078	$371.70	$26,997,224.21
2036	443,186.87	0.00898990	1.8069	$14,480.46	0.00046717	0.0939	$34,428.80	0.00034564	0.0695	$25,472.66	0.00003946	0.0079	$375.69	$27,286,528.78
2037	447,934.31	0.00898990	1.8263	$14,635.58	0.00046717	0.0949	$34,797.61	0.00034564	0.0702	$25,745.53	0.00003946	0.0080	$379.71	$27,578,823.46
2038	452,730.81	0.00898990	1.8458	$14,792.30	0.00046717	0.0959	$35,170.22	0.00034564	0.0710	$26,021.21	0.00003946	0.0081	$383.78	$27,874,138.35
2039	457,576.85	0.00898990	1.8656	$14,950.63	0.00046717	0.0969	$35,546.68	0.00034564	0.0717	$26,299.74	0.00003946	0.0082	$387.88	$28,172,503.90
2040	462,472.94	0.00898990	1.8855	$15,110.61	0.00046717	0.0980	$35,927.03	0.00034564	0.0725	$26,581.15	0.00003946	0.0083	$392.03	$28,473,950.82
2041	468,260.26	0.00898990	1.9091	$15,299.70	0.00046717	0.0992	$36,376.62	0.00034564	0.0734	$26,913.78	0.00003946	0.0084	$396.94	$28,830,270.05
2042	473,180.48	0.00898990	1.9292	$15,460.46	0.00046717	0.1003	$36,758.84	0.00034564	0.0742	$27,196.58	0.00003946	0.0085	$401.11	$29,133,202.24
2043	478,150.86	0.00898990	1.9494	$15,622.86	0.00046717	0.1013	$37,144.97	0.00034564	0.0750	$27,482.26	0.00003946	0.0086	$405.32	$29,439,222.92
2044	483,171.90	0.00898990	1.9699	$15,786.91	0.00046717	0.1024	$37,535.02	0.00034564	0.0757	$27,770.85	0.00003946	0.0086	$409.58	$29,748,362.90
2045	488,244.11	0.00898990	1.9906	$15,952.64	0.00046717	0.1034	$37,929.06	0.00034564	0.0765	$28,062.38	0.00003946	0.0087	$413.88	$30,060,653.29
2046	493,369.56	0.00898990	2.0115	$16,120.11	0.00046717	0.1045	$38,327.23	0.00034564	0.0773	$28,356.97	0.00003946	0.0088	$418.23	$30,376,222.01
2047	498,548.82	0.00898990	2.0326	$16,289.33	0.00046717	0.1056	$38,729.58	0.00034564	0.0781	$28,654.65	0.00003946	0.0089	$422.62	$30,695,103.50
2048	503,782.46	0.00898990	2.0539	$16,460.33	0.00046717	0.1067	$39,136.15	0.00034564	0.0790	$28,955.46	0.00003946	0.0090	$427.05	$31,017,332.51
2049	509,071.03	0.00898990	2.0755	$16,633.13	0.00046717	0.1079	$39,546.99	0.00034564	0.0798	$29,259.43	0.00003946	0.0091	$431.54	$31,342,944.21
2050	514,415.12	0.00898990	2.0973	$16,807.74	0.00046717	0.1090	$39,962.14	0.00034564	0.0806	$29,566.59	0.00003946	0.0092	$436.07	$31,671,974.08
2051	519,815.32	0.00898990	2.1193	$16,984.18	0.00046717	0.1101	$40,381.65	0.00034564	0.0815	$29,876.97	0.00003946	0.0093	$440.64	$32,004,458.03
2052	525,272.20	0.00898990	2.1416	$17,162.48	0.00046717	0.1113	$40,805.57	0.00034564	0.0823	$30,190.61	0.00003946	0.0094	$445.27	$32,340,432.30
2053	530,786.37	0.00898990	2.1640	$17,342.64	0.00046717	0.1125	$41,233.94	0.00034564	0.0832	$30,507.54	0.00003946	0.0095	$449.94	$32,679,933.54
2054	536,358.42	0.00898990	2.1868	$17,524.70	0.00046717	0.1136	$41,666.80	0.00034564	0.0841	$30,827.80	0.00003946	0.0096	$454.67	$33,022,998.77
2055	541,988.97	0.00898990	2.2097	$17,708.67	0.00046717	0.1148	$42,104.21	0.00034564	0.0850	$31,151.42	0.00003946	0.0097	$459.44	$33,369,665.41
2056	547,678.62	0.00898990	2.2329	$17,894.57	0.00046717	0.1160	$42,546.20	0.00034564	0.0859	$31,478.44	0.00003946	0.0098	$464.26	$33,719,971.27
2057	553,428.01	0.00898990	2.2564	$18,082.43	0.00046717	0.1173	$42,992.84	0.00034564	0.0868	$31,808.89	0.00003946	0.0099	$469.14	$34,073,954.54
2058	559,237.75	0.00898990	2.2800	$18,272.25	0.00046717	0.1185	$43,444.17	0.00034564	0.0877	$32,142.82	0.00003946	0.0100	$474.06	$34,431,653.84
2059	565,108.48	0.00898990	2.3040	$18,464.07	0.00046717	0.1197	$43,900.24	0.00034564	0.0886	$32,480.24	0.00003946	0.0101	$479.04	$34,793,108.16
2060	571,040.84	0.00898990	2.3282	$18,657.90	0.00046717	0.1210	$44,361.09	0.00034564	0.0895	$32,821.21	0.00003946	0.0102	$484.07	$35,158,356.94
2061	577,035.47	0.00898990	2.3526	$18,853.76	0.00046717	0.1223	$44,826.78	0.00034564	0.0905	$33,165.76	0.00003946	0.0103	$489.15	$35,527,440.00
2062	583,093.03	0.00898990	2.3773	$19,051.69	0.00046717	0.1235	$45,297.36	0.00034564	0.0914	$33,513.92	0.00003946	0.0104	$494.28	$35,900,397.60
2063	589,214.19	0.00898990	2.4023	$19,251.69	0.00046717	0.1248	$45,772.88	0.00034564	0.0924	$33,865.75	0.00003946	0.0105	$499.47	$36,277,270.41
2064	595,399.60	0.00898990	2.4275	$19,453.78	0.00046717	0.1261	$46,253.39	0.00034564	0.0933	$34,221.26	0.00003946	0.0107	$504.72	$36,658,099.53
2065	601,649.95	0.00898990	2.4530	$19,658.00	0.00046717	0.1275	$46,738.95	0.00034564	0.0943	$34,580.50	0.00003946	0.0108	$510.01	$37,042,926.49
2066	607,965.91	0.00898990	2.4787	$19,864.37	0.00046717	0.1288	$47,229.60	0.00034564	0.0953	$34,943.52	0.00003946	0.0109	$515.37	$37,431,793.26
2067	614,348.17	0.00898990	2.5047	$20,072.90	0.00046717	0.1302	$47,725.40	0.00034564	0.0963	$35,310.35	0.00003946	0.0110	$520.78	$37,824,742.25
2068	620,797.44	0.00898990	2.5310	$20,283.62	0.00046717	0.1315	$48,226.41	0.00034564	0.0973	$35,681.03	0.00003946	0.0111	$526.24	$38,221,816.31
2069	627,314.40	0.00898990	2.5576	$20,496.55	0.00046717	0.1329	$48,732.68	0.00034564	0.0983	$36,055.60	0.00003946	0.0112	$531.77	$38,623,058.75
2070	633,899.78	0.00898990	2.5844	$20,711.72	0.00046717	0.1343	$49,244.26	0.00034564	0.0994	$36,434.10	0.00003946	0.0113	$537.35	$39,028,513.33
2071	640,554.29	0.00898990	2.6116	$20,929.15	0.00046717	0.1357	$49,761.22	0.00034564	0.1004	$36,816.58	0.00003946	0.0115	$542.99	$39,438,224.27
2072	647,278.66	0.00898990	2.6390	$21,148.85	0.00046717	0.1371	$50,283.60	0.00034564	0.1015	$37,203.07	0.00003946	0.0116	$548.69	$39,852,236.24
2073	654,073.62	0.00898990	2.6667	$21,370.87	0.00046717	0.1386	$50,811.46	0.00034564	0.1025	$37,593.61	0.00003946	0.0117	$554.45	$40,270,594.39
2074	660,939.91	0.00898990	2.6947	$21,595.22	0.00046717	0.1400	$51,344.86	0.00034564	0.1036	$37,988.26	0.00003946	0.0118	$560.27	$40,693,344.36
Total	25,846,933.66		105.4390	$844,987.87		5.4794	$2,009,097.83		4.0548	$1,486,729.11		0.4626	$21,916.35	$1,592,396,873.98

Notes: (1) Vehicle-miles traveled from Table 1-1 multiplied by truck factor from Table 1-2. (2) Emission factors are from South Coast Air Quality Management District (2007), "EMFAC 2007 Emission Factors." NOX - Oxides of nitrogen. PM 10 - Particulate matter less than 10 micrometers in diameter but greater than 2.5 micrometers. PM2.5 - Particulate matter 2.5 micrometers or less in diameter. SOX - Sulfur dioxide. (3) Metric tons. (4) Assumed values are based on National Highway Transportation Safety Administration (2012) recommended amounts updated to 2015 dollars per the Bureau of LaborStatistics Inflation Calculator: $8,014 per metric ton for NOX, $366,663 per metric ton for particulate matter, $47,372 per metric ton for SOX. (5) Sum of daily emissions values multiplied by 365.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-5:
PROJECTED ANNUAL SOCIAL COST OF CARBON GENERATED BY PASSENGER VEHICLES AND TRUCKS ON EXISTING NETWORK: 2025-2074

