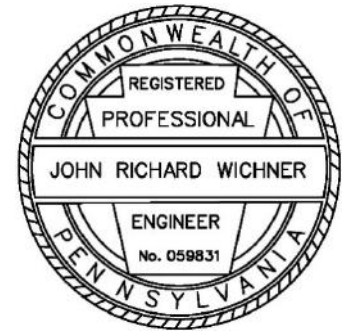
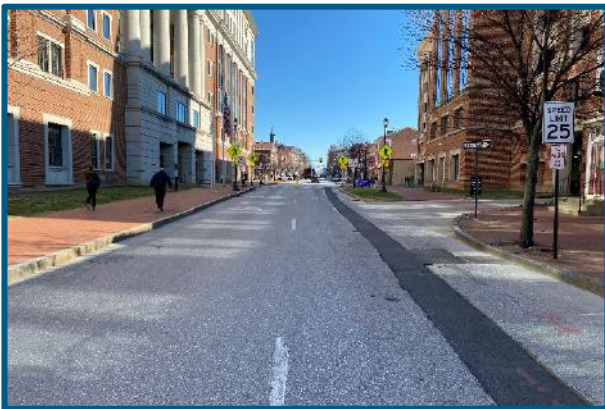


Transportation Impact Study for 330 W. Market Street

Borough of West Chester, Chester County, PA



A handwritten signature in blue ink that reads 'John R. Wichner'.

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Executive Summary

7 South Wayne, LLC proposes to develop an assemblage of properties along the south side of W. Market Street between S. Wayne Street and Potter Alley in the Borough of West Chester, Chester County, PA (**Figure 1**). The proposed redevelopment will include 185 residential apartments and 3,980 square feet of retail space. Access to the site is proposed to be provided via an unsignalized full-movement driveway to S. Wayne Street which will provide access to the lower parking level and an unsignalized full-movement driveway to Potter Alley which will provide access to the upper parking level. Internal connection between these parking levels is not proposed. A site plan, prepared by Howell Engineering and dated April 27, 2023, is shown in **Figure 2**.

The scope of this Transportation Impact Study is generally based PennDOT's guidelines, per the Department's *Publication 282, Appendix A Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits*, dated July 2017, and the requirements of the Borough Ordinance.

The purpose of this Transportation Impact Study is to evaluate the traffic impacts of the proposed redevelopment. The scope of this study includes an evaluation of the existing weekday morning, weekday afternoon, and Saturday midday peak hours, as well as the future 2026 build-out year, both without and with the development at the following study intersections:

- W. Market Street and Wayne Street
- W. Market Street and Potter Alley
- W. Market Street and New Street
- S. Wayne Street and Proposed Access
- Potter Alley and Proposed Access

Based on trip generation data compiled for Multifamily Housing (Mid-Rise) (ITE Land Use Code 221) and Strip Retail Plaza (ITE Land Use Code 822) contained in the Institute of Transportation Engineers (ITE) publication entitled, *Trip Generation Manual, 11th Edition*, the proposed development will generate a total of approximately 1,057 trips during a typical weekday, 86 trips during the weekday morning peak hour, 112 trips during the weekday afternoon peak hour, and 100 trips during the Saturday midday peak hour. This trip generation should be considered conservative as:

- A reduction was not taken to account for pedestrian and bicycle trips of residents which would patronize the commercial, retail, and recreational uses within the Borough.
- A reduction was not taken to account for residents who may use public transit accessible within the West Chester Transportation Center to the east of the site.
- A reduction was not taken for pass-by trips for the retail portion of the site.

Per the traffic evaluation, the following on-site traffic improvements are recommended to mitigate the proposed development impacts.

Site Accesses

Site Access and S. Wayne Street

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Site Access and Potter Alley

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Pedestrian Improvements

- Provide continuous sidewalk along the W. Market Street and S. Wayne Street site frontages.
- Provide ADA complaint pedestrian facilities to cross the south leg of the W. Market Street and Potter Alley intersection.
- Provide ADA complaint pedestrian facilities to cross the east leg of the S. Wayne Street and Wollerton Street intersection.

The traffic analyses contained herein reveal that efficient access to and from the proposed development can be provided, and furthermore, site-generated traffic can be accommodated at the study area intersections. Detailed level-of-service and queue matrices are provided in **Tables A and B**.

Table A - Level of Service Matrices

W. