

# APPENDIX D

DETAILED BENEFIT-COST ANALYSIS

**Biloxi**  
*established 1699*

## **BENEFIT-COST (BCA) METHODOLOGY AND ASSUMPTIONS**

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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
- Additional time-savings directly attributable to bridge replacement (Phase 2 only)

Phase 1 benefits were projected over the 25-year period from 2021 to 2045. 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 from 2021 to 2045 inclusive.

Costs for each alternative 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.

The same methodological approach was applied to the Phase 2 analysis. However, because the Phase 2 improvements include a major water crossing with a longer lifespan and much higher initial cost, net project benefits were calculated over a 50-year period from 2025 to 2074 and discounted at 3.0 percent. One additional benefit was calculated for Phase 2: Travel-time savings resulting from replacement of the existing two-lane low-level bridge with a four-lane mid-level span. The existing drawbridge must be opened 10 or so times a day to allow the passage of boats and barges. The higher span will enable almost all vessels to pass without requiring the drawbridge to be raised.

### **Project Cost**

The total estimated cost for construction of the proposed project is \$103,000,000: \$6,500,000 for Phase 1 and \$96,500,000 for Phase 2. The estimated annual cost for maintenance of the roadway segments to be improved is \$18,222 for the Phase 1 extension and \$57,137 for the Phase 2 elements. The undiscounted aggregate cost for roadway construction and maintenance over the 25-year life of the Phase 1 project, from 2021 through 2045, totals an estimated \$6,955,557. The undiscounted aggregate cost for Phase 2 construction and maintenance was projected to be \$99,356,850.

### **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 6,998,989 in 2021 to 8,703,103 in 2045 (see Table 1-1) and to 11,187,393 in 2074 (see Table 2-1). Daily VHT were projected to increase from 185,621 in 2021 to 242,090 in 2045 and 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 tables 1-2 and 2-2). 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 Phase 1 and Phase 2 improved networks. Output VMT and VHT were compared to base network data in order to measure the reduction in both overall distance traveled and the amount of time spent traveling that would result from the improvements. Annual reductions in VHT for the Phase 1 network ranged from less than 33,000 hours to more than 115,000 and averaged almost 69,000. 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. Projected total time-savings over the 25 years from 2021 until 2045 amounted to more than \$23 million. Phase 2 reductions in VHT ranged from just over 100,000 in 2025 to very nearly 600,000 in 2074. Total time-savings over the 50-year period of analysis from 2025 until 2074 were valued at more than \$280 million. (All amounts shown in the referenced tables are expressed 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 2021 to 2045 (see tables 1-3 and 1-4) and from 2025 to 2074 (see tables 2-3 and 2-4). 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 25-year period from 2021 to 2045 (see Table 1-5) and the corresponding cost for the 50-year period from 2025 to 2074 (see Table 2-5).

The same methodology was applied to output for each of the improved networks, yielding annual passenger-vehicle and truck emissions costs and the long-term social cost of carbon for each phase of the project. The results for Phase 1 are presented in tables 1-6, 1-7 and 1-8. Phase 2 results may be found in tables 2-6, 2-7 and 2-8.

### **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 identified for each phase of the project. An additional benefit calculation, relating to replacement of the existing low-level two-lane bridge across the Back Bay of Biloxi, was then made for Phase 2 (see Table 2-9). This analysis projected time-savings attributable to the near-elimination of vehicular delay caused by opening the existing drawbridge to allow the passage of waterborne traffic. It is anticipated that construction of the planned mid-level four-lane bridge will reduce bridge openings from an average of ten per day to one. Total daily time-savings were projected for the Phase 2 project element by estimating the average delay per vehicle and then applying it to future traffic volumes on the bridge generated by the regional travel demand model.

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 2021 to 2045 for Phase 1 and from 2025 to 2074 for Phase 2 (see tables 1-9 and 2-10). 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 associated with each phase were then subtracted from the summed non-carbon cost savings, and a discount rate of either seven percent or three 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 annual social cost of carbon provided the total annual discounted net project benefit.

The annual net benefit was discounted at both seven percent and three percent for Phase 1. The aggregate net benefit discounted at seven percent over 25 years amounted to \$13,678,676. Comparing this to the initial construction cost of \$6,500,000 yielded a benefit-cost ratio of 2.10 (see Table 1-10). Discounting at three percent resulted in an aggregate net project benefit of \$19,207,368 and a benefit-cost ratio of 2.95 (see Table 1-11).

As previously noted, the major capital investment and long-life span associated with the planned mid-level four-lane bridge in Phase 2, made it necessary to distribute benefits over a longer 50-year lifespan while discounting at the lower rate of three percent. This resulted in an aggregate net project benefit of \$149,792,021 and a benefit-cost ratio of 1.55 (see Table 2-11).

**Table 1-1: POPP'S FERRY PHASE 1 PROJECTED ANNUAL REDUCTION IN VEHICLE MILES AND HOURS TRAVELED: 2021-2045**

YEAR	EXISTING NETWORK		IMPROVED NETWORK		DAILY REDUCTION (3)		ANNUAL REDUCTION (4)	
	DAILY VMT (1)	DAILY VHT (2)	DAILY VMT (1)	DAILY VHT (2)	VMT	VHT	VMT	VHT
2021	6,998,989.869	185,621.718	6,993,337.453	185,388.275	5,652.416	233.444	2,063,131.849	85,206.894
2022	7,067,784.015	187,822.363	7,062,130.513	187,603.319	5,653.502	219.044	2,063,528.327	79,951.231
2023	7,137,254.349	190,049.098	7,131,600.286	189,844.828	5,654.063	204.270	2,063,733.120	74,558.394
2024	7,207,407.518	192,302.232	7,201,753.429	192,113.120	5,654.089	189.112	2,063,742.420	69,025.862
2025	7,278,250.233	194,582.078	7,272,596.664	194,408.513	5,653.568	173.565	2,063,552.364	63,351.075
2026	7,349,789.271	196,888.953	7,344,136.781	196,731.332	5,652.490	157.620	2,063,159.029	57,531.429
2027	7,422,031.478	199,223.177	7,416,380.633	199,081.905	5,650.845	141.272	2,062,558.436	51,564.280
2028	7,494,983.765	201,585.074	7,489,335.144	201,460.562	5,648.621	124.512	2,061,746.547	45,446.942
2029	7,568,653.111	203,974.973	7,563,007.305	203,867.640	5,645.806	107.333	2,060,719.266	39,176.684
2030	7,643,046.564	206,393.206	7,637,404.174	206,303.478	5,642.390	89.728	2,059,472.434	32,750.734
2031	7,709,514.240	208,599.951	7,703,875.405	208,497.067	5,638.835	102.884	2,058,174.894	37,552.591
2032	7,776,559.952	210,830.291	7,770,925.161	210,713.981	5,634.792	116.310	2,056,698.899	42,453.122
2033	7,844,188.727	213,084.477	7,838,558.476	212,954.466	5,630.251	130.011	2,055,041.440	47,453.888
2034	7,912,405.634	215,362.765	7,906,780.430	215,218.775	5,625.204	143.990	2,053,199.473	52,556.467
2035	7,981,215.789	217,665.412	7,975,596.145	217,507.159	5,619.644	158.253	2,051,169.912	57,762.462
2036	8,050,624.350	219,992.679	8,045,010.790	219,819.875	5,613.561	172.804	2,048,949.633	63,073.500
2037	8,120,636.523	222,344.829	8,115,029.576	222,157.182	5,606.946	187.647	2,046,535.470	68,491.227
2038	8,191,257.555	224,722.129	8,185,657.763	224,519.341	5,599.792	202.787	2,043,924.218	74,017.316
2039	8,262,492.743	227,124.846	8,256,900.654	226,906.617	5,592.089	218.229	2,041,112.632	79,653.461
2040	8,334,347.427	229,553.252	8,328,763.598	229,319.276	5,583.829	233.976	2,038,097.421	85,401.380
2041	8,406,826.994	232,007.624	8,401,251.993	231,757.589	5,575.001	250.035	2,034,875.257	91,262.817
2042	8,479,936.879	234,488.237	8,474,371.283	234,221.827	5,565.597	266.410	2,031,442.766	97,239.539
2043	8,553,682.564	236,995.373	8,548,126.957	236,712.268	5,555.607	283.105	2,027,796.534	103,333.339
2044	8,628,069.577	239,529.315	8,622,524.555	239,229.189	5,545.022	300.126	2,023,933.099	109,546.032
2045	8,703,103.496	242,090.349	8,697,569.663	241,772.871	5,533.833	317.478	2,019,848.960	115,879.462
TOTAL	196,123,052.622	5,332,834.400	195,982,624.829	5,328,110.454	140,427.793	4,723.946	51,256,144.398	1,724,240.128

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 1 PROJECTED ANNUAL PASSENGER-VEHICLE AND TRUCK TRAVEL TIME-SAVINGS: 2021-2045**

YEAR	PASSENGER VEHICLE			TRUCK			TOTAL ANNUAL TIME SAVINGS
	ANNUAL VHT REDUCTION (1)	FACTOR (2)	REDUCED VHT (3)	SAVINGS (4)	FACTOR (2)	REDUCED VHT (3)	
2021	85,206.894	0.9465	80,647.473	\$1,066,966.07	0.0535	4,559.421	\$88,133.61
2022	79,951.231	0.9464	75,664.246	\$1,001,037.97	0.0536	4,286.985	\$82,867.42
2023	74,558.394	0.9463	70,552.371	\$933,407.87	0.0537	4,006.022	\$77,436.41
2024	69,025.862	0.9462	65,309.510	\$864,044.81	0.0538	3,716.352	\$71,837.09
2025	63,351.075	0.9461	59,933.284	\$792,917.35	0.0540	3,417.790	\$66,065.89
2026	57,531.429	0.9459	54,421.280	\$719,993.53	0.0541	3,110.149	\$60,119.18
2027	51,564.280	0.9458	48,771.043	\$645,240.90	0.0542	2,793.237	\$53,993.27
2028	45,446.942	0.9457	42,980.082	\$568,626.48	0.0543	2,466.860	\$47,684.40
2029	39,176.684	0.9456	37,045.865	\$490,116.79	0.0544	2,130.820	\$41,188.75
2030	32,750.734	0.9455	30,965.819	\$409,677.79	0.0545	1,784.915	\$34,502.41
2031	37,552.591	0.9454	35,501.844	\$469,689.39	0.0546	2,050.747	\$39,640.94
2032	42,453.122	0.9453	40,130.088	\$530,921.06	0.0547	2,323.035	\$44,904.26
2033	47,453.888	0.9452	44,851.991	\$593,391.84	0.0548	2,601.897	\$50,294.66
2034	52,556.467	0.9451	49,669.015	\$657,121.06	0.0549	2,887.452	\$55,814.45
2035	57,762.462	0.9449	54,582.639	\$722,128.31	0.0551	3,179.824	\$61,465.99
2036	63,073.500	0.9448	59,594.366	\$788,433.46	0.0552	3,479.134	\$67,251.67
2037	68,491.227	0.9447	64,705.717	\$856,056.64	0.0553	3,785.510	\$73,173.91
2038	74,017.316	0.9446	69,918.237	\$925,018.27	0.0554	4,099.079	\$79,235.20
2039	79,653.461	0.9445	75,233.490	\$995,339.07	0.0555	4,419.971	\$85,438.03
2040	85,401.380	0.9444	80,653.063	\$1,067,040.03	0.0556	4,748.317	\$91,784.96
2041	91,262.817	0.9443	86,179.478	\$1,140,154.50	0.0557	5,083.339	\$98,260.94
2042	97,239.539	0.9442	91,813.573	\$1,214,693.57	0.0558	5,425.966	\$104,883.93
2043	103,333.339	0.9441	97,557.005	\$1,290,679.18	0.0559	5,776.334	\$111,656.53
2044	109,546.032	0.9440	103,411.454	\$1,368,133.54	0.0560	6,134.578	\$118,581.39
2045	115,879.462	0.9439	109,378.624	\$1,447,079.20	0.0561	6,500.838	\$125,661.19
<b>TOTAL</b>	<b>1,724,240.128</b>		<b>1,629,471.556</b>	<b>\$21,557,908.69</b>		<b>94,768.572</b>	<b>\$1,831,876.49</b>
							<b>\$23,389,785.18</b>

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."

Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 1-3: PROJECTED VALUE OF TOTAL ANNUAL PASSENGER-VEHICLE EMISSIONS FOR EXISTING NETWORK: 2021-2045

YEAR	DAILY PASS VEH MILES (1)	NOX		OXIDES OF NITROGEN (NOX)		PM10		PARTICULATE MATTER > 2.5 um (PM10) DAILY EMISSIONS		PM2.5		PARTICULATE MATTER ≤ 2.5 um (PM2.5) DAILY EMISSIONS		SOX		SULFUR DIOXIDE (SOX) DAILY EMISSIONS		TOTAL ANNUAL EMISSIONS	
		FACTOR (2)	VALUE (4)	FACTOR (2)	VALUE (4)	POUNDS (3)	TONS (3)	POUNDS (3)	TONS (3)	POUNDS (3)	TONS (3)	POUNDS (3)	TONS (3)	POUNDS (3)	TONS (3)	FACTOR (2)	VALUE (4)	POUNDS (3)	TONS (3)
2021	6,624,473.92	0.00037757	\$9,090.44	0.00009640	\$106,186.91	638.58	0.2896	421.58	0.1912	0.00006364	421.58	0.1912	0.00001073	71.07	0.0322	\$1,526.81	71.07	0.0322	\$69,221,063.84
2022	6,688,809.44	0.00035150	\$8,544.97	0.00009661	\$107,456.91	646.21	0.2931	427.35	0.1938	0.00006389	427.35	0.1938	0.00001072	71.69	0.0325	\$1,540.10	71.69	0.0325	\$68,840,481.34
2023	6,753,769.67	0.00032851	\$8,063.78	0.00009676	\$108,671.65	653.52	0.2964	432.55	0.1962	0.00006405	432.55	0.1962	0.00001070	72.27	0.0328	\$1,551.55	72.27	0.0328	\$68,428,762.06
2024	6,819,360.70	0.00030721	\$7,614.07	0.00009676	\$109,727.16	659.87	0.2993	437.13	0.1982	0.00006410	437.13	0.1982	0.00001080	73.67	0.0334	\$1,582.63	73.67	0.0334	\$69,938,761.26
2025	6,885,588.63	0.00028846	\$7,218.94	0.00009679	\$110,827.88	666.49	0.3023	441.89	0.2004	0.00006418	441.89	0.2004	0.00001070	73.71	0.0334	\$1,583.50	73.71	0.0334	\$70,485,470.40
2026	6,952,459.66	0.00027141	\$6,858.11	0.00009687	\$111,997.40	673.52	0.3055	446.00	0.2023	0.00006415	446.00	0.2023	0.00001076	74.80	0.0339	\$1,606.93	74.80	0.0339	\$71,038,493.13
2027	7,019,980.03	0.00027141	\$6,924.72	0.00009687	\$113,085.09	680.06	0.3084	450.33	0.2042	0.00006415	450.33	0.2042	0.00001076	75.52	0.0343	\$1,622.53	75.52	0.0343	\$71,728,399.37
2028	7,088,156.05	0.00027141	\$6,991.97	0.00009687	\$114,183.34	686.66	0.3114	454.70	0.2062	0.00006415	454.70	0.2062	0.00001076	76.26	0.0346	\$1,638.29	76.26	0.0346	\$72,425,004.82
2029	7,156,994.07	0.00027141	\$7,059.87	0.00009687	\$115,292.25	693.33	0.3144	459.12	0.2082	0.00006415	459.12	0.2082	0.00001076	77.00	0.0349	\$1,654.20	77.00	0.0349	\$73,128,374.50
2030	7,226,500.53	0.00027141	\$7,128.43	0.00009687	\$116,411.94	700.07	0.3175	463.58	0.2102	0.00006415	463.58	0.2102	0.00001076	77.74	0.0353	\$1,670.26	77.74	0.0353	\$73,838,574.10
2031	7,288,497.67	0.00027141	\$7,189.59	0.00009687	\$117,540.65	706.07	0.3202	467.55	0.2120	0.00006415	467.55	0.2120	0.00001076	78.41	0.0356	\$1,684.59	78.41	0.0356	\$74,472,045.37
2032	7,351,026.59	0.00027141	\$7,251.27	0.00009687	\$118,671.93	712.13	0.3230	471.57	0.2139	0.00006415	471.57	0.2139	0.00001076	79.08	0.0359	\$1,699.05	79.08	0.0359	\$75,110,950.27
2033	7,414,091.86	0.00027141	\$7,313.48	0.00009687	\$119,833.85	718.24	0.3257	475.61	0.2157	0.00006415	475.61	0.2157	0.00001076	79.76	0.0362	\$1,713.62	79.76	0.0362	\$75,755,335.39
2034	7,477,699.07	0.00027141	\$7,376.22	0.00009687	\$120,958.49	724.40	0.3285	479.69	0.2175	0.00006415	479.69	0.2175	0.00001076	80.45	0.0365	\$1,728.32	80.45	0.0365	\$76,405,247.72
2035	7,541,849.86	0.00027141	\$7,439.50	0.00009687	\$122,149.91	730.62	0.3313	483.81	0.2194	0.00006415	483.81	0.2194	0.00001076	81.14	0.0368	\$1,743.15	81.14	0.0368	\$77,060,734.67
2036	7,606,551.91	0.00027141	\$7,503.33	0.00009687	\$123,385.42	736.88	0.3342	487.96	0.2213	0.00006415	487.96	0.2213	0.00001076	81.83	0.0371	\$1,758.11	81.83	0.0371	\$77,721,844.04
2037	7,671,808.94	0.00027141	\$7,567.70	0.00009687	\$124,645.67	743.21	0.3371	492.14	0.2232	0.00006415	492.14	0.2232	0.00001076	82.54	0.0374	\$1,773.19	82.54	0.0374	\$78,388,624.06
2038	7,737,625.71	0.00027141	\$7,632.62	0.00009687	\$125,951.01	749.58	0.3399	496.37	0.2251	0.00006415	496.37	0.2251	0.00001076	83.24	0.0378	\$1,788.40	83.24	0.0378	\$79,061,123.34
2039	7,804,007.02	0.00027141	\$7,698.10	0.00009687	\$127,315.52	756.01	0.3429	500.62	0.2270	0.00006415	500.62	0.2270	0.00001076	83.96	0.0381	\$1,803.74	83.96	0.0381	\$79,739,390.95
2040	7,870,957.71	0.00027141	\$7,764.14	0.00009687	\$128,733.44	762.50	0.3458	504.92	0.2290	0.00006415	504.92	0.2290	0.00001076	84.68	0.0384	\$1,819.22	84.68	0.0384	\$80,423,476.33
2041	7,938,566.73	0.00027141	\$7,830.84	0.00009687	\$130,210.10	769.05	0.3488	509.26	0.2310	0.00006415	509.26	0.2310	0.00001076	85.41	0.0387	\$1,834.84	85.41	0.0387	\$81,114,288.39
2042	8,006,756.40	0.00027141	\$7,898.10	0.00009687	\$131,743.65	775.65	0.3518	513.63	0.2329	0.00006415	513.63	0.2329	0.00001076	86.14	0.0391	\$1,850.61	86.14	0.0391	\$81,811,033.38
2043	8,075,531.71	0.00027141	\$7,965.94	0.00009687	\$133,333.44	782.32	0.3548	518.04	0.2349	0.00006415	518.04	0.2349	0.00001076	86.88	0.0394	\$1,866.50	86.88	0.0394	\$82,513,762.26
2044	8,144,897.68	0.00027141	\$8,034.37	0.00009687	\$134,983.59	789.04	0.3578	522.49	0.2370	0.00006415	522.49	0.2370	0.00001076	87.63	0.0397	\$1,882.53	87.63	0.0397	\$83,222,516.41
2045	8,214,859.39	0.00027141	\$8,103.38	0.00009687	\$136,702.89	795.81	0.3609	526.98	0.2390	0.00006415	526.98	0.2390	0.00001076	88.38	0.0401	\$1,898.70	88.38	0.0401	\$83,937,377.64
Total	185,360,819.95		\$190,063.88		\$2,984,819.79	17,949.80	8,1405	11,884.85	5,3900		11,884.85	5,3900		1,993,2314	0.9040	\$42,822.38	1,993,2314	0.9040	\$1,895,811,145.05

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). (3) Metric tons. (4) Assumed values 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. (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.

