

MCMAHON ASSOCIATES, INC.

840 Springdale Drive Exton, PA 19341

p 610-594-9995 | f 610-594-9565

PRINCIPALS

Joseph W. McMahon, P.E. Joseph J. DeSantis, P.E., PTOE John S. DePalma William T. Steffens Casey A. Moore, P.E.

Gary R. McNaughton, P.E., PTOE

ASSOCIATES

John J. Mitchell, P.E. Christopher J. Williams, P.E. R. Trent Ebersole, P.E. Matthew M. Kozsuch, P.E. Maureen Chlebek, P.E., PTOE Dean A. Carr, P.E.

March 3, 2017

Mr. Chris Patriarca, AICP Westtown Township 1039 Wilmington Pike West Chester, PA 19382

RE: Crebilly Residential Development

Traffic Engineering Review

Westtown Township, Chester County, PA

McMahon Project No. 816451.11

Dear Mr. Patriarca:

McMahon Associates, Inc. is in receipt of Kimley-Horn and Associates, Inc.'s comment letter, dated February 6, 2017, with regard to the revised Transportation Impact Study for the above referenced project. On behalf of the applicant, below is a summary of the TIS comments in italics, with our responses following each comment.

General

Comment #1:

The revised Transportation Impact Study and associated correspondence only addressed a portion of the comments in the previous review letter dated December 27, 2016.

Response:

The study addresses those aspects of the comments which are within the subject application and within the purview of the Township requirements.

Comment #2:

As previously noted the materials provided to the Township do not clearly demonstrate that peak traffic will be accommodated in a safe and efficient manner, or identify improvements that the applicant is committed to complete or fund. {§170-2009 D(1)(h)} Specifically:

- a. The revised analyses of the intersection of US 202 and PA 926 indicate that the southbound queues will extend beyond the proposed access during both morning and evening peak periods, and beyond West Pleasant Grove Road during the evening peak. This will have a significant impact on the arrival and departure patterns of project traffic.
- b. The study states that the eastern access to West Pleasant Grove Road will be relocated such that adequate sight distance will be provided, however measurements of sight distance for exiting and entering traffic at the proposed location have not been provided.



A-34

Response:

- a. Under the future 2028 without-development conditions, southbound U.S. Route 202 vehicular queues extend beyond the proposed site access during the weekday morning peak hour, and beyond West Pleasant Grove Road during the weekday afternoon peak hour. With the proposed development and recommended improvements at the intersection of U.S. Route 202 and Street Road (S.R. 0926), the southbound U.S. Route 202 queues are reduced during both peak hours from without- to with-development conditions, and therefore, the traffic impact from the development is mitigated. Notwithstanding, if the Township desires, the applicant is prepared to eliminate the site access along U.S. Route 202.
- b. Sight distance measurements have been completed for the relocation of the West Pleasant Grove Road and East Site Access. The eastern site access to West Pleasant Grove Road will be relocated approximately 625 feet west of Hidden Pond Drive. **Table 1** summarizes the available sight distance measurements, as well as the sight distance requirements at the relocated eastern site access. The existing available sight distances exceed the requirements for all movements.

A revised draft plan is provided in **Attachment 1**, illustrating the new access location, as well as photographs illustrating the available sight distance at this new access location. With the new access location, the sight distance requirements are satisfied, and less of the woodlands will be disturbed than initially proposed.

Table 1. Sight Distance Evaluation
West Pleasant Grove Road and East Site Access (Relocated)

		Posted	Approximate	PennDOT R (fe	equirements et)	Township Requirements	Available Sight Distance
Movement	Direction	Speed (mph)	Grade	Desirable ¹	Acceptable ²	(feet) ⁽³⁾	(feet)
Fraiting.	Looking Left	35	+6.4%	440′	N/A	440′	800′+
Exiting	Looking Right	35	-3.0%	350′	N/A	440′	445′
Left turn	Looking Ahead	35	+6.4%	300′	N/A	N/A	800′+
Entering	From the Rear	35	-3.0%	N/A	45 mph=415′	N/A	415′

⁽¹⁾ Based on the desirable sight distance requirements contained in the *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads* and the posted speed limit, unless otherwise noted.

Transportation Impact Study

Comment #3:

The explanation provided for the variation in volumes along US 202 is insufficient given the critical nature of this route. As presented 70% of project traffic will utilize US 202 and the operation of the US 202 and PA 926 intersection will significantly influence the operation of the proposed site accesses. These variations, in some cases exceeding 10% of the critical volumes,

⁽²⁾ Based on the safe stopping sight distance requirements contained in the *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads* and an estimated 85th percentile travel speed of five miles over the posted speed limit.

⁽³⁾ Based on the clear sight triangle requirements per Westtown Township Code Chapter 149 Article IX Section 149 -915, and the posted speed limit.

warrant additional consideration, both to provide context for the apparent changes in travel patterns and to support other study assumptions such as "regional" growth. This intersection has been the subject of numerous studies over the last several decades by PennDOT, various developers and the Regional Planning Commission. This data should be assembled and reviewed to ensure that the volumes utilized to assess the site accesses and impacts are reasonably accurate.

Response:

The traffic counts at the intersection of U.S. Route 202 and PA Route 926 were conducted in accordance with industry standard techniques and in accordance with the requirements outlined in the Township ordinance. With the counted traffic data, as well as the initial queue observations, the traffic analyses reflect the existing traffic conditions accurately. Recent traffic count data collected at the nearby intersection of U.S. Route 202 and Skiles Boulevard (Attachment 2) also demonstrates consistency with the balanced adjusted traffic volumes utilized for the traffic analyses.

Comment #4:

Existing condition peak hour traffic counts are to be collected on a Thursday or Friday during any month from April to November. {§149-804.A(3)(g)}. As part of the Land Development Approval process the applicant should request a waiver from the Township for the counts of New Street and West Pleasant Grove Road.

Response:

As a result of filing the application in November, it was impossible to comply with the count period for the added study intersections that was requested in the December 27, 2016 Kimley Horn review letter. The peak hour traffic counts at the intersection of New Street and West Pleasant Grove Road were completed on Thursday, January 12, 2017, as it was added to the study area during the review process. These traffic volumes were compared to the immediately adjacent study intersection of New Street and Street Road (S.R. 0926), which was counted on Thursday, September 8, 2016 in compliance with the ordinance criteria. The traffic volumes at New Street and West Pleasant Grove Road were balanced upwardly to reflect traffic conditions in accordance with the ordinance based on the adjacent traffic counts. If requested by the Township, traffic counts will be completed at this intersection in April to verify the results of the study.

Comment #5:

The TIS should include figures and volume development tables for the "Site Access Opposite Bridlewood Boulevard" alternative.

Response:

The requested information is provided in **Attachment 3**.

Comment #6:

The TIS tables should summarize the results of the future build out 2023 analyses to clearly demonstrate that peak traffic will be accommodated in an efficient manner.

Response:

Tables illustrating the results of the future 2023 traffic analyses that were included in the study are provided in **Attachment 4**.

Comment #7:

The study should include post-development turn lane warrant analyses for Alternative A for the off-site study area intersections. Additionally, the study should note locations where project related traffic significantly impact the results.

Response:

Turn lane warrant analysis worksheets are provided in **Attachment 5** for Alternative A. It is noted that since the difference in total intersection traffic volumes at these three offsite study area intersections during both peak hours is less than 6 vehicles from Alternative A to Alternative B, the results of the turn lane warrant analyses are identical for both alternatives.

Comment #8:

The optimized signal timings used in the analysis for the intersection of Street Road (SR 926) and New Street result in unacceptable increases in delays for the eastbound approach during the morning peak hour. A more balanced traffic signal timing should be utilized.

Response:

The optimized timings have been adjusted for the weekday morning peak hour for the without-development and with-development conditions, and the traffic analysis worksheets are provided in **Attachment 6**. All timing modifications are subject to PennDOT review and approval.

Comment #9:

Provide documentation that sight distance requirements for vehicles entering and exiting the site via West Pleasant Grove Road at the East Site Access will be met if the proposed access is relocated to the crest of the vertical curve. Ensure that the sight distance for the West Pleasant Grove Road accesses are evaluated consistent with Township requirements. {§149-915K(5)}.

Response:

Sight distance measurements have been completed for the relocation of the West Pleasant Grove Road and East Site Access. The eastern site access to West Pleasant Grove Road will be relocated approximately 625 feet west of Hidden Pond Drive. **Table 1** summarizes the available sight distance measurements, as well as the sight distance requirements at the relocated eastern site access. The existing available sight distances exceed the requirements for all movements.

Table 1. Sight Distance Evaluation
West Pleasant Grove Road and East Site Access (Relocated)

		Posted	Approximate	l	equirements et)	Township Requirements	Available Sight Distance
Movement	Direction	Speed (mph)	Grade	Desirable ¹	Acceptable ²	(feet) ⁽³⁾	(feet)
Eniting.	Looking Left	35	+6.4%	440′	N/A	440′	800′+
Exiting	Looking Right	35	-3.0%	350′	N/A	440′	445′
Left turn	Looking Ahead	35	+6.4%	300′	N/A	N/A	800′+
Entering	From the Rear	35	-3.0%	N/A	45 mph=415′	N/A	415′

⁽¹⁾ Based on the desirable sight distance requirements contained in the *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads* and the posted speed limit, unless otherwise noted.

⁽²⁾ Based on the safe stopping sight distance requirements contained in the *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads* and an estimated 85th percentile travel speed of five miles over the posted speed limit.

⁽³⁾ Based on the clear sight triangle requirements per Westtown Township Code Chapter 149 Article IX Section 149 -915, and the posted speed limit.

If there are any questions or if additional information is needed, please feel free to contact me at nkline@mcmahonassociates.com or (610) 594-9995.

Sincerely,

Nicole R. Kline, P.E., PTOE

nicole Rospine

Senior Project Manager

NRK

Attachment

cc: Albert Federico, P.E., PTOE, Kimley-Horn

Robert Pingar, P.E., Westtown Township

Andrew Semon, Toll Brothers

Michael Downs, P.E., Toll Brothers

Gregg Adelman, Esq., Kaplin Stewart

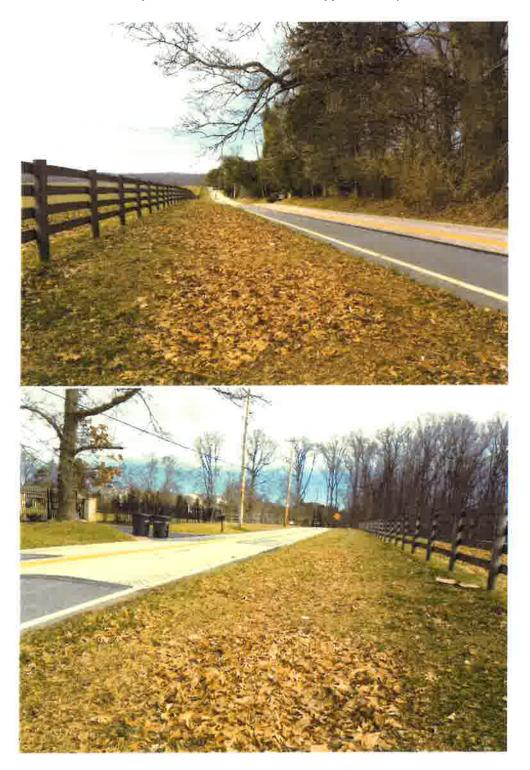
I:\eng\816451 - Crebilly Farm\Correspondence\Out\Township\2017-3-3 Response to TWP TIS Comments.docx

ATTACHMENT 1

Comment 2B



New Access Location, West Pleasant Grove Road – Approximately 625 feet west of Hidden Pond Way,







ATTACHMENT 2

Comment 3

McMahon Associates, Inc. 425 Commerce Drive, Suite 200 Fort Washington, P A 19034

Municipality: Westtown Township

Location: Route 202 & Skiles Boulevard

Counter/Board #: BW+LB

File Name : skiles01w Site Code : 81568701

Start Date :::11/17/2015

Page No 11

			oute 2 uthboi					s Blvd			Rout	e 202 bound		Jug han dle Nor the ast bou			kiles B astbou			
Start Time	Left	Thru	Rear Right	ROR	Right	Left	Thru	ROR	Right	Left	Thru	ROR	Right	Peds	Left	Thru	ROR	Right	Hami Right	Int Tota
07:00	0	389	39	0	22	8	5	0	18	0	383	0	3	0	14	10	0	3	0	894
07:15	ő	451	21	ō	50	6	21	ō	14	ō	491	ō	2	Ŏ	11	12	ō	2	ō	1081
07:30	ō	395	93	ō	44	8	55	ō	19	Ö	408	ō	1	ŏ	35	41	Ō	15	Ō	1114
07:45	0	312	71	0	52	13	75	0	22	0	328	0	2	0	31	78	0	18	Ó	1002
Total	0	1547	224	0	168	35	156	0	73	0	1610	0	8	0	91	141	0	38	0	4091
08:00	0	369	17	0	17	10	19	0	20	0	363	0	2	0	34	37	0	12	0	900
08:15	0	349	8	0	22	11	17	0	13	0	356	0	1	0	11	10	0	3	0	801
08:30	0	332	17	0	33	10	25	0	13	0	312	0	2	0	33	39	0	20	0	836
08:45	0	341	40	0	54	8	43	0	18	0	393	0	3	0	36	38	0	13	0	987
Total	0	1391	82	0	126	39	104	0	64	0	1424	0	8	0	114	124	0	48	0	3524
16:00	0	441	30	0	8	12	5	0	13	0	463	0	3	0	26	29	0	4	0	1034
16:15	0	478	20	0	21	7	38	0	17	0	437	0	1	0	16	24	0	2	0	1061
16:30	0	505	28	0	13	15	17	0	14	0	415	0	2	0	47	57	0	12	0	1125
16.45	0	372	68	0	16	17	26	0	20	0	382	0	5	0	15	32	0	.8	0	961
Total	0	1796	146	0	58	51	86	0	64	0	1697	0	11	0	104	142	0	26	0	4181
17:00	0	414	15	0	7	12	10	0	6	0	408	0	11	0	23	49	0	16	0	971
17:15	0	488	13	0	6	4	4	0	12	0	435	0	6	0	13	17	0	0	0	998
17:30	0	424	12	0	4	3	8	0	10	.0	404	0	10	.0	9	19	0	2	0	905
17:45	0	428	24	0	5	2	5	0	10	0	446	0	4	0	9	31	0	4	0	968
Total	0	1754	64	0	22	21	27	0	38	0	1693	0	31	0	54	116	0	22	0	3842
Grand Total	0	6488	516	0	374	146	373	0	239	0	6424	0	58	0	363	523	0	134	0	15638
Apprch %	0	87.9	7.	0	5.1	19.3	49.2	0	31.5	0	99.1	0	0.9	0	35.6	51.3	0	13.1	0	
Total %	0	41.5	3.3	0	2.4	0.9	2.4	0	1.5	0	41.1	0	0.4	0	2.3	3.3	0	0.9	0	
Passenger Vehicles	0	93.4	94.4	0	95.2	97.9	94.9	0	98.3	0	92.9	0	96.6	0	95	97.1	0	94.8	0	93.6
Heavy Vehicles	0	431	29	0	18	3	19	0	4	0	458	0	2	0	18	15	0	7	0	1004
% Heavy Vehicles	0	6.6	5.6	0	4.8	2.1	5.1	0	1.7	0	7.1	0	3.4	0	5	2.9	0	5.2	0	6.4

McMahon Associates, Inc. 425 Commerce Drive, Suite 200

Fort Washington, P A 19034

Municipality: Westtown Township

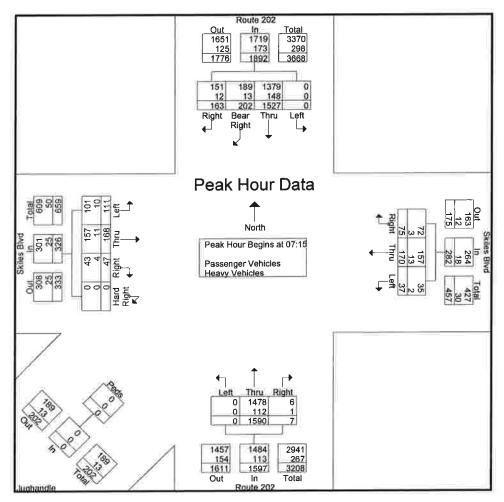
Location: Route 202 & Skiles Boulevard

Counter/Board #: BW+LB

File Name **skiles01w Site Code : 81568701 Start Date 11/17/2015

Page No : 2

		•	Rout South		_				iles E estbo					oute rthbo			Nor	hand e thea ound				s Blv boun			
Start Time	Left	Thru	Bear Right	ROR	Right	App Total	Left	Thru	ROR	Right	App Total	Left	Thru	ROR	Right	App Total	Peds	App Total	Left	Thru	ROR	Right	Hard	App Total	Int. Total
Peak Hour	Anal	ysis I	rom (07:00	to 1	1:45 - F	eak	1 of 1																	
Peak Hour	for E	ntire	Inters	ectio	n Beg	jins at	07:15	,																2.20	
07:15	0	451	21	0	50	522	6	21	0	14	41	0	491	0	2	493	0	0	11	12	0	2	0	25	1081
07:30	0	395	93	0	44	532	8	55	0	19	82	0	408	0	1	409	0	0	35	41	0	15	0	91	1114
07:45	0	312	71	0	52	435	13	75	0	22	110	0	328	0	2	330	0	0	31	78	0	18	0	127	1002
08:00	0	369	17	0	17	403	10	19	0	20	49	0	363	0	2	365	0	0	34	37	0	12	0	83	900
Total Volume		1527	202	0	163	1892		170	0	75	282	0	1590			1597			111	168	0	47	0	326	4097
% App. Total	0	80.7	10.7	0	8.6		13,1	60 3	0_	26.6		0	99.6	0	0.4		_0		34	51,5	0	14.4	0		
PHF	.000	.846	.543	.000	784	.889	.712	.567	000	852	.641	.000	810	000	.875	810	.000	.000	793	538	.000	.653	000	.642	.919
Passenger Vehicles	0	1379	189	0	151	1719	35	157	0	72	264	0	1478	0	6	1484	0	0	101	157	0	43	0	301	3768
% Passenger	0	90.3	93 6	0	92.6	90.9	94.6	92.4	0	96.0	93.6	0	93.0	0	85.7	92.9	0	0	91.0	93,5	0	91_5	0	92.3	92.0
Vehicles	0	148	13	0	12	173	2	13	0	3	18	٥	112	٥	1	113	0	0	10	11	0	4	0	25	329
Heavy Vehicles % Heavy Vehicles	U	140	13	U	12	173		13	Ü	,	10	ľ	112	Ū	14.3	. 10		Ü	"	• • •		·	٠		520



McMahon Associates, Inc. 425 Commerce Drive, Suite 200

Fort Washington, P A 19034

Municipality: Westtown Township

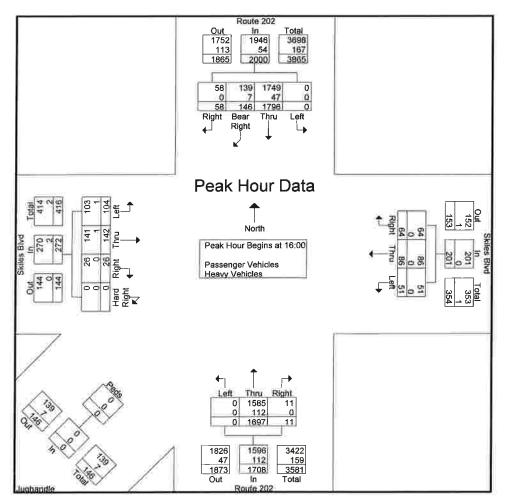
Location: Route 202 & Skiles Boulevard

Counter/Board #: BW+LB

File Name : skiles01w Site Code #81568701 Start Date 11/17/2015

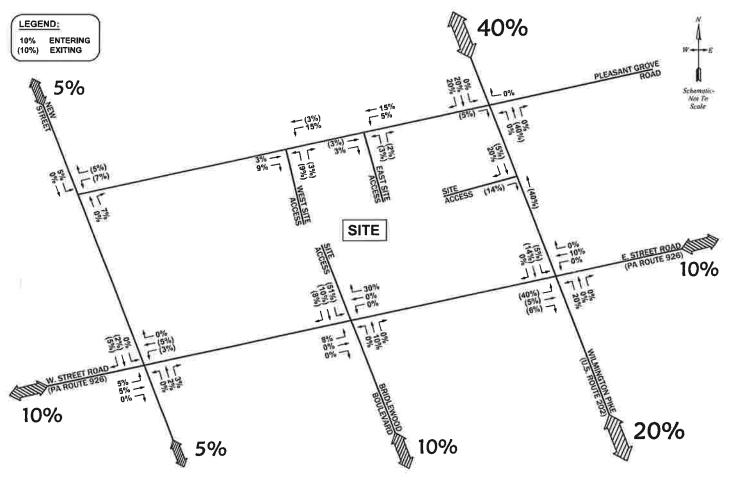
Page No : 3

			Rout South	te 20 iboui	_				iles l estbo					oute rthbo			Noi	hand le thea ound				s Blv boun			
Start Time	Left	Thru	Gra)	ROR	Right	App Total	Left	Thru	ROR	Right	App Total	Left	Thru	ROR	Right	App Total	Peds	App Total	Left	Thru	ROR	Right	Hard Outs	App Tatel	int Total
Peak Hour																									
Peak Hour	for E	ntire	Inters	ectio	n Beg	gins at	16:00																	17	0
16:00	0	441	30	0	8	479	12	5	0	13	30	0	463	0	3	466	0	0	26	29	0	4	0	59	1034
16:15	0	478	20	0	21	519	7	38	0	17	62	0	437	0	1	438	0	0	16	24	0	2	0	42	1061
16:30	0	505	28	0	13	546	15	17	0	14	46	0	415	0	2	417	0	0	47	57	0	12	0	116	1125
16:45	0	372	68	0	16	456	17	26	0	20	63	0	382	0	5	387	0	0	15	32	0	- 8	0	55	961
Total Volume	0	1796	146	0	58	2000	51	86	0	64	201	0	1697	0	11	1708	0	0	104	142	0	26	0	272	4181
% App. Total	0	89.8	7.3	0	2.9		25.4	42.8	0	31.8		0	99.4	0	0.6		0		38.2	52.2	0	9.6	0		
PHF	.000	.889	537	.000	690	.916	750	566	.000	.800	.798	.000	916	.000	550	.916	.000	.000	553	623	.000	542	000	.586	.929
Passenger Vehicles	0	1749	139	0	58	1946	51	86	0	64	201	0	1585	0	11	1596	0	0	103	141	0	26	0	270	4013
% Passenger	0	97.4	95.2	0	100	97.3	100	100	0	100	100	0	93 4	0	100	93.4	0	0	99.0	99.3	0	100	0	99.3	96.0
Vehicles Heavy Vehicles	Ĭ			_									112	0	0	112	0	0	1	1	0	0	0	2	168
% Heavy Vehicles																								JI.	



ATTACHMENT 3

Comment 5

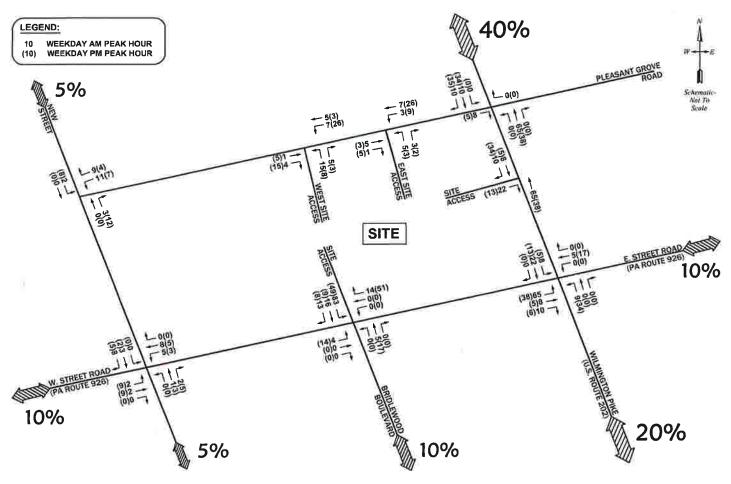


Site Trip Distribution Alternative with Access Opposite Bridlewood Boulevard

CREBILLY FARM RESIDENTIAL DEVELOPMENT

(3/1/2017) I: engv8/6451 - Crehilly Fai mydwg\Response to TIVP Comments 2017-J-I/Alt A Trip Distribution (Access Opp Bridle) dwg

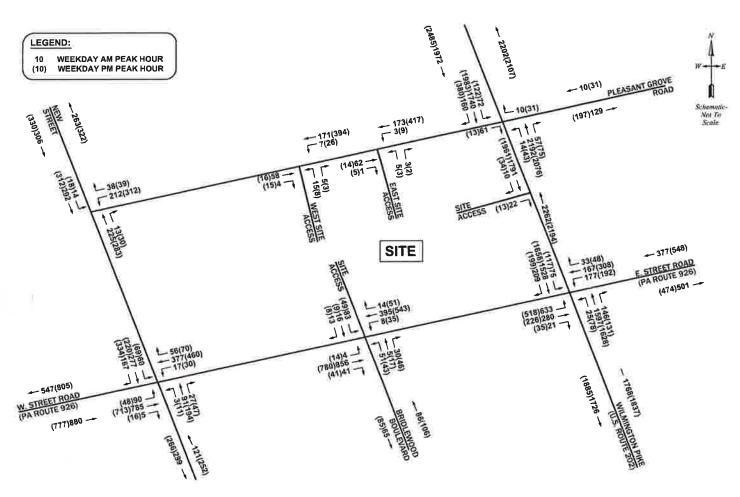
WESTTOWN TOWNSHIP, CHESTER COUNTY, PA



Site Trip Assignment Alternative A with Access Opposite Bridlewood Boulevard

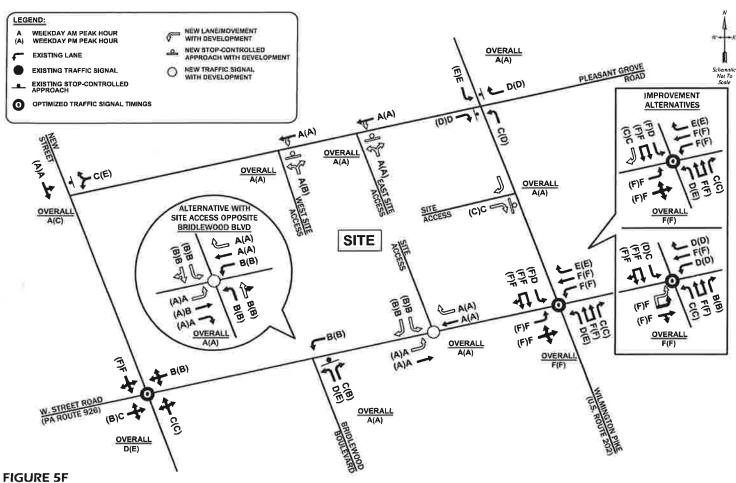
CREBILLY FARM RESIDENTIAL DEVELOPMENT MESANTOWN TOWNSHIP, CHESTER COUNTY, PA

(1/1/2017) 1: leng/816451 - Crebilly FarmIdwg/Response to TIVP Comments 2017-3-1/Alt A Trip Assignment (Access Opp Bridle) dwg



2023 Future Peak Hour Traffic Volumes with Development Alternative A - 317 New Units with No Traffic Diversions with Access Opposite Bridlewood Boulevard

CREBILLY FARM RESIDENTIAL DEVELOPMENT MAHON
WESTTOWN TOWNSHIP, CHESTER COUNTY, PA
(3/1/2017) [::eng/8/6451 - Crebilly Farmwlwg/Response to TWP Comments 2017-3-1/2023 All A Volumes (Access Opp Bridle) dwg



2023 Future Peak Hour Levels of Service with Development Alternative A - 317 New Units with No Traffic Diversions

CREBILLY FARM RESIDENTIAL DEVELOPMENT CHARACTER COUNTY, PA (1/18/2017) L'eng/816451 - Crebilly Farmulus/ge/Penn/DOT Twp Submission 2017-01-200Figure 5F. dwg

INTERSECTION VOLUME SUMMARY New Street/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD! Weekday 7-9 AM
Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBOU et Rd (PA S			ORTHBC New Stre S			ESTBOU et Rd (PA S			UTHBO New Stre S	
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	75 75 0	689 689 0	4 4 0	3 3 0	80 80 0	22 22 0	11 11 0	324 324 0	50 50 0	53 53 0	243 243 0	138 138 0
ADJUSTED EXISTING TRAFFIC	75	689	4	3	80	22	11	324	50	53	243	138
Background Growth 12.60 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment	9 84 4 0	87 776 7 1 6	1 5 0	0 3 0 0 0	10 90 0	3 25 0 0	1 12 0 0	41 365 4 2 2	6 56 0	7 60 0	31 274 0 0	17 155 4 1 0
Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	o	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	88	783	5	3	90	25	12	369	56	60	274	159
TOTAL "NEW" SITE TRAFFIC	2	2	0	0	1	2	5	8	0	0	3	8
Residential	2 0 0 0 0 0	2 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	1 0 0 0 0 0	2 0 0 0 0 0 0 0 0 0	5 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	3 0 0 0 0 0 0	8 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	90	785	5	3	91	27	17	377	56	60	277	167
"New" Site Traffic % of Total 0.0%	2.2	0.3	0_0	0.0	1.1	7.4	29.4	2.1	0.0	0.0	1.1	4.8

INTERSECTION VOLUME SUMMARY New Street/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM
Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBOU et Rd (PA S			ORTHBO New Stre S			ESTBO et Rd (PA S			OUTHBO New Stre S	
EXISTING TRAFFIC Seasonal Adjustment Factor 1,000 Balancing Adjustments	32 32 0	622 622 0	14 14 0	10 10 0	170 170 0	37 37 0	24 24 0	393 393 0	62 62 0	61 61 0	194 194 0	289 289 0
ADJUSTED EXISTING TRAFFIC	32	622	14	10	170	37	24	393	62	61	194	289
Background Growth 12.60 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development	4 36 3	78 700 4 3	2 16 0	1 11 0	21 191 0	5 42 0	3 27 0	50 443 12	8 70 0	8 69 0	24 218 0	36 325 4
Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0					0 0 0 0 0 0 0 0 0 0 0 0 0	11 0 0 0 0 0 0 0 0 0		000000000000000000000000000000000000000	000000000000000000000000000000000000000	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	39	704	16	11	191	42	27	455	70	69	218	329
TOTAL "NEW" SITE TRAFFIC	9	9	0	0	3	5	3	5	0	0	2	5
Residential	9 0 0 0 0	9 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	3 0 0 0 0 0	5 0 0 0 0	3 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	2 0 0 0 0 0	5 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	o	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	48	713	16	11	194	47	30	460	70	69	220	334
"New" Site Traffic % of Total 0.0%	18.8	1.3	0.0	0.0	1.5	10.6	10.0	1.1	0.0	0.0	0.9	1.5

INTERSECTION VOLUME SUMMARY Bridlewood Blvd/Site Access/Street Rd (PA 926)

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			VESTBO			UTHBO	
Traffic Component	Stree	et Rd (PA S	A 926) I R	3ridlewo L	od Blvd/ S	Site Acc R	ess Stre	et Rd (P. S	A 926) R	Bridlewo	od Blvd/ S	Site Acce R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	754 754 0	36 36 0	45 45 0	0 0 0	27 27 0	7 7 0	347 347 0	0 0 0	0 0 0	0 0 0	0 0
ADJUSTED EXISTING TRAFFIC	0	754	36	45	0	27	7.	347	.0	0	0	0
Background Growth 12.60 % EXISTING W/ BACKGROUND	0 0	95 849	5 41	6 51	0	3 30	1 8	44 391	0	0	0 0	0 0
TOTAL "OTHER" DEVELOPMENTS	0	7	0	0	0	0	0	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 6 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	856	41	51	0	30	8	395	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	4	0	0	0	5	0	0	0	14	83	16	13
Residential	4 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	5 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	14 0 0 0 0 0 0	83 0 0 0 0 0	16 0 0 0 0 0 0	13 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	4	856	41	51	5	30	8	395	14	83	16	13
"New" Site Traffic % of Total ####	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0

INTERSECTION VOLUME SUMMARY Bridlewood Blvd/Site Access/Street Rd (PA 926)

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS\Weekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	E	ASTBO	JND	NO	ORTHBO	UND	W	ESTBO	UND			UND
Traffic Component	Stree L	t Rd (PA	926) B R	ridlewo	od Blvd/S S	R R	ess Stree	t Rd (Pz	A 926) B R	ridlewoo	od Blvd/: S	R R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	689 689 0	36 36 0	38 38 0	0 0 0	41 41 0	31 31 0	472 472 0	0 0 0	0 0	0 0 0	0 0
ADJUSTED EXISTING TRAFFIC	0	689	36	38	0	41	31	472	0	0	0	0
Background Growth 12.60 % EXISTING W/ BACKGROUND	0	87 776	5 41	5 43	0	5 46	4 35	59 531	0	0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	4	0	0	0	0	0	12	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/O PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL "NEW" SITE TRAFFIC	14	0	0	-	17	0	0	0	51	49	9	8
Residential	14 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	17 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	51 0 0 0 0 0	49 0 0 0 0 0 0	9 0 0 0 0 0 0 0 0 0	8 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	14	780	41	43	17	46	35	543	51	49	9	8
"New" Site Traffic % of Total 10.0%	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Street Rd (PA 926)

