

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to Railyards

Customer Location - City	State	11 Month Total Tons	Average Tons/Shipment for the 11 Months	Low - # Shipments	High - # Shipments	Mileage Round Trip to Nearest Railyard	Low - Total Annual Mileage	High - Total Annual Mileage	mpg ^{1,2}	Low - Total Gallons Used Annually	High - Total Gallons Used Annually	Low - Total ³ CO _{2e} (kg CO _{2e})	High - Total ³ CO _{2e} (kg CO _{2e})	Low - Total ⁵ C _e (kg C _e)	High - Total ⁵ C _e (kg C _e)
Aberdeen	South Dakota	763	20	38	39	365	13,871	14,236	5.72	2,424.96	2,488.77	24,565.43	25,211.89	6,699.66	6,875.97
Aberdeen	South Dakota	209	20	10	11	365	3,650	4,015	5.72	638.15	701.96	6,464.59	7,111.05	1,763.07	1,939.38
Aberdeen	South Dakota	67	20	3	4	365	1,095	1,460	5.72	191.44	255.26	1,939.38	2,585.83	528.92	705.23
Albert Lea	Minnesota	234	20	11	12	199	2,190	2,389	5.72	382.92	417.73	3,879.11	4,231.75	1,057.94	1,154.11
Albert Lea	Minnesota	4,549	20	227	228	199	45,200	45,399	5.72	7,902.14	7,936.95	80,050.65	80,403.30	21,832.00	21,928.17
Alexandria	Minnesota	1,320	20	66	66	192	12,656	12,656	5.72	2,212.62	2,212.62	22,414.35	22,414.35	6,113.00	6,113.00
Allison	Iowa	243	20	12	13	79	948	1,028	5.72	165.82	179.64	1,679.78	1,819.76	458.12	496.30
Amrey	Wisconsin	141	20	7	8	111	778	889	5.72	136.06	155.50	1,378.32	1,575.22	375.90	429.61
Appleton	Wisconsin	438	20	21	22	19	405	425	5.72	70.86	74.23	717.80	751.98	195.76	205.08
Arcadia	Wisconsin	285	20	14	15	1	15	16	5.72	2.55	2.73	25.79	27.63	7.03	7.53
Arden Hills	Minnesota	6,008	20	300	301	9	2,718	2,727	5.72	475.17	476.76	4,813.64	4,829.69	1,312.81	1,317.19
Ashland	Wisconsin	777	15	51	52	369	18,826	19,195	5.72	3,291.28	3,355.82	33,341.52	33,995.28	9,093.14	9,271.44
Atlantic	Iowa	717	20	35	36	98	3,444	3,542	5.72	602.10	619.30	6,099.40	6,273.67	1,663.47	1,711.00
Austin	Minnesota	256	20	12	13	201	2,415	2,616	5.72	422.14	457.32	4,276.38	4,632.75	1,166.29	1,263.48
Austin	Minnesota	236	15	15	16	201	3,018	3,220	5.72	527.67	562.85	5,345.48	5,701.84	1,457.86	1,555.05
Bayport	Minnesota	1,300	15	86	87	46	3,953	3,999	5.72	691.01	699.04	7,000.07	7,081.47	1,909.11	1,931.31
Bemidji	Minnesota	595	20	29	30	188	5,460	5,648	5.72	954.47	987.38	9,668.97	10,002.38	2,636.99	2,727.92
Bemidji	Minnesota	15	15	1	1	188	188	188	5.72	32.91	32.91	333.41	333.41	90.93	90.93
Benson	Minnesota	42	20	2	3	249	498	748	5.72	87.14	130.71	882.75	1,324.12	240.75	361.12
