

Appendix A.

Traffic Count Data & Model Calibration

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 8th St

File Name : Winchester Ave at 8th Street
Site Code : 00000000
Start Date : 8/21/2020
Page No : 1

Groups Printed- Cars - Truck1 - Truck2

Start Time	8th St From North					Winchester Ave From East					8th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	48	0	0	48	0	0	1	0	1	0	84	0	0	84	133
07:15 AM	0	0	0	1	1	0	61	0	0	61	0	0	0	0	0	0	104	0	0	104	166
07:30 AM	0	0	0	2	2	0	93	1	0	94	0	0	0	0	0	1	133	0	0	134	230
07:45 AM	0	0	0	0	0	0	110	0	0	110	0	0	0	0	0	0	144	0	0	144	254
Total	0	0	0	3	3	0	312	1	0	313	0	0	1	0	1	1	465	0	0	466	783
08:00 AM	0	0	0	1	1	0	67	1	0	68	4	0	0	0	4	0	114	0	0	114	187
08:15 AM	0	0	0	2	2	0	73	0	0	73	0	0	0	0	0	1	90	0	0	91	166
08:30 AM	0	0	0	0	0	0	85	1	0	86	0	0	1	0	1	1	114	0	0	115	202
08:45 AM	0	0	0	0	0	1	104	1	0	106	0	0	0	0	0	2	109	0	0	111	217
Total	0	0	0	3	3	1	329	3	0	333	4	0	1	0	5	4	427	0	0	431	772
*** BREAK ***																					
04:00 PM	0	0	1	0	1	2	201	3	0	206	6	0	5	0	11	1	211	0	0	212	430
04:15 PM	0	0	0	0	0	0	219	1	0	220	8	0	1	0	9	3	177	1	0	181	410
04:30 PM	0	0	0	0	0	0	223	1	0	224	4	0	0	0	4	0	160	0	0	160	388
04:45 PM	1	0	1	0	2	0	248	9	0	257	8	0	1	0	9	8	165	0	0	173	441
Total	1	0	2	0	3	2	891	14	0	907	26	0	7	0	33	12	713	1	0	726	1669
05:00 PM	0	0	0	0	0	0	255	5	0	260	4	0	3	0	7	2	175	0	0	177	444
05:15 PM	0	0	0	0	0	0	198	2	0	200	5	0	2	0	7	2	181	0	0	183	390
05:30 PM	0	0	0	0	0	0	190	3	0	193	14	0	1	0	15	1	168	0	0	169	377
05:45 PM	0	0	0	0	0	0	181	7	0	188	9	0	2	0	11	3	154	0	0	157	356
Total	0	0	0	0	0	0	824	17	0	841	32	0	8	0	40	8	678	0	0	686	1567
Grand Total	1	0	2	6	9	3	2356	35	0	2394	62	0	17	0	79	25	2283	1	0	2309	4791
Apprch %	11.1	0	22.2	66.7		0.1	98.4	1.5	0		78.5	0	21.5	0		1.1	98.9	0	0		
Total %	0	0	0	0.1	0.2	0.1	49.2	0.7	0	50	1.3	0	0.4	0	1.6	0.5	47.7	0	0	48.2	
Cars	1	0	2	6	9	3	2313	35	0	2351	60	0	17	0	77	23	2237	1	0	2261	4698
% Cars	100	0	100	100	100	100	98.2	100	0	98.2	96.8	0	100	0	97.5	92	98	100	0	97.9	98.1
Truck1	0	0	0	0	0	0	28	0	0	28	1	0	0	0	1	1	22	0	0	23	52
% Truck1	0	0	0	0	0	0	1.2	0	0	1.2	1.6	0	0	0	1.3	4	1	0	0	1	1.1
Truck2	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	1	24	0	0	25	41
% Truck2	0	0	0	0	0	0	0.6	0	0	0.6	1.6	0	0	0	1.3	4	1.1	0	0	1.1	0.9

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 8th St

File Name : Winchester Ave at 8th Street
Site Code : 00000000
Start Date : 8/21/2020
Page No : 2

Start Time	8th St From North					Winchester Ave From East					8th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	1	1	0	67	1	0	68	4	0	0	0	4	0	114	0	0	114	187
08:15 AM	0	0	0	2	2	0	73	0	0	73	0	0	0	0	0	1	90	0	0	91	166
08:30 AM	0	0	0	0	0	0	85	1	0	86	0	0	1	0	1	1	114	0	0	115	202
08:45 AM	0	0	0	0	0	1	104	1	0	106	0	0	0	0	0	2	109	0	0	111	217
Total Volume	0	0	0	3	3	1	329	3	0	333	4	0	1	0	5	4	427	0	0	431	772
% App. Total	0	0	0	100		0.3	98.8	0.9	0		80	0	20	0		0.9	99.1	0	0		
PHF	.000	.000	.000	.375	.375	.250	.791	.750	.000	.785	.250	.000	.250	.000	.313	.500	.936	.000	.000	.937	.889

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	219	1	0	220	8	0	1	0	9	3	177	1	0	181	410
04:30 PM	0	0	0	0	0	0	223	1	0	224	4	0	0	0	4	0	160	0	0	160	388
04:45 PM	1	0	1	0	2	0	248	9	0	257	8	0	1	0	9	8	165	0	0	173	441
05:00 PM	0	0	0	0	0	0	255	5	0	260	4	0	3	0	7	2	175	0	0	177	444
Total Volume	1	0	1	0	2	0	945	16	0	961	24	0	5	0	29	13	677	1	0	691	1683
% App. Total	50	0	50	0		0	98.3	1.7	0		82.8	0	17.2	0		1.9	98	0.1	0		
PHF	.250	.000	.250	.000	.250	.000	.926	.444	.000	.924	.750	.000	.417	.000	.806	.406	.956	.250	.000	.954	.948

Palmer Engineering

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Downtown Ashland Study
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Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	9th Street From North					Winchester Ave From East					9th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	2	1	0	3	6	43	0	0	49	0	9	4	0	13	5	70	6	0	81	146
07:15 AM	1	1	0	0	2	1	63	2	0	66	6	5	3	0	14	4	102	0	1	107	189
07:30 AM	1	1	0	0	2	1	62	1	1	65	20	17	16	0	53	7	129	2	0	138	258
07:45 AM	1	3	0	0	4	4	92	0	0	96	3	12	8	0	23	5	129	9	1	144	267
Total	3	7	1	0	11	12	260	3	1	276	29	43	31	0	103	21	430	17	2	470	860
08:00 AM	2	6	0	0	8	2	58	0	0	60	3	3	9	0	15	4	93	14	0	111	194
08:15 AM	2	3	3	0	8	0	79	2	0	81	2	8	7	0	17	2	86	4	0	92	198
08:30 AM	1	8	1	0	10	6	68	0	1	75	8	7	8	0	23	3	73	3	0	79	187
08:45 AM	1	5	1	0	7	5	114	8	0	127	3	10	7	0	20	6	102	8	0	116	270
Total	6	22	5	0	33	13	319	10	1	343	16	28	31	0	75	15	354	29	0	398	849
*** BREAK ***																					
04:00 PM	2	14	5	0	21	7	196	5	0	208	18	11	27	0	56	2	39	1	0	42	327
04:15 PM	1	4	3	0	8	6	180	3	0	189	7	9	29	0	45	9	145	5	0	159	401
04:30 PM	3	15	4	0	22	5	205	3	0	213	15	15	34	0	64	10	147	6	0	163	462
04:45 PM	3	5	3	0	11	4	85	1	0	90	9	6	32	0	47	5	148	1	0	154	302
Total	9	38	15	0	62	22	666	12	0	700	49	41	122	0	212	26	479	13	0	518	1492
05:00 PM	1	14	2	0	17	8	247	6	0	261	17	18	34	0	69	7	125	6	0	138	485
05:15 PM	0	15	6	0	21	5	201	5	1	212	8	7	24	0	39	2	159	4	0	165	437
05:30 PM	5	9	3	0	17	1	182	2	0	185	4	8	16	0	28	3	156	5	0	164	394
05:45 PM	1	6	3	0	10	5	179	2	0	186	30	3	13	0	46	4	144	2	0	150	392
Total	7	44	14	0	65	19	809	15	1	844	59	36	87	0	182	16	584	17	0	617	1708
Grand Total	25	111	35	0	171	66	2054	40	3	2163	153	148	271	0	572	78	1847	76	2	2003	4909
Apprch %	14.6	64.9	20.5	0		3.1	95	1.8	0.1		26.7	25.9	47.4	0		3.9	92.2	3.8	0.1		
Total %	0.5	2.3	0.7	0	3.5	1.3	41.8	0.8	0.1	44.1	3.1	3	5.5	0	11.7	1.6	37.6	1.5	0	40.8	
Cars	25	108	35	0	168	52	2036	40	3	2131	151	145	269	0	565	52	1825	76	2	1955	4819
% Cars	100	97.3	100	0	98.2	78.8	99.1	100	100	98.5	98.7	98	99.3	0	98.8	66.7	98.8	100	100	97.6	98.2
Trucks1	0	3	0	0	3	0	18	0	0	18	1	3	2	0	6	0	21	0	0	21	48
% Trucks1	0	2.7	0	0	1.8	0	0.9	0	0	0.8	0.7	2	0.7	0	1	0	1.1	0	0	1	1

Palmer Engineering

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Groups Printed- Cars - Trucks1 - Trucks2

	9th Street From North					Winchester Ave From East					9th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	0	0	0	0	0	14	0	0	0	14	1	0	0	0	1	26	1	0	0	27	42
% Trucks2	0	0	0	0	0	21.2	0	0	0	0.6	0.7	0	0	0	0.2	33.3	0.1	0	0	1.3	0.9

Start Time	9th Street From North					Winchester Ave From East					9th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	2	6	0	0	8	2	58	0	0	60	3	3	9	0	15	4	93	14	0	111	194
08:15 AM	2	3	3	0	8	0	79	2	0	81	2	8	7	0	17	2	86	4	0	92	198
08:30 AM	1	8	1	0	10	6	68	0	1	75	8	7	8	0	23	3	73	3	0	79	187
08:45 AM	1	5	1	0	7	5	114	8	0	127	3	10	7	0	20	6	102	8	0	116	270
Total Volume	6	22	5	0	33	13	319	10	1	343	16	28	31	0	75	15	354	29	0	398	849
% App. Total	18.2	66.7	15.2	0		3.8	93	2.9	0.3		21.3	37.3	41.3	0		3.8	88.9	7.3	0		
PHF	.750	.688	.417	.000	.825	.542	.700	.313	.250	.675	.500	.700	.861	.000	.815	.625	.868	.518	.000	.858	.786
Cars	6	22	5	0	33	8	312	10	1	331	15	28	31	0	74	7	345	29	0	381	819
% Cars	100	100	100	0	100	61.5	97.8	100	100	96.5	93.8	100	100	0	98.7	46.7	97.5	100	0	95.7	96.5
Trucks1	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	8	0	0	8	16
% Trucks1	0	0	0	0	0	0	2.2	0	0	2.0	6.3	0	0	0	1.3	0	2.3	0	0	2.0	1.9
Trucks2	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	8	1	0	0	9	14
% Trucks2	0	0	0	0	0	38.5	0	0	0	1.5	0	0	0	0	0	53.3	0.3	0	0	2.3	1.6

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

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Start Time	9th Street From North					Winchester Ave From East					9th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	4	3	0	8	6	180	3	0	189	7	9	29	0	45	9	145	5	0	159	401
04:30 PM	3	15	4	0	22	5	205	3	0	213	15	15	34	0	64	10	147	6	0	163	462
04:45 PM	3	5	3	0	11	4	85	1	0	90	9	6	32	0	47	5	148	1	0	154	302
05:00 PM	1	14	2	0	17	8	247	6	0	261	17	18	34	0	69	7	125	6	0	138	485
Total Volume	8	38	12	0	58	23	717	13	0	753	48	48	129	0	225	31	565	18	0	614	1650
% App. Total	13.8	65.5	20.7	0		3.1	95.2	1.7	0		21.3	21.3	57.3	0		5	92	2.9	0		
PHF	.667	.633	.750	.000	.659	.719	.726	.542	.000	.721	.706	.667	.949	.000	.815	.775	.954	.750	.000	.942	.851
Cars	8	37	12	0	57	21	711	13	0	745	48	45	127	0	220	27	559	18	0	604	1626
% Cars	100	97.4	100	0	98.3	91.3	99.2	100	0	98.9	100	93.8	98.4	0	97.8	87.1	98.9	100	0	98.4	98.5
Trucks1	0	1	0	0	1	0	6	0	0	6	0	3	2	0	5	0	6	0	0	6	18
% Trucks1	0	2.6	0	0	1.7	0	0.8	0	0	0.8	0	6.3	1.6	0	2.2	0	1.1	0	0	1.0	1.1
Trucks2	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	0	0	0	4	6
% Trucks2	0	0	0	0	0	8.7	0	0	0	0.3	0	0	0	0	0	12.9	0	0	0	0.7	0.4

Palmer Engineering

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Groups Printed- Cars - Trucks1 - Trucks2

Start Time	10th St From North					Winchester Ave From East					10th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	2	4	0	6	0	42	1	0	43	1	0	1	0	2	1	67	0	0	68	119
07:15 AM	1	0	2	0	3	0	66	1	0	67	4	0	1	0	5	10	149	0	0	159	234
07:30 AM	0	2	3	2	7	0	93	3	0	96	4	0	2	0	6	4	129	0	0	133	242
07:45 AM	0	0	5	0	5	0	110	0	0	110	2	0	0	0	2	1	131	0	0	132	249
Total	1	4	14	2	21	0	311	5	0	316	11	0	4	0	15	16	476	0	0	492	844
08:00 AM	0	3	7	0	10	0	72	0	0	72	0	0	1	0	1	1	119	0	0	120	203
08:15 AM	1	3	8	0	12	0	90	1	0	91	1	0	2	0	3	0	115	0	0	115	221
08:30 AM	0	5	6	0	11	0	85	1	0	86	4	0	2	0	6	2	123	0	0	125	228
08:45 AM	0	4	6	0	10	0	85	1	0	86	0	0	1	0	1	1	106	0	0	107	204
Total	1	15	27	0	43	0	332	3	0	335	5	0	6	0	11	4	463	0	0	467	856
*** BREAK ***																					
04:00 PM	3	9	17	0	29	0	189	3	0	192	2	0	6	0	8	4	166	0	1	171	400
04:15 PM	2	10	8	0	20	0	166	3	0	169	3	0	7	1	11	1	156	0	0	157	357
04:30 PM	2	10	23	0	35	0	204	5	0	209	1	0	6	0	7	1	160	0	0	161	412
04:45 PM	0	8	15	0	23	0	180	6	0	186	2	0	5	0	7	3	170	0	0	173	389
Total	7	37	63	0	107	0	739	17	0	756	8	0	24	1	33	9	652	0	1	662	1558
05:00 PM	3	9	11	1	24	0	196	4	0	200	6	0	4	1	11	1	160	0	0	161	396
05:15 PM	5	14	10	0	29	0	198	5	0	203	2	0	9	1	12	1	204	0	0	205	449
05:30 PM	0	8	13	0	21	0	152	2	0	154	1	0	3	0	4	2	151	0	0	153	332
05:45 PM	3	5	6	1	15	0	185	6	0	191	4	0	2	0	6	2	179	0	0	181	393
Total	11	36	40	2	89	0	731	17	0	748	13	0	18	2	33	6	694	0	0	700	1570
Grand Total	20	92	144	4	260	0	2113	42	0	2155	37	0	52	3	92	35	2285	0	1	2321	4828
Apprch %	7.7	35.4	55.4	1.5		0	98.1	1.9	0		40.2	0	56.5	3.3		1.5	98.4	0	0		
Total %	0.4	1.9	3	0.1	5.4	0	43.8	0.9	0	44.6	0.8	0	1.1	0.1	1.9	0.7	47.3	0	0	48.1	
Cars	20	92	102	4	218	0	2092	42	0	2134	37	0	52	3	92	35	2259	0	1	2295	4739
% Cars	100	100	70.8	100	83.8	0	99	100	0	99	100	0	100	100	100	100	98.9	0	100	98.9	98.2
Trucks1	0	0	5	0	5	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	25
% Trucks1	0	0	3.5	0	1.9	0	0.4	0	0	0.4	0	0	0	0	0	0	0.5	0	0	0.5	0.5
Trucks2	0	0	37	0	37	0	13	0	0	13	0	0	0	0	0	0	14	0	0	14	64
% Trucks2	0	0	25.7	0	14.2	0	0.6	0	0	0.6	0	0	0	0	0	0	0.6	0	0	0.6	1.3

