

ATTACHMENT 5
VISSIM Delay Analysis of Initial
Alternatives (11-02-07)

SUMMARY OF VISSIM ANALYSIS

WARREN COUNTY US 31 - UNIVERSITY DR – CHESTNUT ST INTERSECTION ANALYSIS

Item No. 3-131.00

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Prepared for:

**Commonwealth of Kentucky
Transportation Cabinet**

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ATTACHMENT 5

COMPARISON OF ALTERNATIVES

SUMMARY OF AM PEAK HOUR DELAYS

From	To	Existing	No Build	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Northbound US 31	Eastbound Loving	6	12	17	20	13	155	22	17
Northbound US 31	Northbound US 31	10	18	18	21	17	154	22	17
Northbound US 31	Northbound Chestnut	21	33	35	24	19	181	64	12
Northbound US 31	Westbound University	24	49	38	57	53	88	63	51
Westbound Loving	Northbound US 31	13	19	21	26	11	26	29	29
Westbound Loving	Northbound Chestnut	36	37	29	32	37	86	54	15
Westbound Loving	Westbound University	19	21	20	23	21	27	48	23
Westbound Loving	Southbound US 31	7	16	17	17	16	12	38	8
Southbound US 31	Northbound Chestnut	1	1	1	1	2	45	6	1
Southbound US 31	Westbound University	7	8	7	8	10	67	10	26
Southbound US 31	Southbound US 31	20	30	21	25	22	100	42	52
Southbound US 31	Eastbound Loving	20	24	34	38	31	101	21	88
Southbound Chestnut	Westbound University	14	18	13	15	12	105	8	18
Southbound Chestnut	Southbound US 31	22	37	18	40	15	115	11	19
Southbound Chestnut	Eastbound Loving	15	23	17	22	31	65	20	23
Southbound Chestnut	Northbound US 31	15	19	19	12	12	205	5	4
Eastbound University	Southbound US 31	15	22	20	22	21	25	1	24
Eastbound University	Eastbound Loving	26	27	18	22	33	22	1	24
Eastbound University	Northbound US 31	24	33	32	32	41	37	3	44
Eastbound University	Northbound Chestnut	32	41	45	36	52	64	6	35

SUMMARY OF PM PEAK HOUR DELAYS

From	To	Existing	No Build	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Northbound US 31	Eastbound Loving	21	53	31	36	14	149	103	44
Northbound US 31	Northbound US 31	16	54	30	36	12	150	168	37
Northbound US 31	Northbound Chestnut	39	86	48	52	19	158	240	39
Northbound US 31	Westbound University	47	142	109	120	59	71	111	123
Westbound Loving	Northbound US 31	16	36	25	19	8	18	4	30
Westbound Loving	Northbound Chestnut	58	66	28	20	6	36	12	35
Westbound Loving	Westbound University	22	29	21	23	16	17	11	28
Westbound Loving	Southbound US 31	11	21	5	6	4	10	9	11
Southbound US 31	Northbound Chestnut	97	210	5	170	1	619	9	149
Southbound US 31	Westbound University	165	302	41	273	31	687	24	189
Southbound US 31	Southbound US 31	160	272	20	257	53	764	18	268
Southbound US 31	Eastbound Loving	160	244	64	246	35	824	18	267
Southbound Chestnut	Westbound University	243	428	184	161	61	142	60	57
Southbound Chestnut	Southbound US 31	233	416	175	160	36	245	66	250
Southbound Chestnut	Eastbound Loving	231	360	186	138	63	290	52	227
Southbound Chestnut	Northbound US 31	58	204	26	15	20	24	18	215
Eastbound University	Southbound US 31	65	131	5	136	12	120	16	132
Eastbound University	Eastbound Loving	61	148	136	143	121	129	17	134
Eastbound University	Northbound US 31	83	174	157	161	153	178	40	155
Eastbound University	Northbound Chestnut	103	198	164	182	132	177	64	166

EXISTING ROADWAY NETWORK EXISTING TRAFFIC



Existing Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	6	21
Northbound US 31	Northbound US 31	10	16
Northbound US 31	Northbound Chestnut	21	39
Northbound US 31	Westbound University	24	47
Westbound Loving	Northbound US 31	13	16
Westbound Loving	Northbound Chestnut	36	58
Westbound Loving	Westbound University	19	22
Westbound Loving	Southbound US 31	7	11
Southbound US 31	Northbound Chestnut	1	97
Southbound US 31	Westbound University	7	165
Southbound US 31	Southbound US 31	20	160
Southbound US 31	Eastbound Loving	20	160
Southbound Chestnut	Westbound University	14	243
Southbound Chestnut	Southbound US 31	22	233
Southbound Chestnut	Eastbound Loving	15	231
Southbound Chestnut	Northbound US 31	15	58
Eastbound University	Southbound US 31	15	65
Eastbound University	Eastbound Loving	26	61
Eastbound University	Northbound US 31	24	83
Eastbound University	Northbound Chestnut	32	103

EXISTING ROADWAY NETWORK FUTURE YEAR TRAFFIC



No-Build Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	12	53
Northbound US 31	Northbound US 31	18	54
Northbound US 31	Northbound Chestnut	33	86
Northbound US 31	Westbound University	49	142
Westbound Loving	Northbound US 31	19	36
Westbound Loving	Northbound Chestnut	37	66
Westbound Loving	Westbound University	21	29
Westbound Loving	Southbound US 31	16	21
Southbound US 31	Northbound Chestnut	1	210
Southbound US 31	Westbound University	8	302
Southbound US 31	Southbound US 31	30	272
Southbound US 31	Eastbound Loving	24	244
Southbound Chestnut	Westbound University	18	428
Southbound Chestnut	Southbound US 31	37	416
Southbound Chestnut	Eastbound Loving	23	360
Southbound Chestnut	Northbound US 31	19	204
Eastbound University	Southbound US 31	22	131
Eastbound University	Eastbound Loving	27	148
Eastbound University	Northbound US 31	33	174
Eastbound University	Northbound Chestnut	41	198