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Table 1-4: PROJECTED VALUE OF TOTAL ANNUAL TRUCK EMISSIONS FOR EXISTING NETWORK: 2021-2045

YEAR	DAILY TRUCK MILES (1)	OXIDES OF NITROGEN (NOX) DAILY EMISSIONS		PM10		PARTICULATE MATTER > 2.5 µm (PM10) DAILY EMISSIONS		PM2.5		PARTICULATE MATTER ≤ 2.5 µm (PM2.5) DAILY EMISSIONS		SOX		SULFUR DIOXIDE (SOX) DAILY EMISSIONS		TOTAL ANNUAL EMISSIONS		
		NOX FACTOR (2)	POUNDS	TONS (3)	VALUE (4)	FACTOR	POUNDS	TONS (3)	VALUE (4)	FACTOR	POUNDS	TONS (3)	VALUE (4)	FACTOR	POUNDS	TONS (3)	VALUE (4)	VALUE (5)
2021	374,515.95	0.01179977	4,419.20	2.0042	\$16,061.45	0.00059437	222.60	0.1010	\$37,015.79	0.00046287	173.35	0.0786	\$28,826.46	0.00004033	15.10	0.0068	\$324.47	\$30,013,280.48
2022	378,974.58	0.01098794	4,164.15	1.8885	\$15,134.47	0.00055427	210.06	0.0953	\$34,929.46	0.00042597	161.43	0.0732	\$26,843.94	0.00004106	15.56	0.0071	\$334.28	\$28,193,384.95
2023	383,484.68	0.01031407	3,955.29	1.7938	\$14,375.36	0.00052122	199.88	0.0906	\$33,237.20	0.00039592	151.83	0.0689	\$25,247.49	0.00004009	15.38	0.0070	\$330.32	\$26,714,482.01
2024	388,046.82	0.00974372	3,781.02	1.7147	\$13,741.99	0.00050766	196.99	0.0893	\$32,757.59	0.00038320	148.70	0.0674	\$24,726.70	0.00003930	15.25	0.0069	\$327.65	\$26,117,183.87
2025	392,661.60	0.00932573	3,661.85	1.6607	\$13,308.89	0.00048541	190.60	0.0864	\$31,694.85	0.00036326	142.64	0.0647	\$23,718.67	0.00004018	15.78	0.0072	\$338.98	\$25,207,407.78
2026	397,329.61	0.00898990	3,571.95	1.6199	\$12,982.15	0.00046717	185.62	0.0842	\$30,866.40	0.00034564	137.33	0.0623	\$22,836.96	0.00003946	15.68	0.0071	\$336.81	\$24,463,147.51
2027	402,051.45	0.00868990	3,614.40	1.6392	\$13,136.42	0.00046717	187.83	0.0852	\$31,233.21	0.00034564	138.97	0.0630	\$23,108.36	0.00003946	15.86	0.0072	\$340.82	\$24,753,865.83
2028	406,827.72	0.00838990	3,657.34	1.6587	\$13,292.48	0.00046717	190.06	0.0862	\$31,604.26	0.00034564	140.62	0.0638	\$23,382.88	0.00003946	16.05	0.0073	\$344.86	\$25,047,935.75
2029	411,659.04	0.00808990	3,700.77	1.6784	\$13,450.34	0.00046717	192.32	0.0872	\$31,979.58	0.00034564	142.29	0.0645	\$23,660.56	0.00003946	16.24	0.0074	\$348.96	\$25,343,395.06
2030	416,546.04	0.00778990	3,744.71	1.6983	\$13,610.01	0.00046717	194.60	0.0883	\$32,359.22	0.00034564	143.98	0.0653	\$23,941.45	0.00003946	16.44	0.0075	\$353.10	\$25,646,281.98
2031	421,016.57	0.00748990	3,784.90	1.7165	\$13,756.08	0.00046717	196.69	0.0892	\$32,706.51	0.00034564	145.52	0.0660	\$24,198.40	0.00003946	16.61	0.0075	\$356.89	\$25,921,527.90
2032	425,533.36	0.00718990	3,825.50	1.7349	\$13,903.66	0.00046717	198.80	0.0902	\$33,057.40	0.00034564	147.08	0.0667	\$24,458.01	0.00003946	16.79	0.0076	\$360.72	\$26,199,621.57
2033	430,096.87	0.00688990	3,866.53	1.7535	\$14,052.77	0.00046717	200.93	0.0911	\$33,411.91	0.00034564	148.66	0.0674	\$24,720.30	0.00003946	16.97	0.0077	\$364.59	\$26,480,591.70
2034	434,707.57	0.00658990	3,907.98	1.7723	\$14,203.41	0.00046717	203.08	0.0921	\$33,770.09	0.00034564	150.25	0.0681	\$24,985.30	0.00003946	17.15	0.0078	\$368.50	\$26,764,467.29
2035	439,365.93	0.00628990	3,949.86	1.7913	\$14,355.62	0.00046717	205.26	0.0931	\$34,131.97	0.00034564	151.86	0.0689	\$25,253.05	0.00003946	17.34	0.0079	\$372.45	\$27,051,277.62
2036	444,072.44	0.00598990	3,992.17	1.8105	\$14,509.40	0.00046717	207.46	0.0941	\$34,497.60	0.00034564	153.49	0.0696	\$25,523.56	0.00003946	17.52	0.0079	\$376.44	\$27,341,052.27
2037	448,827.58	0.00568990	4,034.91	1.8299	\$14,664.76	0.00046717	209.68	0.0951	\$34,867.00	0.00034564	155.13	0.0704	\$25,796.87	0.00003946	17.71	0.0080	\$380.47	\$27,633,821.11
2038	453,631.84	0.00538990	4,078.10	1.8495	\$14,821.74	0.00046717	211.92	0.0961	\$35,240.22	0.00034564	156.80	0.0711	\$26,073.00	0.00003946	17.90	0.0081	\$384.54	\$27,929,614.29
2039	458,485.72	0.00508990	4,121.74	1.8693	\$14,980.33	0.00046717	214.19	0.0971	\$35,617.29	0.00034564	158.47	0.0719	\$26,351.98	0.00003946	18.09	0.0082	\$388.65	\$28,228,462.28
2040	463,389.72	0.00478990	4,165.83	1.8893	\$15,140.56	0.00046717	216.48	0.0982	\$35,998.25	0.00034564	160.17	0.0726	\$26,633.84	0.00003946	18.28	0.0083	\$392.81	\$28,530,395.85
2041	468,260.26	0.00448990	4,209.61	1.9091	\$15,299.70	0.00046717	218.76	0.0992	\$36,376.62	0.00034564	161.85	0.0734	\$26,913.78	0.00003946	18.48	0.0084	\$396.94	\$28,830,270.05
2042	473,180.48	0.00418990	4,253.84	1.9292	\$15,460.46	0.00046717	221.06	0.1003	\$36,758.84	0.00034564	163.55	0.0742	\$27,196.58	0.00003946	18.67	0.0085	\$401.11	\$29,133,202.24
2043	478,150.86	0.00388990	4,298.53	1.9494	\$15,622.86	0.00046717	223.38	0.1013	\$37,144.97	0.00034564	165.27	0.0750	\$27,482.26	0.00003946	18.87	0.0086	\$405.32	\$29,439,222.92
2044	483,171.90	0.00358990	4,343.67	1.9699	\$15,786.91	0.00046717	225.72	0.1024	\$37,595.02	0.00034564	167.01	0.0757	\$27,770.85	0.00003946	19.06	0.0086	\$409.58	\$29,746,362.90
2045	488,244.11	0.00328990	4,389.27	1.9906	\$15,952.64	0.00046717	228.09	0.1034	\$37,929.06	0.00034564	168.76	0.0765	\$28,062.38	0.00003946	19.26	0.0087	\$413.88	\$30,060,655.29
Total	10,762,232.67		99,493.11	45,121.16	\$361,604.45		5,152.06	2.3365	\$856,720.32		3,835.02	1.7392	\$637,713.61		426.05	0.1932	\$9,153.16	\$680,794,908.51

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  
 PM10 - 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 Labor Statistics 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: 2021-2045

YEAR	PASSENGER VEHICLES					TRUCKS						
	DAILY VEHICLE MILES (1)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT (Pounds)	DAILY CO2 OUTPUT (Metric Tons)	SOCIAL COST OF CARBON (Per Ton) (2)	ANNUAL SOCIAL COST OF CARBON	DAILY VEHICLE MILES (3)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT (Pounds)	DAILY CO2 OUTPUT (Metric Tons)	SOCIAL COST OF CARBON (Per Ton) (2)	ANNUAL SOCIAL COST OF CARBON
2021	6,624,473.92	1.11009559	7,353,799	3,335	\$52.00	\$63,299,369.78	374,515.95	4.21495573	1,578,568	716	\$52.00	\$13,587,856.37
2022	6,688,809.44	1.11019931	7,425,912	3,368	\$54.00	\$66,378,556.68	378,974.58	4.21520828	1,597,457	724	\$54.00	\$14,279,307.57
2023	6,753,769.67	1.11023373	7,498,263	3,401	\$55.00	\$68,266,497.75	383,484.68	4.21483461	1,616,324	733	\$55.00	\$14,715,516.59
2024	6,819,360.70	1.11061572	7,573,689	3,435	\$56.00	\$70,206,896.31	388,046.82	4.19552935	1,628,062	738	\$56.00	\$15,091,874.72
2025	6,885,588.63	1.11078571	7,648,413	3,469	\$57.00	\$72,165,642.93	392,661.60	4.19512979	1,647,266	747	\$57.00	\$15,542,574.59
2026	6,952,459.66	1.11105829	7,724,588	3,503	\$59.00	\$75,441,724.16	397,329.61	4.19349747	1,666,201	756	\$59.00	\$16,272,849.09
2027	7,019,980.03	1.11105829	7,799,607	3,537	\$61.00	\$78,756,576.19	402,051.45	4.19349747	1,686,002	765	\$61.00	\$17,024,411.93
2028	7,088,156.05	1.11105829	7,875,355	3,572	\$62.00	\$80,825,067.37	406,827.72	4.19349747	1,706,031	774	\$62.00	\$17,509,062.03
2029	7,156,994.07	1.11105829	7,951,838	3,606	\$63.00	\$82,926,306.49	411,659.04	4.19349747	1,726,291	783	\$63.00	\$18,002,750.63
2030	7,226,500.53	1.11105829	8,029,063	3,641	\$64.00	\$85,060,734.48	416,546.04	4.19349747	1,746,785	792	\$64.00	\$18,505,619.92
2031	7,288,497.67	1.11105829	8,097,946	3,673	\$64.00	\$85,790,482.21	421,016.57	4.19349747	1,765,532	801	\$64.00	\$18,704,229.47
2032	7,351,026.59	1.11105829	8,167,419	3,704	\$66.00	\$89,230,442.17	425,533.36	4.19349747	1,784,473	809	\$66.00	\$19,495,671.81
2033	7,414,091.86	1.11105829	8,237,488	3,736	\$67.00	\$91,359,535.12	430,096.87	4.19349747	1,803,610	818	\$67.00	\$20,003,304.18
2034	7,477,698.07	1.11105829	8,308,158	3,768	\$68.00	\$93,518,590.78	434,707.57	4.19349747	1,822,945	827	\$68.00	\$20,519,499.70
2035	7,541,849.86	1.11105829	8,379,435	3,800	\$69.00	\$95,707,966.50	439,365.93	4.19349747	1,842,480	836	\$69.00	\$21,044,379.43
2036	7,606,551.91	1.11105829	8,451,323	3,833	\$70.00	\$97,928,023.53	444,072.44	4.19349747	1,862,217	845	\$70.00	\$21,578,065.97
2037	7,671,808.94	1.11105829	8,523,827	3,866	\$72.00	\$101,590,100.72	448,827.58	4.19349747	1,882,157	854	\$72.00	\$22,432,242.41
2038	7,737,625.71	1.11105829	8,596,953	3,899	\$73.00	\$103,884,724.86	453,631.84	4.19349747	1,902,304	863	\$73.00	\$22,987,251.61
2039	7,804,007.02	1.11105829	8,670,707	3,932	\$74.00	\$106,211,241.90	458,485.72	4.19349747	1,922,659	872	\$74.00	\$23,551,479.36
2040	7,870,957.71	1.11105829	8,745,093	3,966	\$75.00	\$108,570,030.08	463,389.72	4.19349747	1,943,224	881	\$75.00	\$24,125,054.99
2041	7,938,566.73	1.11105829	8,820,210	4,000	\$75.00	\$109,502,612.07	468,260.26	4.19349747	1,963,648	891	\$75.00	\$24,378,626.02
2042	8,006,756.40	1.11105829	8,895,973	4,034	\$75.00	\$110,443,203.40	473,180.48	4.19349747	1,984,281	900	\$75.00	\$24,634,782.85
2043	8,075,531.71	1.11105829	8,972,386	4,069	\$75.00	\$111,391,872.86	478,150.86	4.19349747	2,005,124	909	\$75.00	\$24,893,551.28
2044	8,144,897.68	1.11105829	9,049,456	4,104	\$75.00	\$112,348,689.80	483,171.90	4.19349747	2,026,180	919	\$75.00	\$25,154,957.36
2045	8,214,859.39	1.11105829	9,127,188	4,139	\$75.00	\$113,313,724.19	488,244.11	4.19349747	2,047,450	929	\$75.00	\$25,419,027.40
TOTAL	185,360,819.95		205,924,089.25	93,389.61		\$2,274,118,612.31	10,762,232.67		45,157,271.72	20,479.49		\$499,453,947.28

Notes: (1) From Table 1-3. (2) 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.

(3) 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.

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Table 1-6: PROJECTED ANNUAL PASSENGER VEHICLE EMISSIONS FOR PHASE 1 IMPROVED NETWORK: 2021-2045

YEAR	DAILY PASS VEH MILES (1)	OXIDES OF NITROGEN (NOX)		PARTICULATE MATTER > 2.5 µm (PM10)		PARTICULATE MATTER < 2.5 µm (PM2.5)		SOX		SULFUR DIOXIDE (SOX)		TOTAL ANNUAL EMISSIONS			
		FACTOR (2)	VALUE (4)	POUNDS (3)	TONS (3)	VALUE (4)	POUNDS (3)	FACTOR (2)	VALUE (4)	POUNDS (3)	TONS (3)	VALUE (4)	TONS (3)	VALUE (5)	
2021	6,619,123.97	0.00037757	\$9,083.10	2,499.15	1.1334	638.06	0.2884	\$106,101.15	421.24	0.1910	\$70,046.25	71.01	0.0322	\$1,525.58	\$68,165,966.20
2022	6,663,459.07	0.00035150	\$8,538.14	2,349.21	1.0654	645.70	0.2928	\$107,370.96	427.00	0.1937	\$71,005.23	71.63	0.0325	\$1,538.86	\$68,785,415.02
2023	6,748,419.40	0.00032851	\$8,057.39	2,216.94	1.0054	653.00	0.2961	\$108,585.56	432.21	0.1960	\$71,870.83	72.21	0.0327	\$1,551.32	\$69,373,761.28
2024	6,814,011.02	0.00030721	\$7,608.09	2,093.32	0.9494	659.25	0.2990	\$109,841.08	436.79	0.1981	\$72,632.16	73.61	0.0334	\$1,581.39	\$69,883,895.49
2025	6,880,240.07	0.00028846	\$7,213.33	1,984.70	0.9001	665.97	0.3020	\$110,741.79	441.55	0.2002	\$73,423.48	73.65	0.0334	\$1,582.27	\$70,430,719.00
2026	6,947,112.75	0.00027141	\$6,852.84	1,885.51	0.8551	673.00	0.3052	\$111,911.27	445.65	0.2021	\$74,106.53	74.74	0.0339	\$1,605.69	\$70,983,859.67
2027	7,014,835.29	0.00027141	\$6,919.44	1,903.84	0.8634	679.54	0.3082	\$112,998.99	449.99	0.2041	\$74,826.81	75.47	0.0342	\$1,621.30	\$71,673,788.17
2028	7,082,814.03	0.00027141	\$6,986.70	1,922.34	0.8718	686.15	0.3112	\$114,097.29	454.36	0.2061	\$75,554.09	76.20	0.0346	\$1,637.05	\$72,370,421.46
2029	7,151,655.34	0.00027141	\$7,054.60	1,941.03	0.8803	692.82	0.3142	\$115,206.25	458.78	0.2081	\$76,288.44	76.94	0.0349	\$1,652.97	\$73,073,824.68
2030	7,221,165.65	0.00027141	\$7,123.17	1,959.89	0.8888	699.55	0.3173	\$116,326.00	463.23	0.2101	\$77,029.92	77.69	0.0352	\$1,669.03	\$73,784,063.63
2031	7,283,166.77	0.00027141	\$7,184.33	1,976.72	0.8965	705.56	0.3200	\$117,324.77	467.21	0.2119	\$77,691.30	78.35	0.0355	\$1,683.36	\$74,417,575.59
2032	7,345,700.14	0.00027141	\$7,246.02	1,993.69	0.9042	711.61	0.3227	\$118,332.13	471.22	0.2137	\$78,358.36	79.03	0.0358	\$1,697.82	\$75,056,525.88
2033	7,408,770.31	0.00027141	\$7,308.23	2,010.81	0.9119	717.72	0.3255	\$119,348.13	475.27	0.2155	\$79,031.15	79.71	0.0361	\$1,712.39	\$75,700,964.18
2034	7,472,381.91	0.00027141	\$7,370.98	2,028.08	0.9198	723.89	0.3283	\$120,372.85	479.35	0.2174	\$79,709.71	80.39	0.0365	\$1,727.10	\$76,350,928.58
2035	7,536,539.58	0.00027141	\$7,434.26	2,045.49	0.9277	730.10	0.3311	\$121,406.37	483.47	0.2193	\$80,394.09	81.08	0.0368	\$1,741.92	\$77,006,475.54
2036	7,601,247.99	0.00027141	\$7,498.10	2,063.05	0.9356	736.37	0.3340	\$122,448.76	487.62	0.2211	\$81,084.35	81.78	0.0371	\$1,756.88	\$77,667,649.95
2037	7,666,511.89	0.00027141	\$7,562.47	2,080.77	0.9437	742.69	0.3368	\$123,500.09	491.80	0.2230	\$81,780.54	82.48	0.0374	\$1,771.96	\$78,334,500.12
2038	7,732,336.04	0.00027141	\$7,627.40	2,098.63	0.9518	749.07	0.3397	\$124,560.46	496.03	0.2250	\$82,482.70	83.19	0.0377	\$1,787.18	\$79,007,074.76
2039	7,798,725.24	0.00027141	\$7,692.89	2,116.65	0.9599	755.50	0.3426	\$125,629.92	500.28	0.2269	\$83,190.89	83.90	0.0381	\$1,802.52	\$79,685,422.99
2040	7,865,684.34	0.00027141	\$7,758.94	2,134.82	0.9682	761.99	0.3456	\$126,708.57	504.58	0.2288	\$83,905.16	84.62	0.0384	\$1,818.00	\$80,369,594.38
2041	7,933,302.26	0.00027141	\$7,825.64	2,153.17	0.9765	768.54	0.3485	\$127,797.83	508.92	0.2308	\$84,626.45	85.35	0.0387	\$1,833.63	\$81,060,497.32
2042	8,001,501.36	0.00027141	\$7,892.92	2,171.68	0.9849	775.14	0.3515	\$128,896.45	513.29	0.2328	\$85,353.95	86.08	0.0390	\$1,849.39	\$81,757,338.74
2043	8,070,286.66	0.00027141	\$7,960.77	2,190.35	0.9934	781.81	0.3546	\$130,004.51	517.71	0.2348	\$86,087.70	86.82	0.0394	\$1,865.29	\$82,460,169.67
2044	8,139,663.18	0.00027141	\$8,029.20	2,209.18	1.0019	788.53	0.3576	\$131,122.10	522.16	0.2368	\$86,827.76	87.57	0.0397	\$1,881.32	\$83,169,041.59
2045	8,209,636.00	0.00027141	\$8,098.23	2,228.17	1.0105	795.31	0.3607	\$132,249.30	526.64	0.2388	\$87,574.17	88.32	0.0401	\$1,897.50	\$83,884,006.41
Total	185,228,090.28		\$189,927.19	52,257.23	23,699.4	17,936.95	8,134.7	\$2,982,682.57	11,876.34	5,386.1	\$1,974,882.02	1,991.80	0.9033	\$42,791.72	\$1,894,453,480.27

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 Labor Statistics 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.

Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 1-7: PROJECTED ANNUAL TRUCK EMISSIONS FOR PHASE 1 IMPROVED NETWORK: 2021-2045

YEAR	DAILY TRUCK MILES (1)	NOX FACTOR (2)	OXIDES OF NITROGEN (NOX)			PARTICULATE MATTER > 2.5 µm (PM10)			PARTICULATE MATTER ≤ 2.5 µm (PM2.5)			SULFUR DIOXIDE (SOX)			TOTAL ANNUAL EMISSIONS VALUE (5)
			POUNDS	TONS (3)	VALUE (4)	POUNDS	TONS (3)	VALUE (4)	POUNDS	TONS (3)	VALUE (4)	POUNDS	TONS (3)	VALUE (4)	
2021	374,213.49	0.01179977	4,415.63	2.0026	\$16,048.48	222.42	0.1009	\$36,985.90	0.00046287	0.00004033	\$28,803.18	15.09	0.0068	\$324.20	\$29,989,041.62
2022	378,671.44	0.01098794	4,160.82	1.8870	\$15,122.36	209.89	0.0952	\$34,901.52	0.00042597	0.00004106	\$26,822.47	15.55	0.0071	\$334.01	\$28,170,833.13
2023	383,180.88	0.01031407	3,952.15	1.7924	\$14,363.97	199.72	0.0906	\$33,210.87	0.00039592	0.00004009	\$25,227.49	15.36	0.0070	\$330.06	\$26,693,319.05
2024	387,742.40	0.00974372	3,778.05	1.7134	\$13,731.20	196.84	0.0893	\$32,731.89	0.00038320	0.00003990	\$24,707.30	15.24	0.0069	\$327.40	\$26,096,695.39
2025	392,356.59	0.00932573	3,659.01	1.6594	\$13,298.55	190.46	0.0864	\$31,670.23	0.00036326	0.00004018	\$23,700.24	15.77	0.0072	\$338.72	\$25,187,827.27
2026	397,024.03	0.00898990	3,569.21	1.6187	\$12,972.16	185.48	0.0841	\$30,842.66	0.00034564	0.00003946	\$22,819.40	15.67	0.0071	\$336.55	\$24,444,333.67
2027	401,745.34	0.00868990	3,611.65	1.6379	\$13,126.42	187.68	0.0851	\$31,209.43	0.00034564	0.00003946	\$23,090.76	15.85	0.0072	\$340.56	\$24,735,019.21
2028	406,521.11	0.00838990	3,654.58	1.6574	\$13,282.46	189.92	0.0861	\$31,580.44	0.00034564	0.00003946	\$23,365.26	16.04	0.0073	\$344.60	\$25,029,058.29
2029	411,351.97	0.00808990	3,698.01	1.6771	\$13,440.31	192.17	0.0872	\$31,955.72	0.00034564	0.00003946	\$23,642.91	16.23	0.0074	\$348.70	\$25,326,488.76
2030	416,238.53	0.00778990	3,741.94	1.6970	\$13,599.97	194.45	0.0882	\$32,335.33	0.00034564	0.00003946	\$23,923.78	16.42	0.0074	\$352.84	\$25,627,348.91
2031	420,708.64	0.00748990	3,782.13	1.7153	\$13,746.02	196.54	0.0891	\$32,682.59	0.00034564	0.00003946	\$24,180.70	16.60	0.0075	\$356.63	\$25,902,568.57
2032	425,225.02	0.00718990	3,822.73	1.7337	\$13,893.59	198.65	0.0901	\$33,033.44	0.00034564	0.00003946	\$24,440.28	16.78	0.0076	\$360.46	\$26,180,637.68
2033	429,788.16	0.00688990	3,863.75	1.7523	\$14,042.68	200.78	0.0911	\$33,387.93	0.00034564	0.00003946	\$24,702.56	16.96	0.0077	\$364.33	\$26,461,584.97
2034	434,398.52	0.00658990	3,905.20	1.7711	\$14,193.32	202.94	0.0920	\$33,746.08	0.00034564	0.00003946	\$24,967.54	17.14	0.0078	\$368.24	\$26,745,439.50
2035	439,056.57	0.00628990	3,947.07	1.7901	\$14,345.51	205.11	0.0930	\$34,107.94	0.00034564	0.00003946	\$25,235.27	17.32	0.0079	\$372.18	\$27,032,230.58
2036	443,762.80	0.00598990	3,989.38	1.8092	\$14,499.28	207.31	0.0940	\$34,473.54	0.00034564	0.00003946	\$25,505.76	17.51	0.0079	\$376.17	\$27,321,987.83
2037	448,517.68	0.00568990	4,032.13	1.8286	\$14,654.64	209.53	0.0950	\$34,842.93	0.00034564	0.00003946	\$25,779.06	17.70	0.0080	\$380.20	\$27,614,741.16
2038	453,321.73	0.00538990	4,075.32	1.8482	\$14,811.60	211.78	0.0960	\$35,216.13	0.00034564	0.00003946	\$26,055.17	17.89	0.0081	\$384.28	\$27,910,520.76
2039	458,175.42	0.00508990	4,118.95	1.8680	\$14,970.19	214.05	0.0971	\$35,593.18	0.00034564	0.00003946	\$26,334.15	18.08	0.0082	\$388.39	\$28,209,357.14
2040	463,079.26	0.00478990	4,163.04	1.8880	\$15,130.42	216.34	0.0981	\$35,974.14	0.00034564	0.00003946	\$26,616.00	18.27	0.0083	\$392.55	\$28,511,281.11
2041	467,949.74	0.00448990	4,206.82	1.9079	\$15,289.55	218.61	0.0991	\$36,352.50	0.00034564	0.00003946	\$26,895.94	18.46	0.0084	\$396.68	\$28,811,151.21
2042	472,869.92	0.00418990	4,251.05	1.9279	\$15,450.31	220.91	0.1002	\$36,734.72	0.00034564	0.00003946	\$27,178.73	18.66	0.0085	\$400.85	\$29,114,081.39
2043	477,840.30	0.00388990	4,295.74	1.9482	\$15,612.71	223.23	0.1012	\$37,120.84	0.00034564	0.00003946	\$27,464.41	18.85	0.0086	\$405.06	\$29,420,102.18
2044	482,861.38	0.00358990	4,340.87	1.9687	\$15,776.77	225.58	0.1023	\$37,510.90	0.00034564	0.00003946	\$27,753.00	19.05	0.0086	\$409.32	\$29,729,244.45
2045	487,933.66	0.00328990	4,386.47	1.9893	\$15,942.50	227.95	0.1034	\$37,904.94	0.00034564	0.00003946	\$28,044.53	19.25	0.0087	\$413.62	\$30,041,539.34
Total	10,754,534.55		99,421.72	45,0892	\$361,344.97	5,148.36	2,3349	\$856,105.80			\$637,255.87	425.74	0.1931	\$9,146.61	\$680,306,433.18

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  
 PM10 - 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 Labor Statistics 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 Benefits-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 1 IMPROVED NETWORK: 2021-2045

YEAR	PASSENGER VEHICLES						TRUCKS					
	DAILY VEHICLE MILES (1)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT (Pounds)	DAILY CO2 OUTPUT (Metric Tons)	SOCIAL COST OF CARBON (Per Ton) (2)	ANNUAL SOCIAL COST OF CARBON	DAILY VEHICLE MILES (3)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT (Pounds)	DAILY CO2 OUTPUT (Metric Tons)	SOCIAL COST OF CARBON (Per Ton) (2)	ANNUAL SOCIAL COST OF CARBON
2021	6,619,123.97	1.11009559	7,347,860	3,332	\$52.00	\$63,248,248.92	374,213.49	4.21495573	1,577,293	715	\$52.00	\$13,576,882.76
2022	6,683,459.07	1.11019931	7,419,972	3,365	\$54.00	\$66,325,460.64	378,671.44	4.21520828	1,596,179	724	\$54.00	\$14,267,885.59
2023	6,748,419.40	1.11023373	7,492,323	3,398	\$55.00	\$68,212,417.70	383,180.88	4.21483461	1,615,044	732	\$55.00	\$14,703,859.10
2024	6,814,011.02	1.11061572	7,567,748	3,432	\$56.00	\$70,151,820.19	387,742.40	4.19552935	1,626,785	738	\$56.00	\$15,080,035.40
2025	6,880,240.07	1.11078571	7,642,472	3,466	\$57.00	\$72,109,586.41	392,356.59	4.19512979	1,645,987	746	\$57.00	\$15,530,501.49
2026	6,947,112.75	1.11105829	7,718,647	3,501	\$59.00	\$75,383,704.31	397,024.03	4.19349747	1,664,919	755	\$59.00	\$16,260,334.16
2027	7,014,635.29	1.11105829	7,793,669	3,535	\$61.00	\$78,696,614.01	401,745.34	4.19349747	1,684,718	764	\$61.00	\$17,011,450.20
2028	7,082,814.03	1.11105829	7,869,419	3,569	\$62.00	\$80,764,153.28	406,521.11	4.19349747	1,704,745	773	\$62.00	\$17,495,866.27
2029	7,151,655.34	1.11105829	7,945,906	3,604	\$63.00	\$82,864,447.95	411,351.97	4.19349747	1,725,003	782	\$63.00	\$17,989,321.55
2030	7,221,165.65	1.11105829	8,023,136	3,639	\$64.00	\$84,997,939.38	416,238.53	4.19349747	1,745,495	792	\$64.00	\$18,491,958.37
2031	7,283,166.77	1.11105829	8,092,023	3,670	\$64.00	\$85,727,733.98	420,708.64	4.19349747	1,764,241	800	\$64.00	\$18,690,548.96
2032	7,345,700.14	1.11105829	8,161,501	3,701	\$66.00	\$89,165,786.99	425,225.02	4.19349747	1,783,180	809	\$66.00	\$19,481,545.50
2033	7,408,770.31	1.11105829	8,231,576	3,733	\$67.00	\$91,293,960.83	429,788.16	4.19349747	1,802,316	817	\$67.00	\$19,988,946.59
2034	7,472,381.91	1.11105829	8,302,252	3,765	\$68.00	\$93,452,105.17	434,398.52	4.19349747	1,821,649	826	\$68.00	\$20,504,911.68
2035	7,536,539.58	1.11105829	8,373,535	3,798	\$69.00	\$95,640,577.68	439,056.57	4.19349747	1,841,183	835	\$69.00	\$21,029,561.90
2036	7,601,247.99	1.11105829	8,445,430	3,830	\$70.00	\$97,859,740.02	443,762.80	4.19349747	1,860,918	844	\$70.00	\$21,563,019.96
2037	7,666,511.89	1.11105829	8,517,942	3,863	\$72.00	\$101,519,957.17	448,517.68	4.19349747	1,880,858	853	\$72.00	\$22,416,753.93
2038	7,732,336.04	1.11105829	8,591,076	3,896	\$73.00	\$103,813,706.11	453,321.73	4.19349747	1,901,004	862	\$73.00	\$22,971,536.83
2039	7,798,725.24	1.11105829	8,664,838	3,930	\$74.00	\$106,139,357.69	458,175.42	4.19349747	1,921,357	871	\$74.00	\$23,535,539.62
2040	7,865,684.34	1.11105829	8,739,234	3,963	\$75.00	\$108,497,290.56	463,079.26	4.19349747	1,941,922	881	\$75.00	\$24,108,891.74
2041	7,933,302.26	1.11105829	8,814,361	3,997	\$75.00	\$109,429,995.24	467,949.74	4.19349747	1,962,346	890	\$75.00	\$24,362,459.29
2042	8,001,501.36	1.11105829	8,890,134	4,032	\$75.00	\$110,370,716.74	472,869.92	4.19349747	1,982,979	899	\$75.00	\$24,618,614.42
2043	8,070,286.66	1.11105829	8,966,559	4,066	\$75.00	\$111,319,523.96	477,840.30	4.19349747	2,003,822	909	\$75.00	\$24,877,382.94
2044	8,139,663.18	1.11105829	9,043,640	4,101	\$75.00	\$112,276,486.39	482,861.38	4.19349747	2,024,878	918	\$75.00	\$25,138,790.96
2045	8,209,636.00	1.11105829	9,121,384	4,137	\$75.00	\$113,241,674.12	487,933.66	4.19349747	2,046,149	928	\$75.00	\$25,402,864.81
TOTAL	185,228,090.28		205,776,636.83	93,322.74		\$2,272,503,005.43	10,754,534.55		45,124,969.00	20,464.84		\$499,099,464.02

Notes: (1) From Table 1-6. (2) 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. (3) From Table 1-7.

**Table 1-9: POPP'S FERRY CORRIDOR PHASE 1 PROJECTED ANNUAL NON-CARBON SAVINGS: 2021-2045**

YEAR	TOTAL ANNUAL 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 (4)	NON-CARBON SAVINGS (7)	TOTAL SAVINGS (7)
2021	\$1,155,099.68	\$68,221,063.84	\$68,165,968.20	\$55,095.64	\$30,013,280.48	\$29,989,041.62	\$24,238.86	\$1,234,434.18	\$1,234,434.18
2022	\$1,083,905.39	\$68,840,481.34	\$68,785,416.02	\$55,065.32	\$28,193,384.95	\$28,170,833.13	\$22,551.82	\$1,161,522.53	\$1,161,522.53
2023	\$1,010,844.29	\$69,428,762.06	\$69,373,761.28	\$55,000.79	\$26,714,482.01	\$26,693,319.05	\$21,162.95	\$1,087,008.03	\$1,087,008.03
2024	\$935,881.91	\$69,938,761.26	\$69,883,895.49	\$54,865.77	\$26,117,183.87	\$26,096,695.39	\$20,488.49	\$1,011,236.16	\$1,011,236.16
2025	\$858,983.24	\$70,485,470.40	\$70,430,719.00	\$54,751.40	\$25,207,407.78	\$25,187,827.27	\$19,580.50	\$933,315.14	\$933,315.14
2026	\$780,112.71	\$71,038,493.13	\$70,983,859.67	\$54,633.46	\$24,463,147.51	\$24,444,333.67	\$18,813.83	\$853,560.00	\$853,560.00
2027	\$699,234.17	\$71,728,399.37	\$71,673,788.17	\$54,611.20	\$24,753,865.83	\$24,735,019.21	\$18,846.63	\$772,692.00	\$772,692.00
2028	\$616,310.89	\$72,425,004.82	\$72,370,421.46	\$54,583.36	\$25,047,935.75	\$25,029,058.29	\$18,877.46	\$689,771.71	\$689,771.71
2029	\$531,305.54	\$73,128,374.50	\$73,073,824.68	\$54,549.82	\$25,345,395.06	\$25,326,488.76	\$18,906.30	\$604,761.65	\$604,761.65
2030	\$444,180.20	\$73,838,574.10	\$73,784,063.63	\$54,510.47	\$25,646,281.98	\$25,627,348.91	\$18,933.07	\$517,623.73	\$517,623.73
2031	\$509,330.33	\$74,472,045.37	\$74,417,575.59	\$54,469.79	\$25,921,527.90	\$25,902,568.57	\$18,959.33	\$582,759.45	\$582,759.45
2032	\$575,825.32	\$75,110,950.27	\$75,056,525.88	\$54,424.39	\$26,199,621.57	\$26,180,637.68	\$18,983.90	\$649,233.61	\$649,233.61
2033	\$643,686.50	\$75,755,335.39	\$75,700,961.18	\$54,374.20	\$26,480,591.70	\$26,461,584.97	\$19,006.73	\$717,067.44	\$717,067.44
2034	\$712,935.51	\$76,405,247.72	\$76,350,928.58	\$54,319.14	\$26,764,467.29	\$26,745,439.50	\$19,027.79	\$786,282.45	\$786,282.45
2035	\$783,594.30	\$77,060,734.67	\$77,006,475.54	\$54,259.13	\$27,051,277.62	\$27,032,230.58	\$19,047.04	\$856,900.48	\$856,900.48
2036	\$855,685.12	\$77,721,844.04	\$77,667,649.95	\$54,194.09	\$27,341,052.27	\$27,321,987.83	\$19,064.44	\$928,943.66	\$928,943.66
2037	\$929,230.55	\$78,388,624.06	\$78,334,500.12	\$54,123.94	\$27,633,821.11	\$27,614,741.16	\$19,079.95	\$1,002,434.44	\$1,002,434.44
2038	\$1,004,253.47	\$79,061,123.34	\$79,007,074.76	\$54,048.58	\$27,929,614.29	\$27,910,520.76	\$19,093.53	\$1,077,395.59	\$1,077,395.59
2039	\$1,080,777.10	\$79,739,390.95	\$79,685,422.99	\$53,967.95	\$28,228,462.28	\$28,209,357.14	\$19,105.14	\$1,153,850.20	\$1,153,850.20
2040	\$1,158,824.99	\$80,423,476.33	\$80,369,594.38	\$53,881.95	\$28,530,395.85	\$28,511,281.11	\$19,114.73	\$1,231,821.68	\$1,231,821.68
2041	\$1,238,415.44	\$81,114,288.39	\$81,060,497.32	\$53,791.07	\$28,830,270.05	\$28,811,151.21	\$19,118.84	\$1,311,325.35	\$1,311,325.35
2042	\$1,319,577.50	\$81,811,033.38	\$81,757,338.74	\$53,694.65	\$29,133,202.24	\$29,114,081.39	\$19,120.86	\$1,392,393.00	\$1,392,393.00
2043	\$1,402,335.70	\$82,513,762.26	\$82,460,169.67	\$53,592.59	\$29,439,222.92	\$29,420,102.18	\$19,120.74	\$1,475,049.04	\$1,475,049.04
2044	\$1,486,714.93	\$83,222,526.41	\$83,169,041.59	\$53,484.82	\$29,748,362.90	\$29,729,244.45	\$19,118.45	\$1,559,318.20	\$1,559,318.20
2045	\$1,572,740.39	\$83,937,377.64	\$83,884,006.41	\$53,371.24	\$30,060,653.29	\$30,041,539.34	\$19,113.94	\$1,645,225.57	\$1,645,225.57
<b>TOTAL</b>	<b>\$23,389,785.18</b>	<b>\$1,895,811,145.05</b>	<b>\$1,894,453,480.27</b>	<b>\$1,357,664.78</b>	<b>\$680,794,908.51</b>	<b>\$680,306,433.18</b>	<b>\$488,475.33</b>	<b>\$25,235,925.28</b>	<b>\$25,235,925.28</b>

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. (7) Total annual time savings plus passenger vehicle and truck emissions savings.

Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 1-10: POPP'S FERRY CORRIDOR PHASE 1 NET ANNUAL PROJECT BENEFIT DISCOUNTED AT SEVEN PERCENT PER ANNUM FOR NON-CARBON SAVINGS: 2021-2045

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 NON-CARBON ANNUAL BENEFIT (5)	DISCOUNTED NET NON-CARBON ANNUAL BENEFIT (6)	TOTAL ANNUAL SOCIAL COST OF CARBON SAVINGS (7)	TOTAL ANNUAL DISCOUNTED NET PROJECT BENEFIT (8)
2020	\$6,500,000.00	\$0.00										
2021	\$0.00	\$18,222.29	\$63,299,369.78	\$63,248,248.92	\$51,120.86	\$13,587,856.37	\$13,576,882.76	\$10,973.61	\$1,234,434.18	\$1,216,211.89	\$62,094.47	\$1,278,306.37
2022	\$0.00	\$18,222.29	\$66,378,556.68	\$66,325,460.64	\$53,096.04	\$14,279,307.57	\$14,267,885.59	\$11,421.98	\$1,161,522.53	\$1,068,504.90	\$64,518.02	\$1,133,022.92
2023	\$0.00	\$18,222.29	\$68,266,497.75	\$68,212,417.70	\$54,080.05	\$14,715,516.59	\$14,703,859.10	\$11,657.49	\$1,087,008.03	\$993,518.86	\$65,737.54	\$999,256.40
2024	\$0.00	\$18,222.29	\$70,206,896.31	\$70,151,820.19	\$55,076.12	\$15,091,874.72	\$15,080,035.40	\$11,839.32	\$1,011,236.16	\$810,955.12	\$66,915.44	\$877,510.55
2025	\$0.00	\$18,222.29	\$72,165,642.93	\$72,109,586.41	\$56,056.52	\$15,542,574.59	\$15,530,501.49	\$12,073.09	\$933,315.14	\$698,119.96	\$68,129.61	\$766,249.57
2026	\$0.00	\$18,222.29	\$75,441,724.16	\$75,383,704.31	\$58,019.84	\$16,272,849.09	\$16,260,334.16	\$12,514.93	\$853,560.00	\$595,584.24	\$70,534.78	\$666,119.02
2027	\$0.00	\$18,222.29	\$78,756,576.19	\$78,696,614.01	\$59,962.18	\$17,024,411.93	\$17,011,450.20	\$12,961.72	\$772,692.00	\$502,735.02	\$72,923.91	\$575,658.93
2028	\$0.00	\$18,222.29	\$80,825,067.37	\$80,764,153.28	\$60,914.09	\$17,509,062.03	\$17,495,866.27	\$13,195.77	\$689,771.71	\$418,207.23	\$74,109.86	\$492,317.09
2029	\$0.00	\$18,222.29	\$82,926,306.49	\$82,864,447.95	\$61,858.54	\$18,002,750.63	\$17,989,321.55	\$13,429.08	\$604,761.65	\$341,371.25	\$75,287.62	\$416,658.87
2030	\$0.00	\$18,222.29	\$85,060,734.48	\$84,997,939.38	\$62,795.10	\$18,505,619.92	\$18,491,958.37	\$13,661.56	\$517,623.73	\$271,641.30	\$76,456.66	\$348,097.95
2031	\$0.00	\$18,222.29	\$85,790,482.21	\$85,727,733.98	\$62,748.23	\$18,704,229.47	\$18,690,548.96	\$13,680.51	\$582,759.45	\$286,982.07	\$76,428.74	\$363,410.81
2032	\$0.00	\$18,222.29	\$89,230,442.17	\$89,165,786.99	\$64,655.19	\$19,495,671.81	\$19,481,545.50	\$14,126.30	\$649,233.61	\$299,788.93	\$78,781.49	\$378,570.42
2033	\$0.00	\$18,222.29	\$91,359,535.12	\$91,293,960.83	\$65,574.29	\$20,003,304.18	\$19,988,946.59	\$14,357.59	\$717,067.44	\$310,295.60	\$79,931.87	\$390,227.47
2034	\$0.00	\$18,222.29	\$93,518,590.78	\$93,452,105.17	\$66,485.61	\$20,519,499.70	\$20,504,911.68	\$14,817.53	\$856,900.48	\$325,253.86	\$82,206.34	\$407,460.21
2035	\$0.00	\$18,222.29	\$95,707,966.50	\$95,640,577.68	\$67,388.81	\$21,044,379.43	\$21,029,561.90	\$15,046.01	\$928,943.66	\$330,087.33	\$83,329.52	\$413,416.86
2036	\$0.00	\$18,222.29	\$97,928,023.53	\$97,859,740.02	\$68,283.51	\$21,578,065.97	\$21,563,019.96	\$15,046.01	\$1,002,434.44	\$333,386.71	\$85,632.04	\$419,018.74
2037	\$0.00	\$18,222.29	\$101,590,100.72	\$101,519,957.17	\$70,143.55	\$22,432,242.41	\$22,416,753.93	\$15,488.49	\$1,077,395.59	\$335,307.14	\$86,733.54	\$422,040.68
2038	\$0.00	\$18,222.29	\$103,884,724.86	\$103,813,706.11	\$71,018.75	\$22,987,251.61	\$22,971,536.83	\$15,714.78	\$1,153,850.20	\$335,991.32	\$87,823.95	\$423,815.27
2039	\$0.00	\$18,222.29	\$106,211,241.90	\$106,139,357.69	\$71,884.21	\$23,551,479.36	\$23,535,539.62	\$15,939.74	\$1,231,821.68	\$335,570.34	\$88,902.77	\$424,473.12
2040	\$0.00	\$18,222.29	\$108,570,030.08	\$108,497,290.56	\$72,739.52	\$24,125,054.99	\$24,108,891.74	\$16,163.25	\$1,311,325.35	\$334,162.40	\$88,783.56	\$422,945.96
2041	\$0.00	\$18,222.29	\$109,502,612.07	\$109,429,995.24	\$72,616.83	\$24,378,626.02	\$24,362,459.29	\$16,166.72	\$1,392,393.00	\$331,880.21	\$88,655.09	\$420,535.30
2042	\$0.00	\$18,222.29	\$110,443,203.40	\$110,370,716.74	\$72,486.66	\$24,634,782.85	\$24,618,614.42	\$16,168.43	\$1,475,049.04	\$328,824.98	\$88,517.23	\$417,342.20
2043	\$0.00	\$18,222.29	\$111,391,872.86	\$111,319,523.96	\$72,348.89	\$24,893,551.28	\$24,877,382.94	\$16,168.33	\$1,559,318.20	\$325,089.38	\$88,369.80	\$413,459.18
2044	\$0.00	\$18,222.29	\$112,348,689.80	\$112,276,486.39	\$72,203.40	\$25,154,957.36	\$25,138,790.96	\$16,166.40	\$1,645,225.57	\$320,758.20	\$88,212.65	\$408,970.85
2045	\$0.00	\$18,222.29	\$113,313,724.19	\$113,241,674.12	\$72,050.07	\$25,419,027.40	\$25,402,864.81	\$16,162.58	\$25,235,925.28	\$11,708,585.89	\$1,970,090.14	\$13,678,676.03
TOTAL	\$6,500,000.00	\$455,557.25	\$2,274,118,612.31	\$2,272,503,005.43	\$1,615,606.88	\$499,453,947.28	\$499,099,464.02	\$354,483.26	\$25,235,925.28	\$11,708,585.89	\$1,970,090.14	\$13,678,676.03
											BENEFIT/COST	2.10

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 Calculator. (2) From Table 1-5. (3) From Table 1-8. (4) Existing less improved. (5) From Table 1-9. (6) Undiscounted non-carbon annual benefit (minus annual maintenance cost) discounted at 7.0 percent per annum. (7) A 3.0-percent per annum discount rate is built into the social cost of carbon values recommended in TIGER Benefit-Cost Analysis Resource Guide. (8) Discounted net non-carbon annual benefit plus total annual 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 1 NET ANNUAL PROJECT BENEFIT DISCOUNTED AT THREE PERCENT PER ANNUM FOR NON-CARBON SAVINGS: 2021-2045

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 NON-CARBON ANNUAL BENEFIT (5)	DISCOUNTED NET NON-CARB BENEFIT (6)	TOTAL ANNUAL SOCIAL COST OF CARBON SAVINGS (7)	TOTAL ANNUAL DISCOUNTED NET PROJECT BENEFIT (8)
2020	\$6,500,000.00	\$0.00	---	---	---	---	---	---	---	---	---	---
2021	\$0.00	\$18,222.29	\$63,299,369.78	\$63,248,248.92	\$51,120.86	\$13,587,856.37	\$13,576,882.76	\$10,973.61	\$1,234,434.18	\$1,216,211.89	\$62,094.47	\$1,278,306.37
2022	\$0.00	\$18,222.29	\$66,378,556.68	\$66,325,460.64	\$53,096.04	\$14,279,307.57	\$14,267,885.59	\$11,421.98	\$1,161,522.53	\$1,110,000.24	\$64,518.02	\$1,174,518.26
2023	\$0.00	\$18,222.29	\$68,266,497.75	\$68,212,417.70	\$54,080.05	\$14,715,516.59	\$14,703,859.10	\$11,657.49	\$1,087,008.03	\$1,007,433.06	\$65,737.54	\$1,073,170.61
2024	\$0.00	\$18,222.29	\$70,206,896.31	\$70,151,820.19	\$55,076.12	\$15,091,874.72	\$15,080,035.40	\$11,839.32	\$1,011,236.16	\$908,748.36	\$66,915.44	\$975,663.80
2025	\$0.00	\$18,222.29	\$72,165,642.93	\$72,109,586.41	\$56,056.52	\$15,542,574.59	\$15,530,501.49	\$12,073.09	\$933,315.14	\$813,048.15	\$68,129.61	\$881,177.76
2026	\$0.00	\$18,222.29	\$75,441,724.16	\$75,383,704.31	\$58,019.84	\$16,272,849.09	\$16,260,334.16	\$12,514.93	\$853,560.00	\$720,569.65	\$70,534.78	\$791,104.42
2027	\$0.00	\$18,222.29	\$78,756,576.19	\$78,696,614.01	\$59,962.18	\$17,024,411.93	\$17,011,450.20	\$12,961.72	\$772,692.00	\$631,856.50	\$72,923.91	\$704,780.41
2028	\$0.00	\$18,222.29	\$80,825,067.37	\$80,764,153.28	\$60,914.09	\$17,509,062.03	\$17,495,866.27	\$13,195.77	\$689,771.71	\$546,031.13	\$74,109.86	\$620,140.99
2029	\$0.00	\$18,222.29	\$82,926,306.49	\$82,864,447.95	\$61,858.54	\$18,002,750.63	\$17,989,321.55	\$13,429.08	\$604,761.65	\$463,019.58	\$75,287.62	\$538,307.21
2030	\$0.00	\$18,222.29	\$85,060,734.48	\$84,997,939.38	\$62,795.10	\$18,505,619.92	\$18,491,958.37	\$13,661.56	\$517,623.73	\$382,749.62	\$76,456.66	\$459,206.28
2031	\$0.00	\$18,222.29	\$85,790,482.21	\$85,727,733.98	\$62,748.23	\$18,704,229.47	\$18,690,548.96	\$13,680.51	\$582,759.45	\$420,068.67	\$76,428.74	\$496,497.41
2032	\$0.00	\$18,222.29	\$89,230,442.17	\$89,165,786.99	\$64,655.19	\$19,495,671.81	\$19,481,545.50	\$14,126.30	\$649,233.61	\$455,856.00	\$78,781.49	\$534,637.49
2033	\$0.00	\$18,222.29	\$91,359,535.12	\$91,293,960.83	\$65,574.29	\$20,003,304.18	\$19,988,946.59	\$14,357.59	\$717,067.44	\$490,155.92	\$79,931.87	\$570,087.80
2034	\$0.00	\$18,222.29	\$93,518,590.78	\$93,452,105.17	\$66,485.61	\$20,519,499.70	\$20,504,911.68	\$14,588.03	\$786,282.45	\$523,011.59	\$81,073.64	\$604,085.23
2035	\$0.00	\$18,222.29	\$95,707,966.50	\$95,640,577.68	\$67,388.81	\$21,044,379.43	\$21,029,561.90	\$14,817.53	\$856,900.48	\$554,465.08	\$82,206.34	\$636,671.43
2036	\$0.00	\$18,222.29	\$97,928,023.53	\$97,859,740.02	\$68,283.51	\$21,578,065.97	\$21,563,019.96	\$15,046.01	\$928,943.66	\$584,557.39	\$83,329.52	\$667,886.91
2037	\$0.00	\$18,222.29	\$101,590,100.72	\$101,519,957.17	\$70,143.55	\$22,432,242.41	\$22,416,753.93	\$15,488.49	\$1,002,434.44	\$613,328.47	\$85,632.04	\$695,960.51
2038	\$0.00	\$18,222.29	\$103,884,724.86	\$103,813,706.11	\$71,018.75	\$22,987,251.61	\$22,971,536.83	\$15,714.78	\$1,077,395.59	\$640,817.26	\$86,733.54	\$727,550.80
2039	\$0.00	\$18,222.29	\$106,211,241.90	\$106,139,357.69	\$71,884.21	\$23,551,479.36	\$23,535,539.62	\$15,939.74	\$1,153,850.20	\$667,061.71	\$87,823.95	\$754,885.66
2040	\$0.00	\$18,222.29	\$108,570,030.08	\$108,497,290.56	\$72,739.52	\$24,125,054.99	\$24,108,891.74	\$16,163.25	\$1,231,821.68	\$692,098.77	\$88,902.77	\$781,001.55
2041	\$0.00	\$18,222.29	\$109,502,612.07	\$109,429,995.24	\$72,616.83	\$24,378,626.02	\$24,362,459.29	\$16,166.72	\$1,311,325.35	\$715,959.81	\$88,783.56	\$804,743.37
2042	\$0.00	\$18,222.29	\$110,443,203.40	\$110,370,716.74	\$72,486.66	\$24,634,782.85	\$24,618,614.42	\$16,168.43	\$1,392,393.00	\$738,684.47	\$88,655.09	\$827,339.56
2043	\$0.00	\$18,222.29	\$111,391,872.86	\$111,319,523.96	\$72,348.89	\$24,893,551.28	\$24,877,382.94	\$16,168.33	\$1,475,049.04	\$760,306.96	\$88,517.23	\$848,824.18
2044	\$0.00	\$18,222.29	\$112,348,689.80	\$112,276,486.39	\$72,203.40	\$25,154,957.36	\$25,138,790.96	\$16,166.40	\$1,559,318.20	\$780,860.58	\$88,369.80	\$869,230.38
2045	\$0.00	\$18,222.29	\$113,313,724.19	\$113,241,674.12	\$72,050.07	\$25,419,027.40	\$25,402,864.81	\$16,162.58	\$1,645,225.57	\$800,377.80	\$88,212.65	\$888,590.46
TOTAL	\$6,500,000.00	\$455,557.25	\$2,274,118,612.31	\$2,272,503,005.43	\$1,615,606.88	\$499,453,947.28	\$499,099,464.02	\$354,483.26	\$25,235,925.28	\$17,237,278.69	\$1,970,090.14	\$19,207,368.83
											BENEFIT/COST	2.95

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 Calculator. (2) From Table 1-5. (3) From Table 1-8. (4) Existing less improved. (5) From Table 1-9. (6) Undiscounted non-carbon annual benefit (minus annual maintenance cost) discounted at 3.0 percent per annum. (7) A 3.0-percent per annum discount rate is built into the social cost of carbon values recommended in TIGER Benefit-Cost Analysis Resource Guide. (8) Discounted net non-carbon annual benefit plus total annual social cost of carbon savings.

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

**Table 2-1:  
POPP'S FERRY PHASE 2 PROJECTED ANNUAL REDUCTION IN VEHICLE MILES AND HOURS TRAVELED: 2025-2074**

YEAR	EXISTING NETWORK		IMPROVED NETWORK		DAILY REDUCTION (3)		ANNUAL REDUCTION (4)	
	DAILY VMT (1)	DAILY VHT (2)	DAILY VMT (1)	DAILY VHT (2)	VMT	VHT	VMT	VHT
2025	7,278,250.233	194,582.078	7,272,137.797	194,281.813	6,112.436	300.265	2,231,038.961	109,596.591
2026	7,349,789.271	196,888.953	7,343,210.047	196,474.988	6,579.224	413.965	2,401,416.697	151,097.058
2027	7,422,031.478	199,223.177	7,414,976.903	198,692.921	7,054.575	530.256	2,574,919.922	193,543.350
2028	7,494,983.765	201,585.074	7,487,445.153	200,935.891	7,538.612	649.183	2,751,593.538	236,951.805
2029	7,568,653.111	203,974.973	7,560,621.651	203,204.181	8,031.460	770.792	2,931,483.023	281,339.010
2030	7,643,046.564	206,393.206	7,634,513.319	205,498.078	8,533.245	895.128	3,114,634.444	326,721.807
2031	7,709,514.240	208,599.951	7,700,780.895	207,690.742	8,733.346	909.209	3,187,671.236	331,861.274
2032	7,776,559.952	210,830.291	7,767,623.673	209,906.802	8,936.280	923.488	3,261,742.041	337,073.256
2033	7,844,188.727	213,084.477	7,835,046.646	212,146.508	9,142.080	937.969	3,336,859.314	342,358.716
2034	7,912,405.634	215,362.765	7,903,054.851	214,410.111	9,350.783	952.654	3,413,035.647	347,718.630
2035	7,981,215.789	217,665.412	7,971,653.367	216,697.867	9,562.421	967.545	3,490,283.772	353,153.984
2036	8,050,624.350	219,992.679	8,040,847.318	219,010.033	9,777.032	982.646	3,568,616.564	358,665.780
2037	8,120,636.523	222,344.829	8,110,641.873	221,346.870	9,994.649	997.959	3,648,047.040	364,255.029
2038	8,191,257.555	224,722.129	8,181,042.245	223,708.642	10,215.311	1,013.487	3,728,588.359	369,922.758
2039	8,262,492.743	227,124.846	8,252,053.691	226,095.613	10,439.052	1,029.233	3,810,253.828	375,670.005
2040	8,334,347.427	229,553.252	8,323,681.517	228,508.053	10,665.909	1,045.200	3,893,056.903	381,497.823
2041	8,406,826.994	232,007.624	8,395,931.073	230,946.234	10,895.921	1,061.390	3,977,011.185	387,407.277
2042	8,479,936.879	234,488.237	8,468,807.755	233,410.430	11,129.124	1,077.807	4,062,130.428	393,399.445
2043	8,553,682.564	236,995.373	8,542,317.006	235,900.919	11,365.558	1,094.453	4,148,428.538	399,475.422
2044	8,628,069.577	239,529.315	8,616,464.318	238,417.982	11,605.259	1,111.332	4,235,919.575	405,636.313
2045	8,703,103.496	242,090.349	8,691,255.228	240,961.902	11,848.268	1,128.447	4,324,617.752	411,883.239
2046	8,778,789.946	244,678.767	8,766,695.323	243,532.966	12,094.623	1,145.801	4,414,537.441	418,217.335
2047	8,855,134.604	247,294.859	8,842,790.239	246,131.462	12,344.365	1,163.397	4,505,693.173	424,639.751
2048	8,932,143.191	249,938.922	8,919,545.658	248,757.685	12,597.533	1,181.237	4,598,099.638	431,151.651
2049	9,009,821.483	252,611.256	8,996,967.314	251,411.930	12,854.169	1,199.327	4,691,771.688	437,754.214
2050	9,088,175.304	255,312.162	9,075,060.991	254,094.495	13,114.313	1,217.667	4,786,724.340	444,448.633
2051	9,167,210.528	258,041.946	9,153,832.520	256,805.683	13,378.008	1,236.263	4,882,972.775	451,236.118
2052	9,246,933.080	260,800.917	9,233,287.786	259,545.800	13,645.294	1,255.118	4,980,532.341	458,117.892
2053	9,327,348.939	263,589.387	9,313,432.724	262,315.153	13,916.215	1,274.233	5,079,418.556	465,095.196
2054	9,408,464.134	266,407.671	9,394,273.320	265,114.056	14,190.814	1,293.614	5,179,647.108	472,169.285
2055	9,490,284.747	269,256.087	9,475,815.613	267,942.823	14,469.134	1,313.264	5,281,233.858	479,341.432
2056	9,572,816.911	272,134.959	9,558,065.692	270,801.773	14,751.219	1,333.186	5,384,194.841	486,612.922
2057	9,656,066.815	275,044.612	9,641,029.702	273,691.228	15,037.113	1,353.384	5,488,546.267	493,985.062
2058	9,740,040.702	277,985.374	9,724,713.840	276,611.513	15,326.862	1,373.861	5,594,304.527	501,459.170
2059	9,824,744.866	280,957.579	9,809,124.356	279,562.958	15,620.510	1,394.621	5,701,486.187	509,036.584
2060	9,910,185.660	283,961.563	9,894,267.556	282,545.895	15,918.104	1,415.668	5,810,108.000	516,718.658
2061	9,996,369.488	286,997.664	9,980,149.798	285,560.660	16,219.690	1,437.005	5,920,186.899	524,506.765
2062	10,083,302.813	290,066.228	10,066,777.498	288,607.592	16,525.315	1,458.636	6,031,740.003	532,402.291
2063	10,170,992.153	293,167.601	10,154,157.127	291,687.035	16,835.026	1,480.566	6,144,784.621	540,406.644
2064	10,259,444.083	296,302.134	10,242,295.211	294,799.336	17,148.872	1,502.798	6,259,338.248	548,521.247
2065	10,348,665.234	299,470.180	10,331,198.333	297,944.844	17,466.900	1,525.336	6,375,418.573	556,747.543
2066	10,438,662.295	302,672.100	10,420,873.135	301,123.916	17,789.160	1,548.184	6,493,043.476	565,086.992
2067	10,529,442.015	305,908.254	10,511,326.314	304,336.908	18,115.701	1,571.345	6,612,231.036	573,541.072
2068	10,621,011.200	309,179.008	10,602,564.626	307,584.183	18,446.574	1,594.825	6,732,999.526	582,111.281
2069	10,713,376.716	312,484.734	10,694,594.887	310,866.106	18,781.829	1,618.628	6,855,367.421	590,799.134
2070	10,806,545.487	315,825.804	10,787,423.971	314,183.048	19,121.516	1,642.757	6,979,353.397	599,606.168
2071	10,900,524.499	319,202.597	10,881,058.811	317,535.381	19,465.689	1,667.216	7,104,976.332	608,533.938
2072	10,995,320.799	322,615.494	10,975,506.401	320,923.483	19,814.398	1,692.011	7,232,255.313	617,584.017
2073	11,090,941.494	326,064.882	11,070,773.797	324,347.737	20,167.698	1,717.145	7,361,209.633	626,758.000
2074	11,187,393.754	329,551.150	11,166,868.113	327,808.527	20,525.641	1,742.623	7,491,858.796	636,057.501
TOTAL	455,861,769.812	12,844,562.881	455,198,576.983	12,784,420.758	663,192.830	60,142.123	242,065,382.781	21,951,875.067

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.



Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 2-2:

POPP'S FERRY PHASE 2 PROJECTED ANNUAL PASSENGER-VEHICLE AND TRUCK TRAVEL TIME-SAVINGS: 2021-2045

YEAR	ANNUAL VHT	PASSENGER VEHICLE			TRUCK			TOTAL ANNUAL
	REDUCTION (1)	FACTOR (2)	REDUCED VHT (3)	SAVINGS (4)	FACTOR (2)	REDUCED VHT (3)	SAVINGS (4)	TIME-SAVINGS
2025	103,695.911	0.9462	98,112.92	\$1,298,033.97	0.0538	5,582.99	\$107,919.15	\$1,405,953.12
2026	142,945.371	0.9461	135,233.47	\$1,789,138.79	0.0540	7,711.90	\$149,071.08	\$1,938,209.87
2027	183,080.397	0.9459	173,183.07	\$2,291,212.02	0.0541	9,897.33	\$191,315.32	\$2,482,527.34
2028	224,116.126	0.9458	211,975.76	\$2,804,439.24	0.0542	12,140.37	\$234,673.36	\$3,039,112.60
2029	266,067.928	0.9457	251,625.76	\$3,329,008.82	0.0543	14,442.17	\$279,167.09	\$3,608,175.91
2030	308,951.408	0.9456	292,147.54	\$3,865,111.97	0.0544	16,803.87	\$324,818.75	\$4,189,930.72
2031	313,774.834	0.9455	296,674.11	\$3,924,998.42	0.0545	17,100.73	\$330,557.08	\$4,255,555.50
2032	318,665.685	0.9454	301,263.35	\$3,985,714.15	0.0546	17,402.33	\$336,387.10	\$4,322,101.24
2033	323,624.847	0.9453	305,916.10	\$4,047,269.94	0.0547	17,708.75	\$342,310.17	\$4,389,580.11
2034	328,653.217	0.9452	310,633.16	\$4,109,676.72	0.0548	18,020.06	\$348,327.68	\$4,458,004.40
2035	333,751.704	0.9451	315,415.39	\$4,172,945.55	0.0549	18,336.32	\$354,441.04	\$4,527,386.59
2036	338,921.229	0.9449	320,263.61	\$4,237,087.63	0.0551	18,657.61	\$360,651.67	\$4,597,739.30
2037	344,162.722	0.9448	325,178.71	\$4,302,114.28	0.0552	18,984.02	\$366,961.02	\$4,669,075.30
2038	349,477.127	0.9447	330,161.53	\$4,368,036.99	0.0553	19,315.60	\$373,370.56	\$4,741,407.56
2039	354,865.400	0.9446	335,212.95	\$4,434,867.39	0.0554	19,652.45	\$379,881.78	\$4,814,749.17
2040	360,328.509	0.9445	340,333.88	\$4,502,617.23	0.0555	19,994.63	\$386,496.18	\$4,889,113.41
2041	365,828.691	0.9443	345,452.03	\$4,570,330.40	0.0557	20,376.66	\$393,880.80	\$4,964,211.20
2042	371,447.756	0.9442	350,720.97	\$4,640,038.45	0.0558	20,726.78	\$400,687.75	\$5,040,687.20
2043	377,144.746	0.9441	356,062.35	\$4,710,704.95	0.0559	21,082.39	\$407,522.62	\$5,118,227.57
2044	382,920.679	0.9440	361,477.12	\$4,782,342.31	0.0560	21,443.56	\$414,503.98	\$5,196,846.29
2045	388,776.589	0.9439	366,966.22	\$4,854,963.12	0.0561	21,810.37	\$421,594.39	\$5,276,557.51
2046	394,713.525	0.9439	372,570.10	\$4,929,102.38	0.0561	22,143.43	\$428,032.48	\$5,357,134.86
2047	400,732.547	0.9439	378,251.45	\$5,004,266.70	0.0561	22,481.10	\$434,559.58	\$5,438,826.28
2048	406,834.726	0.9439	384,011.30	\$5,080,469.47	0.0561	22,823.43	\$441,176.87	\$5,521,646.33
2049	413,021.147	0.9439	389,850.66	\$5,157,724.24	0.0561	23,170.49	\$447,885.50	\$5,605,609.74
2050	419,292.911	0.9439	395,770.58	\$5,236,044.76	0.0561	23,522.33	\$454,686.68	\$5,690,731.44
2051	425,651.130	0.9439	401,772.10	\$5,315,444.91	0.0561	23,879.03	\$461,581.62	\$5,777,026.52
2052	432,096.932	0.9439	407,856.29	\$5,395,938.77	0.0561	24,240.64	\$468,571.53	\$5,864,510.30
2053	438,631.457	0.9439	414,024.23	\$5,477,540.59	0.0561	24,607.22	\$475,657.65	\$5,953,198.24
2054	445,255.861	0.9439	420,277.01	\$5,560,264.81	0.0561	24,978.85	\$482,841.24	\$6,043,106.05
2055	451,971.315	0.9439	426,615.72	\$5,644,126.03	0.0561	25,355.59	\$490,123.57	\$6,134,249.60
2056	458,779.003	0.9439	433,041.50	\$5,729,139.06	0.0561	25,737.50	\$497,505.92	\$6,226,644.98
2057	465,680.126	0.9439	439,555.47	\$5,815,318.87	0.0561	26,124.66	\$504,989.58	\$6,320,308.46
2058	472,675.896	0.9439	446,158.78	\$5,902,680.64	0.0561	26,517.12	\$512,575.89	\$6,415,256.53
2059	479,767.546	0.9439	452,852.59	\$5,991,239.72	0.0561	26,914.96	\$520,266.16	\$6,511,505.89
2060	486,956.320	0.9439	459,638.07	\$6,081,011.68	0.0561	27,318.25	\$528,061.76	\$6,609,073.44
2061	494,243.480	0.9439	466,516.42	\$6,172,012.24	0.0561	27,727.06	\$535,964.05	\$6,707,976.30
2062	501,630.301	0.9439	473,488.84	\$6,264,257.37	0.0561	28,141.46	\$543,974.42	\$6,808,231.79
2063	509,118.078	0.9439	480,556.55	\$6,357,763.20	0.0561	28,561.52	\$552,094.26	\$6,909,857.47
2064	516,708.118	0.9439	487,720.79	\$6,452,546.09	0.0561	28,987.33	\$560,325.00	\$7,012,871.09
2065	524,401.749	0.9439	494,982.81	\$6,548,622.58	0.0561	29,418.94	\$568,668.07	\$7,117,290.66
2066	532,200.311	0.9439	502,343.87	\$6,646,009.44	0.0561	29,856.44	\$577,124.94	\$7,223,134.38
2067	540,105.163	0.9439	509,805.26	\$6,744,723.64	0.0561	30,299.90	\$585,697.06	\$7,330,420.70
2068	548,117.682	0.9439	517,368.28	\$6,844,782.35	0.0561	30,749.40	\$594,385.94	\$7,439,168.29
2069	556,239.261	0.9439	525,034.24	\$6,946,202.97	0.0561	31,205.02	\$603,193.09	\$7,549,396.06
2070	564,471.310	0.9439	532,804.47	\$7,049,003.13	0.0561	31,666.84	\$612,120.03	\$7,661,123.15
2071	572,815.256	0.9439	540,680.32	\$7,153,200.64	0.0561	32,134.94	\$621,168.31	\$7,774,368.95
2072	581,272.547	0.9439	548,663.16	\$7,258,813.57	0.0561	32,609.39	\$630,339.51	\$7,889,153.08
2073	589,844.647	0.9439	556,754.36	\$7,365,860.21	0.0561	33,090.28	\$639,635.20	\$8,005,495.41
2074	598,533.036	0.9439	564,955.33	\$7,474,359.06	0.0561	33,577.70	\$649,057.01	\$8,123,416.06
<b>TOTAL</b>	<b>20,702,962.259</b>		<b>19,547,930.572</b>	<b>\$258,619,121.47</b>		<b>1,155,031.687</b>	<b>\$22,326,762.50</b>	<b>\$280,945,883.97</b>

Notes: (1) From Table 2-1. (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."

# Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 2-3:

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

YEAR	DAILY PASS VEH MILES (1)	DAILY NOX FACTOR (2)	OXIDES OF NITROGEN (NOX)		PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS	PARTICULATE MATTER <2.5 µm (PM2.5) DAILY EMISSIONS		SULFUR DIOXIDE (SOX) DAILY EMISSIONS	TOTAL ANNUAL EMISSIONS VALUE (\$)					
			TONS (3)	VALUE (4)		TONS (3)	VALUE (4)							
										TONS (3)	VALUE (4)			
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	\$124,660.16	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	\$79,748,673.59
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	\$83,226,526.41
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	\$141,705.34	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	\$4,394,006,854.21

Notes: (1) Vehicle-miles traveled from Table 2-1 multiplied by passenger vehicle factor from Table 2-2, (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 Labor Statistics 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.

Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 2-4:

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

YEAR	DAILY PASS VEH MILES (1)	NOX FACTOR (2)	OXIDES OF NITROGEN (NOX) DAILY EMISSIONS		PM10 FACTOR (2)	PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS		PM2.5 FACTOR (2)	PARTICULATE MATTER <2.5 µm (PM2.5) DAILY EMISSIONS		SOX FACTOR (2)	SULFUR DIOXIDE (SOX) DAILY EMISSIONS		TOTAL ANNUAL EMISSIONS VALUE (5)
			TONS (3)	VALUE (4)		TONS (3)	VALUE (4)		TONS (3)	VALUE (4)		TONS (3)	VALUE (4)	
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 2-1 multiplied by truck factor from Table 2-2. (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 Labor Statistics 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.

Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

**Table 2-5:  
PROJECTED ANNUAL SOCIAL COST OF CARBON GENERATED BY PASSENGER VEHICLES AND TRUCKS  
ON EXISTING NETWORK: 2025-2074**

YEAR	SOCIAL COST OF CARBON (1)	PASSENGER VEHICLES				TRUCKS			
		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
<b>TOTAL</b>		<b>430,023,908.29</b>		<b>216,680.16</b>	<b>\$6,377,594,453.41</b>	<b>25,846,933.66</b>		<b>49,156.32</b>	<b>\$1,451,028,740.94</b>

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 2-3. (3) Metric tons. (4) From Table 2-4.

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

# Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 2-6:

PROJECTED ANNUAL PASSENGER VEHICLE EMISSIONS FOR PHASE 2 IMPROVED NETWORK: 2025-2074														
YEAR	DAILY PASS VEH MILES (1)		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		TOTAL ANNUAL EMISSIONS		
	FACTOR (2)	NOX TONS (3)	VALUE (4)	FACTOR (2)	PM10 TONS (3)	VALUE (4)	FACTOR (2)	PM2.5 TONS (3)	VALUE (4)	FACTOR (2)	SOX TONS (3)	VALUE (4)	VALUE (5)	
2025	6,880,605.90	0.00028946	0.9001	\$7,213.72	0.00009679	0.3020	\$110,747.68	0.00006418	0.2003	\$73,427.39	0.00001070	0.0334	\$1,582.35	\$70,434,463.81
2026	6,947,043.87	0.00027141	0.8551	\$6,852.77	0.00009687	0.3052	\$111,910.16	0.00006415	0.2021	\$74,105.80	0.00001076	0.0339	\$1,605.67	\$70,983,155.86
2027	7,014,123.25	0.00027141	0.8634	\$6,918.94	0.00009687	0.3082	\$112,990.74	0.00006415	0.2041	\$74,821.35	0.00001076	0.0342	\$1,621.18	\$71,668,556.25
2028	7,081,850.25	0.00027141	0.8717	\$6,985.75	0.00009687	0.3111	\$114,081.76	0.00006415	0.2060	\$75,543.81	0.00001076	0.0346	\$1,636.83	\$72,360,573.75
2029	7,150,231.11	0.00027141	0.8801	\$7,053.20	0.00009687	0.3141	\$115,183.31	0.00006415	0.2080	\$76,273.25	0.00001076	0.0349	\$1,652.64	\$73,059,272.26
2030	7,219,272.14	0.00027141	0.8886	\$7,121.30	0.00009687	0.3172	\$116,295.49	0.00006415	0.2100	\$77,009.72	0.00001076	0.0352	\$1,668.59	\$73,764,716.25
2031	7,281,088.34	0.00027141	0.8962	\$7,182.28	0.00009687	0.3199	\$117,291.29	0.00006415	0.2118	\$77,669.13	0.00001076	0.0355	\$1,682.88	\$74,396,338.67
2032	7,343,432.74	0.00027141	0.9039	\$7,243.78	0.00009687	0.3226	\$118,295.62	0.00006415	0.2136	\$78,334.18	0.00001076	0.0358	\$1,697.29	\$75,033,368.45
2033	7,406,312.89	0.00027141	0.9116	\$7,305.81	0.00009687	0.3254	\$119,308.54	0.00006415	0.2155	\$79,004.93	0.00001076	0.0361	\$1,711.82	\$75,675,851.87
2034	7,469,730.35	0.00027141	0.9194	\$7,368.36	0.00009687	0.3282	\$120,330.13	0.00006415	0.2173	\$79,681.42	0.00001076	0.0364	\$1,726.48	\$76,323,835.61
2035	7,533,690.73	0.00027141	0.9273	\$7,431.45	0.00009687	0.3310	\$121,360.47	0.00006415	0.2192	\$80,363.70	0.00001076	0.0368	\$1,741.27	\$76,977,366.74
2036	7,598,198.67	0.00027141	0.9352	\$7,495.09	0.00009687	0.3338	\$122,399.63	0.00006415	0.2211	\$81,051.82	0.00001076	0.0371	\$1,756.18	\$77,636,492.75
2037	7,663,258.87	0.00027141	0.9433	\$7,559.26	0.00009687	0.3367	\$123,447.69	0.00006415	0.2229	\$81,745.84	0.00001076	0.0374	\$1,771.21	\$78,301,261.54
2038	7,728,876.04	0.00027141	0.9513	\$7,623.99	0.00009687	0.3396	\$124,504.72	0.00006415	0.2249	\$82,445.79	0.00001076	0.0377	\$1,786.38	\$78,971,721.38
2039	7,795,054.96	0.00027141	0.9595	\$7,689.27	0.00009687	0.3425	\$125,570.80	0.00006415	0.2268	\$83,151.74	0.00001076	0.0380	\$1,801.67	\$79,647,921.01
2040	7,861,800.43	0.00027141	0.9677	\$7,755.11	0.00009687	0.3454	\$126,646.00	0.00006415	0.2287	\$83,863.73	0.00001076	0.0384	\$1,817.10	\$80,329,909.54
2041	7,928,277.71	0.00027141	0.9759	\$7,820.69	0.00009687	0.3483	\$127,716.89	0.00006415	0.2307	\$84,572.86	0.00001076	0.0387	\$1,832.47	\$81,009,157.78
2042	7,996,248.28	0.00027141	0.9842	\$7,887.74	0.00009687	0.3513	\$128,811.83	0.00006415	0.2326	\$85,297.92	0.00001076	0.0390	\$1,848.18	\$81,703,664.05
2043	8,064,801.49	0.00027141	0.9927	\$7,955.36	0.00009687	0.3543	\$129,916.15	0.00006415	0.2346	\$86,029.19	0.00001076	0.0393	\$1,864.02	\$82,404,123.53
2044	8,133,942.32	0.00027141	1.0012	\$8,023.56	0.00009687	0.3574	\$131,029.95	0.00006415	0.2366	\$86,766.73	0.00001076	0.0397	\$1,880.00	\$83,110,587.23
2045	8,203,675.81	0.00027141	1.0098	\$8,092.35	0.00009687	0.3604	\$132,153.28	0.00006415	0.2387	\$87,510.59	0.00001076	0.0400	\$1,896.12	\$83,823,106.62
2046	8,274,007.14	0.00027141	1.0184	\$8,161.72	0.00009687	0.3635	\$133,286.25	0.00006415	0.2407	\$88,260.84	0.00001076	0.0404	\$1,912.38	\$84,541,734.55
2047	8,344,941.43	0.00027141	1.0272	\$8,231.70	0.00009687	0.3666	\$134,428.94	0.00006415	0.2428	\$89,017.51	0.00001076	0.0407	\$1,928.77	\$85,266,523.37
2048	8,416,483.85	0.00027141	1.0360	\$8,302.27	0.00009687	0.3698	\$135,581.42	0.00006415	0.2449	\$89,780.67	0.00001076	0.0411	\$1,945.31	\$85,997,525.92
2049	8,488,639.61	0.00027141	1.0449	\$8,373.44	0.00009687	0.3729	\$136,743.78	0.00006415	0.2470	\$90,550.37	0.00001076	0.0414	\$1,961.98	\$86,734,795.47
2050	8,561,413.98	0.00027141	1.0538	\$8,445.23	0.00009687	0.3761	\$137,916.10	0.00006415	0.2491	\$91,326.67	0.00001076	0.0418	\$1,978.80	\$87,478,385.73
2051	8,634,812.25	0.00027141	1.0628	\$8,517.63	0.00009687	0.3794	\$139,098.48	0.00006415	0.2512	\$92,109.63	0.00001076	0.0421	\$1,995.77	\$88,228,350.91
2052	8,708,839.78	0.00027141	1.0720	\$8,590.66	0.00009687	0.3826	\$140,290.99	0.00006415	0.2534	\$92,899.30	0.00001076	0.0425	\$2,012.88	\$88,984,745.64
2053	8,783,501.95	0.00027141	1.0811	\$8,664.31	0.00009687	0.3859	\$141,493.72	0.00006415	0.2555	\$93,695.74	0.00001076	0.0429	\$2,030.13	\$89,747,625.07
2054	8,858,804.22	0.00027141	1.0904	\$8,738.59	0.00009687	0.3892	\$142,706.77	0.00006415	0.2577	\$94,499.01	0.00001076	0.0432	\$2,047.54	\$90,517,044.77
2055	8,934,752.06	0.00027141	1.0998	\$8,813.50	0.00009687	0.3925	\$143,930.22	0.00006415	0.2599	\$95,309.16	0.00001076	0.0436	\$2,065.09	\$91,293,060.81
2056	9,011,351.01	0.00027141	1.1092	\$8,889.06	0.00009687	0.3959	\$145,164.15	0.00006415	0.2622	\$96,126.26	0.00001076	0.0440	\$2,082.80	\$92,075,729.76
2057	9,088,606.66	0.00027141	1.1187	\$8,965.27	0.00009687	0.3993	\$146,408.67	0.00006415	0.2644	\$96,950.37	0.00001076	0.0443	\$2,100.65	\$92,865,108.65
2058	9,166,524.64	0.00027141	1.1283	\$9,042.13	0.00009687	0.4027	\$147,663.85	0.00006415	0.2667	\$97,781.54	0.00001076	0.0447	\$2,118.66	\$93,661,255.00
2059	9,245,110.61	0.00027141	1.1380	\$9,119.65	0.00009687	0.4062	\$148,929.79	0.00006415	0.2690	\$98,619.83	0.00001076	0.0451	\$2,136.83	\$94,464,226.83
2060	9,324,370.32	0.00027141	1.1477	\$9,197.83	0.00009687	0.4097	\$150,206.59	0.00006415	0.2713	\$99,465.31	0.00001076	0.0455	\$2,155.15	\$95,274,082.66
2061	9,404,309.53	0.00027141	1.1576	\$9,276.69	0.00009687	0.4132	\$151,494.33	0.00006415	0.2736	\$100,318.04	0.00001076	0.0459	\$2,173.62	\$96,090,881.50
2062	9,484,934.07	0.00027141	1.1675	\$9,356.22	0.00009687	0.4167	\$152,793.12	0.00006415	0.2759	\$101,178.09	0.00001076	0.0463	\$2,192.26	\$96,914,682.87
2063	9,566,249.81	0.00027141	1.1775	\$9,436.43	0.00009687	0.4203	\$154,103.03	0.00006415	0.2783	\$102,045.50	0.00001076	0.0467	\$2,211.05	\$97,745,546.82
2064	9,648,262.69	0.00027141	1.1876	\$9,517.33	0.00009687	0.4239	\$155,424.18	0.00006415	0.2807	\$102,920.35	0.00001076	0.0471	\$2,230.01	\$98,583,533.89
2065	9,730,978.68	0.00027141	1.1978	\$9,598.92	0.00009687	0.4275	\$156,756.66	0.00006415	0.2831	\$103,802.70	0.00001076	0.0475	\$2,249.13	\$99,428,705.15
2066	9,814,403.80	0.00027141	1.2080	\$9,681.22	0.00009687	0.4312	\$158,100.56	0.00006415	0.2855	\$104,692.62	0.00001076	0.0479	\$2,268.41	\$100,281,122.18
2067	9,898,544.14	0.00027141	1.2184	\$9,764.22	0.00009687	0.4349	\$159,455.97	0.00006415	0.2880	\$105,590.17	0.00001076	0.0483	\$2,287.86	\$101,140,847.12
2068	9,983,405.83	0.00027141	1.2288	\$9,847.93	0.00009687	0.4386	\$160,823.01	0.00006415	0.2904	\$106,495.41	0.00001076	0.0487	\$2,307.47	\$102,007,942.60
2069	10,068,995.05	0.00027141	1.2394	\$9,932.35	0.00009687	0.4424	\$162,201.77	0.00006415	0.2929	\$107,408.41	0.00001076	0.0491	\$2,327.25	\$102,882,471.82
2070	10,155,318.03	0.00027141	1.2500	\$10,017.51	0.00009687	0.4462	\$163,592.35	0.00006415	0.2954	\$108,329.23	0.00001076	0.0495	\$2,347.20	\$103,764,498.51
2071	10,242,381.08	0.00027141	1.2607	\$10,103.39	0.00009687	0.4500	\$164,994.86	0.00006415	0.2980	\$109,257.96	0.00001076	0.0500	\$2,367.33	\$104,654,086.94
2072	10,330,190.53	0.00027141	1.2715	\$10,190.00	0.00009687	0.4538	\$166,409.38	0.00006415	0.3005	\$110,194.64	0.00001076	0.0504	\$2,387.62	\$105,551,301.95
2073	10,418,752.79	0.00027141	1.2824	\$10,277.37	0.00009687	0.4577	\$167,836.03	0.00006415	0.3031	\$111,139.36	0.00001076	0.0508	\$2,408.09	\$106,456,208.92
2074	10,508,074.30	0.00027141	1.2934	\$10,365.47	0.00009687	0.4617	\$169,274.92	0.00006415	0.3057	\$112,092.17	0.00001076	0.0513	\$2,428.74	\$107,368,879.78
TOTAL	429,398,476.98		52.9071	\$423,997.81		18.8650	\$6,917,102.04		12.4925	\$4,580,527.74		2.0949	\$99,239.11	\$4,387,616,344.14