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	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	3	7	0	10	0	72	0	0	72	0	0	1	0	1	1	119	0	0	120	203
08:15 AM	1	3	8	0	12	0	90	1	0	91	1	0	2	0	3	0	115	0	0	115	221
08:30 AM	0	5	6	0	11	0	85	1	0	86	4	0	2	0	6	2	123	0	0	125	228
08:45 AM	0	4	6	0	10	0	85	1	0	86	0	0	1	0	1	1	106	0	0	107	204
Total Volume	1	15	27	0	43	0	332	3	0	335	5	0	6	0	11	4	463	0	0	467	856
% App. Total	2.3	34.9	62.8	0		0	99.1	0.9	0		45.5	0	54.5	0		0.9	99.1	0	0		
PHF	.250	.750	.844	.000	.896	.000	.922	.750	.000	.920	.313	.000	.750	.000	.458	.500	.941	.000	.000	.934	.939

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	10	8	0	20	0	166	3	0	169	3	0	7	1	11	1	156	0	0	157	357
04:30 PM	2	10	23	0	35	0	204	5	0	209	1	0	6	0	7	1	160	0	0	161	412
04:45 PM	0	8	15	0	23	0	180	6	0	186	2	0	5	0	7	3	170	0	0	173	389
05:00 PM	3	9	11	1	24	0	196	4	0	200	6	0	4	1	11	1	160	0	0	161	396
Total Volume	7	37	57	1	102	0	746	18	0	764	12	0	22	2	36	6	646	0	0	652	1554
% App. Total	6.9	36.3	55.9	1		0	97.6	2.4	0		33.3	0	61.1	5.6		0.9	99.1	0	0		
PHF	.583	.925	.620	.250	.729	.000	.914	.750	.000	.914	.500	.000	.786	.500	.818	.500	.950	.000	.000	.942	.943

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 11th St

File Name : Winchester Ave at 11th Street
Site Code : 00000000
Start Date : 8/21/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	11th St From North					Winchester Ave From East					11th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	28	41	3	0	72	0	0	0	0	0	0	65	0	0	65	137
07:15 AM	0	0	0	1	1	42	62	3	0	107	2	0	1	0	3	0	113	1	0	114	225
07:30 AM	0	0	0	1	1	54	74	1	0	129	6	0	0	0	6	0	137	0	0	137	273
07:45 AM	0	0	0	0	0	82	109	1	0	192	2	2	0	0	4	0	143	0	0	143	339
Total	0	0	0	2	2	206	286	8	0	500	10	2	1	0	13	0	458	1	0	459	974
08:00 AM	0	0	0	0	0	61	59	3	0	123	2	0	1	0	3	3	97	3	0	103	229
08:15 AM	0	0	0	0	0	47	69	7	0	123	2	1	0	0	3	0	110	0	0	110	236
08:30 AM	0	0	0	0	0	47	72	2	0	121	1	1	0	1	3	0	123	2	0	125	249
08:45 AM	0	0	0	0	0	53	107	1	1	162	4	2	1	0	7	0	107	3	0	110	279
Total	0	0	0	0	0	208	307	13	1	529	9	4	2	1	16	3	437	8	0	448	993
*** BREAK ***																					
04:00 PM	1	0	0	0	1	36	212	3	0	251	8	0	1	1	10	2	173	4	0	179	441
04:15 PM	0	1	0	0	1	39	179	2	0	220	5	1	3	0	9	0	221	5	0	226	456
04:30 PM	0	0	0	0	0	50	200	3	0	253	5	1	3	0	9	3	188	4	0	195	457
04:45 PM	0	0	0	0	0	44	200	1	0	245	4	1	0	0	5	0	199	4	0	203	453
Total	1	1	0	0	2	169	791	9	0	969	22	3	7	1	33	5	781	17	0	803	1807
05:00 PM	0	0	0	0	0	39	230	2	0	271	9	2	1	0	12	1	199	4	0	204	487
05:15 PM	1	0	0	0	1	43	204	3	0	250	7	0	2	1	10	1	218	1	0	220	481
05:30 PM	0	0	0	0	0	37	181	3	0	221	8	0	1	0	9	0	181	1	0	182	412
05:45 PM	1	0	0	0	1	30	172	3	0	205	4	0	1	0	5	1	205	3	0	209	420
Total	2	0	0	0	2	149	787	11	0	947	28	2	5	1	36	3	803	9	0	815	1800
Grand Total	3	1	0	2	6	732	2171	41	1	2945	69	11	15	3	98	11	2479	35	0	2525	5574
Apprch %	50	16.7	0	33.3		24.9	73.7	1.4	0		70.4	11.2	15.3	3.1		0.4	98.2	1.4	0		
Total %	0.1	0	0	0	0.1	13.1	38.9	0.7	0	52.8	1.2	0.2	0.3	0.1	1.8	0.2	44.5	0.6	0	45.3	
Cars	3	1	0	2	6	701	2144	41	1	2887	69	11	15	3	98	10	2425	33	0	2468	5459
% Cars	100	100	0	100	100	95.8	98.8	100	100	98	100	100	100	100	100	90.9	97.8	94.3	0	97.7	97.9
Trucks1	0	0	0	0	0	12	15	0	0	27	0	0	0	0	0	0	13	1	0	14	41
% Trucks1	0	0	0	0	0	1.6	0.7	0	0	0.9	0	0	0	0	0	0	0.5	2.9	0	0.6	0.7
Trucks2	0	0	0	0	0	19	12	0	0	31	0	0	0	0	0	1	41	1	0	43	74
% Trucks2	0	0	0	0	0	2.6	0.6	0	0	1.1	0	0	0	0	0	9.1	1.7	2.9	0	1.7	1.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 11th St

File Name : Winchester Ave at 11th Street
Site Code : 00000000
Start Date : 8/21/2020
Page No : 2

Start Time	11th St From North					Winchester Ave From East					11th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	61	59	3	0	123	2	0	1	0	3	3	97	3	0	103	229
08:15 AM	0	0	0	0	0	47	69	7	0	123	2	1	0	0	3	0	110	0	0	110	236
08:30 AM	0	0	0	0	0	47	72	2	0	121	1	1	0	1	3	0	123	2	0	125	249
08:45 AM	0	0	0	0	0	53	107	1	1	162	4	2	1	0	7	0	107	3	0	110	279
Total Volume	0	0	0	0	0	208	307	13	1	529	9	4	2	1	16	3	437	8	0	448	993
% App. Total	0	0	0	0	0	39.3	58	2.5	0.2		56.2	25	12.5	6.2		0.7	97.5	1.8	0		
PHF	.000	.000	.000	.000	.000	.852	.717	.464	.250	.816	.563	.500	.500	.250	.571	.250	.888	.667	.000	.896	.890

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	1	0	0	1	39	179	2	0	220	5	1	3	0	9	0	221	5	0	226	456
04:30 PM	0	0	0	0	0	50	200	3	0	253	5	1	3	0	9	3	188	4	0	195	457
04:45 PM	0	0	0	0	0	44	200	1	0	245	4	1	0	0	5	0	199	4	0	203	453
05:00 PM	0	0	0	0	0	39	230	2	0	271	9	2	1	0	12	1	199	4	0	204	487
Total Volume	0	1	0	0	1	172	809	8	0	989	23	5	7	0	35	4	807	17	0	828	1853
% App. Total	0	100	0	0	0	17.4	81.8	0.8	0		65.7	14.3	20	0		0.5	97.5	2.1	0		
PHF	.000	.250	.000	.000	.250	.860	.879	.667	.000	.912	.639	.625	.583	.000	.729	.333	.913	.850	.000	.916	.951

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 12th St

File Name : Winchester Ave at 12th Street
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	12th Street From North					Winchester Ave From East					12th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	78	118	20	0	216	0	18	10	0	28	0	0	0	0	0	28	24	0	0	52	296
07:15 AM	87	106	16	0	209	0	33	20	0	53	0	0	0	0	0	65	113	0	0	178	440
07:30 AM	30	166	118	0	314	0	41	25	1	67	0	0	0	0	0	58	76	0	1	135	516
07:45 AM	155	136	28	0	319	0	44	16	0	60	0	0	0	0	0	74	89	0	0	163	542
Total	350	526	182	0	1058	0	136	71	1	208	0	0	0	0	0	225	302	0	1	528	1794
08:00 AM	34	134	113	0	281	3	34	16	0	53	0	0	0	0	0	60	77	0	0	137	471
08:15 AM	89	110	24	0	223	0	53	37	0	90	0	0	0	0	0	62	75	0	0	137	450
08:30 AM	82	124	24	0	230	0	51	28	1	80	0	0	0	0	0	55	77	0	0	132	442
08:45 AM	99	126	31	0	256	0	50	43	0	93	0	0	0	0	0	51	72	0	0	123	472
Total	304	494	192	0	990	3	188	124	1	316	0	0	0	0	0	228	301	0	0	529	1835
*** BREAK ***																					
04:00 PM	121	140	24	0	285	0	109	36	0	145	0	0	0	0	0	50	150	0	0	200	630
04:15 PM	116	136	25	1	278	0	85	41	0	126	0	0	0	0	0	59	109	0	0	168	572
04:30 PM	130	116	21	0	267	0	83	44	0	127	0	0	0	0	0	62	151	0	0	213	607
04:45 PM	114	147	21	0	282	0	65	37	0	102	0	0	0	0	0	59	125	0	0	184	568
Total	481	539	91	1	1112	0	342	158	0	500	0	0	0	0	0	230	535	0	0	765	2377
05:00 PM	107	126	15	0	248	0	93	51	0	144	0	0	0	0	0	52	157	1	0	210	602
05:15 PM	115	146	31	0	292	0	92	34	1	127	0	0	0	0	0	63	134	0	1	198	617
05:30 PM	86	97	27	0	210	0	112	22	0	134	0	0	0	0	0	63	133	0	0	196	540
05:45 PM	145	153	47	0	345	0	80	31	1	112	0	0	0	0	0	54	116	1	0	171	628
Total	453	522	120	0	1095	0	377	138	2	517	0	0	0	0	0	232	540	2	1	775	2387
Grand Total	1588	2081	585	1	4255	3	1043	491	4	1541	0	0	0	0	0	915	1678	2	2	2597	8393
Apprch %	37.3	48.9	13.7	0		0.2	67.7	31.9	0.3		0	0	0	0		35.2	64.6	0.1	0.1		
Total %	18.9	24.8	7	0	50.7	0	12.4	5.9	0	18.4	0	0	0	0	0	10.9	20	0	0	30.9	
Cars	1515	2054	580	1	4150	0	1026	485	4	1515	0	0	0	0	0	895	1621	0	2	2518	8183
% Cars	95.4	98.7	99.1	100	97.5	0	98.4	98.8	100	98.3	0	0	0	0	0	97.8	96.6	0	100	97	97.5
Trucks1	33	16	3	0	52	3	10	6	0	19	0	0	0	0	0	13	20	1	0	34	105
% Trucks1	2.1	0.8	0.5	0	1.2	100	1	1.2	0	1.2	0	0	0	0	0	1.4	1.2	50	0	1.3	1.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 12th Street
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

Groups Printed- Cars - Trucks1 - Trucks2

	12th Street From North					Winchester Ave From East					12th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	40	11	2	0	53	0	7	0	0	7	0	0	0	0	0	7	37	1	0	45	105
% Trucks2	2.5	0.5	0.3	0	1.2	0	0.7	0	0	0.5	0	0	0	0	0	0.8	2.2	50	0	1.7	1.3

Start Time	12th Street From North					Winchester Ave From East					12th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	34	134	113	0	281	3	34	16	0	53	0	0	0	0	0	60	77	0	0	137	471
08:15 AM	89	110	24	0	223	0	53	37	0	90	0	0	0	0	0	62	75	0	0	137	450
08:30 AM	82	124	24	0	230	0	51	28	1	80	0	0	0	0	0	55	77	0	0	132	442
08:45 AM	99	126	31	0	256	0	50	43	0	93	0	0	0	0	0	51	72	0	0	123	472
Total Volume	304	494	192	0	990	3	188	124	1	316	0	0	0	0	0	228	301	0	0	529	1835
% App. Total	30.7	49.9	19.4	0		0.9	59.5	39.2	0.3		0	0	0	0		43.1	56.9	0	0		
PHF	.768	.922	.425	.000	.881	.250	.887	.721	.250	.849	.000	.000	.000	.000	.000	.919	.977	.000	.000	.965	.972
Cars	272	483	190	0	945	0	178	120	1	299	0	0	0	0	0	218	282	0	0	500	1744
% Cars	89.5	97.8	99.0	0	95.5	0	94.7	96.8	100	94.6	0	0	0	0	0	95.6	93.7	0	0	94.5	95.0
Trucks1	16	8	2	0	26	3	6	4	0	13	0	0	0	0	0	7	9	0	0	16	55
% Trucks1	5.3	1.6	1.0	0	2.6	100	3.2	3.2	0	4.1	0	0	0	0	0	3.1	3.0	0	0	3.0	3.0
Trucks2	16	3	0	0	19	0	4	0	0	4	0	0	0	0	0	3	10	0	0	13	36
% Trucks2	5.3	0.6	0	0	1.9	0	2.1	0	0	1.3	0	0	0	0	0	1.3	3.3	0	0	2.5	2.0

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 12th Street
Site Code : 00000000
Start Date : 8/19/2020
Page No : 3

Start Time	12th Street From North					Winchester Ave From East					12th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	116	136	25	1	278	0	85	41	0	126	0	0	0	0	0	59	109	0	0	168	572
04:30 PM	130	116	21	0	267	0	83	44	0	127	0	0	0	0	0	62	151	0	0	213	607
04:45 PM	114	147	21	0	282	0	65	37	0	102	0	0	0	0	0	59	125	0	0	184	568
05:00 PM	107	126	15	0	248	0	93	51	0	144	0	0	0	0	0	52	157	1	0	210	602
Total Volume	467	525	82	1	1075	0	326	173	0	499	0	0	0	0	0	232	542	1	0	775	2349
% App. Total	43.4	48.8	7.6	0.1		0	65.3	34.7	0		0	0	0	0	0	29.9	69.9	0.1	0		
PHF	.898	.893	.820	.250	.953	.000	.876	.848	.000	.866	.000	.000	.000	.000	.000	.935	.863	.250	.000	.910	.967
Cars	459	522	82	1	1064	0	326	172	0	498	0	0	0	0	0	230	535	0	0	765	2327
% Cars	98.3	99.4	100	100	99.0	0	100	99.4	0	99.8	0	0	0	0	0	99.1	98.7	0	0	98.7	99.1
Trucks1	2	2	0	0	4	0	0	1	0	1	0	0	0	0	0	2	2	0	0	4	9
% Trucks1	0.4	0.4	0	0	0.4	0	0	0.6	0	0.2	0	0	0	0	0	0.9	0.4	0	0	0.5	0.4
Trucks2	6	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	13
% Trucks2	1.3	0.2	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0.9	100	0	0.8	0.6

