SCREENING MATRIX FOR THE PRELIMINARY RANGE OF ALTERNATIVES - ROUTE 63 EIS

Engineering Considerations *													
Route - Link No.	1	2	3	4	5	6	7	8	9	10	11	12	13
New Alignment Length, mi.	1.166	1.482	0.499	1.992	2.600	2.759	2.998	1.592	12.400	1.410	1.000	0.657	1.733
Travel Time (min.)	1.08	1.37	0.46	1.84	2.40	2.55	4.00	1.47	11.45	1.30	0.92	0.61	1.60
Accident Rating	1	1	1	1	1	1	3	1	1	1	1	1	1
No. of Bridges	0	0	0	0	2	2	1	0	2	1	2	0	0
No. of Creek/Stream Crossings	2	4	2	4	0	2	1	3	21	2	1	0	3
No. of River Crossings	0	0	0	0	1	1	0	0	1	1	1	0	0
Ruggedness of Terrain Rating	1	2	1	2	2	2	1	2	2	1	1	2	4
Constructability Rating	5	1	5	1	2	2	5	1	2	3	2	5	1
Local Road Access Points	3	1	3	4	5	5	27	21	21	3	3	2	0
R/W Impacts *													
Parcels Impacted	15	12	5	15	15	21	27	33	32	10	6	5	8
Residential Impacts	13	11	5	15	15	21	11	33	32	10	6	5	8
Commercial Impacts	2	0	0	0	0	0	15	0	0	0	0	0	0
ROW - New (acres)	33.906	134.762	14.507	181.061	236.364	250.811	87.212	144.731	1127.273	128.185	90.909	3.980	157.509
ROW - Existing (acres)	8.477	0.000	3.627	0.000	0.000	0.000	21.803	0.000	0.000	0.000	0.000	19.900	0.000
Environmental Impacts **													
Impact to Communities Rating	1	2	1	2	2	2	3,4	2	3	2	2	1	2,3
Parklands	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Use Facilities owned Privately	0	1	0	0	0	0	1	0	0	0	0	0	0
Wetlands (acres) total	2.3	3.02	0	0.13	3.87	2.4	0.55	0.17	2.89	4.75	4.9	0.3	0
PEM	0	0	0	0	0	1.3	0.25	0	0.13	0.25	0	0	0
PFO	0	0	0	0	3	1.8	0	0	0	4.5	4.5	0	0
PSS	0	0	0	0	0	0	0	0	0	0	0	0	0
PUB- Ponds	2.3	3.02	0	0.13	0.47	0.3	0.3	0.17	2.76	0	0.4	0.3	0
Riverine	0	0	0	0	0.4	0	0	0	0	0	0	0	0
Farmland													
Open Area (acres)	35.343	19.482	15.644	97.881	139.654	136.431	101.285	91.221	570.913	115.735	74.959	21.039	27.329
Forested Area (acres)	7.04	115.28	2.49	83.18	96.71	114.38	7.73	53.51	556.36	12.45	15.95	2.84	130.18
Floodplain (acres)	0	0	0	0	29.41	103.48	4.51	0	33.96	48.02	45.57	0	0
Threatened & Endangered Species	no known	no known	no known	no known	yes	yes	yes	no known	yes	yes	yes	no known	no known
Hazardous Waste Locations	0	0	0	0	0	0	6	0	0	0	0	0	0
Airports	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Publicly Noted (Potential) Envir. Constraints	0	0	0	0	0	0	0	0	2	0	0	0	0
Cultural Resource Impacts **													
Cemeteries	0	0	0	0	0	0	0	0	0	0	0	1	0
Registered Historic Properties (NRHP)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Publicly Noted (Potential) Cultural Constraints	0	0	0	0	0	0	0	0	1	0	0	0	0

*New construction links have a 750' wide corridor; Links along the existing route have a 300' wide corridor.