		PASSENGER VEHICLES				TRUCKS			
YEAR	SOCIAL COST OF CARBON (1)	DAILY VEHICLE MILES (2)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT TONS (3)	ANNUAL COST OF CARBON	DAILY VEHICLE MILES (4)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT (TONS) (3)	ANNUAL SOCIAL COST OF CARBON
2025	$57.00	6,886,389.24	1.11078571	3,469	$72,174,033.84	391,860.99	4.19512979	746	$15,510,884.44
2026	$59.00	6,953,268.14	1.11105829	3,504	$75,450,497.01	396,521.13	4.19349747	754	$16,239,737.48
2027	$61.00	7,020,796.46	1.11105829	3,538	$78,765,735.58	401,235.02	4.19349747	763	$16,989,841.40
2028	$62.00	7,088,980.49	1.11105829	3,572	$80,834,468.42	406,003.27	4.19349747	772	$17,473,579.41
2029	$63.00	7,157,826.62	1.11105829	3,607	$82,935,953.06	410,826.49	4.19349747	781	$17,966,341.31
2030	$64.00	7,227,341.26	1.11105829	3,642	$85,070,630.49	415,705.30	4.19349747	791	$18,468,269.13
2031	$64.00	7,289,345.71	1.11105829	3,673	$85,800,464.29	420,168.53	4.19349747	799	$18,666,553.86
2032	$66.00	7,351,882.01	1.11105829	3,704	$89,240,825.71	424,677.94	4.19349747	808	$19,456,480.94
2033	$67.00	7,414,954.72	1.11105829	3,736	$91,370,167.65	429,234.01	4.19349747	816	$19,963,173.53
2034	$68.00	7,478,568.43	1.11105829	3,768	$93,529,475.85	433,837.20	4.19349747	825	$20,478,415.88
2035	$69.00	7,542,727.79	1.11105829	3,801	$95,719,107.70	438,488.00	4.19349747	834	$21,002,328.90
2036	$70.00	7,607,437.48	1.11105829	3,833	$97,939,424.49	443,186.87	4.19349747	843	$21,535,035.02
2037	$72.00	7,672,702.21	1.11105829	3,866	$101,601,929.40	447,934.31	4.19349747	852	$22,387,597.10
2038	$73.00	7,738,526.75	1.11105829	3,899	$103,896,822.13	452,730.81	4.19349747	861	$22,941,592.57
2039	$74.00	7,804,915.89	1.11105829	3,933	$106,223,611.52	457,576.85	4.19349747	870	$23,504,792.34
2040	$75.00	7,871,874.49	1.11105829	3,966	$108,582,675.89	462,472.94	4.19349747	880	$24,077,325.57
2041	$77.00	7,938,566.73	1.11105829	4,000	$112,422,681.72	468,260.26	4.19349747	891	$25,028,722.71
2042	$78.00	8,006,756.40	1.11105829	4,034	$114,860,931.54	473,180.48	4.19349747	900	$25,620,174.16
2043	$80.00	8,075,531.71	1.11105829	4,069	$118,817,997.71	478,150.86	4.19349747	909	$26,553,121.36
2044	$81.00	8,144,897.68	1.11105829	4,104	$121,336,584.98	483,171.90	4.19349747	919	$27,167,353.95
2045	$82.00	8,214,859.39	1.11105829	4,139	$123,889,671.78	488,244.11	4.19349747	929	$27,791,469.96
2046	$84.00	8,285,422.04	1.11105829	4,175	$128,001,493.61	493,369.56	4.19349747	938	$28,768,173.92
2047	$85.00	8,356,590.81	1.11105829	4,211	$130,637,896.32	498,548.82	4.19349747	948	$29,416,248.05
2048	$87.00	8,428,370.88	1.11105829	4,247	$134,860,264.31	503,782.46	4.19349747	958	$30,424,464.97
2049	$87.00	8,500,767.52	1.11105829	4,283	$136,018,664.94	509,071.03	4.19349747	968	$30,743,852.90
2050	$87.00	8,573,786.03	1.11105829	4,320	$137,187,015.80	514,415.12	4.19349747	978	$31,066,593.68
2051	$87.00	8,647,431.73	1.11105829	4,357	$138,365,402.38	519,815.32	4.19349747	989	$31,392,722.50
2052	$87.00	8,721,710.02	1.11105829	4,395	$139,553,910.87	525,272.20	4.19349747	999	$31,722,274.93
2053	$87.00	8,796,626.34	1.11105829	4,432	$140,752,628.22	530,786.37	4.19349747	1,009	$32,055,286.92
2054	$87.00	8,872,186.16	1.11105829	4,471	$141,961,642.11	536,358.42	4.19349747	1,020	$32,391,794.78
2055	$87.00	8,948,395.02	1.11105829	4,509	$143,181,040.99	541,988.97	4.19349747	1,031	$32,731,835.21
2056	$87.00	9,025,258.47	1.11105829	4,548	$144,410,914.06	547,678.62	4.19349747	1,042	$33,075,445.30
2057	$87.00	9,102,782.16	1.11105829	4,587	$145,651,351.30	553,428.01	4.19349747	1,053	$33,422,662.51
2058	$87.00	9,180,971.75	1.11105829	4,626	$146,902,443.44	559,237.75	4.19349747	1,064	$33,773,524.71
2059	$87.00	9,259,832.96	1.11105829	4,666	$148,164,282.01	565,108.48	4.19349747	1,075	$34,128,070.17
2060	$87.00	9,339,371.56	1.11105829	4,706	$149,436,959.31	571,040.84	4.19349747	1,086	$34,486,337.56
2061	$87.00	9,419,593.36	1.11105829	4,746	$150,720,568.45	577,035.47	4.19349747	1,097	$34,848,365.94
2062	$87.00	9,500,504.24	1.11105829	4,787	$152,015,203.32	583,093.03	4.19349747	1,109	$35,214,194.80
2063	$87.00	9,582,110.12	1.11105829	4,828	$153,320,958.64	589,214.19	4.19349747	1,121	$35,583,864.03
2064	$87.00	9,664,416.96	1.11105829	4,870	$154,637,929.92	595,399.60	4.19349747	1,132	$35,957,413.96
2065	$87.00	9,747,430.79	1.11105829	4,912	$155,966,213.50	601,649.95	4.19349747	1,144	$36,334,885.31
2066	$87.00	9,831,157.68	1.11105829	4,954	$157,305,906.56	607,965.91	4.19349747	1,156	$36,716,319.25
2067	$87.00	9,915,603.74	1.11105829	4,996	$158,657,107.09	614,348.17	4.19349747	1,168	$37,101,757.38
2068	$87.00	10,000,775.17	1.11105829	5,039	$160,019,913.94	620,797.44	4.19349747	1,181	$37,491,241.75
2069	$87.00	10,086,678.20	1.11105829	5,082	$161,394,426.81	627,314.40	4.19349747	1,193	$37,884,814.81
2070	$87.00	10,173,319.09	1.11105829	5,126	$162,780,746.25	633,899.78	4.19349747	1,206	$38,282,519.50
2071	$87.00	10,260,704.21	1.11105829	5,170	$164,178,973.66	640,554.29	4.19349747	1,218	$38,684,399.19
2072	$87.00	10,348,839.92	1.11105829	5,215	$165,589,211.34	647,278.66	4.19349747	1,231	$39,090,497.70
2073	$87.00	10,437,732.70	1.11105829	5,259	$167,011,562.45	654,073.62	4.19349747	1,244	$39,500,859.33
2074	$87.00	10,527,389.02	1.11105829	5,305	$168,446,131.04	660,939.91	4.19349747	1,257	$39,915,528.83
TOTAL		430,023,908.29		216,680.16	$6,377,594,453.41	25,846,933.66		49,156.32	$1,451,028,740.94

Notes: (1) Recommended carbon values (pre-discounted at 3.0 percent per annum) were updated from 2013 to 2015 dollars, using the Bureau of Labor Statistics Inflation Calculator. (2) From Table 1-3. (3) Metric tons. (4) From Table 1-4.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-6:

