

7% NPV Summary over 30 Years		
	Costs	Benefits
CAPEX - Project Cost	\$30,792,976	
Maintenance Costs		\$33,230,595
Safety Savings		\$2,812,714
Travel Time & Ops Costs Savings		\$6,226,228
Travel Time & Ops Costs Avoided		\$3,520,203
Emissions Avoided (3% discount rate)		\$225,387
Residual Value of the Project		\$1,005,429
TOTAL	\$ 30,792,976	\$47,020,556
Benefit-Cost Ratio		1.53

Problem to be Addressed	Changes to Baseline
Safety - Crashes due to current configurations	Safer roadway design
Maintenance Costs - Aging infrastructure resulting in higher O&M costs	Newer designed roadway to reduce O&M costs
Travel Time Saving - Rural mobility	Updated design will improve topography of roadway and will reduce travel time
Travel Time Savings Avoided - Rural mobility	Updated design will improve state of good repair and reduce the need for disruptive road closures
Emissions - Reduction in emissions	Reduced emissions with improved roadway condition
Residual Value	Value of remaining useful life on Project assets

Economic Benefit	Monetized Benefits 2029-2059 (at a 7% discount rate)	Tab Reference in BCA Calculations
Reduction in crash incidents and severity: Reduction in costs associated with fatality, injury, and property damage crashes.	\$ 2,812,714.00	Safety Benefit
Reduced O&M Costs	\$ 26,322,940.00	Maintenance Costs
Roadway will facilitate faster travel time for all users of the roadway, allowing for greater freight mobility and travel time reductions.	\$ 6,226,228.00	Travel Time Benefit
Reduce the delay of detours due to road closures	\$ 3,520,203.00	Detours TravTime&OpCostsAvoid ed
Increased environmental benefit due to reduced emissions	\$ 225,387.00	Emissions Avoided
Value of roadway with numerous drainage and 100- year structure after 30 years in service	\$ 1,005,429.00	Residual Value

TOTAL			
Year	Calendar Year	Capital Cost	7% NPV
0	2026	\$ 1,495,000	\$ 1,495,000
1	2027	\$ 700,000	\$ 654,206
2	2028	\$ 8,255,000	\$ 7,210,237
3	2029	\$ 13,600,000	\$ 11,101,651
4	2030	\$ 11,300,000	\$ 8,620,716
5	2031	\$ 2,400,000	\$ 1,711,167
6	2032	\$ -	\$ -
7	2033		\$ -
8	2034		\$ -
9	2035		\$ -
10	2036		\$ -
11	2037		\$ -
12	2038		\$ -
13	2039		\$ -
14	2040		\$ -
15	2041		\$ -
16	2042		\$ -
17	2043		\$ -
18	2044		\$ -
19	2045		\$ -
20	2046		\$ -
21	2047		\$ -
22	2048		\$ -
23	2049		\$ -
24	2050		\$ -
25	2051		\$ -
26	2052		\$ -
27	2053		\$ -
28	2054		\$ -
29	2055		\$ -
30	2056		\$ -
31	2057		\$ -
32	2058		\$ -
33	2059		\$ -
34	2060		\$ -
35	2061		\$ -
		\$ 37,750,000	\$ 30,792,976

All prior year costs included in 2026

Maintenance Costs - West of Frenchville
Build vs No Build

A	B	C	D	E	F
Year	Calendar Year	Maintenance Costs (No-Build Scenario)	Maintenance Costs (post-Rural Grant) start in Year 2029	Net Maintenance Costs (C-D)	7% NPV
0	2023 (Baseline)	\$0	\$0	\$ -	\$ -
1	2024	\$2,503,000	\$85,600	\$ 2,417,400	\$ 2,259,252
2	2025	\$1,191,592	\$91,592	\$ 1,100,000	\$ 960,783
3	2026	\$98,003	\$0	\$ 98,003	\$ 80,000
4	2027	\$104,864	\$0	\$ 104,864	\$ 80,000
5	2028	\$112,204	\$0	\$ 112,204	\$ 80,000
6	2029	\$120,058	\$60,029	\$ 60,029	\$ 40,000
7	2030	\$128,463	\$64,231	\$ 64,232	\$ 40,000
8	2031	\$4,014,255	\$68,727	\$ 3,945,528	\$ 2,296,333
9	2032	\$147,077	\$73,538	\$ 73,539	\$ 40,000
10	2033	\$157,372	\$78,686	\$ 78,686	\$ 40,000
11	2034	\$168,388	\$84,194	\$ 84,194	\$ 40,000
12	2035	\$180,175	\$90,088	\$ 90,087	\$ 40,000
13	2036	\$192,788	\$96,394	\$ 96,394	\$ 40,000
14	2037	\$206,283	\$103,141	\$ 103,142	\$ 40,000
15	2038	\$6,423,603	\$110,361	\$ 6,313,242	\$ 2,288,209
16	2039	\$236,173	\$118,087	\$ 118,086	\$ 40,000
17	2040	\$252,705	\$126,353	\$ 126,352	\$ 40,000
18	2041	\$270,395	\$135,197	\$ 135,198	\$ 40,000
19	2042	\$289,322	\$497,161	\$ (207,839)	\$ (57,469)
20	2043	\$309,575	\$154,787	\$ 154,788	\$ 40,000
21	2044	\$331,245	\$165,622	\$ 165,623	\$ 40,000
22	2045	\$10,279,040	\$177,216	\$ 10,101,824	\$ 2,280,115
23	2046	\$379,242	\$189,621	\$ 189,621	\$ 40,000
24	2047	\$405,789	\$202,895	\$ 202,894	\$ 40,000
25	2048	\$434,195	\$217,097	\$ 217,098	\$ 40,000
26	2049	\$464,588	\$232,294	\$ 232,294	\$ 40,000
27	2050	\$497,109	\$248,555	\$ 248,554	\$ 40,000
28	2051	\$531,907	\$265,954	\$ 265,953	\$ 40,000
29	2052	\$16,448,514	\$284,570	\$ 16,163,944	\$ 2,272,049
30	2053	\$608,980	\$304,490	\$ 304,490	\$ 40,000
31	2054	\$651,609	\$325,804	\$ 325,804	\$ 40,000
32	2055	\$697,221	\$348,611	\$ 348,611	\$ 40,000
33	2056	\$746,027	\$373,013	\$ 373,013	\$ 40,000
34	2057	\$798,249	\$963,124	\$ (164,876)	\$ (16,524)
35	2058	\$854,126	\$427,063	\$ 427,063	\$ 40,000
36	2059	\$26,320,911	\$456,957	\$ 25,863,954	\$ 2,264,013
		\$77,555,046	\$7,221,053		\$ 15,746,762

\$165,475,464 No Build Total

\$13,060,971 Build Total

Maintenance Costs - East of Frenchville
Build vs No Build

A	B	C	D	E	F
Year	Calendar Year	Maintenance Costs (No-Build Scenario)	Maintenance Costs (post-Rural Grant) start in Year 2029	Net Maintenance Costs (C-D)	7% NPV
0	2023 (Baseline)	\$0	\$0	\$ -	\$ -
1	2024	\$3,044,200	\$64,200	\$ 2,980,000	\$ 2,785,047
2	2025	\$68,694	\$68,694	\$ -	\$ -
3	2026	\$73,503	\$0	\$ 73,503	\$ 60,000
4	2027	\$78,648	\$0	\$ 78,648	\$ 60,000
5	2028	\$84,153	\$0	\$ 84,153	\$ 60,000
6	2029	\$90,044	\$45,022	\$ 45,022	\$ 30,000
7	2030	\$96,347	\$48,173	\$ 48,173	\$ 30,000
8	2031	\$4,871,091	\$51,546	\$ 4,819,546	\$ 2,805,019
9	2032	\$110,308	\$55,154	\$ 55,154	\$ 30,000
10	2033	\$118,030	\$59,015	\$ 59,015	\$ 30,000
11	2034	\$126,291	\$63,146	\$ 63,146	\$ 30,000
12	2035	\$135,132	\$67,566	\$ 67,566	\$ 30,000
13	2036	\$144,591	\$72,295	\$ 72,295	\$ 30,000
14	2037	\$154,712	\$77,356	\$ 77,356	\$ 30,000
15	2038	\$7,794,342	\$82,771	\$ 7,711,571	\$ 2,795,028
16	2039	\$177,130	\$88,565	\$ 88,565	\$ 30,000
17	2040	\$189,529	\$94,764	\$ 94,764	\$ 30,000
18	2041	\$202,796	\$101,398	\$ 101,398	\$ 30,000
19	2042	\$216,992	\$535,996	\$ (319,004)	\$ (88,207)
20	2043	\$232,181	\$116,091	\$ 116,091	\$ 30,000
21	2044	\$248,434	\$124,217	\$ 124,217	\$ 30,000
22	2045	\$12,471,904	\$132,912	\$ 12,338,992	\$ 2,785,073
23	2046	\$284,432	\$142,216	\$ 142,216	\$ 30,000
24	2047	\$304,342	\$152,171	\$ 152,171	\$ 30,000
25	2048	\$325,646	\$162,823	\$ 162,823	\$ 30,000
26	2049	\$348,441	\$174,221	\$ 174,221	\$ 30,000
27	2050	\$372,832	\$186,416	\$ 186,416	\$ 30,000
28	2051	\$398,930	\$199,465	\$ 199,465	\$ 30,000
29	2052	\$19,956,583	\$213,428	\$ 19,743,156	\$ 2,775,154
30	2053	\$456,735	\$228,368	\$ 228,368	\$ 30,000
31	2054	\$488,707	\$244,353	\$ 244,353	\$ 30,000
32	2055	\$522,916	\$261,458	\$ 261,458	\$ 30,000
33	2056	\$559,520	\$279,760	\$ 279,760	\$ 30,000
34	2057	\$598,687	\$983,343	\$ (384,657)	\$ (38,550)
35	2058	\$640,595	\$320,297	\$ 320,297	\$ 30,000
36	2059	\$31,933,001	\$342,718	\$ 31,590,283	\$ 2,765,270
		\$87,920,418	\$5,839,918		\$ 17,483,834