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	Stree	ASTBO	4 926)	Wilmin	ORTHBC gton Pike	(Rt 202	Stree	ESTBOT	926)	Wilmin	UTHBO gton Pike	(Rt 202
Traffic Component	\mathbf{L}_{2}	S	R	L	<u>S</u>	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	498 498 0	242 242 0	10 10 0	14 14 0	1153 1153 244	130 130 0	156 156 0	142 142 0	28 28 0	57 57 0	1149 1149 180	184 184 0
ADJUSTED EXISTING TRAFFIC	498	242	10	14	1397	130	156	142	28	57	1329	184
Background Growth 12,60 % EXISTING W/ BACKGROUND	63 561	30 272	1 11	2 16	176 1573	16 146	20 176	18 160	4 32	7 64	167 1496	23 207
TOTAL "OTHER" DEVELOPMENTS	7	0	0	0	24	0	1	2	1	3	10	2
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments	000000000000000000000000000000000000000		000000000000000000000000000000000000000	000000000000000000000000000000000000000	1 15 8 0 0 0 0 0 0 0 0 0 0 0		0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 0 5 0 0 0 0 0 0 0 0	200000000000000000000000000000000000000
FUTURE TRAFFIC W/O PROJECT	568	272	11	16	1597	146	177	162	33	67	1506	209
										<u> </u>		
TOTAL "NEW" SITE TRAFFIC	65	8	10	9	0	0	0	5	0	8	22	0
Residential	65 0 0 0 0 0	8 0 0 0 0 0	10 0 0 0 0 0 0	9 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0	8 0 0 0 0 0	22 0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	633	280	21	25	1597	146	177	167	33	75	1528	209
"New" Site Traffic % of Total 0.0%	10.3	2.9	47.6	36.0	0.0	0.0	0_0	3.0	0.0	10:7	1:4	0.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Street Rd (PA 926)

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBOU			ORTHBO			ESTBO			UTHBO ton Pike	
Traffic Component	L	S	R	L	S	R	Ĭ.	S	Ř	L	Ş	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	423 423 0	196 196 0	26 26 0	39 39 0	1434 1434 0	116 116 0	164 164 0	249 249 0	41 41 0	98 98 0	1300 1300 151	176 176 0
ADJUSTED EXISTING TRAFFIC	423	196	26	39	1434	116	164	249	41	98	1451	176
THE VICTORIAN AND AND AND AND AND AND AND AND AND A												
Background Growth 12,60 % EXISTING W/ BACKGROUND	53 476	25 221	3 29	5 44	181 1615	15 131	21 185	31 280	5 46	12 110	183 1634	22 198
TOTAL "OTHER" DEVELOPMENTS	4	0	0	a	13	0	7	11	2	2	11	1
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments	3 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 5 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 7 0 0 0 0 0 0 0 0 0 0 0	0 111 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 0 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0
FUTURE TRAFFIC W/O PROJECT	480	221	29	44	1628	131	192	291	48	112	1645	199
TOTAL "NEW" SITE TRAFFIC	38	5	6	34	0	0	0	17	0	5	13	0
Residential	38 0 0 0 0 0	5 0 0 0 0 0	6 0 0 0 0	34 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	17 0 0 0 0 0 0	0 0 0 0 0 0 0	5 0 0 0 0 0	13 0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	o	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	518	226	35	78	1628	131	192	308	48	117	1658	199
"New" Site Traffic % of Total 0.0%	7.3	2.2	17_1	43.6	0.0	0.0	0.0	5,5	0.0	4.3	0.8	0.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO		NO	ORTHBO gton Pike	UND		ESTBO sant Gro			OUTHBO	
Traffic Component	I.	Sant Gro	R	V IIIIII	S	R	L	Sant Gro	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	0 0 0	47 47 0	12 12 0	1879 1879 0	32 32 0	0 0 0	0 0 0	6 6 0	46 46 0	1523 1523 0	132 132 0
ADJUSTED EXISTING TRAFFIC	0	0	47	12	1879	32	0	0	6	46	1523	132
Background Growth 12.60 % EXISTING W/ BACKGROUND	0 0	0	6 53	2 14 0	237 2116	4 36	0	0	7	6 52	192 1715	17 149
TOTAL "OTHER" DEVELOPMENTS	ľ	0	U	0	11	21	0	0	3	20	15	1
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 0 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 21 0 0 0 0 0 0 0 0 0			030000000000000	0 20 0 0 0 0 0 0 0	8 0 7 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	53	14	2127	57	0	0	10	72	1730	150
TOTAL "NEW" SITE TRAFFIC	0	0	8	0	65	0	0	0	0	0	10	10
Residential	0 0 0 0 0 0 0	0 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0 0	65 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	10 0 0 0 0 0 0	10 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	61	14	2192	57	0	0	10	72	1740	160
"New" Site Traffic % of Total 0.0%	0.0	0.0	13.1	0.0	3,0	0.0	0.0	0.0	0,0	0,0	0.6	6,3

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			ESTBO sant Gro		SOUTHBOUND Wilmington Pike (Rt 20			
Traffic Component	L	asant Gro	ve Ka R	L	gion Pike S	R 202	L L	Sant Gro	R	L	S	R	
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	0 0 0	7 7 0	38 38 0	2124 2124 -327	63 63 0	0 0 0	0 0 0	11 11 0	105 105 0	1832 1832 -114	306 306 0	
ADJUSTED EXISTING TRAFFIC	٥	0	7	38	1797	63	0	0	11	105	1718	306	
Background Growth 12,60 % EXISTING W/ BACKGROUND	0 0	0	1 8	5 43	226 2023	8 71	0	0	1 12	13 118	217 1935	39 345	
TOTAL "OTHER" DEVELOPMENTS	0	0	0	0	15	4	0	0	19	4	14	0	
Condominium Development Police Station Redevelopment Arborview Development	0.0.0.0.0.0.0.0.0.0.0.0.0.0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 4 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 19 0 0 0 0 0 0 0	0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Other Adjustments	ő	0	0	0	0	0	0	0	0	0	0	0	
FUTURE TRAFFIC W/O PROJECT	.0	0	8	43	2038	75	0	0	31	122	1949	345	
TOTAL "NEW" SITE TRAFFIC	0	0	5	0	38	0	0	0	0	0	34	35	
Residential	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0 0	38 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	34 0 0 0 0 0 0	35 0 0 0 0 0	
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0	
FUTURE TRAFFIC W/ PROJECT	0	0	13	43	2076	75	0	0	31	122	1983	380	
"New" Site Traffic % of Total 0.0%	0.0	0.0	38.5	0.0	1_8	0.0	0.0	0_0	0.0	0.0	1.7	9.2	

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Site Access

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SI Weekday 7-9 AM
Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			ESTBO			UTHBO	
Traffic Component	L	Site Acce	ess R	Wilmin L	gton Pike S	(Rt 202 R	L	Site Acce S	ess R	Wilmin	gton Pike S	(Rt 202) R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	0 0 0	0 0 0	0 0 0	1679 1679 244	0 0 0	0 0	0 0 0	0 0 0	0 0 0	1390 1390 180	0
ADJUSTED EXISTING TRAFFIC	0	00	0	0	1923	0	0	0	0	0	1570	0
Background Growth 12,60 % EXISTING W/ BACKGROUNE TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	242 2165 32 2 21 9	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	198 1768 15 8 0 7	0 0 0 0 0
	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	0	0	2197	0	0	0	0	0	1783	0
TOTAL "NEW" SITE TRAFFIC	0	0	22	0	65	0	0	0	0	0	8	10
Residential	0 0 0 0 0 0	0 0 0 0 0	22 0 0 0 0 0 0	0 0 0 0 0 0	65 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	8 0 0 0 0 0 0 0 0	10 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	22	0	2262	0	0	0	0	0	1791	10
"New" Site Traffic % of Total 0.0%	0.0	0.0	100.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.4	100.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Site Access

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO		NO.	ORTHBO	UND		ESTBO			UTHBO	
Traffic Component	L,	Site Acc	ess R	L	gton Pike S	R (Rt 202	L	Site Acce	ss R	Wilmin	gton Pike	e (Rt 202 R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0	0 0 0	0 0 0	0 0	1898 1898 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	1574 1574 151	0 0 0
ADJUSTED EXISTING TRAFFIC	0	0	0	0	1898	0	0	0	0	0	1725	0
Background Growth 12.60 % EXISTING W/ BACKGROUNE TOTAL "OTHER" DEVELOPMENTS Condominium Development	0 0	0 0	0 0	0 0	239 2137 19	0 0	0 0	0 0	0 0	0 0	217 1942 14	0 0
Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Other Adjustments	0	0	0	0	0	0	Ŏ	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	0	0	2156	0	0	0	0	0	1956	0
TOTAL "NEW" SITE TRAFFIC	0	0	13	0	38	0	0	0	0	0	5	34
Residential	0 0 0 0 0 0 0	0 0 0 0 0 0	13 0 0 0 0 0 0	0 0 0 0 0 0 0	38 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	5 0 0 0 0	34 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	13	0	2194	0	0	0	0	0	1961	34
"New" Site Traffic % of Total 0.0%	0.0	0.0	100.0	0.0	1:7	0.0	0:0	0.0	0.0	0.0	0.3	100.0

INTERSECTION VOLUME SUMMARY West Site Access/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SEWeekday 7-9 AM
Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBO sant Gro S			RTHBO It Site A S			ESTBO sant Gro S			UTHBO st Site A S	
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	47 47 0	0 0 0	0 0	0 0	0 0 0	0 0	144 144 0	0 0 0	0 0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	47	0	0	0	0	0	144	0	0	0	0
Background Growth 12.60 % EXISTING W/ BACKGROUNC TOTAL "OTHER" DEVELOPMENTS	0	6 53 4	0 0	0 0	0	0 0	0 0	18 162 4	0 0	0 0	0 0	0
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 3 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		000000000000000000000000000000000000000
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	57	0	0	0	0	0	166	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	0	1	4	15	0	5	7	5	0	0	0	0
Residential	0 0 0 0 0	1 0 0 0 0 0	4 0 0 0 0 0	15 0 0 0 0 0 0	0 0 0 0 0 0	5 0 0 0 0	7 0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	58	4	15	0	5	7	171	0	0	0	0
"New" Site Traffic % of Total ####	0.0	1.7	100.0	100.0	0.0	100.0	100:0	2.9	0.0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY West Site Access/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBO sant Gro			RTHB0 st Site A			ESTBO sant Gro S			OUTHBC st Site A	
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0	7 7 0	0 0 0	0 0	0 0 0	0 0 0	0 0	344 344 0	0 0	0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	7	0	0	0	0	0	344	0	0	0	.0
Background Growth 12.60 % EXISTING W/ BACKGROUNE	0	1 8	0	0	0	0	0 0	43 387	0	0	0	0
TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 0 0 4 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	11	0	0	0	0	0	391	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	0	5	15	8	0	3	26	3	0	0	0	0
Residential	0 0 0 0 0 0	5 0 0 0 0 0	15 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0 0	3 0 0 0 0 0	26 0 0 0 0 0 0	3 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	16	15	8	0	3	26	394	0	0	0	0
"New" Site Traffic % of Total ####	0.0	31.3	100.0	100.0	0.0	100.0	100.0	8.0	0.0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY East Site Access/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDSWeekday 7-9 AM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			RTHB(ESTBO			OUTHBO	
Traffic Component	L	S	R	L.	S	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0	47 47 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	144 144 0	0 0 0	0 0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	47	0	0	0	0	0	144	0		0	0
112000112011201110111011101110												
Background Growth 12.60 % EXISTING W/ BACKGROUNE	0	6 53	0	0	0	0	0	18 162	0	0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	4	0	0	0	0	0	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/O PROJECT	000000000000000000000000000000000000000	0 4 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 3 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL "NEW" SITE TRAFFIC	0	5	1	5	0	3	3	7	0	0	0	0
Residential	0	5 0	1 0	5 0	0	3 0	3	7 0	0	0	0	0
	0	0	0	0	0	0	0	0	0	١	0	0
	ō	ō	0	ō	0	0	ō	o	ō	0	ō	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	62	1	5	0	3	3	173	0	0	0	0
"New" Site Traffic % of Total 10.0%	0.0	8.1	100.0	100.0	0.0	100_0	100.0	4.0	0.0	0.0	0.0	-0.0

INTERSECTION VOLUME SUMMARY East Site Access/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDSWeekday 4-6 PM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO	ve Rd		RTHB(t Site A	ccess	Pleas	ESTBOU ant Gro	ve Rd	SOUTHBOUND East Site Access			
Traffic Component	L	<u>S</u>	R	L	S	R	Liv	S	R	L.	S	R	
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	7 7 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	344 344 0	0 0 0	0 0 0	0 0 0	0 0 0	
ADJUSTED EXISTING TRAFFIC	0	7	0	0	0	0	0	344	0	0	0	0	
ADJUSTED PAISTING TRAFFIC													
Background Growth 12.60 % EXISTING W/ BACKGROUNE	0	1 8	0	0	0	0	0	43 387	0	0	0	0	
TOTAL "OTHER" DEVELOPMENTS	0	3	0	0	0	0	0	4	0	0	0	0	
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/O PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
TOTAL "NEW" SITE TRAFFIC	0	3	5	3	0	2	9	26	0	0	0	0	
											0	0	
Residential	0	3 0	5 0	3	0	2	9	26 0	0	0	0	0	
	ŏ	ō	0	ō	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	l ő	0	0	١٥	0	0	l ő	0	0	
	0	0	0	ő	ŏ	o	ő	ō	0	ő	ō	ő	
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0	
FUTURE TRAFFIC W/ PROJECT	0	14	5	3	0	2	9	417	0	0	0	0	
"New" Site Traffic % of Total 10.0%	0.0	21.4	100.0	100.0	0.0	100:0	100.0	6.2	0.0	0.0	0.0	0.0	

INTERSECTION VOLUME SUMMARY New Street/Pleasant Grove Rd

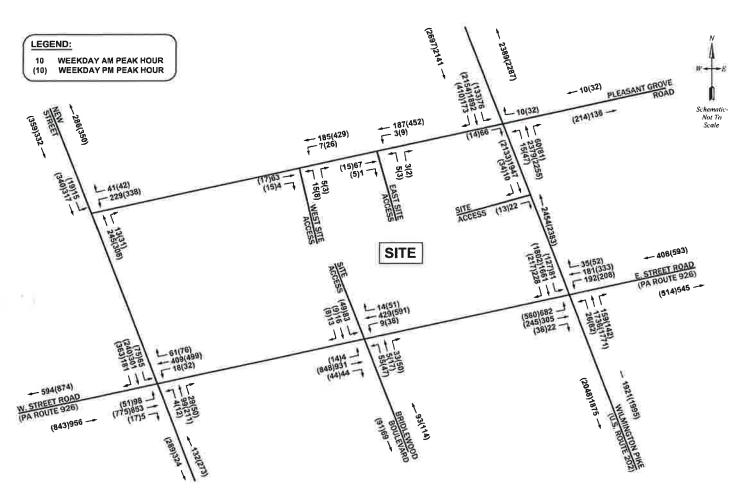
Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SE Weekday 7-9 AM Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

						ESTBO sant Gro		SOUTHBOUND New Street				
Traffic Component	L	S	R	L.	S	R	L	S	R	L.	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	0 0 0	0 0 0	0 0	141 141 59	5 5 0	142 142 33	0 0 0	26 26 0	11 11 0	129 129 130	0 0 0
ADJUSTED EXISTING TRAFFIC	0	00	0	0	200	5	175	0	26	11	259	0
Background Growth 12,60 % EXISTING W/ BACKGROUNE	0	0	0	0	25 225	1 6	22 197	0	3 29	1 12	33 292	0
TOTAL "OTHER" DEVELOPMENTS	0	O	0	0	0	4	4	0	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments		000000000000000000000000000000000000000	000000000000000000000000000000000000000			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
FUTURE TRAFFIC W/O PROJECT	٥	0	0		225	10	201	0	29	12	292	0
				_								
TOTAL "NEW" SITE TRAFFIC	0	0	0	0	0	3	11	0	9	2	0	0
Residential	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	3 0 0 0 0 0	11 0 0 0 0 0 0	0 0 0 0 0 0	9 0 0 0 0 0 0 0 0 0 0	2 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	0	0	225	13	212	0	38	14	292	0
"New" Site Traffic % of Total 0.0%	0.0	0.0	0.0	0.0	0.0	23.1	5.2	0.0	23.7	14.3	0.0	0.0

INTERSECTION VOLUME SUMMARY New Street/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM
Build-Out Year 2023 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

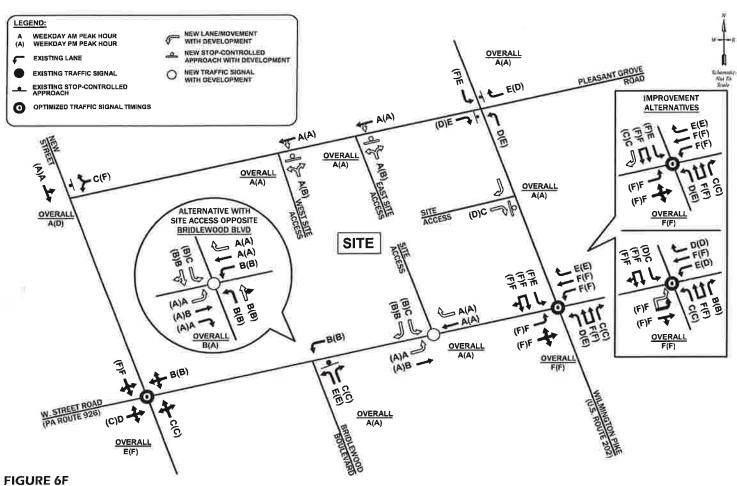
		ASTBOU			ORTHBO New Stre	-		ESTBO		SOUTHBOUND New Street				
Traffic Component	Ĺ	S	R	L	S	R	L	S	R	Ŀ	S	R		
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	0 0 0	0 0 0	0 0 0	103 103 148	13 13 0	231 231 36	0 0 0	31 31 0	9 9 0	133 133 144	0 0 0		
ADJUSTED EXISTING TRAFFIC	0	0	0	0	251	13	267	0	31	9	277	0		
Background Growth 12.60 % EXISTING W/ BACKGROUNE	0	0	0	0	32 283	2 15	34 301	0	4 35	1 10	35 312	0 0		
TOTAL "OTHER" DEVELOPMENTS	0	0	0	0	0	3	4	0	0	0	0	0		
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/OUT PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
TOTAL "NEW" SITE TRAFFIC	0	0	0	0	0	12	7	0	4	8	0	0		
			- 1		_					1				
Residential	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	12 0 0 0 0 0 0	7 0 0 0 0 0 0	0 0 0 0 0 0	4 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0		
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0		
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0		
FUTURE TRAFFIC W/ PROJECT	0	0	0	0	283	30	312	0	39	18	312	0		
"New" Site Traffic % of Total 0.0%	0.0	0.0	0.0	0.0	0.0	40.0	2.2	0:0	10.3	44.4	0.0	0.0		



2028 Future Peak Hour Traffic Volumes with Development Alternative A - 317 New Units with No Traffic Diversions with Access Opposite Bridlewood Boulevard

CREBILLY FARM RESIDENTIAL DEVELOPMENT (3/1/2017) 1:\cng\816451 - Crebilly Faim\dwg\Response to TWP Comments 2017-3-1\2028 Alt A Volumes (Access Opp Bridle) dwg

WESTTOWN TOWNSHIP, CHESTER COUNTY, PA



2028 Future Peak Hour Levels of Service with Development Alternative A - 317 New Units with No Traffic Diversions

CREBILLY FARM RESIDENTIAL DEVELOPMENT MAHON WESTTOWN TOWNSHIP, CHESTER COUNTY, PA (1/18/2017) L'eng 816451 - Crebilly Farmulurg PeninDOT Twp Submission 2017-01-2016 igure 6F. dwg

INTERSECTION VOLUME SUMMARY New Street/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD\\$Weekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBOU			ORTHBO			ESTBO			OUTHBO New Stre	
Traffic Component	L	S	R 920)	L	S	R	L.	S	R 920)	L '	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1,000 Balancing Adjustments	75 75 0	689 689 0	4 4 0	3 3 0	80 80 0	22 22 0	11 11 0	324 324 0	50 50 0	53 53 0	243 243 0	138 138 0
ADJUSTED EXISTING TRAFFIC	75	689	4	3	80	22	11	324	50	53	243	138
Background Growth 22.56 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development	17 92 4 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	155 844 7 1 6 0 0 0 0 0 0	1 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	18 98 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 27 0 0 0 0 0 0 0 0 0 0 0	2 13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	73 397 4 2 2 0 0 0 0 0 0 0 0	11 61 0 0 0 0 0 0 0 0 0 0 0	12 65 0 0 0 0 0 0 0 0	55 298 0 0 0 0 0 0 0 0 0	31 169 4 1 0 3 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	96	851	5	4	98	27	13	401	61	65	298	173
TOTAL "NEW" SITE TRAFFIC	2	2	0	0	1	2	5	8	0	0	3	8
Residential	0 0 0 0 0	2 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	1 0 0 0 0	2 0 0 0 0 0 0 0 0 0	5 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	3 0 0 0 0 0	8 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	٥	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	98	853	5	4	99	29	18	409	61	65	301	181
"New" Site Traffic % of Total 0.0%	2.0	0.2	0.0	0.0	1.0	6.9	27.8	2,0	0.0	0.0	1.0	4.4

INTERSECTION VOLUME SUMMARY New Street/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			ESTBO			OUTHBO New Stre	
Traffic Component	Lv	S	R	Ŀ	S	R	L:	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	32 32 0	622 622 0	14 14 0	10 10 0	170 170 0	37 37 0	24 24 0	393 393 0	62 62 0	61 61 0	194 194 0	289 289 0
ADJUSTED EXISTING TRAFFIC	32	622	14	10	170	37	24	393	62	61	194	289
AND A SECOND PROPERTY OF A SECOND PARTY OF A SECOND PROPERTY OF A SECOND												
Background Growth 22,56 % EXISTING W/ BACKGROUND	7 39	140 762	3 17	2 12	38 208	8 45	5 29	89 482	14 76	14 75	44 238	65 354
TOTAL "OTHER" DEVELOPMENTS	3	4	0	0	0	0	0	12	0	0	0	4
Condominium Development Police Station Redevelopment Arborview Development	0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				1 11 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	42	766	17	12	208	45	29	494	76	75	238	358
TOTAL "NEW" SITE TRAFFIC	9	9	0	0	3	5	3	5	0	0	2	5
Residential	9 0 0 0 0 0 0 0 0 0 0	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	3 0 0 0 0 0	5 0 0 0 0	3 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	2 0 0 0 0 0	5 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	51	775	17	12	211	50	32	499	76	75	240	363
"New" Site Traffic % of Total 0.0%	17.6	1.2	0.0	0.0	1_4	10.0	9.4	1.0	0.0	0.0	0.8	1,4

INTERSECTION VOLUME SUMMARY Bridlewood Blvd/Site Access/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBOU			ORTHBO			ESTBO			UTHBO	
Traffic Component	Stree	t Rd (PA S	1 926) I R	3ridlewo I L	od Blvd/S S	Site Acce	ss Stree	et Rd (Pa	A 926) I R	Bridlewoo	od Blvd/S	Site Acc
Trartic Component		3		- г	3	-10		- 3				
EXISTING TRAFFIC	0	754	36	45	0	27	7	347	0	0	0	0
Seasonal Adjustment Factor 1.000	0	754 0	36 0	45 0	0	27 0	7	347 0	0	0	0	0
Balancing Adjustments	I "	U	U	ľ	U	U	ľ	U	U	ľ	U	Ū
ADJUSTED EXISTING TRAFFIC	0	754	36	45	0	27	7	347	0	0	0	0
Background Growth 22.56 %	l 0	170	8	10	0	6	2	78	0	0	0	0
EXISTING W/ BACKGROUND	ő	924	44	55	ō	33	9	425	o	0	ō	ō
make no laborate in the same on a serving		_	_	١.			١.		_			
TOTAL "OTHER" DEVELOPMENTS	0	7	0	0	0	0	0	4	0	0	0	0
Condominium Development	0	1	0	0	0	0	0	2	0	0	0	0
Police Station Redevelopment	0	6	0	0	0	0	0	2	0	0	0	0
Arborview Development	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	o	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	1 0	0	0	ő	0	0	l ö	0	0	l ö	0	0
	١٥	0	o	ő	0	0	l ő	o o	0	l ŏ	a	0
	l ŏ	Õ	ŏ	o	ō	ō	۱ŏ	ō	ō	Ö	Ö	ō
	l o	ō	0	0	ō	ō	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
						- 1	1		_	-	-	
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	931	44	55	0	33	9	429	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	4	0	0	0	5	0	0	0	14	83	16	13
Residential	4	0	0	0	5	0	0	0	14	83	16	13
	0	0	0	0	0	- 0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0 0	0	0
	,	U	· ·	ľ	Ū	•	Ů	Ü	·	ľ	•	Ū
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	4	931	44	55	5	33	9	429	14	83	16	13
"New" Site Traffic % of Total ####	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100,0	100.0	100.0

INTERSECTION VOLUME SUMMARY Bridlewood Blvd/Site Access/Street Rd (PA 926)

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	E	ASTBOU	JND	NO.	ORTHBO	UND	l w	ESTBO	UND	SO	UTHBO	UND
Traffic Component	Stree L	t Rd (PA S	N 926) B R	ridlewo	od Blvd/S S	Site Acc R	ess Stree L	t Rd (P/ S	R 926) B	ridiewoo	od Blvd/ S	Site Acce R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0	689 689 0	36 36 0	38 38 0	0 0 0	41 41 0	31 31 0	472 472 0	0 0 0	0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	689	36	38	0	41	31	472	0	0	0	0
Background Growth 22.56 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	155 844 4 3 1 0 0 0 0	8 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 47 0 0 0 0 0 0 0 0		9 50 0 0 0 0 0 0	7 38 0 0 0 0 0 0 0	107 579 12 1 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Other Adjustments	0 0	0	0	0 0	0	0 0	0 0	0 0 0	0 0 0	0	0 0	0
FUTURE TRAFFIC W/O PROJECT	0	848	44	47	0	50	38	591	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	14	0	0	0	17	0	0	0	51	49	9	8
Residential	14 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	17 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0	51 0 0 0 0 0	49 0 0 0 0 0 0	9 0 0 0 0	8 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	14	848	44	47	17	50	38	591	51	49	9	8
"New" Site Traffic % of Total 10.0%	100.0	0.0	0.0	0.0	100.0	0_0	0.0	0.0	100.0	100.0	100.0	100.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			ESTBO			OUTHBC gton Pike	
Traffic Component	L	S	R 920)	L	S	R 202	L	S	R 920)	J L	S	R 202
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	498 498 0	242 242 0	10 10 0	14 14 0	1153 1153 244	130 130 0	156 156 0	142 142 0	28 28 0	57 57 0	1149 1149 180	184 184 0
ADJUSTED EXISTING TRAFFIC	498	242	10	14	1397	130	156	142	28	57	1329	184
Background Growth 22.56 % EXISTING W/ BACKGROUND	112 610	55 297	2 12	3 17	315 1712	29 159	35 191	32 174	6 34	13 70	300 1629	42 226
TOTAL "OTHER" DEVELOPMENTS	7	0	0	0	24	0	1	2	1	3	10	2
Condominium Development Police Station Redevelopment Arborview Development	1 6 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 15 8 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0	0 2 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 2 0 0 0 0 0 0 0 0 0	5 0 5 0 0 0 0 0 0 0 0 0 0	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	617	297	12	17	1736	159	192	176	35	73	1639	228
TOTAL "NEW" SITE TRAFFIC	65	8	10	9	0	0	0	5	0	8	22	0
Residential	65 0 0 0 0 0	8 0 0 0 0 0	10 0 0 0 0 0	9 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0	8 0 0 0 0 0	22 0 0 0 0 0 0	0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	682	305	22	26	1736	159	192	181	35	81	1661	228
"New" Site Traffic % of Total 0.0%	9,5	2,6	45,5	34.6	0,0	0.0	0.0	2.8	0.0	9.9	1.3	0.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Street Rd (PA 926)

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBO et Rd (PA S			ORTHBC gton Pike S			ESTBO et Rd (PA S			OUTHBO gton Pike S	
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	423 423 0	196 196 0	26 26 0	39 39 0	1434 1434 0	116 116 0	164 164 0	249 249 0	41 41 0	98 98 0	1300 1300 151	176 176 0
ADJUSTED EXISTING TRAFFIC	423	196	26	39	1434	116	164	249	41	98	1451	176
Background Growth 22.56 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development	95 518 4 3 1 0 0 0 0 0 0 0 0	44 240 0 0 0 0 0 0 0 0 0	6 32 0 0 0 0 0 0 0 0 0	9 48 0 0 0 0 0 0 0 0 0 0	324 1758 13 5 3 5 0 0 0 0 0	26 142 0 0 0 0 0 0 0 0	37 2011 7 0 7 0 0 0 0 0 0 0	56 305 11 0 11 0 0 0 0 0 0 0	9 50 2 1 0 0 0 0 0 0 0 0	22 120 2 0 0 2 0 0 0 0 0 0 0 0	327 1778 111 3 0 8 0 0 0 0 0 0 0	40 216 1 1 0 0 0 0 0 0 0 0
Other Adjustments	0 0	0	0	0	0	o o	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	522	240	32	48	1771	142	208	316	52	122	1789	217
TOTAL "NEW" SITE TRAFFIC	38	5	6	34	0	0	0	17	0	5	13	0
Residential	38 0 0 0 0 0 0	5 0 0 0 0 0	6 0 0 0 0 0 0 0	34 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	17 0 0 0 0 0	0 0 0 0 0 0 0	5 0 0 0 0 0	13 0 0 0 0 0 0	0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	o	0	0	0	٥	0	0
FUTURE TRAFFIC W/ PROJECT	560	245	38	82	1771	142	208	333	52	127	1802	217
"New" Site Traffic % of Total 0.0%	6.8	2.0	15.8	41.5	0.0	0.0	0.0	5.1	0.0	3.9	0.7	0.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD:\Weekday 7-9 AM Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO gton Pike			ESTBO sant Gro			OUTHBO	
Traffic Component	L	S	R	L	S	R	E	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	0 0 0	47 47 0	12 12 0	1879 1879 0	32 32 0	0 0 0	0 0 0	6 6 0	46 46 0	1523 1523 0	132 132 0
ADJUSTED EXISTING TRAFFIC	0	0	47	12	1879	32	0	0	6	46	1523	132
Background Growth 22,56 % EXISTING W/ BACKGROUND TOTAL "OTHER" DEVELOPMENTS Condominium Development	0	0	11 58 0	3 15 0	424 2303 11	7 39 21	0 0	0 0	1 7 3	10 56 20	344 1867 15	30 162 1
Police Station Redevelopment Arborview Development		000000000000000000000000000000000000000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	21 0 0 0 0 0 0 0 0			300000000000000000000000000000000000000	20 0 0 0 0 0 0 0 0 0 0	0 7 0 0 0 0 0 0 0 0 0	
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	58	15	2314	60	0	0	10	76	1882	163
TOTAL "NEW" SITE TRAFFIC	0	0	8	0	65	0	0	0	0	0	10	10
Residential	0 0 0 0 0 0 0	0 0 0 0 0 0 0	8 0 0 0 0	0 0 0 0 0 0 0	65 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	10 0 0 0 0 0 0	10 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	66	15	2379	60	0	0	10	76	1892	173
"New" Site Traffic % of Total 0.0%	0.0	0.0	12.1	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.5	5.8

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDS Weekday 4-6 PM Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	Plea	ASTBO sant Gro	ve Rd	Wilmin	ORTHBO gton Pike	(Rt 202	Plea	ESTBO sant Gro	ve Rd	Wilmin	UTHBO tton Pike	(Rt 202
Traffic Component	L	S	R	L	S	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	0 0 0	7 7 0	38 38 0	2124 2124 -327	63 63 0	0 0 0	0 0 0	11 11 0	105 105 0	1832 1832 -114	306 306 0
ADJUSTED EXISTING TRAFFIC	0	0	7	38	1797	63	0	0	11	105	1718	306
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,												
Background Growth 22,56 % EXISTING W/ BACKGROUND	0	0 0	2 9	9 47	405 2202	14 77	0	0	2 13	24 129	388 2106	69 375
TOTAL "OTHER" DEVELOPMENTS	0	0	0	0	15	4	0	0	19	4	14	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments	0 0 0 0 0 0 0 0 0 0 0 0 0				9 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0.19	0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 0 10 0 0 0 0 0 0 0 0 0 0 0	
Other Adjustments FUTURE TRAFFIC W/O PROJECT	0	0	9	47	2217	81	0	0	32	133	2120	375
TOTORE TRAFFIC W/OTROJECT	بُ						Ľ		(507.)			
TOTAL "NEW" SITE TRAFFIC	0	0	6	0	38	0	0	0	0	0	34	35
Residential	0 0 0 0 0 0	0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0	38 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	34 0 0 0 0 0 0	35 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	14	47	2255	81	0	0	32	133	2154	410
"New" Site Traffic % of Total 0.0%	0.0	0.0	35.7	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.6	8.5