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 13th St

File Name : Winchester Ave at 13th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	13th Street From North					Winchester Ave From East					13th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	3	1	1	0	5	21	17	1	0	39	9	76	24	0	109	1	17	40	0	58	211
07:15 AM	4	3	1	0	8	27	20	2	0	49	7	97	26	0	130	0	28	73	0	101	288
07:30 AM	1	1	0	0	2	42	20	1	0	63	17	107	31	0	155	0	39	57	0	96	316
07:45 AM	4	0	0	0	4	29	20	2	1	52	20	108	28	0	156	0	57	54	0	111	323
Total	12	5	2	0	19	119	77	6	1	203	53	388	109	0	550	1	141	224	0	366	1138
08:00 AM	5	1	1	1	8	35	18	0	0	53	17	87	26	0	130	0	51	52	0	103	294
08:15 AM	3	0	0	0	3	43	33	0	0	76	15	100	27	0	142	0	53	56	0	109	330
08:30 AM	6	4	0	0	10	34	32	0	0	66	15	95	42	0	152	0	55	72	0	127	355
08:45 AM	8	0	0	0	8	28	44	2	0	74	29	99	22	0	150	0	50	54	0	104	336
Total	22	5	1	1	29	140	127	2	0	269	76	381	117	0	574	0	209	234	0	443	1315
*** BREAK ***																					
04:00 PM	3	0	0	0	3	76	80	0	0	156	23	146	63	0	232	0	62	79	0	141	532
04:15 PM	5	0	0	0	5	81	77	1	0	159	26	180	71	0	277	0	50	119	0	169	610
04:30 PM	4	0	0	0	4	82	105	0	0	187	7	140	92	0	239	0	63	112	0	175	605
04:45 PM	5	0	0	0	5	98	100	0	0	198	19	141	77	0	237	0	65	111	0	176	616
Total	17	0	0	0	17	337	362	1	0	700	75	607	303	0	985	0	240	421	0	661	2363
05:00 PM	11	2	0	0	13	85	111	0	0	196	17	131	71	0	219	0	54	96	0	150	578
05:15 PM	3	0	0	0	3	67	50	0	0	117	22	114	59	0	195	0	41	80	0	121	436
05:30 PM	3	0	0	0	3	70	57	0	0	127	20	140	54	0	214	0	67	96	0	163	507
05:45 PM	2	1	0	0	3	46	60	0	0	106	24	131	66	0	221	0	52	90	0	142	472
Total	19	3	0	0	22	268	278	0	0	546	83	516	250	0	849	0	214	362	0	576	1993
Grand Total	70	13	3	1	87	864	844	9	1	1718	287	1892	779	0	2958	1	804	1241	0	2046	6809
Apprch %	80.5	14.9	3.4	1.1		50.3	49.1	0.5	0.1		9.7	64	26.3	0		0	39.3	60.7	0		
Total %	1	0.2	0	0	1.3	12.7	12.4	0.1	0	25.2	4.2	27.8	11.4	0	43.4	0	11.8	18.2	0	30	
Cars	66	0	0	1	67	843	832	0	1	1676	285	1851	775	0	2911	0	792	1180	0	1972	6626
% Cars	94.3	0	0	100	77	97.6	98.6	0	100	97.6	99.3	97.8	99.5	0	98.4	0	98.5	95.1	0	96.4	97.3
Trucks1	4	8	0	0	12	17	12	4	0	33	2	24	1	0	27	1	9	14	0	24	96
% Trucks1	5.7	61.5	0	0	13.8	2	1.4	44.4	0	1.9	0.7	1.3	0.1	0	0.9	100	1.1	1.1	0	1.2	1.4

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 13th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 2

Groups Printed- Cars - Trucks1 - Trucks2

	13th Street From North					Winchester Ave From East					13th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	0	5	3	0	8	4	0	5	0	9	0	17	3	0	20	0	3	47	0	50	87
% Trucks2	0	38.5	100	0	9.2	0.5	0	55.6	0	0.5	0	0.9	0.4	0	0.7	0	0.4	3.8	0	2.4	1.3

Start Time	13th Street From North					Winchester Ave From East					13th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

08:00 AM	5	1	1	1	8	35	18	0	0	53	17	87	26	0	130	0	51	52	0	103	294
08:15 AM	3	0	0	0	3	43	33	0	0	76	15	100	27	0	142	0	53	56	0	109	330
08:30 AM	6	4	0	0	10	34	32	0	0	66	15	95	42	0	152	0	55	72	0	127	355
08:45 AM	8	0	0	0	8	28	44	2	0	74	29	99	22	0	150	0	50	54	0	104	336
Total Volume	22	5	1	1	29	140	127	2	0	269	76	381	117	0	574	0	209	234	0	443	1315
% App. Total	75.9	17.2	3.4	3.4		52	47.2	0.7	0		13.2	66.4	20.4	0		0	47.2	52.8	0		
PHF	.688	.313	.250	.250	.725	.814	.722	.250	.000	.885	.655	.953	.696	.000	.944	.000	.950	.813	.000	.872	.926
Cars	18	0	0	1	19	131	125	0	0	256	76	371	116	0	563	0	203	214	0	417	1255
% Cars	81.8	0	0	100	65.5	93.6	98.4	0	0	95.2	100	97.4	99.1	0	98.1	0	97.1	91.5	0	94.1	95.4
Trucks1	4	4	0	0	8	7	2	2	0	11	0	7	0	0	7	0	4	6	0	10	36
% Trucks1	18.2	80.0	0	0	27.6	5.0	1.6	100	0	4.1	0	1.8	0	0	1.2	0	1.9	2.6	0	2.3	2.7
Trucks2	0	1	1	0	2	2	0	0	0	2	0	3	1	0	4	0	2	14	0	16	24
% Trucks2	0	20.0	100	0	6.9	1.4	0	0	0	0.7	0	0.8	0.9	0	0.7	0	1.0	6.0	0	3.6	1.8

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 13th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 3

Start Time	13th Street From North					Winchester Ave From East					13th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	5	0	0	0	5	81	77	1	0	159	26	180	71	0	277	0	50	119	0	169	610
04:30 PM	4	0	0	0	4	82	105	0	0	187	7	140	92	0	239	0	63	112	0	175	605
04:45 PM	5	0	0	0	5	98	100	0	0	198	19	141	77	0	237	0	65	111	0	176	616
05:00 PM	11	2	0	0	13	85	111	0	0	196	17	131	71	0	219	0	54	96	0	150	578
Total Volume	25	2	0	0	27	346	393	1	0	740	69	592	311	0	972	0	232	438	0	670	2409
% App. Total	92.6	7.4	0	0		46.8	53.1	0.1	0		7.1	60.9	32	0		0	34.6	65.4	0		
PHF	.568	.250	.000	.000	.519	.883	.885	.250	.000	.934	.663	.822	.845	.000	.877	.000	.892	.920	.000	.952	.978
Cars	25	0	0	0	25	344	387	0	0	731	68	580	311	0	959	0	231	420	0	651	2366
% Cars	100	0	0	0	92.6	99.4	98.5	0	0	98.8	98.6	98.0	100	0	98.7	0	99.6	95.9	0	97.2	98.2
Trucks1	0	0	0	0	0	1	6	1	0	8	1	9	0	0	10	0	1	5	0	6	24
% Trucks1	0	0	0	0	0	0.3	1.5	100	0	1.1	1.4	1.5	0	0	1.0	0	0.4	1.1	0	0.9	1.0
Trucks2	0	2	0	0	2	1	0	0	0	1	0	3	0	0	3	0	0	13	0	13	19
% Trucks2	0	100	0	0	7.4	0.3	0	0	0	0.1	0	0.5	0	0	0.3	0	0	3.0	0	1.9	0.8

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 14th St

File Name : Winchester Ave at 14th Street
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Cars - Truck1 - Truck2

Start Time	14th St From North					Winchester Ave From East					14th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	8	1	0	0	9	0	23	0	0	23	0	0	0	0	0	0	26	1	0	27	59
07:15 AM	23	2	0	0	25	0	22	0	0	22	0	0	0	0	0	3	31	0	0	34	81
07:30 AM	29	7	0	0	36	0	32	0	0	32	0	0	0	0	0	2	61	0	0	63	131
07:45 AM	14	5	2	1	22	0	31	0	0	31	0	0	0	0	0	8	70	0	0	78	131
Total	74	15	2	1	92	0	108	0	0	108	0	0	0	0	0	13	188	1	0	202	402
08:00 AM	26	5	0	0	31	0	31	0	0	31	0	0	0	0	0	5	62	0	0	67	129
08:15 AM	22	0	1	0	23	0	46	0	0	46	0	0	0	0	0	5	58	0	0	63	132
08:30 AM	21	3	2	0	26	0	39	0	0	39	0	0	0	0	0	3	67	1	0	71	136
08:45 AM	14	3	1	1	19	0	57	2	0	59	0	0	0	0	0	7	73	0	0	80	158
Total	83	11	4	1	99	0	173	2	0	175	0	0	0	0	0	20	260	1	0	281	555
*** BREAK ***																					
04:00 PM	55	4	2	1	62	0	113	0	0	113	0	0	0	3	3	3	81	0	0	84	262
04:15 PM	29	4	0	0	33	1	113	2	0	116	0	0	0	0	0	7	62	0	0	69	218
04:30 PM	49	7	2	0	58	0	137	1	0	138	0	0	0	0	0	2	65	0	0	67	263
04:45 PM	47	3	2	0	52	0	129	2	1	132	0	0	0	0	0	5	72	0	0	77	261
Total	180	18	6	1	205	1	492	5	1	499	0	0	0	3	3	17	280	0	0	297	1004
05:00 PM	60	6	1	0	67	0	145	3	1	149	0	0	0	1	1	1	76	0	0	77	294
05:15 PM	56	3	0	0	59	0	78	2	0	80	0	0	0	0	0	9	68	0	0	77	216
05:30 PM	43	4	1	2	50	0	92	1	0	93	0	0	0	3	3	6	69	0	1	76	222
05:45 PM	24	3	1	3	31	0	76	0	0	76	0	0	0	0	0	6	67	0	1	74	181
Total	183	16	3	5	207	0	391	6	1	398	0	0	0	4	4	22	280	0	2	304	913
Grand Total	520	60	15	8	603	1	1164	13	2	1180	0	0	0	7	7	72	1008	2	2	1084	2874
Apprch %	86.2	10	2.5	1.3		0.1	98.6	1.1	0.2		0	0	0	100		6.6	93	0.2	0.2		
Total %	18.1	2.1	0.5	0.3	21	0	40.5	0.5	0.1	41.1	0	0	0	0.2	0.2	2.5	35.1	0.1	0.1	37.7	
Cars	510	59	14	8	591	1	1161	13	2	1177	0	0	0	7	7	72	992	2	2	1068	2843
% Cars	98.1	98.3	93.3	100	98	100	99.7	100	100	99.7	0	0	0	100	100	100	98.4	100	100	98.5	98.9
Truck1	5	0	1	0	6	0	3	0	0	3	0	0	0	0	0	0	13	0	0	13	22
% Truck1	1	0	6.7	0	1	0	0.3	0	0	0.3	0	0	0	0	0	0	1.3	0	0	1.2	0.8
Truck2	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9
% Truck2	1	1.7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 14th St

File Name : Winchester Ave at 14th Street
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

Start Time	14th St From North					Winchester Ave From East					14th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	26	5	0	0	31	0	31	0	0	31	0	0	0	0	0	5	62	0	0	67	129
08:15 AM	22	0	1	0	23	0	46	0	0	46	0	0	0	0	0	5	58	0	0	63	132
08:30 AM	21	3	2	0	26	0	39	0	0	39	0	0	0	0	0	3	67	1	0	71	136
08:45 AM	14	3	1	1	19	0	57	2	0	59	0	0	0	0	0	7	73	0	0	80	158
Total Volume	83	11	4	1	99	0	173	2	0	175	0	0	0	0	0	20	260	1	0	281	555
% App. Total	83.8	11.1	4	1		0	98.9	1.1	0		0	0	0	0		7.1	92.5	0.4	0		
PHF	.798	.550	.500	.250	.798	.000	.759	.250	.000	.742	.000	.000	.000	.000	.000	.714	.890	.250	.000	.878	.878

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	29	4	0	0	33	1	113	2	0	116	0	0	0	0	0	7	62	0	0	69	218
04:30 PM	49	7	2	0	58	0	137	1	0	138	0	0	0	0	0	2	65	0	0	67	263
04:45 PM	47	3	2	0	52	0	129	2	1	132	0	0	0	0	0	5	72	0	0	77	261
05:00 PM	60	6	1	0	67	0	145	3	1	149	0	0	0	1	1	1	76	0	0	77	294
Total Volume	185	20	5	0	210	1	524	8	2	535	0	0	0	1	1	15	275	0	0	290	1036
% App. Total	88.1	9.5	2.4	0		0.2	97.9	1.5	0.4		0	0	0	100		5.2	94.8	0	0		
PHF	.771	.714	.625	.000	.784	.250	.903	.667	.500	.898	.000	.000	.000	.250	.250	.536	.905	.000	.000	.942	.881

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 15th St

File Name : Winchester Ave at 15th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	15th Street From North					Winchester Ave From East					15th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	1	2	3	2	8	0	21	1	2	24	0	1	1	0	2	4	23	0	1	28	62
07:15 AM	1	3	1	0	5	1	17	1	0	19	2	1	0	0	3	2	31	0	0	33	60
07:30 AM	2	2	0	0	4	0	31	6	1	38	1	7	2	0	10	4	59	1	0	64	116
07:45 AM	2	1	2	0	5	0	42	4	0	46	2	5	3	0	10	9	57	8	1	75	136
Total	6	8	6	2	22	1	111	12	3	127	5	14	6	0	25	19	170	9	2	200	374
08:00 AM	1	4	0	2	7	0	34	0	1	35	5	1	0	1	7	11	48	5	1	65	114
08:15 AM	7	9	0	0	16	1	38	1	0	40	2	4	2	0	8	2	60	5	0	67	131
08:30 AM	4	5	2	2	13	3	34	0	1	38	5	8	1	4	18	5	63	13	0	81	150
08:45 AM	4	4	2	0	10	2	45	2	2	51	3	5	4	1	13	7	55	11	0	73	147
Total	16	22	4	4	46	6	151	3	4	164	15	18	7	6	46	25	226	34	1	286	542
*** BREAK ***																					
04:00 PM	5	2	0	0	7	5	94	4	2	105	7	13	6	0	26	4	70	6	1	81	219
04:15 PM	6	2	1	0	9	4	98	8	0	110	9	7	13	2	31	6	47	11	3	67	217
04:30 PM	8	6	1	2	17	1	115	3	1	120	4	6	7	0	17	4	60	10	0	74	228
04:45 PM	4	2	0	0	6	4	91	6	0	101	7	3	6	1	17	7	68	10	0	85	209
Total	23	12	2	2	39	14	398	21	3	436	27	29	32	3	91	21	245	37	4	307	873
05:00 PM	7	8	2	0	17	10	148	3	0	161	1	13	3	0	17	0	0	0	0	0	195
05:15 PM	4	1	0	0	5	4	76	4	7	91	2	6	5	0	13	7	59	15	0	81	190
05:30 PM	4	10	1	0	15	3	67	4	0	74	5	6	6	0	17	7	52	6	1	66	172
05:45 PM	5	4	2	0	11	4	63	5	4	76	2	2	4	0	8	7	61	10	4	82	177
Total	20	23	5	0	48	21	354	16	11	402	10	27	18	0	55	21	172	31	5	229	734
Grand Total	65	65	17	8	155	42	1014	52	21	1129	57	88	63	9	217	86	813	111	12	1022	2523
Apprch %	41.9	41.9	11	5.2		3.7	89.8	4.6	1.9		26.3	40.6	29	4.1		8.4	79.5	10.9	1.2		
Total %	2.6	2.6	0.7	0.3	6.1	1.7	40.2	2.1	0.8	44.7	2.3	3.5	2.5	0.4	8.6	3.4	32.2	4.4	0.5	40.5	
Cars	64	63	16	8	151	41	1002	51	21	1115	57	79	60	9	205	80	801	107	12	1000	2471
% Cars	98.5	96.9	94.1	100	97.4	97.6	98.8	98.1	100	98.8	100	89.8	95.2	100	94.5	93	98.5	96.4	100	97.8	97.9
Trucks1	1	2	1	0	4	1	8	1	0	10	0	8	3	0	11	4	9	2	0	15	40
% Trucks1	1.5	3.1	5.9	0	2.6	2.4	0.8	1.9	0	0.9	0	9.1	4.8	0	5.1	4.7	1.1	1.8	0	1.5	1.6