**Data based on screening only - no field data available at this stage

									Engineering Considerations *				
14	15	16	17	18	19	20	21	22	Route	23	24	25	26
0.921	1.300	2.967	2.154	0.886	0.541	4.272	6.975	3.700	New Alignment Length, mi.	3.440	1.015	1.500	0.264
0.85	1.20	2.47	1.99	0.82	0.50	3.94	6.44	3.42	Travel Time (min.)	3.18	0.94	1.38	0.24
1	1	1	1	1	1	1	1	1	Accident Rating	1	1	1	1
0	0	0	0	0	0	0	0	0	No. of Bridges	0	0	0	0
1	0	4	4	1	2	8	0	7	No. of Creek/Stream Crossings	5	2	4	0
0	0	0	0	0	0	0	0	0	No. of River Crossings	0	0	0	0
3	3	3	3	3	2	3	1	3	Ruggedness of Terrain Rating	2	2	2	2
1	3	1	3	1	1	1	5	1	Constructability Rating	1	1	1	3
1	4	5	11	1	3	11	62	14	Local Road Access Points	11	1	2	1
									R/W Impacts *				
4	13	13	5	4	5	16	78	22	Parcels impacted	12	4	7	1
4	13	13	5	4	5	16	67	22	Residential Impacts	12	4	7	1
0	0	0	0	0	0	0	11	0	Commercial Impacts	0	0	0	0
83.683	118.182	269.731	195.833	80.503	49.191	388.356	202.922	336.364	ROW - New (acres)	312.755	92.287	136.364	24.022
0.000	0.000	0.000	0.000	0.000	0.000	0.000	50.730	0.000	ROW - Existing (acres)	0.000	0.000	0.000	0.000
									Environmental Impacts **				
2,3	2	3	2	2	2	2	1	2	Impact to Communities Rating	2	2	2	2
0	0	0	0	0	0	0	0	0	Parklands	0	0	0	0
0	0	0	0	0	0	0	0	0	Recreational Use Facilities owned Privately	0	0	0	0
0	0.5	0.14	0.47	0	0.07	0.8	0	1.64	Wetlands (acres)	1.08	0.96	0.16	0
0	0	0	0	0	0	0	0	0	PEM	0	0	0	0
0	0	0	0	0	0	0	0	0	PFO	0	0	0	0
0	0	0	0	0	0	0	0	0	PSS	0	0	0	0
0	0.5	0.14	0.47	0	0.07	0.8	0	1.64	PUB- Ponds	1.08	0.96	0.16	0
0	0	0	0	0	0	0	0	0	Riverine	0	0	0	0
									Farmland				
16.073	41.062	87.001	57.653	30.083	37.451	153.496	228.352	129.374	Open Area (acres)	138.445	29.117	57.734	14.982
67.61	77.12	182.73	138.18	50.42	11.74	234.86	25.3	206.99	Forested Area (acres)	174.31	63.17	78.63	9.04
0	0	0	0	0	0	0	0	0	Floodplain (acres)	0	0	0	0
no known	no known	no known	no known	no known	no known	no known	no known	no known	Threatened & Endangered Species	no known	no known	no known	no known
0	0	0	0	0	0	0	3	0	Hazardous Waste Locations	0	0	0	0
0	0	0	0	0	0	0	0	0	Airports	0	0	0	0
0	0	0	0	0	0	0	0	0	Other Publicly Noted (Potential) Envir. Constraints	0	0	0	0
									Cultural Resource Impacts **				
0	0	0	0	0	0	0	0	0	Cemeteries	0	0	0	0
0	0	0	0	0	0	0	0	0	Registered Historic Properties (NRHP)	0	0	0	0
0	0	0	0	0	0	0	0	0	Other Public Noted (Potential) Cultural Constraints	0	0	0	0

27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
0.382	0.690	0.411	1.510	1.351	1.352	0.348	3.181	8.490	8.109	14.608	1.386	2.100	0.929	1.320	1.950	0.817	0.999
0.35	0.64	0.38	1.39	1.25	1.25	0.32	2.94	11.32	7.48	13.48	1.28	1.94	0.86	1.22	1.80	0.75	0.92
1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
0	1	0	3	0	3	0	5	0	18	22	6	3	2	1	4	1	0
0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
2	2	2	2	1	1	1	2	1	2	3	1	1	2	1	2	2	1
3	1	3	3	5	1	3	1	5	1	2	1	1	1	1	1	3	5
1	3	1	1	9	2	3	7	144	15	25	3	3	4	2	2	2	8
3	3	1	9	7	5	4	14	160	35	45	5	9	4	9	8	3	8
3	3	1	9	7	5	4	14	130	35	45	5	9	4	9	8	3	8
0	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0
34.769	62.746	37.338	137.273	39.302	122.875	31.610	289.141	246.981	737.142	1327.973	125.985	190.909	84.452	120.000	177.273	74.260	29.075
0.000	0.000	0.000	0.000	9.826	0.000	0.000	0.000	61.745	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.269
2	2	2	2	1	2	2	2,3	4	2,3	3	2	2	2	2	2,3	2	1
0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0.15	0.23	0.53	0.15	0.64	0.48	1.1	5.46	1.34	5.68	0.32	0.3	1.11	0.2	0.54	0.2	0
0	0	0	0	0	0	0	0	0	0	1.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0.15	0.23	0.53	0.15	0.64	0.48	1.1	5.46	1.34	1.58	0.32	0.3	1.11	0.2	0.54	0.2	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23.679	49.896	34.938	42.873	48.268	112.195	28.940	131.571	274.117	288.832	317.963	107.165	67.919	40.172	32.930	126.093	38.750	27.094
11.09	12.85	2.4	94.4	0.86	10.68	2.67	157.57	34.61	448.31	1010.01	18.82	122.99	44.28	87.07	51.18	35.51	9.25
0	0	0	0	0	0	0	0	0	0	78.42	0	0	0	0	0	0	0
no known	no known	no known	no known	no known	no known	no known	no known	no known	no known	yes	no known	no known	no known	no known	no known	no known	no known
0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	4	3	0	0	0	3	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0