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Site Access

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SE Weekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			ORTHBO			ESTBO			UTHBO	
Traffic Component	Ĺ	Site Acc	R	L	gton Pike S	R (R1 202	Ĺ	Site Acce	R	L	gion Pike	(Rt 202 R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments 1.000	0 0 0	0 0 0	0 0 0	0 0	1679 1679 244	0 0 0	0 0 0	0 0 0	0 0 0	0 0	1390 1390 180	0 0 0
ADJUSTED EXISTING TRAFFIC	0	0	0	0	1923	0	0	0	0	0	1570	0
Background Growth 22.56 % EXISTING W/ BACKGROUNE	0	0	0	0	434 2357	0	0	0	0	0 0	354 1924	0
TOTAL "OTHER" DEVELOPMENTS	0	0	0	0	32	0	0	0	0	0	15	0
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 21 9 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 0 7 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	0	0	2389	0	0	0	0	0	1939	0
TOTAL "NEW" SITE TRAFFIC	0	0	22	0	65	0	0	0	0	0	8	10
Residential	0 0 0 0 0 0	0 0 0 0 0 0	22 0 0 0 0 0 0	0 0 0 0 0 0 0	65 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	8 0 0 0 0	10 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	22	0	2454	0	0	0	0	0	1947	10
"New" Site Traffic % of Total 0.0%	0.0	0.0	100.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.4	100.0

INTERSECTION VOLUME SUMMARY Wilmington Pike (Rt 202)/Site Access

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	f	EASTBO	cess	Wilmir	ORTHBO	(Rt 202)	WESTBO Site Acco	ess	Wilmin		e (Rt 202
Traffic Component	E	<u>S</u>	R	F/	<u>s</u>	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0 0	0 0 0	0 0 0	0 0 0	1898 1898 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	1574 1574 151	0 0 0
ADJUSTED EXISTING TRAFFIC	0	0	0	0	1898	0	٥	0	0	0	1725	0
Background Growth 22.56 % EXISTING W/ BACKGROUNE TOTAL "OTHER" DEVELOPMENTS	0 0	0	0 0	0 0	428 2326 19	0 0	0 0	0 0	0	0 0	389 2114 14	0 0
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 4 6 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 0 10 0 0 0 0 0 0 0 0 0	
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	0	0	2345	0	0	0	0	0	2128	0
TOTAL "NEW" SITE TRAFFIC	0	0	13	0	38	0	0	0	0	0	5	34
Residential	0 0 0 0 0 0	0 0 0 0 0 0	13 0 0 0 0 0	0 0 0 0 0 0 0	38 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	5 0 0 0 0 0	34 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	13	0	2383	0	0	0	0	0	2133	34
"New" Site Traffic % of Total 0.0%	0.0	0.0	100.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.2	100.0

INTERSECTION VOLUME SUMMARY West Site Access/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SE Weekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBO sant Gro			RTHBO			ESTBO sant Gro S			UTHBO st Site A S	
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	47 47 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	144 144 0	0 0 0	0 0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	47	.0	0	0	0	0	144	0	0	0	0
Background Growth 22.56 % EXISTING W/ BACKGROUNE	0	11 58	0	0	0	0	0	32 176	0	0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	4	0	0	0	0	0	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Other Adjustments	0	0	0	0	0	0	0	Ö	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	62	0	0	0	0	0	180	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	0	1	4	15	0	5	7	5	0	0	0	0
Residential	0 0 0 0 0 0	1 0 0 0 0 0	4 0 0 0 0 0	15 0 0 0 0 0	0 0 0 0 0	5 0 0 0 0	7 0 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	63	4	15	0	5	7	185	0	0	0	0
"New" Site Traffic % of Total ####	0.0	1.6	100.0	100.0	0.0	100.0	100.0	2.7	0.0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY West Site Access/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	Plea	ASTBO	ve Rd	Wes	RTHBO	ccess	Pleas	ESTBO	ve Rd	We	UTHBC st Site A	ccess
Traffic Component	L	<u> </u>	R	_L	<u>S</u>	R	L	S	R	L	<u>S</u>	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	7 7 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	344 344 0	0 0 0	0 0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	7	0	0	0	0	0	344	0	0	0	0
11000011110111101111011110												
Background Growth 22.56 % EXISTING W/ BACKGROUNE	0	2 9	0	0	0	0	0	78 422	0	0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	3	0	0	0	0	a	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				000000000000000000000000000000000000000		0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Other Adjustments	0	0	0	0	0	0	_	_			0	
FUTURE TRAFFIC W/O PROJECT	0	12	0	0	0	0	0	426	0	0	0	0
TOTAL "NEW" SITE TRAFFIC	0	5	15	8	0	3	26	3	0	0	0	0
Residential	0 0 0 0 0 0	5 0 0 0 0 0	15 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0	3 0 0 0 0 0	26 0 0 0 0 0 0	3 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	o	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	17	15	8	0	3	26	429	0	0	0	0
"New" Site Traffic % of Total ####	0.0	29.4	100.0	100:0	0.0	100.0	100.0	0.7	0.0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY East Site Access/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDSWeekday 7-9 AM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	Ple	EASTBC asant Gr	ove Rd	Eas	ORTHB st Site A	ccess	Plea	/ESTBO	ve Rd	Ea	OUTHBO	ccess
Traffic Component	 L	S	R	L	<u>S</u>	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	47 47 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	144 144 0	0 0 0	0 0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	47	0	0	0	0	0	144	0	0	0	0
ADJUSTED EXISTING TRAFFIC				T			Ť	1		Ť		
Background Growth 22,56 9 EXISTING W/ BACKGROUNE	6 0 0	11 58	0	0	0	0	0	32 176	0 0	0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	4	0	0	0	0	0	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/O PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 3 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000
TOTAL "NEW" SITE TRAFFIC	0	5	1	5	0	3	3	7	0	0	0	0
Residential	0 0 0 0 0 0	5 0 0 0 0	1 0 0 0 0 0	5 0 0 0 0 0	0 0 0 0 0 0 0 0	3 0 0 0 0 0	3 0 0 0 0 0	7 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	67	1	5	0	3	3	187	0	0	0	0
"New" Site Traffic % of Total 10.0%	0.0	7_5	100_0	100_0	0.0	100_0	100.0	3_7	0_0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY East Site Access/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SDSWeekday 4-6 PM Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

		ASTBO			RTHB0			ESTBO	-		UTHBO	
Traffic Component	L	S	R	L	S	R	L	<u>S</u>	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor Balancing Adjustments	0 0	7 7 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	344 344 0	0 0 0	0 0	0 0 0	0 0 0
ADJUSTED EXISTING TRAFFIC	0	7	0	0	0	0	0	344	0	0	0	0
TO THE POST OF THE PARTY OF THE												
Background Growth 22.56 % EXISTING W/ BACKGROUNE	0	2 9	0	0	0	0	0	78 422	0	0 0	0	0
TOTAL "OTHER" DEVELOPMENTS	0	3	0	0	0	0	0	4	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/O PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL "NEW" SITE TRAFFIC	0	3	5	3	0	2	9	26	0	0	0	0
Residential	0 0 0 0 0 0 0 0	3 0 0 0 0 0	5 0 0 0 0	3 0 0 0 0 0	0 0 0 0 0 0 0	2 0 0 0 0 0 0 0 0 0	9 0 0 0 0 0 0 0 0	26 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	15	5	3	0	2	9	452	0	0	0	0
"New" Site Traffic % of Total 10.0%	0.0	20.0	100.0	100.0	0.0	100.0	100:0	5.8	0.0	0.0	0.0	0.0

INTERSECTION VOLUME SUMMARY New Street/Pleasant Grove Rd

Crebilly Farm I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SE Weekday 7-9 AM Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

Traffic Component		ASTBO			ORTHBO New Stre			ESTBO sant Gro			OUTHBO New Stre	
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0 0	0 0 0	0 0 0	0 0 0	141 141 59	5 5 0	142 142 33	0 0 0	26 26 0	11 11 0	129 129 130	0 0 0
ADJUSTED EXISTING TRAFFIC	0	0	0	0	200	5	175	0	26	11	259	0
Background Growth 22.56 % EXISTING W/ BACKGROUNE TOTAL "OTHER" DEVELOPMENTS Condominium Development Police Station Redevelopment Arborview Development					45 245 0 0 0 0 0 0 0 0 0 0	1 6 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	39 214 4 1 0 3 0 0 0 0 0 0		6 32 0 0 0 0 0 0 0 0	2 13 0 0 0 0 0 0 0 0 0 0	58 317 0 0 0 0 0 0 0 0 0	
Other Adjustments	0 0	0	0	0 0	0	0 0	0 0	0	0	0	0	0
FUTURE TRAFFIC W/O PROJECT	0	0	0	0	245	10	218	0	32	13	317	0
TOTAL "NEW" SITE TRAFFIC	0	0	0	0	0	3	11	0	9	2	0	0
Residential	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	3 0 0 0 0	11 0 0 0 0 0 0	0 0 0 0 0 0	9 0 0 0 0 0 0 0	2 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	0	0	245	13	229	0	41	15	317	0
"New" Site Traffic % of Total 0.0%	0.0	0,0	0.0	0.0	0.0	23:1	4.8	0.0	22.0	13.3	0.0	0.0

INTERSECTION VOLUME SUMMARY New Street/Pleasant Grove Rd

Crebilly Farm
I:\eng\816451 - Crebilly Farm\Traffic\Analysis\2017-1-20 TIS PennDOT & Twp\SD Weekday 4-6 PM
Design Year 2028 - Alternative A - 319 total units (Access Opposite Bridlewood Blvd)

	Plea	ASTBO sant Gro	ve Rd	:	ORTHBC New Stre	et	Plea	ESTBO sant Gro	ve Rd	1	UTHBC New Stre	et
Traffic Component	L_L	S	R	L	S	R	L	S	R	L	S	R
EXISTING TRAFFIC Seasonal Adjustment Factor 1.000 Balancing Adjustments	0 0	0 0 0	0 0 0	0 0 0	103 103 148	13 13 0	231 231 36	0 0 0	31 31 0	9 9 0	133 133 144	0 0 0
ADJUSTED EXISTING TRAFFIC	0	0	0	o	251	13	267	0	-31	9	277	0
												· ·
Background Growth 22,56 % EXISTING W/ BACKGROUNE	0	0	0	0	57 308	3 16	60 327	0	7 38	2 11	63 340	0
TOTAL "OTHER" DEVELOPMENTS	0	0	0	0	0	3	4	0	0	0	0	0
Condominium Development Police Station Redevelopment Arborview Development Other Adjustments FUTURE TRAFFIC W/OUT PROJECT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 3 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	-		-									
TOTAL "NEW" SITE TRAFFIC	0	0	0	0	0	12	7	0	4	8	0	0
Residential	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	12 0 0 0 0 0 0	7 0 0 0 0 0 0	0 0 0 0 0 0	4 0 0 0 0 0	8 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
FUTURE TRAFFIC W/ PROJECT	0	0	0	0	308	31	338	0	42	19	340	0
"New" Site Traffic % of Total 0.0%	0,0	0,0	0.0	0.0	0.0	38.7	2.1	0.0	9.5	42.1	0.0	0.0

ATTACHMENT 4

Comment 6

Table 6. Level of Service Matrices

U.S. Route 202 (Wilmington Pike) and Street Road (S.R. 0926)

Edit	ng Parsa	ьd		Verkday	Marning Peak	itour
De	оди Ха	av.	2016		2023 Design	
Develope	nenesia	milition	Existing	w/o Dev Base	w/o Dev ⁽¹⁾ Optimized	w/ Dev OptImized ⁽¹⁾ Alternative A
		Left	F 208.0	F 268.1	F 231,8	F 279.0
:31	EB	Left	F	F	F	F
Stock Madistr onto		Thru Right	209.8	283.4	242.7	300,4
reet Han	_	Left	E 70.2	E 72.9	F 116.6	F 134.0
361	wB	Thru	E 66.4	E 66.7	F 91.4	F 107.0
		Right	E 58.8	E 58,4	E 65.3	E 66.5
		Left	D 37.8	D 38,8	D 41.5	D 42.2
	NB	Thru	F 92.9	F 153.8	F 144-1	F 139.9
NAME OF THE OWNER.		Right	C 23.1	C 24.8	C 25,3	C 25.0
U.S. Milote 202 OVHIERTAGON Philot		Left	D 39.6	D 43.4	D 49.0	D 54.7 F
US	SB	Thru	F 73.5 v/c> 1.0	F 124.6	F 116.0	124,4
		Thru	F	Ŀ	F	F
		Right	77.6 v/c > 1.0	137.7	128.5	138.2
Osmil)		F 104.1	F 157 1	F 146.0	F 160.9	

	Weekday	Affection Plat	Hom
2016		202: Design	
Existing	w/o Dev Base	w/o Dev ⁽¹⁾ Optimized	w/ Dev Optimized ⁽¹⁾ Alternative A
F 100.0	F 148.0	F 129.7	F 155,2
F	F	F	F
110/9	165.7	144.7	176,2
E (2.0	E	F 85.3	F 85.3
63.9	65.0 F		
E 79.7	86.6	F 162.9	F 187,3
79.7 E	60.0 E	E E	107 ₁ 3
56.8	55.7	61.9	61.9
D	D	D	E
41.0	42.4	42.7	57.8
F	F	F	F
99.0	155,3	128.1	128.1
С	С	С	С
26.1	28.2	26.1	26.1
Е	P	F	F
62.5	96.2	83.0	94.2
F	F	F	F
227.5	278.4	244.9	269.1
F	F	F	F
221.5	277.5	243.3	268.5
F	F	F	F
140.1	187 0	167.8	181.8

⁽¹⁾ Future traffic signal timings have been optimized.

Table 6. Level of Service Matrices

U.S. Route 202 (Wilmington Pike) and Street Road (S.R. 0926) Intersection Improvement Alternatives

il)	micPeriori	Hondygay Moun	ing (edistion)	344
(0)	telse Dear	202 Design		
Develop	nam Chadillas	w/ D U S Route 202 Southbound Right- Turn Lane	Street Road (S.R. 0926) Improvements Alternative A	U.S. Route 202 Southb Turn Lane Alternative
	Left	F 250,0	F	F 155 2
	Left #B	F	202 6	F
E	Thru		F	11
*	Rìght	268.5	187,9	176 2
Super H. and C. S. Opposite	Left	F 118.2	D 54.4	F 85.3
	WB Thru	F 96.9	F 81.4	F 1873
	Right	E 65.6	D 47.7	E 61 9
	Left	D 42 3	C 29.7	E 57 8
	NB Thru	F 159.0	F 133 7	F 1281
a 3	Right	C 26 8	B 185	C 26.1
1	Left	D 54.1	C 30 8	F 94 2
U.S. Roser 202 UVIllamington Phila	Thru SB	F	F 1161	F
	Thru	94.6	F	240 5
	Right	C 26 8	130,0	C 27 3
	ligidl	F	ę.	F
	30000	144 5	131 9	1653

Westonay: Atte	moon Peak Brue:	
2	2023	
Desi	gn Year	
w	Dev ⁽¹⁾	
U.S. Route 202 Southbound Right-	Street Road (S.R. 0926)	
Turn Lane	limprovaments	
Alternative A	Alternative A	
F 155 2	F	
F	159 9	
	F	
176 2	97.4	
F	D D	
85.3	43.7	
P	F	
1873	152 5	
Е	D	
61 9	44 5	
E	С	
57 8	33.0	
F	F	
128 1	109.1	
С	В	
26.1	18.5	
F	D	
94 2	40.3	
	F	
F	244 0	
2405	F	
C 27 3	243.1	
F	F	
165.3	156 8	

(1) Future traffic signal timings have been optimized

Table 6. Level of Service Matrices Street Road (S.R. 0926) and New Street

Tin	ne Peri	id			Weskany	Maminy Peak	Hinr
De	sign Ye	ac	2016	5		202 Design	
					w/o Dev	w/o Dev ^(I)	w/ Dev Optimized ⁽¹⁾
Develope	Development Condition		Existi	ng	Base	Optimized	Alternative A
		Left	А		8	С	С
1924	ЕВ	Thru					
8.88		Right	9.8		12.7	21.7	22.0
Street Bland (S.R. 1972a)		Left	А		A	A	В
#	WB	Thru					
		Right	5.8		6.2	9.8	10.0
		Left	С		С	С	С
	NB	Thru			1		
New Street		Right	33.3		33.7	27.4	27.4
New		Left	F		F	F	F
	SB	Thru		ı			
		Right	243.7		324.0	129.9	140.5
Overall		8		F	D	D	
	Liverall?		70.5		92.4	47.1	50 2

	Wedday.	William of Pict	Ноку
2016		202 Design	
Existing	w/o Dev	w/o Dev ⁽¹⁾	w/ Dev Optimized ⁽¹⁾
Existing	Base	Optimized	Alternative A
В	В	В	В
12.4	14.4	18.9	19.9
А	В	В	В
9.8	10.7	13.8	14.0
С	D	С	С
34.9	36.2	31.1	31.4
F	F	F	F
207.1	294.3	182.0	189.4
Б	F	E	Е
70.1	95.6	65.4	67.6

⁽¹⁾ Future traffic signal timings have been optimized

Table 6. Level of Service Matrices Street Road (S.R. 0926) and Bridlewood Boulevard

Th	me Peri	od						
Design Year								
Development Condition								
(S.R. 10)2h1	ЕВ	Thru						
		Right						
et Road		Left						
Stree	WB	Thru						
		Right						
pana	NID	Left						
NB Right								
Overall								

Weekday Morning Peak Hour									
2016	i i)23 π Year							
7.1.1		w/ Dev							
Existing	w/o Dev	Alternative A							
(1)	(1)	(1)							
(1)	(1)	(1)							
В	В	В							
11.6	12.3	12.3							
(1)	(1)	(1)							
С	D	D							
23.5	31.0	31.7							
В	С	С							
14.6	16.3	16.4							
А	A	A							
1.3	1.6	1.6							

Weekda	Weekday Afternoon Feak Hour							
2016		123 n Year						
		w/ Dev						
Existing	w/o Dev	Alternative A						
(1)	(1)	(1)						
(1)	(1)	(1)						
В	В	В						
10.5	11.0	11.1						
(1)	(1)	(1)						
D	D	E						
25.5	34.1	35.3						
В	В	В						
13.4	14.8	14.9						
А	A	A						
1.4	1.7	1.7						

⁽¹⁾ Movement operates at free-flow conditions.

Table 6. Level of Service Matrices
U.S. Route 202 (Wilmington Pike) and West Pleasant Grove Road

	Time Period		Wellet	ly Morallig Fé.	de Pione	Weekda	Afternoon Pe	ak Hour	
	Design Year		2016	2016 2023 Design Year		2016	2023 Design Year		
						w/ Dev			w/ Dev
		onditio		Existing	w/o Dev	Alternative A	Existing	w/o Dev	Alternative A
	pid.	ЕВ	Right	С	D	D	С	D	D
	d Cmme K			24.3	32,1	34.9	22.1	27.0	28.4
	West Pleasunt Gring Road	wB	Right	С	D	D	С	D	D
	-			23.4	30.1	31,7	20,4	26.8	27.8
	ı		Left	C 19.2	C 23.4	C 23.8	C 20.8	D 26.8	D 28.6
	9	NB	Thru	(1)	(1)	(1)	(1)	(1)	(1)
orto 202	due Pis		Thru/ Right	(1)	(1)	(1)	(1)	(1)	(1)
U.S. Route 202	Wilmington Pike		Left	C 21.5	D 32.9	E 35.9	C 23.0	D 34.7	E 36.7
	2	SB	Thru	(1)	(1)	(1)	(1)	(1)	(1)
			Thru/ Right	(1)	(1)	(1)	(1)	(1)	(1)
				А	A	A	A	А	А
		Overall		0.7	1.1	1.2	0.9	1.4	1.5

⁽¹⁾ Movement operates at free-flow conditions.

Table 6. Level of Service Matrices New Street and West Pleasant Grove Road

Ti	me Perio	d		333		
Di	Design Year					
	velopme	100		Existi		
Road	WB	Left		С		
WestP		Right		15.0		
	NB	Thru		(1)		
Street		Right				
New	SB	Left		A		
		Thru		8.8		
	Overall			A		
	-			4.6		

Weekd	Weekday Morning Peak Hour							
2016	2023 Design Year							
		w/ Dev						
Existing	w/o Dev	Alternative A						
С	С	С						
15.0	18.1	19.3						
(1)	(1)	(1)						
A	А	A						
8.8	8.9	8,9						
А	Α	A						
4.6	5.6	6.2						

Weekda	Weekday Astermor, Peak Hour							
2016		023 n Year						
		w/ Dev						
Existing	w/o Dev	Alternative A						
С	Е	E						
22,6	36,3	44.7						
(1)	(1)	(1)						
А	А	A						
8.8	9.0	9.0						
А	В	С						
8.0	12.9	16.0						

⁽¹⁾ Movement operates at free-flow conditions

Table 6. Level of Service Matrices
U.S. Route 202 (Wilmington Pike) and Site Access

Ui	ne Péri	od	Weekday Morning Peak Hour	Weekday Afternoon Peak Hour
De	sign Ye	ar	2023 Design Year	2023 Design Year
			w/ Dev	w/ Dev
	Development Condition		Alternative A	Alternative A
: ssacc			С	С
Sile Access	EB Right	Right	21.7	22.0
U.S. Roote 202 Wilmington Piket	-	Thru (2)	(1)	(1)
US.Ro Wilming	Wilmingto 88	Right	(1)	(1)
	Overall		A	A
	overali		0.2	0.1

⁽¹⁾ Movement operates at free-flow conditions.

Table 6. Level of Service Matrices Street Road (S.R. 0926) and Site Access

Ti	me Perio	id		Week day Morning Praid Hour	Ĭ	Weekday Atternoon Peak Hour
De	Design Year			2023 Design Year		2023 Design Year
		-		w/ Dev	ı	w/ Dev
Develop	ment.Co	ndition		Alternative A		Alternative A
		Left		A		A
		2021		4.7		6.3
192	ЕB			A		A
Street Road (S.R. 1972)		Thru		7,7		6,5
Road				A		A
Street	wв	Thru		3.7		4.5
	1	Right	Н	A	ı	A
	_			2.6	ı	2.9
				В		В
Sile Acces	SB	Left		19.2		15.9
被	1 36			В	1	В
		Right		16.3		14.8
				A	Ĭ	A
	Overal)			7.3		6.0

Table 6. Level of Service Matrices

Alternate Street Road (S.R. 0926) Site Access Opposite Bridlewood Boulevard

n	mn (ter	ind.	Weekday Morning Peak Hour	Weekslay Vilenaanii Prabbituur												
104	Design Year		2023 Design Year	2023 Design Year												
			w/ Dev	w/ Dev												
	relopm onditio		Alternative A	Alternative A												
		Left	A 5.9	A 73												
20)	EB	Thru	B 10.7	A 7.5												
S.K. 09		Right	A 3.4	A 3.5												
Street Road (S.I.I. 0920)		Left	B 15.3	B 12.5												
Street	wB	Thru	A 4.6	A 5.3												
		Right	A 3.3	A 3.6												
0		Left	B 17.5	8 15.5												
Heidlewood Hinlesed	NB	Thru	В	В												
PH.		Right	17.4	16.3												
		Left	B 18.3	B 16.6												
Sith Acces	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	Thru	В	В
-S		Right	17.1	15.4												
	ANNAL III		A	A												
	Overal)		9.8	7.6												

⁽¹⁾ Movement operates at free-flow conditions.

Table 6. Level of Service Matrices
West Pleasant Grove Road and West Site Access

	Time Period Design Year			Weekday Morning Peak Hour 2023 Design Year	Weekday Afternoon Peak Hour 2023 Design Year
				w/ Dev	w/ Dev
Develope	nent Cr	ondition		Alternative A	Alternative A
West Pleasant Gove Road	ЕВ	Thru/ Right		(1)	(1)
est Pheasant	WB	Left/ Thru		A	А
W				8.2	8.2
Access		Left		А	В
West Sile Access	NB	Right		9.3	10.6
40	Overall			A	A
	verail			0.9	0,7

⁽¹⁾ Movement operates at free-flow conditions.

Table 6. Level of Service Matrices
West Pleasant Grove Road and East Site Access

Tij	ne Peri	od	Weekday Morning Peak Hour	Weekday Afternoon Peak Hour
De	sign Yo	an	2023 Design Year	2023 Design Year
			w/ Dev	w/ Dev
Developi	nent Co	ndifion	Alternative A	Alternative A
West Pleavant Grove Road	ЕВ	Thru/ Right	(1)	(1)
est Pleavant	WB	Left/ Thru	А	A
*			8,2	8.1
East Silv Access	NB	Left	A	А
EstSil	140	Right	9.0	9.9
	2 W		А	A
0	Overall		0.4	0.3

⁽¹⁾ Movement operates at free-flow conditions.

Table 7. 95th Percentile Queue Matrices

U.S. Route 202 (Wilmington Pike) and Street Road (S.R. 0926)

Fin	ts Peri-	id			Warnida	Morning Peop II	upr-
100	Design Year		Current Storage (1)	2016	2023 Design Ye	ar	
Develope	nem 44	edition		Existing	w/o Dev Base	w/o Dev ⁽²⁾ Optimized	w/ Dev Optimized ⁽²⁾ Alternative A
		Left	450'	1230	1518	1488	1733
Street Hourt 658, 250 kir	EB	Left Thru Right	4,700	1363	1715	1675	1978
Street H		Left	200'	285	325	410	435
r.	WB	Thru	680'	258	290	343	378
		Right	215'	45	55	60	60
		Left	305'	25	25	25	35
	NB	Thru	2,800	1328	2340	2388	2370
PIRE		Right	170'	130	158	165	163
Undersylve Piker		Left	375'	63	80	85	103
CI WILL	an.	Thru	4,400'	1788	2268	2325	2403
	SB	Thru Right	4,400'	1850	2423	2478	2570

	Weekday	Memor Perk I	low						
2016	2023 Design Year								
Existing	w/o Dev Base	w/o Dev ⁽²⁾ Optimized	w/ Dev Optimized ⁽³⁾ Alternative A						
625	1035	1013	1125						
958	1193	1163	1308						
285	335	378	378						
450	540	855	938						
48	60	65	65						
45	53	53	218						
1348	2363	2263	2263						
103	128	123	123						
148	283	270	293						
2800	3388	3260	3395						
2863	3525	3388	3538						

⁽¹⁾ Distance to adjacent signalized intersections shown in statics.

⁽²⁾ Future traffic signal timings have been optimized

Table 7. 95th Percentile Queue Matrices

U.S. Route 202 (Wilmington Pike) and Street Road (S.R. 0926) Intersection Improvement Alternatives

Yie	Yime Period		Wingkning Man	ing flysk filosi			
Die	Design Year		Desig	2023 Design Year			
Desclope	ment Co	patter	w/ E U.S. Route 202 Southbound Right- Turn Lane	Street Road (S.R. 0926) Improvements			
			Alternative A	Alternative A			
		Left	1675	893			
	ЕВ	Left		073			
Street Road is R. 1972a	ЕВ	Thru	1910	878			
Sign		Right					
though		Left	415	258			
	WB	Thru	363	298			
		Right	60	43			
		Left	38	25			
	NB	Thru	2453	1953			
200		Right	170	120			
US Kante 202 Withington Pixon		Left	105	65			
With	SB	Thru	2015	1970			
	ЭВ	Thru	2019	2135			
		Right	243				

Weekday Affermion Posk Hour					
2023 Design Year					
w/ D)ev ⁽²⁾				
U.S. Route 202 Southbound Right- Turn Lane	Street Road (S.R. 0926) Improvements				
Alternative A	Alternative A				
1125	630				
1308	460				
378	245				
938	758				
65	48				
218	83				
2263	1785				
123	88				
293	118				
3045	2888				
3045	3008				
198	3008				

⁽¹⁾ Distance to adjacent signalized intersections shown in Italics.

⁽²⁾ Future traffic signal timings have been optimized

Table 7. 95th Percentile Queue Matrices Street Road (S.R. 0926) and New Street

Tu	ne His	nod				Weekday	Morning Heak	Hóm	j		Weekday	Vilempon Pezi	Hom
Design Year		Current Puture		2016	2023 Design Year			2023 Design Year					
			Storage (1)	Storage (***		w/o Dev	w/o Dev ⁽²⁾	w/ Dev Optimized ⁽²⁾			w/o Dev Base	w/o Dev ⁽²⁾	w/ Dev Optimized ⁽²⁾
Devidopt	nym c	andition			Existing	Base	Optimized	Alternative A		Existing		Optimized	Alternative A
Street Road (n.R., 1922a)	ЕВ	Left Thru Right	2,200*	2,200'	440	575	725	738		440	538	610	640
Sheet Kon	wB	Left Thru Right	4,700'	3,300′	188	21/5	258	268		288	345	380	388
tion.	NB	Left Thru Right		ני	113	128	115	118		240	273	255	263
page ser.	SB	Left Thru Right	×	=	1178	1503	1023	1083		1410	1833	1520	1560

⁽¹⁾ Distance to adjacent signalized intersections shown in italics
(2) Future traffic signal timings have been optimized

Table 7. 95th Percentile Queue Matrices
Street Road (S.R. 0926) and Bridlewood Boulevard

sign Y	ant	Current Storage ⁽¹⁾	Future Storage (1)
Thru EB		2,400′	2,400'
	Right	350'	350'
	Left	120'	120'
WB	Thru	2,300'	1500′
NB	Left	125'	125'
	EB WB	EB Right Left WB Thru	Storage ⁽¹⁾ Thru EB Right 350' Left 120' WB Thru 2,300' Left NB 125'

Wilefaday Murmay Peak Binsr					
2016	2023 Design Year				
Existing	w/o Dev	w/ Dev Alternative A			
*1	.5	:4			
20	ê	1			
0	25	25			
21	=	:=			
25	28	28			
25	25	25			

Weekskay Affermanii Brak Hour					
2016	2023 Design Year				
		w/ Dev			
Existing	w/o Dev	Alternative A			
×	3	M			
8	ŝ	9			
25	25	25			
¥-	=	si			
25	25	25			
25	25	25			

⁽¹⁾ Distance to adjacent signalized intersections shown in italics.

Table 7. 95th Percentile Queue Matrices
U.S. Route 202 (Wilmington Pike) and West Pleasant Grove Road

¥,	Firme Portfol			West	Aday Mirrating Peak Bloom		
Design Year		Current	2016	2023 Design Year			
	Development Condition		Storage (1)	Existing	w/o Dev	w/ Dev Alternative A	
West Pleasant Crove Road	ЕВ	Right	171	25	33	40	
West Pleasant	WB	Right		25	25	25	
		Left	350'	25	25	25	
70	NB	Thru	3,100*	ac	<u>=</u> (
ute 202 too File		Thru/ Right	3,100'	:-	#!		
U.S. Route 202 Wilmongton Pilkel		Left	380'	25	43	48	
W	SB	Thru	1,200'	- 1	=	=	
		Thru/ Right	1,200′	ia II	ž.	25	

Weeds	Weekday Afternoan Peak Flux.					
2016	Des	2023 sign Year				
		w/ Dev				
Existing	w/o Dev	Alternative A				
25	25	25				
25	25	25				
25	25	25				
	90	-				
12	- va	·a				
40	70	75				
÷		-				
-	ia i	-				

⁽¹⁾ Distance to adjacent signalized intersections shown in italics

Table 7. 95th Percentile Queue Matrices New Street and West Pleasant Grove Road

, ri	me Period		Wasti	Weekday Morning Peak Hour				
Design Year		Current	2016	2023 Design Year				
		Storage (1)			w/ Dev			
	velopment ondition		Existing	w/o Dev Alternative A				
West Pleasant Grove Road	Left WB Right		45	65	78			
Street	Thru NB Right	3,350′	(4)	je i	(é			
New Street	Left SB Thru	2	0	0	25			

Weekday Afternoon Peak Hour					
2016	2023 Design Year				
		w/ Dev			
Existing	w/o Dev	Alternative A			
108	183	218			
×	:0	*1			
0	0	25			

⁽¹⁾ Distance to adjacent signalized intersections shown in italics.

Table 7. 95th Percentile Queue Matrices
U.S. Route 202 (Wilmington Pike) and Site Access

T4	Time Period		Weekday Morning Peak! Hour	Weesday Atternoon Peak Hour
Ðs	Design Year		2023 Design Year	2023 Design Year
		Storage	w/ Dev	w/ Dev
	Development Condition		Alternative A	Alternative A
Site Access	EB Right	-	25	25
U.S. Route 202 (Wilmington Fike)	Thru (2) SB	Tig:	15	¥
U.S. Ro (Wifming	Right	225'	ie.	ž.