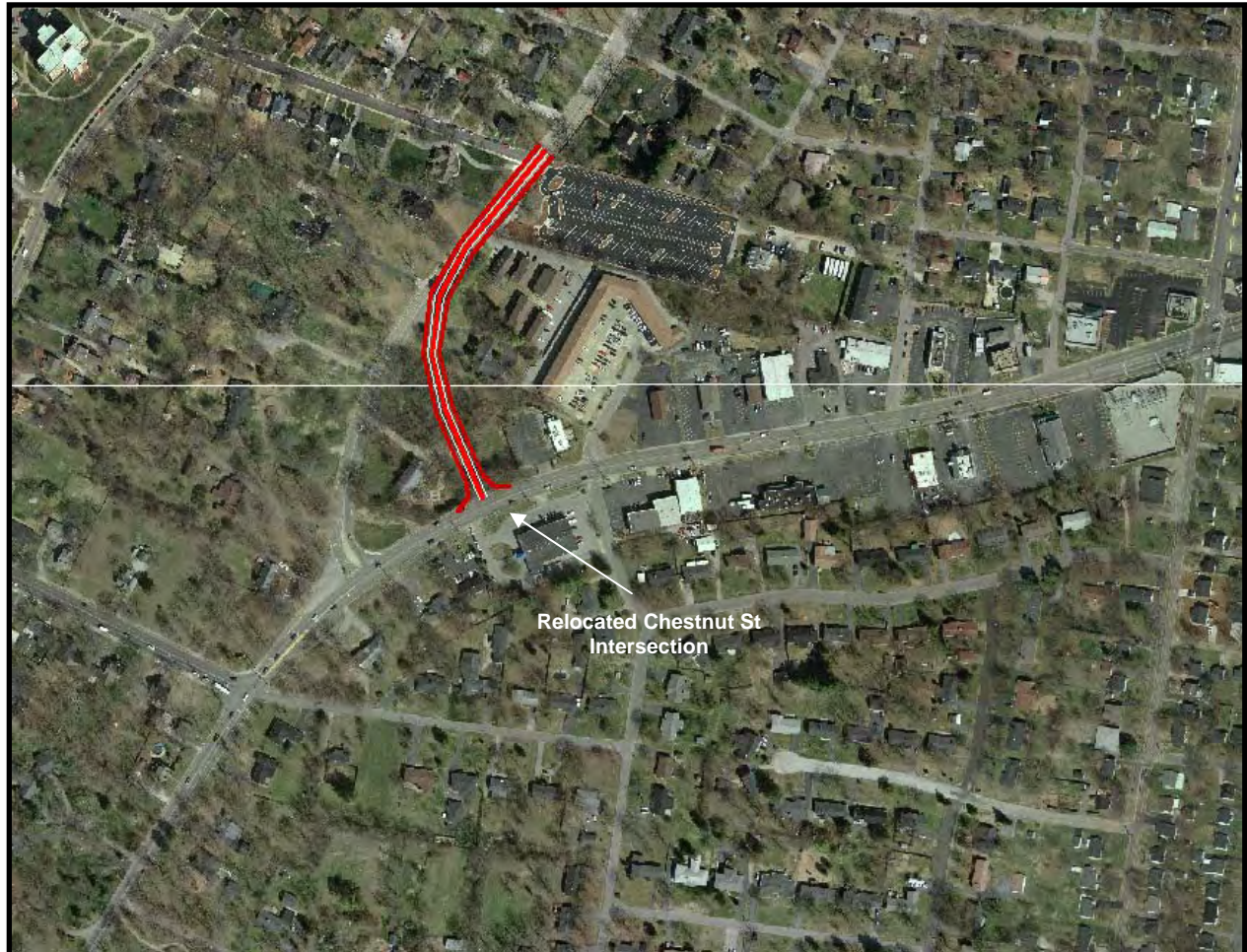
ALTERNATIVE 1 FUTURE YEAR TRAFFIC



Alternative 1 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	17	31
Northbound US 31	Northbound US 31	18	30
Northbound US 31	Northbound Chestnut	35	48
Northbound US 31	Westbound University	38	109
Westbound Loving	Northbound US 31	21	25
Westbound Loving	Northbound Chestnut	29	28
Westbound Loving	Westbound University	20	21
Westbound Loving	Southbound US 31	17	5
Southbound US 31	Northbound Chestnut	1	5
Southbound US 31	Westbound University	7	41
Southbound US 31	Southbound US 31	21	20
Southbound US 31	Eastbound Loving	34	64
Southbound Chestnut	Westbound University	13	184
Southbound Chestnut	Southbound US 31	18	175
Southbound Chestnut	Eastbound Loving	17	186
Southbound Chestnut	Northbound US 31	19	26
Eastbound University	Southbound US 31	20	5
Eastbound University	Eastbound Loving	18	136
Eastbound University	Northbound US 31	32	157
Eastbound University	Northbound Chestnut	45	164

ALTERNATIVE 2 FUTURE YEAR TRAFFIC



Alternative 2 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	20	36
Northbound US 31	Northbound US 31	21	36
Northbound US 31	Northbound Chestnut	24	52
Northbound US 31	Westbound University	57	120
Westbound Loving	Northbound US 31	26	19
Westbound Loving	Northbound Chestnut	32	20
Westbound Loving	Westbound University	23	23
Westbound Loving	Southbound US 31	17	6
Southbound US 31	Northbound Chestnut	1	170
Southbound US 31	Westbound University	8	273
Southbound US 31	Southbound US 31	25	257
Southbound US 31	Eastbound Loving	38	246
Southbound Chestnut	Westbound University	15	161
Southbound Chestnut	Southbound US 31	40	160
Southbound Chestnut	Eastbound Loving	22	138
Southbound Chestnut	Northbound US 31	12	15
Eastbound University	Southbound US 31	22	136
Eastbound University	Eastbound Loving	22	143
Eastbound University	Northbound US 31	32	161
Eastbound University	Northbound Chestnut	36	182