Notes: (1) Vehicle-miles traveled from Table 2-1 multiplied by passenger vehicle factor from Table 2-2, (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 Labor Statistics 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.

# Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

**Table 2-7:  
PROJECTED ANNUAL TRUCK EMISSIONS FOR PHASE 2 IMPROVED NETWORK: 2025-2074**

YEAR	DAILY PASS VEH MILES (1)	NOX FACTOR (2)	OXIDES OF NITROGEN (NOX) DAILY EMISSIONS		PM10 FACTOR (2)	PARTICULATE MATTER >2.5 µm (PM10) DAILY EMISSIONS		PM2.5 FACTOR (2)	PARTICULATE MATTER ≤2.5 µm (PM2.5) DAILY EMISSIONS		SULFUR DIOXIDE (SOX) DAILY EMISSIONS		TOTAL ANNUAL EMISSIONS VALUE (5)	
			TONS (3)	VALUE (4)		TONS (3)	VALUE (4)		TONS (3)	VALUE (4)	TONS (3)	VALUE (4)		
2025	391,531.90	0.00932573	1.6559	\$13,270.60	0.00048541	0.0862	\$31,603.67	0.00036326	0.0645	\$23,650.43	0.00004018	0.0071	\$338.01	\$25,134,885.19
2026	396,166.18	0.00898990	1.6152	\$12,944.13	0.00046717	0.0839	\$30,776.02	0.00034564	0.0621	\$22,770.09	0.00003946	0.0071	\$335.83	\$24,391,516.65
2027	400,853.65	0.00898990	1.6343	\$13,097.29	0.00046717	0.0849	\$31,140.16	0.00034564	0.0628	\$23,039.51	0.00003946	0.0072	\$339.80	\$24,680,118.99
2028	405,594.90	0.00898990	1.6536	\$13,252.20	0.00046717	0.0859	\$31,508.49	0.00034564	0.0636	\$23,312.02	0.00003946	0.0073	\$343.82	\$24,972,032.70
2029	410,390.54	0.00898990	1.6732	\$13,408.89	0.00046717	0.0869	\$31,881.03	0.00034564	0.0643	\$23,587.66	0.00003946	0.0073	\$347.88	\$25,267,294.94
2030	415,241.18	0.00898990	1.6930	\$13,567.38	0.00046717	0.0880	\$32,257.85	0.00034564	0.0651	\$23,866.45	0.00003946	0.0074	\$352.00	\$25,565,943.28
2031	419,692.56	0.00898990	1.7111	\$13,712.82	0.00046717	0.0889	\$32,603.66	0.00034564	0.0658	\$24,122.30	0.00003946	0.0075	\$355.77	\$25,840,009.82
2032	424,189.93	0.00898990	1.7294	\$13,859.77	0.00046717	0.0899	\$32,953.03	0.00034564	0.0665	\$24,380.79	0.00003946	0.0076	\$359.58	\$26,116,907.95
2033	428,733.75	0.00898990	1.7480	\$14,008.23	0.00046717	0.0908	\$33,306.02	0.00034564	0.0672	\$24,641.95	0.00003946	0.0077	\$363.43	\$26,396,666.18
2034	433,324.50	0.00898990	1.7667	\$14,158.22	0.00046717	0.0918	\$33,662.65	0.00034564	0.0679	\$24,905.81	0.00003946	0.0078	\$367.33	\$26,679,313.31
2035	437,962.64	0.00898990	1.7856	\$14,309.77	0.00046717	0.0928	\$34,022.96	0.00034564	0.0687	\$25,172.39	0.00003946	0.0078	\$371.26	\$26,964,878.40
2036	442,648.64	0.00898990	1.8047	\$14,462.88	0.00046717	0.0938	\$34,386.99	0.00034564	0.0694	\$25,441.73	0.00003946	0.0079	\$375.23	\$27,253,390.82
2037	447,383.01	0.00898990	1.8240	\$14,617.57	0.00046717	0.0948	\$34,754.78	0.00034564	0.0701	\$25,713.84	0.00003946	0.0080	\$379.24	\$27,544,880.22
2038	452,166.20	0.00898990	1.8435	\$14,773.85	0.00046717	0.0958	\$35,126.36	0.00034564	0.0709	\$25,988.76	0.00003946	0.0081	\$383.30	\$27,839,376.54
2039	456,998.73	0.00898990	1.8632	\$14,931.74	0.00046717	0.0968	\$35,501.77	0.00034564	0.0716	\$26,266.51	0.00003946	0.0082	\$387.39	\$28,136,910.01
2040	461,881.09	0.00898990	1.8831	\$15,091.27	0.00046717	0.0979	\$35,881.06	0.00034564	0.0724	\$26,547.13	0.00003946	0.0083	\$391.53	\$28,437,511.18
2041	467,653.36	0.00898990	1.9066	\$15,279.87	0.00046717	0.0991	\$36,329.47	0.00034564	0.0733	\$26,878.90	0.00003946	0.0084	\$396.43	\$28,792,903.71
2042	472,559.47	0.00898990	1.9266	\$15,440.17	0.00046717	0.1001	\$36,710.60	0.00034564	0.0741	\$27,160.88	0.00003946	0.0085	\$400.58	\$29,094,967.64
2043	477,515.52	0.00898990	1.9469	\$15,602.10	0.00046717	0.1012	\$37,095.61	0.00034564	0.0749	\$27,445.74	0.00003946	0.0085	\$404.79	\$29,400,106.06
2044	482,522.00	0.00898990	1.9673	\$15,765.68	0.00046717	0.1022	\$37,484.54	0.00034564	0.0756	\$27,733.49	0.00003946	0.0086	\$409.03	\$29,708,349.61
2045	487,579.42	0.00898990	1.9879	\$15,930.92	0.00046717	0.1033	\$37,877.42	0.00034564	0.0764	\$28,024.17	0.00003946	0.0087	\$413.32	\$30,019,729.19
2046	492,689.84	0.00898990	2.0087	\$16,097.90	0.00046717	0.1044	\$38,274.42	0.00034564	0.0772	\$28,317.90	0.00003946	0.0088	\$417.65	\$30,334,372.40
2047	497,853.83	0.00898990	2.0298	\$16,266.62	0.00046717	0.1055	\$38,675.58	0.00034564	0.0780	\$28,614.71	0.00003946	0.0089	\$422.03	\$30,652,313.46
2048	503,071.94	0.00898990	2.0511	\$16,437.12	0.00046717	0.1066	\$39,080.95	0.00034564	0.0789	\$28,914.62	0.00003946	0.0090	\$426.45	\$30,973,586.92
2049	508,344.75	0.00898990	2.0725	\$16,609.40	0.00046717	0.1077	\$39,490.57	0.00034564	0.0797	\$29,217.68	0.00003946	0.0091	\$430.92	\$31,298,227.73
2050	513,672.82	0.00898990	2.0943	\$16,783.48	0.00046717	0.1088	\$39,904.48	0.00034564	0.0805	\$29,523.92	0.00003946	0.0092	\$435.44	\$31,626,271.16
2051	519,056.73	0.00898990	2.1162	\$16,959.40	0.00046717	0.1100	\$40,322.72	0.00034564	0.0814	\$29,833.37	0.00003946	0.0093	\$440.00	\$31,957,752.88
2052	524,497.08	0.00898990	2.1384	\$17,137.15	0.00046717	0.1111	\$40,745.36	0.00034564	0.0822	\$30,146.06	0.00003946	0.0094	\$444.61	\$32,292,708.94
2053	529,994.44	0.00898990	2.1608	\$17,316.77	0.00046717	0.1123	\$41,172.42	0.00034564	0.0831	\$30,462.02	0.00003946	0.0095	\$449.27	\$32,631,175.74
2054	535,549.43	0.00898990	2.1835	\$17,498.27	0.00046717	0.1135	\$41,603.95	0.00034564	0.0839	\$30,781.30	0.00003946	0.0096	\$453.98	\$32,973,190.09
2055	541,162.64	0.00898990	2.2063	\$17,681.67	0.00046717	0.1147	\$42,040.01	0.00034564	0.0848	\$31,103.93	0.00003946	0.0097	\$458.74	\$33,318,789.16
2056	546,834.68	0.00898990	2.2295	\$17,867.00	0.00046717	0.1159	\$42,480.64	0.00034564	0.0857	\$31,429.94	0.00003946	0.0098	\$463.55	\$33,668,010.53
2057	552,566.17	0.00898990	2.2528	\$18,054.27	0.00046717	0.1171	\$42,925.89	0.00034564	0.0866	\$31,759.36	0.00003946	0.0099	\$468.41	\$34,020,892.16
2058	558,357.74	0.00898990	2.2765	\$18,243.50	0.00046717	0.1183	\$43,375.81	0.00034564	0.0875	\$32,092.24	0.00003946	0.0100	\$473.32	\$34,377,472.42
2059	564,210.00	0.00898990	2.3003	\$18,434.71	0.00046717	0.1195	\$43,830.44	0.00034564	0.0884	\$32,428.60	0.00003946	0.0101	\$478.28	\$34,737,790.08
2060	570,123.61	0.00898990	2.3244	\$18,627.93	0.00046717	0.1208	\$44,289.83	0.00034564	0.0894	\$32,768.49	0.00003946	0.0102	\$483.29	\$35,101,884.30
2061	576,099.20	0.00898990	2.3488	\$18,823.17	0.00046717	0.1221	\$44,754.05	0.00034564	0.0903	\$33,111.95	0.00003946	0.0103	\$488.35	\$35,469,794.67
2062	582,137.42	0.00898990	2.3734	\$19,020.46	0.00046717	0.1233	\$45,223.12	0.00034564	0.0913	\$33,459.00	0.00003946	0.0104	\$493.47	\$35,841,561.19
2063	588,238.92	0.00898990	2.3983	\$19,219.82	0.00046717	0.1246	\$45,697.12	0.00034564	0.0922	\$33,809.69	0.00003946	0.0105	\$498.65	\$36,217,224.27
2064	594,404.38	0.00898990	2.4234	\$19,421.27	0.00046717	0.1259	\$46,176.08	0.00034564	0.0932	\$34,164.08	0.00003946	0.0106	\$503.87	\$36,596,824.76
2065	600,634.46	0.00898990	2.4488	\$19,624.83	0.00046717	0.1273	\$46,660.06	0.00034564	0.0942	\$34,522.14	0.00003946	0.0107	\$509.15	\$36,980,403.92
2066	606,929.84	0.00898990	2.4745	\$19,830.52	0.00046717	0.1286	\$47,149.11	0.00034564	0.0951	\$34,883.97	0.00003946	0.0109	\$514.49	\$37,368,003.46
2067	613,291.20	0.00898990	2.5004	\$20,038.37	0.00046717	0.1299	\$47,643.29	0.00034564	0.0961	\$35,249.60	0.00003946	0.0110	\$519.88	\$37,759,665.51
2068	619,719.24	0.00898990	2.5266	\$20,248.99	0.00046717	0.1313	\$48,142.65	0.00034564	0.0971	\$35,619.06	0.00003946	0.0111	\$525.33	\$38,155,432.66
2069	626,214.65	0.00898990	2.5531	\$20,460.62	0.00046717	0.1327	\$48,647.25	0.00034564	0.0982	\$35,992.39	0.00003946	0.0112	\$530.84	\$38,555,347.92
2070	632,778.14	0.00898990	2.5799	\$20,675.07	0.00046717	0.1341	\$49,157.13	0.00034564	0.0992	\$36,369.63	0.00003946	0.0113	\$536.40	\$38,959,454.78
2071	639,410.42	0.00898990	2.6069	\$20,891.77	0.00046717	0.1355	\$49,672.35	0.00034564	0.1002	\$36,750.83	0.00003946	0.0114	\$542.02	\$39,367,797.18
2072	646,112.22	0.00898990	2.6342	\$21,110.74	0.00046717	0.1369	\$50,192.98	0.00034564	0.1013	\$37,136.02	0.00003946	0.0116	\$547.70	\$39,780,419.50
2073	652,884.26	0.00898990	2.6618	\$21,332.01	0.00046717	0.1383	\$50,719.06	0.00034564	0.1023	\$37,525.25	0.00003946	0.0117	\$553.44	\$40,197,366.60
2074	659,727.28	0.00898990	2.6897	\$21,555.59	0.00046717	0.1398	\$51,250.66	0.00034564	0.1034	\$37,918.56	0.00003946	0.0118	\$559.25	\$40,618,683.81
TOTAL	25,809,156.49		105.2849	\$843,753.16		5.4714	\$2,006,162.13		4.0488	\$1,484,556.86		0.4620	\$21,884.32	\$1,590,070,110.56

Notes: (1) Vehicle-miles traveled from Table 2-1 multiplied by truck factor from Table 2-4. (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 2-8:  
PROJECTED ANNUAL SOCIAL COST OF CARBON GENERATED BY PASSENGER VEHICLES AND TRUCKS  
ON PHASE 2 IMPROVED NETWORK: 2025-2074**