Table 7. 95th Percentile Queue Matrices Street Road (S.R. 0926) and Site Access

Tin	te Peris	sa		Weekday Morning Peak Hour	Weekday Aftennon Peak Hour
Design Year		Future	2023 Design Year	2023 Design Year	
			Storage (1)	w/ Dev	w/ Dev
Develop	Development Condition			Alternative A	Alternative A
		Left	150'	0	25
(S.R. 0926)	ЕВ	Thru	1,350′	325	268
Street Road (S.R. 0926)	wB	Thru	1,050	105	163
		Right	150'	25	25
ccess	SB	Left	100'	50	25
Site Access	36	Right		25	25

⁽¹⁾ Distance to adjacent signalized intersections shown in italics.

Table 7. 95th Percentile Queue Matrices

Alternate Street Road (S.R. 0926) Site Access Opposite Bridlewood Boulevard

ñ	me Penod		Workstay Morning Peak Hour	Weekday Afferman Peak Hour
Di	sign Year	Future Storage ⁽¹⁾	2028 Design Year w/ Dev	2028 Design Year w/ Dev
	Development Condition		Alternative A	Alternative A
	Left	150'	0	25
9269	EB Thru	2,400'	388	290
Sirret Road 15.R. 1926)	Right	350'	25	25
et-Road	Left	120'	25	25
Sire	WB Thru	2,300'	125	173
	Right	175'	25	25
g p	Left	125'	28	25
Bridlewood Boulevard	NB Thru Right	125'	25	33
	Left	100'	48	25
Silk Acres	SB Thru Right	33	25	25

⁽¹⁾ Distance to adjacent signalized intersections shown in italics

Table 7. 95th Percentile Queue Matrices West Pleasant Grove Road and West Site Access

Tin	ne Perio	id	153	rookday Minoring Peak Hour	Weekday Afternoon Peak Hour
Des	ign Ye	ar		2023 Design Year	2023 Design Year
		TH		w/ Dev	w/ Dev
Developn	ient Co	ondition		Alternative A	Alternative A
e Rand	ЕВ	Thru		¥.	-
Groy		Right			
West Pleasant Grove Road		Left			
West	WB	Thru		0	25
West Site Access	NB	Left		25	25
West Si		Right			

Table 7. 95th Percentile Queue Matrices West Pleasant Grove Road and Eastern Site Access

Tin	ne Period	Weekday Morning Peak Hour	Weekday Afternoon Peak Hour
De	sign Year	2023 Design Year	2023 Design Year
		w/ Dev	w/ Dev
Developn	nent Condition	Alternative A	Alternative A
re Ruad	Thru EB	-	
Grov	Right		
West Pleasant Grove Ruad	Left		
West	WB Thru	0	0
East Site Access	Left NB	0	0
EstSit	Right		-

ATTACHMENT 5

Comment 7



		ST	UDY LOC	ATION AN	ID ANALY	SIS INFORMATION
PennDOT		County:	Cheste	n Township r County 6		Analysis Date: 2/28/2017 Conducted By: TML Checked By: BGG gency/Company Name: McMahon Associates, Inc.
Intersection & A	pproach De	17.77	•	. 0926) and Ne		
Analysis Period: 2028 Design Design Hour: AM Peak Hou Intersection Control: Signalized Posted Speed Limit (MPH): 45 Type of Terrain: Rolling						Number of Approach Lanes: Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane
				VOLUME	CALCULA	TIONS
ſ <u></u>				eft Turn Lan		
Movemen	t Left Through Right Left	Yes Yes Yes	Volume 98 853 5	% Trucks 3.0% 3.0% 0.0% 27.0%	PCEV 103 892 -5 26	Advancing Volume: 1000 Opposing Volume: 552 Left Turn Volume: 103
Opposing	Through Right	Yes	409 61	8,0% 6.0%	459 67	% Left Turns in Advancing Volume: 10.30%
		<u> </u>	Ri	ght Turn Lar	ne Volume C	alculations
Movemen		Include?	Volume	% Trucks	PCEV	
Advancing	Left Through Right	No	0 0	3.0% 3.0% 0.0%	N/A N/A N/A	Advancing Volume: N/A Right Turn Volume: N/A
		22				
			TUE	NIANEV		
Lei	ft Turn La	ine Warrant I		RN LANE V		FINDINGS
Lei Applicable \		ine Warrant I		RN LANE V		
Applicable \		igure: Fig	indings	RN LANE V		FINDINGS Right Turn Lane Warrant Findings
Applicable \	<i>N</i> arrant F	igure: Fig	Findings gure 3 Yes		VARRANT	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant F Warrant I	Met?:	Findings gure 3 Yes	LANE LEI	VARRANT	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant I Warrant I ntersection me of Turr	Met?:	yes TURN Signalized 103 Known 40	LANE LEI	NGTH CA	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A CULATIONS # of Vehicles/Cycle: 3.0
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant F Warrant I ntersection me of Turr Per Hour (H	Met?:	Yes TURN Signalized 103 Known 40	PennDOT Pub	Average lication 46, E: Spi	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A CULATIONS # of Vehicles/Cycle: 3.0 thibit 11-6 ted (MPH) 40-45 50-60 mand Volume
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant I Warrant I ntersection me of Turr Per Hour (A Per Hour (II	Met?: n Control: ining Lane: sssumed): f Known):	Yes TURN Signalized 103 Known 40	I LANE LE	Average	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A CULATIONS # of Vehicles/Cycle: 3.0 thibit 11-6 ted (MPH) 40-45 50-60
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant I Warrant I ntersection me of Turr Per Hour (A Per Hour (II	Met?: n Control: ning Lane: sssumed): f Known):	Yes TURN Signalized 103 Known 40 High	PennDOT Pub 25-35 Low A A Left Turn L	Average lication 46, E: Spi High B or C C ane Storage	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A CULATIONS # of Vehicles/Cycle: 3.0 thibit 11-6 ted (MPH) 40-45 50-60 mand Volume Low High Low B or C B or C B or C B B B or C B Condition A: N/A Condition B: 125 Condition C: 225 Lane Storage Length: 225 Feet Additional Findings:
Applicable \ Applicable \ I Design Hour Volu Cycles F	Warrant F Warrant I Intersection Intersecti	m Control: ining Lane: sssumed): f Known):	Yes TURN Signalized 103 Known 40 High	PennDOT Pub 25-35 Low A A Left Turn L	Average lication 46, E: Spi High B or C C ane Storage	Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A Warrant Met?: N/A CULATIONS # of Vehicles/Cycle: 3.0 thibit 11-6 ted (MPH) 40-45 50-60 mand Volume Low High Low Bor C Bor C Bor C B B Bor C Bor C B B B B B B B B B B B B B B B B B B



Figure 3. Warrant for left turn lanes on two-lane highways (45 mph speed, unsignalized and signalized intersections)

(L = % Left Turns in Advancing Volume)

Left Turn Lane Warranted Volume Data Point 1000, 552 ---- 10₋3% Left Turn Lane Not Warranted

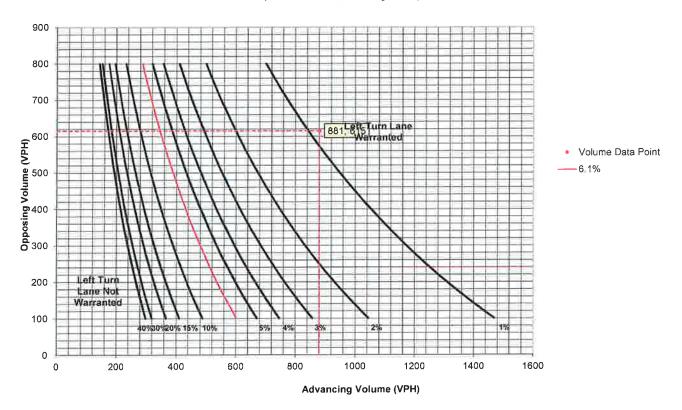
Advancing Volume (VPH)

		ST	UDY LOC	ATION AN	D ANALY	SIS INFORMATION
	Mu	micipality:	Westtown	n Township		Analysis Date: 2/28/2017
	4	County:		r County		Conducted By: TML
PennDOT	Engineerin			6		Checked By: BGG
	Be.				—J Ae	gency/Company Name: McMahon Associates, Inc.
Intersection & Ap	proach De	17 10		. 0926) and Ne t Road (5.8. 09		
	Analys	sis Period:	2028	Design	-	Number of Approach Lanes: 1
		sign Hour:		ak Hour	_	Undivided or Divided Highway: Undivided
1	Intersectio	_		alized		
Posted	Speed Lin	nit (MPH):		15		Type of Analysis
	Туре с	of Terrain:	Rol	lling		Left or Right-Turn Lane Analysis?: Left Turn Lane
				VOLUME		
<u></u>				eft Turn Lane	Volume Ca	lculations
Movemen	t	Include?	Volume	% Trucks	PCEV	
	Left	Yes	51	3.0%	54	Advancing Volume: 881
Advancing	Through		775	3.0%	810	Opposing Volume: 615
	Right	Yes	17	0.0%	17	Left Turn Volume: 54
	Left	Yes	32	0.0%	32	
Opposing	Through	25	499	1.0%	507	
	Right	Yes	76	0.0%	76	% Left Turns in Advancing Volume: 6.13%
			Ri	ght Turn Lan	e Volume Ca	alculations
Movement	t	Include?	Volume	% Trucks	PCEV	
	Left	No	0	3.0%	N/A	
Advancing	Through	h.'	0	3.0%	N/A	Advancing Volume: N/A
	Right		0	0.0%	N/A	Right Turn Volume: N/A
			TUR	RN LANE W	ARRANT	FINDINGS
Lef	t Turn La	ine Warrant I	indings			Right Turn Lane Warrant Findings
Applicable V	Varrant Fi	igure: Fig	gure 3			Applicable Warrant Figure: N/A
	Warrant I	Wet?:	Yes	1		Warrant Met?: N/A
			TURN	LANE LEN	IGTH CAL	CULATIONS
			C: 1: 1			
	ntersection		Signalized			
		ing tanes	54	I.		
Design Hour Volu		_	Vacuum			
Cycles P	er Hour (A	ssumed):	Known 34		Average #	t of Vahicles/Cycle
Cycles P		ssumed):	Known 34		Average #	f of Vehicles/Cycle: 2.0
Cycles P	er Hour (A	ssumed):	34	PennDOT Publ	ication 46, Exh	hibit 11-6
Cycles P	Per Hour (A Per Hour (If	f Known):	34		ication 46, Exh	hibit 11-6 ed (MPH)
Cycles P	Per Hour (A Per Hour (If	ssumed):	34	PennDOT Publ 25-35	Spee	hibit 11-6
Cycles P	Per Hour (A Per Hour (If	f Known):	34		Spee	hibit 11-6 ed (MPH) 40-45 50-60
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A	Speed Turn Den High B or C	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low B or C B or C
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34	25-35 Low	Spee Turn Den High	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A	Specification 46, Exh Specification 46, Exh Turn Den High B or C	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low BorC BorC BorC B BORC BORC
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A	Specification 46, Exh Specification 46, Exh Turn Den High B or C	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low Bor C Bor C Bor C B Bor C Bor C Bor C B Bor C Bor C Bor C
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A	Specification 46, Exh Specification 46, Exh Turn Den High B or C	hibit 11-6 ed (MPH) 40-45
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A	Specification 46, Exh Specification 46, Exh Turn Den High B or C	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low Bor C Bor C Bor C B Bor C Bor C Bor C B Bor C Bor C Bor C
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A Left Turn La	Specification 46, Ext Specification 46, Ext Turn Dean High Bor C C	hibit 11-6 ed (MPH) 40-45 50-60 mand Volume Low High Low Bor C Bor C Bor C B B Bor C B Length, Condition A: N/A Feet Condition B: 125 Feet Condition C: 175 Feet
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A Left Turn La	Specification 46, Ext Specification 46, Ext Turn Dean High Bor C C	hibit 11-6 ed (MPH) 40-45
Cycles P	Per Hour (A Per Hour (If	of Traffic Contro	34 High	25-35 Low A A Left Turn La	Specification 46, Ext Specification 46, Ext Turn Dean High Bor C C	hibit 11-6 ed (MPH) 40-45
Cycles P	Per Hour (A	of Traffic Control	34 High	25-35 Low A A Left Turn La	Specification 46, Ext Specification 46, Ext Turn Dean High Bor C C	hibit 11-6 ed (MPH) 40-45
Cycles P	Per Hour (A	of Traffic Control	34 High	25-35 Low A A Left Turn La	Specification 46, Ext Specification 46, Ext Turn Dean High Bor C C	hibit 11-6 ed (MPH) 40-45



Figure 3. Warrant for left turn lanes on two-lane highways (45 mph speed, unsignalized and signalized intersections)

(L = % Left Turns in Advancing Volume)

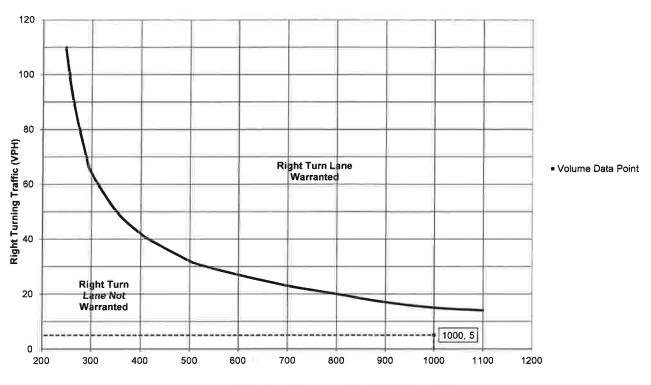


		STU	DY LOC	ATION AN	ND ANALY	SIS INFORM	NOITAN			
PennDOT En	Municipality County Igineering District		Chester	Township County		Analysi Conduc Chec gency/Company	ted By: ked By:	2/28/ TN BO McMahon As	ИL GG	
Intersection & Appa	roach Description			0926) and Ne t Road (S.R. 09						
	Analysis Period Design Hour ersection Contro peed Limit (MPH) Type of Terrain		AM Pea Signa 4	Design ak Hour alized 5			r of Approad or Divided H Turn Lane A	lighway:	1 Undivided /pe of Analysis Right Turn Lane	
				VOLUME	CALCULA	TIONS				
			L	eft Turn Lan	e Volume C	alculations				
Movement	Includ	97	Volume	% Trucks	PCEV	1				
Advancing T	Left Yes Through Right Yes Left Yes Through Right Yes		0 0 0 0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	N/A N/A N/A N/A N/A	% 1.4		Advancing Volu Opposing Volu Left Turn Volu Advancing Volu	ume: N/	A
			Ri	ght Turn Lar	ne Volume C	2				
Movement	Includ		Volume	% Trucks	PCEV					3
	Left Yes hrough		98 853 5	3.0% 3.0% 0.0%	103 892 5			Advancing Volu Right Turn Volu	***	
			TUR	N LANE V	VARRANT	FINDINGS				
Left ⁻	Turn Lane Warı	ant Fir	ndings			Rig	ht Turn La	ne Warrant F	indings	
Applicable Wa	arrant Figure:	N	/A			Applicable	Warrant Fig	gure: Figu	ure 10	
w	arrant Met?:	N,	/A				Warrant N	let?:	No	
			TURN	LANE LE	NGTH CA	CULATION	S			
Design Hour Volume Cycles Per	ersection Control e of Turning Lane Hour (Assumed) r Hour (If Known)		Signalized 5 Known 40	PennDOT Pub		# of Vehicles/Cy	cle:	N/A]	
						eed (MPH)		50-60		
	Type of Traffic (Control		25-35		40-45 emand Volume	,			
	Signalized		High A	Low	High B or C	B or C	High B or C	B or C		
	Unsignalize	ed	А	А	C	В	B or C	В	_	
					J	Length, Condit Condit Condi Lane Storage	tion B:	N/A N/A N/A N/A onal Findings		
Additional Comments /	Justifications:							N//		

2/28/2017



Figure 10. Warrant for right turn lanes on two-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)

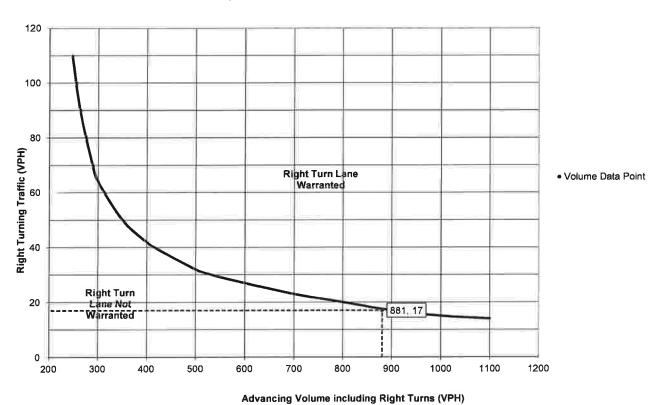


Advancing Volume including Right Turns (VPH)

		CT	HOVIOC	ATLONI AR	D ANIALY	CIC INICODA	IATION		
		ST	UDY LOC	A HON AN	IU ANALY	SIS INFORM	IATION		
			14/	Tarraghin	_	Amaliant	0-4	2/20	/2017
	Mu	nicipality:		Township		Analysis	-		72017 ML
Down DO	· Faalaaasia	County:		County	_	Conduct	ed By:		GG
Pennoo	Engineerin	ig District:				gency/Company			ssociates, Inc.
					A	gency/company	Name:	IVIÇIVIAIIOII A	ssociates, inc.
Intersection & A	pproach De	escription: Stre	et Road (S.R.	0926) and Ne	w Street - Alte	ernative A			
				t Road (S.R. 09					
		1							
	Analys	sis Period:		Design		Numbei	of Approach	n Lanes:	1
		sign Hour:	PM Pea	ak Hour		Undivided	or Divided H	ighway:	Undivided
	Intersectio	n Control:	Signa	alized					
Poste	d Speed Lin	nit (MPH):	4	5					pe of Analysis
	Type o	of Terrain:	Rol	ling		Left or Right-	Turn Lane An	alysis?:	Right Turn Lane
				VOLUME	CALCULA	TIONS			
				0.7		1 . 1 . 4'			
				eft Turn Lan	e volume Ca	iculations			
Moveme	nt .	Include?	Volume	% Trucks	PCEV				
Wiovenie	Left	Yes	0	0.0%	N/A		Δ	dvancing Vol	ume: N/A
Advancing	Through	is.	0	0.0%	N/A			Opposing Vol	
/tavairaing	Right	Yes	0	0.0%	N/A			Left Turn Vol	
l	Left	Yes	0	0.0%	N/A				14/71
Opposing	Through	103	0	0.0%	N/A				
Opposing	Right	Yes	0	0.0%	N/A	% 1.0	ft Turns in A	dvancing Vol	ume: N/A
	Nigitt	163	0	0.076	IV/A	/6 Le	IC IUIIIS III A	uvalicing voli	ame: NA
			Ri	ght Turn Lar	ie Volume C	alculations			
Movemen		Include?	Volume	% Trucks	PCEV				
	Left	Yes	51	3.0%	54				
Advancing	Through	_ a	775	3.0%	810			dvancing Vol	
	Right	2	17	0.0%	17		Ri	ight Turn Vol	ıme: 17
			7110	ALL ABIE M	VADDANIT.	CINIDINICC	_		
			IUR	IN LAINE V	VARRAINT	FINDINGS			
1.0	ft Turn La	ne Warrant I	indings			Ria	ht Turn I an	e Warrant f	indings
	it ruin La	ille vvalranti	munigs			Rig	it rain Lai	ic waitant	ilidings
Applicable	Warrant Fi	igure.	N/A	13		Applicable V	Varrant Figi	ure: Figu	re 10
		84.51	477.	5				1.8	
	Warrant (Met?:	N/A				Warrant Mo	et?:	No
			1,77						
			TURN	LANFIE	WIGTH CAL	CULATIONS			
	_		10111	D-1145 HC1	10111011				
	Intersection	Control:	Signalized						
Design Hour Volu			17						
_	Per Hour (A		Known						
Cycles	Per Hour (If	f Known):	34		Average #	of Vehicles/Cyc	le:	N/A	7
		/-							7
				PennDOT Pub					
						ed (MPH)			
				25-35		40-45 mand Volume	50	0-60	-
	Туре с	of Traffic Contro			Turn Dei				
	Туре с	of Traffic Contro		Low			High	I OW	= ()
			High	Low	High	Low	High B or C	Low B or C	
		of Traffic Contro Signalized Insignalized		Low A A			High B or C B or C	B or C	
		Signalized	High A	A	High B or C	Low 8 or C	B or C	B or C	
		Signalized	High A	A	High B or C C	Low 8 or C	B or C B or C	B or C	Feet
		Signalized	High A	A	High B or C C	B or C B Length, Conditi	B or C B or C	B or C B	-
		Signalized	High A	A	High B or C C	Low B or C B Length, Conditi	B or C B or C on A:	N/A N/A	Feet
		Signalized	High A	A	High B or C C	B or C B Length, Conditi	B or C B or C on A:	B or C B	-
		Signalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi	B or C B or C on A: ion B: ion C:	N/A N/A N/A	Feet
		Signalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C on A: ion B: ion C:	N/A N/A	Feet Feet
		Signalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C ion A: ion B: ion C: ngth:	N/A N/A N/A	Feet Feet Feet
		Signalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C ion A: ion B: ion C: ngth:	N/A N/A N/A N/A	Feet Feet Feet
Additional Comment:	U	Signalized Insignalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C ion A: ion B: ion C: ngth:	N/A N/A N/A N/A N/A N/A N/A	Feet Feet Feet
Additional Comment	U	Signalized Insignalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C ion A: ion B: ion C: ngth:	N/A N/A N/A N/A N/A N/A N/A	Feet Feet Feet
Additional Comment	U	Signalized Insignalized	High A	A A Right Turn L	High B or C C ane Storage	Low B or C B Length, Conditi Conditi	B or C B or C ion A: ion B: ion C: ngth:	N/A N/A N/A N/A N/A N/A N/A	Feet Feet Feet



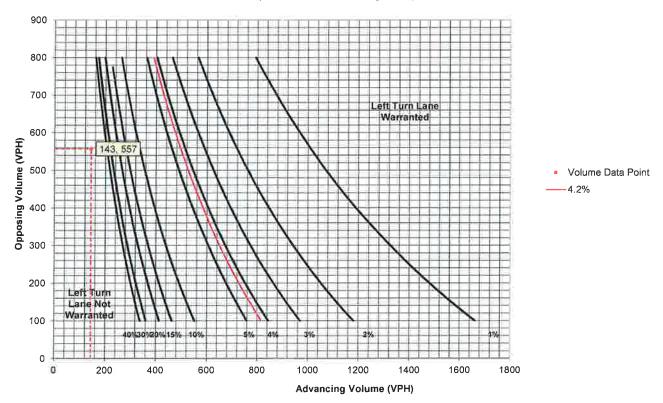
Figure 10. Warrant for right turn lanes on two-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)



	STUDY LOCATION AN	D ANALYSIS INFORMATION
Municipality	: Westtown Township	Analysis Date: 2/28/2017
County		Conducted By: TML
PennDOT Engineering District	6	Checked By: BGG
		Agency/Company Name: McMahon Associates, Inc.
	(Character 12 of 10 00 00 00 1 No.	Character Albana stilling A
Intersection & Approach Description	Northbound New Street Left-Tu	
Analysis Period		Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided
Design Hour Intersection Control		Undivided or Divided Highway: Undivided
Posted Speed Limit (MPH):		Type of Analysis
Type of Terrain:		Left or Right-Turn Lane Analysis?: Left Turn Lane
	VOLUBAE	CALCINATIONS
	VOLUME	CALCULATIONS
	Left Turn Lane	Volume Calculations
Movement Include	? Volume % Trucks	PCEV
Left Yes	4 33,0%	6 Advancing Volume: 143
Advancing Through	99 3.0%	104 Opposing Volume: 557
Right Yes	29 9.0%	33 Left Turn Volume: 6
Left Yes	65 4.0%	69
Opposing Through	301 0.0%	301
Right Yes	181 2.0%	187 % Left Turns in Advancing Volume: 4.20%
	Right Turn Lan	e Volume Calculations
Movement Include	? Volume % Trucks	PCEV
Left No	0 3.0%	N/A
Advancing Through	0 3.0%	N/A Advancing Volume: N/A
Right	0 0.0%	N/A Right Turn Volume: N/A
	TURN LANE W	ARRANT FINDINGS
Left Turn Lane Warra	ant Findings	Right Turn Lane Warrant Findings
_	-	
Applicable Warrant Figure:	Figure 1	Applicable Warrant Figure: N/A
Warrant Met?:	No	Warrant Met?: N/A
	TUDAL LABOR LEA	
	TURN LANE LEN	GTH CALCULATIONS
Intersection Control:	Signalized	
Design Hour Volume of Turning Lane:	6	
Cycles Per Hour (Assumed):		
Cycles Per Hour (If Known):	40	Average # of Vehicles/Cycle: N/A N/A
	PennDOT Publi	cation 46, Exhibit 11-6
	25.35	Speed (MPH) 40-45 50-60
Type of Traffic Co	ontrol 25-35	40-45 50-60 Turn Demand Volume
	High Low	High Low High Low
Signalized	A A	Bor C Bor C Bor C
Unsignalized	d A A	C B BorC B
	Left Turn La	ne Storage Length, Condition A: N/A Feet
		Condition B: N/A Feet
		Condition C: N/A Feet
	Require	d Left Turn Lane Storage Length: N/A Feet
		Additional Findings:
		radicional i mangar
		N/A
Additional Comments / Justifications:		



Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



		ST	UDY LOCA	ATION AN	ID ANALY	YSIS INFORMATION
PennDOT E		nicipality: County:	Westtown Chester	Township		Analysis Date: 2/28/2017 Conducted By: TML Checked By: BGG Agency/Company Name: McMahon Associates, Inc.
Intersection & Ap	proach De			0926) and Ne v Street Left-To		ternative A
	Analysis Period: Design Hour: Intersection Control: Posted Speed Limit (MPH): Type of Terrain: 2028 Design PM Peak Hour Signalized Rolling					Number of Approach Lanes: Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane
	Туре	, remain.			CALCULA	
			Le	eft Turn Lan	e Volume Ca	Calculations
Movement Advancing	Left Through	Include? Yes	Volume 12 211	% Trucks 0.0% 0.0%	PCEV 12 211	Advancing Volume: 276 Opposing Volume: 688
Opposing	Right Left Through	Yes Yes	50 75 240	3.0% 0.0% 1.0%	53 75 244	Left Turn Volume: 12
Ghoanig	Right	Yes	363	1.0%	369	% Left Turns in Advancing Volume: 4.35%
			Ric	ght Turn Lar	ie Volume C	Calculations
Movement		Include?	Volume	% Trucks	PCEV	1
Advancing	Left Through Right	No -	0 0 0	3.0% 3.0% 0.0%	N/A N/A N/A	Advancing Volume: N/A Right Turn Volume: N/A
			TUR	N LANE V	VARRANT	T FINDINGS
[Cat	Tues Le	no Morrant I			2	Right Turn Lane Warrant Findings
Applicable W		ne Warrant I igure: Fig	gure 1		1	Applicable Warrant Figure: N/A
\	Warrant l	Met?:	No			Warrant Met?: N/A
			TURN	LANE LEI	NGTH CAI	LCULATIONS
Design Hour Volur Cycles Po	er Hour (A	ning Lane:	Signalized 12 Known 34		Average	# of Vehicles/Cycle: N/A
				PennDOT Pub	lication 46, Ex	eed (MPH)
	Type	of Traffic Contro		25-35		40-45 50-60
	,,,,,		High	Low	Turn De	emand Volume Low High Low
		Signalized	A	A	B or C	Bor C Bor C
		Insignalized	A			B BorC B e Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Lane Storage Length: N/A Feet
Additional Comments	Justificati	ions:				Additional Findings: N/A



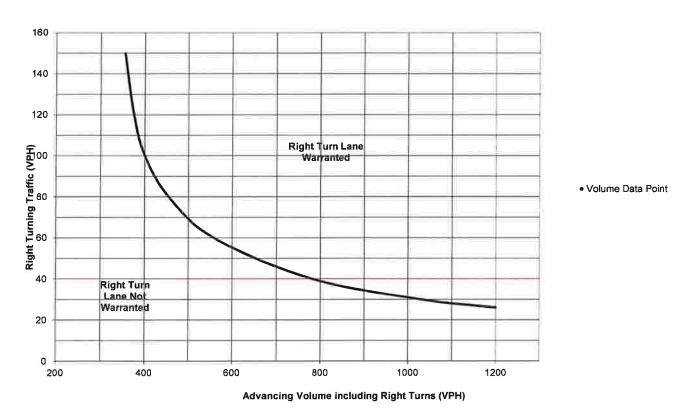
Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)

 Volume Data Point 4.3% Advancing Volume (VPH)