Benson	Minnesota	237	20	11	12	249	2,741	2,991	5.72	479.27	522.84	4,855.12	5,296.49	1,324.12	1,444.50
Beulah	North Dakota	73	15	4	5	547	2,188	2,734	5.72	382.43	478.04	3,874.15	4,842.68	1,056.59	1,320.73
Bismarck	North Dakota	134	20	6	7	400	2,403	2,803	5.72	420.06	490.07	4,255.34	4,964.57	1,160.55	1,353.97
Bismarck	North Dakota	736	20	36	37	400	14,417	14,817	5.72	2,520.38	2,590.39	25,532.06	26,241.28	6,963.29	7,156.71
Bismarck	North Dakota	197	12	16	17	400	6,407	6,808	5.72	1,120.17	1,190.18	11,347.58	12,056.80	3,094.79	3,288.22
Bloomington	Minnesota	161	15	10	11	30	304	335	5.72	53.22	58.54	539.10	593.01	147.03	161.73
Blue Earth	Minnesota	134	20	6	7	177	1,060	1,237	5.72	185.31	216.19	1,877.21	2,190.08	511.97	597.30
Boone	Iowa	9,321	20	466	467	92	42,844	42,936	5.72	7,490.22	7,506.29	75,877.77	76,040.60	20,693.94	20,738.34
Burbank	South Dakota	398	20	19	20	246	4,669	4,915	5.72	816.34	859.30	8,269.68	8,704.93	2,255.37	2,374.07
Caledonia	Minnesota	70	20	3	4	124	372	496	5.72	65.05	86.73	658.93	878.57	179.71	239.61
Caledonia	Minnesota	341	20	17	18	124	2,108	2,232	5.72	368.59	390.27	3,733.92	3,953.56	1,018.34	1,078.24
Cambridge	Minnesota	1,328	20	66	67	76	5,016	5,092	5.72	876.92	890.21	8,883.45	9,018.05	2,422.76	2,459.47
Cannon Falls	Minnesota	270	15	18	18	77	1,391	1,391	5.72	243.19	243.19	2,463.56	2,463.56	671.88	671.88
Carlton	Minnesota	597	20	29	30	261	7,570	7,831	5.72	1,323.35	1,368.99	13,405.90	13,868.17	3,656.15	3,782.23
Carlton	Minnesota	281	15	18	19	261	4,698	4,959	5.72	821.39	867.02	8,320.90	8,783.17	2,269.34	2,395.41
Cavalier	North Dakota	20	20	1	1	192	192	192	5.72	33.62	33.62	340.60	340.60	92.89	92.89
Cedar Falls	Iowa	1,791	20	89	90	15	1,324	1,339	5.72	231.52	234.13	2,345.40	2,371.75	639.65	646.84
Chaska	Minnesota	278	15	18	19	57	1,030	1,087	5.72	180.00	190.00	1,823.45	1,924.75	497.30	524.93
Chippewa Falls	Wisconsin	3,375	20	168	169	111	18,608	18,718	5.72	3,253.09	3,272.45	32,954.62	33,150.78	8,987.62	9,041.12
Chippewa Falls	Wisconsin	87	20	4	5	111	443	554	5.72	77.45	96.82	784.63	980.79	213.99	267.49
Clarks Grove	Minnesota	2,555	15	170	171	180	30,631	30,811	5.72	5,355.00	5,386.50	54,247.49	54,566.59	14,794.77	14,881.80
Clear Lake	South Dakota	51	15	3	4	326	977	1,303	5.72	170.88	227.85	1,731.10	2,308.14	472.12	629.49
Clinton	Iowa	3,044	20	152	153	73	11,084	11,157	5.72	1,937.73	1,950.48	19,629.73	19,758.88	5,353.56	5,388.78