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 15th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 2

Groups Printed- Cars - Trucks1 - Trucks2

	15th Street From North					Winchester Ave From East					15th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	2	3	2	0	7	12
% Trucks2	0	0	0	0	0	0	0.4	0	0	0.4	0	1.1	0	0	0.5	2.3	0.4	1.8	0	0.7	0.5

Start Time	15th Street From North					Winchester Ave From East					15th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	4	0	2	7	0	34	0	1	35	5	1	0	1	7	11	48	5	1	65	114
08:15 AM	7	9	0	0	16	1	38	1	0	40	2	4	2	0	8	2	60	5	0	67	131
08:30 AM	4	5	2	2	13	3	34	0	1	38	5	8	1	4	18	5	63	13	0	81	150
08:45 AM	4	4	2	0	10	2	45	2	2	51	3	5	4	1	13	7	55	11	0	73	147
Total Volume	16	22	4	4	46	6	151	3	4	164	15	18	7	6	46	25	226	34	1	286	542
% App. Total	34.8	47.8	8.7	8.7		3.7	92.1	1.8	2.4		32.6	39.1	15.2	13		8.7	79	11.9	0.3		
PHF	.571	.611	.500	.500	.719	.500	.839	.375	.500	.804	.750	.563	.438	.375	.639	.568	.897	.654	.250	.883	.903
Cars	15	21	4	4	44	6	145	3	4	158	15	16	6	6	43	22	222	31	1	276	521
% Cars	93.8	95.5	100	100	95.7	100	96.0	100	100	96.3	100	88.9	85.7	100	93.5	88.0	98.2	91.2	100	96.5	96.1
Trucks1	1	1	0	0	2	0	4	0	0	4	0	2	1	0	3	1	2	1	0	4	13
% Trucks1	6.3	4.5	0	0	4.3	0	2.6	0	0	2.4	0	11.1	14.3	0	6.5	4.0	0.9	2.9	0	1.4	2.4
Trucks2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	2	2	0	6	8
% Trucks2	0	0	0	0	0	0	1.3	0	0	1.2	0	0	0	0	0	8.0	0.9	5.9	0	2.1	1.5

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 15th Street
Site Code : 00000000
Start Date : 8/18/2020
Page No : 3

Start Time	15th Street From North					Winchester Ave From East					15th Street From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:15 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	6	2	1	0	9	4	98	8	0	110	9	7	13	2	31	6	47	11	3	67	217
04:30 PM	8	6	1	2	17	1	115	3	1	120	4	6	7	0	17	4	60	10	0	74	228
04:45 PM	4	2	0	0	6	4	91	6	0	101	7	3	6	1	17	7	68	10	0	85	209
05:00 PM	7	8	2	0	17	10	148	3	0	161	1	13	3	0	17	0	0	0	0	0	195
Total Volume	25	18	4	2	49	19	452	20	1	492	21	29	29	3	82	17	175	31	3	226	849
% App. Total	51	36.7	8.2	4.1		3.9	91.9	4.1	0.2		25.6	35.4	35.4	3.7		7.5	77.4	13.7	1.3		
PHF	.781	.563	.500	.250	.721	.475	.764	.625	.250	.764	.583	.558	.558	.375	.661	.607	.643	.705	.250	.665	.931
Cars	25	17	4	2	48	18	450	20	1	489	21	28	28	3	80	16	170	31	3	220	837
% Cars	100	94.4	100	100	98.0	94.7	99.6	100	100	99.4	100	96.6	96.6	100	97.6	94.1	97.1	100	100	97.3	98.6
Trucks1	0	1	0	0	1	1	1	0	0	2	0	1	1	0	2	1	4	0	0	5	10
% Trucks1	0	5.6	0	0	2.0	5.3	0.2	0	0	0.4	0	3.4	3.4	0	2.4	5.9	2.3	0	0	2.2	1.2
Trucks2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Trucks2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.6	0	0	0.4	0.2

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 16th St

File Name : Winchester Ave at 16th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	16th St From North					Winchester Ave From East					16th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	2	0	2	1	15	0	0	16	0	0	0	0	0	0	25	1	0	26	44
07:15 AM	1	0	1	0	2	1	23	0	0	24	0	0	0	0	0	0	37	2	0	39	65
07:30 AM	3	0	0	0	3	0	37	0	1	38	0	0	0	0	0	0	45	1	0	46	87
07:45 AM	2	0	1	0	3	2	36	0	0	38	0	0	0	0	0	0	49	1	2	52	93
Total	6	0	4	0	10	4	111	0	1	116	0	0	0	0	0	0	156	5	2	163	289
08:00 AM	2	0	2	1	5	2	37	0	0	39	0	0	0	0	0	0	45	2	0	47	91
08:15 AM	1	0	0	1	2	1	36	0	0	37	0	0	0	0	0	0	54	0	1	55	94
08:30 AM	1	0	0	1	2	0	51	0	1	52	0	0	0	0	0	0	62	1	0	63	117
08:45 AM	3	0	0	3	6	4	46	0	0	50	0	0	0	0	0	0	58	6	2	66	122
Total	7	0	2	6	15	7	170	0	1	178	0	0	0	0	0	0	219	9	3	231	424
*** BREAK ***																					
04:00 PM	20	0	0	0	20	3	95	0	6	104	0	0	0	0	0	0	80	9	0	89	213
04:15 PM	16	0	4	1	21	5	101	0	3	109	0	0	0	2	2	0	66	5	4	75	207
04:30 PM	9	0	5	3	17	3	109	0	2	114	0	0	0	2	2	0	73	6	0	79	212
04:45 PM	14	0	3	0	17	3	99	0	2	104	0	0	0	1	1	0	50	2	5	57	179
Total	59	0	12	4	75	14	404	0	13	431	0	0	0	5	5	0	269	22	9	300	811
05:00 PM	19	0	5	2	26	6	119	0	2	127	0	0	0	0	0	0	68	4	0	72	225
05:15 PM	13	0	1	0	14	1	82	0	0	83	0	0	0	0	0	0	64	10	0	74	171
05:30 PM	13	0	3	5	21	3	70	0	4	77	0	0	0	0	0	0	56	6	0	62	160
05:45 PM	15	0	1	0	16	2	70	0	0	72	0	0	0	0	0	0	57	9	0	66	154
Total	60	0	10	7	77	12	341	0	6	359	0	0	0	0	0	0	245	29	0	274	710
Grand Total	132	0	28	17	177	37	1026	0	21	1084	0	0	0	5	5	0	889	65	14	968	2234
Apprch %	74.6	0	15.8	9.6		3.4	94.6	0	1.9		0	0	0	100		0	91.8	6.7	1.4		
Total %	5.9	0	1.3	0.8	7.9	1.7	45.9	0	0.9	48.5	0	0	0	0.2	0.2	0	39.8	2.9	0.6	43.3	
Cars	131	0	19	17	167	37	1011	0	21	1069	0	0	0	5	5	0	880	65	14	959	2200
% Cars	99.2	0	67.9	100	94.4	100	98.5	0	100	98.6	0	0	0	100	100	0	99	100	100	99.1	98.5
Trucks1	0	0	9	0	9	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	24
% Trucks1	0	0	32.1	0	5.1	0	1	0	0	0.9	0	0	0	0	0	0	0.6	0	0	0.5	1.1
Trucks2	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	10
% Trucks2	0.8	0	0	0	0.6	0	0.5	0	0	0.5	0	0	0	0	0	0	0.4	0	0	0.4	0.4

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 16th St

File Name : Winchester Ave at 16th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 2

Start Time	16th St From North					Winchester Ave From East					16th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	2	0	2	1	5	2	37	0	0	39	0	0	0	0	0	0	45	2	0	47	91
08:15 AM	1	0	0	1	2	1	36	0	0	37	0	0	0	0	0	0	54	0	1	55	94
08:30 AM	1	0	0	1	2	0	51	0	1	52	0	0	0	0	0	0	62	1	0	63	117
08:45 AM	3	0	0	3	6	4	46	0	0	50	0	0	0	0	0	0	58	6	2	66	122
Total Volume	7	0	2	6	15	7	170	0	1	178	0	0	0	0	0	0	219	9	3	231	424
% App. Total	46.7	0	13.3	40		3.9	95.5	0	0.6		0	0	0	0		0	94.8	3.9	1.3		
PHF	.583	.000	.250	.500	.625	.438	.833	.000	.250	.856	.000	.000	.000	.000	.000	.000	.883	.375	.375	.875	.869

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	16	0	4	1	21	5	101	0	3	109	0	0	0	2	2	0	66	5	4	75	207
04:30 PM	9	0	5	3	17	3	109	0	2	114	0	0	0	2	2	0	73	6	0	79	212
04:45 PM	14	0	3	0	17	3	99	0	2	104	0	0	0	1	1	0	50	2	5	57	179
05:00 PM	19	0	5	2	26	6	119	0	2	127	0	0	0	0	0	0	68	4	0	72	225
Total Volume	58	0	17	6	81	17	428	0	9	454	0	0	0	5	5	0	257	17	9	283	823
% App. Total	71.6	0	21	7.4		3.7	94.3	0	2		0	0	0	100		0	90.8	6	3.2		
PHF	.763	.000	.850	.500	.779	.708	.899	.000	.750	.894	.000	.000	.000	.625	.625	.000	.880	.708	.450	.896	.914

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 17th St

File Name : Winchester Ave at 17th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	17th St From North					Winchester Ave From East					17th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	1	5	1	0	7	2	16	1	0	19	0	1	0	0	1	2	23	0	0	25	52
07:15 AM	1	0	0	0	1	2	19	0	1	22	6	3	1	0	10	3	26	1	0	30	63
07:30 AM	1	1	1	0	3	0	35	0	0	35	0	4	0	1	5	5	37	2	1	45	88
07:45 AM	3	5	0	0	8	1	36	0	0	37	2	2	1	2	7	4	45	1	0	50	102
Total	6	11	2	0	19	5	106	1	1	113	8	10	2	3	23	14	131	4	1	150	305
08:00 AM	3	3	0	0	6	1	33	0	0	34	5	4	1	0	10	2	39	1	0	42	92
08:15 AM	1	3	1	0	5	0	36	0	0	36	1	2	2	0	5	4	42	0	1	47	93
08:30 AM	3	3	2	0	8	2	49	2	0	53	2	6	1	0	9	9	50	0	1	60	130
08:45 AM	4	3	1	0	8	2	45	3	0	50	3	3	4	0	10	12	43	1	1	57	125
Total	11	12	4	0	27	5	163	5	0	173	11	15	8	0	34	27	174	2	3	206	440
*** BREAK ***																					
04:00 PM	6	7	1	0	14	2	82	3	0	87	9	9	9	1	28	6	66	4	0	76	205
04:15 PM	8	3	2	0	13	5	97	0	0	102	5	4	6	0	15	9	67	1	0	77	207
04:30 PM	5	4	1	0	10	3	94	0	0	97	5	5	3	3	16	10	62	2	1	75	198
04:45 PM	4	2	2	0	8	2	84	0	3	89	3	8	6	1	18	8	46	0	1	55	170
Total	23	16	6	0	45	12	357	3	3	375	22	26	24	5	77	33	241	7	2	283	780
05:00 PM	9	10	0	0	19	8	98	2	0	108	6	4	6	0	16	14	54	0	0	68	211
05:15 PM	5	5	0	3	13	0	81	2	1	84	5	2	2	0	9	6	58	1	0	65	171
05:30 PM	3	6	1	0	10	1	57	0	0	58	4	3	2	0	9	7	41	1	0	49	126
05:45 PM	3	5	0	0	8	0	60	2	1	63	4	5	4	0	13	4	55	0	0	59	143
Total	20	26	1	3	50	9	296	6	2	313	19	14	14	0	47	31	208	2	0	241	651
Grand Total	60	65	13	3	141	31	922	15	6	974	60	65	48	8	181	105	754	15	6	880	2176
Apprch %	42.6	46.1	9.2	2.1		3.2	94.7	1.5	0.6		33.1	35.9	26.5	4.4		11.9	85.7	1.7	0.7		
Total %	2.8	3	0.6	0.1	6.5	1.4	42.4	0.7	0.3	44.8	2.8	3	2.2	0.4	8.3	4.8	34.7	0.7	0.3	40.4	
Cars	59	65	13	3	140	31	911	15	6	963	60	63	48	8	179	100	741	15	6	862	2144
% Cars	98.3	100	100	100	99.3	100	98.8	100	100	98.9	100	96.9	100	100	98.9	95.2	98.3	100	100	98	98.5
Trucks1	1	0	0	0	1	0	8	0	0	8	0	2	0	0	2	5	9	0	0	14	25
% Trucks1	1.7	0	0	0	0.7	0	0.9	0	0	0.8	0	3.1	0	0	1.1	4.8	1.2	0	0	1.6	1.1
Trucks2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
% Trucks2	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.5	0	0	0.5	0.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 17th St

File Name : Winchester Ave at 17th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 2

Start Time	17th St From North					Winchester Ave From East					17th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	3	3	0	0	6	1	33	0	0	34	5	4	1	0	10	2	39	1	0	42	92
08:15 AM	1	3	1	0	5	0	36	0	0	36	1	2	2	0	5	4	42	0	1	47	93
08:30 AM	3	3	2	0	8	2	49	2	0	53	2	6	1	0	9	9	50	0	1	60	130
08:45 AM	4	3	1	0	8	2	45	3	0	50	3	3	4	0	10	12	43	1	1	57	125
Total Volume	11	12	4	0	27	5	163	5	0	173	11	15	8	0	34	27	174	2	3	206	440
% App. Total	40.7	44.4	14.8	0		2.9	94.2	2.9	0		32.4	44.1	23.5	0		13.1	84.5	1	1.5		
PHF	.688	1.00	.500	.000	.844	.625	.832	.417	.000	.816	.550	.625	.500	.000	.850	.563	.870	.500	.750	.858	.846

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	8	3	2	0	13	5	97	0	0	102	5	4	6	0	15	9	67	1	0	77	207
04:30 PM	5	4	1	0	10	3	94	0	0	97	5	5	3	3	16	10	62	2	1	75	198
04:45 PM	4	2	2	0	8	2	84	0	3	89	3	8	6	1	18	8	46	0	1	55	170
05:00 PM	9	10	0	0	19	8	98	2	0	108	6	4	6	0	16	14	54	0	0	68	211
Total Volume	26	19	5	0	50	18	373	2	3	396	19	21	21	4	65	41	229	3	2	275	786
% App. Total	52	38	10	0		4.5	94.2	0.5	0.8		29.2	32.3	32.3	6.2		14.9	83.3	1.1	0.7		
PHF	.722	.475	.625	.000	.658	.563	.952	.250	.250	.917	.792	.656	.875	.333	.903	.732	.854	.375	.500	.893	.931

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at 18th St

File Name : Winchester Ave at 18th Street
Site Code : 00000000
Start Date : 8/13/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	18th St From North					Winchester Ave From East					18th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
*** BREAK ***																					
08:15 AM	0	3	2	0	5	2	41	0	1	44	0	3	1	0	4	1	36	1	0	38	91
08:30 AM	0	0	0	0	0	1	47	4	0	52	0	1	1	0	2	1	32	3	0	36	90
08:45 AM	1	1	0	0	2	1	34	1	0	36	3	2	1	0	6	0	39	0	0	39	83
Total	1	4	2	0	7	4	122	5	1	132	3	6	3	0	12	2	107	4	0	113	264
*** BREAK ***																					
04:00 PM	2	1	0	0	3	2	87	4	0	93	0	0	0	1	1	3	63	0	0	66	163
04:15 PM	3	3	0	0	6	1	93	2	0	96	2	1	5	0	8	3	64	1	0	68	178
04:30 PM	3	5	0	0	8	1	109	1	0	111	1	1	0	1	3	0	62	1	1	64	186
04:45 PM	1	1	3	0	5	12	70	0	0	82	0	0	0	0	0	1	53	2	2	58	145
Total	9	10	3	0	22	16	359	7	0	382	3	2	5	2	12	7	242	4	3	256	672
05:00 PM	1	1	2	0	4	8	80	4	0	92	0	2	1	0	3	2	49	0	0	51	150
05:15 PM	2	3	0	0	5	1	79	2	0	82	0	1	0	1	2	0	43	0	0	43	132
05:30 PM	2	1	0	0	3	0	80	1	0	81	1	2	1	0	4	4	49	2	1	56	144
05:45 PM	0	1	0	0	1	1	56	0	1	58	0	0	1	0	1	1	42	1	0	44	104
Total	5	6	2	0	13	10	295	7	1	313	1	5	3	1	10	7	183	3	1	194	530
Grand Total	15	20	7	0	42	30	776	19	2	827	7	13	11	3	34	16	532	11	4	563	1466
Apprch %	35.7	47.6	16.7	0		3.6	93.8	2.3	0.2		20.6	38.2	32.4	8.8		2.8	94.5	2	0.7		
Total %	1	1.4	0.5	0	2.9	2	52.9	1.3	0.1	56.4	0.5	0.9	0.8	0.2	2.3	1.1	36.3	0.8	0.3	38.4	
Cars	15	20	7	0	42	30	766	16	2	814	7	13	11	3	34	16	525	11	4	556	1446
% Cars	100	100	100	0	100	100	98.7	84.2	100	98.4	100	100	100	100	100	100	98.7	100	100	98.8	98.6
Trucks1	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	0	6	0	0	6	16
% Trucks1	0	0	0	0	0	0	0.9	15.8	0	1.2	0	0	0	0	0	0	1.1	0	0	1.1	1.1
Trucks2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
% Trucks2	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0.2	0.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at 18th Street
Site Code : 00000000
Start Date : 8/13/2020
Page No : 2

Start Time	18th St From North					Winchester Ave From East					18th St From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	3	2	0	5	2	41	0	1	44	0	3	1	0	4	1	36	1	0	38	91
08:30 AM	0	0	0	0	0	1	47	4	0	52	0	1	1	0	2	1	32	3	0	36	90
08:45 AM	1	1	0	0	2	1	34	1	0	36	3	2	1	0	6	0	39	0	0	39	83
Total Volume	1	4	2	0	7	4	122	5	1	132	3	6	3	0	12	2	107	4	0	113	264
% App. Total	14.3	57.1	28.6	0		3	92.4	3.8	0.8		25	50	25	0		1.8	94.7	3.5	0		
PHF	.250	.333	.250	.000	.350	.500	.649	.313	.250	.635	.250	.500	.750	.000	.500	.500	.686	.333	.000	.724	.725
Cars	1	4	2	0	7	4	116	4	1	125	3	6	3	0	12	2	106	4	0	112	256
% Cars	100	100	100	0	100	100	95.1	80.0	100	94.7	100	100	100	0	100	100	99.1	100	0	99.1	97.0
Trucks1	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	6
% Trucks1	0	0	0	0	0	0	3.3	20.0	0	3.8	0	0	0	0	0	0	0.9	0	0	0.9	2.3
Trucks2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% Trucks2	0	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0.8
Peak Hour Analysis From 04:15 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	3	3	0	0	6	1	93	2	0	96	2	1	5	0	8	3	64	1	0	68	178
04:30 PM	3	5	0	0	8	1	109	1	0	111	1	1	0	1	3	0	62	1	1	64	186
04:45 PM	1	1	3	0	5	12	70	0	0	82	0	0	0	0	0	1	53	2	2	58	145
05:00 PM	1	1	2	0	4	8	80	4	0	92	0	2	1	0	3	2	49	0	0	51	150
Total Volume	8	10	5	0	23	22	352	7	0	381	3	4	6	1	14	6	228	4	3	241	659
% App. Total	34.8	43.5	21.7	0		5.8	92.4	1.8	0		21.4	28.6	42.9	7.1		2.5	94.6	1.7	1.2		
PHF	.667	.500	.417	.000	.719	.458	.807	.438	.000	.858	.375	.500	.300	.250	.438	.500	.891	.500	.375	.886	.886
Cars	8	10	5	0	23	22	351	5	0	378	3	4	6	1	14	6	225	4	3	238	653
% Cars	100	100	100	0	100	100	99.7	71.4	0	99.2	100	100	100	100	100	100	98.7	100	100	98.8	99.1
Trucks1	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	2	0	0	2	5
% Trucks1	0	0	0	0	0	0	0.3	28.6	0	0.8	0	0	0	0	0	0	0.9	0	0	0.8	0.8
Trucks2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Trucks2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4	0.2

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at Greenup
Northern Intersection

File Name : Winchester Ave at Greenup (North)
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	27	0	0	27	1	45	0	0	46	0	0	0	0	0	0	73	50	0	123	196
07:15 AM	0	38	0	0	38	3	67	0	0	70	0	0	0	0	0	0	144	69	0	213	321
07:30 AM	0	41	0	0	41	2	109	0	0	111	0	0	0	0	0	0	117	89	0	206	358
07:45 AM	0	65	0	0	65	0	112	0	0	112	0	0	0	0	0	0	116	109	0	225	402
Total	0	171	0	0	171	6	333	0	0	339	0	0	0	0	0	0	450	317	0	767	1277
08:00 AM	0	56	0	0	56	2	95	0	0	97	0	0	0	0	0	0	122	78	0	200	353
08:15 AM	0	54	0	0	54	3	87	0	0	90	0	0	0	0	0	0	104	58	0	162	306
08:30 AM	0	56	0	0	56	3	116	0	0	119	0	0	0	0	0	0	120	69	0	189	364
08:45 AM	0	71	0	0	71	1	89	0	0	90	0	0	0	0	0	0	98	62	0	160	321
Total	0	237	0	0	237	9	387	0	0	396	0	0	0	0	0	0	444	267	0	711	1344
*** BREAK ***																					
04:00 PM	0	95	0	0	95	5	205	0	0	210	0	0	0	0	0	0	116	93	0	209	514
04:15 PM	0	121	0	0	121	3	191	0	0	194	0	0	0	0	0	0	148	57	0	205	520
04:30 PM	0	128	0	0	128	6	263	0	0	269	0	0	0	0	0	0	123	82	0	205	602
04:45 PM	0	102	0	0	102	6	218	0	0	224	0	0	0	0	0	0	145	92	0	237	563
Total	0	446	0	0	446	20	877	0	0	897	0	0	0	0	0	0	532	324	0	856	2199
05:00 PM	0	174	0	0	174	1	255	0	0	256	0	0	0	0	0	0	120	81	0	201	631
05:15 PM	0	123	0	0	123	0	278	0	0	278	0	0	0	0	0	0	156	51	0	207	608
05:30 PM	0	160	0	0	160	3	203	0	0	206	0	0	0	0	0	0	157	53	0	210	576
05:45 PM	0	80	0	0	80	0	247	0	0	247	0	0	0	0	0	0	161	48	0	209	536
Total	0	537	0	0	537	4	983	0	0	987	0	0	0	0	0	0	594	233	0	827	2351
Grand Total	0	1391	0	0	1391	39	2580	0	0	2619	0	0	0	0	0	0	2020	1141	0	3161	7171
Apprch %	0	100	0	0		1.5	98.5	0	0		0	0	0	0	0	0	63.9	36.1	0		
Total %	0	19.4	0	0	19.4	0.5	36	0	0	36.5	0	0	0	0	0	0	28.2	15.9	0	44.1	
Cars	0	1326	0	0	1326	0	2542	0	0	2542	0	0	0	0	0	0	1993	1109	0	3102	6970
% Cars	0	95.3	0	0	95.3	0	98.5	0	0	97.1	0	0	0	0	0	0	98.7	97.2	0	98.1	97.2
Trucks1	0	21	0	0	21	16	12	0	0	28	0	0	0	0	0	0	13	17	0	30	79
% Trucks1	0	1.5	0	0	1.5	41	0.5	0	0	1.1	0	0	0	0	0	0	0.6	1.5	0	0.9	1.1

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at Greenup (North)
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

Groups Printed- Cars - Trucks1 - Trucks2

	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	0	44	0	0	44	23	26	0	0	49	0	0	0	0	0	0	14	15	0	29	122
% Trucks2	0	3.2	0	0	3.2	59	1	0	0	1.9	0	0	0	0	0	0	0.7	1.3	0	0.9	1.7

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	56	0	0	56	2	95	0	0	97	0	0	0	0	0	0	122	78	0	200	353
08:15 AM	0	54	0	0	54	3	87	0	0	90	0	0	0	0	0	0	104	58	0	162	306
08:30 AM	0	56	0	0	56	3	116	0	0	119	0	0	0	0	0	0	120	69	0	189	364
08:45 AM	0	71	0	0	71	1	89	0	0	90	0	0	0	0	0	0	98	62	0	160	321
Total Volume	0	237	0	0	237	9	387	0	0	396	0	0	0	0	0	0	444	267	0	711	1344
% App. Total	0	100	0	0		2.3	97.7	0	0		0	0	0	0	0	0	62.4	37.6	0		
PHF	.000	.835	.000	.000	.835	.750	.834	.000	.000	.832	.000	.000	.000	.000	.000	.000	.910	.856	.000	.889	.923
Cars	0	217	0	0	217	0	369	0	0	369	0	0	0	0	0	0	436	255	0	691	1277
% Cars	0	91.6	0	0	91.6	0	95.3	0	0	93.2	0	0	0	0	0	0	98.2	95.5	0	97.2	95.0
Trucks1	0	6	0	0	6	9	3	0	0	12	0	0	0	0	0	0	3	6	0	9	27
% Trucks1	0	2.5	0	0	2.5	100	0.8	0	0	3.0	0	0	0	0	0	0	0.7	2.2	0	1.3	2.0
Trucks2	0	14	0	0	14	0	15	0	0	15	0	0	0	0	0	0	5	6	0	11	40
% Trucks2	0	5.9	0	0	5.9	0	3.9	0	0	3.8	0	0	0	0	0	0	1.1	2.2	0	1.5	3.0

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at Greenup (North)

Site Code : 00000000

Start Date : 8/19/2020

Page No : 3

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	121	0	0	121	3	191	0	0	194	0	0	0	0	0	0	148	57	0	205	520
04:30 PM	0	128	0	0	128	6	263	0	0	269	0	0	0	0	0	0	123	82	0	205	602
04:45 PM	0	102	0	0	102	6	218	0	0	224	0	0	0	0	0	0	145	92	0	237	563
05:00 PM	0	174	0	0	174	1	255	0	0	256	0	0	0	0	0	0	120	81	0	201	631
Total Volume	0	525	0	0	525	16	927	0	0	943	0	0	0	0	0	0	536	312	0	848	2316
% App. Total	0	100	0	0		1.7	98.3	0	0		0	0	0	0		0	63.2	36.8	0		
PHF	.000	.754	.000	.000	.754	.667	.881	.000	.000	.876	.000	.000	.000	.000	.000	.000	.905	.848	.000	.895	.918
Cars	0	509	0	0	509	0	925	0	0	925	0	0	0	0	0	0	531	306	0	837	2271
% Cars	0	97.0	0	0	97.0	0	99.8	0	0	98.1	0	0	0	0	0	0	99.1	98.1	0	98.7	98.1
Trucks1	0	5	0	0	5	3	1	0	0	4	0	0	0	0	0	0	3	3	0	6	15
% Trucks1	0	1.0	0	0	1.0	18.8	0.1	0	0	0.4	0	0	0	0	0	0	0.6	1.0	0	0.7	0.6
Trucks2	0	11	0	0	11	13	1	0	0	14	0	0	0	0	0	0	2	3	0	5	30
% Trucks2	0	2.1	0	0	2.1	81.3	0.1	0	0	1.5	0	0	0	0	0	0	0.4	1.0	0	0.6	1.3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Winchester Ave at Greenup
Southern Intersection

File Name : Winchester Ave at Greenup (South)
Site Code : 00000000
Start Date : 8/20/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	62	0	0	62	53	36	0	0	89	0	0	0	0	0	0	48	0	0	48	199
07:15 AM	0	43	0	0	43	63	55	0	0	118	0	0	0	0	0	0	61	0	0	61	222
07:30 AM	0	74	0	0	74	71	79	0	0	150	0	0	0	0	0	0	50	0	0	50	274
07:45 AM	0	105	0	0	105	76	55	0	0	131	0	0	0	0	0	0	45	0	0	45	281
Total	0	284	0	0	284	263	225	0	0	488	0	0	0	0	0	0	204	0	0	204	976
08:00 AM	0	54	0	0	54	48	60	0	0	108	0	0	0	0	0	0	54	0	0	54	216
08:15 AM	0	54	0	0	54	88	65	0	0	153	0	0	0	0	0	0	68	0	0	68	275
08:30 AM	0	47	0	0	47	79	64	0	0	143	0	0	0	0	0	4	54	0	0	58	248
08:45 AM	0	42	0	0	42	62	64	0	0	126	0	0	0	0	0	0	55	0	0	55	223
Total	0	197	0	0	197	277	253	0	0	530	0	0	0	0	0	4	231	0	0	235	962
*** BREAK ***																					
04:00 PM	0	91	0	0	91	101	79	0	0	180	0	0	0	0	0	0	95	0	0	95	366
04:15 PM	0	85	0	0	85	87	64	0	0	151	0	0	0	0	0	0	102	0	0	102	338
04:30 PM	0	89	0	0	89	101	66	0	0	167	0	0	0	0	0	0	101	0	0	101	357
04:45 PM	0	89	0	0	89	131	67	0	0	198	0	0	0	0	0	0	93	0	0	93	380
Total	0	354	0	0	354	420	276	0	0	696	0	0	0	0	0	0	391	0	0	391	1441
05:00 PM	0	118	0	0	118	113	70	0	0	183	0	0	0	0	0	0	89	0	0	89	390
05:15 PM	0	82	0	0	82	132	62	0	0	194	0	0	0	0	0	0	103	0	0	103	379
05:30 PM	0	93	0	0	93	145	70	0	0	215	0	0	0	0	0	0	99	0	0	99	407
05:45 PM	0	91	0	0	91	111	63	0	0	174	0	0	0	0	0	0	55	0	0	55	320
Total	0	384	0	0	384	501	265	0	0	766	0	0	0	0	0	0	346	0	0	346	1496
Grand Total	0	1219	0	0	1219	1461	1019	0	0	2480	0	0	0	0	0	4	1172	0	0	1176	4875
Apprch %	0	100	0	0		58.9	41.1	0	0		0	0	0	0		0.3	99.7	0	0		
Total %	0	25	0	0	25	30	20.9	0	0	50.9	0	0	0	0	0	0.1	24	0	0	24.1	
Cars	0	1138	0	0	1138	1403	1000	0	0	2403	0	0	0	0	0	0	1146	0	0	1146	4687
% Cars	0	93.4	0	0	93.4	96	98.1	0	0	96.9	0	0	0	0	0	0	97.8	0	0	97.4	96.1
Trucks1	0	20	0	0	20	17	16	0	0	33	0	0	0	0	0	2	18	0	0	20	73
% Trucks1	0	1.6	0	0	1.6	1.2	1.6	0	0	1.3	0	0	0	0	0	50	1.5	0	0	1.7	1.5