		STL	DY LOC	ATION AN	D ANALYS	SIS INFORM	MATION		
	***	avaluation (Mosttown	Township	1	Analysi	c Data	2/28	/2017
	With	County:		County		Conduc			ML ML
PennDOT	Engineerin			6	_		ked By:		GG
1 61111001	riigiii cei iii	ig District.			Ae	ency/Company			ssociates, Inc.
Intersection & Ap	oproach De			. 0926) and Nev v Street Right-1		rnative A			
						-			
	-	sis Period:		Design			r of Approac		1
		sign Hour:		ak Hour		Undivided	or Divided H	ighway:	Undivided
	ntersectio			alized				To T	uno of Analysis
Posted	Speed Lin			ling	<u>-</u> -	Left or Right-	Turn Lane A		ype of Analysis Right Turn Lane
	туре с	of Terrain:	INOI	iiig		Left Of Right	Turri carie A	iaiysist i	right run cane
				VOLUME	CALCULA.	TIONS			
			L	eft Turn Lane	Volume Ca	culations			
Movemen	t	Include?	Volume	% Trucks	PCEV				
Movemen	Left	Yes	0	0.0%	N/A		Δ	dvancing Vol	ume: N/A
Advancing	Through		0	0.0%	N/A			Opposing Vol	
	Right	Yes	0	0.0%	N/A			Left Turn Vol	
	Left	Yes	0	0.0%	N/A				•
Opposing	Through	= 1	0	0.0%	N/A				
	Right	Yes	0	0.0%	N/A	% Le	eft Turns in A	dvancing Vol	ume: N/A
			Ri	ght Turn Lan	e Volume Ca	lculations			
Movement	. 1	Include?	Volume	% Trucks	PCEV				
	Left	Yes	4	33.0%	6				
Advancing	Through		99	3.0%	104		А	dvancing Vol	ume: 143
	Right		29	9.0%	33		R	ight Turn Vol	ume: 33
			70.10	N LANE W	ADDAAIT	FINIDINICC			
			IUK	IN LAINE W	AKKANI	FINDINGS			
1 10	t Turn La	no Marrant Ei		IN LAINE W	ARRANT		ht Tuen La	no Marrant I	Eindinge
-		ne Warrant Fi	ndings	IN LAINE W	ARRANI	Rig		ne Warrant I	
Let Applicable V				IN LANE W	ARRANT			-	Findings rure 9
Applicable V		igure: N	ndings	LANE W	ARRANI	Rig Applicable		ure: Fig	
Applicable V	Varrant F	igure: N	ndings I/A			Rig Applicable	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable v	Warrant Fi	ligure: N	ndings I/A I/A TURN			Rig Applicable ¹	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable v	Warrant F	igure: N	ndings I/A I/A TURN Signalized			Rig Applicable ¹	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable V In Design Hour Volu	Warrant F Warrant I ntersection me of Turn	Met?: N	ndings I/A I/A TURN Signalized 33			Rig Applicable ¹	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn	Met?: N Control: ing Lane: issumed):	ndings I/A I/A TURN Signalized		IGTH CAL	Rig Applicable \	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn	Met?: N Control: ing Lane: issumed):	ndings I/A I/A TURN Signalized 33 Known 40	I LANE LEN	NGTH CAL	Rig Applicable \ CULATION of Vehicles/Cy	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn	Met?: N Control: ing Lane: issumed):	ndings I/A I/A TURN Signalized 33 Known 40		Average #	Rig Applicable \ CULATION of Vehicles/Cy	Warrant Fig Warrant M	ure: Fig	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn ter Hour (H	Vet?: N Control: ining Lane: isssumed): Known):	ndings I/A I/A TURN Signalized 33 Known 40	I LANE LEN	Average #	Applicable V CULATION: of Vehicles/Cynibit 11-6 dd (MPH)	Warrant Fig Warrant M S	ure: Fig	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn ter Hour (H	Met?: N Control: ing Lane: issumed):	TURN Signalized 33 Known 40	PennDOT Publ	Average # ication 46, Exh Spee	Applicable V CULATION: of Vehicles/Cynibit 11-6 ed (MPH) 10-45 nand Volume	Warrant Fig Warrant M S	et?: N/A	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I Intersection me of Turr Per Hour (A Per Hour (H	Met?: N Control: ining Lane: isssumed): F Known): of Traffic Control	ndings I/A I/A TURN Signalized 33 Known 40	PennDOT Publ	Average # ication 46, Exh	Applicable of Vehicles/Cynibit 11-6 and (MPH)	Warrant Fig Warrant M S cle: 5	N/A Low	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Vet?: N Control: ining Lane: isssumed): Known):	TURN Signalized 33 Known 40	PennDOT Publ	Average # ication 46, Exh Spee	Applicable V CULATION: of Vehicles/Cynibit 11-6 ed (MPH) 10-45 nand Volume	Warrant Fig Warrant M S	et?: N/A	ure 9
Applicable V In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): f Known):	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Exh Spee 4 Turn Den High B or C C	Applicable V CULATION: of Vehicles/Cynibit 11-6 ed (MPH) 10-45 nand Volume Low B or C B	Warrant Fig Warrant M S Cle: 5 High Bor C Bor C	N/A O-60 B or C B	No
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): f Known):	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Exh Spee 4 Turn Den High B or C C	Applicable of Vehicles/Cythibit 11-6 and (MPH) 10-45 and Volume Low Bor C	Warrant Fig Warrant M S Cle: 5 High Bor C Bor C	et?: N/A Law Bor C B N/A	ure 9
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): f Known):	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Exh Spee 4 Turn Den High B or C C	Applicable V CULATION: of Vehicles/Cynibit 11-6 ed (MPH) 10-45 nand Volume Low B or C B	Warrant Fig Warrant M S cle: High B or C B or C	N/A O-60 B or C B	No
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): f Known):	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Exh Spee 4 Turn Den High B or C C	Applicable of Vehicles/Cythibit 11-6 and (MPH) 10-45 nand Volume Low Bor C B Length, Condit	Warrant Fig Warrant M S cle: High B or C B or C ion A: iion B:	N/A Low B or C B N/A N/A	No Feet Feet
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): f Known):	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable V CULATION: of Vehicles/Cy hibit 11-6 hid (MPH) ho-45 hand Volume Low B or C B Length, Condit Condit	Warrant Fig Warrant M S Cle: High Bor C Bor C ion A: ion B:	N/A N/A N/A N/A N/A	Feet Feet Feet
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): F Known): of Traffic Control	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable of Vehicles/Cythibit 11-6 and (MPH) 10-45 nand Volume Low Bor C B Length, Condit	Warrant Fig Warrant M S Cle: High Bor C Bor C ion A: ion B:	N/A Low B or C B N/A N/A	No Feet Feet
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): F Known): of Traffic Control	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable V CULATION: of Vehicles/Cy hibit 11-6 hid (MPH) ho-45 hand Volume Low B or C B Length, Condit Condit	Warrant Fig Warrant M S cle: High Bor C Bor C ion A: ion B: ion C: ength:	N/A N/A N/A N/A N/A N/A	Feet Feet Feet Feet Feet
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I ntersection me of Turn Per Hour (H	Met?: N Control: ining Lane: isssumed): F Known): of Traffic Control	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable V CULATION: of Vehicles/Cy hibit 11-6 hid (MPH) ho-45 hand Volume Low B or C B Length, Condit Condit	Warrant Fig Warrant M S cle: High Bor C Bor C ion A: ion B: ion C: ength:	N/A N/A N/A N/A N/A	Feet Feet Feet Feet Feet
Applicable v In Design Hour Volu Cycles P	Warrant F Warrant I Intersection me of Turn Per Hour (H Type o	Met?: N Control: ining Lane: issumed): f Known): of Traffic Control Signalized Insignalized	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable V CULATION: of Vehicles/Cy hibit 11-6 hid (MPH) ho-45 hand Volume Low B or C B Length, Condit Condit	Warrant Fig Warrant M S cle: High Bor C Bor C ion A: ion B: ion C: ength:	N/A N/A N/A N/A N/A N/A N/A N/A	Feet Feet Feet Feet Feet
Applicable V In Design Hour Volu Cycles P Cycles P	Warrant F Warrant I Intersection me of Turn Per Hour (H Type o	Met?: N Control: ining Lane: issumed): f Known): of Traffic Control Signalized Insignalized	TURN Signalized 33 Known 40 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Exh Spee 4 Turn Den High B or C C ane Storage L	Applicable V CULATION: of Vehicles/Cy hibit 11-6 hid (MPH) ho-45 hand Volume Low B or C B Length, Condit Condit	Warrant Fig Warrant M S cle: High Bor C Bor C ion A: ion B: ion C: ength:	N/A N/A N/A N/A N/A N/A N/A N/A	Feet Feet Feet Feet Feet



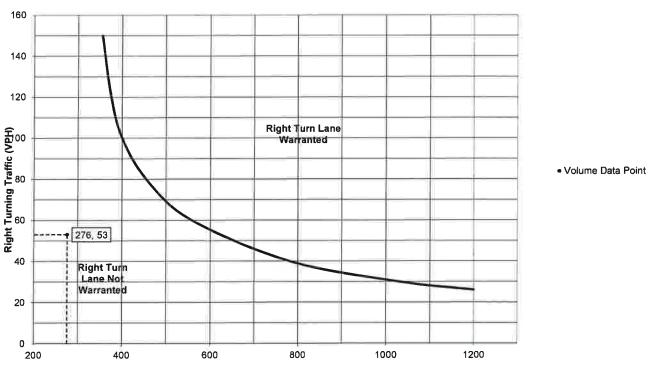
Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



		STU	JDY LOC	ATION AN	D ANALY	SIS INFORMA	TION
					7		
	Mu	micipality:		Township	_ ,	Analysis Da	
		County:		r County		Conducted	
PennDOT	Engineerin	ng District:		6		Checked	
					Ag	ency/Company Na	me: McMahon Associates, Inc.
Intersection & Ap	anroach De	scription Street	at Road IS R	0026) and Nev	w Street - Alte	rnative A	
intersection & Ap	sproach be			w Street Right-		native A	
				111803			
	Analys	sis Period:	2028	Design		Number of	Approach Lanes: 1
		sign Hour:	PM Pe	ak Hour		Undivided or (Divided Highway: Undivided
	ntersectio			alized			
Posted	l Speed Lin			25			Type of Analysis
	Түре с	of Terrain:	Rol	ling		Left or Right-Tur	n Lane Analysis?: Right Turn Lane
				VOLUME	CALCINA	TIONS	
				VOLUME	CALCULA	TIONS	
			L	eft Turn Lane	e Volume Ca	lculations	
Movement	t I	Include?	Volume	% Trucks	PCEV		
	Left	Yes	0	0.0%	N/A		Advancing Volume: N/A
Advancing	Through	2	0	0.0%	N/A		Opposing Volume: N/A
	Right	Yes	0	0.0%	N/A		Left Turn Volume: N/A
	Left	Yes	0	0,0%	N/A		7
Opposing	Through		0	0.0%	N/A		
	Right	Yes	0	0.0%	N/A	% Left T	urns in Advancing Volume: N/A
			Ri	ght Turn Lan	e Volume C	alculations	
						- Touridan	
Movement	t Left	Include?	Volume 12	% Trucks	PCEV 12		
Advancing		Yes	211	0.0%	211		Advancing Volume: 276
Advancing	Through Right	- 5	50	3.0%	53		Advancing Volume: 276 Right Turn Volume: 53
<u> </u>	Might						Night fam volume.
			TUR	N LANE W	/ARRANT	FINDINGS	
Lef	t Turn La	ne Warrant F	indings			Right 1	Furn Lane Warrant Findings
Applicable V			N/A	1		Applicable War	
				7			
,	Warrant f	Met?:	N/A			Wa	rrant Met?: No
			TURN	LANE LEN	IGTH CAL	CULATIONS	
		C = 21					
	ntersection		Signalized				
Design Hour Volui			53				
-	er Hour (A	- 1	Known 34		A 4	asyablalas/coalas	N/A
Cycles P	er Hour (If	r Known):	34		Average #	of Vehicles/Cycle:	N/A
				PennDOT Publ	ication 46, Ex	nibit 11-6	
						ed (MPH)	
	Туре о	of Traffic Control	-	25-35		10-45 nand Volume	50-60
			High	Low	High	Low	High Low
		Signalized	A	A	B or C	B or C	B or C B or C
		nsignalized	А	A	С	В	B or C B
					•		. D./O
				Kight Turn La	ane Storage	ength, Condition	
						Condition	B: N/A Feet
						Condition	
				Required	Right Turn L	ane Storage Lengt	th: N/A Feet
							Additional Findings
							Additional Findings:
Additional Comments	/ Justification	опѕ:	Ų.				
- Comments	, January Control of the Control of						



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



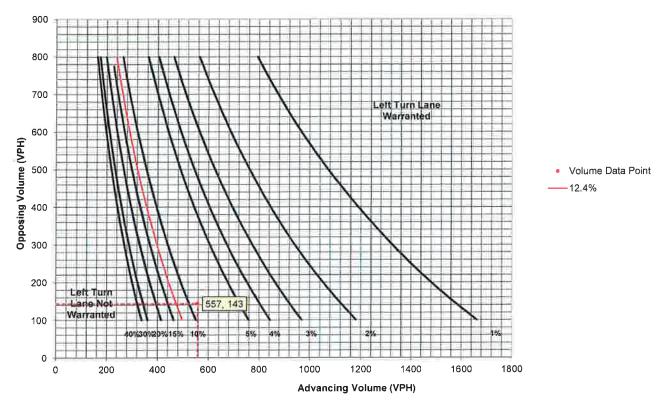
Advancing Volume including Right Turns (VPH)

		310	DY LOC	ATION AN	D ANALY	SIS INFORMATION	
PennDOT Er		icipality: County: District:	Chester	n Township r County 6	As	Analysis Date: 2/28/2017 Conducted By: TML Checked By: BGG Igency/Company Name: McMahon Associates, Inc.	
Intersection & App	oroach Desi			0926) and New	w Street - Alte		
las	-	s Period:	2028 I AM Pea	Design ak Hour alized		Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided	
	Speed Limit	-	3	Ing		Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane	
				VOLUME	CALCULA	ATIONS	
			L	eft Turn Land	e Volume Ca	alculations	
Movement		Include?	Volume	% Trucks	PCEV		
Advancing 1	Left Through Right	Yes - Yes	65 301 181	4.0% 0.0% 2.0%	69 301 187	Advancing Volume: 557 Opposing Volume: 143 Left Turn Volume: 69	
Opposing T	Left Through Right	Yes Yes	4 99 29	33.0% 3.0% 9.0%	6 104 33	% Left Turns in Advancing Volume: 12.39%	
			Ri	ght Turn Lan	e Volume C	Calculations	
Movement		Include?	Volume	% Trucks	PCEV		
Advancing T	Left Fhrough Right	No	0 0	3.0% 3.0% 0.0%	N/A N/A N/A	Advancing Volume: N/A Right Turn Volume: N/A	
			TUE	NI I ANE M	ADDANT	FINDINGS	
						THEOREGS	
				7		Blok Torollow Manage Fluidings	-17
Left Applicable Wa		e Warrant Fi ure: Fig				Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A	
Applicable Wa		ure: Fig	ndings				
Applicable Wa	arrant Fig	ure: Fig	ndings ure 1 (es			Applicable Warrant Figure: N/A	
Applicable Wa W Int Design Hour Volum Cycles Per	arrant Fig	Control:	ndings ure 1 (es		NGTH CAL	Applicable Warrant Figure: N/A Warrant Met?: N/A	
Applicable Wa W Int Design Hour Volum Cycles Per	arrant Fig Varrant M ersection C e of Turnir r Hour (Ass	Control:	res TURN Signalized 69 Known 40		Average 4	Applicable Warrant Figure: N/A Warrant Met?: N/A LCULATIONS # of Vehicles/Cycle: 2.0	
Applicable Wa W Int Design Hour Volum Cycles Per	ersection (ee of Turnir r Hour (Ass	Control:	res TURN Signalized 69 Known 40	PennDOT Publ	Average : lication 46, Ex Spe Turn De	Applicable Warrant Figure: N/A Warrant Met?: N/A LCULATIONS # of Vehicles/Cycle: 2.0 whibit 11-6 eed (MPH) 40-45 50-60 emand Volume	
Applicable Wa W Int Design Hour Volum Cycles Per	derrant Fig. Warrant M Decreased in the control of the control o	Control: ing Lane: sumed): (nown): Traffic Control gnalized	res TURN Signalized 69 Known 40 High	PennDOT Publ 25-35	Average Sication 46, Ex. Spe Turn Det High B or C	# of Vehicles/Cycle: 2.0 whibit 11-6 eed (MPH) 40-45 50-60 emand Volume Low High Low B or C B or C B or C	
Applicable Wa W Int Design Hour Volum Cycles Per	derrant Fig. Warrant M Decreased in the control of the control o	Control: Ing Lane: Sumed): (nown):	res TURN Signalized 69 Known 40	PennDOT Publ	Average : iication 46, Ex Spe Turn Dei High	Applicable Warrant Figure: N/A Warrant Met?: N/A LCULATIONS # of Vehicles/Cycle: 2.0 whibit 11-6 eed (MPH) 40-45 50-60 emand Volume Low High Low	
Applicable Wa W Int Design Hour Volum Cycles Per	derrant Fig. Warrant M Decreased in the control of the control o	Control: ing Lane: sumed): (nown): Traffic Control gnalized	res TURN Signalized 69 Known 40 High	PennDOT Publication A A Left Turn L	Average fication 46, Ex Spe High B or C C ane Storage	# of Vehicles/Cycle: 2.0 **Applicable Warrant Figure: N/A Warrant Met?: N/A LCULATIONS # of Vehicles/Cycle: 2.0 **Applicable Warrant Figure: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Met?: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Met?: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Figure: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Figure: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Figure: N/A # of Vehicles/Cycle: 2.0 **Applicable Warrant Met?: N/A # of Vehicles/Cycle: 2.0 # of Vehicles/Cycle: 2	
Applicable Wa W Int Design Hour Volum Cycles Per	derrant Fig. Warrant M Decreased in the control of the control o	Control: ing Lane: sumed): (nown): Traffic Control gnalized	res TURN Signalized 69 Known 40 High	PennDOT Publication A A Left Turn L	Average fication 46, Ex Spe High B or C C ane Storage	# of Vehicles/Cycle: 2.0 **hibit 11-6 eed (MPH) 40-45	
Applicable Wa W Int Design Hour Volum Cycles Per	rersection (lee of Turnir r Hour (Ass r Hour (If K	ure: Fig	res TURN Signalized 69 Known 40 High	PennDOT Publication A A Left Turn L	Average fication 46, Ex Spe High B or C C ane Storage	# of Vehicles/Cycle: 2.0 # of Vehicles/Cycle: 2.0 # whibit 11-6 # edd (MPH) Low High Low B or C B or C B or C B B B or C B Condition A: 100 Condition B: N/A Feet Condition C: N/A Lane Storage Length: 100 Feet Additional Findings:	

2/28/2017



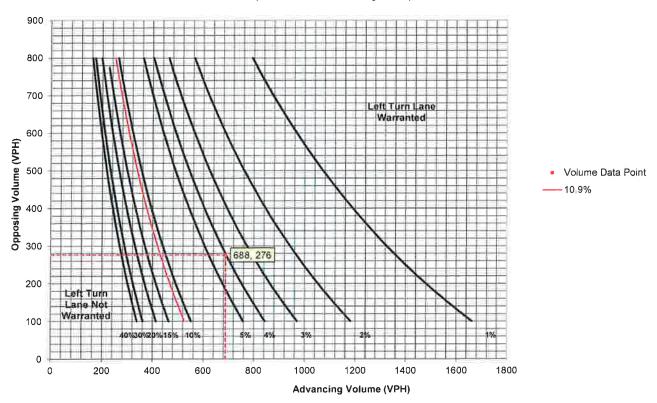
Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



		STL	JDY LOC	ATION AN	D ANALY	SIS INFORM	ATION			
	Mu	nicipality:		n Township		Analysi	_		/2017	
		County:		r County		Conduc			ML	
PennDOT E	ngineerin	g District:		6 Checked By: BGG						
					А	gency/Company	Name:	McMahon A	ssociates, Inc.	
Intersection & App	proach De	scription: Stree	et Road (S.R.	, 0926) and Nev	w Street - Alte	ernative A				
				w Street Left-Tu						
	Analys	is Period:	2028	Design		Numbe	r of Approac	ch Lanes:	1	
		ign Hour:		ak Hour			or Divided		Undivided	
	itersection	-		alized						
Posted S	Speed Lim	f Terrain:		lling	_	Left or Right-	Turn lane A	The second second second	ype of Analys Left Turn Lane	
	туре о	restant.	1101				Turn Lune A		Cert Torri Corre	
				VOLUME	CALCULA	TIONS				
			L	eft Turn Lane	e Volume Ca	alculations				
Movement		Include?	Volume	% Trucks	PCEV					
	Left	Yes	75	0.0%	75			Advancing Vol	ume:	688
Advancing	Through	0	240	1.0%	244			Opposing Vol	ume:	276
	Right	Yes	363	1.0%	369			Left Turn Vol	ume:	75
	Left	Yes	12	0.0%	12				-	
Opposing	Through	-	211	0.0%	211					
	Right	Yes	50	3.0%	53	% Le	ft Turns in A	Advancing Vol	ume: 10	0.90%
			Ri	ght Turn Lan	ie Volume C	alculations				
Movement		Include?	Volume	% Trucks	PCEV					
	Left	No	0	3.0%	N/A					
Advancing	Through	**	0	3.0%	N/A		,	Advancing Vol		N/A
	Right	Ψ,	0	0.0%	N/A		ſ	Right Turn Vol	ume:	N/A
			TUR	N LANE W	VARRANT	FINDINGS				
Loft	Turn La	ne Warrant F	indinge			Pio	ht Turn La	ine Warrant I	Findings	
Leit	Tuill La	-								
Applicable W	arrant Fi	gure: Fig	ure 1			Applicable \	Warrant Fig	gure:	V/A	
٧	Varrant N	/let?:	res	Ì			Warrant N	/let?:	N/A	
					ICTU CAL	CULATION				
			TURN	LAINE LEI	NG IM CAI	.CULATION:	S			_
	tersection		Signalized							
Design Hour Volum			75							
•	r Hour (A		Known				. —	2.0		
Cycles Pe	er Hour (If	Known	34		Average	# of Vehicles/Cy	cie:	2.0		
				PennDOT Publ						
				25-35	Spe	ed (MPH) 40-45		50-60		
	Type o	f Traffic Control		25-35	Turn De	mand Volume		30-00		
			High	Low	High	Low	High	Low	1	
		Signalized	А	A	B or C	B or C	B or C	B or C		
	U	nsignalized	А	A	C	В	B or C	В В	_1	
				Left Turn L	ane Storage	Length, Condit	ion A:	100	Feet	
					3-	Condit	-	N/A	Feet	
									+	
						Condit		N/A	Feet	
				Require	ed Left Turn	Lane Storage Le	ength:	100	Feet	
			11				Additi	onal Findings	<u>:</u>	
additional comments	linare							N/	A	
Additional Comments /	Justificatio	ons:								



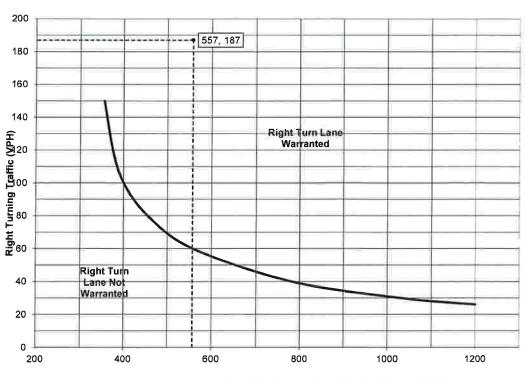
Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections) $(L=\% \ \text{Left Turns in Advancing Volume})$



		STL	JDY LOC	ATION AN	D ANALY	SIS INFORM	IATION			
PennDOT E		nicipality: County: g District:	Chester	n Township r County 6	Aį	Analysi Conduc Check gency/Company	ted By:	2/28/ TM BC McMahon As	GG C	
Intersection & App	proach De			. 0926) and New w Street Right-T		rnative A				
	Des ntersection Speed Lim	-	AM Per Signa	Design ak Hour alized 35		Number of Approach Lanes: Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?:				
				VOLUME (CALCULA	TIONS				
			L	eft Turn Lane	Volume Ca	lculations				
Movement		Include?	Volume	% Trucks	PCEV					
Advancing	Left Through Right Left Through	Yes Yes Yes	0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	N/A N/A N/A N/A	Advancing Volume: N/A Opposing Volume: N/A Left Turn Volume: N/A				
	Right	Yes	0	0.0%	N/A		ft Turns in A	dvancing Vol	.me: N/A	
			Ri	ght Turn Lane	∍ Volume Ca	alculations				
Movement Advancing	Left Yes 65 4.0% 69									
			TUR	RN LANE W	ARRANT	FINDINGS				
Left	Turn La	ne Warrant F	indings			Rig	ht Turn Lai	ne Warrant F	indings	
Applicable W	/arrant Fi Warrant N		N/A N/A			Applicable \	Varrant Fig Warrant M		ure 9 (es	
			TURN	LIANE LEN	GTH CAL	CULATIONS	3			
Design Hour Volun Cycles Pe	ntersection me of Turn er Hour (A er Hour (If	sing Lane:	Signalized 187 Known 40		Average ‡	of Vehicles/Cyc	:le:	5.0]	
Design Hour Volun Cycles Pe	ne of Turn er Hour (A	sing Lane:	187 Known 40	PennDOT Publi	cation 46, Ex	hibit 11-6	ile:	5.0]	
Design Hour Volun Cycles Pe	me of Turn er Hour (A er Hour (If	ssumed):	187 Known 40	PennDOT Publi	cation 46, Ex			5.0		
Design Hour Volun Cycles Pe	me of Turn er Hour (A er Hour (If	sing Lane:	187 Known 40	PennDOT Publi	Spe Turn Dei	hibit 11-6 ed (MPH) 40-45 mand Volume	5	0-60		
Design Hour Volun Cycles Pe	me of Turn er Hour (A er Hour (If Type o	ing Lane: cssumed): f Known): of Traffic Control Signalized	187 Known 40	PennDOT Publi 25-35 Low A	Specification 46, Exc	hibit 11-6 ed (MPH) 40-45 mand Volume Low B or C	5 High B or C	0-60 Low B or C		
Design Hour Volun Cycles Pe	me of Turn er Hour (A er Hour (If Type o	of Traffic Control	187 Known 40	PennDOT Publi 25-35 Low A A Right Turn La	Turn Dei High B or C C	hibit 11-6 ed (MPH) 40-45 mand Volume Low	High B or C B or C ion A:	0-60 Low	Feet Feet Feet Feet	
Design Hour Volun Cycles Pe	me of Turn er Hour (A er Hour (If Type o	ing Lane: cssumed): f Known): of Traffic Control Signalized	187 Known 40	PennDOT Publi 25-35 Low A A Right Turn La	Turn Dei High B or C C	hibit 11-6 ed (MPH) 40-45 mand Volume Low Bor C B Length, Condit Condit	High Bor C Bor C ion A: ion B: ion C: ength:	Low Bor C B 200 N/A N/A	Feet Feet Feet	



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



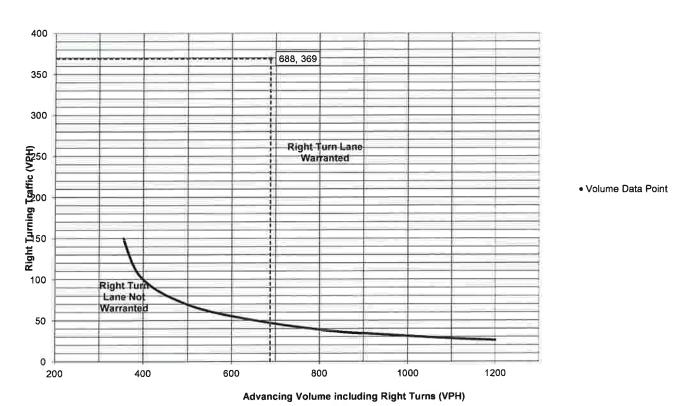
Volume Data Point

Advancing Volume including Right Turns (VPH)

		STUDY	LOCA	TION AN	D ANALYS	SIS INFORM	MATION				
PennDOT En			esttown 1 Chester (Ag	Analysi Conduc Chec gency/Company	ted By: TML Red By: BGG				
Intersection & Appr	roach Descriptio			0926) and Ne Street Right-	w Street - Alter						
Analysis Period: 2 Design Hour: PN Intersection Control:			2028 Design PM Peak Hour Signalized			Number of Approach Lanes: Undivided or Divided Highway: Undivided					
Posted Speed Limit (MPH): 35 Type of Terrain: Rolling Left or Right-Turn Lane Analysis?: Right Turn L											
				VOLUME	CALCULA	TIONS					
			Lef	ft Turn Land	Volume Ca	Iculations					
Movement	Left Yes		ume	% Trucks	PCEV N/A		Advancing Volume: N/A				
	hrough - Right Yes		0	0.0%	N/A N/A		Opposing Volume: N/A Left Turn Volume: N/A				
Opposing T	Left Yes hrough Right Yes		0 0	0.0% 0.0% 0.0%	N/A N/A N/A	% Le	eft Turns in Advancing Volume: N/A				
			Rigl	ht Turn Lan	e Volume Ca	alculations					
Movement	Left Yes		ume	% Trucks	PCEV 75						
	hrough Right	24	40	1.0%	244 369		Advancing Volume: 688 Right Turn Volume: 369				
TURN LANE WARRANT FINDINGS											
Left 1	Turn Lane War	rant Findir		V LANE W	ARRANT		ht Turn Lane Warrant Findings				
Left 1	Turn Lane War	rant Findir	ngs	N LANE W	ARRANT	Rig	ht Turn Lane Warrant Findings Warrant Figure: Figure 9				
Applicable Wa	-		ngs	N LANE W	ARRANT	Rig Applicable \					
Applicable Wa	ırrant Figure:	N/A N/A	ngs			Rig Applicable \	Warrant Figure: Figure 9 Warrant Met?: Yes				
Applicable Wa W Inte	arrant Figure: arrant Met?:	N/A N/A Sigs	ngs		IGTH CAL	Rig Applicable \	Warrant Figure: Figure 9 Warrant Met?: Yes				
Applicable Wa W Inte	arrant Figure: arrant Met?: ersection Control of Turning Lane Hour (Assumed	N/A N/A Sigs	TURN I	LANE LEN	Average #	Rig Applicable N CULATION: of Vehicles/Cynibit 11-6	Warrant Figure: Figure 9 Warrant Met?: Yes				
Applicable Wa W Inte	arrant Figure: arrant Met?: ersection Control of Turning Lane Hour (Assumed	N/A N/A	FURN I	LANE LEN	Average # ication 46, Exh Spee	Applicable N CULATION of Vehicles/Cyclibit 11-6 ad (MPH) 10-45 mand Volume	Warrant Figure: Figure 9 Warrant Met?: Yes S cle: 11,0				
Applicable Wa W Inte	ersection Control of Turning Lane Hour (Assumed	N/A N/A Sign	FURN I	LANE LEN	Average #	Applicable of CULATIONS of Vehicles/Cyclibit 11-6 ad (MPH)	Warrant Figure: Figure 9 Warrant Met?: Yes S cle: 11,0				
Applicable Wa W Inte	ersection Control of Turning Lane Hour (Assumed Hour (If Known)	N/A N/A Sign	FURN I	ennDOT Publication A A Right Turn La	Average # ication 46, Exh Spee High B or C C ane Storage L	Applicable N CULATION: For Vehicles/Cyclinibit 11-6 ad (MPH) 10-45 mand Volume Low B or C	Warrant Figure: Figure 9 Warrant Met?: Yes Solution 11,0 Solution 2 Bor C B				
Applicable Wa W Inte	ersection Control of Turning Lane Hour (Assumed Hour (If Known) Type of Traffic Signalize Unsignaliz	N/A N/A Sign	FURN I	ennDOT Publication A A Right Turn La	Average # ication 46, Exh Spee High B or C C ane Storage L	Applicable of Vehicles/Cychibit 11-6 and (MPH) 10-45 and Volume Low B or C B Length, Condit Condit	Warrant Figure: Figure 9 Warrant Met?: Yes Solution: 11,0 S				



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)

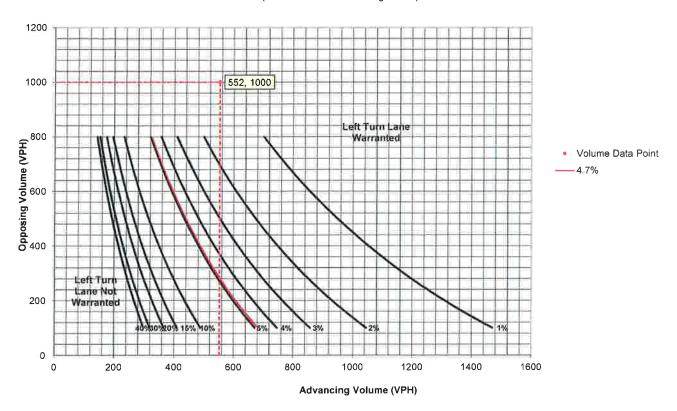


		SIC	IDY LOC	ATION AN	D ANALYS	SIS INFORM	MATION				
				n Township r County 6	Ag	Analysi Conduc Checl ency/Company	ted By:	8/2017 TML BGG Associates, Inc.			
Intersection & App	roach De			. 0926) and Nev et Road (S.R. 09	/ Street - Alte	native A	wante: Wiciwanon.	Associates, inc.			
Analysis Period: Design Hour: Intersection Control: Posted Speed Limit (MPH): Type of Terrain:			AM Pe Sign	Design ak Hour alized 45	Number of Approach Lanes: Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane						
				VOLUME	CALCULA	TIONS					
				eft Turn Lane							
Movement		Include3	Volume	% Trucks	PCEV						
Advancing T	Left Yes Through Right Yes Left Yes			27.0% 8.0% 6.0% 3.0% 3.0% 0.0%	26 459 67 103 892	Advancing Volume: 552 Opposing Volume: 1000 Left Turn Volume: 26					
	Right	Yes	5	ght Turn Land			ft Turns in Advancing Vo	olume: 4.71%			
						liculations					
Movement Advancing T	Left hrough Right	No	0 0 0	% Trucks 3.0% 3.0% 0.0%	N/A N/A N/A		Advancing Vo Right Turn Vo				
			TUF	RN LANE W	ARRANT	FINDINGS					
			ndinge			Rig	ht Turn Lane Warrant	Findings			
Left	Turn La	ne Warrant Fi	Applicable Warrant Figure: Figure 3 Right Turn Lane Warrant Findings Applicable Warrant Figure: N/A								
Applicable Wa	arrant Fi	gure: Fig	ure 3								
Applicable Wa		gure: Fig	ure 3 'es				Warrant Met?:	N/A N/A			
Applicable Wa	arrant Fi	gure: Fig	ure 3 'es	LANE LEN	GTH CAL		Warrant Met?:				
Applicable Wa	arrant Fi /arrant I ersection e of Turn r Hour (A	gure: Fig	ure 3 'es				Warrant Met?:				
Applicable Wa W Int Design Hour Volum Cycles Per	arrant Fi /arrant I ersection e of Turn r Hour (A	gure: Fig	Ves TURN Signalized 26 Known 40		Average #	of Vehicles/Cyo	Warrant Met?:				
Applicable Wa W Int Design Hour Volum Cycles Per	ersection e of Turn r Hour (M	gure: Fig Vet?: Y Control: ing Lane: ssumed): Known):	Ves TURN Signalized 26 Known 40		Average # cation 46, Exh Spee	CULATION:	Warrant Met?:				
Applicable Wa W Int Design Hour Volum Cycles Per	ersection e of Turn r Hour (M	gure: Fig	ves TURN Signalized 26 Known 40	PennDOT Publi 25-35	Average # cation 46, Exh Spec	of Vehicles/Cychibit 11-6 id (MPH) 10-45 nand Volume	Warrant Met?:				
Applicable Wa W Int Design Hour Volum Cycles Per	ersection e of Turn r Hour (A r Hour (If	gure: Fig Viet?: Y Control: ing Lane: ssumed): Known): f Traffic Control	Ves TURN Signalized 26 Known 40 High	PennDOT Publi 25-35	Average # cation 46, Exh Spee Turn Den High B or C	of Vehicles/Cydnibit 11-6 ad (MPH) 10-45 Low B or C	Warrant Met?: 50-60 High Low Bor C Bor C				
Applicable Wa W Int Design Hour Volum Cycles Per	ersection e of Turn r Hour (A r Hour (If	gure: Fig Viet?: Y Control: ing Lane: ssumed): Known):	Ves TURN Signalized 26 Known 40	PennDOT Publi 25-35 Low A A A Left Turn La	Average # cation 46, Ext Spec Turn Den High B or C C ne Storage I	of Vehicles/Cydibit 11-6 ad (MPH) 10-45 nand Volume Low	Warrant Met?: 50-60 High Law Bor C Bor C Bor C B ion A: N/A ion B: 125 ion C: 150 ength: 150 Additional Finding	N/A Feet Feet Feet Feet Feet			



Figure 3. Warrant for left turn lanes on two-lane highways (45 mph speed, unsignalized and signalized intersections)