West of Frenchville - 22656.00 Fort Kent/Frenchville Route
Benefit Cost Analysis (BCA) - Highway Construction Costs
Conforming to 2023 Rural Requirements

Project Description: Beginning 0.40 mile west of Church avenue in Frenchville

Estimated Project Timing: 2023 - Existing Year / 2025 - Construction Start / 2029 - Construction Complete

No Build: Pavement Preservation projects on a 7-year interval + Slope Repair Costs

22656		Benefits (Avoided Cost Associated with No-Build)			
Calendar Year	Project Year	Pavement Preservation	Slope Repairs	Annualized Maintenance Costs	Total Annual Benefits
2023	0	\$0	\$0	\$80,000	\$80,000
2024	1	\$2,423,000	\$0	\$80,000	\$2,503,000
2025	2	\$0	\$1,100,000	\$91,592	\$1,191,592
2026	3	\$0	\$0	\$98,003	\$98,003
2027	4	\$0	\$0	\$104,864	\$104,864
2028	5	\$0	\$0	\$112,204	\$112,204
2029	6	\$0	\$0	\$120,058	\$120,058
2030	7	\$0	\$0	\$128,463	\$128,463
2031	8	\$3,876,800	\$0	\$137,455	\$4,014,255
2032	9	\$0	\$0	\$147,077	\$147,077
2033	10	\$0	\$0	\$157,372	\$157,372
2034	11	\$0	\$0	\$168,388	\$168,388
2035	12	\$0	\$0	\$180,175	\$180,175
2036	13	\$0	\$0	\$192,788	\$192,788
2037	14	\$0	\$0	\$206,283	\$206,283
2038	15	\$6,202,880	\$0	\$220,723	\$6,423,603
2039	16	\$0	\$0	\$236,173	\$236,173

2040	17	\$0	\$0	\$252,705	\$252,705
2041	18	\$0	\$0	\$270,395	\$270,395
2042	19	\$0	\$0	\$289,322	\$289,322
2043	20	\$0	\$0	\$309,575	\$309,575
2044	21	\$0	\$0	\$331,245	\$331,245
2045	22	\$9,924,608	\$0	\$354,432	\$10,279,040
2046	23	\$0	\$0	\$379,242	\$379,242
2047	24	\$0	\$0	\$405,789	\$405,789
2048	25	\$0	\$0	\$434,195	\$434,195
2049	26	\$0	\$0	\$464,588	\$464,588
2050	27	\$0	\$0	\$497,109	\$497,109
2051	28	\$0	\$0	\$531,907	\$531,907
2052	29	\$15,879,373	\$0	\$569,141	\$16,448,514
2053	30	\$0	\$0	\$608,980	\$608,980
2054	31	\$0	\$0	\$651,609	\$651,609
2055	32	\$0	\$0	\$697,221	\$697,221
2056	33	\$0	\$0	\$746,027	\$746,027
2057	34	\$0	\$0	\$798,249	\$798,249
2058	35	\$0	\$0	\$854,126	\$854,126
2059	36	\$25,406,996	\$0	\$913,915	\$26,320,911

e 1 Rebuild t compared to No-Build

ville & extending northwest 4.66 miles.

struction Finished (opening year) / 2059- 30 Year Forecast.

Discounted Benefits - Present Value @ 7%	Costs (Post Rural Grant)			
	Light Capital Pavings Costs	Annual Maintenance Costs	Total Annual Costs	Discounted Costs - Present Value @ 7%
\$80,000	\$0	\$80,000	\$80,000	\$80,000
\$2,339,252	\$0	\$85,600	\$85,600	\$80,000
\$1,040,783	\$0	\$91,592	\$91,592	\$80,000
\$80,000	\$0	\$0	\$0	\$0
\$80,000	\$0	\$0	\$0	\$0
\$80,000	\$0	\$0	\$0	\$0
\$80,000	\$0	\$60,029	\$60,029	\$40,000
\$80,000	\$0	\$64,231	\$64,231	\$40,000
\$2,336,333	\$0	\$68,727	\$68,727	\$40,000
\$80,000	\$0	\$73,538	\$73,538	\$40,000
\$80,000	\$0	\$78,686	\$78,686	\$40,000
\$80,000	\$0	\$84,194	\$84,194	\$40,000
\$80,000	\$0	\$90,088	\$90,088	\$40,000
\$80,000	\$0	\$96,394	\$96,394	\$40,000
\$80,000	\$0	\$103,141	\$103,141	\$40,000
\$2,328,209	\$0	\$110,361	\$110,361	\$40,000
\$80,000	\$0	\$118,087	\$118,087	\$40,000

\$80,000	\$0	\$126,353	\$126,353	\$40,000
\$80,000	\$0	\$135,197	\$135,197	\$40,000
\$80,000	\$352,500	\$144,661	\$497,161	\$137,469
\$80,000	\$0	\$154,787	\$154,787	\$40,000
\$80,000	\$0	\$165,622	\$165,622	\$40,000
\$2,320,115	\$0	\$177,216	\$177,216	\$40,000
\$80,000	\$0	\$189,621	\$189,621	\$40,000
\$80,000	\$0	\$202,895	\$202,895	\$40,000
\$80,000	\$0	\$217,097	\$217,097	\$40,000
\$80,000	\$0	\$232,294	\$232,294	\$40,000
\$80,000	\$0	\$248,555	\$248,555	\$40,000
\$80,000	\$0	\$265,954	\$265,954	\$40,000
\$2,312,049	\$0	\$284,570	\$284,570	\$40,000
\$80,000	\$0	\$304,490	\$304,490	\$40,000
\$80,000	\$0	\$325,804	\$325,804	\$40,000
\$80,000	\$0	\$348,611	\$348,611	\$40,000
\$80,000	\$0	\$373,013	\$373,013	\$40,000
\$80,000	\$564,000.00	\$399,124	\$963,124	\$96,524
\$80,000	\$0	\$427,063	\$427,063	\$40,000
\$2,304,013	\$0	\$456,957	\$456,957	\$40,000

East of Frenchville - 22657.00 French
Benefit Cost Analysis (BCA) - Highway
Conforming to 2023 Rural Requirements
Project Description: Beginning at the Madawas

Estimated Project Timing: 2023 - Existing Year / 2025 -

No Build: Pavement Preservation projects on a 7-year ir

22657		Benefits (Avoided)	
Calendar Year	Project Year	Pavement Preservation	Slope Repairs
2023	0	\$0	\$0
2024	1	\$2,980,000	\$0
2025	2	\$0	\$0
2026	3	\$0	\$0
2027	4	\$0	\$0
2028	5	\$0	\$0
2029	6	\$0	\$0
2030	7	\$0	\$0
2031	8	\$4,768,000	\$0
2032	9	\$0	\$0
2033	10	\$0	\$0
2034	11	\$0	\$0
2035	12	\$0	\$0
2036	13	\$0	\$0
2037	14	\$0	\$0
2038	15	\$7,628,800	\$0
2039	16	\$0	\$0

Constr Starts 2025

2.9848

Constr Complete 2029

2040	17	\$0	\$0
2041	18	\$0	\$0
2042	19	\$0	\$0
2043	20	\$0	\$0
2044	21	\$0	\$0
2045	22	\$12,206,080	\$0
2046	23	\$0	\$0
2047	24	\$0	\$0
2048	25	\$0	\$0
2049	26	\$0	\$0
2050	27	\$0	\$0
2051	28	\$0	\$0
2052	29	\$19,529,728	\$0
2053	30	\$0	\$0
2054	31	\$0	\$0
2055	32	\$0	\$0
2056	33	\$0	\$0
2057	34	\$0	\$0
2058	35	\$0	\$0
2059	36	\$31,247,564.80	\$0

Frenchville Route 1 Rebuild Day Construction Cost compared to No-Build

Frenchville/Frenchville Town Line and extending northerly 5.74 miles

Construction Start / 2029 - Construction Finished (opening year) / 2059 - 30 Year