Engineering Considerations *													
Route	45	46	47	48	49	50	51	52	53	54	55	56	57
New Alignment Length, mi.	0.792	0.465	5.493	4.830	0.416	5.104	5.992	0.500	0.764	4.973	1.730	3.113	1.502
Travel Time (min.)	0.73	0.43	5.07	4.46	0.38	6.81	5.53	0.46	0.70	5.49	1.60	2.87	2.00
Accident Rating	1	1	1	1	1	3	1	1	1	1	1	1	3
No. of Bridges	0	0	0	0	0	0	0	0	0	1	0	0	0
No. of Creek/Stream Crossings	1	1	8	9	1	0	11	0	0	3	0	5	0
No. of River Crossings	0	0	0	0	0	0	0	0	0	1	0	0	0
Ruggedness of Terrain Rating	2	1	2	2	1	1	1	1	1	2	1	5	1
Constructability Rating	3	3	1	1	3	5	1	5	5	1	1	1	5
Local Road Access Points	3	3	14	8	4	120	17	2	4	13	8	5	8
R/W Impacts *													
Parcels impacted	5	4	42	24	4	116	32	5	6	27	13	30	4
Residential Impacts	5	4	42	24	4	81	32	5	6	27	13	30	3
Commercial Impacts	0	0	0	0	0	34	0	0	0	0	0	0	1
ROW - New (acres)	72.037	42.273	499.404	439.091	37.817	148.474	544.738	14.541	22.214	30.138	10.485	283.044	43.707
ROW - Existing (acres)	0.000	0.000	0.000	0.000	0.000	37.119	0.000	3.635	5.554	150.690	52.424	0.000	10.927
Environmental Impacts **													
Impact to Communities Rating	2	2	3	3	3	3,4	3,4	1	1	1	1	3	1
Parklands	0	0	1	0	0	2	1	0	0	0	1	0	0
Recreational Use Facilities owned Privately	0	0	0	0	0	1	0	0	0	0	0	0	0
Wetlands (acres)	0	0.1	3.57	0.08	0	0.17	3.55	0	0	1	0.3	0.55	0.28
PEM	0	0	0	0	0	0	0	0	0	0	0	0	0
PFO	0	0	0	0	0	0	0	0	0	1	0	0	0
PSS	0	0	0	0	0	0	0	0	0	0	0	0	0
PUB- Ponds	0	0.1	3.57	0.08	0	0.17	2.35	0	0	0	0.3	1.55	0.28
Riverine	0	0	0	0	0	0	1.2	0	0	0	0	0	0
Farmland													
Open Area (acres)	45.787	29.293	231.184	167.821	33.627	143.753	382.578	18.176	22.068	145.268	42.109	45.844	49.914
Forested Area (acres)	26.25	12.98	268.22	271.27	4.19	41.84	162.16	0	5.7	35.56	20.8	237.2	4.72
Floodplain (acres)	0	0	0	37.96	0	0	81.62	0	0	54.76	3.93	0	0
Threatened & Endangered Species	no known	no known	no known	no known	no known	no known	no known	no known	no known	yes	no known	no known	no known
Hazardous Waste Locations	0	0	0	0	0	16	0	0	0	0	0	0	0
Airports	0	0	0	0	0	0	0	0	0	0	0	0	1
Other Publicly Noted (Potential) Envir. Constraints	0	0	0	0	0	0	0	0	0	0	0	0	0
Cultural Resource Impacts **													
Cemeteries	0	0	0	0	0	0	1	0	0	0	0	0	0
Registered Historic Properties (NRHP)	0	0	0	0	0	0	0	0	0	1	0	0	0
Othe Publicly Noted (Potential) Cultural Constraints	0	0	0	0	0	0	0	0	0	0	0	0	0

58	59	60	61
2.025	1.654	0.334	7.857
1.87	2.21	0.31	7.25
1	3	1	1
0	0	0	0
5	0	0	6
0	0	0	0
1	1	1	1
1	5	5	1
8	39	2	40
24	35	5	87
24	28	5	86
0	7	0	1
184.113	40.094	8.097	190.472
0.000	20.047	4.048	95.236
3	4	1	1
0	1	0	0
0	0	0	0
0.96	0	0	1.01
0	0	0	0.17
0	0	0	0
0	0	0	0
0.96	0	0	0.84
0	0	0	0
115.543	54.821	10.895	203.107
68.57	5.32	1.25	82.6
0	0	0	0
no known	no known	no known	no known
0	4	0	2
1	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0
0	0	0	0