(L = % Left Turns in Advancing Volume)

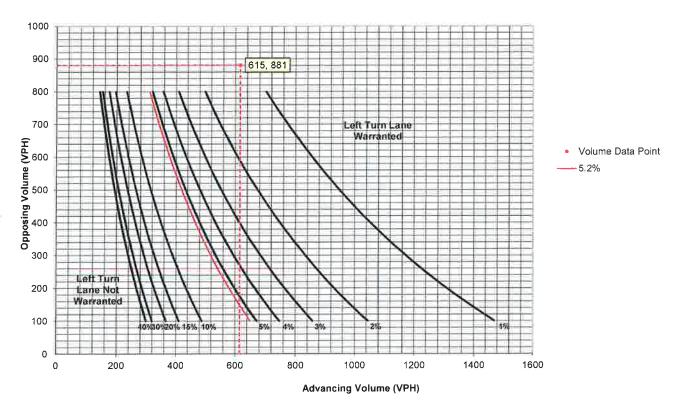


		STU	DY LOC	ATION A	ND ANALY	SIS INFORM	ATION			
PennDOT En	Municipality: County: PennDOT Engineering District:					Analysis Conducte Checke gency/Company N	ed By:	Tr Be	ML GG ssociates, Inc.	
Intersection & Approach Description: Street Road (S.R. 0926) and New Street - Alternative A Westbound Street Road (S.R. 0926) Left-Turn Lane										
	28 Design Number of Approach Lai					1 Undivided				
Intersection Control: Signalized										
Posted Speed Limit (MPH): 45 Type of Analysis										
Type of Terrain: Rolling Left or Right-Turn Lane Analysis?: Left Turn Lane										
				VOLUME	CALCULA	TIONS				
			L	eft Turn Lan	e Volume C	alculations				
Movement	Inclu	e?	Volume	% Trucks	PCEV				-	
	Left Ye:		32	0.0%	32			Advancing Vol		
	hrough	_	499	1.0%	507			Opposing Vol		
	Right Yes		76	0.0%	76			Left Turn Vol	ume: 32	
	Left Yes	_	51	3.0%	54					
	hrough Yes	-	775 17	3.0%	810 17	% Left	t Turns in A	Advancing Vol	ume: 5.20	1%
	TAIL TO							Tavarients von		
			RI	gnt Lurn Lai	ne Volume C	alculations				
Movement	Includ	e?	Volume	% Trucks	PCEV					
Advansing Th	Left No	_	0	3.0%	N/A N/A		,	Advancing Vol	ume: N//	\
- -	Right		0	0.0%	N/A			light Turn Vol	31472452	
		_								
			TUR	N LANE V	VARRANT	FINDINGS				
Left T	Turn Lane War	rant Fi	ndings			Righ	t Turn La	ne Warrant l	Findings	
Applicable Wa	rrant Figure:	Fig	ure 3			Applicable W	arrant Fig	gure: N	V/A	
Wa	arrant Met?:	Y	'es			v	Varrant M	let?:	N/A	
			TURN	LANE LE	NGTH CA	CULATIONS				
Into	ersection Contro		Signalized							
Design Hour Volume			32							
•	Hour (Assumed		Known							
	Hour (If Known		34		Average	# of Vehicles/Cycl	e:	1,0		
				PennDOT Pub	lication 46, Ex	thibit 11-6				
						ed (MPH)			ii i	
	Type of Traffic	Control		25-35		40-45	5	0-60	-1	
	"		Wigh	Low	Turn De	mand Volume Low	High	Low		
	Signalize	d t	High A	A	B or C	B or C	B or C	B or C	1	
	Unsignaliz		A	А	С	В	B or C	В	J	
				Left Turn I	Lane Storage	Length, Condition	on A:	N/A	Feet	
						Conditio	-	125	Feet	
							-		1	
						Conditio	-	150	Feet	
				Requir	ed Left Turn	Lane Storage Ler	ngth:	150	Feet	
							Additio	onal Findings		
								N//	A	
Additional Comments / Ju	ustifications:									



Figure 3. Warrant for left turn lanes on two-lane highways (45 mph speed, unsignalized and signalized intersections)

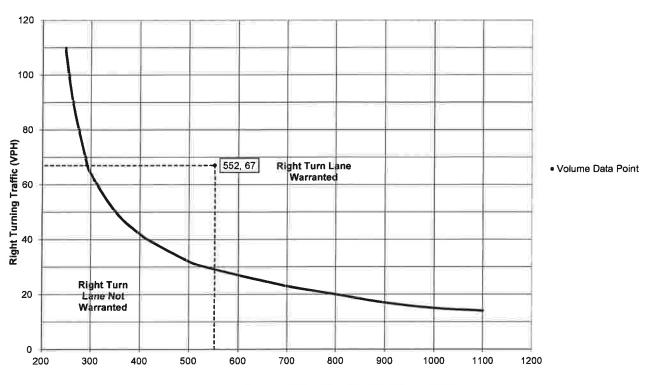
(L = % Left Turns in Advancing Volume)



		ST	UDY LOC	ATION AN	ID ANALY	SIS INFORM	NOITAN			
PennDOT Er	Municipality: County: PennDOT Engineering District:			n Township r County 6	A	Analysi Conduc Check gency/Company	ted By:	2/28/ TN BG McMahon As	ΛL GG	
Intersection & App	roach De			0926) and Ne et Road (S.R. (
	Analysis Period: 202 Design Hour: AM Intersection Control: Si Posted Speed Limit (MPH): Type of Terrain:					Number of Approach Lanes: Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis: Right Turn Lane				
				VOLUME	CALCULA	TIONS				
			L	eft Turn Lan	e Volume C	alculations				
Movement		Include?	Volume	% Trucks	PCEV	-				
Advancing T	Left Through Right Left Through Right	Yes Yes Yes Yes	0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	N/A N/A N/A N/A N/A	% l <i>e</i>	Opposing Volume: Left Turn Volume:			1/A 1/A 1/A
			Ri	ght Turn Lai						
Movement		Include?	Volume	% Trucks	PCEV					
	Left hrough Right	Yes	18 409 61	27.0% 8.0% 6.0%	26 459 67			Advancing Volu Right Turn Volu		52 57
			TUR	N LANE V	VARRANT	FINDINGS				
Left	Turn La	ne Warrant F	indings			Rig	ht Turn La	ne Warrant F	indings	
Applicable Wa	arrant Fi	gure:	N/A			Applicable \	Warrant Fig	gure: Figu	re 10	
w	arrant l	Vlet?:	N/A				Warrant N	/let?: Y	'es	
			TURN	LANE LE	NGTH CA	CULATION:	S			
Int Design Hour Volum Cycles Per Cycles Per	e of Turn r Hour (A	ssumed):	Signalized 67 Known 40			# of Vehicles/Cyd	ile:	2.0]	
				PennDOT Pub		eed (MPH)				
	Туре о	of Traffic Contro		25-35	Turn De	40-45 mand Volume		50-60		
		Signalized	High	Low	High B or C	Low B or C	High B or C	Low B or C		
		nsignalized	A	A	C	В	B or C	В		
						Length, Condit Condit Condit Lane Storage Le	ion B: ion C: ength:	N/A 125 175 175	Feet Feet Feet Feet	
							Additi	onal Findings: N/A	7	
Additional Comments /	Justificati	ons:	7.							



Figure 10. Warrant for right turn lanes on two-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)

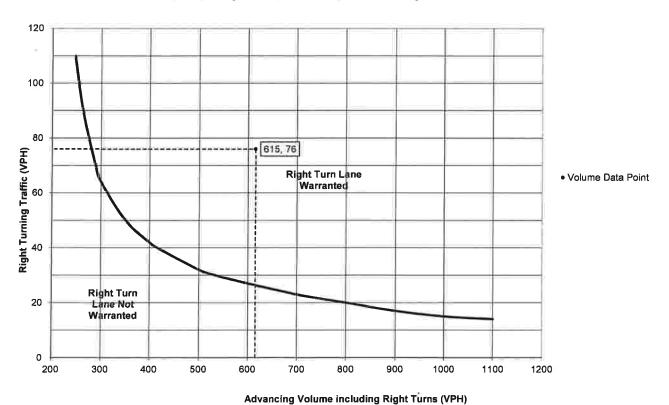


Advancing Volume including Right Turns (VPH)

		STU	IDY LOCA	ATION AN	D ANALY	SIS INFORMATION				
PennDOT I				Township County	Analysis Date: 2/28/2017 Conducted By: TML Checked By: BGG gency/Company Name: McMahon Associates, Inc.					
Intersection & Ap	proach De			0926) and Nev						
	Analysis Period: 20 Design Hour: PM Intersection Control: S Posted Speed Limit (MPH):					Number of Approach Lanes: Undivided or Divided Highway: Type of Analysis				
	Туре	of Terrain:	Roll			Left or Right-Turn Lane Analysis?: Right Turn Lane				
				VOLUME	CALCULA	ATIONS				
			Le	eft Turn Lane	e Volume Ca	alculations				
Movement Advancing	Left Through Right	Yes Yes	Volume 0 0	% Trucks 0.0% 0.0% 0.0%	PCEV N/A N/A N/A	Advancing Volume: N/A Opposing Volume: N/A Left Turn Volume: N/A				
Opposing	Left Through Right	Yes Yes	0 0	0.0% 0.0% 0.0%	N/A N/A N/A	% Left Turns in Advancing Volume: N/A				
			Rig	ght Turn Lan	e Volume C	Calculations				
Movement Advancing	Left Through	Include? Yes	Volume 32 499	% Trucks 0.0% 1.0%	9CEV 32 507	Advancing Volume: 615				
	Right	-	76	0.0%	76	Right Turn Volume: 76				
			TUR	N LANE W	VARRANT	FINDINGS				
Left	t Turn La	ne Warrant Fi	ndings			Right Turn Lane Warrant Findings				
Applicable W	/arrant Fi Warrant I		I/A I/A			Applicable Warrant Figure: Figure 10 Warrant Met?: Yes				
				LANELES	MCTH CAL	LCULATIONS				
			TUKIN	LANE LE	NG I H CAL	COLATIONS				
Design Hour Volur Cycles Po	itersection ne of Turn er Hour (A er Hour (If	ing Lane: ssumed):	76 Known 34		Average ‡	# of Vehicles/Cycle: 2.0				
			_	PennDOT Publ		khibit 11-6 eed (MPH)				
	Туре	of Traffic Control		25-35	Turn Dei	40-45 50-60 emand Volume				
		Signalized	High A	Low	High B or C	Bor C Bor C Bor C				
	U	nsignalized	А	А	С	B B or C B				
						Length, Condition A: Condition B: Condition C: 175 Feet Lane Storage Length: The storage Length is a second				
						Additional Findings: N/A				
Additional Comments	/ Justificati	ons:								



Figure 10. Warrant for right turn lanes on two-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)

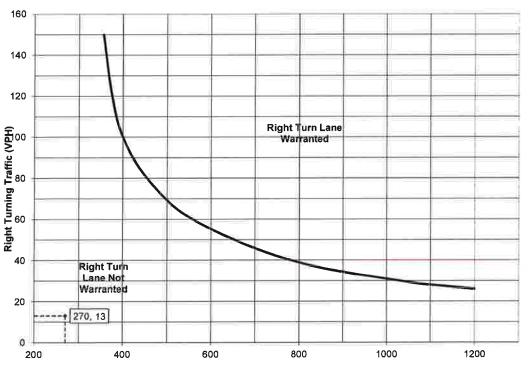




	_	STII	חעותכ	ATION ANI	ANALV	SIS INFORM	ATION	
		310	טו נטנו	A HON ANI	MINALI	NO THAT ORIVI	AHON	
	Muni	cipality:	Westtown	Township	7	Analysis	Date: 2/28/	/2017
		County:		County		Conducte		ИL
PennDOT 6	ngineering			5	-	Checke		GG C
	•				⊸ Ag	ency/Company N		sociates, Inc.
							F3223	
Intersection & Ap	proach Desc					Ilternative A		
		North	nbound Nev	Street Right-T	urn Lane			
	Analysis	Period:	2028 De:	sign Year	1	Number	of Approach Lanes:	1
		n Hour:	AM Pea				r Divided Highway:	Undivided
Ir	ntersection		Unsign	nalized			112100000000	
Posted	Speed Limit	(MPH):	3	5	7		T	/pe of Analysis
	Type of	Terrain:	Rol	ling		Left or Right-Tu	urn Lane Analysis?: F	Right Turn Lane
				VOLUME (CALCULA	TIONS		
			1.	off Turn Lana	Volumo Ca	laulations		
L			L	eft Turn Lane	volume Ca	iculations		
Movement		Include?	Volume	% Trucks	PCEV			
I	Left	Yes	0	0.0%	N/A		Advancing Volu	ıme: N/A
Advancing	Through	-	0	0.0%	N/A		Opposing Vol	ıme: N/A
	Right	Yes	0	0.0%	N/A		Left Turn Volu	ıme: N/A
	Left	Yes	0	0.0%	N/A			
Opposing	Through		0	0.0%	N/A			
	Right	Yes	0	0.0%	N/A	% Left	Turns in Advancing Vol	ime: N/A
			Dia	ht Turn Lane	Volumo C	lculations		
L			Ki	int runn Lane	volume Ca	ilculations		
Movement		Include?	Volume	% Trucks	PCEV			
	Left	Yes	0	0.0%	0			
Advancing	Through		245	3.0%	257		Advancing Volu	ıme: 270
	Right		13	0.0%	13		Right Turn Volu	ıme: 13
	_		#I in	NA L A DIE LA	ADDANIT	FINIDINGS		
			TUR	N LANE W	AKKANI	FINDINGS		
Leff	Turn Lane	e Warrant Fi	ndinas			Righ	t Turn Lane Warrant F	indinas
	. , .,,,,			ν.	L			
Applicable W	arrant Figi	ure: N	I/A			Applicable W	arrant Figure: Fig	ure 9
١	Narrant M	et?: N	I/A			v	Varrant Met?:	No
				<u> </u>				
			TURN	LANE LEN	GTH CAL	CULATIONS		
_		- WD						
	tersection (C-107/01/07/24	Unsignalized	1				
Design Hour Volum	ne or Turnin er Hour (Ass		60					
•	er Hour (Ass er Hour (If K		00		Average #	of Vehicles/Cycle	e: N/A	1
Cycles F	er nour (ii k	anowing.			Average n	or vernicles, cych	14//	
	net .			PennDOT Publi				-
						ed (MPH)		
	Type of	Traffic Control		25-35		nand Volume	50-60	<u>'</u>
			High	Low	High	Low	High Low	
	Sig	gnalized	A	A	B or C	B or C	B or C B or C	1
		signalized	А	А	С	В	B or C B	
								1
				Right Turn La	ne Storage I	ength, Conditio	on A: N/A	Feet
						Conditio	on B: N/A	Feet
						Conditio		Feet
								-
				Required	Right Turn L	ane Storage Len	ngth: N/A	Feet
							Additional Findings	•
							N/A	
Additional Comments	V							
	Justification	15:						
	Justification	15:						



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



Volume Data Point

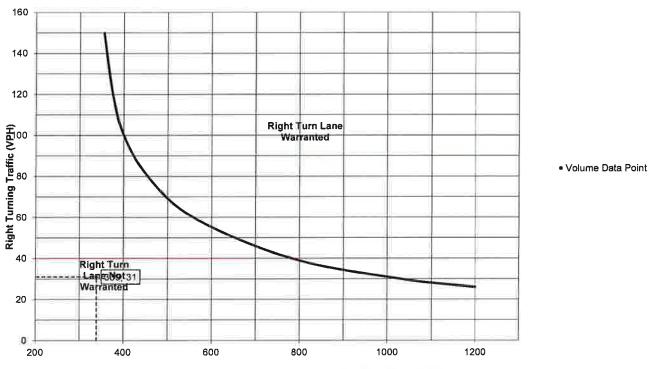
Advancing Volume including Right Turns (VPH)

		ST	UDY LOC	ΔΤΙΩΝ ΔΝΙ	Ο ΔΝΔΙΥ	SIS INFORM	ATION		
		511			AITALI				
	Mu	nicipality:		Township		Analysi			3/2017
		County:		r County 6		Conduc	3383		ML IGG
PennDOT I	engineerin	g District:		0	<u></u>	cnec ency/Company	ked By:		Associates, Inc.
								THE THE TENT	issociates, inc
Intersection & Ap	proach De	CANADA CONTRACTOR OF THE SECOND		West Pleasant G v Street Right-T		Alternative A			
	Analys	is Period:	2028 De	sign Year		Numbe	r of Approac	h Lanes:	1
	-	ign Hour:	PM Pea	ak Hour		Undivided	or Divided F	lighway:	Undivided
	ntersection			alized					
Posted	Speed Lim			ling		Left or Right-	Turn Lano A	DATE CONT.	ype of Analysis Right Turn Lane
	туре о	of Terrain:	Not	VOLUME	CALCIUA		Turri Larie A	naiyasa .[right full cane
				VOLUME	CALCULA	TIONS			
			L	eft Turn Lane	Volume Ca	lculations			
Movement		Include?	Volume	% Trucks	PCEV				
	Left	Yes	0	0.0%	N/A			Advancing Vo	
Advancing	Through	- 2	0	0.0%	N/A			Opposing Vo	50 10 At 1
	Right	Yes	0	0.0%	N/A			Left Turn Vo	lume: N/A
Opposing	Left Through	Yes	0	0.0%	N/A N/A				
Оррозпів	Right	Yes	0	0.0%	N/A	% Le	eft Turns in A	Advancing Vo	lume: N/A
			RI	ght Turn Land	Volume C	alculations			
Movement		Include?	Volume	% Trucks	PCEV				
	Left	Yes	0	0.0%	0				
Advancing	Through	20	308	0.0%	308			dvancing Vo	
	Right	•	31	0.0%	31	11	F	light Turn Vo	lume: 31
			TUR	N LANE W	ARRANT	FINDINGS			
Left	Turn La	ne Warrant F	indings			Rig	ht Turn La	ne Warrant	Findings
Applicable W	/arrant Fi	gure:	N/A			Applicable 1	Warrant Fig	gure: Fig	gure 9
1	Narrant N	/let?:	N/A				Warrant N	let?:	No
			TURN	LANE LEN	GTH CAL	CULATION	S		
1-	itersection	Control	Signalized						
Design Hour Volun			31						
-	er Hour (A	9/1/5	60						_
Cycles P	er Hour (If	Known):			Average	of Vehicles/Cy	cle:	N/A	
				PennDOT Publi	cation 46, Ex	hibit 11-6			
				2E 2E		ed (MPH)		0.60	
	Туре о	f Traffic Contro	1	25-35		40-45 mand Volume	. 5	0-60	
			High	Low	High	Low	High	Low	
		Signalized nsignalized	A	A	B or C	B or C	B or C	B or C	
		iisigiializeu		1 ^	1 -	1 0	1 1010	*	
				Right Turn La	ne Storage	Length, Condit	ion A:	N/A	Feet
						Condit	ion B:	N/A	Feet
						Condit	ion C:	N/A	Feet
				Required	Right Turn !	ane Storage Lo		N/A	Feet
				nequireu	MBINE FUITE	and Storage II			
							Additio	onal Finding	
									141
Additional Co.	Firmer or							N/	AJ
Additional Comments	/ Justification	ons:	1					N/	AJ

2/28/2017



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



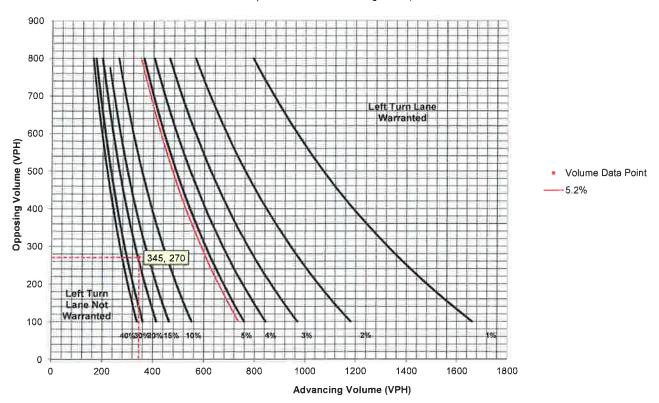
Advancing Volume including Right Turns (VPH)

		STI	UDY LOC	ATION AN	ND ANALY	SIS INFORMATIO	N	
	Mu	nicipality:	Westtown	Township		Analysis Date:	2/28/2017	
		County:	Cheste	County		Conducted By:	TML	
PennDOT	Engineerin	g District:		6		Checked By:	BGG	
					А	gency/Company Name:	McMahon Associates, Inc.	
Intersection & Ap	proach De			West Pleasant v Street Left-T		Alternative A		
	Analys	is Period:	2028 De	sign Year		Number of Appr	roach Lanes: 1	
	Des	ign Hour:	AM Pe	ak Hour		Undivided or Divido	ed Highway: Undivided	
	ntersection	- 5000000000000000000000000000000000000		nalized				
Posted	Speed Lim	f Terrain:		5 ling		Left or Right-Turn Lan	Type of Analysise Analysis? Left Turn Lane	
	туре о	renami	KO				Leit full Lane	_
				VOLUME	CALCULA	TIONS		
			L	eft Turn Lan	e Volume Ca	alculations		
Movement		Include?	Volume	% Trucks	PCEV		·	
	Left	Yes	15	9.0%	18		•	345
Advancing	Through		317	2.0%	327		Opposing Volume:	270
	Right	Yes	0	0.0%	0		Left Turn Volume:	18
	Left	Yes	0	0.0%	0			
Opposing	Through	Yes	245 13	3.0% 0.0%	257 13	% Loft Tuens	in Advancing Volumes 5	22%
	Right	162		-			in Advancing Volume: 5.	22%
			Ri	ght Turn Lar	ne Volume C	alculations		
Movement	Left	Include?	Volume 0	% Trucks 3.0%	PCEV N/A			
Advancing	Through	INO	0	3.0%	N/A N/A		Advancing Volume:	N/A
Advancing	Right	-	0	0.0%	N/A		_	N/A
			-			CINIDING C		
			TUR	IN LANE V	VARRANI	FINDINGS		
Left	t Turn Lai	ne Warrant F	indings			Right Turn	Lane Warrant Findings	
Applicable W	/arrant Fi	gure: Fig	ure 1			Applicable Warrant	Figure: N/A	
١	Warrant N	/let?:	No			Warran	t Met?: N/A	
			TURN	LANE LEI	NGTH CAL	CULATIONS		
Design Hour Volun	itersection		Unsignalized	3				
_	er Hour (As	- 15,4400	60					
	er Hour (If				Average	of Vehicles/Cycle:	N/A	
				PennDOT Pub	lication 46, Ex	hibit 11-6		
					Spe	ed (MPH)		
	Type of	f Traffic Control		25-35		40-45	50-60	
			High	Low	High	mand Volume Low High	Low	
	S	ignalized	A	A	B or C	Bor C Bor		
	Ur	signalized	А	А	С	B Bort	СВ	
				Left Turn L	ane Storage	Length, Condition A:	N/A Feet	
					·	Condition B:	N/A Feet	
						Condition C:	N/A Feet	
				Require	ed Left Turn I	ane Storage Length:	N/A Feet	
						Add	litional Findings: N/A	
Additional Comments	Justificatio	ons:						i



Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)

(L = % Left Turns in Advancing Volume)

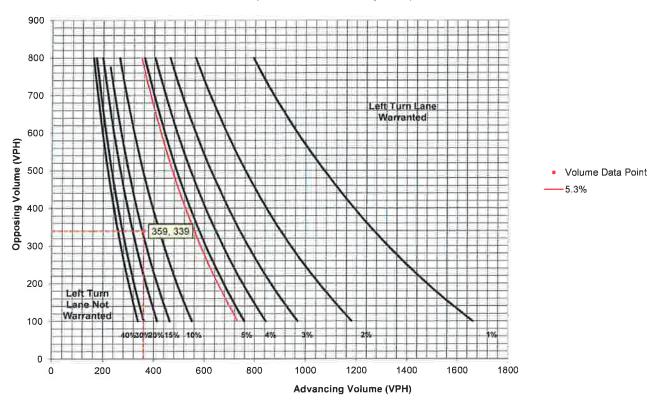


		STL	JDY LOC	ATION AN	D ANALY:	SIS INFORM	TATION			
	24	a ta transport	Westtown	Township	7	Analysis	Datai	2/29	3/2017	
	iviu	nicipality:		County	-	Conduct			ML	
PennDOT E	ngineerin	County:		County	-		ed By:		GG	
relinbor	inginiee i iii	g District.			! Ap	ency/Company			ssociates, Inc	
		-					Station of the state of the sta			
Intersection & App	proach De	scription: New	Street and \	West Pleasant (Grove Road - A	Alternative A				
		Sout	hbound Nev	Street Left-Tu	rn Lane					
	Analys	sis Period:	2028 De	sign Year		Number	of Approac	h Lanes:	1	
		sign Hour:		k Hour	_		or Divided F		Undivided	
In		n Control:		nalized						
Posted	Speed Lim	nit (MPH):		5				T T	ype of Analy	/sis
	Туре	of Terrain:	Rol	ling		Left or Right-	Turn Lane A	nalysis?:	Left Turn La	ne
				VOLUME	CALCULA	TIONS				
			14	eft Turn Lane	Volume Ca	Iculations				
				ore runn bune	- Volumo Ga	Todiaciono				
Movement		Include?	Volume	% Trucks	PCEV					
1	Left	Yes	19	0.0%	19			dvancing Vo		359
Advancing	Through	4.	340	0.0%	340			Opposing Vo		339
	Right	Yes	0	0.0%	0			Left Turn Vo	lume:	19
	Left	Yes	0	0.0%	0					
Opposing	Through	V	308 31	0.0%	308	0/.1-0	ft Tours in f	diamenta il Vis	liver of T	5.29%
L	Right	Yes	31	0.0%	21	% LE	π Turns in A	Advancing Vo	iume:	3.2370
			Rig	ght Turn Lan	e Volume C	alculations				
Movement		Include?	Volume	% Trucks	PCEV					
Wovement	Left	No No	0	0.0%	N/A					
Advancing	Through	-	0	0.0%	N/A		A	dvancing Vo	lume:	N/A
	Right	-	0	0.0%	N/A			light Turn Vo		N/A
			-			TIBINIDIG C			-	
			TUR	N LANE W	AKKANI	FINDINGS				
Left	Turn La	ne Warrant F	indings			Rig	ht Turn La	ne Warrant	Findings	
					1			-		
Applicable W	arrant Fi	igure: Fig	ure 1			Applicable V	Warrant Fig	ure:	N/A	
			11-				144 B A		NI/A	
v	Varrant I	viet?:	No				Warrant M	let?:	N/A	
			TURN	LANE LEN	IGTH CAL	CULATIONS	5			
		1 Control:	Unsignalized	<u></u>						
Design Hour Volun			19							
		ssumed):	60		A **	af Validae/Cus	to.	N/A		
Cycles Pe	er Hour (II	f Known):		-	Average +	of Vehicles/Cyc		136.03		
			-	PennDOT Publi	ication 46, Ex	hibit 11-6				
						ed (MPH)				
	Туре о	of Traffic Control	_	25-35		40-45 mand Volume	5	0-60		
			High	Low	High	Low	High	Low	-	
		Signalized	A	А	B or C	B or C	B or C	B or C		
	U	nsignalized	Α	A	C	В	B or C	В		
				Laft Town ! -	no Storage	Length, Conditi	ion A	N/A	Feet	
				Leit Turn La	me atorage	•				
						Condit	ion B:	N/A	Feet	
						Condit	ion C:	N/A	Feet	
				Require	d Left Turn I	ane Storage Le	ngth	N/A	Feet	
				Require	1 WIII L	storage te		14/7	1. 550	
			· ·				Additio	onal Finding	S:	
								N)	A	
and the second s	Justificati	ons:								
Additional Comments /	Justineati									
Additional Comments /	Justineati									



Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)

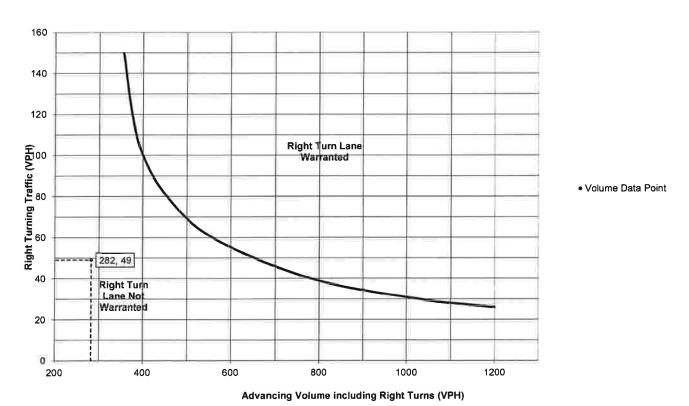
(L = % Left Turns in Advancing Volume)



						CIC INICODA AAT		
		31	DDY LOC	ATION AN	D ANALY	SIS INFORMAT	TION	
	- Adv	nicipality:	Mesttow	n Township	_	Analysis Da	2/28/	/2017
	IVIU	County:		r County		Conducted E		VIL.
PennDOT	Engineerin	T. C.		6	_	Checked F		
1 61111501	LII BIII CCIIII	S DISTINCT L			A	gency/Company Nan	265	
Intersection & A	pproach De	scription: New	Street and	West Pleasant	Grove Road -	Alternative A		
		We	thound Wes	st Pleasant Gro	ve Road Right	-Turn Lane		
	A nalu	sis Period:	2029 Da	esign Year		Number of A	Approach Lanes:	1
		sign Hour:		ak Hour			ivided Highway:	Undivided
	Intersectio			nalized		0110111000001		
	d Speed Lin	_		35			T	pe of Analysis
		of Terrain:	Ro	lling		Left or Right-Turn	The second secon	Right Turn Lane
				VOLUME	CALCULA	TIONS		
r								
				eft Turn Land	Volume C	alculations		
Movemen	it .	Include?	Volume	% Trucks	PCEV			
	Left	Yes	0	0.0%	N/A		Advancing Volu	ume: N/A
Advancing	Through		0	0.0%	N/A		Opposing Volu	ume: N/A
	Right	Yes	0	0.0%	N/A		Left Turn Volu	ume: N/A
	Left	Yes	0	0.0%	N/A			
Opposing	Through	-	0	0.0%	N/A			
	Right	Yes	0	0.0%	N/A	% Left Tu	ırns in Advancing Volu	ıme: N/A
 			Ri	ight Turn Lan	e Volume C	alculations		
				gire rain Lai	o rolalilo c			
Movemen	-	Include?	Volume	% Trucks	PCEV			
	Left	Yes	229	1.0%	233			
Advancing	Through	i.e	0	0.0%	0		Advancing Volu	-
	Right		41	12.0%	49		Right Turn Volu	ıme: 49
			THE	NIANEW	/ARRANT	FINDINGS		
	_					THIOMICO		
Le	ft Turn La	ne Warrant I	indings			Right T	urn Lane Warrant F	indings
				1				
Applicable \	Warrant Fi	igure:	N/A	J		Applicable Warı	rant Figure: Fig	ure 9
Пррисшене				T			rrant Met?:	No
		Mat2	M/A				rrant ivietra	NO
	Warrant i	Viet?:	V/A			Wai		
		Vlet?:		J LANE LEN	IGTH CAL			
		Vlet?:		LANE LEN	NGTH CAI	.CULATIONS		
					NGTH CAI			
	Warrant i	1 Control:	TURN		NGTH CAI			
l Design Hour Volu Cycles I	Marrant I	n Control: ning Lane: ning Lane:	TURN			CULATIONS		
l Design Hour Volu Cycles I	Warrant intersection	n Control: ning Lane: nssumed):	TURN Unsignalize 49				N/A	
l Design Hour Volu Cycles I	Marrant I	n Control: ning Lane: nssumed):	TURN Unsignalize 49	d	Average	CULATIONS # of Vehicles/Cycle:		
l Design Hour Volu Cycles I	Marrant I	n Control: ning Lane: nssumed):	TURN Unsignalize 49		Average ication 46, Ex	CULATIONS # of Vehicles/Cycle:]
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A	n Control: ling Lane: ssumed): F Known):	TURN Unsignalize 49 60	d	Average ication 46, Ex	# of Vehicles/Cycle:		
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A	n Control: ning Lane: nssumed):	TURN Unsignalize 49 60	PennDOT Publ	Average ication 46, Ex Spe Turn De	# of Vehicles/Cycle: thibit 11-6 ted (MPH) 40-45 mand Volume	N/A 50-60	
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (M	n Control: ing Lane: ssumed): Known):	Unsignalize 49 60	PennDOT Publ	Average ication 46, Ex Spe Turn De	# of Vehicles/Cycle: thibit 11-6 ted (MPH) 40-45 mand Volume Low	N/A 50-60 High Low	
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35	Average ication 46, Ex Spe Turn De High B or C	# of Vehicles/Cycle: thibit 11-6 ted (MPH) 40-45 mand Volume Low B or C	N/A 50-60 High Low B or C B or C	
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ing Lane: ssumed): Known):	Unsignalize 49 60	PennDOT Publ	Average ication 46, Ex Spe Turn De	# of Vehicles/Cycle: thibit 11-6 ted (MPH) 40-45 mand Volume Low B or C	N/A 50-60 High Low Bor C Bor C Bor C Bor C	
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A	Average ication 46, Ex Spe Turn De High B or C	# of Vehicles/Cycle: thibit 11-6 ted (MPH) 40-45 mand Volume Low B or C	N/A 50-60 High Low Bor C Bor C Bor C B	Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A	Average ication 46, Ex Spe Turn De High B or C	# of Vehicles/Cycle: chibit 11-6 ed (MPH) 40-45 mand Volume Low B or C B	N/A 50-60 High Low Bor C Bor C B or C B N/A	Feet Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A	Average ication 46, Ex Spe Turn De High B or C	# of Vehicles/Cycle: chibit 11-6 red (MPH) 40-45 mand Volume Low B or C B Length, Condition	N/A 50-60 High Low B or C B or C B or C B	Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 ed (MPH) 40-45	SO-60 High Low Bor C Bor C Bor C B N/A B: N/A C: N/A	Feet Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 red (MPH) 40-45 mand Volume Low B or C B Length, Condition	SO-60 High Low B or C B or C B or C B or N/A C: N/A	Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 led (MPH) 40-45 mand Volume Low B or C B Length, Condition of C	N/A 50-60 High Low B or C B or C B or C B N/A N/A N/A	Feet Feet Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Per Hour (H	n Control: ling Lane: ssumed): F Known):	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 led (MPH) 40-45 mand Volume Low B or C B Length, Condition of C	N/A 50-60 High Low B or C B or C B or C B N/A N/A N/A N/A Additional Findings	Feet Feet Feet
l Design Hour Volu Cycles I Cycles I	ntersection me of Turn Per Hour (A Type o	or Control: ing Lane: issumed): F Known): of Traffic Control Signalized Insignalized	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 led (MPH) 40-45 mand Volume Low B or C B Length, Condition of C	N/A 50-60 High Low B or C B or C B or C B N/A N/A N/A	Feet Feet Feet
l Design Hour Volu Cycles I	ntersection me of Turn Per Hour (A Type o	or Control: ing Lane: issumed): F Known): of Traffic Control Signalized Insignalized	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 led (MPH) 40-45 mand Volume Low B or C B Length, Condition of C	N/A 50-60 High Low B or C B or C B or C B N/A N/A N/A N/A Additional Findings	Feet Feet Feet
l Design Hour Volu Cycles I Cycles I	ntersection me of Turn Per Hour (A Type o	or Control: ing Lane: issumed): F Known): of Traffic Control Signalized Insignalized	Unsignalize 49 60	PennDOT Publ 25-35 Low A A Right Turn Li	Average ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cycle: chibit 11-6 led (MPH) 40-45 mand Volume Low B or C B Length, Condition of C	N/A 50-60 High Low B or C B or C B or C B N/A N/A N/A N/A Additional Findings	Feet Feet Feet