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Cologne	Minnesota	37	15	2	3	75	151	226	5.72	26.39	39.59	267.35	401.03	72.91	109.37
Corsica	South Dakota	22	22	1	1	479	479	479	5.72	83.67	83.67	847.61	847.61	231.17	231.17
Deer River	Minnesota	1,064	20	53	54	204	10,791	10,994	5.72	1,886.50	1,922.10	19,110.75	19,471.33	5,212.02	5,310.36
Delano	Minnesota	113	20	5	6	63	313	375	5.72	54.63	65.56	553.44	664.13	150.94	181.13
Denison	Iowa	237	20	11	12	131	1,439	1,570	5.72	251.65	274.53	2,549.32	2,781.07	695.27	758.47
Des Moines	Iowa	7,543	20	377	378	80	30,047	30,127	5.72	5,252.95	5,266.89	53,213.74	53,354.89	14,512.84	14,551.33
Des Moines	Iowa	1,067	20	53	54	80	4,224	4,304	5.72	738.48	752.41	7,480.98	7,622.13	2,040.27	2,078.76
Detroit Lakes	Minnesota	1,089	20	54	55	88	4,758	4,847	5.72	831.90	847.31	8,427.38	8,583.44	2,298.38	2,340.94
Devils Lake	North Dakota	250	20	12	13	287	3,441	3,728	5.72	601.55	651.68	6,093.88	6,601.70	1,661.97	1,800.46
Dickinson	North Dakota	679	20	33	34	596	19,671	20,267	5.72	3,438.92	3,543.13	34,837.15	35,892.82	9,501.04	9,788.95
Duluth	Minnesota	42	20	2	3	293	587	880	5.72	102.58	153.87	1,039.17	1,558.75	283.41	425.11
Duluth	Minnesota	973	20	48	49	293	14,082	14,376	5.72	2,461.93	2,513.22	24,939.97	25,459.55	6,801.81	6,943.51
Dundas	Minnesota	1,273	20	63	64	83	5,240	5,324	5.72	916.14	930.69	9,280.76	9,428.08	2,531.12	2,571.29
Eagan	Minnesota	238	20	11	12	28	312	340	5.72	54.46	59.41	551.71	601.86	150.47	164.14
Eau Claire	Wisconsin	7,750	20	387	388	93	35,983	36,076	5.72	6,290.78	6,307.03	63,727.17	63,891.84	17,380.14	17,425.05
Eau Claire	Wisconsin	348	20	17	18	93	1,581	1,674	5.72	276.34	292.59	2,799.38	2,964.05	763.47	808.38
Eau Claire	Wisconsin	8,117	20	405	406	93	37,657	37,750	5.72	6,583.37	6,599.63	66,691.23	66,855.90	18,188.52	18,233.43
Eau Claire	Wisconsin	671	20	33	34	93	3,068	3,161	5.72	536.42	552.68	5,434.10	5,598.77	1,482.03	1,526.94
Eau Claire	Wisconsin	16	16	1	1	93	93	93	5.72	16.26	16.26	164.67	164.67	44.91	44.91
Eau Claire	Wisconsin	106	15	7	8	93	651	744	5.72	113.79	130.04	1,152.69	1,317.36	314.37	359.28
Eden Prairie	Minnesota	382	20	19	20	43	814	857	5.72	142.30	149.79	1,441.54	1,517.41	393.15	413.84
Edgerton	Minnesota	137	15	9	10	366	3,297	3,663	5.72	576.38	640.42	5,838.85	6,487.61	1,592.41	1,769.35
Elk Point	South Dakota	509	20	25	26	230	5,748	5,977	5.72	1,004.81	1,045.00	10,178.95	10,586.11	2,776.08	2,887.12
Ellsworth	Wisconsin	335	20	16	17	89	1,429	1,518	5.72	249.85	265.46	2,531.00	2,689.19	690.27	733.42
Enderlin	North Dakota	43	20	2	3	118	236	354	5.72	41.24	61.86	417.75	626.62	113.93	170.90
Erskine	Minnesota	30	15	2	2	75	150	150	5.72	26.25	26.25	265.94	265.94	72.53	72.53
Esterville	Iowa	71	15	4	5	183	730	913	5.72	127.62	159.53	1,292.85	1,616.06	352.59	440.74
Fairmont	Minnesota	158	15	10	11	180	1,795	1,975	5.72	313.88	345.27	3,179.69	3,497.66	867.19	953.91
Fargo	North Dakota	2,447	20	122	123	13	1,586	1,599	5.72	277.27	279.55	2,808.84	2,831.87	766.05	772.33
Fargo	North Dakota	1,870	20	93	94	13	1,209	1,222	5.72	211.36	213.64	2,141.17	2,164.19	583.95	590.23
Faribault	Minnesota	416	15	27	28	105	2,824	2,928	5.72	493.65	511.93	5,000.77	5,185.98	1,363.85	1,414.36
Forest City	Iowa	925	15	61	62	159	9,709	9,868	5.72	1,697.34	1,725.16	17,194.43	17,476.31	4,689.39	4,766.27
Fremont	Nebraska	22	22	1	1	73	73	73	5.72	12.72	12.72	128.86	128.86	35.14	35.14
Fridley	Minnesota	1,980	18	110	110	8	849	849	5.72	148.46	148.46	1,503.95	1,503.95	410.17	410.17
Garrison	Minnesota	1,620	20	81	81	203	16,469	16,469	5.72	2,879.18	2,879.18	29,166.83	29,166.83	7,954.59	7,954.59
Gary	South Dakota	566	20	28	29	315	8,814	9,129	5.72	1,540.88	1,595.91	15,609.51	16,166.99	4,257.14	4,409.18
Gary	South Dakota	13	13	1	1	315	315	315	5.72	55.03	55.03	557.48	557.48	152.04	152.04
Glencoe	Minnesota	1,152	15	76	77	108	8,194	8,302	5.72	1,432.57	1,451.42	14,512.33	14,703.28	3,957.91	4,009.99
Golden Valley	Minnesota	1,692	20	84	85	16	1,357	1,374	5.72	237.31	240.14	2,404.06	2,432.68	655.65	663.46
Grafton	North Dakota	21	21	1	1	145	145	145	5.72	25.36	25.36	256.87	256.87	70.06	70.06
Grand Forks	North Dakota	21	21	1	1	128	128	128	5.72	22.44	22.44	227.36	227.36	62.01	62.01
Hallock	Minnesota	20	20	1	1	130	130	130	5.72	22.72	22.72	230.20	230.20	62.78	62.78