PRELIMINARY RANGE OF ALTERNATIVES MATRIX

Route - Point to Point Segments Description	1-4 Alt. A	1-3 Exist.	4-5 Connt.	4-6 Alt. A	5-6 Exist.	6-7 Exist.	3-7 Alt. B	7-9 Alt. A	7-8 Exist.	8-9 Connt.	9-11 Alt. A	7-10 Alt. B	11-15 Alt. A	11-12 Connt.
Engineering Considerations*														
New Alignment Length, mi.	1.482	1.166	0.630	3.054	1.700	1.180	3.900	3.240	1.117	2.401	2.690	6.179	8.918	0.264
Travel Time (min.)	1.37	1.08	0.82	2.82	2.27	1.09	3.60	2.99	1.03	2.22	2.48	5.70	8.23	0.24
Accident Rating	1	1	1	1	3	1	1	1	1	1	1	1	1	1
No. of Bridges	0	0	0	1	0	1	2	0	0	0	0	0	0	0
No. of Creek/Stream Crossings	2	1	1	5	1	1	2	6	0	4	4	13	18	0
Streams requiring channelization	2	0	1	2	0	0	0	2	0	1	1	1	4	0
No. of River Crossings	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Ruggedness of Terrain Rating	2	1	1	2	1	2	3	3	1	3	3	3	2	2
Constructability Rating	1	5	3	1	5	5	2	1	5	1	1	1	1	3
Construction Costs (millions)	$6.99	$2.35	$1.52	$17.68	$3.43	$5.65	$44.11	$15.29	$2.25	$11.33	$12.69	$29.15	$42.07	$1.25
Local Road Access Points	1	8	1	7	35	2	9	15	2	2	1	22	16	1
R/W Impacts*														
Parcels Impacted	12	15	4	20	22	10	18	18	17	11	7	19	42	1
Residential Impacts	11	13	3	20	22	10	18	18	12	8	7	19	41	1
Commercial Impacts	0	2	1	0	10	0	0	0	5	3	0	0	0	0
Displacements	4	1	2	7	25	0	12	3	10	5	5	4	8	2
ROW Costs (millions)	$1.38	$0.76	$0.77	$2.65	$4.64	$0.62	$3.85	$2.15	$2.09	$2.01	$2.16	$3.84	$5.88	$0.44
ROW - New (acres)	134.727	31.093	52.424	277.636	45.333	31.467	354.545	294.545	0.000	218.273	244.545	561.727	810.727	24.000
ROW - Existing (acres)	0.000	11.307	4.848	0.000	16.485	11.442	0.000	0.000	40.618	0.000	0.000	0.000	0.000	0.000
Environmental Impacts*														
Impact to Communities Rating	2	1	1	2	3	1	2	1	2	1	1	1	2	1
Parklands	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Use Facilities owned Privately	0	1	0	1	1	0	0	0	0	0	0	0	1	0
Wetlands (acres) total	0.76	0	0	1.8	0.25	0.3	3.26	1.04	0	0.58	0.44	1.18	1.97	0
PEM	0	0	0	0.25	0.25	0	0.16	0	0	0	0	0	0	0
PFO	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0
PSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PUB- Ponds	0.76	0	0	1.55	0	0.3	0.6	1.04	0	0.58	0.44	1.18	1.97	0
Riverine	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Farmland														
Open Area (acres)	46.340	35.343	22.650	143.170	29.600	17.400	180.716	119.530	34.400	56.000	54.000	162.030	342.000	10.200
Forested Area (acres)	88.387	7.040	34.620	134.470	33.170	25.510	173.830	175.020	6.220	162.270	190.550	400.000	468.720	13.800
Floodplain (acres)	0	0	0	45.1	16.6	0	28.8	0	0	0	0	0	0	0
Threatened & Endangered Species	no known	no known	no known	no known	no known	yes	yes	no known	no known	no known	no known	no known	no known	no known
Hazardous Waste Locations	0	0	1	1	5	0	0	0	2	2	0	0	0	0
Airports	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Publicly Noted (Potential) Envir. Con	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Cultural Resource Impacts**														
Cemeteries	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Registered Historic Properties (NRHP)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Possible Historic 4(f) Resources**	1	1	0	2	3	3	1	0	0	0	0	?	0	0

*New construction links have a 750' wide corridor; Links along the existing route have a 300' wide corridor.