PROJECTED ANNUAL PASSENGER VEHICLE EMISSIONS FOR PHASE 3 IMPROVED NETWORK: 2025-2074

			OXIDES OF NITROGEN (NOX)			PARTICULATE MATTER >2.5 µm (PM10)			PARTICULATE MATTER ≤2.5 µm (PM2.5)				SULFUR DIOXIDE (SOX)		
	DAILY	NOX	DAILY EMISSIONS		PM10	DAILY EMISSIONS		PM2.5	DAILY EMISSIONS		SOX	DAILY EMISSIONS			TOTAL ANNUAL
YEAR	PASS VEH MILES (1)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)	FACTOR (2)	TONS (3)	VALUE (4)		EMISSIONS VALUE (5)
2025	6,872,560.01	0.00028846	0.8991	$7,205.28	0.00009679	0.3017	$110,618.18	0.00006418	0.2000	$73,341.52	0.00001070	0.0334	$1,580.50		$70,352,100.70
2026	6,939,160.50	0.00027141	0.8541	$6,844.99	0.00009687	0.3049	$111,783.17	0.00006415	0.2019	$74,021.70	0.00001076	0.0339	$1,603.85		$70,902,605.62
2027	7,006,406.31	0.00027141	0.8624	$6,911.33	0.00009687	0.3078	$112,866.43	0.00006415	0.2038	$74,739.03	0.00001076	0.0342	$1,619.39		$71,589,706.49
2028	7,074,303.69	0.00027141	0.8708	$6,978.30	0.00009687	0.3108	$113,960.19	0.00006415	0.2058	$75,463.31	0.00001076	0.0345	$1,635.09		$72,283,464.91
2029	7,142,858.95	0.00027141	0.8792	$7,045.93	0.00009687	0.3138	$115,064.55	0.00006415	0.2078	$76,194.60	0.00001076	0.0349	$1,650.93		$72,983,945.40
2030	7,212,078.46	0.00027141	0.8877	$7,114.21	0.00009687	0.3169	$116,179.61	0.00006415	0.2098	$76,932.99	0.00001076	0.0352	$1,666.93		$73,691,213.07
2031	7,274,332.57	0.00027141	0.8954	$7,175.62	0.00009687	0.3196	$117,182.46	0.00006415	0.2116	$77,597.07	0.00001076	0.0355	$1,681.32		$74,327,309.98
2032	7,337,123.96	0.00027141	0.9031	$7,237.56	0.00009687	0.3224	$118,193.97	0.00006415	0.2135	$78,266.88	0.00001076	0.0358	$1,695.83		$74,968,896.62
2033	7,400,457.25	0.00027141	0.9109	$7,300.03	0.00009687	0.3251	$119,214.21	0.00006415	0.2153	$78,942.47	0.00001076	0.0361	$1,710.47		$75,616,020.35
2034	7,464,337.13	0.00027141	0.9188	$7,363.04	0.00009687	0.3279	$120,243.25	0.00006415	0.2172	$79,623.89	0.00001076	0.0364	$1,725.24		$76,268,728.95
2035	7,528,768.30	0.00027141	0.9267	$7,426.60	0.00009687	0.3308	$121,281.18	0.00006415	0.2190	$80,311.19	0.00001076	0.0367	$1,740.13		$76,927,070.62
2036	7,593,755.54	0.00027141	0.9347	$7,490.70	0.00009687	0.3336	$122,328.06	0.00006415	0.2209	$81,004.43	0.00001076	0.0371	$1,755.15		$77,591,093.95
2037	7,659,303.64	0.00027141	0.9428	$7,555.36	0.00009687	0.3365	$123,383.98	0.00006415	0.2228	$81,703.64	0.00001076	0.0374	$1,770.30		$78,260,847.98
2038	7,725,417.43	0.00027141	0.9509	$7,620.58	0.00009687	0.3394	$124,449.00	0.00006415	0.2248	$82,408.90	0.00001076	0.0377	$1,785.58		$78,936,382.15
2039	7,792,101.80	0.00027141	0.9591	$7,686.36	0.00009687	0.3423	$125,523.23	0.00006415	0.2267	$83,120.24	0.00001076	0.0380	$1,800.99		$79,617,746.33
2040	7,859,361.66	0.00027141	0.9674	$7,752.71	0.00009687	0.3453	$126,606.72	0.00006415	0.2287	$83,837.71	0.00001076	0.0383	$1,816.54		$80,304,990.84
2041	7,925,947.89	0.00027141	0.9756	$7,818.39	0.00009687	0.3482	$127,679.36	0.00006415	0.2306	$84,548.00	0.00001076	0.0387	$1,831.93		$80,985,352.28
2042	7,994,029.17	0.00027141	0.9840	$7,885.55	0.00009687	0.3512	$128,776.08	0.00006415	0.2326	$85,274.24	0.00001076	0.0390	$1,847.66		$81,680,989.76
2043	8,062,695.16	0.00027141	0.9924	$7,953.28	0.00009687	0.3542	$129,882.22	0.00006415	0.2346	$86,006.72	0.00001076	0.0393	$1,863.53		$82,382,601.61
2044	8,131,950.87	0.00027141	1.0009	$8,021.60	0.00009687	0.3573	$130,997.87	0.00006415	0.2366	$86,745.49	0.00001076	0.0397	$1,879.54		$83,090,239.13
2045	8,201,801.37	0.00027141	1.0095	$8,090.50	0.00009687	0.3603	$132,123.09	0.00006415	0.2386	$87,490.60	0.00001076	0.0400	$1,895.69		$83,803,954.07
2046	8,273,128.25	0.00027141	1.0183	$8,160.86	0.00009687	0.3635	$133,272.10	0.00006415	0.2407	$88,251.46	0.00001076	0.0404	$1,912.17		$84,532,754.30
2047	8,345,075.43	0.00027141	1.0272	$8,231.83	0.00009687	0.3666	$134,431.10	0.00006415	0.2428	$89,018.94	0.00001076	0.0407	$1,928.80		$85,267,892.53
2048	8,417,648.29	0.00027141	1.0361	$8,303.42	0.00009687	0.3698	$135,600.17	0.00006415	0.2449	$89,793.09	0.00001076	0.0411	$1,945.58		$86,009,423.89
2049	8,490,852.28	0.00027141	1.0451	$8,375.63	0.00009687	0.3730	$136,779.42	0.00006415	0.2470	$90,573.98	0.00001076	0.0414	$1,962.49		$86,757,403.96
2050	8,564,692.89	0.00027141	1.0542	$8,448.47	0.00009687	0.3763	$137,968.92	0.00006415	0.2492	$91,361.65	0.00001076	0.0418	$1,979.56		$87,511,888.84
2051	8,639,175.66	0.00027141	1.0634	$8,521.94	0.00009687	0.3796	$139,168.77	0.00006415	0.2513	$92,156.18	0.00001076	0.0422	$1,996.78		$88,272,935.09
2052	8,714,306.16	0.00027141	1.0726	$8,596.05	0.00009687	0.3829	$140,379.05	0.00006415	0.2535	$92,957.61	0.00001076	0.0425	$2,014.14		$89,040,599.77
2053	8,790,090.03	0.00027141	1.0820	$8,670.80	0.00009687	0.3862	$141,599.85	0.00006415	0.2557	$93,766.02	0.00001076	0.0429	$2,031.66		$89,814,940.44
2054	8,866,532.96	0.00027141	1.0914	$8,746.21	0.00009687	0.3895	$142,831.27	0.00006415	0.2580	$94,581.45	0.00001076	0.0433	$2,049.33		$90,596,015.15
2055	8,943,640.68	0.00027141	1.1009	$8,822.27	0.00009687	0.3929	$144,073.40	0.00006415	0.2602	$95,403.98	0.00001076	0.0436	$2,067.15		$91,383,882.47
2056	9,021,418.96	0.00027141	1.1104	$8,898.99	0.00009687	0.3963	$145,326.34	0.00006415	0.2625	$96,233.66	0.00001076	0.0440	$2,085.12		$92,178,601.47
2057	9,099,873.63	0.00027141	1.1201	$8,976.38	0.00009687	0.3998	$146,590.17	0.00006415	0.2647	$97,070.55	0.00001076	0.0444	$2,103.26		$92,980,231.74
2058	9,179,010.59	0.00027141	1.1298	$9,054.45	0.00009687	0.4033	$147,864.99	0.00006415	0.2670	$97,914.73	0.00001076	0.0448	$2,121.55		$93,788,833.37
2059	9,258,835.76	0.00027141	1.1397	$9,133.19	0.00009687	0.4068	$149,150.89	0.00006415	0.2694	$98,766.24	0.00001076	0.0452	$2,140.00		$94,604,467.00
2060	9,339,355.13	0.00027141	1.1496	$9,212.62	0.00009687	0.4103	$150,447.98	0.00006415	0.2717	$99,625.16	0.00001076	0.0456	$2,158.61		$95,427,193.79
2061	9,420,574.74	0.00027141	1.1596	$9,292.73	0.00009687	0.4139	$151,756.35	0.00006415	0.2741	$100,491.55	0.00001076	0.0460	$2,177.38		$96,257,075.40
2062	9,502,500.67	0.00027141	1.1696	$9,373.55	0.00009687	0.4175	$153,076.10	0.00006415	0.2765	$101,365.47	0.00001076	0.0464	$2,196.32		$97,094,174.08
2063	9,585,139.07	0.00027141	1.1798	$9,455.06	0.00009687	0.4211	$154,407.32	0.00006415	0.2789	$102,247.00	0.00001076	0.0468	$2,215.42		$97,938,552.57
2064	9,668,496.14	0.00027141	1.1901	$9,537.29	0.00009687	0.4248	$155,750.12	0.00006415	0.2813	$103,136.19	0.00001076	0.0472	$2,234.68		$98,790,274.19
2065	9,752,578.12	0.00027141	1.2004	$9,620.23	0.00009687	0.4285	$157,104.60	0.00006415	0.2837	$104,033.11	0.00001076	0.0476	$2,254.12		$99,649,402.80
2066	9,837,391.31	0.00027141	1.2109	$9,703.89	0.00009687	0.4322	$158,470.86	0.00006415	0.2862	$104,937.83	0.00001076	0.0480	$2,273.72		$100,516,002.82
2067	9,922,942.08	0.00027141	1.2214	$9,788.28	0.00009687	0.4360	$159,849.00	0.00006415	0.2887	$105,850.42	0.00001076	0.0484	$2,293.49		$101,390,139.21
2068	10,009,236.85	0.00027141	1.2320	$9,873.41	0.00009687	0.4397	$161,239.13	0.00006415	0.2912	$106,770.95	0.00001076	0.0488	$2,313.44		$102,271,877.52
2069	10,096,282.08	0.00027141	1.2427	$9,959.27	0.00009687	0.4436	$162,641.34	0.00006415	0.2937	$107,699.48	0.00001076	0.0493	$2,333.56		$103,161,283.86
2070	10,184,084.29	0.00027141	1.2535	$10,045.88	0.00009687	0.4474	$164,055.75	0.00006415	0.2963	$108,636.09	0.00001076	0.0497	$2,353.85		$104,058,424.91
2071	10,272,650.07	0.00027141	1.2644	$10,133.25	0.00009687	0.4513	$165,482.46	0.00006415	0.2989	$109,580.84	0.00001076	0.0501	$2,374.32		$104,963,367.94
2072	10,361,986.07	0.00027141	1.2754	$10,221.37	0.00009687	0.4552	$166,921.58	0.00006415	0.3015	$110,533.81	0.00001076	0.0506	$2,394.97		$105,876,180.80
2073	10,452,098.98	0.00027141	1.2865	$10,310.26	0.00009687	0.4592	$168,373.21	0.00006415	0.3041	$111,495.07	0.00001076	0.0510	$2,415.80		$106,796,931.92
2074	10,542,995.55	0.00027141	1.2977	$10,399.92	0.00009687	0.4632	$169,837.46	0.00006415	0.3067	$112,464.68	0.00001076	0.0514	$2,436.81		$107,725,690.35
TOTAL	429,751,344.40		52.9505	$424,345.39		18.8805	$6,922,786.50		12.5027	$4,584,291.83		2.0966	$99,320.68		$4,391,221,702.96

Notes: (1) Vehicle-miles traveled from Table 1-1 multiplied by passenger vehicle factor from Table 1-2. (2) Emission factors are from South Coast Air Quality Management District (2007), "EMFAC 2007 Emission Factors." NOX - Oxides of nitrogen. PM 10 - Particulate matter less than 10 micrometers in diameter but greater than 2.5 micrometers. PM2.5 - Particulate matter 2.5 micrometers or less in diameter. SOX - Sulfur dioxide. (3) Metric tons. (4) Assumed values are based on National Highway Transportation Safety Administration (2012) recommended amounts updated to 2015 dollars per the Bureau of LaborStatistics Inflation Calculator: $8,014 per metric ton for NOX, $366,663 per metric ton for particulate matter, $47,372 per metric ton for SOX. (5) Sum of daily emissions values multiplied by 365.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-7:
PROJECTED ANNUAL TRUCK EMISSIONS FOR PHASE 3 IMPROVED NETWORK: 2025-2074