Interval

Cost Associated with No-Build)			Costs (Post	
Annualized Maintenance Costs	Total Annual Benefits	Discounted Benefits - Present Value @ 7%	Light Capital Pavings Costs	Annual Maintenance Costs
\$60,000	\$60,000	\$60,000	\$0	\$60,000
\$64,200	\$3,044,200	\$2,845,047	\$0	\$64,200
\$68,694	\$68,694	\$60,000	\$0	\$68,694
\$73,503	\$73,503	\$60,000	\$0	\$0
\$78,648	\$78,648	\$60,000	\$0	\$0
\$84,153	\$84,153	\$60,000	\$0	\$0
\$90,044	\$90,044	\$60,000	\$0	\$45,022
\$96,347	\$96,347	\$60,000	\$0	\$48,173
\$103,091	\$4,871,091	\$2,835,019	\$0	\$51,546
\$110,308	\$110,308	\$60,000	\$0	\$55,154
\$118,030	\$118,030	\$60,000	\$0	\$59,015
\$126,291	\$126,291	\$60,000	\$0	\$63,146
\$135,132	\$135,132	\$60,000	\$0	\$67,566
\$144,591	\$144,591	\$60,000	\$0	\$72,295
\$154,712	\$154,712	\$60,000	\$0	\$77,356
\$165,542	\$7,794,342	\$2,825,028	\$0	\$82,771
\$177,130	\$177,130	\$60,000	\$0	\$88,565

\$189,529	\$189,529	\$60,000	\$0	\$94,764
\$202,796	\$202,796	\$60,000	\$0	\$101,398
\$216,992	\$216,992	\$60,000	\$427,500	\$108,496
\$232,181	\$232,181	\$60,000	\$0	\$116,091
\$248,434	\$248,434	\$60,000	\$0	\$124,217
\$265,824	\$12,471,904	\$2,815,073	\$0	\$132,912
\$284,432	\$284,432	\$60,000	\$0	\$142,216
\$304,342	\$304,342	\$60,000	\$0	\$152,171
\$325,646	\$325,646	\$60,000	\$0	\$162,823
\$348,441	\$348,441	\$60,000	\$0	\$174,221
\$372,832	\$372,832	\$60,000	\$0	\$186,416
\$398,930	\$398,930	\$60,000	\$0	\$199,465
\$426,855	\$19,956,583	\$2,805,154	\$0	\$213,428
\$456,735	\$456,735	\$60,000	\$0	\$228,368
\$488,707	\$488,707	\$60,000	\$0	\$244,353
\$522,916	\$522,916	\$60,000	\$0	\$261,458
\$559,520	\$559,520	\$60,000	\$0	\$279,760
\$598,687	\$598,687	\$60,000	\$684,000	\$299,343
\$640,595	\$640,595	\$60,000	\$0	\$320,297
\$685,437	\$31,933,001	\$2,795,270	\$0	\$342,718

r Forecast.

Rural Grant)		
Total Annual Costs	Discounted Costs - Present Value @ 7%	
\$60,000	\$60,000	
\$64,200	\$60,000	
\$68,694	\$60,000	Constr Starts 2025
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$45,022	\$30,000	Constr Complete 2029
\$48,173	\$30,000	
\$51,546	\$30,000	
\$55,154	\$30,000	
\$59,015	\$30,000	
\$63,146	\$30,000	
\$67,566	\$30,000	
\$72,295	\$30,000	
\$77,356	\$30,000	
\$82,771	\$30,000	
\$88,565	\$30,000	

\$94,764	\$30,000
\$101,398	\$30,000
\$535,996	\$148,207
\$116,091	\$30,000
\$124,217	\$30,000
\$132,912	\$30,000
\$142,216	\$30,000
\$152,171	\$30,000
\$162,823	\$30,000
\$174,221	\$30,000
\$186,416	\$30,000
\$199,465	\$30,000
\$213,428	\$30,000
\$228,368	\$30,000
\$244,353	\$30,000
\$261,458	\$30,000
\$279,760	\$30,000
\$983,343	\$98,550
\$320,297	\$30,000
\$342,718	\$30,000

Safety Benefit Summary

A	B	C	D	E	F
Year	Calendar Year	West of Frenchville Annual Safety Benefit	East of Frenchville Annual Safety Benefit	Total Safety Benefit (C+D)	7% NPV
0	2023 (Baseline)	\$0	\$0	\$ -	\$ -
1	2024	\$0	\$0	\$ -	\$ -
2	2025	\$0	\$0	\$ -	\$ -
3	2026	\$0	\$0	\$ -	\$ -
4	2027	\$0	\$0	\$ -	\$ -
5	2028	\$119,039	\$157,882	\$ 276,921	\$ 197,441
6	2029	\$119,634	\$158,671	\$ 278,305	\$ 185,447
7	2030	\$120,232	\$159,465	\$ 279,697	\$ 174,181
8	2031	\$120,833	\$160,262	\$ 281,095	\$ 163,600
9	2032	\$121,437	\$161,063	\$ 282,501	\$ 153,662
10	2033	\$122,045	\$161,869	\$ 283,913	\$ 144,327
11	2034	\$122,655	\$162,678	\$ 285,333	\$ 135,560
12	2035	\$123,268	\$163,491	\$ 286,759	\$ 127,325
13	2036	\$123,884	\$164,309	\$ 288,193	\$ 119,590
14	2037	\$124,504	\$165,130	\$ 289,634	\$ 112,325
15	2038	\$125,126	\$165,956	\$ 291,082	\$ 105,502
16	2039	\$125,752	\$166,786	\$ 292,538	\$ 99,093
17	2040	\$126,381	\$167,620	\$ 294,000	\$ 93,073
18	2041	\$127,013	\$168,458	\$ 295,470	\$ 87,419
19	2042	\$127,648	\$169,300	\$ 296,948	\$ 82,109
20	2043	\$128,286	\$170,147	\$ 298,433	\$ 77,121
21	2044	\$128,927	\$170,997	\$ 299,925	\$ 72,436
22	2045	\$129,572	\$171,852	\$ 301,424	\$ 68,035
23	2046	\$130,220	\$172,712	\$ 302,931	\$ 63,902
24	2047	\$130,871	\$173,575	\$ 304,446	\$ 60,021
25	2048	\$131,525	\$174,443	\$ 305,968	\$ 56,374
26	2049	\$132,183	\$175,315	\$ 307,498	\$ 52,950
27	2050	\$132,844	\$176,192	\$ 309,036	\$ 49,733
28	2051	\$133,508	\$177,073	\$ 310,581	\$ 46,712
29	2052	\$134,176	\$177,958	\$ 312,134	\$ 43,874
30	2053	\$134,846	\$178,848	\$ 313,694	\$ 41,209
31	2054	\$135,521	\$179,742	\$ 315,263	\$ 38,706
32	2055	\$136,198	\$180,641	\$ 316,839	\$ 36,354
33	2056	\$136,879	\$181,544	\$ 318,423	\$ 34,146
34	2057	\$137,564	\$182,452	\$ 320,016	\$ 32,072
35	2058	\$138,251	\$183,364	\$ 321,616	\$ 30,123
36	2059	\$138,943	\$184,281	\$ 323,224	\$ 28,294
					\$ 2,812,714

0.50% AADT Growth

Intersection Alternative	Intersection Type 3ST (3-leg, 1-stop) 4ST (4-leg, 2-stop) 4SG (4-leg, signal)	Total Crashes per Year			Crash Estimate to Compare	Crashes per Year Total
		Observed	Estimated			
			Predicted	Expected		
Roadway		5.8	3.31	3.66	Expected	3.6628133
Worksheet Source		3A	3A	3A		

Present Worth = \$ 7,501,787

CMF for Existing Pavement Width (26 feet) 1.40 **(Taken from FHWA total pavement)**
 CMF for Proposed Pavement Width (32 feet) 1.14
 Change of crashes for Shoulder width and type 0.8142857 (Safety Benefit seems high)

CMF for Slope from 3:1 to 4:1 (FHWA Cards) 0.92

Baseline Annual Costs \$654,040 (observed crashes)

Improvement Annual costs \$489,969 (654,040 * 0.81*0.92)

Safety Benefit (High) \$164,071

Safety Benefit (low) \$74,007

Avg. Safety Benefit \$119,039

Year for Comparison		Unit Crash Costs (\$)		Crash Costs (\$)		Benefits (\$)
FI (fatal and injury)	PDO (property damage only)	FI	PDO	Annual	Pres Worth (based on 20 years)	Present Worth
1.40	3.80	\$438,400.00	\$ 10,600.00	\$ 654,040.00	\$ 7,501,787.27	
1.40	3.80			Discount Rate		6%
					\$ 7,501,787	

ment width studies)

0.231 Paved Shoulder FI
1.976

2011-2020 Crashes Observed (10 Years)

	K	0
	A	1
	B	5
	C	8
	PDO	38
		52
	Avg/Yr =	5.2
FI =	14	1.4
PDO Only	38	3.8

2023 Safety

	A
	B
	C
	PDO
	Total
	Annual
FI	\$ 1,960,800.00
PDO	\$ 182,400.00

Crash Value

- \$ 564,300.00
- \$ 768,500.00
- \$ 628,000.00
- \$ 182,400.00
- \$ 2,143,200.00
- \$ 214,320.00

Intersection Alternative	Intersection Type 3ST (3-leg, 1-stop) 4ST (4-leg, 2-stop) 4SG (4-leg, signal)	Total Crashes per Year			Crash Estimate to Compare	Crashes per Year Total
		Observed	Estimated			
			Predicted	Expected		
Roadway		7.1	7.82	7.67	Expected	7.6728006
Worksheet Source		3A	3A	3A		