**Data based on screening only - no field data available at this stage

PRELIMINARY RANGE OF ALTERNATIVES MATRIX

Engineering Considerations*									
Route - Point to Point Segments	10-12	12-13	13-14	10-14	14-16	16-17	15-18	15-17	17-20
Description	Connt.	Exist.	Connt.	Alt. B	Alt.B	Alt. B	Exist.	Alt. A	Alt. A
New Alignment Length, mi.	0.382	1.351	0.348	2.042	7.470	0.546	0.999	0.792	1.100
Travel Time (min.)	0.35	1.25	0.32	1.89	6.90	0.50	0.92	0.73	1.02
Accident Rating	1	1	1	1	1	1	1	1	1
No. of Bridges	0	0	0	0	0	0	0	0	0
No. of Creek/Stream Crossings	0	0	1	4	18	2	0	1	2
Streams requiring channelization	0	0	0	0	2	0	0	0	0
No. of River Crossings	0	0	0	0	0	0	0	0	0
Ruggedness of Terrain Rating	2	1	1	2	2	2	1	2	2
Constructability Rating	3	5	3	1	1	1	5	3	1
Construction Costs (millions)	$1.80	$2.73	$0.84	$9.63	$35.24	$2.58	$2.02	$3.74	$5.19
Local Road Access Points	1	9	3	5	14	1	8	3	1
R/W Impacts*									
Parcels Impacted	3	7	4	8	31	2	8	5	9
Residential Impacts	3	7	4	8	31	2	8	5	9
Commercial Impacts	0	0	0	0	0	0	0	0	0
Displacements	1	3	2	2	10	0	3	1	1
ROW Costs (millions)	$0.35	$1.16	$0.48	$1.37	$5.42	$0.29	$0.97	$0.57	$0.73
ROW - New (acres)	34.727	36.027	31.636	185.636	679.091	49.649	26.640	72.000	100.000
ROW - Existing (acres)	0.000	13.101	0.000	0.000	0.000	0.000	9.687	0.000	0.000
Environmental Impacts**									
Impact to Communities Rating	1	1	2	2	2	2	1	2	3
Parklands	0	0	0	0	0	0	0	0	0
Recreational Use Facilities owned Privately	0	0	0	0	0	0	0	0	0
Wetlands (acres) total	0.36	0.15	0.49	0.8	1.31	0.24	0	0	0
PEM	0	0	0	0	0	0	0	0	0
PFO	0	0	0	0	0	0	0	0	0
PSS	0	0	0	0	0	0	0	0	0
PUB- Ponds	0	0.15	0.49	0.8	1.31	0.24	0	0	0
Riverine	0	0	0	0	0	0	0	0	0
Farmland									
Open Area (acres)	28.300	48.268	28.940	144.000	289.000	19.300	27.094	45.787	37.400
Forested Area (acres)	6.430	0.860	2.670	41.640	390.091	30.336	9.250	26.250	68.960
Floodplain (acres)	0	0	0	0	0	0	0	0	0
Threatened & Endangered Species	no known	no known	no known	no known	no known	no known	no known	no known	no known
Hazardous Waste Locations	0	1	1	0	1	0	0	0	0
Airports	0	0	0	0	0	0	0	0	0
Other Publicly Noted (Potential) Envir. Con	0	0	0	0	4	0	0	0	0
Cultural Resource Impacts**									
Cemeteries	0	0	0	0	0	0	0	0	0
Registered Historic Properties (NRHP)	0	0	0	0	0	0	0	0	0
Possible Historic 4(f) Resources**	0	1	1	1?	0	0	?	0	0