YEAR	DAILY TRUCK VEHICLE MILES (1)	NOX FACTOR (2)	OXIDES OF NITROGEN (NOX) DAILY EMISSIONS TONS (3)	OXIDES OF NITROGEN (NOX) DAILY EMISSIONS VALUE (4)	PM10 FACTOR (2)	PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS TONS (3)	PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS VALUE (4)	PM2.5 FACTOR (2)	PARTICULATE MATTER ≤2.5 µm (PM2.5) DAILY EMISSIONS TONS (3)	PARTICULATE MATTER ≤2.5 µm (PM2.5) DAILY EMISSIONS VALUE (4)	SOX FACTOR (2)	SULFUR DIOXIDE (SOX) DAILY EMISSIONS TONS (3)	SULFUR DIOXIDE (SOX) DAILY EMISSIONS VALUE (4)	TOTAL ANNUAL EMISSIONS VALUE (5)
2025	391,074.06	0.00932573	1.6540	$13,255.08	0.00048541	0.0861	$31,566.71	0.00036326	0.0644	$23,622.77	0.00004018	0.0071	$337.61	$25,105,493.51
2026	395,716.62	0.00898990	1.6134	$12,929.44	0.00046717	0.0838	$30,741.09	0.00034564	0.0620	$22,744.26	0.00003946	0.0071	$335.45	$24,363,837.65
2027	400,412.63	0.00898990	1.6325	$13,082.88	0.00046717	0.0848	$31,105.90	0.00034564	0.0628	$23,014.16	0.00003946	0.0072	$339.43	$24,652,965.91
2028	405,162.69	0.00898990	1.6519	$13,238.08	0.00046717	0.0858	$31,474.91	0.00034564	0.0635	$23,287.18	0.00003946	0.0073	$343.45	$24,945,422.01
2029	409,967.42	0.00898990	1.6715	$13,395.07	0.00046717	0.0869	$31,848.16	0.00034564	0.0643	$23,563.34	0.00003946	0.0073	$347.53	$25,241,243.41
2030	414,827.41	0.00898990	1.6913	$13,553.86	0.00046717	0.0879	$32,225.71	0.00034564	0.0650	$23,842.67	0.00003946	0.0074	$351.65	$25,540,467.98
2031	419,303.15	0.00898990	1.7095	$13,700.10	0.00046717	0.0888	$32,573.40	0.00034564	0.0657	$24,099.92	0.00003946	0.0075	$355.44	$25,816,034.15
2032	423,825.45	0.00898990	1.7280	$13,847.86	0.00046717	0.0898	$32,924.72	0.00034564	0.0664	$24,359.84	0.00003946	0.0076	$359.27	$26,094,467.20
2033	428,394.78	0.00898990	1.7466	$13,997.15	0.00046717	0.0908	$33,279.69	0.00034564	0.0672	$24,622.47	0.00003946	0.0077	$363.15	$26,375,796.21
2034	433,011.63	0.00898990	1.7654	$14,148.00	0.00046717	0.0917	$33,638.34	0.00034564	0.0679	$24,887.83	0.00003946	0.0077	$367.06	$26,660,050.55
2035	437,676.48	0.00898990	1.7844	$14,300.42	0.00046717	0.0927	$34,000.73	0.00034564	0.0686	$25,155.95	0.00003946	0.0078	$371.01	$26,947,259.86
2036	442,389.80	0.00898990	1.8036	$14,454.42	0.00046717	0.0937	$34,366.88	0.00034564	0.0693	$25,426.85	0.00003946	0.0079	$375.01	$27,237,454.10
2037	447,152.10	0.00898990	1.8231	$14,610.02	0.00046717	0.0947	$34,736.84	0.00034564	0.0701	$25,700.57	0.00003946	0.0080	$379.05	$27,530,663.51
2038	451,963.86	0.00898990	1.8427	$14,767.24	0.00046717	0.0958	$35,110.64	0.00034564	0.0708	$25,977.13	0.00003946	0.0081	$383.13	$27,826,918.63
2039	456,825.60	0.00898990	1.8625	$14,926.09	0.00046717	0.0968	$35,488.32	0.00034564	0.0716	$26,256.56	0.00003946	0.0082	$387.25	$28,126,250.32
2040	461,737.81	0.00898990	1.8825	$15,086.59	0.00046717	0.0978	$35,869.93	0.00034564	0.0724	$26,538.90	0.00003946	0.0083	$391.41	$28,428,689.74
2041	467,515.94	0.00898990	1.9061	$15,275.38	0.00046717	0.0991	$36,318.80	0.00034564	0.0733	$26,871.00	0.00003946	0.0084	$396.31	$28,784,442.58
2042	472,428.33	0.00898990	1.9261	$15,435.88	0.00046717	0.1001	$36,700.41	0.00034564	0.0741	$27,153.35	0.00003946	0.0085	$400.47	$29,086,893.24
2043	477,390.81	0.00898990	1.9463	$15,598.02	0.00046717	0.1011	$37,085.92	0.00034564	0.0748	$27,438.57	0.00003946	0.0085	$404.68	$29,392,427.48
2044	482,403.87	0.00898990	1.9668	$15,761.82	0.00046717	0.1022	$37,475.36	0.00034564	0.0756	$27,726.70	0.00003946	0.0086	$408.93	$29,701,076.06
2045	487,468.01	0.00898990	1.9874	$15,927.28	0.00046717	0.1033	$37,868.77	0.00034564	0.0764	$28,017.77	0.00003946	0.0087	$413.22	$30,012,870.05
2046	491,707.27	0.00898990	2.0047	$16,065.79	0.00046717	0.1042	$38,198.09	0.00034564	0.0771	$28,261.43	0.00003946	0.0088	$416.82	$30,273,876.66
2047	495,983.40	0.00898990	2.0221	$16,205.51	0.00046717	0.1051	$38,530.28	0.00034564	0.0777	$28,507.20	0.00003946	0.0089	$420.44	$30,537,153.12
2048	500,296.71	0.00898990	2.0397	$16,346.44	0.00046717	0.1060	$38,865.36	0.00034564	0.0784	$28,755.11	0.00003946	0.0090	$424.10	$30,802,719.16
2049	504,647.54	0.00898990	2.0575	$16,488.60	0.00046717	0.1069	$39,203.35	0.00034564	0.0791	$29,005.18	0.00003946	0.0090	$427.79	$31,070,594.70
2050	509,036.20	0.00898990	2.0754	$16,631.99	0.00046717	0.1078	$39,544.28	0.00034564	0.0798	$29,257.43	0.00003946	0.0091	$431.51	$31,340,799.81
2051	513,463.03	0.00898990	2.0934	$16,776.63	0.00046717	0.1088	$39,888.18	0.00034564	0.0805	$29,511.86	0.00003946	0.0092	$435.26	$31,613,354.75
2052	517,928.36	0.00898990	2.1116	$16,922.53	0.00046717	0.1097	$40,235.07	0.00034564	0.0812	$29,768.51	0.00003946	0.0093	$439.04	$31,888,279.97
2053	522,432.52	0.00898990	2.1300	$17,069.69	0.00046717	0.1107	$40,584.97	0.00034564	0.0819	$30,027.39	0.00003946	0.0093	$442.86	$32,165,596.07
2054	526,975.84	0.00898990	2.1485	$17,218.14	0.00046717	0.1116	$40,937.92	0.00034564	0.0826	$30,288.53	0.00003946	0.0094	$446.71	$32,445,323.85
2055	531,558.68	0.00898990	2.1672	$17,367.88	0.00046717	0.1126	$41,293.93	0.00034564	0.0833	$30,551.93	0.00003946	0.0095	$450.60	$32,727,484.27
2056	536,181.38	0.00898990	2.1860	$17,518.92	0.00046717	0.1136	$41,653.05	0.00034564	0.0840	$30,817.63	0.00003946	0.0096	$454.52	$33,012,098.51
2057	540,844.27	0.00898990	2.2051	$17,671.27	0.00046717	0.1146	$42,015.28	0.00034564	0.0848	$31,085.63	0.00003946	0.0097	$458.47	$33,299,187.88
2058	545,547.72	0.00898990	2.2242	$17,824.95	0.00046717	0.1156	$42,380.67	0.00034564	0.0855	$31,355.97	0.00003946	0.0098	$462.46	$33,588,773.93
2059	550,292.07	0.00898990	2.2436	$17,979.96	0.00046717	0.1166	$42,749.23	0.00034564	0.0863	$31,628.65	0.00003946	0.0098	$466.48	$33,880,878.36
2060	555,077.68	0.00898990	2.2631	$18,136.33	0.00046717	0.1176	$43,121.00	0.00034564	0.0870	$31,903.71	0.00003946	0.0099	$470.53	$34,175,523.07
2061	559,904.91	0.00898990	2.2828	$18,294.05	0.00046717	0.1186	$43,496.00	0.00034564	0.0878	$32,181.16	0.00003946	0.0100	$474.63	$34,472,730.16
2062	564,774.12	0.00898990	2.3026	$18,453.14	0.00046717	0.1197	$43,874.26	0.00034564	0.0885	$32,461.02	0.00003946	0.0101	$478.75	$34,772,521.91
2063	569,685.67	0.00898990	2.3226	$18,613.62	0.00046717	0.1207	$44,255.81	0.00034564	0.0893	$32,743.32	0.00003946	0.0102	$482.92	$35,074,920.79
2064	574,639.93	0.00898990	2.3428	$18,775.49	0.00046717	0.1217	$44,640.68	0.00034564	0.0901	$33,028.07	0.00003946	0.0103	$487.12	$35,379,949.48
2065	579,637.28	0.00898990	2.3632	$18,938.77	0.00046717	0.1228	$45,028.90	0.00034564	0.0909	$33,315.30	0.00003946	0.0104	$491.35	$35,687,630.85
2066	584,678.09	0.00898990	2.3838	$19,103.48	0.00046717	0.1239	$45,420.49	0.00034564	0.0917	$33,605.03	0.00003946	0.0105	$495.63	$35,997,987.97
2067	589,762.74	0.00898990	2.4045	$19,269.61	0.00046717	0.1250	$45,815.49	0.00034564	0.0924	$33,897.27	0.00003946	0.0106	$499.94	$36,311,044.10
2068	594,891.61	0.00898990	2.4254	$19,437.19	0.00046717	0.1260	$46,213.93	0.00034564	0.0933	$34,192.06	0.00003946	0.0106	$504.28	$36,626,822.73
2069	600,065.08	0.00898990	2.4465	$19,606.22	0.00046717	0.1271	$46,615.83	0.00034564	0.0941	$34,489.41	0.00003946	0.0107	$508.67	$36,945,347.52
2070	605,283.53	0.00898990	2.4678	$19,776.73	0.00046717	0.1282	$47,021.22	0.00034564	0.0949	$34,789.35	0.00003946	0.0108	$513.09	$37,266,642.35
2071	610,547.38	0.00898990	2.4892	$19,948.72	0.00046717	0.1294	$47,430.14	0.00034564	0.0957	$35,091.89	0.00003946	0.0109	$517.56	$37,590,731.33
2072	615,857.00	0.00898990	2.5109	$20,122.20	0.00046717	0.1305	$47,842.62	0.00034564	0.0965	$35,397.07	0.00003946	0.0110	$522.06	$37,917,638.74
2073	621,212.79	0.00898990	2.5327	$20,297.19	0.00046717	0.1316	$48,258.68	0.00034564	0.0974	$35,704.90	0.00003946	0.0111	$526.60	$38,247,389.10
2074	626,615.16	0.00898990	2.5547	$20,473.71	0.00046717	0.1328	$48,678.36	0.00034564	0.0982	$36,015.41	0.00003946	0.0112	$531.18	$38,580,007.13
TOTAL	25,346,176.41		103.3972	$828,625.42		5.3733	$1,970,194.31		3.9763	$1,457,945.22		0.4537	$21,491.85	$1,561,563,732.42

Notes: (1) Vehicle-miles traveled from Table 1-1 multiplied by truck factor from Table 1-4. (2) Emission factors are from South Coast Air Quality Management District (2007), "EMFAC 2007 Emission Factors." NOX - Oxides of nitrogen. PM 10 - Particulate matter less than 10 micrometers in diameter but greater than 2.5 micrometers. PM2.5 - Particulate matter 2.5 micrometers or less in diameter. SOX - Sulfur dioxide. (3) Metric tons. (4) Assumed values are based on National Highway Transportation Safety Administration (2012) recommended amounts updated to 2015 dollars per the Bureau of LaborStatistics Inflation Calculator: $8,014 per metric ton for NOX, $366,663 per metric ton for particulate matter, $47,372 per metric ton for SOX. (5) Sum of daily emissions values multiplied by 365.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-8:
PROJECTED ANNUAL SOCIAL COST OF CARBON GENERATED BY PASSENGER VEHICLES AND TRUCKS ON PHASE 3 IMPROVED NETWORK: 2025-2074