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Harvey	North Dakota	110	20	5	6	397	1,984	2,380	5.72	346.78	416.14	3,513.00	4,215.60	958.09	1,149.71
Hopkinton	Iowa	653	20	32	33	86	2,755	2,841	5.72	481.57	496.62	4,878.39	5,030.84	1,330.47	1,372.05
Huron	South Dakota	1,030	20	51	52	471	24,010	24,481	5.72	4,197.51	4,279.82	42,521.87	43,355.63	11,596.87	11,824.26
International Falls	Minnesota	143	10	14	15	15	210	225	4.90	42.86	45.92	433.60	464.57	118.25	126.70
Inver Grove Heights	Minnesota	5,345	20	267	268	28	7,508	7,536	5.72	1,312.59	1,317.51	13,296.91	13,346.71	3,626.43	3,640.01
Iowa Falls	Iowa	67	20	3	4	107	321	428	5.72	56.06	74.74	567.86	757.15	154.87	206.49
Jamestown	North Dakota	26	15	1	2	199	199	398	5.72	34.79	69.57	352.40	704.80	96.11	192.22
La Crosse	Wisconsin	505	20	25	26	89	2,233	2,322	5.72	390.30	405.91	3,953.81	4,111.96	1,078.31	1,121.44
La Crosse	Wisconsin	1,310	20	65	66	89	5,805	5,894	5.72	1,014.77	1,030.38	10,279.90	10,438.05	2,803.61	2,846.74
La Crosse	Wisconsin	70	10	7	7	89	625	625	4.90	127.57	127.57	1,290.68	1,290.68	352.00	352.00
Lake City	Minnesota	372	20	18	19	109	1,970	2,080	5.72	344.45	363.59	3,489.41	3,683.27	951.66	1,004.53
Lake City	Minnesota	293	20	14	15	109	1,532	1,642	5.72	267.91	287.05	2,713.99	2,907.84	740.18	793.05
Lake Elmo	Minnesota	730	15	48	49	29	1,405	1,435	5.72	245.71	250.83	2,489.07	2,540.92	678.84	692.98
Langdon	North Dakota	146	20	7	8	262	1,837	2,100	5.72	321.19	367.08	3,253.76	3,718.58	887.39	1,014.16
Le Center	Minnesota	93	20	4	5	126	506	632	5.72	88.39	110.49	895.43	1,119.29	244.21	305.26
Lemmon	South Dakota	291	20	14	15	324	4,533	4,857	5.72	792.52	849.13	8,028.40	8,601.86	2,189.56	2,345.96
Little Falls	Minnesota	227	20	11	12	183	2,016	2,199	5.72	352.42	384.46	3,570.13	3,894.69	973.67	1,062.19
Long Prairie	Minnesota	848	15	56	57	235	13,163	13,398	5.72	2,301.29	2,342.38	23,312.61	23,728.91	6,357.98	6,471.52
Luverne	Minnesota	65	20	3	4	349	1,047	1,396	5.72	182.99	243.99	1,853.73	2,471.64	505.56	674.08
Lyons	South Dakota	48	20	2	3	375	749	1,124	5.72	131.02	196.53	1,327.28	1,990.91	361.98	542.98
Madison	South Dakota	68	20	3	4	413	1,240	1,653	5.72	216.76	289.01	2,195.78	2,927.71	598.85	798.47
Madison	Wisconsin	69	20	3	4	413	1,240	1,653	5.72	216.76	289.01	2,195.78	2,927.71	598.85	798.47
Mankato	Minnesota	291	20	14	15	162	2,267	2,429	5.72	396.31	424.62	4,014.70	4,301.46	1,094.92	1,173.13
Mankato	Minnesota	17	17	1	1	162	162	162	5.72	28.31	28.31	286.76	286.76	78.21	78.21
Mankato	Minnesota	6,012	17	353	354	162	57,158	57,320	5.72	9,992.62	10,020.92	101,227.69	101,514.46	27,607.55	27,685.76
Maple Grove	Minnesota	19,199	17	1,129	1,130	27	30,099	30,126	5.72	5,262.09	5,266.75	53,306.26	53,353.48	14,538.07	14,550.95
Marshall	Minnesota	1,137	20	56	57	298	16,689	16,987	5.72	2,917.68	2,969.78	29,556.81	30,084.61	8,060.95	8,204.89
Marshall	Minnesota	617	20	30	31	298	8,941	9,239	5.72	1,563.04	1,615.14	15,834.01	16,361.81	4,318.37	4,462.31
Marshall	Minnesota	127	20	6	7	298	1,788	2,086	5.72	312.61	364.71	3,166.80	3,694.60	863.67	1,007.62
Meadowlands	Minnesota	377	20	18	19	275	4,945	5,220	5.72	864.57	912.60	8,758.27	9,244.85	2,388.62	2,521.32
Melrose	Minnesota	200	20	10	10	191	1,911	1,911	5.72	334.09	334.09	3,384.42	3,384.42	923.02	923.02
Menlo	Iowa	217	20	10	11	156	1,564	1,720	5.72	273.43	300.77	2,769.88	3,046.87	755.42	830.96
Menomonie	Wisconsin	166	20	8	9	130	1,038	1,168	5.72	181.48	204.17	1,838.46	2,068.27	501.40	564.07
Milaca	Minnesota	118	20	5	6	120	599	719	5.72	104.76	125.71	1,061.20	1,273.44	289.42	347.30
Milbank	South Dakota	415	20	20	21	257	5,135	5,392	5.72	897.76	942.65	9,094.56	9,549.28	2,480.33	2,604.35
Milbank	South Dakota	383	20	19	20	257	4,878	5,135	5.72	852.87	897.76	8,639.83	9,094.56	2,356.32	2,480.33
Minneapolis	Minnesota	237	23	10	11	14	137	150	5.72	23.92	26.31	242.28	266.50	66.08	72.68
Minneapolis	Minnesota	1,307	20	65	66	14	889	903	5.72	155.45	157.85	1,574.79	1,599.02	429.49	436.10
Minneapolis	Minnesota	1,682	20	84	85	14	1,149	1,163	5.72	200.90	203.29	2,035.12	2,059.35	555.03	561.64
Minneapolis	Minnesota	4,106	20	205	206	14	2,804	2,818	5.72	490.28	492.67	4,966.66	4,990.88	1,354.54	1,361.15
Minneapolis	Minnesota	80	20	4	4	14	55	55	5.72	9.57	9.57	96.91	96.91	26.43	26.43
Minneapolis	Minnesota	4,546	20	227	228	14	3,105	3,119	5.72	542.90	545.29	5,499.66	5,523.89	1,499.91	1,506.52