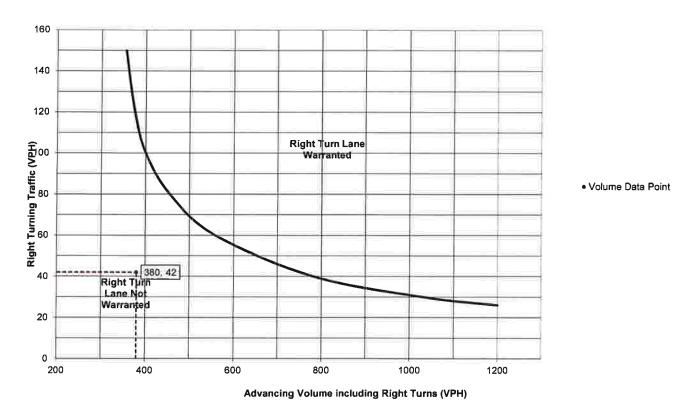
Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)



		S1	UDY LOC	ATION AN	ID ANALY	SIS INFORM	MATION		
PennDOT	Mu Engineerir	County:	Cheste	n Township r County 6	, A	Conduc	is Date: cted By: ked By: Name:	TA BC	/2017 ML GG ssociates, Inc.
Intersection & A	pproach De			West Pleasant of Pleasant Gro					
	De Intersectio d Speed Lin	_	PM Pe Unsig	sign Year ak Hour nalized 35			er of Approa I or Divided -Turn Lane /	Highway: Ty	1 Undivided /pe of Analysis kight Turn Lane
				VOLUME	CALCULA	ATIONS			
			L	eft Turn Lan	e Volume C	alculations			
Movemen Advancing Opposing	Left Through Right Left Through	Yes Yes Yes Yes	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	% Trucks 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	PCEV N/A N/A N/A N/A N/A N/A N/A	% 14		Advancing Volu Opposing Volu Left Turn Volu Advancing Volu	ume: N/A N/A
			Ri	ght Turn Lar					
Movemen	+ 1	Include?	Volume	% Trucks	PCEV	·			
Advancing	Left Through Right	Yes	338 0 42	0.0% 0.0% 0.0%	338 0 42			Advancing Volu Right Turn Volu	-
			TUR	N LANE V	VARRANT	FINDINGS			
Let Applicable V		ne Warrant gure:	Findings N/A			Rig Applicable		ane Warrant F	ure 9
	Warrant I	Met?:	N/A				Warrant N	/let?:	No
			TURN	LANE LE	NGTH CAL	CULATION	S		
Design Hour Volu Cycles P	ntersectior me of Turn Per Hour (A Per Hour (If	ing Lane:	Unsignalized 42 60	PennDOT Publ		# of Vehicles/Cy	cle:	N/A]
				1F 2F		ed (MPH) 40-45		FO CO	
	Туре о	f Traffic Contro		25-35	Turn De	mand Volume		50-60	
		Signalized	High A	Low	High B or C	Low B or C	High B or C	Low B or C	
	U	nsignalized	А	A	С	В	B or C	В	J,
						Length, Condit Condit Condit Lane Storage Le	ion B: ion C: ength:	N/A N/A N/A N/A N/A N/A onal Findings:	7
Additional Comments	/ Justification	ons:							



Figure 9. Warrant for right turn lanes on two-lane roadways (40 mph or lower speeds, unsignalized and signalized intersections)

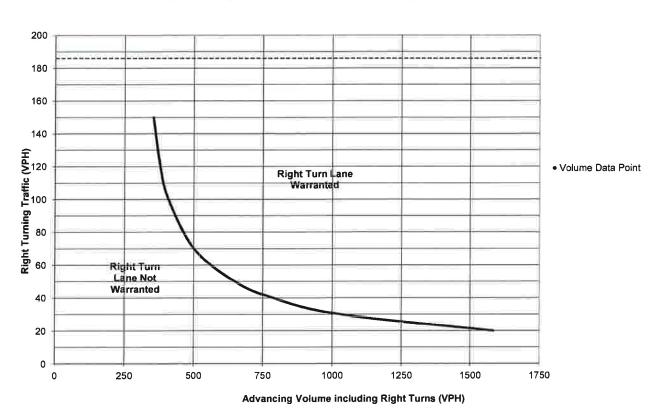


U.S. Route 202 (Wilmington Pike) and West Pleasant Grove Road

		311	JUT LUC	ATION AN	D ANALY	SIS INFORM	MATION			
PennDOT Er		nicipality: County:	Cheste	n Township r County 6		Analysi Conduc	-	TI	/2017 ML GG	
Pennbol Ei	ngmeerm	ig District:			A	cnec gency/Company			ssociates, Inc	
Intersection & App	roach De	scription: U.S.	Route 202 a	ind West Pleas	ant Grove Roa	ad - Alternative A			_	
		Sou	thbound U.S	. Route 202 Rig	ht-Turn Lane					
	Analys	sis Period:	2028	Design		Numbe	r of Approa	ch Lanes:	2	
		sign Hour:		ak Hour		Undivided	or Divided	Highway:	Divided	
		n Control:		nalized 15	-			T	ype of Analy	sis
		of Terrain:		lling		Left or Right-	Turn Lane A	1 To	Right Turn La	
				VOLUME	CALCULA	TIONS				
				eft Turn Land						
Movement		Include?	Volume	% Trucks	PCEV					
	Left	Yes	0	0.0%	N/A			Advancing Vol	ume:	N/A
Advancing 1	Through		0	0.0%	N/A			Opposing Vol		N/A
	Right Left	Yes	0	0.0%	N/A N/A			Left Turn Vol	ume:	N/A
Opposing T	Through	163	0	0.0%	N/A					
	Right	Yes	0	0.0%	N/A	% Le	ft Turns in	Advancing Vol	ume:	N/A
			Ri	ght Turn Lan	e Volume C	alculations				
Movement		Include?	Volume	% Trucks	PCEV					
Advancing	Left	No	76 1892	4.0%	N/A				and f	1410
Advancing T	hrough Right	2 2	173	12.0%	2233 186			Advancing Vol Right Turn Vol		2419 186
			TUE	NI LANE VA	/ADDANIT	FINDINGS			010050	
				ILA EXIAE A	AMAN					
		ne Warrant F	ındınas			Rig	nt Turn La	ne Warrant F	indings	
								70.00		
Applicable Wa			N/A			Applicable \	Warrant Fig	gure: Figu	ire 12	
Applicable Wa		gure: 1					Warrant Fig Warrant N		re 12 res	
Applicable Wa	arrant Fi	gure: 1	N/A N/A	I LANE LEN	IGTH CAL		Warrant N			
Applicable Wa	arrant Fi	gure: 1	N/A N/A		IGTH CAL		Warrant N			
Applicable Wa	arrant Fi /arrant N ersection	gure: Net?:	N/A TURN Unsignalized 186		IGTH CAL		Warrant N			
Applicable Wa W Into Design Hour Volume Cycles Per	arrant Fi /arrant N ersection e of Turn r Hour (A	gure:	N/A N/A TURN Unsignalize			CULATIONS	Warrant N			
Applicable Wa W Into Design Hour Volume	arrant Fi /arrant N ersection e of Turn r Hour (A	gure:	TURN Unsignalizer 186 60	d	Average #	CULATIONS # of Vehicles/Cyc	Warrant N	itet?:		
Applicable Wa W Inte Design Hour Volume Cycles Per	arrant Fi /arrant N ersection e of Turn r Hour (A	gure:	TURN Unsignalizer 186 60		Average #	CULATIONS # of Vehicles/Cyc	Warrant N	itet?:		
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection of Turn r Hour (If	gure:	TURN Unsignalizer 186 60	d	Average fication 46, Ex	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45	Warrant M	itet?:		
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection of Turn r Hour (If	gure:	TURN Unsignalizer 186 60	PennDOT Publ	Average # ication 46, Ex Spe Turn Dei	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume	Warrant N	3.0 3.0		
Applicable Wa W Into Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A	Average i	# of Vehicles/Cyc hibit 11-6 ed (MPH) 40-45 mand Volume Low B or C	Warrant N	3.0 60-60 Low B or C		
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35	Average # ication 46, Ex Spe Turn Dei High	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume Low	Warrant N	3.0 60-60		
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Ex Spe Turn De High B or C C	# of Vehicles/Cyc hibit 11-6 ed (MPH) 40-45 mand Volume Low B or C	Warrant N	3.0 60-60 Low B or C		
Applicable Wa W Into Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Ex Spe Turn De High B or C C	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume Low B or C B	High Bor C Bor C	3.0 60-60 Low B or C B	/es	
Applicable Wa W Into Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A	Average # ication 46, Ex Spe Turn De High B or C C	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume Low B or C B	Warrant N S Lile: High Bor C Bor C Ion A:	3.0 50-60 Low B or C B	/es	
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume	Warrant N S Sele: High Bor C Bor C ion A: ion B:	3.0 60-60 Low B or C B	Feet Feet	
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection e of Turn Hour (A r Hour (If	gure: Met?: Control: ing Lane: ssumed): Known):	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume Low Bor C B Length, Conditi Conditi	Warrant N S High Bor C Bor C ion A:	3.0 60-60 Low B or C B N/A N/A N/A 225	Feet Feet Feet Feet Feet	
Applicable Wa W Inte Design Hour Volume Cycles Per	ersection e of Turn Hour (A Type o	gure: Met?: Control: ing Lane: ssumed): Known): f Traffic Control signalized nsignalized	TURN Unsignalize 186 60 High	PennDOT Publ 25-35 Low A A Right Turn La	Average # ication 46, Ex Spe Turn De High B or C C ane Storage	# of Vehicles/Cychibit 11-6 ed (MPH) 40-45 mand Volume Low Bor C B Length, Conditi Conditi	Warrant N S High Bor C Bor C ion A:	3.0 60-60 Low B or C B N/A N/A 225 225	Feet Feet Feet Feet	



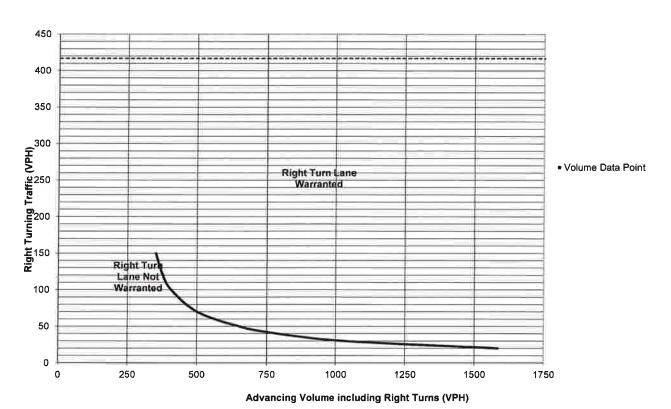
Figure 12. Warrant for right turn lanes on four-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)



		STU	JDY LOC	ATION AN	D ANALY	SIS INFORM	1ATION			
PennDOT E		County:	Cheste	Township County	A	Analysis Conduct Check gency/Company	ted By: ted By:	T B	s/2017 ML GG ssociates, Inc.	
Intersection & Ap	proach De	Committee of the Commit		nd West Pleasa Route 202 Rigi		ad - Alternative A				
	De: itersectio Speed Lin	sis Period: sign Hour: n Control: nit (MPH): of Terrain:	PM Pea Unsign	Design ak Hour nalized -5 ling			of Approad or Divided H	Highway:	2 Divided ype of Analysis Right Turn Lane]
				VOLUME	CALCULA	TIONS				
			L	eft Turn Lane	Volume Ca	alculations				\neg
Movement		Include?	Volume	% Trucks	PCEV					
	Left Through Right Left Through	Yes Yes Yes	0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	N/A N/A N/A N/A N/A	% Let		Advancing Vol Opposing Vol Left Turn Vol Advancing Vol	ume: N/A ume: N/A	
			Ri	ght Turn Lane				0 000	1311	
Movement		Include?	Volume	% Trucks	PCEV					
Advancing	Left Through Right	No	133 2154 410	0.0% 2.0% 1.0%	N/A 2219 417			Advancing Vol Right Turn Vol		
			TUR	N LANE W	ARRANT	FINDINGS				
Left	Turn La	ne Warrant Fi	ndings			Righ	nt Turn La	ne Warrant	Findings	
Applicable W	arrant Fi Varrant N	-	I/A I/A			Applicable V	Varrant Fig Warrant M	-	ves 12	
			TURN	LANE LEN	GTH CAL	CULATIONS				
Design Hour Volum Cycles Pe	e of Turn r Hour (A		Unsignalized 417 60	1	Average :	of Vehicles/Cyc	le:	7.0]	
				PennDOT Public		hibit 11-6 ed (MPH)			1	
	Туре о	f Traffic Control		25-35		40-45 mand Volume	5	0.60		
	-	Signalized	High A	Low A	High B or C	Low B or C	High B or C	Low B or C	1	
		nsignalized	A	A	C	В	B or C	В	1	
			;			Length, Conditi Conditi Conditi ane Storage Lei	on B: on C: ngth:	N/A N/A 350 350 onal Findings		
Additional Comments /	Justification	ons:							a a	
										li li



Figure 12. Warrant for right turn lanes on four-lane roadways (45 mph or greater speeds, unsignalized and signalized intersections)



ATTACHMENT 6

Comment 8

Crebily Residential Development 2023 without Dev Weekday Morning Peak Hour Optimized

	1	-	*	-	-	•	1	Ť	-	-	1	1
See Comp.		Date Carlo	MIR		- N-17	- Code	Y.E	- 31	ALC:	-	Arr	199
Lane Configurations		4.			4			4			45	
Vice and capital	88	783	1.5	112	369	580	3		23	63	224	(50)
ideal Flow (vphpi)	1800	1800	1800	1800	1800	0081	1800	1800	1800	1800	1800	1800
Cline Width (ff)	10	10	100	10	10	10	10	10	10	10	- 10	- 10
Grade (%)		-2%	-		1%			2%		-	1%	1
Unite Off Facility	100		1.00	1.00	1.00	1100	100		100	1/00	1.00	1.00
Fri		0.999		-	0.983			0.971		-	0.955	- 77
Fit Protected	REVOLUTION IN	0.995	200.007		0.935	J-1000	oliesa	0.899	Name		0.004	STATE OF THE PARTY.
Sald: Flow (prod)	. 0		0		1516		0	1568			1571	. 0
Fil Prontino	-	0.008		OCTOR S	0.074	March 1	Owner or	0.983		and the last	0.648	AFFE
Satd. Flow (perm)	. 0		G	0	1473		0	1542			1498	
(Sgh) Turn on Red	-	-	Yes.	market a	ARTER	Tim		- Access	Yes		1490	Yes
Sald, Flow (RTCR)		1	- 100		10	100		14	1,09	700	26	160
Lana Speed (mph)	-	- 6	-		45	·		25	Section 2	_	35	-
	-	819	-		2438	70794	yv 9-	714		-	826	-
Link Distance (ft)	-	123	_	_		_	-		_	-		_
Traine Term (50)	2.00		0.44	A AA	36.9	100.00		13.5	7.000	Calab.	10,1	1
Peak Hour Factor	0.99	0.00	0.96	0.96	0.96	0.98	0.96	0.96	9:91	0.98	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	27%	- th	- 676	22%	3%	19%	274	- 476	25
Adj. Flow (vph)	53	316	. 5	15	384	58	3	94	20	92	285	168
Shared Lane Traffic (No.	-	2.41		-	-	-	-	300			-205	-
Lane Group Flow (19th)	0	913	0	0	454	0	0	123	.0	0	513	0
Number of Delection	100	-		400年	1111P)	-05	-	300	4	- 73	133	
Detector Tempiate	t.uft			Left			Left	Thru		Latt	Trust	
Lauding Delector (ft)	- 30	9	100	30	200	2200	30	25	DOLL	30	35	200
Frailing Detector (ft)	-10	- 0		-10	- 0		-10	- 5		-10	- 5	
Outcome 1 Postson(f)	10	. (0	IFO1	-10	0	1079	10	AUGS.	FIE	-10	- 5	001
Didector 1 Size(ft)	.40			40			42	40		40	40	
Depocar f Type	CHE:	-Chex	KINDS	CHEK	CHEX		THEX:	CHEX	-	(I) Ex	CHEX	0.31
Detector 1 Channel												
Distoctor, 5 Extend (y)	0.0	0.0	500	0.0	0.0	-	0.0	0.0	-	0.0	.00	20.07
Defector f Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector # Detay (6)	0.0	0.0		0.0	0.0	211	0.0	0.0	-	0.0	0.0	-
Turn Type	Perm	TUA		Perm	NA.		Penn	NA		Pirm	NA	
Protected Phones			-		- 6	_	200	100	-	4	-	
Permitted Physics	. 2						- 5	-		4	_	
Defector Phase	den y	militari in	w/reside		-	-	-	and the same		et fight	Omno.	and the
Switch Phase			-		_			_	1	-	_	
Minarum India (s)	22.0	220	in the same of	22.0	22.0	A-11-2-11	20	3.0	-	30	30	-
Minimum Split (v)	28.0	28.0	-	28.0	78.0		9.0	9.0	-	9.0	9.0	-
Tubel Solit (ii)	62.0	82.0		62.0	620	-	28.0	28.0		28.0		UMOTE V
	88.2%		200			2			_			100
Total Split (19)		68.994	-	65.9%	88.0%	-	31.1%	31,1%		31.1%	31,1%	
Mercentum Green (b)	55.0	56,0	-	550	10 C		22.0			22.0	22.0	27.00
Yellow Time (x)	4.0	4,0	_	4.0	4.0		4.0	40		4.0	4.0	
All-Red Time (t)	2.0	20	10077	2.0	2.0	3857	7.6	2.0	200	2.0	2.0	200
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Tistal Light Time (s). Lendit.og	115	5.0	W 200	-	50	NUC P	line!	6.0	200	-37	\$0	
Colod-Ling Optionize?	CONT.			-	T-3,21	-	-	HS BE	210	100	-	1
Vehicle Extension (s)	5.0	5.0		50	5.0		30	3.0		30	3.0	

Lanes, Volumes, Timings - Synchro 8 2023 without Dev Weekday Morning Peak Hour Optimized !dengl816451 - Crebilly FarmiTraffic\Analysis12017-3-1 Response to TWP Commenbi2023 without dev\Weekday AM Optimized syn McMahon Associates, Inc. 1: New St & Rt 926 Crebily Residential Development 2023 without Dev Weekday Morning Peak Hour Optimized

	*	-	*	1	←	4	1	1	-	-		4
and fired			8 - S	4.5	10.00	E_3	rich.	417	¥	= 3	-11	3
Minerium Clap (N)	2.5	2.0	Sec.	2.0	2.0	9-70	3.0	3.0	931111	3.0	3,0	1001
Time Batore Requos (tri	42.6	42.0		42.0	42.0		0.0	0.0		0.0	0.0	
Tiene To Recause (11	21.0	21.0	100	21.0	21.0	100	0.0	0.0	DOM: N	0.0	0.0	104
Recall Mode	Max	Max		Man	Man		None	None		None	Nume	
Vilt Filipida		0,96	- TIP	riff(A)	0.48	5711	IIIFEX	0.30	100	mini	1,38	OWN
Control Delay		33.3			10.5			25.3			172.1	
Queon Uniay	-20	0.0	200	-ME	0.0	Cart		0.0	2000		0.0	998
Fobil Delay		39.3			10.5			26.3			172.1	
Ageur Langth Section	25	440	200	- The Contract of the Contract	118		ATT OF	50		1000	+388	40
Dunius Longity (55th (11)		W757			187			98			1651	
ofernal Law Class (N)		AST.			2356	0.660		634			744	250
Turn Bay Lampto (ft)								30.44			37111	
Unio Connecty (VpR)		1047	this region	8020	542	593	220	404	1	_	-A12	200
					0			0			0	
Starvation Cap Reductr		0										
	Impr		maga (CONTRACT.	Ů	aumi	uma	anner de la	-	-	- 0	=3=
Starvation Cap Reducts Spatiack Cap Reducts	mar		may 1				Lattice Co.		-		ė	-
Inneton Cap Reducts pulsaci Cap Reducts pulsaci Cap Reducts Scrap Cap Reducts section Reducts	mg2 mg2	- 0			0	S. No.		-				
Starveton Cap Reductr Spatiaci Cap Reductr Storage Cap Reductr Reduced V/L Retin	ed queue is affer teo ceds cap affer ten	dio o o o o o o o o o o o o o o o o o o	dy infied	100	0.48						0	

Lanes, Volumes, Tinings - Synchro 8
2023 without Dev Weekday Morning Peak Hour Optimized Mengl816451 - Crobibly Farm\Traffic\Analysis\2017-3-1 Response to TWP Commenta2022 without devilvestice; AM Optimized syn

Crebily Residential Development 2023 without Dev Weekday Morning Peak Hour Optimized

	*	-	*	1	-	•	4	†	1	1	Į.	1
	-	-11	Ami	Later Service	201		1	10.0	100	-	- 10	
Lace Configurations		4						**			4	
Volume (send)	. 88	753	1.550	- 12:	37	58	-	- 20	· · · · · · · · ·	65	274	
Number	5		12	130	0	10	3	8	18	7	4	
mts(Q)(Q), veh	- 9	- 4		0.5	- 0	- 0	0	- 0	- 4	- 0	. 0	MES!
Ped-tlike Adj(A_pbT)	1.00		1.00	1.00		1:00	1.00		1,00	1.00		1.00
Parking East, Adj	1.00	1,00	1.00	1.00	1.00	1.00	1,00	1.00	. (00	1000	1.00	. 10
Adj Sal Flow, vehillula	1818	1765	1010	1791	1655	1701	1018	1731	1018	1701	1771	179
AGENW Rate, with	92	816	- (A)	12	354	- 55	1112	34	20	12	285	181
Act No. of Lanes	0	- 1	. 0		1			- 1	0		- 1	- (
Plant Hour Factor	0.98	0.95	0.96	0.60	0.95	0.0E	0:06	0.05	(0.00	0.00	0.09	0.90
Percent Heavy Vets, %	_ 3	- 3	3	- 8	8	- 8	3	3	- 3	0	. 0	- 5
Capx xinhfi	127	000	3	51	1181	124	44	331	91	133	742	33
Artive On Green	0.62	0.63	0.62	0.62	0.63	0.62	0.24	0.20	0.24	0.24	0.06	0.24
Sat Flow, yeh/h	122	1510	114	15	1392	195	10	1314	355	140	948	0.21
(srp Volume(v), withith	912	- 0	- 0	451	a	g.	123	0	0	513	a	- 4
Grp Sait Flow(10), viel/fr/h	1655	- 0	- 0	1003	-10	- 0	1080	Q.	- 4	1672	111104	- 4
Q Servo(q_s), s	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0
Oyena O Chinat (gr. c), w	45.8	0.0	0.0	12.0	0.0	0.0	5.4	9.0	0.0	22.0	0.0	0.0
Prop in Lane	0.10		0.00	0.00		0.12	0.02		0.21	0.12		6.33
Lame Grp Cap(c), winth	1074	- 3	- 6	1030	- 0	. 0	467	0		- 641		400
V/C Retio(X)	0.85	0.00	0.00	0.43	0.00	0.00	0.27	0.00	0.00	1.16	0.00	0.00
Aved Copie to white	1074		mccas	1/(33	- 0	100	452	100	- 0		- 0	- 0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1,00	1.00
Aptreson Fillet(I)	1.03	0.00	000	1.00	0.00	0.88	17.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), siVete	13.3	0.0	0.0	8.4	0.0	0.0	27.0	0.0	0.0	34.4	0.0	.0.0
red Delay hors, which	84	0.0	0.0	- 13	00	0.0	0.3	0.0	0.0	95.5	0.0	0.0
neva, (ColyeleC O letter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUMBER OF DESIGNATION	39.0	0.0	0,0	103	0,0	0.0	4.0	0.0	0.0	40.0	0.0	0.0
mirp Ostay(d) sAnh	21.7	0.0	0.0	9.5	0.0	0.0	27.4	0.0	0.0	129.9	0.0	0.0
ngia coll	C			III A	1000		DECOR	7	18 11 11	NOT NO		wurlij)
Approach Vot. with		912	_		451			123	_		513	_
Sportsocki Oslav, sAveta	DE NO	21.7	1211	ICH.F	9.0	SENT		27:4	(Acu	007	129.6	(444)
Approach LOS		C			.5			C			F	
		===		===		-73	-		_	-	_	
Assigned Phs		. 2		- 4		. 0						
ha threates (G. Yefko, a		1628	-	29.0	-	62.0	-	28.0	2,510	(S) (F)	630	SF(U)
Change Period (V+Rc), s		6.0		6.0		6.0		6.0				
Aux Graen Beiting (Orme) in	-	56.5		22,0	-	0.85	-	72.0		-	-	-
tax Q Clisar Time (g_c+l1), a		42.8		24.0		14.0		7.4				
Street East Time (p. ci., s		8.9	-	2.0	-	198		- 22		77	-	
IDM 2000 OH 0 - W		-	ar i	٠.,			es la	-20		0 8 8 9		
ICM 2010 LOS		-	0		-	-			-	-	-	

HCM 2010 Stynalized Intersection Summary - Synchro 8 2023 without Dev Weekday Morning Peak Hour Oplimized Nanglist 1451 - Crebity FamilTraftcAnalysis 2017-3-1 Response to TWP Comments 2023 without Dev Weekday AM Optimized syn

Crebily Farm Residential Development 2023 with Dev Weekday Morning Peak Hour Alt A

	×	\rightarrow	•	-	—	•	4	1	~	-	1	4
(and Cooks)	-	- 61	100	4	- 100	100	- No.	Nem	100	Th.	- 10	- 20
Lane Configurations		4			4			100			4.	
Volume cypro.	30	785	5	17	277	- 98	-13	21	-27	60	271	157
Ideal Flow (vohor)	1800	1800	1800	6800	1800	1800	1800	1800	1860	1890	1800	1600
Limin Walth (75	- 10	10	10	- (0	- 10-	10	10	- ST	78	10	10	- 10
Grade (%)	-	-2%	151	- 00	136			-2%		-	156	-
Lype Util Factor	1.00	1.05	100	100	1.00	100	1.00	1.00	- 900	1.00	1.00	108
Fd		0.999	2000	0,113	0.983		-	0:970	-		0.665	
Fit Protested		0.893	1000	SIMIL	0.005	3,420	Dilto	0.991	W.2109	SULLES	0.884	THE PARTY
Satd Flow (prot)	0	1638	0	.0	1512	.0	. 0	1585	0		1589	a
Fix Pormitted	THE PARTY	0.803	Service.	T.	0.967	emika	(MONING	0.002		أربسا	0.948	and i
Sald Flow (perm)	0	1885	0	- 0	1450	a	- 5	1539	- 4	0	1498	
Right Turn on Rest	1000	-	Yes	COLUMN		T Yes	munici	-	Ves		FIRE DOLLARS	You
Sald Flow (RTOR)		1			15			15			27	
Link Speed (mob)	and the same	45	NO/DER		48	-	A.	25			- 35	-
Link Distance (ft)	-	810			2436			714			828	
Transi Tima (s)		12.4			36.9		-	195	-		10.1	
Peak Hour Factor	2.94	0.96	0.00	0.66	0.00	0.00	0.06	0.00	0.06	0.96	0.96	0.00
Heavy Vehicles (90	75	356	0.99	27%	-6%	634	33%		60v	4%	0.94	2%
	04		5						28		289	
Adj. Flow (vph)	.94	818	2	18	393	58	3	95	28	12	289	174
Shared Late: Traffic (%)	Section 2		-		~	_	merci	7	4		-	74
Lame Gloup Fishy (vph)	0;	917	0	.0	469	10	.0	126	0		525	a
Number of Deloctors	-	100		110			30E		200	- 1		100
Detector Tempiate	Left			Linft			1,45	Three		Left	Thru	
Leading Coloctor (10	38	- 6	equite.	_ 30	- 0		-30	- 35		- 33	- 35	100
railing Gelector (ff)	-10	0		-10	0		-10	-5		10	- 4	
Detector 1 Position(II)	-10	39.00	may:	-10	0	1000	to.	- 5	OFFICE OF THE PERSON NAMED IN	110	- 4	ALC: U
Detector 1 Stre(fg	40	6		40	- 6		40	- 62		40	45	
Official Type	CHEX	CHEX	DHC)	OHE	CHEX		CHE	CHEN	26 10	CHEC	CHEX	1120
Defector 1 Channel												
Denector I Extend (s)	0.0	0,0		0.0	0.0	1100	0.0	0.0	737	0.0		200
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Delector I Delity (ii)	0.0	0.0	100	0.0	0.0	CAU.	.0.0	0.0	-	0.0	0.0	-
Turn Type	Parti	HA		Pom	NA		Pem	NA.		Permit	26A	
Protochid Pharms	100	- 7	2010/1	Name of	4		200	EMP.		W1000	3.0	5500
Permitted Phases	2									4		
Detector Phase Switch Phase	- 2	-	02	119			- 5	- 3		1118	- 1	-
Minimum shifted (a)	22.0	250	min min	22.0	27.0	-	1000	30		5.0	3.0	11-9-07
Minimum Sciet (so)	28.0	28.0		28.0	28.0		9.0	0.0		0.0	9.0	
Tatal Solit (v)	62.0	52'8		62.0	67.6	-	129.01	28.0	-	28.0		esta.
	08.9%	68.9%	-	68.0%	88 9%		31.1%	31.1%	-	31.1%	31.1%	200
Total Spit (%)			_									
Maximum Green (s)	58,0	160		58.0	56.0		22,0	22.0		220	22.0	975
Yellow Time (4)	4.0	4.0		4.0	4.0		4.0	4.0	_	4.0	4.0	
All-Red Term (1)	2.0	2.0	1000	2.0	2.0	250	20	2.0	-	2.0	2.0	100
Lost Time Adjust (ti)		-1.0	_		-1.0			-1.0	_	_	-10	
Folial East Time (ii) Leadt.ag	C1113C4	6.0			5.0	1000		9.0	10-90		5.0	10
LeadRag Optimize?		11/12	XX		4000	PROM	130	100	775	PTZ IO	(S-2 IV)	10004
Vehicle Extension (s)	58	5.0		5.0	50		3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings - Synchro 8
2023 with Dev Weekday Morning Peak Hour Alt A
Itlengl818451 - Crebilly Farm\Traffic\Analysis\2017-3-1 Response to TWP Comments\2023 with dev\Alternative A\Weekday AM syn