		PASSENGER VEHICLES				TRUCKS			
YEAR	SOCIAL COST OF CARBON (1)	DAILY VEHICLE MILES (2)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT TONS (3)	ANNUAL SOCIAL COST OF CARBON	DAILY VEHICLE MILES (4)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT TONS (3)	ANNUAL SOCIAL COST OF CARBON
2025	$57.00	6,872,560.01	1.11078571	3,462	$72,029,094.08	391,074.06	4.19512979	744	$15,479,735.51
2026	$59.00	6,939,160.50	1.11105829	3,497	$75,297,413.83	395,716.62	4.19349747	753	$16,206,788.32
2027	$61.00	7,006,406.31	1.11105829	3,530	$78,604,293.74	400,412.63	4.19349747	762	$16,955,018.25
2028	$62.00	7,074,303.69	1.11105829	3,565	$80,667,111.26	405,162.69	4.19349747	771	$17,437,402.66
2029	$63.00	7,142,858.95	1.11105829	3,599	$82,762,526.40	409,967.42	4.19349747	780	$17,928,772.05
2030	$64.00	7,212,078.46	1.11105829	3,634	$84,890,977.17	414,827.41	4.19349747	789	$18,429,267.59
2031	$64.00	7,274,332.57	1.11105829	3,665	$85,623,749.59	419,303.15	4.19349747	797	$18,628,108.21
2032	$66.00	7,337,123.96	1.11105829	3,697	$89,061,685.02	423,825.45	4.19349747	806	$19,417,424.30
2033	$67.00	7,400,457.25	1.11105829	3,729	$91,191,523.76	428,394.78	4.19349747	815	$19,924,142.20
2034	$68.00	7,464,337.13	1.11105829	3,761	$93,351,494.37	433,011.63	4.19349747	824	$20,439,446.58
2035	$69.00	7,528,768.30	1.11105829	3,794	$95,541,958.29	437,676.48	4.19349747	832	$20,963,459.44
2036	$70.00	7,593,755.54	1.11105829	3,826	$97,763,280.94	442,389.80	4.19349747	841	$21,496,304.37
2037	$72.00	7,659,303.64	1.11105829	3,859	$101,424,505.46	447,152.10	4.19349747	850	$22,348,502.41
2038	$73.00	7,725,417.43	1.11105829	3,893	$103,720,817.45	451,963.86	4.19349747	860	$22,902,728.75
2039	$74.00	7,792,101.80	1.11105829	3,926	$106,049,213.75	456,825.60	4.19349747	869	$23,466,202.21
2040	$75.00	7,859,361.66	1.11105829	3,960	$108,410,077.11	461,737.81	4.19349747	878	$24,039,053.19
2041	$77.00	7,925,947.89	1.11105829	3,994	$112,243,979.02	467,515.94	4.19349747	889	$24,988,938.03
2042	$78.00	7,994,029.17	1.11105829	4,028	$114,678,353.09	472,428.33	4.19349747	898	$25,579,449.33
2043	$80.00	8,062,695.16	1.11105829	4,063	$118,629,129.26	477,390.81	4.19349747	908	$26,510,913.56
2044	$81.00	8,131,950.87	1.11105829	4,098	$121,143,713.08	482,403.87	4.19349747	917	$27,124,169.78
2045	$82.00	8,201,801.37	1.11105829	4,133	$123,692,741.59	487,468.01	4.19349747	927	$27,747,293.72
2046	$84.00	8,273,128.25	1.11105829	4,169	$127,811,566.80	491,707.27	4.19349747	935	$28,671,246.50
2047	$85.00	8,345,075.43	1.11105829	4,205	$130,457,877.34	495,983.40	4.19349747	943	$29,264,878.39
2048	$87.00	8,417,648.29	1.11105829	4,241	$134,688,694.77	500,296.71	4.19349747	951	$30,213,953.76
2049	$87.00	8,490,852.28	1.11105829	4,278	$135,860,013.63	504,647.54	4.19349747	960	$30,476,709.10
2050	$87.00	8,564,692.89	1.11105829	4,316	$137,041,518.85	509,036.20	4.19349747	968	$30,741,749.49
2051	$87.00	8,639,175.66	1.11105829	4,353	$138,233,299.02	513,463.03	4.19349747	977	$31,009,094.80
2052	$87.00	8,714,306.16	1.11105829	4,391	$139,435,443.50	517,928.36	4.19349747	985	$31,278,765.07
2053	$87.00	8,790,090.03	1.11105829	4,429	$140,648,042.41	522,432.52	4.19349747	994	$31,550,780.54
2054	$87.00	8,866,532.96	1.11105829	4,468	$141,871,186.67	526,975.84	4.19349747	1,002	$31,825,161.58
2055	$87.00	8,943,640.68	1.11105829	4,507	$143,104,968.00	531,558.68	4.19349747	1,011	$32,101,928.77
2056	$87.00	9,021,418.96	1.11105829	4,546	$144,349,478.89	536,181.38	4.19349747	1,020	$32,381,102.86
2057	$87.00	9,099,873.63	1.11105829	4,585	$145,604,812.66	540,844.27	4.19349747	1,029	$32,662,704.79
2058	$87.00	9,179,010.59	1.11105829	4,625	$146,871,063.43	545,547.72	4.19349747	1,038	$32,946,755.67
2059	$87.00	9,258,835.76	1.11105829	4,665	$148,148,326.13	550,292.07	4.19349747	1,047	$33,233,276.80
2060	$87.00	9,339,355.13	1.11105829	4,706	$149,436,696.54	555,077.68	4.19349747	1,056	$33,522,289.65
2061	$87.00	9,420,574.74	1.11105829	4,747	$150,736,271.24	559,904.91	4.19349747	1,065	$33,813,815.90
2062	$87.00	9,502,500.67	1.11105829	4,788	$152,047,147.69	564,774.12	4.19349747	1,074	$34,107,877.40
2063	$87.00	9,585,139.07	1.11105829	4,830	$153,369,424.15	569,685.67	4.19349747	1,083	$34,404,496.21
2064	$87.00	9,668,496.14	1.11105829	4,872	$154,703,199.79	574,639.93	4.19349747	1,093	$34,703,694.56
2065	$87.00	9,752,578.12	1.11105829	4,914	$156,048,574.58	579,637.28	4.19349747	1,102	$35,005,494.89
2066	$87.00	9,837,391.31	1.11105829	4,957	$157,405,649.42	584,678.09	4.19349747	1,112	$35,309,919.82
2067	$87.00	9,922,942.08	1.11105829	5,000	$158,774,526.04	589,762.74	4.19349747	1,122	$35,616,992.17
2068	$87.00	10,009,236.85	1.11105829	5,043	$160,155,307.09	594,891.61	4.19349747	1,131	$35,926,734.98
2069	$87.00	10,096,282.08	1.11105829	5,087	$161,548,096.08	600,065.08	4.19349747	1,141	$36,239,171.47
2070	$87.00	10,184,084.29	1.11105829	5,132	$162,952,997.45	605,283.53	4.19349747	1,151	$36,554,325.05
2071	$87.00	10,272,650.07	1.11105829	5,176	$164,370,116.53	610,547.38	4.19349747	1,161	$36,872,219.37
2072	$87.00	10,361,986.07	1.11105829	5,221	$165,799,559.57	615,857.00	4.19349747	1,171	$37,192,878.25
2073	$87.00	10,452,098.98	1.11105829	5,267	$167,241,433.74	621,212.79	4.19349747	1,181	$37,516,325.73
2074	$87.00	10,542,995.55	1.11105829	5,312	$168,695,847.16	626,615.16	4.19349747	1,192	$37,842,586.07
TOTAL		429,751,344.40		216,542.82	$6,374,188,777.41	22,871,944.08		48,203.98	$1,421,000,050.11

Notes: (1) Recommended carbon values (pre-discounted at 3.0 percent per annum) were updated from 2013 to 2015 dollars, using the Bureau of Labor Statistics Inflation Calculator. (2) From Table 1-6. (3) Metric tons. (4) From Table 1-7.

Source: South Coast Air Quality Management District (2007) for Carbon Dioxide Factor; TIGER Benefit-Cost Analysis Resource Guide (2015) for Social Cost of Carbon.

Table 1-9:

POPP'S FERRY CORRIDOR PHASE 3 PROJECTED ANNUAL NON-CARBON SAVINGS FOR PASSENGER VEHICLES AND TRUCKS: 2025-2074

YEAR	PASSENGER VEHICLE TIME SAVINGS (1)	TRUCK TIME SAVINGS (1)	EXISTING PASS VEH EMISSIONS COST (2)	IMPROVED PASS VEH EMISSIONS COST (3)	PASSENGER VEHICLE EMISSIONS SAVINGS (4)	EXISTING TRUCK EMISSIONS COST (5)	IMPROVED TRUCK EMISSIONS COST (6)	TRUCK EMISSIONS SAVINGS (5)	TOTAL NON-CARBON SAVINGS (8)
2025	$10,429,809.57	$867,139.27	$70,493,665.95	$70,352,100.70	$141,565.24	$25,156,011.76	$25,105,493.51	$50,518.25	$11,489,032.34
2026	$10,502,197.00	$875,043.27	$71,046,753.94	$70,902,605.62	$144,148.33	$24,413,370.48	$24,363,837.65	$49,532.83	$11,570,921.43