Present Worth = \$ 11,658,257 Baseline Conditions

CMF for Existing Pavement Width (26 feet) 1.40 **(Taken from FHWA total pavement)**
 CMF for Proposed Pavement Width (32 feet) 1.14
 Change of crashes for Shoulder width and type 0.8142857 (Safety Benefit seems high)

CMF for Slope from 3:1 to 4:1 0.95

Baseline Annual Costs \$1,016,420 (observed crashes)

Improvement Annual costs \$786,273 (1,016,420* 0.81*0.95)

Safety Benefit (High) \$230,147

Safety Benefit (Low) \$85,617

Avg. Safety Benefit \$157,882

Used the observed crashes to be consistent with

Year for Comparison		Unit Crash Costs (\$)		Crash Costs (\$)		Benefits (\$)
FI (fatal and injury)	PDO (property damage only)	FI	PDO	Annual	Pres Worth (based on 20 years)	Present Worth
2.20	4.90	\$ 438,400.00	\$10,600.00	\$ 1,016,420.00	\$ 11,658,257.32	
2.20	4.90			Discount Rate		6%
\$ 11,658,257						

ment width studies)

the other Frenchville project pluse we are applying the CMF's instead of HSM rural 2-lane roadways values (c

2011-2020 Crashes Observed (10 Years)

	K	1
	A	3
	B	4
	C	14
	PDO	49
		71
	Avg/Yr =	7.1
FI =	22	2.2
PDO Only	49	4.9

didn't break down into curves)

Travel Time Benefit Summary

A	B	C	D	E	F
Year	Calendar Year	West of Frenchville Travel Time Annual Benefit	East of Frenchville Travel Time Annual Benefit	Total Travel Time Benefit (C+D)	7% NPV
0	2023 (Baseline)	\$0	\$0	\$ -	\$ -
1	2024	\$0	\$0	\$ -	\$ -
2	2025	\$0	\$0	\$ -	\$ -
3	2026	\$0	\$0	\$ -	\$ -
4	2027	\$0	\$0	\$ -	\$ -
5	2028	\$207,974	\$411,117	\$ 619,092	\$ 441,404
6	2029	\$208,848	\$413,370	\$ 622,218	\$ 414,610
7	2030	\$209,722	\$414,496	\$ 624,218	\$ 388,732
8	2031	\$210,596	\$416,749	\$ 627,345	\$ 365,121
9	2032	\$211,470	\$419,002	\$ 630,472	\$ 342,935
10	2033	\$213,217	\$421,254	\$ 634,472	\$ 322,533
11	2034	\$214,091	\$423,507	\$ 637,598	\$ 302,918
12	2035	\$214,965	\$424,634	\$ 639,599	\$ 283,989
13	2036	\$215,839	\$426,886	\$ 642,725	\$ 266,708
14	2037	\$216,713	\$429,139	\$ 645,852	\$ 250,472
15	2038	\$217,587	\$431,392	\$ 648,978	\$ 235,220
16	2039	\$219,334	\$432,518	\$ 651,852	\$ 220,805
17	2040	\$220,208	\$434,771	\$ 654,979	\$ 207,350
18	2041	\$221,082	\$437,023	\$ 658,105	\$ 194,710
19	2042	\$221,956	\$439,276	\$ 661,232	\$ 182,836
20	2043	\$222,830	\$441,529	\$ 664,358	\$ 171,683
21	2044	\$223,704	\$442,655	\$ 666,359	\$ 160,934
22	2045	\$225,451	\$444,908	\$ 670,359	\$ 151,309
23	2046	\$226,325	\$447,161	\$ 673,486	\$ 142,070
24	2047	\$227,199	\$449,413	\$ 676,612	\$ 133,392
25	2048	\$228,073	\$451,666	\$ 679,739	\$ 125,241
26	2049	\$228,947	\$452,792	\$ 681,739	\$ 117,392
27	2050	\$229,820	\$455,045	\$ 684,865	\$ 110,216
28	2051	\$230,694	\$457,298	\$ 687,992	\$ 103,476
29	2052	\$232,442	\$459,550	\$ 691,992	\$ 97,268
30	2053	\$233,316	\$460,677	\$ 693,993	\$ 91,168
31	2054	\$233,316	\$408,264	\$ 641,580	\$ 78,769
32	2055	\$233,316	\$408,264	\$ 641,580	\$ 73,616
33	2056	\$233,316	\$408,264	\$ 641,580	\$ 68,800
34	2057	\$233,316	\$408,264	\$ 641,580	\$ 64,299
35	2058	\$233,316	\$408,264	\$ 641,580	\$ 60,092
36	2059	\$233,316	\$408,264	\$ 641,580	\$ 56,161
					\$ 6,226,228

Location: Frenchville-Ft Kent Route 1 Speed Limit miles
 WIN: 22656.00 50 4.66
 Base Calendar Year: 2023
 Base Year AADT: 2320 vehicles per day Speed Limit miles
 % Trucks: 10% 55 4.66
 Base Year AADTT: 232 trucks per day
 30-Year Growth Factor: 1.15 Travel Time Change per veh
 Year Project Complete: 2026

Year	Calendar Year	AADT	Light Vehicle AADT	Truck AADT	% of AADT Detoured
0	2023	2340	2106	234	0%
1	2024	2350	2115	235	0%
2	2025	2370	2133	237	0%
3	2026	2380	2142	238	0%
4	2027	2390	2151	239	0%
5	2028	2400	2160	240	0%
6	2029	2410	2169	241	0%
7	2030	2420	2178	242	0%
8	2031	2440	2196	244	0%
9	2032	2450	2205	245	0%
10	2033	2460	2214	246	0%
11	2034	2470	2223	247	0%
12	2035	2480	2232	248	0%
13	2036	2490	2241	249	0%
14	2037	2510	2259	251	0%
15	2038	2520	2268	252	0%
16	2039	2530	2277	253	0%
17	2040	2540	2286	254	0%
18	2041	2550	2295	255	0%
19	2042	2560	2304	256	0%
20	2043	2580	2322	258	0%
21	2044	2590	2331	259	0%
22	2045	2600	2340	260	0%
23	2046	2610	2349	261	0%
24	2047	2620	2358	262	0%
25	2048	2630	2367	263	0%
26	2049	2640	2376	264	0%
27	2050	2660	2394	266	0%
28	2051	2670	2403	267	0%
29	2052	2670	2403	267	0%
30	2053	2670	2403	267	0%
31	2054	2670	2403	267	0%
32	2055	2670	2403	267	0%
33	2056	2670	2403	267	0%
34	2057	2670	2403	267	0%
35	2058	2670	2403	267	0%
36	2059	2670	2403	267	0%
37	2060	2670	2403	267	0%
38	2061	2670	2403	267	0%
39	2062	2670	2403	267	0%

40	2063	2670	2403	267	0%
41	2064	2670	2403	267	0%
42	2065	2670	2403	267	0%
43	2066	2670	2403	267	0%
44	2067	2670	2403	267	0%
45	2068	2670	2403	267	0%
46	2069	2670	2403	267	0%
47	2070	2670	2403	267	0%
48	2071	2670	2403	267	0%

travel time (hrs)
0.093

travel time (hrs)
0.085

-0.008

Value of Time*
Light Vehicles Trucks
Value per person-hour
\$ 18.80 \$ 32.40
Average Vehicle Occupancy
1.67 1.00
Value per vehicle-hour
\$ 31.40 \$ 32.40

	Change in Annual VHT due to Project	Annual Light Vehicle Time Benefit due to Project	Annual Truck Time Benefit due to Project	Total Annual Time Benefit due to Project	Total ADJUSTED Annual Time Benefit due to Project
0	0	\$ -	\$ -	\$ -	\$ -
0	0	\$ -	\$ -	\$ -	\$ -
0	0	\$ -	\$ -	\$ -	\$ -
0	-6624	\$ 155,087	\$ 20,403	\$ 175,489	\$ 207,974.40
0	-6652	\$ 155,738	\$ 20,488	\$ 176,227	\$ 208,848.24
0	-6680	\$ 156,390	\$ 20,574	\$ 176,964	\$ 209,722.08
0	-6708	\$ 157,041	\$ 20,660	\$ 177,701	\$ 210,595.93
0	-6736	\$ 157,693	\$ 20,746	\$ 178,439	\$ 211,469.77
0	-6791	\$ 158,996	\$ 20,917	\$ 179,913	\$ 213,217.45
0	-6819	\$ 159,648	\$ 21,003	\$ 180,651	\$ 214,091.29
0	-6847	\$ 160,300	\$ 21,088	\$ 181,388	\$ 214,965.14
0	-6875	\$ 160,951	\$ 21,174	\$ 182,125	\$ 215,838.98
0	-6903	\$ 161,603	\$ 21,260	\$ 182,863	\$ 216,712.82
0	-6930	\$ 162,254	\$ 21,346	\$ 183,600	\$ 217,586.66
0	-6986	\$ 163,558	\$ 21,517	\$ 185,075	\$ 219,334.35
0	-7014	\$ 164,209	\$ 21,603	\$ 185,812	\$ 220,208.19
0	-7042	\$ 164,861	\$ 21,689	\$ 186,549	\$ 221,082.03
0	-7070	\$ 165,513	\$ 21,774	\$ 187,287	\$ 221,955.87
0	-7097	\$ 166,164	\$ 21,860	\$ 188,024	\$ 222,829.71
0	-7125	\$ 166,816	\$ 21,946	\$ 188,761	\$ 223,703.56
0	-7181	\$ 168,119	\$ 22,117	\$ 190,236	\$ 225,451.24
0	-7209	\$ 168,771	\$ 22,203	\$ 190,974	\$ 226,325.08
0	-7237	\$ 169,422	\$ 22,289	\$ 191,711	\$ 227,198.92
0	-7264	\$ 170,074	\$ 22,374	\$ 192,448	\$ 228,072.77
0	-7292	\$ 170,726	\$ 22,460	\$ 193,186	\$ 228,946.61
0	-7320	\$ 171,377	\$ 22,546	\$ 193,923	\$ 229,820.45
0	-7348	\$ 172,029	\$ 22,631	\$ 194,660	\$ 230,694.29
0	-7404	\$ 173,332	\$ 22,803	\$ 196,135	\$ 232,441.98
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 233,315.82
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 206,770.90
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 206,770.90
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 206,770.90
0	-7431	\$ 173,984	\$ 22,889	\$ 196,872	\$ 206,770.90