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at Greenup (South)
Site Code : 00000000
Start Date : 8/20/2020
Page No : 2

Groups Printed- Cars - Trucks1 - Trucks2

	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Trucks2	0	61	0	0	61	41	3	0	0	44	0	0	0	0	0	2	8	0	0	10	115
% Trucks2	0	5	0	0	5	2.8	0.3	0	0	1.8	0	0	0	0	0	50	0.7	0	0	0.9	2.4

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

07:30 AM	0	74	0	0	74	71	79	0	0	150	0	0	0	0	0	0	50	0	0	50	274
07:45 AM	0	105	0	0	105	76	55	0	0	131	0	0	0	0	0	0	45	0	0	45	281
08:00 AM	0	54	0	0	54	48	60	0	0	108	0	0	0	0	0	0	54	0	0	54	216
08:15 AM	0	54	0	0	54	88	65	0	0	153	0	0	0	0	0	0	68	0	0	68	275
Total Volume	0	287	0	0	287	283	259	0	0	542	0	0	0	0	0	0	217	0	0	217	1046
% App. Total	0	100	0	0		52.2	47.8	0	0		0	0	0	0	0	0	100	0	0		
PHF	.000	.683	.000	.000	.683	.804	.820	.000	.000	.886	.000	.000	.000	.000	.000	.000	.798	.000	.000	.798	.931
Cars	0	263	0	0	263	265	252	0	0	517	0	0	0	0	0	0	209	0	0	209	989
% Cars	0	91.6	0	0	91.6	93.6	97.3	0	0	95.4	0	0	0	0	0	0	96.3	0	0	96.3	94.6
Trucks1	0	6	0	0	6	5	7	0	0	12	0	0	0	0	0	0	7	0	0	7	25
% Trucks1	0	2.1	0	0	2.1	1.8	2.7	0	0	2.2	0	0	0	0	0	0	3.2	0	0	3.2	2.4
Trucks2	0	18	0	0	18	13	0	0	0	13	0	0	0	0	0	0	1	0	0	1	32
% Trucks2	0	6.3	0	0	6.3	4.6	0	0	0	2.4	0	0	0	0	0	0	0.5	0	0	0.5	3.1

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

File Name : Winchester Ave at Greenup (South)
Site Code : 00000000
Start Date : 8/20/2020
Page No : 3

Start Time	Greenup From North					Winchester Ave From East					From South					Winchester Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	89	0	0	89	131	67	0	0	198	0	0	0	0	0	0	93	0	0	93	380
05:00 PM	0	118	0	0	118	113	70	0	0	183	0	0	0	0	0	0	89	0	0	89	390
05:15 PM	0	82	0	0	82	132	62	0	0	194	0	0	0	0	0	0	103	0	0	103	379
05:30 PM	0	93	0	0	93	145	70	0	0	215	0	0	0	0	0	0	99	0	0	99	407
Total Volume	0	382	0	0	382	521	269	0	0	790	0	0	0	0	0	0	384	0	0	384	1556
% App. Total	0	100	0	0		65.9	34.1	0	0		0	0	0	0	0	0	100	0	0		
PHF	.000	.809	.000	.000	.809	.898	.961	.000	.000	.919	.000	.000	.000	.000	.000	.000	.932	.000	.000	.932	.956
Cars	0	362	0	0	362	508	266	0	0	774	0	0	0	0	0	0	378	0	0	378	1514
% Cars	0	94.8	0	0	94.8	97.5	98.9	0	0	98.0	0	0	0	0	0	0	98.4	0	0	98.4	97.3
Trucks1	0	7	0	0	7	2	2	0	0	4	0	0	0	0	0	0	3	0	0	3	14
% Trucks1	0	1.8	0	0	1.8	0.4	0.7	0	0	0.5	0	0	0	0	0	0	0.8	0	0	0.8	0.9
Trucks2	0	13	0	0	13	11	1	0	0	12	0	0	0	0	0	0	3	0	0	3	28
% Trucks2	0	3.4	0	0	3.4	2.1	0.4	0	0	1.5	0	0	0	0	0	0	0.8	0	0	0.8	1.8

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 15th St

File Name : Greenup Ave at 15th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	15th St From North					Greenup Ave From East					15th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	1	0	1	0	2	0	40	1	0	41	2	0	3	0	5	0	102	0	0	102	150
07:15 AM	1	2	0	0	3	0	65	1	0	66	2	1	0	0	3	0	142	0	0	142	214
07:30 AM	2	1	0	0	3	2	80	3	0	85	0	5	2	0	7	2	168	1	0	171	266
07:45 AM	0	2	0	0	2	1	83	2	0	86	2	1	1	1	5	1	196	0	0	197	290
Total	4	5	1	0	10	3	268	7	0	278	6	7	6	1	20	3	608	1	0	612	920
08:00 AM	2	0	4	0	6	1	74	2	0	77	6	2	0	0	8	3	149	4	0	156	247
08:15 AM	1	3	2	0	6	4	92	0	0	96	2	2	2	0	6	4	137	4	0	145	253
08:30 AM	1	1	0	0	2	8	110	4	1	123	3	3	0	0	6	2	113	5	0	120	251
08:45 AM	3	2	0	1	6	4	86	2	1	93	3	2	2	0	7	9	100	4	0	113	219
Total	7	6	6	1	20	17	362	8	2	389	14	9	4	0	27	18	499	17	0	534	970
*** BREAK ***																					
04:15 PM	3	3	3	0	9	1	168	3	0	172	7	3	6	0	16	3	160	3	0	166	363
04:30 PM	7	5	7	0	19	2	212	6	0	220	14	0	7	0	21	0	135	0	0	135	395
04:45 PM	0	1	1	0	2	3	213	3	0	219	6	2	2	0	10	1	121	4	0	126	357
Total	10	9	11	0	30	6	593	12	0	611	27	5	15	0	47	4	416	7	0	427	1115
05:00 PM	5	3	2	0	10	3	232	3	0	238	8	4	12	0	24	1	122	5	0	128	400
05:15 PM	0	2	5	0	7	4	223	2	0	229	13	1	12	0	26	1	138	7	0	146	408
05:30 PM	6	6	7	0	19	2	201	8	0	211	16	0	4	0	20	1	126	4	0	131	381
05:45 PM	2	2	4	0	8	2	138	7	0	147	8	1	4	0	13	2	120	4	0	126	294
Total	13	13	18	0	44	11	794	20	0	825	45	6	32	0	83	5	506	20	0	531	1483
Grand Total	34	33	36	1	104	37	2017	47	2	2103	92	27	57	1	177	30	2029	45	0	2104	4488
Apprch %	32.7	31.7	34.6	1		1.8	95.9	2.2	0.1		52	15.3	32.2	0.6		1.4	96.4	2.1	0		
Total %	0.8	0.7	0.8	0	2.3	0.8	44.9	1	0	46.9	2	0.6	1.3	0	3.9	0.7	45.2	1	0	46.9	
Cars	28	33	25	1	87	35	1927	45	2	2009	91	17	54	1	163	29	1939	41	0	2009	4268
% Cars	82.4	100	69.4	100	83.7	94.6	95.5	95.7	100	95.5	98.9	63	94.7	100	92.1	96.7	95.6	91.1	0	95.5	95.1
Trucks1	6	0	11	0	17	2	26	2	0	30	0	10	2	0	12	1	23	3	0	27	86
% Trucks1	17.6	0	30.6	0	16.3	5.4	1.3	4.3	0	1.4	0	37	3.5	0	6.8	3.3	1.1	6.7	0	1.3	1.9
Trucks2	0	0	0	0	0	0	64	0	0	64	1	0	1	0	2	0	67	1	0	68	134
% Trucks2	0	0	0	0	0	0	3.2	0	0	3	1.1	0	1.8	0	1.1	0	3.3	2.2	0	3.2	3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Start Time	15th St From North					Greenup Ave From East					15th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	2	0	4	0	6	1	74	2	0	77	6	2	0	0	8	3	149	4	0	156	247
08:15 AM	1	3	2	0	6	4	92	0	0	96	2	2	2	0	6	4	137	4	0	145	253
08:30 AM	1	1	0	0	2	8	110	4	1	123	3	3	0	0	6	2	113	5	0	120	251
08:45 AM	3	2	0	1	6	4	86	2	1	93	3	2	2	0	7	9	100	4	0	113	219
Total Volume	7	6	6	1	20	17	362	8	2	389	14	9	4	0	27	18	499	17	0	534	970
% App. Total	35	30	30	5		4.4	93.1	2.1	0.5		51.9	33.3	14.8	0		3.4	93.4	3.2	0		
PHF	.583	.500	.375	.250	.833	.531	.823	.500	.500	.791	.583	.750	.500	.000	.844	.500	.837	.850	.000	.856	.958
Cars	5	6	4	1	16	16	317	7	2	342	14	6	4	0	24	18	466	16	0	500	882
% Cars	71.4	100	66.7	100	80.0	94.1	87.6	87.5	100	87.9	100	66.7	100	0	88.9	100	93.4	94.1	0	93.6	90.9
Trucks1	2	0	2	0	4	1	14	1	0	16	0	3	0	0	3	0	9	1	0	10	33
% Trucks1	28.6	0	33.3	0	20.0	5.9	3.9	12.5	0	4.1	0	33.3	0	0	11.1	0	1.8	5.9	0	1.9	3.4
Trucks2	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	0	24	0	0	24	55
% Trucks2	0	0	0	0	0	0	8.6	0	0	8.0	0	0	0	0	0	0	4.8	0	0	4.5	5.7
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	3	3	3	0	9	1	168	3	0	172	7	3	6	0	16	3	160	3	0	166	363
04:30 PM	7	5	7	0	19	2	212	6	0	220	14	0	7	0	21	0	135	0	0	135	395
04:45 PM	0	1	1	0	2	3	213	3	0	219	6	2	2	0	10	1	121	4	0	126	357
05:00 PM	5	3	2	0	10	3	232	3	0	238	8	4	12	0	24	1	122	5	0	128	400
Total Volume	15	12	13	0	40	9	825	15	0	849	35	9	27	0	71	5	538	12	0	555	1515
% App. Total	37.5	30	32.5	0		1.1	97.2	1.8	0		49.3	12.7	38	0		0.9	96.9	2.2	0		
PHF	.536	.600	.464	.000	.526	.750	.889	.625	.000	.892	.625	.563	.563	.000	.740	.417	.841	.600	.000	.836	.947
Cars	13	12	9	0	34	9	807	15	0	831	34	5	26	0	65	5	521	9	0	535	1465
% Cars	86.7	100	69.2	0	85.0	100	97.8	100	0	97.9	97.1	55.6	96.3	0	91.5	100	96.8	75.0	0	96.4	96.7
Trucks1	2	0	4	0	6	0	4	0	0	4	0	4	1	0	5	0	6	2	0	8	23
% Trucks1	13.3	0	30.8	0	15.0	0	0.5	0	0	0.5	0	44.4	3.7	0	7.0	0	1.1	16.7	0	1.4	1.5
Trucks2	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	11	1	0	12	27
% Trucks2	0	0	0	0	0	0	1.7	0	0	1.6	2.9	0	0	0	1.4	0	2.0	8.3	0	2.2	1.8

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 16th St

File Name : Greenup Ave at 16th Street
Site Code : 00000000
Start Date : 8/13/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	16th St From North					Greenup Ave From East					16th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	48	1	0	49	2	0	0	0	2	1	115	0	0	116	167
07:15 AM	0	0	0	0	0	1	62	1	0	64	2	0	1	0	3	0	129	4	0	133	200
07:30 AM	2	0	0	0	2	1	96	0	0	97	1	0	0	0	1	1	195	1	0	197	297
07:45 AM	0	0	1	0	1	3	94	0	0	97	1	1	0	0	2	1	215	5	0	221	321
Total	2	0	1	0	3	5	300	2	0	307	6	1	1	0	8	3	654	10	0	667	985
08:00 AM	0	0	0	0	0	3	82	0	0	85	0	3	0	0	3	2	152	1	0	155	243
08:15 AM	1	0	0	0	1	1	100	3	0	104	1	0	0	0	1	2	139	3	0	144	250
08:30 AM	0	0	0	1	1	0	109	1	0	110	2	0	0	0	2	6	117	2	0	125	238
08:45 AM	0	0	1	0	1	0	91	1	0	92	0	0	1	0	1	5	116	5	0	126	220
Total	1	0	1	1	3	4	382	5	0	391	3	3	1	0	7	15	524	11	0	550	951
*** BREAK ***																					
04:00 PM	3	0	1	0	4	2	149	5	0	156	2	0	2	0	4	7	159	3	0	169	333
04:15 PM	2	3	2	0	7	2	167	3	0	172	3	0	8	0	11	12	158	5	0	175	365
04:30 PM	3	1	2	0	6	2	248	2	0	252	4	0	3	0	7	12	170	0	0	182	447
04:45 PM	3	0	1	0	4	1	222	1	0	224	3	2	4	0	9	5	128	1	0	134	371
Total	11	4	6	0	21	7	786	11	0	804	12	2	17	0	31	36	615	9	0	660	1516
05:00 PM	4	0	3	0	7	3	208	6	0	217	3	1	5	0	9	3	126	2	0	131	364
05:15 PM	5	2	2	1	10	1	224	3	0	228	5	1	4	0	10	7	172	4	0	183	431
05:30 PM	1	2	0	0	3	5	202	2	1	210	2	2	3	0	7	9	157	1	0	167	387
05:45 PM	3	3	0	0	6	3	158	5	0	166	3	1	2	0	6	2	121	5	0	128	306
Total	13	7	5	1	26	12	792	16	1	821	13	5	14	0	32	21	576	12	0	609	1488
Grand Total	27	11	13	2	53	28	2260	34	1	2323	34	11	33	0	78	75	2369	42	0	2486	4940
Apprch %	50.9	20.8	24.5	3.8		1.2	97.3	1.5	0		43.6	14.1	42.3	0		3	95.3	1.7	0		
Total %	0.5	0.2	0.3	0	1.1	0.6	45.7	0.7	0	47	0.7	0.2	0.7	0	1.6	1.5	48	0.9	0	50.3	
Cars	27	11	13	2	53	28	2148	33	1	2210	34	11	33	0	78	68	2242	42	0	2352	4693
% Cars	100	100	100	100	100	100	95	97.1	100	95.1	100	100	100	0	100	90.7	94.6	100	0	94.6	95
Trucks1	0	0	0	0	0	0	45	0	0	45	0	0	0	0	0	7	56	0	0	63	108
% Trucks1	0	0	0	0	0	0	2	0	0	1.9	0	0	0	0	0	9.3	2.4	0	0	2.5	2.2
Trucks2	0	0	0	0	0	0	67	1	0	68	0	0	0	0	0	0	71	0	0	71	139
% Trucks2	0	0	0	0	0	0	3	2.9	0	2.9	0	0	0	0	0	0	3	0	0	2.9	2.8