2027	$10,574,843.80	$882,995.36	$71,736,741.38	$71,589,706.49	$147,034.90	$24,703,599.54	$24,652,965.91	$50,633.62	$11,655,507.68
2028	$10,647,746.04	$890,995.36	$72,433,428.82	$72,283,464.91	$149,963.91	$24,997,175.38	$24,945,422.01	$51,753.37	$11,740,458.68
2029	$10,720,899.67	$899,043.09	$73,136,881.30	$72,983,945.40	$152,935.90	$25,294,135.76	$25,241,243.41	$52,892.35	$11,825,771.02
2030	$10,794,302.61	$907,138.50	$73,847,164.52	$73,691,213.07	$155,951.45	$25,594,518.84	$25,540,467.98	$54,050.85	$11,911,443.42
2031	$10,908,717.64	$918,714.73	$74,480,710.50	$74,327,309.98	$153,400.52	$25,869,314.61	$25,816,034.15	$53,280.46	$12,034,113.35
2032	$11,024,345.26	$930,434.89	$75,119,690.76	$74,968,896.62	$150,794.14	$26,146,954.20	$26,094,467.20	$52,487.00	$12,158,061.30
2033	$11,141,198.33	$942,300.75	$75,764,151.88	$75,616,020.35	$148,131.53	$26,427,466.31	$26,375,796.21	$51,670.10	$12,283,300.71
2034	$11,259,289.83	$954,314.07	$76,414,140.89	$76,268,728.95	$145,411.94	$26,710,879.90	$26,660,050.55	$50,829.35	$12,409,845.18
2035	$11,378,632.88	$966,476.66	$77,069,705.18	$76,927,070.62	$142,634.56	$26,997,224.21	$26,947,259.86	$49,964.34	$12,537,708.44
2036	$11,499,240.75	$978,790.33	$77,730,892.56	$77,591,093.95	$139,798.61	$27,286,528.78	$27,237,454.10	$49,074.68	$12,666,904.37
2037	$11,621,126.84	$991,256.93	$78,397,751.27	$78,260,847.98	$136,903.29	$27,578,823.46	$27,530,663.51	$48,159.95	$12,797,447.00
2038	$11,744,304.69	$1,003,878.33	$79,070,329.93	$78,936,382.15	$133,947.78	$27,874,138.35	$27,826,918.63	$47,219.72	$12,929,350.51
2039	$11,868,787.99	$1,016,656.40	$79,748,677.59	$79,617,746.33	$130,931.26	$28,172,503.90	$28,126,250.32	$46,253.58	$13,062,629.23
2040	$11,994,589.02	$1,029,592.92	$80,432,843.74	$80,304,990.84	$127,852.91	$28,473,950.82	$28,428,689.74	$45,261.08	$13,197,295.92
2041	$12,120,139.17	$1,044,539.39	$81,114,288.39	$80,985,352.28	$128,936.11	$28,830,270.05	$28,784,442.58	$45,827.47	$13,339,442.13
2042	$12,248,429.82	$1,057,602.89	$81,811,033.38	$81,680,989.76	$130,043.62	$29,133,202.24	$29,086,893.24	$46,309.00	$13,482,385.34
2043	$12,378,078.29	$1,070,826.34	$82,513,762.26	$82,382,601.61	$131,160.65	$29,439,222.92	$29,392,427.48	$46,795.44	$13,626,860.72
2044	$12,509,098.93	$1,084,211.65	$83,222,526.41	$83,090,239.13	$132,287.28	$29,748,362.90	$29,701,076.06	$47,286.84	$13,772,884.69
2045	$12,641,506.27	$1,097,760.78	$83,937,377.64	$83,803,954.07	$133,423.58	$30,060,653.29	$30,012,870.05	$47,783.24	$13,920,473.86
2046	$12,776,668.58	$1,109,497.98	$84,658,369.19	$84,532,754.30	$125,614.90	$30,376,222.01	$30,273,876.66	$102,345.35	$14,114,126.81
2047	$12,913,276.04	$1,121,360.67	$85,385,553.80	$85,267,892.53	$117,661.27	$30,695,103.50	$30,537,153.12	$157,950.38	$14,310,248.36
2048	$13,051,344.11	$1,133,350.20	$86,118,984.66	$86,009,423.89	$109,560.77	$31,017,332.51	$30,802,719.16	$214,613.35	$14,508,868.43
2049	$13,190,888.39	$1,145,467.92	$86,858,715.42	$86,757,403.96	$101,311.45	$31,342,944.21	$31,070,594.70	$272,349.51	$14,710,017.27
2050	$13,331,924.67	$1,157,715.20	$87,604,800.20	$87,511,888.84	$92,911.35	$31,671,974.08	$31,340,799.81	$331,174.28	$14,913,725.50
2051	$13,474,468.90	$1,170,093.43	$88,357,293.57	$88,272,935.09	$84,358.48	$32,004,458.03	$31,613,354.75	$391,103.28	$15,120,024.09
2052	$13,618,537.21	$1,182,604.01	$89,116,250.59	$89,040,599.77	$75,650.82	$32,340,432.30	$31,888,279.97	$452,152.33	$15,328,944.37
2053	$13,764,145.88	$1,195,248.35	$89,881,726.78	$89,814,940.44	$66,786.34	$32,679,933.54	$32,165,596.07	$514,337.47	$15,540,518.04
2054	$13,911,311.40	$1,208,027.88	$90,653,778.12	$90,596,015.15	$57,762.98	$33,022,998.77	$32,445,323.85	$577,674.93	$15,754,777.18
2055	$14,060,050.41	$1,220,944.05	$91,432,461.11	$91,383,882.47	$48,578.64	$33,369,665.41	$32,727,484.27	$642,181.14	$15,971,754.24
2056	$14,210,379.72	$1,233,998.32	$92,217,832.70	$92,178,601.47	$39,231.23	$33,719,971.27	$33,012,098.51	$707,872.76	$16,191,482.03
2057	$14,362,316.35	$1,247,192.16	$93,009,950.35	$92,980,231.74	$29,718.62	$34,073,954.54	$33,299,187.88	$774,766.66	$16,413,993.78
2058	$14,515,877.47	$1,260,527.08	$93,808,872.00	$93,788,833.37	$20,038.63	$34,431,653.84	$33,588,773.93	$842,879.90	$16,639,323.08
2059	$14,671,080.46	$1,274,004.56	$94,614,656.10	$94,604,467.00	$10,189.09	$34,793,108.16	$33,880,878.36	$912,229.80	$16,867,503.93
2060	$14,827,942.88	$1,287,626.15	$95,427,361.59	$95,427,193.79	$167.80	$35,158,356.94	$34,175,523.07	$982,833.87	$17,098,570.70
2061	$14,986,482.46	$1,301,393.38	$96,247,047.92	$96,257,075.40	-$10,027.48	$35,527,440.00	$34,472,730.16	$1,054,709.84	$17,332,558.20
2062	$15,146,717.13	$1,315,307.81	$97,073,775.06	$97,094,174.08	-$20,399.01	$35,900,397.60	$34,772,521.91	$1,127,875.69	$17,569,501.63
2063	$15,308,665.03	$1,329,371.02	$97,907,603.49	$97,938,552.57	-$30,949.08	$36,277,270.41	$35,074,920.79	$1,202,349.62	$17,809,436.59
2064	$15,472,344.47	$1,343,584.58	$98,748,594.20	$98,790,274.19	-$41,679.99	$36,658,099.53	$35,379,949.48	$1,278,150.05	$18,052,399.10
2065	$15,637,773.95	$1,357,950.11	$99,596,808.71	$99,649,402.80	-$52,594.09	$37,042,926.49	$35,687,630.85	$1,355,295.64	$18,298,425.62
2066	$15,804,972.20	$1,372,469.25	$100,452,309.08	$100,516,002.82	-$63,693.73	$37,431,793.26	$35,997,987.97	$1,433,805.29	$18,547,553.01
2067	$15,973,958.13	$1,387,143.61	$101,315,157.89	$101,390,139.21	-$74,981.32	$37,824,742.25	$36,311,044.10	$1,513,698.15	$18,799,818.57
2068	$16,144,750.84	$1,401,974.88	$102,185,418.25	$102,271,877.52	-$86,459.27	$38,221,816.31	$36,626,822.73	$1,594,993.59	$19,055,260.04
2069	$16,317,369.66	$1,416,964.72	$103,063,153.83	$103,161,283.86	-$98,130.02	$38,623,058.75	$36,945,347.52	$1,677,711.24	$19,313,915.60
2070	$16,491,834.12	$1,432,114.83	$103,948,428.84	$104,058,424.91	-$109,996.06	$39,028,513.33	$37,266,642.35	$1,761,870.98	$19,575,823.86
2071	$16,668,163.93	$1,447,426.93	$104,841,308.05	$104,963,367.94	-$122,059.89	$39,438,224.27	$37,590,731.33	$1,847,492.94	$19,841,023.91
2072	$16,846,379.06	$1,462,902.74	$105,741,856.76	$105,876,180.80	-$134,324.04	$39,852,236.24	$37,917,638.74	$1,934,597.50	$20,109,555.25
2073	$17,026,499.65	$1,478,544.02	$106,650,140.85	$106,796,931.92	-$146,791.07	$40,270,594.39	$38,247,389.10	$2,023,205.29	$20,381,457.89
2074	$17,208,546.08	$1,494,352.53	$107,566,226.78	$107,725,690.35	-$159,463.57	$40,693,344.36	$38,580,007.13	$2,113,337.23	$20,656,772.28
TOTAL	$671,721,953.58	$57,898,870.29	$4,394,006,954.21	$4,391,221,702.96	$2,785,251.25	$1,592,396,873.98	$1,561,563,732.42	$30,833,141.56	$763,239,216.68