McMahon Associates, Inc. 1: New St & Rt 926

Crebily Farm Residential Development 2023 with Day Washiday Morning Plack Hoor All A

	•	→	\rightarrow	•	—	4	4	†	1	-	Į.	4
Am John	- 454	1111	158		Heli.	11		140				
Marmum Cup (u)	2.0	2.0	40	2.0	2.0	100	3.0	3.0	-	300	0.0	-90
Time Beloro Reduce (s)	42.0	42.0		42.0	42.0		0.0	0.0		0.0	0.0	
Fire To Postura (s)	20,0	21.0	1200	21.0	21.0	(152)	0,0	0.0		0.0	0.0	al li
Recall Mode	Max	Max		Max	Max		Mone	None		None	None	
v.c.Ritto	CAN DAME	0.07		1,701	0.51	100	Militar	0.31	10.7	-	1.21	V50.
Control Delay		45.6			110			26.3			184.1	
Queun Onlay		- qn		50 W	0.0			0.0	-re	SET IN	0.0	77
Total Delay		415			tt.B			26.3			184.1	
Gueva Langto-Com (fg	100	- 643	-370	SERVICE AND ADDRESS OF THE PARTY.	125	-,-		31	25	_	-377	20
Queue Longth 95th (16)		W/67			200			100			M570	
Internal Link Dist (f)		739	-		7366		-	634	ec	-	145	==
Tivn Bay Length (ft)												
Base Capacity Ophil	7	941	FE 6		103		776	404	1243		(1245)	30
Stavation Cap Reduces		0			.0			0			0	
Spillinea Cap Reducts	200			-	0.7		100	0			- 0	33
Storage Cap Reducts		.0			0			0			0	
Reduced vilo Ratio	9090	0.87		-	051		250	0.01		2000 M	520	=
Cycle Length: 90 Naturalida Cycle Cyngdi: 90 Natural Cycle: 110 Dontol Type: Sami Act-Urc			atly infest	- SCIT	HOLD HOLD HOLD HOLD HOLD HOLD HOLD HOLD	SATE SATE	2 10 2 (0)			NOT C		TE I
Volume exceeds capaci Queue shown is maximum # 95th percentile solume a Coulan shown is misoma	malin so	goodly, qui	ше глау	be langer	none.		1000			-		d
Queue shown is maximum 95th percentile volume is Course shown is misorru Spilts and Phases: 1 Nex	malin so	goodly, qui	ше глау	be langer			1010	TR			-	
Queue shown is maximum 95th percentile volume is Course shown is misorru Spilts and Phases: 1 Nex	malin so	goodly, qui	нь ту	be konger	866		1010	44		Comp	******	alc
Gueva shown terracerus 9 95th percentile volume o Course shown terracerus	malin so	goodly, qui	нь ту	bo tunger	866			1700		Same		40

Lanes, Volumes, Timings - Synchro 8
2023 with Dav Weekday Morning Peak Hour All A
Itlengl816451 - Crebilly FamitTraffic\Analysis\2017-3-1 Response to TWP Comments\2023 with dev\Alternative Al\Weekday AM syn

Crebilly Farm Residential Development

	*	→	*	1	+	4	4	1	-	1	+	1
	-	78		2.3	TO ST		-165	HII	Lis.		#33	- 14
Lane Configurations	100.74	4			-						- 1	
Volume (words	20	735	- 2	17	327	56		25	- 77	- 60	273	
Number	5	18	12		8	10	3	- 8	(8	7	4	3 14
initial O (Obj. eve)	0	- 4	- 0	- 0	0,	_4	- 0.	- 0	- 0	- 0	- 9	
Peri-file Ad(A.pbT)	1.00		1.00	1,00		1.00	1:00		1,00	1,00		1.00
Pandag Bus, Adj	1.00	1.03	7.00	1,00	1,04	1 00	1.00	1,00	3.00	1.00	1,05	3,00
Adj Sat Flow, welching	1015	1705	1518	1791	1851	1791	1510	1731	1818	1791	1771	179
Adi Flow Robs, versito	94	300		18	393	155	- 3	96	28	62	283	500
Adj No. of Lanes		- 1	0	Û	- 1	Û	- 9	1	. 0	Ü	- 1	- (
Ponk Hour Factor	038	0.06	0.04	0.95	0.05	0.95	0.00	0.05	0.95	0.90	0.96	0.96
Percent Heavy Veh. 15	- 3	- 3	- 3	. 8	- 8	8	- 3	- 3	- 3	0	- 0	- (
Cap; =oh/h	128	1957	1	58.	807	118	- 44	331	95	62	240	137
Arrive On Green	862	0.63	0.02	0.62	0.03	0.62	0.24	0.26	0.24	0.24	0.28	0.24
Stat F30W, VMATE	135	1511	- 7	26	1389	187	10	1294	372	146	938	537
Cep Volume(v), vetuh	316	ð	- 0	ėtė.	0	0	128	- 0	0	525	0	- 1
Crp Sat Flow(o) yet/h/h	1053	- 20:	W-107	1582	0	2000	1072	. 0	0	1622	. 0	- 3
Q Serve(q, s), s	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0
Cycle C Chieff et a	413	0.0	0.0	TER	0.0	00	5.5	0.0	0.0	22:0	-00	
Prop In Lane	0.10		0.00	0.04		0.12	0.02	(4)41	5.22	0.12	-	0.33
Lana Crp Capics, vishin	(072	- 8	1.00	1026	- 5	0	AST	-0-	- 0	411	mick.	10.00
V/C Reto(X)	0.85	0.00	0.00	0.45	0.00	0.00	0.28	0.00	0.00	1.10	0.00	0.00
Avail Capito M. Vento	1072	0.00	0.00	1028	0.00	0.00	451	0.00	- 0	441	-0	W.V.
HCM Platoon Reto	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sources Februs	100	0.00	0.00	WALK.	0.00	0.03	FDS	0.00	0.00	100	800	0.00
Jodom Dalay (d), z/yeh	13.3	0.0	0.0	8.6	0.0	0.0	27.1	0.0	0.0	34.4	0.0	0.0
Ecr. Diskey (32), NVtri	0.00	0.0	0.0	106	0.0	0.0	0.3	-0.0	00	1002	0.0	-0.0
nitin Q Deley(d3), sweh	0.0	00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NGH BACKOTO(355Q VANS)	29.5	10.0	0.0	10.7	0.0	5.0	4.2	0.0	0.0	63.3		0.0
											0,0	
LoGrp Delay(d), siveh	22.0	0.0	0.0	10.0	0.0	5.0	27,4	0.0	9.0	140.5	9.0	0.0
yiGip LOS	(C.) G		700	0.		MEDICE	0		0.00	OF CORP.		B-1.0
Approach Vot, vehilh		916			465	_		126			525	_
Contract Oslay, silver		22.0	NUM-		10.0	1000		27.5		100	140,5	22000
Approach LOS		C			8			0			. #	
	_		73	-4		-				- 3		ΠĒ
Nesigned Phs		2		4		. 6		8				
ns Ouration (G+Y+Pic) .s		62.0	200	28.0	22-	82.0	-	78.0		200	100	
Change Period (Y+Rc), s		0.0		6.0		0.0		8.0				
Hax Green Selling (Cimery, a	100	58,0		22.0	0.4	52.0		22.0	RENG	100	-	140
Mix Q Clear Time (g_c+11), ±		43.5		24.0		15.5		7.5				
Stem End To the (V. C). a		33	-	0.0	-	15.1		23	700	-	2	
ICM 2010 CH Ostry ICM 2010 LOS	-	0. "	50.2 D	-	H-C	227		-	Man.	ange.	=(,)	-

HCM 2010 Signalized Intersection Summary - Synchro 8 2023 with Dev Weekday Morning Peak Hour Ali A 1:lengl816451 - Crebitly Farm\Traffc\Analysis\2017-3-1 Response to TWP Comments\2023 with dev\Allernetive AlWeekday AM syn

Crebily Residential Development 2028 without Dev Weekday Morning Peak Hour Optimized

	•	-	>	-	—	4	4	†	1	-	4	4
Law Young	190	507	#02	TO S	- 100	ACR.	- Table	SIMI.	THE	- 50	- 61	- 50
Lane Configurations		- 4			4			de			4	
Votarra (vota)	T-1728	851	00.9	12	445	- OT	-	09	127	85	298	173
idnat Flow (vphpt)	1800		1800	1800	1660	1800	1880	1880	1800	1800	1800	1800
Lime Width (ft)	10		-1/1	10	- Ita	10	112		10	730	10	10
Grade (NI)	10	-2%		117	196	1.00		-2%	1177	4000	126	- 17
Lana Util Factor	5.00		- E20	1.00	E00	1.00	1.00	11/1/08	100	1.00	1.00	1.00
Frt		0.999	-175		9.983	-	-	0.972		-	0.955	
Fit Protected	The same	0.995	0.000	COLD.	0.000	100	1	0.999	990	9.65	0.994	1000
Sald, Flow (prof)	- 0	1638	ġ.	. 0	1516	0	. 0	1587	0	. 0	1571	.0
Fit Permitted	uno!	0.899		muli	0.968	med v		0.970	wari	erani.	0.543	Sales II
Sats, Flow (perm)			.0	- 3	1489	0	. 0	1521	ò	G	1450	- 4
Right Dun on Red	EDWIND	1000	Ven	Service Co.	ivoteneo)	Yes	William	and the	1 Year			Ves
Sald Flow (HTOR)		- 1		-	16			14			25	
Luna Speed (mobil	-	45	1000	100	45	-	-	25	Acres 6		- 35	Locari
Link Distance (ft)		819			2436			714			826	
Travel Tarre (10		12.6	-	100	30.9	20040	e con	198	-	on the	16.5	CALL
Peak Hour Factor	0.98	0.00	0.96	0.58	0.90	0.96	one	0.96	0.56	0.00	0.98	0.00
Henry Vehicles (%)	276	-3%	10%	27%	89	676	33%	376	9%	45		256
Atti, Flow (vph)	100	886	5	14	418	64	4	102	28	50	310	100
Shired Late Tradic (%)	100	900	_		419			IVE	4,11		370	1117
Lane Group Flow (voh)	0	991	0	. 0	495	0	0	134	. 0	0	558	
Manner of Detectors	-54		-		.489	A.W.	- 0	194		-	209	-
Delocior Tempiate	Laft	-	-	Left	-	-	Left	Thru		Left	Thru	275
Laurence Celecter (FD	100	- 6	-	- 33	-	_	38	35	-	30	35	meret in
Fruiting Detector (fg)	-10	.0	_	-10	9		-10	- 5	-	-10	-5	
Janetos (1-Pandandi)	-10			TEM.		un maria	30	- 4	****	-10	1 5	
Ostector 1 Size(7)	40	- 6		43	- 0	-34-3	40	40	y-chrid	40	40	-
Denocus I Type	Civio		-	CI+E	01+629			CI+Es	-	COHEN	CIHEX	-
Delector 1 Channel	MARKO	CHECK	1100	, Litto	OPPER	-	CHES	COMME	_	LAPPEN.	WITEX:	100
	0.0	0.0	-	- 20								
Olifoctor 1 Extend (III)	0.0	0.0	200	9,0	0.0	Albert .	0,0	0.0	100	0.0	0.0	
Detector 1 Queue (rd			_	0.0		_	0.0		_	0.0		
Detector 1 Detay (tr)	0.0	9.0	54997	0.0	:0.0		0.0	0.0	-	0,0	0.0	-17
Turn Type	Petti	NA	_	Perm	NA		Perm	MA	-	Pare	MA	-
Protected Phases	-	- 2	100	3/2/81	100	OWNER			-			10.00
Permitted Phases	2						ı			- 4		
Detector Phone	-	-				-		-	700	1000		
Switch Phase	-				4400					-		
Manual Brisk (st.	22.0	2211	_	22.0	22.0	77.6	3.0	3.0	100	- 32	3,0	
Minetrum Split (n)	28.0	28.0		28.0	28.0		0.0	9.0		9.0	9.0	
foto Split (v)	62.0	12.0	96	62.0	62.0		20.0	20.0	-		28.0	100
Total Split (%)	68.9%	68.9%		88.9%	68.9%		31.116	31,1%		31,1%	31.1%	
Maramum Green (s)	68,0	58.0	7281	56.0	58.0	17900 /	22.0	22.0		22.0	22.8	000
Yellow Tima (a)	4.0	4.0		4.0	4.0		4.0	4.0		40	4.0	
As Red Time (a)	2.0	2.0	-20	20	2.0	100	20	2.0	AACE	2.0	20	
Lost Time Adjust (a)		1.0			-1.0			-1.0			-1.0	
Fotal Lost Yaro (b) Lead Lag	UNS	5.0	2100	W. TIL	0.0	etign	16791	-5.0	- V2	ID CAPE	5.0	
Lead Lag Optimize?	7 7 10	U LT	1	THE STATE OF	100	47700	7 (0)	ALC: Y	70	THE R. L.	GAL.	and the
Vehicle Extension (s)	5.0	50		50	5.0		3.0	3.0		30	3.0	

Lanes, Volumes, Timings - Synchro 8
2028 without Dev Weekday Morning Peak Hour Optimized thengl818451 - Crebilly Farm/Traffic/Analysis/2017-3-1 Response to TWP Commental/2028 without dev/Weekday AM Optimized syn

McMahon Associates, Inc. 1: New St & Rt 926

Crebily Residential Development

	•	-	*	1	+	•	1	†	1	1	Ţ	4
and the same	fa	20	JAN.	1841	10-11	Times.	1965		100	3	E - 11	
Winamure Gap (git)	2.00	2.0		- 20	20	6732	3.0	3.0	250	10	3.0	1299
Timir illinfore Reduce (vi)	42.0	42.0		42.0	42.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	21.0	210	57	21.0	210		0.0	0.0		0.0	0.0	103
Rocall Mode	Max	Max		Mar	Max		None	None		Noon	None	
At Ratio	X1000L	1,00	OTTO V	o) min)	0.53	OUT		0.38	10	of the l	1:40	NO.
Control Delay		649			11.3			27.2			2223	
Quinue Dinay	100	0,0	-		0.0	THE RES	500 /	0.0	-01/2	Section 1	0.0	
Total Delay		64.9			11.3			27.2			222.3	
During Light Soft (10)	District	-073		200	135		1000	55.	-5	200	→£20	100
Queue Length 958: (ff)		#605			215			107			1623	
Internal Link Clist (7)		730	-	1.50	235E		bitan,	834	SCS.	-	745	54
Turn Bay Longth (N)								-100/5				
Early Capitol	2400	9.0		200	50E	20		20	100	-	330	13
Slavation Cap Reductn		0			0			0			0.	
Sollback Cap Reducts		9	-	9/50	- 0		200	. 0	2016	-30		173
Storage Cap Reducts		0			0			0			0	
				Street Street,	0.83	Carlotter 1	and the same of the	0.34	200		1.40	H
Reduced Violation (449 Type Of Cycle Longin 90 Schlahod Cyste Length 90	Der	1.00			984	ello ello		236		e k	eve	
Project of the Projec	afor two	December cytose acity, que	100	500								
Reduced Uki Police Free Type: Of Typic Longth: 90 Collabid Gyde: Lingth: 60 Matural Cycle: 110 Tomicol Type: Serral Red Ulococ Visions exceeds capacity. College of Byree in Impactame 6 55h percentile volume occ Qualize information in mandimum.	ed queue is afor two meds cop affer two	December cytose acity, que	100	500								
Project of the Projec	ed queue is afor two meds cop affer two	December cytose acity, que	100	500					_			

Lanes, Volumes, Tinlings - Synchro 8 2028 without Dev Weekday Morning Peak Hour Optimized Itangla16451 - Crebility Farm\tatic\Analysis\2017-3-1 Response to TWP Comments\2028 without dev\teekday AM Optimized syn

Crebily Residential Development 2028 without Dev Weekday Morning Peak Hour Optimized

	۶	→	7	•	+	4	4	1	1	6	+	4
	100	=601	2011	- 0-	- CO		100	#5¢	nail		- V	
Late Configurations		4			4			-			- 4	
Volumn (VwWh)	_U26.	101	- 5	10	101	- 65	5 - 6	911	3.7	(65)	298	16
Number	5	. 2	12	1	0	16	3		18	7	- 4	16
Initial Q (Qb), set	. 0		10	- 10	- 0	100	- 5	- 0	- 4	10.4	- 0	-
Ped-Bike Adj(A_pb1)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Day, Adi	- 100	11 X 06.1	1.00	7.00	1300	1100	TOE	□(8,02 °	1.00	1.00	5.00	EDC
Adj Sat Flow, vehillan	1818	1765	1816	1701	1654	1701	1818	1729	:1018	1791	1771	1791
ACERTAR RATE WITH	100	888	- 4.	- 94	418	310	-	102	28	58	210	185
Adjitio: of Lanes	0	1	0	0		0	0	1	0	0	1	0
Peak How Factor	0.00	0.00	0.96	0.96	11.90	89.0	0.96	0.10	0.85	8.95	0.00	0.04
Percent Heavy Volt, %	- 3	- 2	3			8	3	3	3	0	0	
City With	120	U88	100	50	388	124	100	11/200		105	242	134
Arrive On Green	5.62	0.63	0.82	0.62	2.53	0.62	0.24	2.26	0.24	0.24	0.26	0.24
SALVENN VICTOR	134		W 11/2	12	1321	t06		1312	350	188	940	324
Grp Volume(v), venih	990	- 0		493	. 0	0	134	- 0	0	558	0	
Gp Set Flow(s) (vin hh)	1648	-0	- 0	1184	100	00000	1070	100	0.	1626	0	
Q Serverg_v), s	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	16.1	90	0.0
Cycle O Clean (g. co. a	58.7	0.0	0.0	14.0	0.0	0.0	5.0	0.0	0.0	22.0	0.0	0.0
Prop in Lans	0.10	100	0.00	0.03	ILVA.	0.12	0.03	4.4	9.21	0.12	, M.W.	0.32
Lane Gra Cap(c), ven 7	1070	THE RES	0.00	1027	- 2	0.12	441		MINISTER STREET	442	0	- 0
V/C Reter(X)	0.93	0.00	0.00	0.48	0.00	0.00	0.30	0.00	0.00	1.20	0.00	0.00
Avail Cap(c,v), vinh	107A	0.50	0.00	1027	22.00	0.00	361	0.00	400	445	0.00	0.00
HCM Platoon Ratio	1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Joseph Florid	1.00	0.00	1,00	1.00	0.00	0.00	1.00	8.00	0.00	1,00	0.00	0.00
Uniform Delay (d), sAleh	15.0	0.0	0.0	6.8	0.0	0.0	27.2	0.0	0.0	34.4	0.0	0.0
int Deleg (db), s/win	12,6	0.0	0,0	-3.1;	0.0	0.0	24	0.0	g,c	1369	0.5	0.0
Initial Q Delay(c3),s/vels	0.0	0,0	0:0	0:0	0.0	0.0	0.0	0,0	0,0	0.0	0.0	0.0
National Company Common	313	0.0	- 0.0	11.4	0.0	00	- 55	0.0	40	46.7	0.0	0.0
LnGrp Delay(d),s/veh	29.5	0.0	0.0	10.4	0.0	0,0	27.6	0.0	0.0	169.3	0.0	0.0
LBGpL05	C	70.00	-	- 8	-		- 6			- 6	100	
Approach Vot, vehills		890			493			134			568	
Accorded Delay, Most		29.5		300	10.4	-		27.5		7	100.3	-
Approach LOS		Ç			.0			¢				
TOW.		- 7	- 3			3.		170				
Assigned Phy		- 3		- 4		. 6		. 8				
Phis Duristion (GeY4RC) is		0.20	THE REAL PROPERTY.	39.0	VIII.	92.0	SI FOR	28.6	W. Car	200	CON12	anoc i
Change Period (Y+Rc), s		6.0		8.0		6.0		5.0				
Max Green's Setting (Green's a	1000	55,0	RRURY	22.0	-	58.0	-	22.0	5301	700 N	W	7300
Max Q Clear Time (q. c+it), s		52.7		24.0		10.0		. 79				
Green fait Tenargo, & n	7	2.1	500	0.0	-	10.1		/24	-			- plint
man in least a second												
HUM 2010 Ctt Delly	-	77	100.4	-	-		-	1111	F-1	. 12.5		THE .
HCM 2010 LOS			8									

HCM 2010 Signalized Intersection Summary - Synchro 8 2028 without Dev Weekday Morning Peak Hour Optimized thengl816451 - Crebilly FarmiTrafficNenbysis/2017-3-1 Response to TWP Commenbi2028 without devWeekday AM Optimized syn

Crebily Farm Residential Development 2028 with Day Weeksay Morning Pank Hour Alt A

	-		•	1	-	4	4	1	1	1	1	1
And Proper	- 33	- 10 E	EEP:	-75	7010	200	No.	HATE	- HOS	- 30	- 385	-53
Lane Configurations		4.			-4-			4			44	
Visiting (VDA)	- 98	MSI	10.8			- 61	- 6	- 65	22	- 65		-1B1
Ident Flow (vptrpt)	1800	1000	1800	1820	1800	1800	1800	1800	1600	1800	1800	1800
Laine Width (ft)	50	10	10	10	18	10	10	10.	10	10	10	10
Grade (%)	/-	-2%			1%		-	-2%		- "	1%	
Clina CHE Factor	(600)	1.00	1,00	1100	106	1/000	100	1.00	1.00	1.00	1.00	1.00
Fri		8999			0.983	-	===	6.378	-		0.955	
Fit Protected	CV HY	0.006	XTITEA	5-0	0.998		711	0.999	14	11 N	0.094	XIII
Sald. Flow (prof)	. 0	1538	0		1512	. 0	0	1583	. 0		1509	0
EtPamed	THE RES	0.685	marks.	10 PT	0.953	CONT.	and the second	0.968	ALC: U	the same	0.545	mm/A
Sald Flow (pennt)	0	1473	ø		1444		. 0	1515			1487	. 5
Right Turn on Red	torsert.	-	CHE	State of the	كحوطانسك	You	Augusta.	and the state of	Yes	-		Ves
Sald, Flow (RTOR)		1	1000	****	18	1,000		15	100		27	
Link Spired (mph)	and the same of	- 65	-		45		-	25	-	100	.5	
Link Distance (ff)		010	-	-	2436	,,,,,,,	-	714		_	826	
Traves From Co.	Lander Editor	12.4		-	359	1000	-	12.5		-	18.5	
Pagk Hour Factor:	0.86	0.00	0.96	0.90	0.50	0.00	0.98	0.90	0.98	0.96	0.96	0.99
Heavy Vencios (%)	3%	334	6%	27%	856	6%	33%	35	956	244	624	256
Adj. Flow (vpb)	102	189	5	10	476	84	4	103	30	68	314	189
Shared same Traffic (NO.	19,2	900	500		410	95	-	-	-4%	99	410	140
Lane Group Flow (vph)	0	996	0	0	589	0	0	137	9	0	571	0
	-	450		cross a	203			141		Total State of the last	213	-
Number of Detectors Detector Temperate	Left		2000	148		4000		Thru			Zhru	1000
	30	6500		30			Left	35		Left	THIU	-
Leading Detector (III)		0	0.30	-10	0	-	-10	- 4	- HELL	-12	8	0.00
Trailing Datector (75)	-10			10	- 0		-10	O CA	_	-10	3	-
Jetector (Position(f)		.0.	-			ne_mm		40		40	40	46
Detector 1 Strutto	40			O+Es		_	40					
Ontoctor 5 Type	GHEX	THE	THE !	UHCH	CHD.	100	如金	CHES	41794	DHE	CI+Ex	0.00
Detector 1 Channel	-	_		-	-		-	- 22		-4-		
Cintector 5 Extrand (tr)	0.0	0.0		0.0	0.0		9,0	0.0		0.9	0.0	
Detector 1 Queue (v)	0.0	0.0		0.0	0.0		0.0	0.0	_	0.0	0.0	
Detector 1 Delayrish	0,0	.0,0	*	0.0	0.0	PL I	0.0	4.0		95	0.0	-
Turn Type	Perm	NA.		Perm	NA.		Pecny	NA.		Pom	NA	and and
Photocod Phone:		- 2		4180	- 5	-		0.00	-	-		ALC: Y
Permitted Phases				6			8			4	Landing Street	
Difference Plants	- 7	-	7	- 5		-	- 5		F-III	-	-	200
Switch Phase												
Minary are (Albed (V))	220	22.0	X.III.D	22.0	22.9		3.0	3.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	38	3.0	100
Minimum Split (A)	28.0	28.0		28,0	28.0		9.0	9,0		9.0	9.0	
Fotol Spill (A)	67.0	42.0		82.0		will M	28.0		100	28.0	280	200
Total Spiri (%)	88.8%	68.9%		68.9%	88.9%		31.1%	31.1%		31.15%	31.1%	
Misserium Generatio	56.0	50.0	0.057	50,0	50.0		22.0	12.0	III All C	22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	40		4.0	4.0		4.0	40	
All-Red Time (str	2.0	2.0	-57	5.0	2.0	TXTE	2.0	20	PORT /	2.0	2.2	
Lost Time Adjust (s)		-1.0			-1.5			10			-10	
Todat Lond Time (so Lend Long	5,877	50	V	W.	5.0	9.67	11.00	5.0	b 17	V.	50	791
Cand-Ling Operator?	-0160		500	4000	100	-	74127	-	300	250	100	CAY
Vehicle Extension (s)	5.0	5.0		8.0	50		3.0	3.0		3,0	3.0	

Lanes, Volumes, Timings - Synctro 8
2028 with Dav Weekday Morning Peak Hour Alt A
Idengil8 16451 - Crebitly FarmiTrafficiAnalysis/2017-3-1 Response to TWP Commentations with deviAllernative AlWieekday AM syn

McMahon Associates, Inc 1: New St & Rt 926

Crebily Farm Residential Development 2028 with Dev Weekday Moming Peak Hour Alt A

	۶	→	*	1	+-	4	4	†	~	1		1
Grant Strong	TELL	300	Sec.	-	4	100	1983	1900	Sec.	360	301	-
Minimum Gap (s)	2.0	2.0	45	2.0	2.0	III-V	30	3,0	1100	3.0	3,0	CENT
Time Before Reduce (st)	420	42.0		42.8	42.0		0.0	0.0		0.0	0.0	
Tirms To Requor (s)	21.0	25.0	500	21.0	210	100	0.0	0.0		0.0	0.0	49-2
Recall Mode	Max	Max		Max	Max		None	None		None	None	
vic Rato	-	1.07	-30	-065	9.55	100	-45	536	750	CONTRACT.	1143	
Control Delay		583			11.8			27.2			234.4	
Queen Dalay		7.0	-	-	86		-	0.0	-	13/67	-0.0	100
Total Calmy		68.3			11.8			27.2			234,4	
Quece Langet 50th (#)		325	200	200	142			55	-		-433	
Queue Length 95th (ft)		#074			227			108			8540	
tetienal Link Class (19)		739	COR	1000	2356	-	CHILD	834	19090	Sum	746	200
Turn Bay Length (ff)		7.77										
Bass Capacity (vpft)	- Table 19	933	barre		920	100	100	398	1000	O CONT	400	1997
Starvation Cap Reducts		. 0			0			. 0			ū	
Spillback Cap Reducts	and the law	0	MANUAL PROPERTY.	200	- 6	100	IND	0	180	The state of	- 0	200
Storage Cap Reductin												
Reduced V/I Russ	The Street	1.07	77) II.	200	0.55	e I II	I/F	0.04	OCT 6 19	1700	143	PAIR

- Area Dyse

 Optio Length: 30

 Actalities bysis Langth: 6th

 Natural Cycle: 120

 Control Type: Sam Act4 Incoord:

 Volume exceeds capacity, queue as theoretically estable.

 Class at those is a transmission in the face bysis.

 If SSR percential weather exceeds capacity, queue may be langer.

 Other in those I is a summary and the bysis.

Splits and Phases: 1 New St & Rt 926

4.,	
*	
4 m	

Lanes, Volumes, Timings - Synchro 8
2028 with Dev Weekday Morning Peak Hour All A
13eng/816451 - Crobilly FarmiTrafficiAnalysis/2017-3-1 Response to TWP Comments/2028 with dev/Allernalize AlWeekday All syn

Crebily Farm Residential Development 3025 with Day Weshary Maning Peak Hoor Aff A

	*	→	7	~	+	4	4	1	~	1	+	4
Warren T	200	80Y		W.	16/55		10.00	1967	STATE OF THE PARTY.	10.		E.
Laine Configurations		- 4.			4			- 4			- 4	
Votome pet/25	- Ga	853	.5.	10	409	200	10.4	90	25	- 93	301	101
Number		2	12	1	6	16	7	- 8	18	1	4	14
INSSE Q (Qb), WA	0	- 0	- 0	0	- 0	D 9	· d	0	b	10.0	and the	10.00
Pod-Bite Add Aph?	1.00		1.00	1.00		1,00	1.00		1.00	1.00		1.00
Fortung Box Ad	1.00	T(#100)	1.00	1.00	6.00	1.00	1.00	K00	1.00	1.00	1.00	E # 00
Adj Sat Flow, wat/hifn	1818	1765	1812	1791	1551	1791	1818	1728	1515	1791	1771	1791
Add Flow Rate, veruti	102	1880	17/740	119	426	400	III15740	(0.2	33	18	214	188
Adj No. of Larms	0	- 1	- 0	0	- 1		0	- 1	. 0	. 0	. 1	
Peak Hour Factor	0.00	0.90	(0.98	0,98	0.60	0.96	0.00	7099	0.00	0.96	- 9.96	0.90
Percent Heavy Veh, %	3	3	3	ė		. 8	3	3	3	- 0	0	. 0
Guo; vnhfs	131	050	-	- DT	546	118	- 45	331	F1246	188	239	137
Arrive On Green	0.62	0.03	0.62	11.82	0.63	0.112	0.24	0.28	9.24	0.24	0.26	0.24
Sat Flow, earth	138	1500	100000	25	1336	587	100	1293	501	162	458	538
Grp Volume(v), vehits	195	0	0	506	0	0	137	0	0	571	0	0
Oro Sat Finwal, with his	1843	- 0	- 0	1588	- 6	1000	3073	0	100	1025	-0	-0
Q Senv(g.vi. s	36.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	0.0	0.0
Cycle D Centro et a	51.0	0.0	0.00	150	3.5	1126	0.5.5	10 A	200	77.0	da	90.0
Prop In Lune	0.10	100	0.00	0.04	-	0.12	0.03	-	0.22	0.12	-	0.33
Larre Gro Capital Vetal	1000	100	0.10	1005	100		440	- 0	U	443		W199
VIC Rato(X)	0.93	0.00	0.00	0.50	0.00	0.00	0.30	0.00	0.00	1:29	0:00	0.00
Ayal Capp a) Kehit	1000	0.00	900	1005	10,1656	9.50	450	0	0	100	0	==0
HCM Plutour Ratio	1.00	1.00	1.00	1.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Openwert Filler(I)	¥.60	6.00	0.00	1.00	0.00	0.00	636	0.00	0.00	100	0,00	0.00
Uniform Dainy (d), sheh	15.2	0.0	0.0	8.9	0.0	4.0	27.3	0.0	0.0	34.4	0.0	0.0
ince Childy (d2), by will	156	0.0	0.0	106	0.0	0.0	0.6	0.0	0.0	1147.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0
See Back Of QUID TO, white	97.5	0.0	0.0	NAME OF TAXABLE PARTY.	0.0	0.0	12	0.0	0.0	52.5	0.0	0.0
In Gro Delay (45,6/44)	30.7	0.0	0.0	10.7	0.0	0.0	77.7	0.0	8.0	1817	0.0	0.0
LinGration	-0	0.0	-0.0	10.3	9.0	0.0	0	0.0	-00	101.1	-00	0.0
	- 4			-		_	200	77.7	_		571	_
Approach Vol. verills		995			508	_		137		_		_
Apprench Dally, siven	Total Control	30,7	VENIEN	1	107	100	- 10	27.7	PARCI	1900	1617	200
Approach LOS		¢			H			C			۶	
		-				-1-		-	_			
Assigned Phs		2		4		0		0:				
Pas Danton (G+Y+Ro), s		62.0		75.5	-	82.0	-	28.0	97	-		2.10
Change Period (Y+Rc), a		0.0		6,0		0.0		1.0		_		
Vax (Seen Selling (Grass), a		0.65		22.0	750	58.0	-	22.0			200	-
Max Q Clear Time (g_c+l1), a		53.9		24.0		17.2		2.1				
Green Ext Time (V; c), e	AT S	- CB		0.0		10.4	-	25	120	19 -	JF 50.0	F30.1
TOTAL CONTROL OF THE PARTY.	_		.050									
HGM 2010 GM DWW HGM 2010 LOS	-	100	10 S		10.5		100	-		-	- 10-	-010

HCM 2010 Signaked Intersection Summay - Synchro 8. 2028 with Dav Weekday Morning Peak Hour All A L'englistess' - Crebry Farmitratic Ousignat 2017 - 1 Response to TVP Comments 2028 with low Weekday Mayin