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 16th St

File Name : Greenup Ave at 16th Street
Site Code : 00000000
Start Date : 8/13/2020
Page No : 2

Start Time	16th St From North					Greenup Ave From East					16th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	3	82	0	0	85	0	3	0	0	3	2	152	1	0	155	243
08:15 AM	1	0	0	0	1	1	100	3	0	104	1	0	0	0	1	2	139	3	0	144	250
08:30 AM	0	0	0	1	1	0	109	1	0	110	2	0	0	0	2	6	117	2	0	125	238
08:45 AM	0	0	1	0	1	0	91	1	0	92	0	0	1	0	1	5	116	5	0	126	220
Total Volume	1	0	1	1	3	4	382	5	0	391	3	3	1	0	7	15	524	11	0	550	951
% App. Total	33.3	0	33.3	33.3		1	97.7	1.3	0		42.9	42.9	14.3	0		2.7	95.3	2	0		
PHF	.250	.000	.250	.250	.750	.333	.876	.417	.000	.889	.375	.250	.250	.000	.583	.625	.862	.550	.000	.887	.951

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	3	2	0	7	2	167	3	0	172	3	0	8	0	11	12	158	5	0	175	365
04:30 PM	3	1	2	0	6	2	248	2	0	252	4	0	3	0	7	12	170	0	0	182	447
04:45 PM	3	0	1	0	4	1	222	1	0	224	3	2	4	0	9	5	128	1	0	134	371
05:00 PM	4	0	3	0	7	3	208	6	0	217	3	1	5	0	9	3	126	2	0	131	364
Total Volume	12	4	8	0	24	8	845	12	0	865	13	3	20	0	36	32	582	8	0	622	1547
% App. Total	50	16.7	33.3	0		0.9	97.7	1.4	0		36.1	8.3	55.6	0		5.1	93.6	1.3	0		
PHF	.750	.333	.667	.000	.857	.667	.852	.500	.000	.858	.813	.375	.625	.000	.818	.667	.856	.400	.000	.854	.865

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 17th St

File Name : Greenup Ave at 17th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	17th St From North					Greenup Ave From East					17th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:15 AM	0	0	1	0	1	1	62	0	0	63	1	0	2	0	3	2	118	3	0	123	190
07:30 AM	1	1	0	0	2	0	86	0	1	87	4	1	1	0	6	1	129	5	0	135	230
07:45 AM	0	0	1	0	1	1	87	2	0	90	4	0	1	0	5	4	212	0	0	216	312
Total	1	1	2	0	4	2	235	2	1	240	9	1	4	0	14	7	459	8	0	474	732
08:00 AM	3	0	3	0	6	1	78	6	0	85	3	1	2	0	6	1	142	0	0	143	240
08:15 AM	1	1	0	0	2	0	106	5	0	111	2	0	2	0	4	3	132	3	0	138	255
08:30 AM	1	0	1	0	2	1	82	3	0	86	1	0	3	0	4	2	105	2	0	109	201
08:45 AM	0	1	2	0	3	0	102	5	0	107	1	0	4	0	5	3	131	0	0	134	249
Total	5	2	6	0	13	2	368	19	0	389	7	1	11	0	19	9	510	5	0	524	945
*** BREAK ***																					
04:00 PM	2	1	3	0	6	1	126	4	0	131	6	1	14	0	21	5	144	1	0	150	308
04:15 PM	0	2	2	0	4	1	140	4	0	145	2	0	9	0	11	5	138	0	0	143	303
04:30 PM	3	3	3	1	10	2	171	2	0	175	2	1	7	0	10	3	116	2	0	121	316
04:45 PM	2	1	3	0	6	1	169	5	0	175	5	0	8	0	13	1	144	1	0	146	340
Total	7	7	11	1	26	5	606	15	0	626	15	2	38	0	55	14	542	4	0	560	1267
05:00 PM	2	4	1	0	7	1	233	1	0	235	5	0	7	0	12	6	164	1	0	171	425
05:15 PM	1	1	0	0	2	0	154	2	0	156	2	0	3	0	5	2	120	0	0	122	285
05:30 PM	2	1	2	0	5	0	146	6	0	152	0	0	3	0	3	5	104	1	0	110	270
05:45 PM	0	2	0	0	2	0	126	2	0	128	2	0	3	0	5	1	120	3	0	124	259
Total	5	8	3	0	16	1	659	11	0	671	9	0	16	0	25	14	508	5	0	527	1239
Grand Total	18	18	22	1	59	10	1868	47	1	1926	40	4	69	0	113	44	2019	22	0	2085	4183
Aprch %	30.5	30.5	37.3	1.7		0.5	97	2.4	0.1		35.4	3.5	61.1	0		2.1	96.8	1.1	0		
Total %	0.4	0.4	0.5	0	1.4	0.2	44.7	1.1	0	46	1	0.1	1.6	0	2.7	1.1	48.3	0.5	0	49.8	
Cars	18	18	20	1	57	10	1778	46	1	1835	40	4	66	0	110	44	1919	22	0	1985	3987
% Cars	100	100	90.9	100	96.6	100	95.2	97.9	100	95.3	100	100	95.7	0	97.3	100	95	100	0	95.2	95.3
Trucks1	0	0	2	0	2	0	33	0	0	33	0	0	3	0	3	0	46	0	0	46	84
% Trucks1	0	0	9.1	0	3.4	0	1.8	0	0	1.7	0	0	4.3	0	2.7	0	2.3	0	0	2.2	2
Trucks2	0	0	0	0	0	0	57	1	0	58	0	0	0	0	0	0	54	0	0	54	112
% Trucks2	0	0	0	0	0	0	3.1	2.1	0	3	0	0	0	0	0	0	2.7	0	0	2.6	2.7

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 17th St

File Name : Greenup Ave at 17th Street
Site Code : 00000000
Start Date : 8/14/2020
Page No : 2

Start Time	17th St From North					Greenup Ave From East					17th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	3	0	3	0	6	1	78	6	0	85	3	1	2	0	6	1	142	0	0	143	240
08:15 AM	1	1	0	0	2	0	106	5	0	111	2	0	2	0	4	3	132	3	0	138	255
08:30 AM	1	0	1	0	2	1	82	3	0	86	1	0	3	0	4	2	105	2	0	109	201
08:45 AM	0	1	2	0	3	0	102	5	0	107	1	0	4	0	5	3	131	0	0	134	249
Total Volume	5	2	6	0	13	2	368	19	0	389	7	1	11	0	19	9	510	5	0	524	945
% App. Total	38.5	15.4	46.2	0		0.5	94.6	4.9	0		36.8	5.3	57.9	0		1.7	97.3	1	0		
PHF	.417	.500	.500	.000	.542	.500	.868	.792	.000	.876	.583	.250	.688	.000	.792	.750	.898	.417	.000	.916	.926

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	2	2	0	4	1	140	4	0	145	2	0	9	0	11	5	138	0	0	143	303
04:30 PM	3	3	3	1	10	2	171	2	0	175	2	1	7	0	10	3	116	2	0	121	316
04:45 PM	2	1	3	0	6	1	169	5	0	175	5	0	8	0	13	1	144	1	0	146	340
05:00 PM	2	4	1	0	7	1	233	1	0	235	5	0	7	0	12	6	164	1	0	171	425
Total Volume	7	10	9	1	27	5	713	12	0	730	14	1	31	0	46	15	562	4	0	581	1384
% App. Total	25.9	37	33.3	3.7		0.7	97.7	1.6	0		30.4	2.2	67.4	0		2.6	96.7	0.7	0		
PHF	.583	.625	.750	.250	.675	.625	.765	.600	.000	.777	.700	.250	.861	.000	.885	.625	.857	.500	.000	.849	.814

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 29th St

File Name : Greenup Ave at 29th Street
Site Code : 00000000
Start Date : 8/20/2020
Page No : 1

Groups Printed- Cars - Trucks1 - Trucks2

Start Time	29th St From North					Greenup Ave From East					29th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	1	0	1	1	49	0	0	50	0	2	5	0	7	4	59	0	0	63	121
07:15 AM	2	0	2	0	4	0	59	0	0	59	0	1	7	0	8	4	71	6	0	81	152
07:30 AM	0	0	0	0	0	0	75	2	0	77	0	1	10	0	11	6	72	2	3	83	171
07:45 AM	1	1	3	0	5	0	95	0	0	95	3	1	16	0	20	25	95	3	1	124	244
Total	3	1	6	0	10	1	278	2	0	281	3	5	38	0	46	39	297	11	4	351	688
08:00 AM	1	0	0	0	1	2	111	0	0	113	3	1	11	0	15	15	74	1	0	90	219
08:15 AM	2	0	0	1	3	0	88	1	0	89	2	0	13	0	15	13	73	3	0	89	196
08:30 AM	2	1	1	1	5	0	81	3	0	84	0	0	18	1	19	19	64	2	0	85	193
08:45 AM	2	1	1	0	4	1	91	2	0	94	4	0	12	0	16	13	77	2	1	93	207
Total	7	2	2	2	13	3	371	6	0	380	9	1	54	1	65	60	288	8	1	357	815
*** BREAK ***																					
04:00 PM	1	2	1	0	4	1	110	1	0	112	1	4	12	0	17	23	86	2	0	111	244
04:15 PM	0	0	0	0	0	0	131	1	0	132	0	0	11	0	11	23	109	1	0	133	276
04:30 PM	4	0	0	0	4	1	150	2	0	153	0	0	19	0	19	15	121	2	0	138	314
04:45 PM	0	1	0	0	1	0	116	1	0	117	3	1	19	0	23	21	112	0	0	133	274
Total	5	3	1	0	9	2	507	5	0	514	4	5	61	0	70	82	428	5	0	515	1108
05:00 PM	5	0	0	1	6	0	141	3	0	144	1	0	21	0	22	29	109	0	2	140	312
05:15 PM	0	1	0	0	1	1	162	3	1	167	1	0	16	0	17	27	104	1	0	132	317
05:30 PM	0	1	1	1	3	0	211	1	0	212	3	0	17	0	20	22	79	2	0	103	338
05:45 PM	2	0	0	0	2	0	107	2	0	109	2	0	16	0	18	13	93	0	0	106	235
Total	7	2	1	2	12	1	621	9	1	632	7	0	70	0	77	91	385	3	2	481	1202
Grand Total	22	8	10	4	44	7	1777	22	1	1807	23	11	223	1	258	272	1398	27	7	1704	3813
Apprch %	50	18.2	22.7	9.1		0.4	98.3	1.2	0.1		8.9	4.3	86.4	0.4		16	82	1.6	0.4		
Total %	0.6	0.2	0.3	0.1	1.2	0.2	46.6	0.6	0	47.4	0.6	0.3	5.8	0	6.8	7.1	36.7	0.7	0.2	44.7	
Cars	21	8	4	4	37	5	1682	17	1	1705	23	11	220	1	255	269	1295	27	7	1598	3595
% Cars	95.5	100	40	100	84.1	71.4	94.7	77.3	100	94.4	100	100	98.7	100	98.8	98.9	92.6	100	100	93.8	94.3
Trucks1	1	0	5	0	6	1	41	4	0	46	0	0	2	0	2	1	49	0	0	50	104
% Trucks1	4.5	0	50	0	13.6	14.3	2.3	18.2	0	2.5	0	0	0.9	0	0.8	0.4	3.5	0	0	2.9	2.7
Trucks2	0	0	1	0	1	1	54	1	0	56	0	0	1	0	1	2	54	0	0	56	114
% Trucks2	0	0	10	0	2.3	14.3	3	4.5	0	3.1	0	0	0.4	0	0.4	0.7	3.9	0	0	3.3	3

Palmer Engineering

400 Shoppers Drive
Winchester, KY, 40391

Downtown Ashland Study
Intersection: Greenup Ave at 29th St

File Name : Greenup Ave at 29th Street
Site Code : 00000000
Start Date : 8/20/2020
Page No : 2

Start Time	29th St From North					Greenup Ave From East					29th St From South					Greenup Ave From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	1	3	0	5	0	95	0	0	95	3	1	16	0	20	25	95	3	1	124	244
08:00 AM	1	0	0	0	1	2	111	0	0	113	3	1	11	0	15	15	74	1	0	90	219
08:15 AM	2	0	0	1	3	0	88	1	0	89	2	0	13	0	15	13	73	3	0	89	196
08:30 AM	2	1	1	1	5	0	81	3	0	84	0	0	18	1	19	19	64	2	0	85	193
Total Volume	6	2	4	2	14	2	375	4	0	381	8	2	58	1	69	72	306	9	1	388	852
% App. Total	42.9	14.3	28.6	14.3		0.5	98.4	1	0		11.6	2.9	84.1	1.4		18.6	78.9	2.3	0.3		
PHF	.750	.500	.333	.500	.700	.250	.845	.333	.000	.843	.667	.500	.806	.250	.863	.720	.805	.750	.250	.782	.873

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	1	0	0	1	0	116	1	0	117	3	1	19	0	23	21	112	0	0	133	274
05:00 PM	5	0	0	1	6	0	141	3	0	144	1	0	21	0	22	29	109	0	2	140	312
05:15 PM	0	1	0	0	1	1	162	3	1	167	1	0	16	0	17	27	104	1	0	132	317
05:30 PM	0	1	1	1	3	0	211	1	0	212	3	0	17	0	20	22	79	2	0	103	338
Total Volume	5	3	1	2	11	1	630	8	1	640	8	1	73	0	82	99	404	3	2	508	1241
% App. Total	45.5	27.3	9.1	18.2		0.2	98.4	1.2	0.2		9.8	1.2	89	0		19.5	79.5	0.6	0.4		
PHF	.250	.750	.250	.500	.458	.250	.746	.667	.250	.755	.667	.250	.869	.000	.891	.853	.902	.375	.250	.907	.918

Historical Traffic Volume Summary

Station Details:

Sta ID:	010B09
Sta Type:	Classification
Map:	MapIt
District:	9
County:	Boyd
Route:	010-US-0023 -000
Route Desc:	US-23+GREENUP AVE

Begin MP:	16.9530
Begin Desc:	US 23X (WINCHESTER AVENUE)
End Mp:	18.6420
End Desc:	12TH STREET BRIDGE OVERPASS
Impact Year:	
Year Added:	

Newest Count:

AADT:	13079
Year:	2018
% Single:	5.5880
% Combo:	4.9750
K Factor:	9.70
D Factor:	54

Definitions:

Sta. ID - Three digit county number + station number

MP - milepoint

Impact Year – year of significant change to traffic pattern within station segment

AADT – Annual Average Daily Traffic – the annualized average 24-hour volume of vehicles on a segment of roadway