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to Railyards

Customer Location - City	State	11 Month Total Tons	Average Tons/Shipment for the 11 Months	Low - # Shipments	High - # Shipments	Mileage Round Trip to Nearest Railyard	Low - Total Annual Mileage	High - Total Annual Mileage	mpg ^{1,2}	Low - Total Gallons Used Annually	High - Total Gallons Used Annually	Low - Total ³ CO _{2e} (kg CO _{2e})	High - Total ³ CO _{2e} (kg CO _{2e})	Low - Total ⁵ C _e (kg C _e)	High - Total ⁵ C _e (kg C _e)
Minneapolis	Minnesota	9,552	18	530	531	14	7,250	7,264	5.72	1,267.55	1,269.94	12,840.62	12,864.85	3,501.99	3,508.60
Minot	North Dakota	420	20	21	21	527	11,076	11,076	5.72	1,936.33	1,936.33	19,615.53	19,615.53	5,349.69	5,349.69
Minot	North Dakota	307	20	15	16	527	7,911	8,439	5.72	1,383.09	1,475.30	14,011.09	14,945.17	3,821.21	4,075.95
Minot	North Dakota	414	20	20	21	527	10,548	11,076	5.72	1,844.13	1,936.33	18,681.46	19,615.53	5,094.94	5,349.69
Mitchell	South Dakota	133	20	6	7	478	2,871	3,349	5.72	501.90	585.55	5,084.39	5,931.79	1,386.65	1,617.76
Montevideo	Minnesota	294	20	14	15	259	3,632	3,891	5.72	634.90	680.24	6,431.65	6,891.05	1,754.09	1,879.38
Monticello	Minnesota	252	20	12	13	72	867	939	5.72	151.59	164.23	1,535.69	1,663.66	418.82	453.73
Moose Lake	Minnesota	168	20	8	9	215	1,718	1,933	5.72	300.39	337.94	3,043.04	3,423.42	829.92	933.66
New Brighton	Minnesota	7,554	17	444	445	6	2,717	2,723	5.72	475.05	476.12	4,812.36	4,823.20	1,312.46	1,315.42
New Richmond	Wisconsin	292	20	14	15	74	1,030	1,103	5.72	179.99	192.85	1,823.37	1,953.62	497.28	532.80
New Richmond	Wisconsin	351	20	17	18	74	1,250	1,324	5.72	218.56	231.42	2,214.10	2,344.34	603.84	639.36
New Ulm	Minnesota	278	20	13	14	183	2,385	2,568	5.72	416.95	449.03	4,223.85	4,548.77	1,151.96	1,240.57
New Ulm	Minnesota	22	20	1	2	183	183	367	5.72	32.07	64.15	324.91	649.82	88.61	177.22
New Ulm	Minnesota	75	15	5	5	183	917	917	5.72	160.37	160.37	1,624.56	1,624.56	443.06	443.06
New Ulm	Minnesota	532	15	35	36	183	6,421	6,605	5.72	1,122.57	1,154.64	11,371.91	11,696.83	3,101.43	3,190.04
North English	Iowa	1,255	20	62	63	105	6,526	6,631	5.72	1,140.93	1,159.33	11,557.91	11,744.32	3,152.16	3,203.00
Northwood	Iowa	32	15	2	3	197	393	590	5.72	68.75	103.12	696.44	1,044.66	189.94	284.91
Norwood Young America	Minnesota	825	20	41	42	90	3,675	3,765	5.72	642.52	658.20	6,508.93	6,667.69	1,775.16	1,818.46
Norwood Young America	Minnesota	76	15	5	6	90	448	538	5.72	78.36	94.03	793.77	952.53	216.48	259.78
Norwood Young America	Minnesota	24	12	2	2	90	179	179	5.72	31.34	31.34	317.51	317.51	86.59	86.59
Ogilvie	Minnesota	171	20	8	9	128	1,027	1,155	5.72	179.47	201.90	1,818.06	2,045.32	495.83	557.81
Omaha	Nebraska	229	20	11	12	14	151	164	5.72	26.35	28.74	266.89	291.16	72.79	79.41
Onalaska	Wisconsin	335	20	16	17	76	1,209	1,285	5.72			19.08	20.27	5.20	5.53
Ottosen	Iowa	181	20	9	10	89	801	890	5.72	140.00	155.56	1,418.27	1,575.86	386.80	429.78
Owatonna	Minnesota	434	20	21	22	136	2,863	2,999	5.72	500.48	524.31	5,069.94	5,311.37	1,382.71	1,448.55
Owatonna	Minnesota	199	15	13	14	136	1,772	1,908	5.72	309.82	333.65	3,138.54	3,379.96	855.96	921.81
Park Rapids	Minnesota	200	20	10	10	166	1,659	1,659	5.72	290.10	290.10	2,938.84	2,938.84	801.50	801.50
Pelican Rapids	Minnesota	333	15	22	23	80	1,769	1,850	5.72	309.31	323.37	3,133.36	3,275.79	854.55	893.40
Pequot Lakes	Minnesota	110	5	22	22	276	6,066	6,066	4.90	1,237.93	1,237.93	12,524.49	12,524.49	3,415.77	3,415.77
Pipestone	Minnesota	155	20	7	8	383	2,681	3,064	5.72	468.73	535.69	4,748.36	5,426.70	1,295.01	1,480.01
Plainfield	Iowa	90	20	4	5	63	252	315	5.72	44.00	55.00	445.73	557.16	121.56	151.95
Plymouth	Minnesota	284	15	18	19	24	439	464	5.72	76.78	81.05	777.83	821.05	212.14	223.92
Prairie Du Chien	Wisconsin	621	20	31	32	121	3,749	3,869	5.72	655.34	676.48	6,638.71	6,852.87	1,810.56	1,868.96
Rapid City	South Dakota	354	15	23	24	891	20,493	21,384	5.72	3,582.61	3,738.38	36,292.75	37,870.70	9,898.02	10,328.37
Red Wing	Minnesota	710	20	35	36	96	3,366	3,462	5.72	588.39	605.20	5,960.55	6,130.86	1,625.61	1,672.05
Red Wing	Minnesota	545	20	27	28	96	2,596	2,692	5.72	453.90	470.71	4,598.14	4,768.44	1,254.04	1,300.48
Redwood Falls	Minnesota	45	20	2	3	222	443	665	5.72	77.45	116.18	784.63	1,176.95	213.99	320.99
Redwood Falls	Minnesota	103	15	6	7	222	1,329	1,551	5.72	232.36	271.09	2,353.90	2,746.22	641.97	748.97
Rock Rapids	Iowa	122	20	6	7	315	1,889	2,203	5.72	330.19	385.22	3,344.90	3,902.38	912.24	1,064.28
Rock Valley	Iowa	118	15	7	8	295	2,065	2,360	5.72	361.06	412.64	3,657.66	4,180.18	997.54	1,140.05
Rolla	North Dakota	23	20	1	2	385	385	770	5.72	67.27	134.53	681.42	1,362.84	185.84	371.68
Roseau	Minnesota	1,044	20	52	53	127	6,602	6,729	5.72	1,154.18	1,176.38	11,692.15	11,917.00	3,188.77	3,250.09