5.592

5.08363636

0.50836364

Location:	Frenchville	Route 1	Speed Limit*	miles	travel time (hrs)
WIN:	22657.00		50		1.62 0.032
Base Calendar Year:	2021		45		2.46 0.055
Base Year AADT:	3560	vehicles per day	40		0.86 0.022
% Trucks:	9%				0.109
Base Year AADTT:	320.4		Speed Limit*	miles	travel time (hrs)
30-Year Growth Factor:	1.15		55		1.62 0.029
Year Project Complete:	2026		50		2.46 0.049
		trucks per day	45		0.86 0.019
					0.098
					-0.011

*Mileage with 35 mph speed limit assumed not to be raised. Travel Time Change per veh

Year	Calendar Year	AADT	Light Vehicle AADT	Truck AADT
0	2021	3560	3240	320
1	2022	3580	3258	322
2	2023	3600	3276	324
3	2024	3610	3285	325
4	2025	3630	3303	327
5	2026	3650	3322	329
6	2027	3670	3340	330
7	2028	3680	3349	331
8	2029	3700	3367	333
9	2030	3720	3385	335
10	2031	3740	3403	337
11	2032	3760	3422	338
12	2033	3770	3431	339
13	2034	3790	3449	341
14	2035	3810	3467	343
15	2036	3830	3485	345
16	2037	3840	3494	346
17	2038	3860	3513	347
18	2039	3880	3531	349
19	2040	3900	3549	351
20	2041	3920	3567	353
21	2042	3930	3576	354
22	2043	3950	3595	356
23	2044	3970	3613	357
24	2045	3990	3631	359
25	2046	4010	3649	361
26	2047	4020	3658	362
27	2048	4040	3676	364
28	2049	4060	3695	365
29	2050	4080	3713	367
30	2051	4090	3722	368
31	2052	4090	3722	368
32	2053	4090	3722	368
33	2054	4090	3722	368
34	2055	4090	3722	368
35	2056	4090	3722	368
36	2057	4090	3722	368
37	2058	4090	3722	368
38	2059	4090	3722	368
39	2060	4090	3722	368

40	2061	4090	3722	368
41	2062	4090	3722	368
42	2063	4090	3722	368
43	2064	4090	3722	368
44	2065	4090	3722	368
45	2066	4090	3722	368
46	2067	4090	3722	368
47	2068	4090	3722	368
48	2069	4090	3722	368
49	2070	4090	3722	368
50	2071	4090	3722	368

1.76727273 minutes

0.029454545

\$ (348,673.16)

Location: Frenchville - Used AADT for West of Frenchville + 25% for Increment of East of Frenchville
 WIN: 22656 & 22657
 Base Calendar Year: 2023 Assumption is all AADT E of Fr
 Base Year AADT: 4140 vehicles per day
 % Trucks: 9% Each Pavement Preservation P
 Base Year AADTT: 372.6 trucks per day 15 Days of reroute
 30-Year Growth Factor: 1.15
 Year Start Heavy Repairs: Maintenance in each other year
 Year of Full Closure: 3 Days of Reroute
 Added VMT per vehicle: 8.301 miles
 Added VHT per vehicle: 0.155 hours

Year	Calendar Year	AADT	Light Vehicle AADT	Truck AADT	% of AADT Detoured	Added Annual VMT due to Closure
0	2023	4,140	3,767	373	1%	103,098
1	2024	4,160	3,786	374	4%	517,982
2	2025	4,180	3,804	376	1%	104,095
3	2026	4,200	3,822	378	1%	104,593
4	2027	4,220	3,840	380	1%	105,091
5	2028	4,240	3,858	382	1%	128,466
6	2029	4,260	3,877	383	1%	106,087
7	2030	4,280	3,895	385	1%	106,585
8	2031	4,310	3,922	388	4%	536,660
9	2032	4,330	3,940	390	1%	131,193
10	2033	4,350	3,959	392	1%	108,328
11	2034	4,370	3,977	393	1%	108,826
12	2035	4,390	3,995	395	1%	109,324
13	2036	4,410	4,013	397	1%	133,617
14	2037	4,430	4,031	399	1%	110,320
15	2038	4,450	4,050	401	4%	554,092
16	2039	4,470	4,068	402	1%	111,316
17	2040	4,490	4,086	404	1%	136,041
18	2041	4,510	4,104	406	1%	112,313
19	2042	4,530	4,122	408	1%	112,811
20	2043	4,550	4,141	410	1%	113,309
21	2044	4,570	4,159	411	1%	138,465
22	2045	4,600	4,186	414	4%	572,769
23	2046	4,620	4,204	416	1%	115,052
24	2047	4,640	4,222	418	1%	115,550
25	2048	4,660	4,241	419	1%	141,192
26	2049	4,680	4,259	421	1%	116,546
27	2050	4,700	4,277	423	1%	117,044
28	2051	4,720	4,295	425	1%	117,542
29	2052	4,740	4,313	427	4%	590,201
30	2053	4,760	4,332	428	1%	118,538
31	2054	4,760	4,332	428	1%	118,538
32	2055	4,760	4,332	428	1%	118,538
33	2056	4,760	4,332	428	1%	144,222
34	2057	4,760	4,332	428	1%	144,222

35	2058	4,760	4,332	428	1%	144,222
36	2059	4,760	4,332	428	4%	576,886
37	2060	4,760	4,332	428	1%	144,222

enchville and 25% W of Frenchville to avoid double-counting

	Value of Time*	
project	Light Vehicles	Trucks
s	Value per person-hour	
	\$ 18.80	\$ 32.40
	Average Vehicle Occupancy	
as	1.67	1.00
	Value per vehicle-hour	
	\$ 31.40	\$ 32.40

Vehicle Operating Costs*	
Light Vehicles	Trucks
Cost per vehicle-mile	
\$ 0.46	\$ 1.01