YEAR	SOCIAL COST OF CARBON (1)	PASSENGER VEHICLES				TRUCKS			
		DAILY VEHICLE MILES (2)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT TONS (3)	ANNUAL SOCIAL COST OF CARBON	DAILY VEHICLE MILES (2)	CARBON DIOXIDE FACTOR	DAILY CO2 OUTPUT TONS (3)	ANNUAL SOCIAL COST OF CARBON
2025	\$57.00	6,880,605.90	1.11105829	3,466	\$72,113,420.49	391,531.90	4.19512979	745	\$15,497,858.06
2026	\$59.00	6,947,043.87	1.11105829	3,500	\$75,382,956.88	396,166.18	4.19349747	753	\$16,225,200.35
2027	\$61.00	7,014,123.25	1.11105829	3,534	\$78,690,869.45	400,853.65	4.19349747	762	\$16,973,692.71
2028	\$62.00	7,081,850.25	1.11105829	3,568	\$80,753,163.41	405,594.90	4.19349747	771	\$17,456,004.12
2029	\$63.00	7,150,231.11	1.11105829	3,603	\$82,847,945.75	410,390.54	4.19349747	780	\$17,947,276.37
2030	\$64.00	7,219,272.14	1.11105829	3,638	\$84,975,651.54	415,241.18	4.19349747	790	\$18,447,649.83
2031	\$64.00	7,281,088.34	1.11105829	3,669	\$85,703,269.43	419,692.56	4.19349747	798	\$18,645,408.37
2032	\$66.00	7,343,433.74	1.11105829	3,700	\$89,138,276.39	424,189.93	4.19349747	807	\$19,434,122.92
2033	\$67.00	7,406,312.89	1.11105829	3,732	\$91,263,679.47	428,733.75	4.19349747	815	\$19,939,907.27
2034	\$68.00	7,469,730.35	1.11105829	3,764	\$93,418,943.88	433,324.50	4.19349747	824	\$20,454,214.75
2035	\$69.00	7,533,690.73	1.11105829	3,796	\$95,604,425.11	437,962.64	4.19349747	833	\$20,977,165.68
2036	\$70.00	7,598,198.67	1.11105829	3,829	\$97,820,482.55	442,648.64	4.19349747	842	\$21,508,881.93
2037	\$72.00	7,663,258.87	1.11105829	3,861	\$101,476,880.62	447,383.01	4.19349747	851	\$22,360,043.08
2038	\$73.00	7,728,876.04	1.11105829	3,894	\$103,767,252.49	452,166.20	4.19349747	860	\$22,912,982.13
2039	\$74.00	7,795,054.96	1.11105829	3,928	\$106,089,405.81	456,998.73	4.19349747	869	\$23,475,095.77
2040	\$75.00	7,861,800.43	1.11105829	3,961	\$108,443,716.84	461,881.09	4.19349747	878	\$24,046,512.53
2041	\$77.00	7,928,277.71	1.11105829	3,995	\$112,276,972.92	467,653.36	4.19349747	889	\$24,996,283.48
2042	\$78.00	7,996,248.28	1.11105829	4,029	\$114,710,187.30	472,559.47	4.19349747	899	\$25,586,550.08
2043	\$80.00	8,064,801.49	1.11105829	4,064	\$118,660,120.36	477,515.52	4.19349747	908	\$26,517,839.36
2044	\$81.00	8,133,942.32	1.11105829	4,099	\$121,173,380.16	482,522.00	4.19349747	918	\$27,130,812.26
2045	\$82.00	8,203,675.81	1.11105829	4,134	\$123,721,010.33	487,579.42	4.19349747	927	\$27,753,635.09
2046	\$84.00	8,274,007.14	1.11105829	4,169	\$127,825,144.73	492,689.84	4.19349747	937	\$28,728,539.73
2047	\$85.00	8,344,941.43	1.11105829	4,205	\$130,455,782.56	497,853.83	4.19349747	947	\$29,375,240.78
2048	\$87.00	8,416,483.85	1.11105829	4,241	\$134,670,062.85	503,071.94	4.19349747	957	\$30,381,555.54
2049	\$87.00	8,488,639.61	1.11105829	4,277	\$135,824,609.27	508,344.75	4.19349747	967	\$30,699,991.13
2050	\$87.00	8,561,413.98	1.11105829	4,314	\$136,989,053.79	513,672.82	4.19349747	977	\$31,021,764.32
2051	\$87.00	8,634,812.25	1.11105829	4,351	\$138,163,481.26	519,056.73	4.19349747	987	\$31,346,910.08
2052	\$87.00	8,708,839.78	1.11105829	4,388	\$139,347,977.28	524,497.08	4.19349747	997	\$31,675,463.76
2053	\$87.00	8,783,501.95	1.11105829	4,426	\$140,542,628.15	529,994.44	4.19349747	1,008	\$32,007,461.08
2054	\$87.00	8,858,804.22	1.11105829	4,464	\$141,747,520.95	535,549.43	4.19349747	1,019	\$32,342,938.14
2055	\$87.00	8,934,752.06	1.11105829	4,502	\$142,962,743.47	541,162.64	4.19349747	1,029	\$32,681,931.41
2056	\$87.00	9,011,351.01	1.11105829	4,541	\$144,188,384.27	546,834.68	4.19349747	1,040	\$33,024,477.73
2057	\$87.00	9,088,606.66	1.11105829	4,580	\$145,424,532.67	552,566.17	4.19349747	1,051	\$33,370,614.36
2058	\$87.00	9,166,524.64	1.11105829	4,619	\$146,671,278.76	558,357.74	4.19349747	1,062	\$33,720,378.92
2059	\$87.00	9,245,110.61	1.11105829	4,658	\$147,928,713.38	564,210.00	4.19349747	1,073	\$34,073,809.44
2060	\$87.00	9,324,370.32	1.11105829	4,698	\$149,196,928.18	570,123.61	4.19349747	1,084	\$34,430,944.34
2061	\$87.00	9,404,309.53	1.11105829	4,739	\$150,476,015.57	576,099.20	4.19349747	1,096	\$34,791,822.44
2062	\$87.00	9,484,934.07	1.11105829	4,779	\$151,766,068.77	582,137.42	4.19349747	1,107	\$35,156,482.99
2063	\$87.00	9,566,249.81	1.11105829	4,820	\$153,067,181.79	588,238.92	4.19349747	1,119	\$35,524,965.62
2064	\$87.00	9,648,262.69	1.11105829	4,862	\$154,379,449.44	594,404.38	4.19349747	1,130	\$35,897,310.40
2065	\$87.00	9,730,978.68	1.11105829	4,903	\$155,702,967.35	600,634.46	4.19349747	1,142	\$36,273,557.80
2066	\$87.00	9,814,403.80	1.11105829	4,945	\$157,037,831.98	606,929.84	4.19349747	1,154	\$36,653,748.73
2067	\$87.00	9,898,544.14	1.11105829	4,988	\$158,384,140.60	613,291.20	4.19349747	1,166	\$37,037,924.53
2068	\$87.00	9,983,405.83	1.11105829	5,030	\$159,741,991.33	619,719.24	4.19349747	1,179	\$37,426,126.95
2069	\$87.00	10,068,995.05	1.11105829	5,074	\$161,111,483.11	626,214.65	4.19349747	1,191	\$37,818,398.21
2070	\$87.00	10,155,318.03	1.11105829	5,117	\$162,492,715.75	632,778.14	4.19349747	1,203	\$38,214,780.94
2071	\$87.00	10,242,381.08	1.11105829	5,161	\$163,885,789.90	639,410.42	4.19349747	1,216	\$38,615,318.25
2072	\$87.00	10,330,190.53	1.11105829	5,205	\$165,290,807.08	646,112.22	4.19349747	1,229	\$39,020,053.68
2073	\$87.00	10,418,752.79	1.11105829	5,250	\$166,707,869.69	652,884.26	4.19349747	1,242	\$39,429,031.22
2074	\$87.00	10,508,074.30	1.11105829	5,295	\$168,137,080.98	659,727.28	4.19349747	1,255	\$39,842,295.35
TOTAL		429,398,476.98		216,365.02	\$6,368,152,246.09	23,211,022.32		49,084.48	\$1,448,870,974.01

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 2-3. (3) Metric tons. (4) From Table 2-4.

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

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**Table 2-9:**  
**ADDITIONAL TIME-SAVINGS ACCRUING FROM REPLACEMENT OF LOW-LEVEL DRAWBRIDGE: 2025-2074**

YEAR	EXISTING NETWORK				IMPROVED NETWORK				REDUCED DELAY (HRS PER YEAR) (5)	VALUE OF TIME SAVINGS (6)
	DAILY TRAFFIC (1)	VEHICLES AFFECTED (2)	BRIDGE DELAY (MIN PER DAY) (3)	BRIDGE DELAY (HRS PER YEAR)	DAILY TRAFFIC (1)	VEHICLES AFFECTED (4)	BRIDGE DELAY (MIN PER DAY) (3)	BRIDGE DELAY (HRS PER YEAR)		
2025	18,555	644	1,611	9,798	22,110	77	192	1,168	8,631	\$114,183.39
2026	18,657	648	1,620	9,852	22,258	77	193	1,175	8,677	\$114,792.71
2027	18,760	651	1,628	9,906	22,408	78	195	1,183	8,723	\$115,405.26
2028	18,863	655	1,637	9,961	22,558	78	196	1,191	8,770	\$116,021.04
2029	18,967	659	1,646	10,016	22,710	79	197	1,199	8,816	\$116,640.09
2030	19,053	662	1,654	10,061	22,850	79	198	1,207	8,855	\$117,146.00
2031	19,148	665	1,662	10,112	22,947	80	199	1,212	8,900	\$117,743.70
2032	19,244	668	1,670	10,162	23,045	80	200	1,217	8,945	\$118,344.45
2033	19,340	672	1,679	10,213	23,143	80	201	1,222	8,991	\$118,948.24
2034	19,437	675	1,687	10,264	23,241	81	202	1,227	9,037	\$119,555.11
2035	19,534	678	1,696	10,315	23,340	81	203	1,232	9,083	\$120,165.06
2036	19,632	682	1,704	10,367	23,439	81	203	1,238	9,129	\$120,778.12
2037	19,730	685	1,713	10,419	23,539	82	204	1,243	9,176	\$121,394.29
2038	19,829	688	1,721	10,471	23,639	82	205	1,248	9,222	\$122,013.59
2039	19,908	691	1,728	10,513	23,739	82	206	1,254	9,259	\$122,498.18
2040	20,008	695	1,737	10,565	23,830	83	207	1,258	9,307	\$123,130.03
2041	20,108	698	1,745	10,618	23,931	83	208	1,264	9,354	\$123,758.17
2042	20,208	702	1,754	10,671	24,033	83	209	1,269	9,402	\$124,389.50
2043	20,309	705	1,763	10,725	24,135	84	210	1,274	9,450	\$125,024.04
2044	20,411	709	1,772	10,778	24,238	84	210	1,280	9,498	\$125,661.80
2045	20,513	712	1,781	10,832	24,341	85	211	1,285	9,547	\$126,302.81
2046	20,615	716	1,790	10,886	24,444	85	212	1,291	9,595	\$126,947.08
2047	20,718	719	1,798	10,941	24,548	85	213	1,296	9,644	\$127,594.62
2048	20,822	723	1,807	10,995	24,652	86	214	1,302	9,694	\$128,245.46
2049	20,926	727	1,816	11,050	24,757	86	215	1,307	9,743	\$128,899.60
2050	21,031	730	1,826	11,106	24,862	86	216	1,313	9,793	\$129,557.07
2051	21,136	734	1,835	11,161	24,968	87	217	1,318	9,843	\$130,217.89
2052	21,242	738	1,844	11,217	25,074	87	218	1,324	9,893	\$130,882.06
2053	21,348	741	1,853	11,273	25,181	87	219	1,330	9,943	\$131,549.61
2054	21,455	745	1,862	11,329	25,288	88	220	1,335	9,994	\$132,220.55
2055	21,562	749	1,872	11,386	25,395	88	220	1,341	10,045	\$132,894.90
2056	21,670	752	1,881	11,443	25,503	89	221	1,347	10,096	\$133,572.68
2057	21,778	756	1,890	11,500	25,612	89	222	1,352	10,148	\$134,253.91
2058	21,887	760	1,900	11,558	25,720	89	223	1,358	10,199	\$134,938.60
2059	21,996	764	1,909	11,615	25,830	90	224	1,364	10,251	\$135,626.77
2060	22,106	768	1,919	11,674	25,939	90	225	1,370	10,304	\$136,318.44
2061	22,217	771	1,929	11,732	26,050	90	226	1,376	10,356	\$137,013.62
2062	22,328	775	1,938	11,791	26,160	91	227	1,381	10,409	\$137,712.34
2063	22,439	779	1,948	11,849	26,272	91	228	1,387	10,462	\$138,414.61
2064	22,552	783	1,958	11,909	26,383	92	229	1,393	10,516	\$139,120.45
2065	22,664	787	1,967	11,968	26,495	92	230	1,399	10,569	\$139,829.87
2066	22,778	791	1,977	12,028	26,608	92	231	1,405	10,623	\$140,542.90
2067	22,892	795	1,987	12,088	26,721	93	232	1,411	10,677	\$141,259.56
2068	23,006	799	1,997	12,149	26,835	93	233	1,417	10,732	\$141,979.86
2069	23,121	803	2,007	12,209	26,949	94	234	1,423	10,786	\$142,703.82
2070	23,237	807	2,017	12,270	27,063	94	235	1,429	10,841	\$143,431.46
2071	23,353	811	2,027	12,332	27,178	94	236	1,435	10,897	\$144,162.80
2072	23,470	815	2,037	12,394	27,294	95	237	1,441	10,952	\$144,897.85
2073	23,587	819	2,047	12,455	27,410	95	238	1,447	11,008	\$145,636.64
2074	23,705	823	2,058	12,518	27,526	96	239	1,454	11,064	\$146,379.19
<b>TOTAL</b>										<b>\$6,480,699.78</b>

Notes: (1) Based on output from the Mississippi Gulf Coast Travel Demand Forecasting Model. (2) The number of vehicles affected is based on the following assumptions: (a) The existing low-level drawbridge must be raised 10 times a day to accommodate the passage of boats and barges. (b) The average time required to maintain the bridge in the open position is five minutes. (c) The share of daily traffic affected by bridge openings is directly proportional to the time in minutes that the bridge is in the open position during a typical day divided by the total number of minutes in 24 hours: (50/1440). (3) Based on the assumption that the arrival and queuing of vehicles during any given interval when the bridge is in the open position will be evenly distributed over the five-minute period such that the average vehicle delay will be 2.5 minutes. (4) The number of vehicles affected is based on the following assumptions: (a) The proposed mid-level drawbridge would be raised only once a day to accommodate the passage of boats and barges. (b) Additional assumptions listed under note 2 above. (5) Existing network delay less improved network delay. (6) At \$13.23 per hour - the recommended hourly value of travel time-savings related to local travel for all purposes, updated to 2015 dollars using the Bureau of Labor Statistics Inflation Calculator.

Source: "Benefit-Cost analysis (BCA) Resource Guide" for hourly value of time.



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Table 2-10:

POPP'S FERRY CORRIDOR PHASE 2 PROJECTED ANNUAL NON-CARBON SAVINGS FOR PASSENGER VEHICLES AND TRUCKS: 2025-2074

YEAR	PASSENGER VEHICLE TIME SAVINGS (1)	TRUCK TIME SAVINGS (1)	BRIDGE REPLACEMENT TIME SAVINGS (2)	EXISTING PASS VEH EMISSIONS COST (3)	IMPROVED PASS VEH EMISSIONS COST (4)	PASSENGER VEHICLE EMISSIONS SAVINGS (5)	EXISTING TRUCK EMISSIONS COST (6)	IMPROVED TRUCK EMISSIONS COST (7)	TRUCK EMISSIONS SAVINGS (5)	TOTAL NON-CARBON SAVINGS (8)
2025	\$1,298,039.97	\$107,919.15	\$114,183.39	\$70,493,665.95	\$70,434,463.81	\$59,202.14	\$25,156,011.76	\$25,134,885.19	\$21,126.58	\$1,600,465.23
2026	\$1,789,138.79	\$149,071.08	\$114,792.71	\$71,046,753.94	\$70,983,155.86	\$63,598.08	\$24,413,370.48	\$24,391,516.65	\$21,853.83	\$2,138,454.49
2027	\$2,291,212.02	\$191,315.32	\$115,405.26	\$71,736,741.38	\$71,668,556.25	\$68,185.14	\$24,703,599.54	\$24,680,118.99	\$23,480.55	\$2,689,598.28
2028	\$2,804,439.24	\$234,673.36	\$116,021.04	\$72,433,428.82	\$72,360,573.75	\$72,855.07	\$24,997,175.38	\$24,972,032.70	\$25,142.69	\$3,253,131.40
2029	\$3,329,008.82	\$279,167.09	\$116,640.09	\$73,136,881.30	\$73,059,272.26	\$77,609.05	\$25,294,135.76	\$25,267,294.94	\$26,840.82	\$3,829,265.86
2030	\$3,865,111.97	\$324,818.75	\$117,146.00	\$73,847,164.52	\$73,764,716.25	\$82,448.27	\$25,594,518.84	\$25,565,943.28	\$28,575.56	\$4,418,100.54
2031	\$3,924,998.42	\$330,557.08	\$117,743.70	\$74,480,710.50	\$74,396,338.67	\$84,371.83	\$25,869,314.61	\$25,840,009.82	\$29,304.79	\$4,486,975.82
2032	\$3,985,714.15	\$336,387.10	\$118,344.45	\$75,119,690.76	\$75,033,368.45	\$86,322.30	\$26,146,954.20	\$26,116,907.95	\$30,046.25	\$4,556,814.25
2033	\$4,047,269.94	\$342,310.17	\$118,948.24	\$75,764,151.88	\$75,675,851.87	\$88,300.01	\$26,427,466.31	\$26,396,666.18	\$30,800.13	\$4,627,628.49
2034	\$4,109,676.72	\$348,327.68	\$119,555.11	\$76,414,140.89	\$76,323,835.61	\$90,305.28	\$26,710,879.90	\$26,679,313.31	\$31,566.59	\$4,699,431.38
2035	\$4,172,945.55	\$354,441.04	\$120,165.06	\$77,069,705.18	\$76,977,366.74	\$92,338.44	\$26,997,224.21	\$26,964,878.40	\$32,345.80	\$4,772,235.89
2036	\$4,237,087.63	\$360,651.67	\$120,778.12	\$77,730,892.56	\$77,636,492.75	\$94,399.81	\$27,286,528.78	\$27,253,390.82	\$33,137.96	\$4,846,055.18
2037	\$4,302,114.28	\$366,961.02	\$121,394.29	\$78,397,751.27	\$78,301,261.54	\$96,489.73	\$27,578,823.46	\$27,544,880.22	\$33,943.23	\$4,920,902.56
2038	\$4,368,036.99	\$373,370.56	\$122,013.59	\$79,070,329.93	\$78,971,721.38	\$98,608.54	\$27,874,138.35	\$27,839,376.54	\$34,761.82	\$4,996,791.51
2039	\$4,434,867.39	\$379,881.78	\$122,498.18	\$79,748,677.59	\$79,647,921.01	\$100,756.59	\$28,172,503.90	\$28,136,910.01	\$35,593.89	\$5,073,597.82
2040	\$4,502,617.23	\$386,496.18	\$123,130.03	\$80,432,843.74	\$80,329,909.54	\$102,934.20	\$28,473,950.82	\$28,437,511.18	\$36,439.63	\$5,151,617.28
2041	\$4,570,330.40	\$393,880.80	\$123,758.17	\$81,114,288.39	\$81,009,157.78	\$105,130.61	\$28,830,270.05	\$28,792,903.71	\$37,366.34	\$5,230,466.32
2042	\$4,640,038.45	\$400,648.75	\$124,389.50	\$81,811,033.38	\$81,703,664.05	\$107,369.33	\$29,133,202.24	\$29,094,967.64	\$38,234.60	\$5,310,680.64
2043	\$4,710,704.95	\$407,522.62	\$125,024.04	\$82,513,762.26	\$82,404,123.53	\$109,638.73	\$29,439,222.92	\$29,400,106.06	\$39,116.86	\$5,392,007.20
2044	\$4,782,342.31	\$414,503.98	\$125,661.80	\$83,222,526.41	\$83,110,587.23	\$111,939.17	\$29,748,362.90	\$29,708,349.61	\$40,013.29	\$5,474,460.56
2045	\$4,854,963.12	\$421,594.39	\$126,302.81	\$83,937,377.64	\$83,823,106.62	\$114,271.02	\$30,060,653.29	\$30,019,729.19	\$40,924.10	\$5,558,055.45
2046	\$4,929,102.38	\$428,032.48	\$126,947.08	\$84,658,369.19	\$84,541,734.55	\$116,634.65	\$30,376,222.01	\$30,334,372.40	\$41,849.61	\$5,642,566.20
2047	\$5,004,266.70	\$434,559.58	\$127,594.62	\$85,385,553.80	\$85,266,523.37	\$119,030.42	\$30,695,103.50	\$30,652,313.46	\$42,790.04	\$5,728,241.37
2048	\$5,080,469.47	\$441,176.87	\$128,245.46	\$86,118,984.66	\$85,997,525.92	\$121,458.73	\$31,017,332.51	\$30,973,586.92	\$43,745.59	\$5,815,096.11
2049	\$5,157,724.24	\$447,885.50	\$128,899.60	\$86,858,715.42	\$86,734,795.47	\$123,919.95	\$31,342,944.21	\$31,298,227.73	\$44,716.48	\$5,903,145.78
2050	\$5,236,044.76	\$454,686.68	\$129,557.07	\$87,604,800.20	\$87,478,385.73	\$126,414.46	\$31,671,974.08	\$31,626,271.16	\$45,702.92	\$5,992,405.90
2051	\$5,315,444.91	\$461,581.62	\$130,217.89	\$88,357,293.57	\$88,228,350.91	\$128,942.66	\$32,004,458.03	\$31,957,752.88	\$46,705.14	\$6,082,892.22
2052	\$5,395,938.77	\$468,571.53	\$130,882.06	\$89,116,250.59	\$88,984,745.64	\$131,504.95	\$32,340,432.30	\$32,292,708.94	\$47,723.36	\$6,174,620.66
2053	\$5,477,540.59	\$475,657.65	\$131,549.61	\$89,881,726.78	\$89,747,625.07	\$134,101.71	\$32,679,933.54	\$32,631,175.74	\$48,757.80	\$6,267,607.36
2054	\$5,560,264.81	\$482,841.24	\$132,220.55	\$90,653,778.12	\$90,517,044.77	\$136,733.36	\$33,022,998.77	\$32,973,190.09	\$49,808.69	\$6,361,868.65
2055	\$5,644,126.03	\$490,123.57	\$132,894.90	\$91,432,461.11	\$91,293,060.81	\$139,400.30	\$33,369,665.41	\$33,318,789.16	\$50,876.26	\$6,457,421.06
2056	\$5,729,139.06	\$497,505.92	\$133,572.68	\$92,217,832.70	\$92,075,729.76	\$142,102.94	\$33,719,971.27	\$33,668,010.53	\$51,960.74	\$6,554,281.34
2057	\$5,815,318.87	\$504,989.58	\$134,253.91	\$93,009,950.35	\$92,865,108.65	\$144,841.70	\$34,073,954.54	\$34,020,892.16	\$53,062.38	\$6,652,466.45
2058	\$5,902,680.64	\$512,575.89	\$134,938.60	\$93,808,872.00	\$93,661,255.00	\$147,617.00	\$34,431,653.84	\$34,377,472.42	\$54,181.42	\$6,751,993.55
2059	\$5,991,239.72	\$520,266.16	\$135,626.77	\$94,614,656.10	\$94,464,226.83	\$150,429.27	\$34,793,108.16	\$34,737,790.08	\$55,318.09	\$6,852,880.01
2060	\$6,081,011.68	\$528,061.76	\$136,318.44	\$95,427,361.59	\$95,274,082.66	\$153,278.93	\$35,158,356.94	\$35,101,884.30	\$56,472.64	\$6,955,143.45
2061	\$6,172,012.24	\$535,964.05	\$137,013.62	\$96,247,047.92	\$96,090,881.50	\$156,166.43	\$35,527,440.00	\$35,469,794.67	\$57,645.34	\$7,058,801.68
2062	\$6,264,257.37	\$543,974.42	\$137,712.34	\$97,073,775.06	\$96,914,682.87	\$159,092.19	\$35,900,397.60	\$35,841,561.19	\$58,836.41	\$7,163,872.73
2063	\$6,357,763.20	\$552,094.26	\$138,414.61	\$97,907,603.49	\$97,745,546.82	\$162,056.67	\$36,277,270.41	\$36,217,224.27	\$60,046.14	\$7,270,374.88
2064	\$6,452,546.09	\$560,325.00	\$139,120.45	\$98,748,594.20	\$98,583,533.89	\$165,060.31	\$36,658,099.53	\$36,596,824.76	\$61,274.77	\$7,378,326.61
2065	\$6,548,622.58	\$568,668.07	\$139,829.87	\$99,596,808.71	\$99,428,705.15	\$168,103.56	\$37,042,926.49	\$36,980,403.92	\$62,522.57	\$7,487,746.66
2066	\$6,646,009.44	\$577,124.94	\$140,542.90	\$100,452,309.08	\$100,281,122.18	\$171,186.90	\$37,431,793.26	\$37,368,003.46	\$63,789.80	\$7,598,653.98
2067	\$6,744,723.64	\$585,697.06	\$141,259.56	\$101,315,157.89	\$101,140,847.12	\$174,310.77	\$37,824,742.25	\$37,759,665.51	\$65,076.74	\$7,711,067.77
2068	\$6,844,782.35	\$594,385.94	\$141,979.86	\$102,185,418.25	\$102,007,942.60	\$177,475.65	\$38,221,816.31	\$38,155,432.66	\$66,383.66	\$7,825,007.46
2069	\$6,946,202.97	\$603,193.09	\$142,703.82	\$103,063,153.83	\$102,882,471.82	\$180,682.01	\$38,623,058.75	\$38,555,347.92	\$67,710.83	\$7,940,492.73
2070	\$7,049,003.13	\$612,120.03	\$143,431.46	\$103,948,428.84	\$103,764,498.51	\$183,930.34	\$39,028,513.33	\$38,959,454.78	\$69,058.55	\$8,057,543.50
2071	\$7,153,200.64	\$621,168.31	\$144,162.80	\$104,841,308.05	\$104,654,086.94	\$187,221.11	\$39,438,224.27	\$39,367,797.18	\$70,427.09	\$8,176,179.94
2072	\$7,258,813.57	\$630,399.51	\$144,897.85	\$105,741,856.76	\$105,551,301.95	\$190,554.81	\$39,852,236.24	\$39,780,419.50	\$71,816.74	\$8,296,422.48
2073	\$7,365,860.21	\$639,635.20	\$145,636.64	\$106,650,140.85	\$106,456,208.92	\$193,931.94	\$40,270,594.39	\$40,197,366.60	\$73,227.79	\$8,418,291.78
2074	\$7,474,359.06	\$649,057.01	\$146,379.19	\$107,566,226.78	\$107,368,873.78	\$197,353.00	\$40,693,344.36	\$40,618,683.81	\$74,660.55	\$8,541,808.80
TOTAL	\$258,619,121.47	\$22,326,762.50	\$6,480,699.78	\$4,394,006,954.21	\$4,387,616,344.14	\$6,390,610.07	\$1,592,396,873.98	\$1,590,070,110.56	\$2,326,763.42	\$296,143,957.24