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to Railyards

Customer Location - City	State	11 Month Total Tons	Average Tons/Shipment for the 11 Months	Low - # Shipments	High - # Shipments	Mileage Round Trip to Nearest Railyard	Low - Total Annual Mileage	High - Total Annual Mileage	mpg ^{1,2}	Low - Total Gallons Used Annually	High - Total Gallons Used Annually	Low - Total ³ CO _{2e} (kg CO _{2e})	High - Total ³ CO _{2e} (kg CO _{2e})	Low - Total ⁵ C _e (kg C _e)	High - Total ⁵ C _e (kg C _e)
Rosemount	Minnesota	36	15	2	3	39	77	116	5.72	13.48	20.22	136.58	204.87	37.25	55.87
Route ⁴	Minnesota, Wisconsin, & Dakotas	9,751	20	487	488	800	389,600	390,400	5.72	68,111.89	68,251.75	689,990.47	691,407.28	188,179.22	188,565.62
Route ⁴	Minnesota & Dakotas	13,642	20	682	683	1,000	682,000	683,000	5.72	119,230.77	119,405.59	1,207,837.52	1,209,608.54	329,410.23	329,893.24
Rugby	North Dakota	133	20	6	7	401	2,406	2,807	5.72	420.63	490.73	4,261.08	4,971.26	1,162.11	1,355.80
Sac City	Iowa	395	20	19	20	89	1,691	1,780	5.72	295.63	311.19	2,994.80	3,152.42	816.76	859.75
Sauk Centre	Minnesota	159	20	7	8	208	1,456	1,664	5.72	254.50	290.85	2,578.11	2,946.42	703.12	803.57
Selby	South Dakota	21	21	1	1	513	513	513	5.72	89.62	89.62	907.86	907.86	247.60	247.60
Shakopee	Minnesota	1,465	20	73	74	50	3,676	3,727	5.72	642.71	651.51	6,510.78	6,599.96	1,775.67	1,799.99
Shakopee	Minnesota	741	20	37	38	50	1,863	1,914	5.72	325.76	334.56	3,299.98	3,389.17	900.00	924.32
Silver Bay	Minnesota	287	20	14	15	373	5,217	5,590	5.72	912.06	977.20	9,239.35	9,899.31	2,519.82	2,699.81
Sioux Center	Iowa	40	20	2	2	265	530	530	5.72	92.71	92.71	939.21	939.21	256.15	256.15
Sioux Falls	South Dakota	3,219	20	160	161	352	56,358	56,711	5.72	9,852.87	9,914.45	99,812.01	100,435.83	27,221.46	27,391.59
Sioux Falls	South Dakota	37	20	1	2	352	352	704	5.72	61.58	123.16	623.83	1,247.65	170.13	340.27
Sisseton	South Dakota	114	20	5	6	187	933	1,120	5.72	163.18	195.82	1,653.07	1,983.69	450.84	541.01
Somerset	Wisconsin	170	20	8	9	60	482	542	5.72	84.25	94.78	853.49	960.18	232.77	261.87
Spencer	Iowa	21	20	1	2	184	184	369	5.72	32.24	64.48	326.61	653.22	89.08	178.15
Spring Valley	Minnesota	447	15	29	30	170	4,917	5,086	5.72	859.56	889.20	8,707.52	9,007.78	2,374.78	2,456.67
St. Ansgar	Iowa	187	15	12	13	162	1,948	2,110	5.72	340.57	368.95	3,450.09	3,737.60	940.93	1,019.35
St. Cloud	Minnesota	990	20	49	50	127	6,243	6,370	5.72	1,091.36	1,113.64	11,055.79	11,281.41	3,015.21	3,076.75
St. Cloud	Minnesota	40	20	2	2	127	255	255	5.72	44.55	44.55	451.26	451.26	123.07	123.07
St. Cloud	Minnesota	1,137	15	75	76	127	9,555	9,682	5.72	1,670.45	1,692.73	16,922.12	17,147.75	4,615.12	4,676.66
St. Cloud	Minnesota	13	13	1	1	127	127	127	5.72	22.27	22.27	225.63	225.63	61.53	61.53
St. Paul	Minnesota	2,317	20	115	116	9	1,003	1,012	5.72	175.31	176.84	1,775.98	1,791.42	484.36	488.57
St. Paul	Minnesota	517	20	25	26	9	218	227	5.72	38.11	39.64	386.08	401.53	105.30	109.51
St. Paul	Minnesota	4,743	20	237	238	9	2,067	2,075	5.72	361.30	362.83	3,660.07	3,675.51	998.20	1,002.41
St. Paul	Minnesota	3,616	18	200	201	9	1,744	1,753	5.72	304.90	306.42	3,088.66	3,104.11	842.36	846.57
St. Paul	Minnesota	3,166	15	211	212	9	1,840	1,849	5.72	321.66	323.19	3,258.54	3,273.98	888.69	892.90
Stanwood	Iowa	479	20	23	24	60	1,381	1,441	5.72	241.50	252.00	2,446.46	2,552.82	667.22	696.22
Stewartville	Minnesota	15	15	1	1	152	152	152	5.72	26.56	26.56	269.09	269.09	73.39	73.39
Storm Lake	Iowa	808	20	40	41	120	4,807	4,927	5.72	840.42	861.43	8,513.66	8,726.50	2,321.91	2,379.96
Storm Lake	Iowa	20	20	1	1	120	120	120	5.72	21.01	21.01	212.84	212.84	58.05	58.05
Thief River Falls	Minnesota	935	20	46	47	2	101	103	5.72	17.69	18.08	179.23	183.12	48.88	49.94
Thief River Falls	Minnesota	407	18	22	23	2	48	51	5.72	8.46	8.85	85.72	89.61	23.38	24.44
Thunder Bay	Ontario	262	20	13	14	524	6,806	7,329	5.72	1,189.82	1,281.34	12,053.16	12,980.32	3,287.22	3,540.09
Tomahawk	Wisconsin	709	15	47	48	144	6,771	6,915	5.72	1,183.71	1,208.90	11,991.28	12,246.41	3,270.35	3,339.93
Vermillion	Minnesota	43	15	2	3	50	100	150	5.72	17.43	26.15	176.61	264.91	48.17	72.25
Vermillion	South Dakota	177	20	8	9	261	2,089	2,350	5.72	365.20	410.85	3,699.60	4,162.05	1,008.98	1,135.10
Virginia	Minnesota	754	20	37	38	202	7,470	7,672	5.72	1,306.00	1,341.29	13,230.07	13,587.64	3,608.20	3,705.72
Wabasso	Minnesota	88	20	4	5	255	1,021	1,276	5.72	178.49	223.11	1,808.14	2,260.18	493.13	616.41
Waconia	Minnesota	1,439	15	95	96	69	6,555	6,624	5.72	1,145.98	1,158.04	11,609.05	11,731.25	3,166.11	3,199.43
Wadena	Minnesota	770	15	51	52	175	8,946	9,122	5.72	1,564.06	1,594.73	15,844.31	16,154.99	4,321.18	4,405.91
Waterloo	Iowa	384	20	19	20	7	137	144	5.72	23.98	25.24	242.95	255.74	66.26	69.75