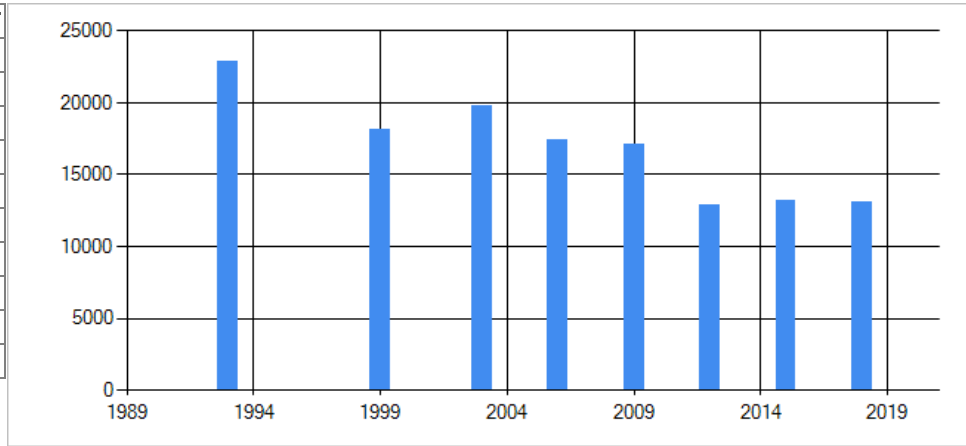
% Single – single unit truck volume as a percentage of the AADT

% Combo – combination truck volume as a percentage of the AADT

K Factor – peak hour volume as a percentage of the AADT

D Factor – percentage of peak hour volume flowing in the peak direction

Year	AADT	Year	AADT	Year	AADT
2020		2010		2000	
2019		2009	17100	1999	18100
2018	13079	2008		1998	
2017		2007		1997	
2016		2006	17400	1996	
2015	13241	2005		1995	
2014		2004		1994	
2013		2003	19800	1993	22900
2012	12842	2002		1992	
2011		2001		1991	



Historical Traffic Volume Summary

Station Details:

Sta ID:	010B10
Sta Type:	Full Coverage
Map:	MapIt
District:	9
County:	Boyd
Route:	010-US-0023X -000
Route Desc:	WINCHESTER AVE

Begin MP:	1.25
Begin Desc:	17TH STREET
End Mp:	1.5510
End Desc:	US 23S/US 60 (13TH ST)JUNCTION
Impact Year:	
Year Added:	

Newest Count:

AADT:	7598
Year:	2019
% Single:	5.1420
% Combo:	4.1720
K Factor:	9.70
D Factor:	54

Definitions:

Sta. ID - Three digit county number + station number

MP - milepoint

Impact Year – year of significant change to traffic pattern within station segment

AADT – Annual Average Daily Traffic – the annualized average 24-hour volume of vehicles on a segment of roadway

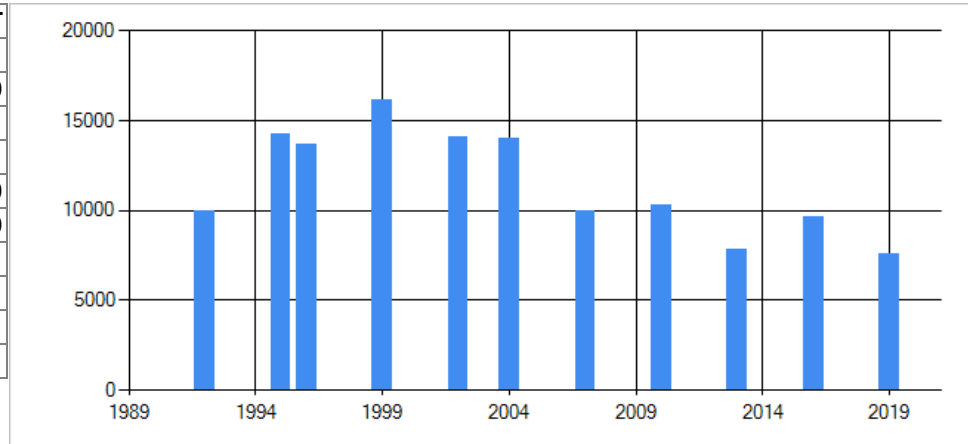
% Single – single unit truck volume as a percentage of the AADT

% Combo – combination truck volume as a percentage of the AADT

K Factor – peak hour volume as a percentage of the AADT

D Factor – percentage of peak hour volume flowing in the peak direction

Year	AADT	Year	AADT	Year	AADT
2020		2010	10300	2000	
2019	7598	2009		1999	16200
2018		2008		1998	
2017		2007	10000	1997	
2016	9686	2006		1996	13700
2015		2005		1995	14300
2014		2004	14000	1994	
2013	7798	2003		1993	
2012		2002	14100	1992	9940
2011		2001		1991	



Appendix A: Existing Traffic Evaluation

This report documents the steps taken by Palmer Engineering to analyze the existing conditions along Winchester Ave and Greenup Ave in downtown Ashland, Kentucky. The study area is between the two intersections of Winchester Avenue and Greenup Avenue with a focus on the northern intersection of Winchester Ave and Greenup Ave to 18th Street. Traffic counts were performed at several intersections along Winchester Ave and Greenup Ave, these intersections are listed below:

- Winchester Ave at Greenup Ave (North End)
- Winchester Ave at 8th St
- Winchester Ave at 9th St
- Winchester Ave at 10th St
- Winchester Ave at 11th St
- Winchester Ave at 12th St
- Winchester Ave at 13th St
- Winchester Ave at 14th St
- Winchester Ave at 15th St
- Winchester Ave at 16th St
- Winchester Ave at 17th St
- Winchester Ave at 18th St
- Greenup Ave at 15th St
- Greenup Ave at 16th St
- Greenup Ave at 17th St
- Greenup Ave at 29th St
- Winchester Ave at Greenup Ave (South End)

The traffic count data can be found in the back of this Appendix. Tube counters were placed in the field at two locations. The first tube count was on Winchester Ave between 18th Street and 19th Street. The second tube count was placed on Greenup Ave between 16th Street and 17th Street. Based on the results of the tube counts it was determined that the volumes were similar to those collected by the nearest KYTC Count Stations. Since the ADTs were similar to the count stations, the turning movements counts performed were not adjusted.

Travel time measurements were taken along Winchester Ave and Greenup Ave throughout the study area. Measurements were taken at every intersection along both corridors from the northern intersection of Winchester Ave and Greenup Ave to the southern intersection of the same corridors. Time was lapped after passing through each intersection in order to determine the effects of each stretch of roadway between intersections. Travel times were recorded for each of the following paths:

- Winchester Ave NB from southern Greenup Ave intersection to northern intersection (AM, 5 trips)
- Winchester Ave SB from northern Greenup Ave intersection to southern intersection (AM, 5 trips)
- Greenup Ave NB from southern Winchester Ave intersection to northern intersection (AM, 5 trips)
- Greenup Ave SB from northern Winchester Ave intersection to southern intersection (AM, 5 trips)
- Winchester Ave NB from southern Greenup Ave intersection to northern intersection (PM, 5 trips)
- Winchester Ave SB from northern Greenup Ave intersection to southern intersection (PM, 5 trips)
- Greenup Ave NB from southern Winchester Ave intersection to northern intersection (PM, 5 trips)
- Greenup Ave SB from northern Winchester Ave intersection to southern intersection (PM, 5 trips)

Travel times can be found in the back of this Appendix.

After collecting the field data VISSIM 2020 was utilized to generate microsimulations of the study area. In order to better represent the types of vehicles utilizing the network, the PTV Group North American Fleet model was used as a base model for the microsimulations. Having generated the network of links, placed vehicle inputs, signal heads, and vehicle routing decisions the model was run. The simulated travel times were compared to the measured travel times. Having compared the travel times, the desired speed distributions were adjusted to make the model better represent the existing conditions. The following figures depict how desired speed was adjusted to better represent existing conditions:

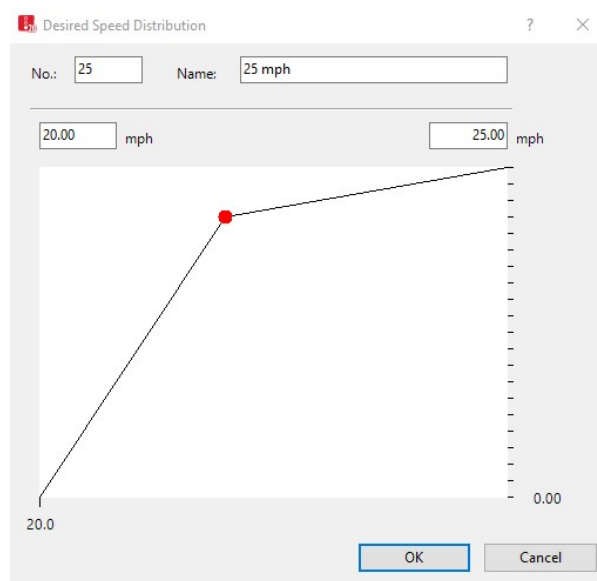


Figure 1. Existing AM Desired Speed Distribution for 25 Winchester Ave and Side Streets

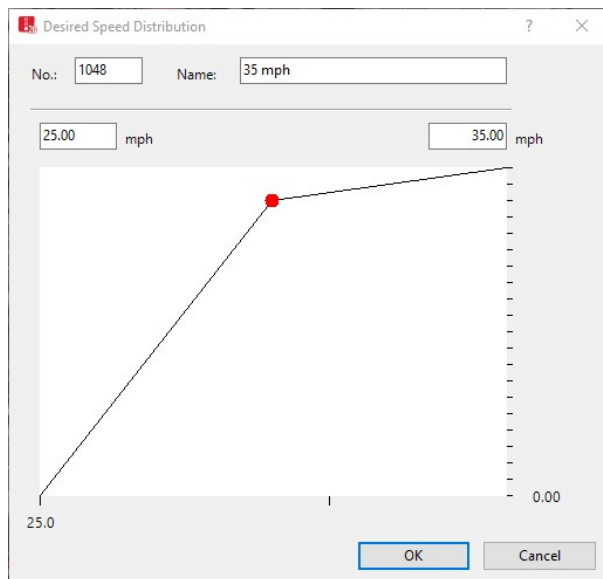


Figure 2. Existing AM Desired Speed Distribution for 35 Greenup Ave

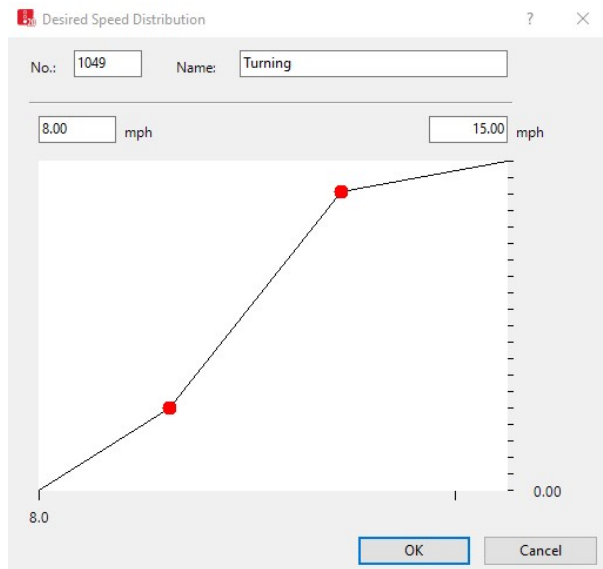


Figure 3. Existing AM Desired Speed Distribution for Turning Vehicles

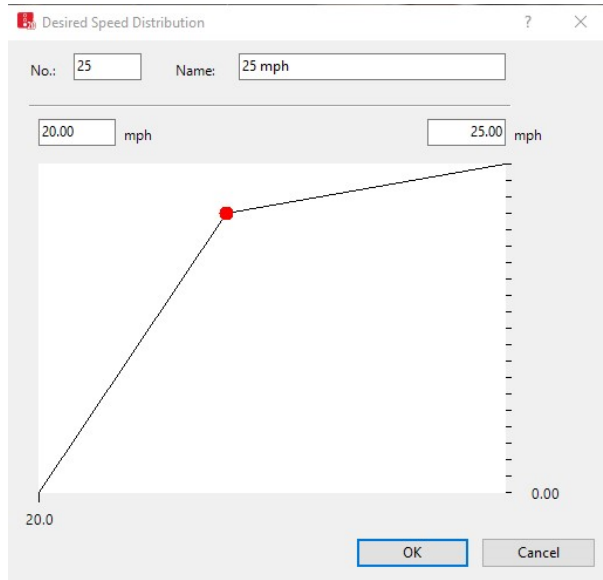


Figure 4. Existing PM Desired Speed Distribution for 25 Winchester Ave and Side Streets

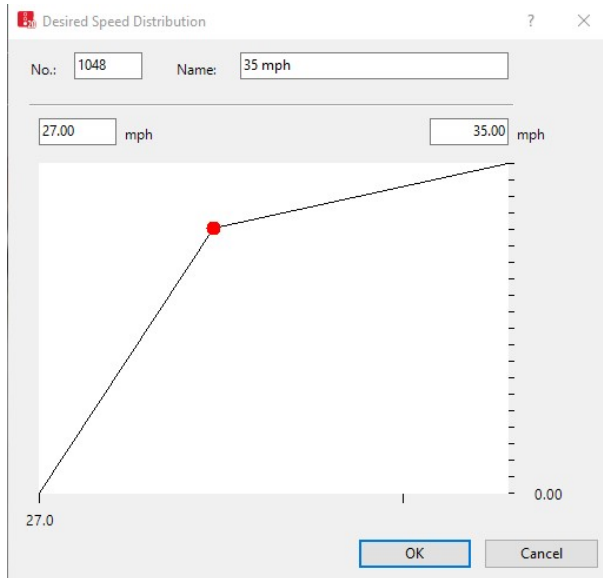


Figure 5. Existing PM Desired Speed Distribution for 35 Greenup Ave

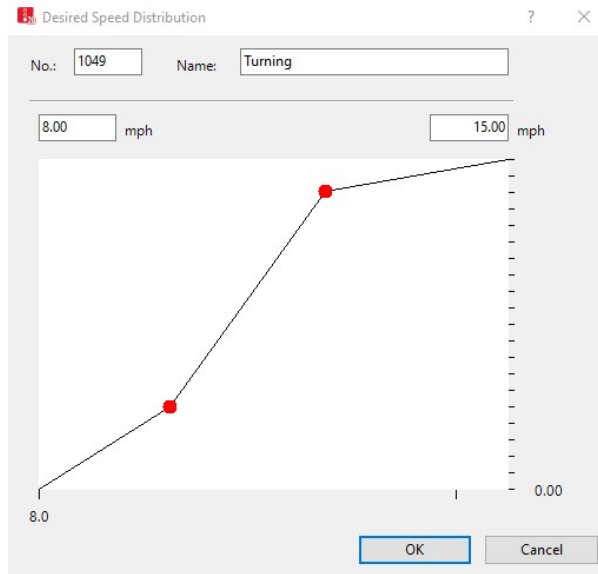


Figure 6. Existing PM Desired Speed Distribution for Turning Vehicles

Table 1 compares the travel times of the measured times to the simulated times through the study corridors after adjustments were made to the simulation.

	Along	From	To	Measured, sec	Simulation, sec	Difference, sec	% Difference
AM	Winchester	Greenup	18th	173.9	165.54	8.36	4.81%
AM	Winchester	20th	Greenup	219.28	214.32	4.96	2.26%
AM	Greenup	Winchester	17th	105.05	99.36	5.69	5.42%
AM	Greenup	18th	Winchester	131.33	123.84	7.49	5.70%
PM	Winchester	Greenup	18th	201	188.06	12.94	6.44%
PM	Winchester	20th	Greenup	221.316	233.18	-11.864	-5.36%
PM	Greenup	Winchester	17th	99.64	99.22	0.42	0.42%
PM	Greenup	18th	Winchester	135.4	129.08	6.32	4.67%

Table 1. Travel Time Comparison

Figure 7 provides were the travel times began and ended for each corridor in each direction.



Figure 7. Travel Time Begin and End Points

Based on the percent differences of the travel times the existing simulations were determined to be adjusted enough to move on to proposed simulations.