Notes: (1) From Table 1-2. (2) From Table 1-3. (3) From Table 1-6. (4) Existing network cost less improved network cost. (5) From Table 1-4. (6) From Table 1-7.

Table 1-10:

POPP'S FERRY CORRIDOR PHASE 3 NET ANNUAL PROJECT BENEFIT DISCOUNTED AT SEVEN PERCENT PER ANNUM: 2025-2074

YEAR	PROJECT CONSTRUCTION COST	ANNUAL MAINTENANCE COST (1)	EXISTING PASSENGER VEHICLE COST OF CARBON (2)	IMPROVED PASSENGER VEHICLE COST OF CARBON (3)	PASSENGER VEHICLE COST OF CARBON SAVINGS (4)	EXISTING NETWORK TRUCK COST OF CARBON (2)	IMPROVED NETWORK TRUCK COST OF CARBON (3)	TRUCK COST OF CARBON SAVINGS (4)	UNDISCOUNTED ANNUAL NON-CARBON BENEFIT (5)	DISCOUNTED ANNUAL NET NON-CARBON BENEFIT (6)	TOTAL ANNUAL SOCIAL COST OF CARBON SAVINGS (7)	TOTAL ANNUAL DISCOUNTED NET PROJECT BENEFIT (8)
2024	$95,000,000.00	--	--	--	--	--	--	--	--	--	--	--
2025	$0.00	$54,222.41	$72,174,033.84	$72,029,094.08	$144,939.76	$15,510,884.44	$15,479,735.51	$31,148.93	$11,489,032.34	$11,434,809.93	$176,088.68	$11,610,898.62
2026	$0.00	$54,222.41	$75,450,497.01	$75,297,413.83	$153,083.18	$16,239,737.48	$16,206,788.32	$32,949.16	$11,570,921.43	$10,763,270.11	$186,032.34	$10,949,302.45
2027	$0.00	$54,222.41	$78,765,735.58	$78,604,293.74	$161,441.84	$16,989,841.40	$16,955,018.25	$34,823.15	$11,655,507.68	$10,133,011.86	$196,265.00	$10,329,276.85
2028	$0.00	$54,222.41	$80,834,468.42	$80,667,111.26	$167,357.16	$17,473,579.41	$17,437,402.66	$36,176.75	$11,740,458.68	$9,539,449.86	$203,533.91	$9,742,983.76
2029	$0.00	$54,222.41	$82,935,953.06	$82,762,526.40	$173,426.66	$17,966,341.31	$17,928,772.05	$37,569.26	$11,825,771.02	$8,980,458.07	$210,995.92	$9,191,453.99
2030	$0.00	$54,222.41	$85,070,630.49	$84,890,977.17	$179,653.32	$18,468,269.13	$18,429,267.59	$39,001.54	$11,911,443.42	$8,454,034.71	$218,654.86	$8,672,689.57
2031	$0.00	$54,222.41	$85,800,464.29	$85,623,749.59	$176,714.69	$18,666,553.86	$18,628,108.21	$38,445.65	$12,034,113.35	$7,982,707.17	$215,160.34	$8,197,867.51
2032	$0.00	$54,222.41	$89,240,825.71	$89,061,685.02	$179,140.69	$19,456,480.94	$19,417,424.30	$39,056.65	$12,158,061.30	$7,537,662.54	$218,197.34	$7,755,859.88
2033	$0.00	$54,222.41	$91,370,167.65	$91,191,523.76	$178,643.89	$19,963,173.53	$19,924,142.20	$39,031.33	$12,283,300.71	$7,117,434.91	$217,675.22	$7,335,110.13
2034	$0.00	$54,222.41	$93,529,475.85	$93,351,494.37	$177,981.48	$20,478,415.88	$20,439,446.58	$38,969.31	$12,409,845.18	$6,720,640.14	$216,950.79	$6,937,590.93
2035	$0.00	$54,222.41	$95,719,107.70	$95,541,958.29	$177,149.41	$21,002,328.90	$20,963,459.44	$38,869.46	$12,537,708.44	$6,345,971.29	$216,018.87	$6,561,990.16
2036	$0.00	$54,222.41	$97,939,424.49	$97,763,280.94	$176,143.55	$21,535,035.02	$21,496,304.37	$38,730.65	$12,666,904.37	$5,992,194.34	$214,874.20	$6,207,068.54
2037	$0.00	$54,222.41	$101,601,929.40	$101,424,505.46	$177,423.94	$22,387,597.10	$22,348,502.41	$39,094.69	$12,797,447.00	$5,658,144.12	$216,518.63	$5,874,662.75
2038	$0.00	$54,222.41	$103,896,822.13	$103,720,817.45	$176,004.68	$22,941,592.57	$22,902,728.75	$38,863.82	$12,929,350.51	$5,342,720.42	$214,868.51	$5,557,588.93
2039	$0.00	$54,222.41	$106,223,611.52	$106,049,213.75	$174,397.77	$23,504,792.34	$23,466,202.21	$38,590.13	$13,062,629.23	$5,044,884.44	$212,987.90	$5,257,872.35
2040	$0.00	$54,222.41	$108,582,675.89	$108,410,077.11	$172,598.78	$24,077,325.57	$24,039,053.19	$38,272.38	$13,197,295.92	$4,763,654.68	$210,871.16	$4,974,525.84
2041	$0.00	$54,222.41	$112,422,681.72	$112,243,979.02	$178,702.71	$25,028,722.71	$24,988,938.03	$39,784.68	$13,339,442.13	$4,500,163.56	$218,487.39	$4,718,650.95
2042	$0.00	$54,222.41	$114,860,931.54	$114,678,353.09	$182,578.45	$25,620,174.16	$25,579,449.33	$40,724.83	$13,482,385.34	$4,251,012.50	$223,303.28	$4,474,315.78
2043	$0.00	$54,222.41	$118,817,997.71	$118,629,129.26	$188,868.45	$26,553,121.36	$26,510,913.56	$42,207.81	$13,626,860.72	$4,015,653.93	$231,076.26	$4,246,730.18
2044	$0.00	$54,222.41	$121,336,584.98	$121,143,713.08	$192,871.90	$27,167,353.95	$27,124,169.78	$43,184.17	$13,772,884.69	$3,793,324.44	$236,056.06	$4,029,380.50
2045	$0.00	$54,222.41	$123,889,671.78	$123,692,741.59	$196,930.19	$27,791,469.96	$27,747,293.72	$44,176.24	$13,920,473.86	$3,583,302.87	$241,106.42	$3,824,409.29
2046	$0.00	$54,222.41	$128,001,493.61	$127,811,566.80	$189,926.82	$28,768,173.92	$28,671,246.50	$96,927.42	$14,114,126.81	$3,395,650.91	$286,854.24	$3,682,505.15
2047	$0.00	$54,222.41	$130,637,896.32	$130,457,877.34	$180,018.98	$29,416,248.05	$29,264,878.39	$151,369.66	$14,310,248.36	$3,217,772.74	$331,388.64	$3,549,161.38
2048	$0.00	$54,222.41	$134,860,264.31	$134,688,694.77	$171,569.53	$30,424,464.97	$30,213,953.76	$210,511.22	$14,508,868.43	$3,049,162.53	$382,080.75	$3,431,243.28
2049	$0.00	$54,222.41	$136,018,664.94	$135,860,013.63	$158,651.30	$30,743,852.90	$30,476,709.10	$267,143.80	$14,710,017.27	$2,889,340.42	$425,795.11	$3,315,135.53
2050	$0.00	$54,222.41	$137,187,015.80	$137,041,518.85	$145,496.95	$31,066,593.68	$30,741,749.49	$324,844.19	$14,913,725.50	$2,737,851.22	$470,341.14	$3,208,192.36
2051	$0.00	$54,222.41	$138,365,402.38	$138,233,299.02	$132,103.36	$31,392,722.50	$31,009,094.80	$383,627.70	$15,120,024.09	$2,594,263.15	$515,731.06	$3,109,994.21
2052	$0.00	$54,222.41	$139,553,910.87	$139,435,443.50	$118,467.37	$31,722,274.93	$31,278,765.07	$443,509.86	$15,328,944.37	$2,458,166.62	$561,977.23	$3,020,143.85
2053	$0.00	$54,222.41	$140,752,628.22	$140,648,042.41	$104,585.81	$32,055,286.92	$31,550,780.54	$504,506.39	$15,540,518.04	$2,329,173.13	$609,092.20	$2,938,265.32
2054	$0.00	$54,222.41	$141,961,642.11	$141,871,186.67	$90,455.44	$32,391,794.78	$31,825,161.58	$566,633.21	$15,754,777.18	$2,206,914.18	$657,088.64	$2,864,002.82
2055	$0.00	$54,222.41	$143,181,040.99	$143,104,968.00	$76,072.99	$32,731,835.21	$32,101,928.77	$629,906.44	$15,971,754.24	$2,091,040.27	$705,979.43	$2,797,019.70
2056	$0.00	$54,222.41	$144,410,914.06	$144,349,478.89	$61,435.17	$33,075,445.30	$32,381,102.86	$694,342.43	$16,191,482.03	$1,981,219.88	$755,777.60	$2,736,997.49
2057	$0.00	$54,222.41	$145,651,351.30	$145,604,812.66	$46,538.64	$33,422,662.51	$32,662,704.79	$759,957.71	$16,413,993.78	$1,877,138.62	$806,496.35	$2,683,634.97
2058	$0.00	$54,222.41	$146,902,443.44	$146,871,063.43	$31,380.01	$33,773,524.71	$32,946,755.67	$826,769.04	$16,639,323.08	$1,778,498.28	$858,149.05	$2,636,647.33
2059	$0.00	$54,222.41	$148,164,282.01	$148,148,326.13	$15,955.88	$34,128,070.17	$33,233,276.80	$894,793.37	$16,867,503.93	$1,685,016.06	$910,749.25	$2,595,765.31
2060	$0.00	$54,222.41	$149,436,959.31	$149,436,696.54	$262.77	$34,486,337.56	$33,522,289.65	$964,047.91	$17,098,570.70	$1,596,423.75	$964,310.68	$2,560,734.44
2061	$0.00	$54,222.41	$150,720,568.45	$150,736,271.24	-$15,702.79	$34,848,365.94	$33,813,815.90	$1,034,550.04	$17,332,558.20	$1,512,467.02	$1,018,847.25	$2,531,314.27
2062	$0.00	$54,222.41	$152,015,203.32	$152,047,147.69	-$31,944.36	$35,214,194.80	$34,107,877.40	$1,106,317.40	$17,569,501.63	$1,432,904.65	$1,074,373.03	$2,507,277.68
2063	$0.00	$54,222.41	$153,320,958.64	$153,369,424.15	-$48,465.52	$35,583,864.03	$34,404,496.21	$1,179,367.82	$17,809,436.59	$1,357,507.89	$1,130,902.31	$2,488,410.20
2064	$0.00	$54,222.41	$154,637,929.92	$154,703,199.79	-$65,269.87	$35,957,413.96	$34,703,694.56	$1,253,719.39	$18,052,399.10	$1,286,059.85	$1,188,449.53	$2,474,509.38
2065	$0.00	$54,222.41	$155,966,213.50	$156,048,574.58	-$82,361.08	$36,334,885.31	$35,005,494.89	$1,329,390.42	$18,298,425.62	$1,218,354.84	$1,247,029.34	$2,465,384.18
2066	$0.00	$54,222.41	$157,305,906.56	$157,405,649.42	-$99,742.86	$36,716,319.25	$35,309,919.82	$1,406,399.43	$18,547,553.01	$1,154,197.82	$1,306,656.57	$2,460,854.39
2067	$0.00	$54,222.41	$158,657,107.09	$158,774,526.04	-$117,418.95	$37,101,757.38	$35,616,992.17	$1,484,765.21	$18,799,818.57	$1,093,403.84	$1,367,346.26	$2,460,750.10
2068	$0.00	$54,222.41	$160,019,913.94	$160,155,307.09	-$135,393.14	$37,491,241.75	$35,926,734.98	$1,564,506.76	$19,055,260.04	$1,035,797.55	$1,429,113.62	$2,464,911.17
2069	$0.00	$54,222.41	$161,394,426.81	$161,548,096.08	-$153,669.27	$37,884,814.81	$36,239,171.47	$1,645,643.35	$19,313,915.60	$981,212.67	$1,491,974.08	$2,473,186.75
2070	$0.00	$54,222.41	$162,780,746.25	$162,952,997.45	-$172,251.20	$38,282,519.50	$36,554,325.05	$1,728,194.45	$19,575,823.86	$929,491.55	$1,555,943.25	$2,485,434.80
2071	$0.00	$54,222.41	$164,178,973.66	$164,370,116.53	-$191,142.86	$38,684,399.19	$36,872,219.37	$1,812,179.82	$19,841,023.91	$880,484.72	$1,621,036.96	$2,501,521.68
2072	$0.00	$54,222.41	$165,589,211.34	$165,799,559.57	-$210,348.22	$39,090,497.70	$37,192,878.25	$1,897,619.46	$20,109,555.25	$834,050.45	$1,687,271.24	$2,521,321.69
2073	$0.00	$54,222.41	$167,011,562.45	$167,241,433.74	-$229,871.29	$39,500,859.33	$37,516,325.73	$1,984,533.60	$20,381,457.89	$790,054.39	$1,754,662.31	$2,544,716.70
2074	$0.00	$54,222.41	$168,446,131.04	$168,695,847.16	-$249,716.12	$39,915,528.83	$37,842,586.07	$2,072,942.75	$20,656,772.28	$748,369.13	$1,823,226.63	$2,571,595.76
TOTAL	$95,000,000.00	$2,711,120.50	$6,377,594,453.41	$6,374,188,777.41	$3,405,676.00	$1,451,028,740.94	$1,421,000,050.11	$30,028,690.83	$763,239,216.68	$193,096,493.98	$33,434,366.83	$226,530,860.81
											BENEFIT/COST	2.38

Notes: *(1) Maintenance cost per mile ($22,232.30) based on Mississippi Department of Transportation (2015):* 2014 Annual Report, "Maintenance Expenditures by County, Fiscal Year 2014". *The figure for Harrison County was updated to 2015 using the Bureau of Labor Statistics online Inflation Calaculator. (2) From Table 1-5. (3) From Table 1-8. (4) Existing less improved. (5) From Table 1-9. (6) Undiscounted annual non-carbon benefit less annual maintenance cost discounted at 3.0 percent. (7) A 3.0-percent per annum discount rate is built into the social cost of carbon values recommended in TIGER Benefit-Cost Analysis (BCA) Resource Guide. (8) Discounted total non-carbon savings plus total social cost of carbon savings.*

Source: *Mississippi Department of Transportation (2013):* 2012 Annual Report, *"Maintenance Expenditures by County, Fiscal Year: 2012."*

Table 1-11:

POPP'S FERRY CORRIDOR PHASE 3 NET ANNUAL PROJECT BENEFIT DISCOUNTED AT THREE PERCENT PER ANNUM: 2025-2074

YEAR	PROJECT CONSTRUCTION COST	ANNUAL MAINTENANCE COST (1)	EXISTING PASSENGER VEHICLE COST OF CARBON (2)	IMPROVED PASSENGER VEHICLE COST OF CARBON (3)	PASSENGER VEHICLE COST OF CARBON SAVINGS (4)	EXISTING NETWORK TRUCK COST OF CARBON (2)	IMPROVED NETWORK TRUCK COST OF CARBON (3)	TRUCK COST OF CARBON SAVINGS (4)	UNDISCOUNTED ANNUAL NON-CARBON BENEFIT (5)	DISCOUNTED ANNUAL NET NON-CARBON BENEFIT (6)	TOTAL ANNUAL SOCIAL COST OF CARBON SAVINGS (7)	TOTAL ANNUAL DISCOUNTED NET PROJECT BENEFIT (8)
2024	$95,000,000.00	--	--	--	--	--	--	--	--	--	--	--
2025	$0.00	$54,222.41	$72,174,033.84	$72,029,094.08	$144,939.76	$15,510,884.44	$15,479,735.51	$31,148.93	$11,489,032.34	$11,434,809.93	$176,088.68	$11,610,898.62
2026	$0.00	$54,222.41	$75,450,497.01	$75,297,413.83	$153,083.18	$16,239,737.48	$16,206,788.32	$32,949.16	$11,570,921.43	$11,181,261.18	$186,032.34	$11,367,293.52
2027	$0.00	$54,222.41	$78,765,735.58	$78,604,293.74	$161,441.84	$16,989,841.40	$16,955,018.25	$34,823.15	$11,655,507.68	$10,935,324.04	$196,265.00	$11,131,589.04
2028	$0.00	$54,222.41	$80,834,468.42	$80,667,111.26	$167,357.16	$17,473,579.41	$17,437,402.66	$36,176.75	$11,740,458.68	$10,694,561.65	$203,533.91	$10,898,095.56
2029	$0.00	$54,222.41	$82,935,953.06	$82,762,526.40	$173,426.66	$17,966,341.31	$17,928,772.05	$37,569.26	$11,825,771.02	$10,458,868.47	$210,995.92	$10,669,864.39
2030	$0.00	$54,222.41	$85,070,630.49	$84,890,977.17	$179,653.32	$18,468,269.13	$18,429,267.59	$39,001.54	$11,911,443.42	$10,228,143.00	$218,654.86	$10,446,797.86
2031	$0.00	$54,222.41	$85,800,464.29	$85,623,749.59	$176,714.69	$18,666,553.86	$18,628,108.21	$38,445.65	$12,034,113.35	$10,032,970.06	$215,160.34	$10,248,130.40
2032	$0.00	$54,222.41	$89,240,825.71	$89,061,685.02	$179,140.69	$19,456,480.94	$19,417,424.30	$39,056.65	$12,158,061.30	$9,841,528.65	$218,197.34	$10,059,725.99
2033	$0.00	$54,222.41	$91,370,167.65	$91,191,523.76	$178,643.89	$19,963,173.53	$19,924,142.20	$39,031.33	$12,283,300.71	$9,653,747.34	$217,675.22	$9,871,422.56
2034	$0.00	$54,222.41	$93,529,475.85	$93,351,494.37	$177,981.48	$20,478,415.88	$20,439,446.58	$38,969.31	$12,409,845.18	$9,469,556.03	$216,950.79	$9,686,506.82
2035	$0.00	$54,222.41	$95,719,107.70	$95,541,958.29	$177,149.41	$21,002,328.90	$20,963,459.44	$38,869.46	$12,537,708.44	$9,288,885.99	$216,018.87	$9,504,904.86
2036	$0.00	$54,222.41	$97,939,424.49	$97,763,280.94	$176,143.55	$21,535,035.02	$21,496,304.37	$38,730.65	$12,666,904.37	$9,111,669.80	$214,874.20	$9,326,544.00
2037	$0.00	$54,222.41	$101,601,929.40	$101,424,505.46	$177,423.94	$22,387,597.10	$22,348,502.41	$39,094.69	$12,797,447.00	$8,937,841.34	$216,518.63	$9,154,359.97
2038	$0.00	$54,222.41	$103,896,822.13	$103,720,817.45	$176,004.68	$22,941,592.57	$22,902,728.75	$38,863.82	$12,929,350.51	$8,767,335.73	$214,868.51	$8,982,204.24
2039	$0.00	$54,222.41	$106,223,611.52	$106,049,213.75	$174,397.77	$23,504,792.34	$23,466,202.21	$38,590.13	$13,062,629.23	$8,600,089.37	$212,987.90	$8,813,077.28
2040	$0.00	$54,222.41	$108,582,675.89	$108,410,077.11	$172,598.78	$24,077,325.57	$24,039,053.19	$38,272.38	$13,197,295.92	$8,436,038.76	$210,871.16	$8,646,909.92
2041	$0.00	$54,222.41	$112,422,681.72	$112,243,979.02	$178,702.71	$25,028,722.71	$24,988,938.03	$39,784.68	$13,339,442.13	$8,278,909.71	$218,487.39	$8,497,397.10
2042	$0.00	$54,222.41	$114,860,931.54	$114,678,353.09	$182,578.45	$25,620,174.16	$25,579,449.33	$40,724.83	$13,482,385.34	$8,124,259.41	$223,303.28	$8,347,562.69
2043	$0.00	$54,222.41	$118,817,997.71	$118,629,129.26	$188,868.45	$26,553,121.36	$26,510,913.56	$42,207.81	$13,626,860.72	$7,972,494.56	$231,076.26	$8,203,570.81
2044	$0.00	$54,222.41	$121,336,584.98	$121,143,713.08	$192,871.90	$27,167,353.95	$27,124,169.78	$43,184.17	$13,772,884.69	$7,823,561.41	$236,056.06	$8,059,617.47
2045	$0.00	$54,222.41	$123,889,671.78	$123,692,741.59	$196,930.19	$27,791,469.96	$27,747,293.72	$44,176.24	$13,920,473.86	$7,677,407.23	$241,106.42	$7,918,513.65
2046	$0.00	$54,222.41	$128,001,493.61	$127,811,566.80	$189,926.82	$28,768,173.92	$28,671,246.50	$96,927.42	$14,114,126.81	$7,557,891.43	$286,854.24	$7,844,745.66
2047	$0.00	$54,222.41	$130,637,896.32	$130,457,877.34	$180,018.98	$29,416,248.05	$29,264,878.39	$151,369.66	$14,310,248.36	$7,440,113.03	$331,388.64	$7,771,501.68
2048	$0.00	$54,222.41	$134,860,264.31	$134,688,694.77	$171,569.53	$30,424,464.97	$30,213,953.76	$210,511.22	$14,508,868.43	$7,324,049.86	$382,080.75	$7,706,130.61
2049	$0.00	$54,222.41	$136,018,664.94	$135,860,013.63	$158,651.30	$30,743,852.90	$30,476,709.10	$267,143.80	$14,710,017.27	$7,209,679.92	$425,795.11	$7,635,475.03
2050	$0.00	$54,222.41	$137,187,015.80	$137,041,518.85	$145,496.95	$31,066,593.68	$30,741,749.49	$324,844.19	$14,913,725.50	$7,096,981.43	$470,341.14	$7,567,322.57
2051	$0.00	$54,222.41	$138,365,402.38	$138,233,299.02	$132,103.36	$31,392,722.50	$31,009,094.80	$383,627.70	$15,120,024.09	$6,985,932.80	$515,731.06	$7,501,663.86
2052	$0.00	$54,222.41	$139,553,910.87	$139,435,443.50	$118,467.37	$31,722,274.93	$31,278,765.07	$443,509.86	$15,328,944.37	$6,876,512.66	$561,977.23	$7,438,489.89
2053	$0.00	$54,222.41	$140,752,628.22	$140,648,042.41	$104,585.81	$32,055,286.92	$31,550,780.54	$504,506.39	$15,540,518.04	$6,768,699.81	$609,092.20	$7,377,792.01
2054	$0.00	$54,222.41	$141,961,642.11	$141,871,186.67	$90,455.44	$32,391,794.78	$31,825,161.58	$566,633.21	$15,754,777.18	$6,662,473.30	$657,088.64	$7,319,561.95
2055	$0.00	$54,222.41	$143,181,040.99	$143,104,968.00	$76,072.99	$32,731,835.21	$32,101,928.77	$629,906.44	$15,971,754.24	$6,557,812.36	$705,979.43	$7,263,791.79
2056	$0.00	$54,222.41	$144,410,914.06	$144,349,478.89	$61,435.17	$33,075,445.30	$32,381,102.86	$694,342.43	$16,191,482.03	$6,454,696.41	$755,777.60	$7,210,474.01
2057	$0.00	$54,222.41	$145,651,351.30	$145,604,812.66	$46,538.64	$33,422,662.51	$32,662,704.79	$759,957.71	$16,413,993.78	$6,353,105.09	$806,496.35	$7,159,601.44
2058	$0.00	$54,222.41	$146,902,443.44	$146,871,063.43	$31,380.01	$33,773,524.71	$32,946,755.67	$826,769.04	$16,639,323.08	$6,253,018.26	$858,149.05	$7,111,167.31
2059	$0.00	$54,222.41	$148,164,282.01	$148,148,326.13	$15,955.88	$34,128,070.17	$33,233,276.80	$894,793.37	$16,867,503.93	$6,154,415.95	$910,749.25	$7,065,165.20
2060	$0.00	$54,222.41	$149,436,959.31	$149,436,696.54	$262.77	$34,486,337.56	$33,522,289.65	$964,047.91	$17,098,570.70	$6,057,278.41	$964,310.68	$7,021,589.09
2061	$0.00	$54,222.41	$150,720,568.45	$150,736,271.24	-$15,702.79	$34,848,365.94	$33,813,815.90	$1,034,550.04	$17,332,558.20	$5,961,586.10	$1,018,847.25	$6,980,433.35
2062	$0.00	$54,222.41	$152,015,203.32	$152,047,147.69	-$31,944.36	$35,214,194.80	$34,107,877.40	$1,106,317.40	$17,569,501.63	$5,867,319.67	$1,074,373.03	$6,941,692.71
2063	$0.00	$54,222.41	$153,320,958.64	$153,369,424.15	-$48,465.52	$35,583,864.03	$34,404,496.21	$1,179,367.82	$17,809,436.59	$5,774,459.99	$1,130,902.31	$6,905,362.30
2064	$0.00	$54,222.41	$154,637,929.92	$154,703,199.79	-$65,269.87	$35,957,413.96	$34,703,694.56	$1,253,719.39	$18,052,399.10	$5,682,988.11	$1,188,449.53	$6,871,437.64
2065	$0.00	$54,222.41	$155,966,213.50	$156,048,574.58	-$82,361.08	$36,334,885.31	$35,005,494.89	$1,329,390.42	$18,298,425.62	$5,592,885.30	$1,247,029.34	$6,839,914.63
2066	$0.00	$54,222.41	$157,305,906.56	$157,405,649.42	-$99,742.86	$36,716,319.25	$35,309,919.82	$1,406,399.43	$18,547,553.01	$5,504,133.01	$1,306,656.57	$6,810,789.58
2067	$0.00	$54,222.41	$158,657,107.09	$158,774,526.04	-$117,418.95	$37,101,757.38	$35,616,992.17	$1,484,765.21	$18,799,818.57	$5,416,712.92	$1,367,346.26	$6,784,059.18
2068	$0.00	$54,222.41	$160,019,913.94	$160,155,307.09	-$135,393.14	$37,491,241.75	$35,926,734.98	$1,564,506.76	$19,055,260.04	$5,330,606.88	$1,429,113.62	$6,759,720.51
2069	$0.00	$54,222.41	$161,394,426.81	$161,548,096.08	-$153,669.27	$37,884,814.81	$36,239,171.47	$1,645,643.35	$19,313,915.60	$5,245,796.96	$1,491,974.08	$6,737,771.04
2070	$0.00	$54,222.41	$162,780,746.25	$162,952,997.45	-$172,251.20	$38,282,519.50	$36,554,325.05	$1,728,194.45	$19,575,823.86	$5,162,265.42	$1,555,943.25	$6,718,208.67
2071	$0.00	$54,222.41	$164,178,973.66	$164,370,116.53	-$191,142.86	$38,684,399.19	$36,872,219.37	$1,812,179.82	$19,841,023.91	$5,079,994.72	$1,621,036.96	$6,701,031.68
2072	$0.00	$54,222.41	$165,589,211.34	$165,799,559.57	-$210,348.22	$39,090,497.70	$37,192,878.25	$1,897,619.46	$20,109,555.25	$4,998,967.50	$1,687,271.24	$6,686,238.73
2073	$0.00	$54,222.41	$167,011,562.45	$167,241,433.74	-$229,871.29	$39,500,859.33	$37,516,325.73	$1,984,533.60	$20,381,457.89	$4,919,166.61	$1,754,662.31	$6,673,828.92
2074	$0.00	$54,222.41	$168,446,131.04	$168,695,847.16	-$249,716.12	$39,915,528.83	$37,842,586.07	$2,072,942.75	$20,656,772.28	$4,840,575.11	$1,823,226.63	$6,663,801.74
TOTAL	$95,000,000.00	$2,711,120.50	$6,377,594,453.41	$6,374,188,777.41	$3,405,676.00	$1,451,028,740.94	$1,421,000,050.11	$30,028,690.83	$763,239,216.68	$374,079,382.71	$33,434,366.83	$407,513,749.54
											BENEFIT/COST	4.29

Notes: *(1) Maintenance cost per mile ($22,232.30) based on Mississippi Department of Transportation (2015):* 2014 Annual Report, "Maintenance Expenditures by County, Fiscal Year 2014". *The figure for Harrison County was updated to 2015 using the Bureau of Labor Statistics online Inflation Calaculator. (2) From Table 1-5. (3) From Table 1-8. (4) Existing less improved. (5) From Table 1-9. (6) Undiscounted annual non-carbon benefit less annual maintenance cost discounted at 3.0 percent. (7) A 3.0-percent per annum discount rate is built into the social cost of carbon values recommended in TIGER Benefit-Cost Analysis (BCA) Resource Guide. (8) Discounted total non-carbon savings plus total social cost of carbon savings.*

Source: *Mississippi Department of Transportation (2013):* 2012 Annual Report, *"Maintenance Expenditures by County, Fiscal Year: 2012."*