Notes: (1) From Table 2-2. (2) From Table 2-9. (3) From Table 2-3. (4) From Table 2-6. (5) Existing network cost less improved network cost. (6) From Table 2-4. (7) From Table 2-7. (8) Sum of all time and emissions savings.

# Biloxi Bridge of Opportunity - Biloxi, Mississippi - Appendix D

Table 2-11:

**POPP'S FERRY CORRIDOR PHASE 2 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	\$96,500,000.00	---	---	---	---	---	---	---	---	---	---	---
2025	\$0.00	\$57,137.01	\$72,174,033.84	\$72,113,420.49	\$60,613.35	\$15,510,884.44	\$15,497,858.06	\$13,026.38	\$1,600,465.23	\$1,543,328.22	\$73,639.73	\$1,616,967.95
2026	\$0.00	\$57,137.01	\$75,450,497.01	\$75,382,956.88	\$67,540.13	\$16,239,737.48	\$16,225,200.35	\$14,537.13	\$2,138,454.49	\$2,020,696.58	\$82,077.26	\$2,102,773.84
2027	\$0.00	\$57,137.01	\$78,765,735.58	\$78,690,869.45	\$74,866.13	\$16,989,841.40	\$16,973,692.71	\$16,148.69	\$2,689,598.28	\$2,481,347.23	\$91,014.83	\$2,572,362.05
2028	\$0.00	\$57,137.01	\$80,834,468.42	\$80,753,163.41	\$81,305.01	\$17,473,579.41	\$17,456,004.12	\$17,575.29	\$3,253,131.40	\$2,924,787.61	\$98,880.30	\$3,023,667.91
2029	\$0.00	\$57,137.01	\$82,935,953.06	\$82,847,945.75	\$88,007.31	\$17,966,341.31	\$17,947,276.37	\$19,064.95	\$3,829,265.86	\$3,351,487.63	\$107,072.26	\$3,458,559.89
2030	\$0.00	\$57,137.01	\$85,070,630.49	\$84,975,651.54	\$94,978.95	\$18,468,269.13	\$18,447,649.83	\$20,619.30	\$4,418,100.54	\$3,761,805.45	\$115,598.25	\$3,877,403.70
2031	\$0.00	\$57,137.01	\$85,800,464.29	\$85,703,269.43	\$97,194.86	\$18,666,553.86	\$18,645,408.37	\$21,145.49	\$4,486,975.82	\$3,709,920.26	\$118,340.35	\$3,828,260.61
2032	\$0.00	\$57,137.01	\$89,240,825.71	\$89,138,276.39	\$102,549.32	\$19,456,480.94	\$19,434,122.92	\$22,358.03	\$4,556,814.25	\$3,658,649.36	\$124,907.35	\$3,783,556.72
2033	\$0.00	\$57,137.01	\$91,370,167.65	\$91,263,679.47	\$106,488.18	\$19,963,173.53	\$19,939,907.27	\$23,266.26	\$4,627,628.49	\$3,607,988.18	\$129,754.44	\$3,737,742.63
2034	\$0.00	\$57,137.01	\$93,529,475.85	\$93,418,943.88	\$110,531.97	\$20,478,415.88	\$20,454,214.75	\$24,201.14	\$4,699,431.38	\$3,557,932.08	\$134,733.11	\$3,692,665.19
2035	\$0.00	\$57,137.01	\$95,719,107.70	\$95,604,425.11	\$114,682.58	\$21,002,328.90	\$20,977,165.68	\$25,163.22	\$4,772,235.89	\$3,508,476.39	\$139,845.81	\$3,648,322.19
2036	\$0.00	\$57,137.01	\$97,939,424.49	\$97,820,482.55	\$118,941.94	\$21,535,035.02	\$21,508,881.93	\$26,153.09	\$4,846,055.18	\$3,459,616.38	\$145,095.03	\$3,604,711.41
2037	\$0.00	\$57,137.01	\$101,601,929.40	\$101,476,880.62	\$125,048.78	\$22,387,597.10	\$22,360,043.08	\$27,554.02	\$4,920,902.56	\$3,411,347.30	\$152,602.80	\$3,563,950.09
2038	\$0.00	\$57,137.01	\$103,896,822.13	\$103,767,252.49	\$129,569.64	\$22,941,592.57	\$22,912,982.13	\$28,610.44	\$4,996,791.51	\$3,363,664.35	\$158,180.08	\$3,521,844.43
2039	\$0.00	\$57,137.01	\$106,223,611.52	\$106,089,405.81	\$134,205.72	\$23,504,792.34	\$23,475,095.77	\$29,696.58	\$5,073,597.82	\$3,316,471.56	\$163,902.29	\$3,480,373.85
2040	\$0.00	\$57,137.01	\$108,582,675.89	\$108,443,716.84	\$138,959.05	\$24,077,325.57	\$24,046,512.53	\$30,813.04	\$5,151,617.28	\$3,269,953.03	\$169,772.09	\$3,439,725.11
2041	\$0.00	\$57,137.01	\$112,422,681.72	\$112,276,972.92	\$145,708.80	\$25,028,722.71	\$24,996,283.48	\$32,439.23	\$5,230,466.32	\$3,223,847.79	\$178,148.03	\$3,401,995.82
2042	\$0.00	\$57,137.01	\$114,860,931.54	\$114,710,187.30	\$150,744.24	\$25,620,174.16	\$25,586,550.08	\$33,624.08	\$5,310,680.64	\$3,178,480.29	\$184,368.32	\$3,362,848.61
2043	\$0.00	\$57,137.01	\$118,817,997.71	\$118,660,120.36	\$157,877.36	\$26,553,121.36	\$26,517,839.36	\$35,282.00	\$5,392,007.20	\$3,133,673.98	\$193,159.36	\$3,326,833.34
2044	\$0.00	\$57,137.01	\$121,336,584.98	\$121,173,380.16	\$163,204.82	\$27,167,333.95	\$27,130,812.26	\$36,541.68	\$5,474,460.56	\$3,089,423.92	\$199,746.50	\$3,289,170.42
2045	\$0.00	\$57,137.01	\$123,889,671.78	\$123,721,010.33	\$168,661.44	\$27,791,469.96	\$27,753,635.09	\$37,834.87	\$5,558,055.43	\$3,045,725.16	\$206,496.31	\$3,252,221.48
2046	\$0.00	\$57,137.01	\$128,001,493.61	\$127,825,144.73	\$176,348.89	\$28,768,173.92	\$28,728,539.73	\$39,634.19	\$5,642,566.20	\$3,002,443.42	\$215,983.07	\$3,218,426.49
2047	\$0.00	\$57,137.01	\$130,637,896.32	\$130,455,782.56	\$182,113.76	\$29,416,248.05	\$29,375,240.78	\$41,007.27	\$5,728,241.37	\$2,959,706.84	\$223,121.03	\$3,182,827.87
2048	\$0.00	\$57,137.01	\$134,860,264.31	\$134,670,062.85	\$190,201.46	\$30,424,464.97	\$30,381,555.54	\$42,909.43	\$5,815,096.11	\$2,917,510.36	\$233,110.89	\$3,150,621.26
2049	\$0.00	\$57,137.01	\$136,018,664.94	\$135,824,609.27	\$194,055.67	\$30,743,852.90	\$30,699,991.13	\$43,861.77	\$5,903,145.78	\$2,875,848.94	\$237,917.43	\$3,113,766.37
2050	\$0.00	\$57,137.01	\$137,187,015.80	\$136,989,053.79	\$197,962.02	\$31,066,593.68	\$31,021,764.32	\$44,829.36	\$5,992,405.90	\$2,834,717.48	\$242,791.37	\$3,077,508.85
2051	\$0.00	\$57,137.01	\$138,365,402.38	\$138,163,481.26	\$201,921.12	\$31,392,722.50	\$31,346,910.08	\$45,812.42	\$6,082,892.22	\$2,794,110.92	\$247,733.54	\$3,041,844.46
2052	\$0.00	\$57,137.01	\$139,553,910.87	\$139,347,977.28	\$205,933.59	\$31,722,274.93	\$31,675,463.76	\$46,811.17	\$6,174,620.66	\$2,754,024.19	\$252,744.76	\$3,006,768.95
2053	\$0.00	\$57,137.01	\$140,752,628.22	\$140,542,628.15	\$210,000.06	\$32,055,286.92	\$32,007,461.08	\$47,825.84	\$6,267,607.36	\$2,714,452.22	\$257,825.90	\$2,972,278.12
2054	\$0.00	\$57,137.01	\$141,961,642.11	\$141,747,520.95	\$214,121.16	\$32,391,794.78	\$32,342,938.14	\$48,856.64	\$6,361,868.65	\$2,675,389.93	\$262,977.80	\$2,938,367.73
2055	\$0.00	\$57,137.01	\$143,181,040.99	\$142,962,743.47	\$218,297.52	\$32,731,835.21	\$32,681,931.41	\$49,903.80	\$6,457,421.06	\$2,636,832.28	\$268,201.33	\$2,905,033.61
2056	\$0.00	\$57,137.01	\$144,410,914.06	\$144,188,384.27	\$222,529.79	\$33,075,445.30	\$33,024,477.73	\$50,967.56	\$6,554,281.34	\$2,598,774.21	\$273,497.36	\$2,872,271.57
2057	\$0.00	\$57,137.01	\$145,651,351.30	\$145,424,532.67	\$226,818.63	\$33,422,662.51	\$33,370,614.36	\$52,048.14	\$6,652,466.45	\$2,561,210.67	\$278,866.77	\$2,840,077.45
2058	\$0.00	\$57,137.01	\$146,902,443.44	\$146,671,278.76	\$231,164.68	\$33,773,524.71	\$33,720,378.92	\$53,145.79	\$6,751,993.55	\$2,524,136.63	\$284,310.47	\$2,808,447.10
2059	\$0.00	\$57,137.01	\$148,164,282.01	\$147,928,713.38	\$235,568.63	\$34,128,070.17	\$34,073,809.44	\$54,260.73	\$6,852,880.01	\$2,487,547.07	\$289,829.36	\$2,777,376.43
2060	\$0.00	\$57,137.01	\$149,436,959.31	\$149,196,928.18	\$240,031.13	\$34,486,337.56	\$34,430,944.34	\$55,393.22	\$6,955,143.45	\$2,451,436.97	\$295,424.35	\$2,746,861.32
2061	\$0.00	\$57,137.01	\$150,720,568.45	\$150,476,015.57	\$244,552.88	\$34,848,363.94	\$34,791,822.44	\$56,543.50	\$7,058,801.68	\$2,415,801.34	\$301,096.37	\$2,716,897.71
2062	\$0.00	\$57,137.01	\$152,015,203.32	\$151,766,068.77	\$249,134.55	\$35,214,194.80	\$35,156,482.99	\$57,711.81	\$7,163,872.73	\$2,380,635.20	\$306,846.36	\$2,687,481.57
2063	\$0.00	\$57,137.01	\$153,320,958.64	\$153,067,181.79	\$253,776.85	\$35,583,864.03	\$35,524,965.62	\$58,898.41	\$7,270,374.88	\$2,345,933.60	\$312,675.27	\$2,658,608.86
2064	\$0.00	\$57,137.01	\$154,637,929.92	\$154,379,449.44	\$258,480.48	\$35,957,413.96	\$35,897,310.40	\$60,103.56	\$7,378,326.61	\$2,311,691.58	\$318,584.04	\$2,630,275.62
2065	\$0.00	\$57,137.01	\$155,966,213.50	\$155,702,967.35	\$263,246.15	\$36,334,885.31	\$36,273,557.80	\$61,327.50	\$7,487,746.66	\$2,277,904.22	\$324,573.66	\$2,602,477.87
2066	\$0.00	\$57,137.01	\$157,305,906.56	\$157,037,831.98	\$268,074.58	\$36,716,319.25	\$36,653,748.73	\$62,570.52	\$7,598,653.98	\$2,244,566.62	\$330,645.09	\$2,575,211.71
2067	\$0.00	\$57,137.01	\$158,657,107.09	\$158,384,140.60	\$272,966.49	\$37,101,757.38	\$37,037,924.53	\$63,832.86	\$7,711,067.77	\$2,211,673.89	\$336,799.34	\$2,548,473.24
2068	\$0.00	\$57,137.01	\$160,019,913.94	\$159,741,991.33	\$277,922.61	\$37,491,241.75	\$37,426,126.95	\$65,114.79	\$7,825,007.46	\$2,179,221.18	\$343,037.41	\$2,522,258.59
2069	\$0.00	\$57,137.01	\$161,394,426.81	\$161,111,483.11	\$282,943.70	\$37,884,814.81	\$37,818,398.21	\$66,416.60	\$7,940,492.73	\$2,147,203.65	\$349,360.30	\$2,496,563.95
2070	\$0.00	\$57,137.01	\$162,780,746.25	\$162,492,715.75	\$288,030.50	\$38,282,519.50	\$38,214,780.94	\$67,738.56	\$8,057,543.50	\$2,115,616.48	\$355,769.06	\$2,471,385.54
2071	\$0.00	\$57,137.01	\$164,178,973.66	\$163,885,789.90	\$293,183.76	\$38,684,399.19	\$38,615,318.25	\$69,080.94	\$8,176,179.94	\$2,084,454.89	\$362,264.70	\$2,446,719.59
2072	\$0.00	\$57,137.01	\$165,589,211.34	\$165,290,807.08	\$298,404.26	\$39,090,497.70	\$39,020,053.68	\$70,444.03	\$8,296,422.48	\$2,053,714.12	\$368,848.29	\$2,422,562.41
2073	\$0.00	\$57,137.01	\$167,011,562.45	\$166,707,869.69	\$303,692.77	\$39,500,859.33	\$39,429,031.22	\$71,828.11	\$8,418,291.78	\$2,023,389.43	\$375,520.88	\$2,398,910.31
2074	\$0.00	\$57,137.01	\$168,446,131.04	\$168,137,080.98	\$309,050.06	\$39,915,528.83	\$39,842,295.35	\$73,233.48	\$8,541,808.80	\$1,993,476.11	\$382,283.54	\$2,375,753.66
<b>TOTAL</b>	<b>\$96,500,000.00</b>	<b>\$2,856,850.55</b>	<b>\$6,377,594,453.41</b>	<b>\$6,368,152,246.09</b>	<b>\$9,442,207.32</b>	<b>\$1,451,028,740.94</b>	<b>\$1,448,870,974.01</b>	<b>\$2,157,766.93</b>	<b>\$296,143,957.24</b>	<b>\$138,192,047.18</b>	<b>\$11,599,974.25</b>	<b>\$149,792,021.43</b>
											<b>BENEFIT/COST</b>	<b>1.55</b>

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 Calculator. (2) From Table 2-5. (3) From Table 2-8. (4) Existing less Improved. (5) From Table 2-10. (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."