*For sources and calculations of unit costs, see

Added Annual VHT due to Closure	Added Annual Light Vehicle Time Costs due to Closure	Added Annual Truck Time Costs due to Closure	Total Added Annual Time Costs due to Closure	Added Annual Light Vehicle Operating Costs due to Closure	Added Annual Truck Operating Costs due to Closure	Total Added Annual Operating Costs due to Closure
1,925	\$ 54,835	\$ 5,614	\$ 60,448	\$ 43,157	\$ 9,372	\$ 52,529
9,672	\$ 275,497	\$ 28,204	\$ 303,701	\$ 216,827	\$ 47,085	\$ 263,912
1,944	\$ 55,364	\$ 5,668	\$ 61,032	\$ 43,574	\$ 9,462	\$ 53,036
1,953	\$ 55,629	\$ 5,695	\$ 61,324	\$ 43,782	\$ 9,507	\$ 53,290
1,962	\$ 55,894	\$ 5,722	\$ 61,616	\$ 43,991	\$ 9,553	\$ 53,544
2,399	\$ 68,327	\$ 6,995	\$ 75,322	\$ 53,776	\$ 11,678	\$ 65,454
1,981	\$ 56,424	\$ 5,776	\$ 62,200	\$ 44,408	\$ 9,643	\$ 54,051
1,990	\$ 56,689	\$ 5,803	\$ 62,492	\$ 44,616	\$ 9,689	\$ 54,305
10,021	\$ 285,431	\$ 29,221	\$ 314,652	\$ 224,646	\$ 48,782	\$ 273,428
2,450	\$ 69,777	\$ 7,143	\$ 76,921	\$ 54,917	\$ 11,925	\$ 66,843
2,023	\$ 57,616	\$ 5,898	\$ 63,514	\$ 45,346	\$ 9,847	\$ 55,193
2,032	\$ 57,881	\$ 5,925	\$ 63,806	\$ 45,555	\$ 9,892	\$ 55,447
2,041	\$ 58,146	\$ 5,953	\$ 64,098	\$ 45,763	\$ 9,938	\$ 55,701
2,495	\$ 71,066	\$ 7,275	\$ 78,342	\$ 55,932	\$ 12,146	\$ 68,078
2,060	\$ 58,676	\$ 6,007	\$ 64,682	\$ 46,180	\$ 10,028	\$ 56,208
10,346	\$ 294,703	\$ 30,170	\$ 324,872	\$ 231,943	\$ 50,367	\$ 282,310
2,079	\$ 59,205	\$ 6,061	\$ 65,266	\$ 46,597	\$ 10,119	\$ 56,716
2,540	\$ 72,356	\$ 7,407	\$ 79,763	\$ 56,947	\$ 12,366	\$ 69,313
2,097	\$ 59,735	\$ 6,115	\$ 65,851	\$ 47,014	\$ 10,209	\$ 57,223
2,106	\$ 60,000	\$ 6,142	\$ 66,143	\$ 47,223	\$ 10,254	\$ 57,477
2,116	\$ 60,265	\$ 6,170	\$ 66,435	\$ 47,431	\$ 10,300	\$ 57,731
2,585	\$ 73,645	\$ 7,539	\$ 81,184	\$ 57,961	\$ 12,586	\$ 70,548
10,695	\$ 304,636	\$ 31,187	\$ 335,823	\$ 239,761	\$ 52,065	\$ 291,826
2,148	\$ 61,192	\$ 6,264	\$ 67,457	\$ 48,161	\$ 10,458	\$ 58,619
2,158	\$ 61,457	\$ 6,292	\$ 67,749	\$ 48,369	\$ 10,503	\$ 58,873
2,636	\$ 75,095	\$ 7,688	\$ 82,783	\$ 59,103	\$ 12,834	\$ 71,937
2,176	\$ 61,987	\$ 6,346	\$ 68,333	\$ 48,786	\$ 10,594	\$ 59,380
2,186	\$ 62,252	\$ 6,373	\$ 68,625	\$ 48,995	\$ 10,639	\$ 59,634
2,195	\$ 62,517	\$ 6,400	\$ 68,917	\$ 49,203	\$ 10,685	\$ 59,888
11,021	\$ 313,908	\$ 32,136	\$ 346,044	\$ 247,058	\$ 53,649	\$ 300,707
2,213	\$ 63,046	\$ 6,454	\$ 69,501	\$ 49,620	\$ 10,775	\$ 60,395
2,213	\$ 63,046	\$ 6,454	\$ 69,501	\$ 49,620	\$ 10,775	\$ 60,395
2,213	\$ 63,046	\$ 6,454	\$ 69,501	\$ 49,620	\$ 10,775	\$ 60,395
2,213	\$ 63,046	\$ 6,454	\$ 69,501	\$ 49,620	\$ 10,775	\$ 60,395
2,693	\$ 76,707	\$ 7,853	\$ 84,559	\$ 60,371	\$ 13,110	\$ 73,481
2,693	\$ 76,707	\$ 7,853	\$ 84,559	\$ 60,371	\$ 13,110	\$ 73,481

2,693	\$	76,707	\$	7,853	\$	84,559	\$	60,371	\$	13,110	\$	73,481
10,772	\$	306,826	\$	31,411	\$	338,237	\$	241,485	\$	52,439	\$	293,924
2,693	\$	76,707	\$	7,853	\$	84,559	\$	60,371	\$	13,110	\$	73,481

Crash Costs*
 Overall
 cost per
 vehicle-mile
 \$ 0.19

"Unit Cost Sources" tab.

Total Added Crash Costs due to Closure	Total Added User Costs (Time, Operating, Crash) due to Closure	In Summary	In Summary	Benefit years
		7% NPV of Travel Time and Ops Costs (Column P)	7% NPV of Safety Costs (Column O)	
\$ 19,589	\$ 132,565	\$ 132,565	\$ 19,589	
\$ 98,417	\$ 666,029	\$ 666,029	\$ 98,417	
\$ 19,778	\$ 133,846	\$ 133,846	\$ 19,778	
\$ 19,873	\$ 134,487	\$ 134,487	\$ 19,873	Construction Begins
\$ 19,967	\$ 135,127	\$ 135,127	\$ 19,967	
\$ 24,409	\$ 165,184	\$ 165,184	\$ 24,409	
\$ 20,156	\$ 136,408	\$ 90,894	\$ 13,431	Construction Completes
\$ 20,251	\$ 137,048	\$ 85,347	\$ 12,611	1
\$ 101,965	\$ 690,045	\$ 401,612	\$ 59,345	2
\$ 24,927	\$ 168,690	\$ 91,756	\$ 13,558	3
\$ 20,582	\$ 139,290	\$ 70,808	\$ 10,463	4
\$ 20,677	\$ 139,930	\$ 66,480	\$ 9,823	5
\$ 20,772	\$ 140,571	\$ 62,415	\$ 9,223	6
\$ 25,387	\$ 171,807	\$ 71,294	\$ 10,535	7
\$ 20,961	\$ 141,851	\$ 55,012	\$ 8,129	8
\$ 105,277	\$ 712,459	\$ 258,228	\$ 38,157	9
\$ 21,150	\$ 143,132	\$ 48,484	\$ 7,164	10
\$ 25,848	\$ 174,923	\$ 55,376	\$ 8,183	11
\$ 21,339	\$ 144,413	\$ 42,727	\$ 6,314	12
\$ 21,434	\$ 145,054	\$ 40,109	\$ 5,927	13
\$ 21,529	\$ 145,694	\$ 37,650	\$ 5,563	14
\$ 26,308	\$ 178,040	\$ 42,999	\$ 6,354	15
\$ 108,826	\$ 736,475	\$ 166,232	\$ 24,563	16
\$ 21,860	\$ 147,935	\$ 31,207	\$ 4,611	17
\$ 21,954	\$ 148,576	\$ 29,291	\$ 4,328	18
\$ 26,826	\$ 181,546	\$ 33,450	\$ 4,943	19
\$ 22,144	\$ 149,857	\$ 25,805	\$ 3,813	20
\$ 22,238	\$ 150,497	\$ 24,220	\$ 3,579	21
\$ 22,333	\$ 151,137	\$ 22,731	\$ 3,359	22
\$ 112,138	\$ 758,889	\$ 106,672	\$ 15,762	23
\$ 22,522	\$ 152,418	\$ 20,023	\$ 2,959	24
\$ 22,522	\$ 152,418	\$ 18,713	\$ 2,765	25
\$ 22,522	\$ 152,418	\$ 17,489	\$ 2,584	26
\$ 27,402	\$ 185,442	\$ 19,886	\$ 2,938	27
\$ 27,402	\$ 185,442	\$ 18,585	\$ 2,746	28

\$	27,402	\$
\$	109,608	\$
\$	27,402	\$

185,442
741,769
185,442

\$	17,369	\$	2,567
\$	64,931	\$	9,595
\$	15,171	\$	2,242
\$	3,520,203	\$	362,511

29
30

Unit Cost Calculations:

Crash Cost per VMT	Statewide VMT (2013-17, millions)	K	73505	A	B	C	PDO	Sources:
Crash Severity Level	Statewide Crashes by Severity Level (2013-17)		685	3303	10918	26728	121686	State of Maine Crash & Highway Facts - 2017 Edition, MaineDOT
Cost of Crash by Severity Level (\$)		\$ 10,900,000.00	#####	#####	#####	#####	\$3,700.00	Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
Total Crash Costs per Year (\$)		\$ 11,800,000.00	#####	#####	#####	#####	\$4,800.00	Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
		\$2,625,345,620.00						
Crash Costs per VMT (\$)		\$ 0.18	Recalculated based on updated figures					
		\$ 0.19	Recalculated based on updated figures					
Operating Cost	Unit Cost per Passenger Vehicle VMT (\$)	\$ 0.43	(light duty vehicles)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
		\$ 0.46	(light duty vehicles)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
	Unit Cost per Truck VMT (\$)	\$ 0.93	(commercial trucks)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
		\$ 1.01	(commercial trucks)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
Time Cost	Unit Cost per Passenger Vehicle PHT (\$)	\$ 17.90	(all purposes)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
		\$ 18.80	(all purposes)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
	Vehicle Occupancy for Passenger Vehicles	\$ 1.48	(all travel)					Transportation System Analysis Division, MaineDOT
		\$ 1.67	(all travel)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
	Unit Cost per Passenger Vehicle VHT (\$)	\$ 26.49						
		\$ 31.40	Recalculated based on updated figures					
	Unit Cost per Truck PHT (\$)	\$ 30.80	(truck drivers)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
		\$ 32.40	(truck drivers)					Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, January 2023
	Vehicle Occupancy for Trucks	\$ 1.00						Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
	Unit Cost per Truck VHT (\$)	\$ 30.80						
		\$ 32.40	Recalculated based on updated figures					