ALTERNATIVE 3 FUTURE YEAR TRAFFIC



Alternative 3 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	13	14
Northbound US 31	Northbound US 31	17	12
Northbound US 31	Northbound Chestnut	19	19
Northbound US 31	Westbound University	53	59
Westbound Loving	Northbound US 31	11	8
Westbound Loving	Northbound Chestnut	37	6
Westbound Loving	Westbound University	21	16
Westbound Loving	Southbound US 31	16	4
Southbound US 31	Northbound Chestnut	2	1
Southbound US 31	Westbound University	10	31
Southbound US 31	Southbound US 31	22	53
Southbound US 31	Eastbound Loving	31	35
Southbound Chestnut	Westbound University	12	61
Southbound Chestnut	Southbound US 31	15	36
Southbound Chestnut	Eastbound Loving	31	63
Southbound Chestnut	Northbound US 31	12	20
Eastbound University	Southbound US 31	21	12
Eastbound University	Eastbound Loving	33	121
Eastbound University	Northbound US 31	41	153
Eastbound University	Northbound Chestnut	52	132

ALTERNATIVE 4 FUTURE YEAR TRAFFIC



Alternative 4 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	155	149
Northbound US 31	Northbound US 31	154	150
Northbound US 31	Northbound Chestnut	181	158
Northbound US 31	Westbound University	88	71
Westbound Loving	Northbound US 31	26	18
Westbound Loving	Northbound Chestnut	86	36
Westbound Loving	Westbound University	27	17
Westbound Loving	Southbound US 31	12	10
Southbound US 31	Northbound Chestnut	45	619
Southbound US 31	Westbound University	67	687
Southbound US 31	Southbound US 31	100	764
Southbound US 31	Eastbound Loving	101	824
Southbound Chestnut	Westbound University	105	142
Southbound Chestnut	Southbound US 31	115	245
Southbound Chestnut	Eastbound Loving	65	290
Southbound Chestnut	Northbound US 31	205	24
Eastbound University	Southbound US 31	25	120
Eastbound University	Eastbound Loving	22	129
Eastbound University	Northbound US 31	37	178
Eastbound University	Northbound Chestnut	64	177

ALTERNATIVE 5 FUTURE YEAR TRAFFIC



Alternative 5 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	22	103
Northbound US 31	Northbound US 31	22	168
Northbound US 31	Northbound Chestnut	64	240
Northbound US 31	Westbound University	63	111
Westbound Loving	Northbound US 31	29	4
Westbound Loving	Northbound Chestnut	54	12
Westbound Loving	Westbound University	48	11
Westbound Loving	Southbound US 31	38	9
Southbound US 31	Northbound Chestnut	6	9
Southbound US 31	Westbound University	10	24
Southbound US 31	Southbound US 31	42	18
Southbound US 31	Eastbound Loving	21	18
Southbound Chestnut	Westbound University	8	60
Southbound Chestnut	Southbound US 31	11	66
Southbound Chestnut	Eastbound Loving	20	52
Southbound Chestnut	Northbound US 31	5	18
Eastbound University	Southbound US 31	1	16
Eastbound University	Eastbound Loving	1	17
Eastbound University	Northbound US 31	3	40
Eastbound University	Northbound Chestnut	6	64

ALTERNATIVE 6 FUTURE YEAR TRAFFIC



Alternative 6 Summary of Delays

From	To	AM Peak	PM Peak
Northbound US 31	Eastbound Loving	17	44
Northbound US 31	Northbound US 31	17	37
Northbound US 31	Northbound Chestnut	12	39
Northbound US 31	Westbound University	51	123
Westbound Loving	Northbound US 31	29	30
Westbound Loving	Northbound Chestnut	15	35
Westbound Loving	Westbound University	23	28
Westbound Loving	Southbound US 31	8	11
Southbound US 31	Northbound Chestnut	1	149
Southbound US 31	Westbound University	26	189
Southbound US 31	Southbound US 31	52	268
Southbound US 31	Eastbound Loving	88	267
Southbound Chestnut	Westbound University	18	57
Southbound Chestnut	Southbound US 31	19	250
Southbound Chestnut	Eastbound Loving	23	227
Southbound Chestnut	Northbound US 31	4	215
Eastbound University	Southbound US 31	24	132
Eastbound University	Eastbound Loving	24	134
Eastbound University	Northbound US 31	44	155
Eastbound University	Northbound Chestnut	35	166