*New construction links have a 750' wide co

**Data based on screening only - no field da

PRELIMINARY RANGE OF ALTERNATIVES MATRIX

Engineering Considerations *										
Route - Point to Point Segments Description	20-21 Alt. A	21-22 Exist.	16-19 Connt.	17-19 Alt. B	19-22 Alt. B	18-20 Connt.	22-23 Exist.	23-24 Alt. A	23-24 Exist.	24-25 Exist.
New Alignment Length, mi.	4.380	0.764	1.073	1.160	4.190	0.821	6.703	3.113	3.490	7.857
Travel Time (min.)	4.04	0.71	0.99	1.07	3.87	0.76	7.09	2.87	4.52	7.25
Accident Rating	1	1	1	1	1	1	1	1	2	1
No. of Bridges	0	0	0	0	0	0	1	0	0	0
No. of Creek/Stream Crossings	10	0	4	2	7	1	10	5	0	10
Streams requiring channelization	1	0	0	0	1	1	1	0	0	2
No. of River Crossings	0	0	0	0	0	0	1	0	0	0
Ruggedness of Terrain Rating	2	1	3	2	3	2	2	5	1	1
Constructability Rating	1	5	1	1	1	3	5	1	5	5
Construction Costs (millions)	$20.66	$1.54	$5.06	$5.47	$19.77	$3.87	$15.58	$14.69	$7.04	$15.85
Local Road Access Points	13	4	0	0	8	9	21	5	49	40
R/W Impacts *										
Parcels Impacted	33	6	4	5	19	13	40	30	44	87
Residential Impacts	33	6	4	5	19	13	39	30	36	86
Commercial Impacts	0	0	0	0	0	0	0	0	8	1
Displacements	9	4	0	0	3	5	4	4	24	12
ROW Costs (millions)	$3.65	$1.00	$0.56	$0.61	$2.65	$1.18	$4.12	$2.23	$5.43	$5.92
ROW - New (acres)	398.182	20.373	97.545	105.455	380.909	74.591	162.497	283.000	84.606	190.473
ROW - Existing (acres)	0.000	7.408	0.000	0.000	0.000	0.000	81.248	0.000	42.303	95.236
**Environmental Impacts ** **										
Impact to Communities Rating	3	1	2	2	2	3	1	2	4	1
Parklands	0	0	0	0	0	0	0	0	0	0
Recreational Use Facilities owned Privately	0	0	0	0	0	0	1	0	1	0
Wetlands (acres) total	2.25	0	0	0	0.23	0.5	0.3	0.58	0.78	1.27
PEM	0	0	0	0	0	0	0	0	0	0.17
PFO	0	0	0	0	0	0	0	0	0	0
PSS	0	0	0	0	0	0	0	0	0	0
PUB- Ponds	2.25	0	0	0	0.23	0.5	0.3	0.58	0.78	1.11
Riverine	0	0	0	0	0	0	0	0	0	0
Farmland										
Open Area (acres)	206.400	22.068	20.900	13.400	153.650	20.770	187.377	45.844	115.630	203.107
Forested Area (acres)	191.782	5.700	76.370	92.050	227.260	53.930	56.360	237.200	11.290	82.600
Floodplain (acres)	0	0	4.8	1.6	47.3	0	75.5	0	0	5.5
Threatened & Endangered Species	no known	no known	no known	no known	no known	no known	yes	possibly	no known	no known
Hazardous Waste Locations	0	0	0	0	0	0	0	0	2	4
Airports	0	0	0	0	0	0	0	0	1	0
Other Publicly Noted (Potential) Envir. Con	0	0	0	0	0	0	0	0	0	0
**Cultural Resource Impacts ** **										
Cemeteries	0	0	0	0	0	0	0	0	0	0
Registered Historic Properties (NRHP)	0	0	0	0	0	0	1	0	2	0
Possible Historic 4(f) Resources**	0	0	?	0	2	0	0	0	0	0