Emissions Unit Costs	\$/metric ton	Year	NOx	SO2	PM2.5	CO2	Sources:
		2020	15700	40400	729300	50	Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021
		2021	15900	41900	742300	52	
		2022	\$ 16,600.00	\$ 44,300.00	#####	\$ 56.00	Year 2022 ##### \$ 56.00
		2023	\$ 16,800.00	\$ 45,100.00	#####	\$ 57.00	2023 ##### \$ 57.00
		2024	\$ 17,000.00	\$ 46,000.00	#####	\$ 58.00	2024 ##### \$ 58.00
		2025	\$ 17,200.00	\$ 46,900.00	#####	\$ 59.00	2025 ##### \$ 59.00
		2026	\$ 17,500.00	\$ 47,800.00	#####	\$ 60.00	2026 ##### \$ 60.00
		2027	\$ 17,800.00	\$ 48,700.00	#####	\$ 61.00	2027 ##### \$ 61.00
		2028	\$ 18,200.00	\$ 49,500.00	#####	\$ 62.00	2028 ##### \$ 62.00
		2029	\$ 18,600.00	\$ 50,400.00	#####	\$ 63.00	2029 ##### \$ 63.00
		2030	\$ 18,900.00	\$ 51,300.00	#####	\$ 65.00	2030 ##### \$ 65.00
		2031	\$ 18,900.00	\$ 51,300.00	#####	\$ 66.00	2031 ##### \$ 66.00
		2032	\$ 18,900.00	\$ 51,300.00	#####	\$ 67.00	2032 ##### \$ 67.00
		2033	\$ 18,900.00	\$ 51,300.00	#####	\$ 68.00	2033 ##### \$ 68.00
		2034	\$ 18,900.00	\$ 51,300.00	#####	\$ 69.00	2034 ##### \$ 69.00
		2035	\$ 18,900.00	\$ 51,300.00	#####	\$ 70.00	2035 ##### \$ 70.00
		2036	\$ 18,900.00	\$ 51,300.00	#####	\$ 72.00	2036 ##### \$ 72.00
		2037	\$ 18,900.00	\$ 51,300.00	#####	\$ 73.00	2037 ##### \$ 73.00
		2038	\$ 18,900.00	\$ 51,300.00	#####	\$ 74.00	2038 ##### \$ 74.00
		2039	\$ 18,900.00	\$ 51,300.00	#####	\$ 75.00	2039 ##### \$ 75.00
		2040	\$ 18,900.00	\$ 51,300.00	#####	\$ 76.00	2040 ##### \$ 76.00
		2041	\$ 18,900.00	\$ 51,300.00	#####	\$ 77.00	2041 ##### \$ 77.00
		2042	\$ 18,900.00	\$ 51,300.00	#####	\$ 78.00	2042 ##### \$ 78.00
		2043	\$ 18,900.00	\$ 51,300.00	#####	\$ 80.00	2043 ##### \$ 80.00
		2044	\$ 18,900.00	\$ 51,300.00	#####	\$ 81.00	2044 ##### \$ 81.00
		2045	\$ 18,900.00	\$ 51,300.00	#####	\$ 82.00	2045 ##### \$ 82.00
		2046	\$ 18,900.00	\$ 51,300.00	#####	\$ 84.00	2046 ##### \$ 84.00
		2047	\$ 18,900.00	\$ 51,300.00	#####	\$ 85.00	2047 ##### \$ 85.00
		2048	\$ 18,900.00	\$ 51,300.00	#####	\$ 86.00	2048 ##### \$ 86.00
		2049	\$ 18,900.00	\$ 51,300.00	#####	\$ 87.00	2049 ##### \$ 87.00
		2050	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2050 ##### \$ 88.00
		2051	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2051 ##### \$ 88.00
		2052	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2052 ##### \$ 88.00
		2053	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2053 ##### \$ 88.00
		2054	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2054 ##### \$ 88.00
		2055	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2055 ##### \$ 88.00
		2056	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2056 ##### \$ 88.00
		2057	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2057 ##### \$ 88.00
		2058	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2058 ##### \$ 88.00
		2059	\$ 18,900.00	\$ 51,300.00	#####	\$ 88.00	2059 ##### \$ 88.00

Location:
 WIN: Emissions**
 Base Calendar Year: 2021 Rates in grams per vehicle-mile
 Base Year AADT: 4140 vehicles per day Light Vehicles
 % Trucks: 9% Carbon Dioxide NOx Particulates
 Base Year AADTT: 372.6 trucks per day 400 0.195811 0.008754
 30-Year Growth Factor: 1.15 Trucks
 Year Start Heavy Repairs: Carbon Dioxide NOx Particulates
 Year of Full Closure: 2070 3.587630 0.137601
 Added VMT per vehicle 8.301 miles
 Added VHT per vehicle 0.155 hours **For sources and calculations, see "Emission R:

Year	Calendar Year	Added Annual VMT due to Closure	Added Light Vehicle VMT due to Closure	Added Annual Truck VMT due to Closure	Added Annual Metric Tons of Carbon Dioxide Emissions due to Closure	Added Annual Metric Tons of NOx Emissions due to Closure	Added Annual Metric Tons of Particulates Emissions due to Closure
0	2023	103,098	93,820	9,279	56.735	0.052	0.002
1	2024	517,982	471,364	46,618	285.046	0.260	0.011
2	2025	104,095	94,726	9,369	57.283	0.052	0.002
3	2026	104,593	95,179	9,413	57.557	0.052	0.002
4	2027	105,091	95,633	9,458	57.831	0.053	0.002
5	2028	128,466	116,904	11,562	70.695	0.064	0.003
6	2029	106,087	96,539	9,548	58.380	0.053	0.002
7	2030	106,585	96,992	9,593	58.654	0.053	0.002
8	2031	536,660	488,360	48,299	295.324	0.269	0.011
9	2032	131,193	119,386	11,807	72.196	0.066	0.003
10	2033	108,328	98,579	9,750	59.613	0.054	0.002
11	2034	108,826	99,032	9,794	59.887	0.055	0.002
12	2035	109,324	99,485	9,839	60.161	0.055	0.002
13	2036	133,617	121,592	12,026	73.529	0.067	0.003
14	2037	110,320	100,391	9,929	60.709	0.055	0.002
15	2038	554,092	504,223	49,868	304.917	0.278	0.011
16	2039	111,316	101,298	10,018	61.257	0.056	0.002
17	2040	136,041	123,797	12,244	74.863	0.068	0.003
18	2041	112,313	102,204	10,108	61.806	0.056	0.002
19	2042	112,811	102,658	10,153	62.080	0.057	0.002
20	2043	113,309	103,111	10,198	62.354	0.057	0.002
21	2044	138,465	126,003	12,462	76.197	0.069	0.003
22	2045	572,769	521,220	51,549	315.195	0.287	0.012
23	2046	115,052	104,697	10,355	63.313	0.058	0.002
24	2047	115,550	105,150	10,399	63.587	0.058	0.002
25	2048	141,192	128,484	12,707	77.698	0.071	0.003
26	2049	116,546	106,057	10,489	64.135	0.058	0.002
27	2050	117,044	106,510	10,534	64.409	0.059	0.002
28	2051	117,542	106,963	10,579	64.683	0.059	0.002
29	2052	590,201	537,083	53,118	324.788	0.296	0.012
30	2053	118,538	107,870	10,668	65.232	0.059	0.002
31	2054	118,538	107,870	10,668	65.232	0.059	0.002
32	2055	118,538	107,870	10,668	65.232	0.059	0.002
33	2056	144,222	131,242	12,980	79.365	0.072	0.003

34	2057	144,222	131,242	12,980	79.365	0.072	0.003
35	2058	144,222	131,242	12,980	79.365	0.072	0.003
36	2059	576,886	524,967	51,920	317.461	0.289	0.012
					3,232.61	2.943	0.120

Emission Costs*

Same AADT as Detours Travel Time Avoided tab

Sulfur Dioxide
0.002243

Sulfur Dioxide
0.011356

ates" tab. *For annual emissions unit costs and sources, see "Unit Cost Sources" tab.