Alternative Scenario - Delivery to Alternative Locations at Railyards

Customer/Railyard Location - City	State	11 Month Total Tons
Rapid City	South Dakota	354
BNSF Denver Railyard	Colorado	354
Atlantic	Iowa	717
Dension	Iowa	237
Burbank	South Dakota	398
Corsica	South Dakota	22
Elk Point	South Dakota	509
Lyons	South Dakota	48
Mitchell	South Dakota	133
Souix Falls	South Dakota	3,256
CC Council Bluffs Railyard	Iowa	5,320
Clinton	Iowa	3,044
CC Davenport Railyard	Iowa	3,044
Hopkinton	Iowa	653
Prairie Du Chien	Wisconsin	621
CC Dubuque Railyard	Iowa	1,274
Boone	Iowa	9,321
Esterville	Iowa	71
Forest City	Iowa	925
Iowa Falls	Iowa	67
Ottosen	Iowa	181
Rock Rapids	Iowa	122
Rock Valley	Iowa	118
Sac City	Iowa	395
Souix Center	Iowa	40
Spencer	Iowa	21
Storm Lake	Iowa	828
Webster City	Iowa	679
Blue Earth	Minnesota	134
Edgerton	Minnesota	137
Fairmont	Minnesota	158
Luverne	Minnesota	65
Wells	Minnesota	187
Windom	Minnesota	684
CC Fort Dodge Railyard	Iowa	14,133
Alison	Iowa	243
Cedar Falls	Iowa	1,791
Northwood	Iowa	32
Plainfield	Iowa	90
St. Ansgar	Iowa	187
Waterloo	Iowa	384
CC Waterloo Railyard	Iowa	2,727
Des Moines	Iowa	8,610
Menlo	Iowa	217
IAIS/UP Newton Railyard	Iowa	8,827
North English	Iowa	1,255
Stanwood	Iowa	479
IAIS West Liberty Railyard	Iowa	1,734
Alexandria	Minnesota	1,320
Benson	Minnesota	279
Detroit Lakes	Minnesota	1,089
Gary	Minnesota	579
Park Rapids	Minnesota	200
Pelican Rapids	Minnesota	333
Pequot Lakes	Minnesota	110
Wadena	Minnesota	770
Beulah	North Dakota	73
Bismark	North Dakota	1,067
Dickinson	North Dakota	679
Enderlin	North Dakota	43
Fargo	North Dakota	4,317
Harvey	North Dakota	110
Jamestown	North Dakota	26
Aberdeen	South Dakota	1,039
Clear Lake	South Dakota	51
Huron	South Dakota	1,030
Lemmon	South Dakota	291
Madison	South Dakota	68
Milbank	South Dakota	798
Selby	South Dakota	21
Sisseton	South Dakota	114
Watertown	South Dakota	490
BNSF Dilworth Railyard	Minnesota	14,897
Albert Lea	Minnesota	4,783
Arden Hills	Minnesota	6,008
Austin	Minnesota	492
Bayport	Minnesota	1,300
Bloomington	Minnesota	161
Cannon Falls	Minnesota	270
Clarks Grove	Minnesota	2,555
Dundas	Minnesota	1,273
Eagan	Minnesota	238
Faribault	Minnesota	416
Inver Grove Heights	Minnesota	5,345
Lake Elmo	Minnesota	730
Le Center	Minnesota	93
Minneapolis	Minnesota	21,510
New Richmond	Minnesota	643
Owatonna	Minnesota	633
Red Wing	Minnesota	1,255
Rosemount	Minnesota	36
St. Paul	Minnesota	14,359
Vermillion	Minnesota	220
White Bear Lake	Minnesota	2,406
Amery	Wisconsin	141
Ellsworth	Wisconsin	335
Somerset	Wisconsin	170
Woodville	Wisconsin	34
Route	Minnesota, Wisconsin, & Dakotas	9,751
Route	Minnesota & Dakotas	13,642
BNSF St. Paul Midway Railyard	Minnesota	88,799

Alternative Scenario - Delivery to Alternative Locations at Railyards

Customer/Railyard Location - City	State	11 Month Total Tons
Cambridge	Minnesota	1,328
Carlton	Minnesota	878
Chaska	Minnesota	278
Cologne	Minnesota	37
Delano	Minnesota	113
Duluth	Minnesota	1,015
Eden Prairie	Minnesota	382
Fridley	Minnesota	1,980
Garrison	Minnesota	1,620
Glenco	Minnesota	1,152
Golden Valley	Minnesota	1,692
Little Falls	Minnesota	227
Long Prairie	Minnesota	848
Mankato	Minnesota	6,320
Maple Grove	Minnesota	19,199
Marshall	Minnesota	1,881
Melrose	Minnesota	200
Milaca	Minnesota	118
Montevideo	Minnesota	294
Monticello	Minnesota	252
Moose Lake	Minnesota	168
New Brighton	Minnesota	7,554
New Ulm	Minnesota	907
Norwood Young America	Minnesota	925
Ogilvie	Minnesota	171
Pipestone	Minnesota	155
Plymouth	Minnesota	284
Redwood Falls	Minnesota	148
Sauk Centre	Minnesota	159
Shakopee	Minnesota	2,206
St. Cloud	Minnesota	2,180
Wabasso	Minnesota	88
Waconia	Minnesota	1,439
Wilmar	Minnesota	1,142
Winthrop	Minnesota	246
Wyoming	Minnesota	2,151
CP Minneapolis Railyard	Minnesota	59,737
Bemidji	Minnesota	610
Erskine	Minnesota	30
Hallock	Minnesota	20
Roseau	Minnesota	1,044
Theif River Falls	Minnesota	1,342
Cavalier	North Dakota	20
Devils Lake	North Dakota	250
Grafton	North Dakota	21
Grand Forks	North Dakota	21
Langdon	North Dakota	146
Minot	North Dakota	1,141
Rolla	North Dakota	23
Rugby	North Dakota	133
Winnipeg	Manitoba	10,571
CP Thief River Falls Railyard	Minnesota	15,372
Deer River	Minnesota	1,064
International Falls	Minnesota	143
Meadowlands	Minnesota	377
Silver Bay	Minnesota	287
Virginia	Minnesota	754
Thunder Bay	Ontario	262
MDW International Falls Railyard	Minnesota	2,887
Fremont	Nebraska	22
Omaha	Nebraska	229
Wisner	Nebraska	67
UP/AIS Omaha Railyard	Nebraska	318
Caledonia	Minnesota	411
Lake City	Minnesota	665
Spring Valley	Minnesota	447
Stewartvilles	Minnesota	15
Winona	Minnesota	1,811
Arcadia	Wisconsin	285
Chippewa Falls	Wisconsin	3,462
Eau Claire	Wisconsin	17,008
La Crosse	Wisconsin	1,885
Menomonie	Wisconsin	166
Onalaska	Wisconsin	335
WC Arcadia Railyard	Wisconsin	26,490
Appleton	Wisconsin	438
WC Neenah Railyard	Wisconsin	438
Ashland	Wisconsin	777
Tomahawk	Wisconsin	709
Wisconsin Rapids	Wisconsin	105
WC Stevens Point Railyard	Wisconsin	1,591
Madison	Wisconsin	69
WSOR Horicon Railyard	Wisconsin	69
Totals	Total Tons	248,011