*New construction links have a 750' wide co

**Data based on screening only - no field da

Intersection	2007 Turning Movement Counts											2032 Turning Movement Counts										
	SBR	SBL	NBR	NBL	WBR	WBT	WBL	EBR	EBT	EBL	Total	SBR	SBL	NBR	NBL	WBR	WBT	WBL	EBR	EBT	EBL	Total
Osage County																						
County Rd 609		45	36		42		57				180	0	65	52	0	81	0	83	0	0	0	281
MO 133	517			422				391		504	1834	750	0	0	612	0	0	0	567	0	731	2661
County Rd 600/West Main	0	399	3	0	426	0	6	0	0	0	834	0	579	4	0	618	0	9	0	0	0	1210
County Rd 511	9	0	0	15	0	6	0	24	9	6	69	13	0	0	22	0	9	0	35	13	9	100
County Rd 512/Mill St	129	12	12	42	15	48	9	45	27	168	507	187	17	17	61	22	70	13	65	39	244	736
County Rd 615/County Rd 513	0	27	255	3	36	0	135	0	0	0	456	0	39	370	4	52	0	196	0	0	0	662
County Rd 611		195	45		240		60				540	0	283	65	0	348	0	87	0	0	0	784
Route T	549	0	0	42	0	0	0	60	0	615	1266	797	0	0	61	0	0	0	87	0	892	1837
County Rd 521 (North)	93			0				9		57	159	135	0	0	0	0	0	0	13	0	83	231
County Rd 521 (South)	0			12				3		0	15	0	0	0	17	0	0	0	4	0	0	22
Route E		745	291		833		235				2104	0	1081	422	0	1209	0	341	0	0	0	3053
County Rd 632		24	24		27		48				123	0	35	35	0	39	0	70	0	0	0	178
County Rd 524	48			18	27		36				129	70	0	0	26	39	0	52	0	0	0	187
County Rd 527 (North)	6			6				0		0	12	9	0	0	9	0	0	0	0	0	0	17
County Rd 527 (South)	9			6				12		6	33	13	0	0	9	0	0	0	17	0	9	48
Route JJ		30	90		48		81				249	0	44	131	0	70	0	116	0	0	0	361
Dogwood St (North)	18			12				0		3	33	28	0	0	17	0	0	0	0	0	4	48
County Rd 634		18	60		21		45				144	0	26	87	0	30	0	65	0	0	0	209
Dogwood St (South)	6	31	6	12	0	0	3	33	0	3	94	9	45	9	17	0	0	4	48	0	4	136
Route P	111	3	0	357	0	0	0	282	0	114	867	161	4	0	518	0	0	0	409	0	165	1258
Lewis St	21	24	15	12	33	3	21	12	3	18	162	30	35	22	17	48	4	30	17	4	26	235
Walker St	39	30	51	54	57	0	36	75	0	36	378	57	44	74	76	83	0	52	109	0	52	548
Harrison St	54	66	117	33	78	3	102	39	3	42	537	78	96	170	48	113	4	148	57	4	61	779
Gilbert St	123	96	75	57	114	36	69	42	54	96	762	178	139	109	83	165	52	100	61	78	139	1106
Oliver St	252	213	33	75	267	36	39	150	108	267	1440	366	309	48	109	387	52	57	218	157	387	2089
Old Vienna Rd		72	75		51		114				312	0	104	109	0	74	0	165	0	0	0	453
County Rd 636	0	36	3	0	42	0	3	0	0	0	84	0	52	4	0	61	0	4	0	0	0	122
County Rd 637 (North)		42	3		57		9				111	0	61	4	0	83	0	13	0	0	0	161
County Rd 637 (South)	6	12	12	0	9	0	3	3	0	0	45	9	17	17	0	13	0	4	4	0	0	65
Maries County																						
County Rd 209	12			12				9		27	60	17	0	0	17	0	0	0	13	0	39	87
County Rd 302		69	72		30		75				246	0	100	104	0	44	0	109	0	0	0	357
County Rd 210	6			18				9		9	42	9	0	0	26	0	0	0	13	0	13	61
County Rd 333		21	54		12		48				135	0	30	76	0	17	0	70	0	0	0	196
County Rd 332		15	9		12		15				51	0	22	13	0	17	0	22	0	0	0	74
County Rd 331		6	48		9		51				114	0	9	70	0	13	0	74	0	0	0	165
Route AA	24			222				48		222	516	35	0	0	322	0	0	0	70	0	322	749
Main St		18	30		15		51				114	0	26	44	0	22	0	74	0	0	0	165
10th St		18	45		18		39				120	0	26	65	0	26	0	57	0	0	0	174
9th St		9	9		3		15				36	0	13	13	0	4	0	22	0	0	0	52
8th St/Ballpark Rd	75	30	57	189	80	33	108	177	21	68	816	109	44	83	274	87	48	157	257	30	96	1184
6th St	0	69	36	0	15	0	24	0	0	0	144	0	100	52	0	22	0	35	0	0	0	209
MO 42	288	359	356	956	429	326	338	1008	333	272	4665	418	521	517	1387	622	473	490	1463	483	395	6769
4th St	0	132	45	0	204	0	81	0	0	0	462	0	192	65	0	296	0	118	0	0	0	670
3rd St	0	84	78	0	63	0	69	0	0	0	294	0	122	113	0	91	0	100	0	0	0	427
2nd St	6	45	18	15	66	6	33	27	15	48	279	9	65	26	22	96	9	48	39	22	70	405
1st St	30	78	27	57	72	6	48	24	12	18	375	44	113	39	83	104	13	70	35	17	26	544
Independence Lane	21	387	135	0	279	0	153	6	3	6	990	30	562	196	0	405	0	222	9	4	9	1436
Vienna Rolla Rd	6	9	75	0	24	0	36	3	0	8	159	9	13	109	0	35	0	52	4	0	9	231
County Rd 640	42			9				6		45	102	61	0	0	13	0	0	0	9	0	65	148
MO 28 N (North Leg)/County Rd 329	510	21	0	0	15	0	3	3	0	561	1113	740	30	0	0	22	0	4	4	0	814	1615
MO 28 N (South Leg)	42			87				144		60	333	61	0	0	126	0	0	0	209	0	87	483
County Rd 327/County Rd 514	9	12	9	3	33	0	3	0	0	12	81	13	17	13	4	48	0	4	0	0	17	118
County Rd 325		36	30		42		27				135	0	52	44	0	61	0	39	0	0	0	196
Route A/County Rd 340	105	51	3	9	51	0	3	3	0	120	345	152	74	4	13	74	0	4	4	0	174	501
County Rd 519	9			21				24		6	60	13	0	0	30	0	0	0	35	0	9	87
MO 28 S	0	87	582	9	105	0	663	0	0	0	1446	0	126	844	13	152	0	962	0	0	0	2098
Route FF	30			42				45		27	144	44	0	0	61	0	0	0	65	0	39	209
County Rd 528	0			27				15		0	42	0	0	0	39	0	0	0	22	0	0	61
County Rd 539	6			0				6		3	15	9	0	0	0	0	0	0	9	0	4	22
MO 68		681	96	531		96					1404	0	988	139	770	0	139	0	0	0	0	2037
County Rd 444	0	12	30	9	6	0	3	6	0	0	66	0	17	44	13	9	0	4	9	0	0	96
County Rd 443		12	24		9		12				57	0	17	35	0	13	0	17	0	0	0	83
Route P		45	93		39		93				270	0	65	135	0	57	0	135	0	0	0	392
County Rd 522	24	0	0	12	0	0	0	6	0	27	69	35	0	0	17	0	0	0	9	0	39	100
Phelps County																						
County Rd 2110(N)/County Rd 8400	9	33	57	84	51	3	54	111	6	12	420	13	48	83	122	74	4	78	161	9	17	609
County Rd 2140/County Rd 8340	3	0	9	39	0	0	6	54	6	6	123	4	0	13	57	0	0	9	78	9	9	178
County Rd 2110(S)/County Rd 8010	21	21	282	57	15	18	288	45	12	9	768	30	30	409	83	22	26	418	65	17	13	1114