In Summary

Added Annual Metric Tons of Sulfur Dioxide Emissions due to Closure	Added Annual Carbon Dioxide Emissions Costs due to Closure	Added Annual NOx Emissions Costs due to Closure	Added Annual Particulates Emissions Costs due to Closure	Added Annual Sulfur Dioxide Emissions Costs due to Closure	Combined Added Annual Emissions Costs due to Closure	3% NPV of Emissions Costs (Column N)
0.000	\$0	\$0	\$0	\$0	\$0	\$0
0.002	\$16,533	\$4,412	\$ 8,691.05	\$73	\$29,709	\$28,844
0.000	\$3,380	\$897	\$ 1,776.86	\$15	\$6,069	\$5,720
0.000	\$3,453	\$917	\$ 1,813.67	\$15	\$6,200	\$5,673
0.000	\$3,528	\$943	\$ 1,851.18	\$16	\$6,337	\$5,630
0.000	\$4,383	\$1,172	\$ 2,299.02	\$19	\$7,873	\$6,791
0.000	\$3,678	\$989	\$ 1,928.74	\$16	\$6,612	\$5,537
0.000	\$3,812	\$1,009	\$ 1,968.60	\$17	\$6,807	\$5,535
0.002	\$19,491	\$5,082	\$ 9,911.97	\$84	\$34,570	\$27,290
0.000	\$4,837	\$1,242	\$ 2,423.10	\$21	\$8,523	\$6,532
0.000	\$4,054	\$1,026	\$ 2,000.79	\$17	\$7,097	\$5,281
0.000	\$4,132	\$1,031	\$ 2,009.99	\$17	\$7,190	\$5,194
0.000	\$4,211	\$1,035	\$ 2,019.19	\$17	\$7,283	\$5,108
0.000	\$5,294	\$1,265	\$ 2,467.87	\$21	\$9,048	\$6,162
0.000	\$4,432	\$1,045	\$ 2,037.59	\$17	\$7,531	\$4,979
0.002	\$22,564	\$5,247	\$ 10,233.94	\$87	\$38,132	\$24,476
0.000	\$4,594	\$1,054	\$ 2,055.99	\$17	\$7,722	\$4,812
0.000	\$5,690	\$1,288	\$ 2,512.64	\$21	\$9,512	\$5,755
0.000	\$4,821	\$1,064	\$ 2,074.38	\$18	\$7,977	\$4,685
0.000	\$4,904	\$1,068	\$ 2,083.58	\$18	\$8,074	\$4,604
0.000	\$4,988	\$1,073	\$ 2,092.78	\$18	\$8,172	\$4,525
0.000	\$6,172	\$1,311	\$ 2,557.41	\$22	\$10,062	\$5,409
0.002	\$25,846	\$5,424	\$ 10,578.90	\$90	\$41,939	\$21,888
0.000	\$5,318	\$1,090	\$ 2,124.98	\$18	\$8,551	\$4,333
0.000	\$5,405	\$1,094	\$ 2,134.18	\$18	\$8,652	\$4,256
0.000	\$6,682	\$1,337	\$ 2,607.78	\$22	\$10,649	\$5,086
0.000	\$5,580	\$1,104	\$ 2,152.58	\$18	\$8,854	\$4,106
0.000	\$5,668	\$1,108	\$ 2,161.78	\$18	\$8,957	\$4,032
0.000	\$5,692	\$1,113	\$ 2,170.97	\$18	\$8,995	\$3,931
0.002	\$28,581	\$5,589	\$ 10,900.87	\$93	\$45,164	\$19,165
0.000	\$5,740	\$1,123	\$ 2,189.37	\$19	\$9,071	\$3,737
0.000	\$5,740	\$1,123	\$ 2,189.37	\$19	\$9,071	\$3,628
0.000	\$5,740	\$1,123	\$ 2,189.37	\$19	\$9,071	\$3,523
0.000	\$6,984	\$1,366	\$ 2,663.74	\$23	\$11,036	\$4,161

0.000	\$6,984	\$1,366	\$ 2,663.74	\$23	\$11,036	\$4,040
0.000	\$6,984	\$1,366	\$ 2,663.74	\$23	\$11,036	\$3,922
0.002	\$27,937	\$5,463	\$ 10,654.95	\$91	\$44,145	\$15,232
0.018	\$293,834					\$225,387

Benefit years

Construction Begins

Construction Completes

- 1
- 2
- 3
- 4
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- 10
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HPMS Class	stateID	stateABBR	pollutantID
HPMS Classes (10, 20, 30)	23	ME	117
HPMS Classes (10, 20, 30)	23	ME	116
HPMS Classes (10, 20, 30)	23	ME	110
HPMS Classes (10, 20, 30)	23	ME	107
HPMS Classes (10, 20, 30)	23	ME	106
HPMS Classes (10, 20, 30)	23	ME	100
HPMS Classes (10, 20, 30)	23	ME	87
HPMS Classes (10, 20, 30)	23	ME	31
HPMS Classes (10, 20, 30)	23	ME	3

These represent emissions rates for (motorcycles, passenger car and i

HPMS Class	stateID	stateABBR	pollutantID
HPMS Classes (40,50,60)	23	ME	117
HPMS Classes (40,50,60)	23	ME	116
HPMS Classes (40,50,60)	23	ME	110
HPMS Classes (40,50,60)	23	ME	107
HPMS Classes (40,50,60)	23	ME	106
HPMS Classes (40,50,60)	23	ME	100
HPMS Classes (40,50,60)	23	ME	87
HPMS Classes (40,50,60)	23	ME	31
HPMS Classes (40,50,60)	23	ME	3

These represent emissions rates for HPMS Classes (40,50,60) Medium

Emissions Rates Used in Benefit-Cost Analysis

		2020 Emissions Rates (g/veh-mi)
VOC	Light Vehicles	0.036432
NOx	Light Vehicles	0.195811
Particulates	Light Vehicles	0.008754 sum of PM2.5 rates
Sulfur Dioxide	Light Vehicles	0.002243
VOC	Trucks	0.192618
NOx	Trucks	3.587630
Particulates	Trucks	0.137601 sum of PM2.5 rates
Sulfur Dioxide	Trucks	0.011356
	Source:	Maine Department of Environmental Pr

Carbon Dioxide	Light Vehicles	400
Carbon Dioxide	Trucks	2070
	Source:	EPA Greenhouse Gases Equivalencies Calculator

	2017	2020	2017
pollutantName	Emissions Rate (grams/veh-mile)	Emissions Rate (grams/veh-mile)	Emissions Rate (grams/veh-hour)
Primary PM2.5 - Tirewear Particulate	0.00122533	0.001225193	0.050195499
Primary PM2.5 - Brakewear Particulate	0.002149541	0.002149399	0.088055715
Primary Exhaust PM2.5 - Total	0.007014882	0.005379267	0.287363879
Primary PM10 - Tirewear Particulate	0.008168915	0.008167999	0.334638703
Primary PM10 - Brakewear Particulate	0.017196329	0.01719525	0.704445719
Primary Exhaust PM10 - Total	0.007901888	0.00606327	0.323699971
Volatile Organic Compounds	0.059909943	0.036432281	2.45420422
Sulfur Dioxide (SO2)	0.002433741	0.002242954	0.099697935
Oxides of Nitrogen (NOx)	0.314395652	0.195810965	12.87918329

trucks, and light-duty commercial trucks) HPMS Classes (10, 20, 30)

	2017	2020	2017
pollutantName	Emissions Rate (grams/veh-mile)	Emissions Rate (grams/veh-mile)	Emissions Rate (grams/veh-hour)
Primary PM2.5 - Tirewear Particulate	0.003330149	0.003323437	0.152466943
Primary PM2.5 - Brakewear Particulate	0.009850029	0.009825472	0.450972025
Primary Exhaust PM2.5 - Total	0.191450178	0.124452073	8.765321623
Primary PM10 - Tirewear Particulate	0.022201097	0.022156367	1.016451162
Primary PM10 - Brakewear Particulate	0.078800128	0.078604183	3.607771327
Primary Exhaust PM10 - Total	0.208224956	0.135369152	9.533335121
Volatile Organic Compounds	0.291817117	0.192618471	13.36050404
Sulfur Dioxide (SO2)	0.011755286	0.011355522	0.538201954
Oxides of Nitrogen (NOx)	5.130958087	3.587630378	234.9148914

and heavy duty trucks and buses.

2020 Emissions Rates (grams/veh-hour)

1.492422

8.021257

0.358596 sum of PM2.5 rates

0.091881

8.819028

164.259491

6.300055 sum of PM2.5 rates

0.519912

Protection

16400 (based on 4 metric tonnes/10000 veh-miles and a factor 41 to convert grams/veh-mile to gran

41515 (based on MDEP truck/light-vehicle equivalency ratios for VOC and Sulfur Dioxide)

(light-vehicle)	VOC	5.287	SO2	5.063
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2020

Emissions Rate
(grams/veh-hour)

0.05018914 40.9642874

0.088048597 40.9642874

0.220357843 40.9642874

0.334596261 40.9642874

0.704391165 40.9642874

0.248377516 40.9642874

1.492422432 40.9642874

0.091881006 40.9642874

8.021256633 40.9642874

2020

Emissions Rate
(grams/veh-hour)

0.152163426

0.449858796

5.698032407

1.014428241

3.598888889

6.19787037

8.819027778

0.519912037

164.2594907

ns/ veh-hour)

TOTAL			
Year	Calendar Year	Capital Cost	7% NPV
0	2026	\$ 1,495,000	\$ -
1	2027	\$ 700,000	\$ -
2	2028	\$ 8,255,000	\$ -
3	2029	\$ 13,600,000	\$ -
4	2030	\$ 11,300,000	\$ -
5	2031	\$ 2,400,000	\$ -
6	2032		\$ -
7	2033		\$ -
8	2034		\$ -
9	2035		\$ -
10	2036		\$ -
11	2037		\$ -
12	2038		\$ -
13	2039		\$ -
14	2040		\$ -
15	2041		\$ -
16	2042		\$ -
17	2043		\$ -
18	2044		\$ -
19	2045		\$ -
20	2046		\$ -
21	2047		\$ -
22	2048		\$ -
23	2049		\$ -
24	2050		\$ -
25	2051		\$ -
26	2052		\$ -
27	2053		\$ -
28	2054		\$ -
29	2055		\$ -
30	2056		\$ -
31	2057		\$ -
32	2058		\$ -
33	2059		\$ -
34	2060	\$ 13,262,000	\$ 1,329,109
			\$ 1,005,429

Useful life 24%
50

Residual Value

of the Project Construction costs have a 30-year life, the balance is 50-75 (conservatively used 50)