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to Sea Ports

Railyard Location - City	State	11 Month Total Tons	Mileage Round Trip to Sea Port ^{1,2}	Total ³ CO _{2e} (kg CO _{2e})	Total ⁴ C _e (kg C _e)
BNSF Denver Railyard	Colorado	354	2,588	23,452.98	6,396.27
CC Council Bluffs Railyard	Iowa	5,320	3,516	478,932.72	130,618.02
CC Davenport Railyard	Iowa	3,044	4,008	312,340.00	85,183.64
CC Dubuque Railyard	Iowa	1,274	4,124	134,505.55	36,683.33
CC Fort Dodge Railyard	Iowa	14,133	3,744	1,354,614.52	369,440.32
CC Waterloo Railyard	Iowa	2,727	3,940	275,075.15	75,020.50
IAIS/UP Newton Railyard	Iowa	8,827	3,850	870,039.11	237,283.39
IAIS West Liberty Railyard	Iowa	1,734	4,050	179,797.38	49,035.65
BNSF Dilworth Railyard	Minnesota	14,897	4,247	1,619,974.02	441,811.10
BNSF St. Paul Midway Railyard	Minnesota	88,799	4,120	9,365,978.50	2,554,357.77
CP Minneapolis Railyard	Minnesota	59,737	4,116	6,295,434.14	1,716,936.58
CP Thief River Falls Railyard	Minnesota	15,372	4,309	1,695,871.94	462,510.53
MDW International Falls Railyard	Minnesota	2,887	4,723	349,096.99	95,208.27
UP/IAIS Omaha Railyard	Nebraska	318	3,509	28,567.52	7,791.14
WC Arcadia Railyard	Wisconsin	26,490	4,262	2,890,895.87	788,426.15
WC Neenah Railyard	Wisconsin	438	4,546	50,975.05	13,902.29
WC Stevens Point Railyard	Wisconsin	1,591	4,494	183,068.22	49,927.70
WSOR Horicon Railyard	Wisconsin	69	4,462	7,881.92	2,149.61
Totals				TOTAL (kg)	7,122,682.25

¹ The following railyards will transport material to the San Francisco sea port in California - Dilworth, St. Paul Midway, Council Bluffs, Dubuque, Fort Dodge, Waterloo, Minneapolis, Thief River Falls, West Liberty, Newton, International Falls, Omaha, Arcadia, Stevens Point

² The following railyards will transport material to the Los Angeles sea port in California - Denver, Davenport, Neenah, Horicon

³ The total CO_{2e} was determined by multiplying tons, miles, and the constant of CO_{2e} generated from rail transportation, 0.0256032 kg/ton-mile.

⁴ To convert from CO_{2e} to Carbon equivalent (C_e) the value of CO_{2e} was multiplied by 12/44. This value is the ratio of the atomic mass of a Carbon molecule to the atomic mass of a Carbon dioxide molecule.

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to China

Port Location - City	State	11 Month Total Tons	Mileage Round Trip to Sea Port ¹	Total ² CO _{2e} (kg CO _{2e})	Total ³ C _e (kg C _e)
San Francisco	California	244,106	9,471	19,172,818.29	5,228,950.44
Los Angeles	California	3,905	9,471	306,710.43	83,648.30
Totals				TOTAL (kg)	5,228,950.44

¹ The sea ports will transport material to the Hong Kong sea port in China.

² The total CO_{2e} was determined by multiplying tons, miles, and the constant of CO_{2e} generated from ship transportation, 0.008293 kg/ton-mile.

³ To convert from CO_{2e} to Carbon equivalent (C_e) the value of CO_{2e} was multiplied by 12/44. This value is the ratio of the atomic mass of a Carbon molecule to the atomic mass of a Carbon dioxide molecule.

Alternative Scenario - Delivery to Alternative Locations - Carbon Generated from Transporting Materials to Mill

Location - City	State	11 Month Total Tons	Average Tons/Shipment for the 11 Months	Low - # Shipments	High - # Shipments	Mileage Round Trip to Paper Mill ⁴	Low - Total Annual Mileage	High - Total Annual Mileage	mpg ^{1,2}	Low - Total Gallons Used Annually	High - Total Gallons Used Annually	Low - Total ³ CO _{2e} (kg CO _{2e})	High - Total ³ CO _{2e} (kg CO _{2e})	Low - Total ⁵ C _e (kg C _e)	High - Total ⁵ C _e (kg C _e)
Hong Kong	China	248,011	20	12,400	12,401	100	1,240,000	1,240,100	5.72	216,783.22	216,800.70	2,196,068.22	2,196,245.32	598,927.70	598,976.00
Totals												TOTAL (kg)	598,927.70	598,976.00	

¹ For this study the fuel economy for Semi Trucks is 5.72 mpg.

² In most cases, any shipment greater than 12 tons per load was assumed to be transported by a Semi Truck.

³ The total Carbon Dioxide emissions equivalent (CO_{2e}) for each customer was determined by multiplying the total gallons of fuel by a CO₂ emissions factor (kg CO₂/gal., 10.04 for diesel fuel and 8.78 for motor gasoline). In addition, the total N₂O and CH₄ emissions was determined for each customer by multiplying the total miles traveled by a N₂O emissions factor (g/mi., 0.0483 for diesel fuel and 0.0501 for motor gasoline) and CH₄ emissions factor (g/mi., 0.0644 for diesel fuel and 0.0535 for motor gasoline). These two values were converted to kg and then to CO₂ by multiplying by a CO₂ equivalent value (23 for CH₄ and 296 for N₂O).

⁴ The distance traveled for this route was assumed to be 100 miles roundtrip based transporting the material from Hong Kong to Nine Dragons paper mill in Dongguan, China. This estimated distance was determined using the scale on Google Map.

⁵ To convert from CO_{2e} to Carbon equivalent (C_e) the value of CO_{2e} was multiplied by 12/44. This value is the ratio of the atomic mass of a Carbon molecule to the atomic mass of a Carbon dioxide molecule.

Alternative Scenario - Delivery to Alternative Locations - Total Carbon Generated

Description	Low Total C _e (kg C _e)	High Total C _e (kg C _e)	Total C _e (kg C _e)	Adjusted 12 Month Low - Total C _e (kg C _e)	Adjusted 12 Month High - Total C _e (kg C _e)	Adjusted 12 Month - Total C _e (kg C _e)
Customer transports material to railyard	1,110,779.67	1,128,474.78	NA	1,211,759.64	1,231,063.40	NA
Transport material by rail to sea port	NA	NA	7,122,682.25	NA	NA	7,770,198.81
Transport material by ship to Hong Kong sea port	NA	NA	5,228,950.44	NA	NA	5,704,309.57
Transport material by semi truck to paper mill	598,927.70	598,976.00	NA	653,375.67	653,428.36	NA
Totals			TOTAL (kg)	15,339,643.69	15,359,000.15	