- Travel time was computed and an accident rating developed.

The accident rating is based on state- wide crash ratings for 5-lane roadway and 4-lane expressway. The 5- lane roadway section consists of two driving lanes in each direction with a common center turn –lane. It is assumed that 5-lane sections will be constructed within the city limits. The 4-lane expressway section consists of two 2-lane roadway sections in each direction with standard median divider and it is assumed that 4-lane sections will be constructed out side the city limits in the remainder of the project. The total state-wide crash rating is found to be 644.11 for the 5- lane configuration and 170.12 for the 4-lane configuration.

Total Crash Rate	Rating
0-250	1
251-500	2
501-750	3

- Constructability Rating Table: values based on disruption to the flow of traffic on the existing highway and complexity of traffic control.

The constructability rating is based on traffic control requirements for traffic on existing Rte. 63 and other construction considerations such as major grading obstacles that would drive the grading costs higher. Parallel construction with little or no impacts to traffic flow is most desirable and cost effective. Few or no obstacles to grading operations are also most desirable.

Impacts	Rating
Construction can take place with no impacts to	Rating = 1
traffic flow on existing Rte. 63 with the exception	
of tie-ins common to all alternatives.	
Same as 1, but there are obstacles such as river	Rating = 2
crossings breaking up grading operations.	
New alignment crosses existing Rte. 63 only once	Rating = 3
with minimal traffic control requirements.	
New alignment crosses existing Rte. 63 several	Rating = 4
times requiring more traffic control, affecting	

traffic flow and grading operations.	
Construction of improvements along existing	Rating = 5
Rte. 63 requires traffic control that slows traffic	
flow considerably, requires bypasses,	
and affects grading operations.	

- Ruggedness of Terrain Rating Table: values based on existing terrain slopes.

Ruggedness of Terrain rating is based on the *AASHTO Policy on Geometric Design of Highways and Streets* Exhibit 7-2 Maximum Grades for Rural Arterials (2004 version). For a rural arterial with rolling terrain and a design speed of 60-70 mph, the maximum desirable grade is 4%. The rating is based on the grade of 4% being the cut off value for the most desirable grade of terrain.

Percent Grade of Terrain	Rating
≤ 4 %	Rating: 1
> 4 % or ≤ 6 %	Rating: 2
> 6 % or ≤ 8 %	Rating: 3
> 8 % or ≤ 10 %	Rating: 4
> 10 %	Rating: 5

- Creek/Stream Crossings and Bridge Crossings:

There are two river crossings in the study area. The photo on the left shows the Maries River crossing and the photo on the right shows the Gasconade River Crossing. During the study, it was agreed that the best alternative would incorporate a new bridge next to the existing bridge along the sections of upgraded existing alignment, instead of building two new bridges in another location along the rivers, to minimize environmental impacts.

- R/W impacts to residential and commercial property:

The number of residential displacements was used in the evaluation matrix. New and expensive homes are being constructed throughout Osage and Maries Counties, making it even more difficult to place alternatives without some amount of impact to residential properties.

Businesses dot the highway throughout the study area. Alignments through towns or along the existing route could see a heavy impact to both businesses and residential properties. The number of impacts to businesses was also used in the evaluation matrix.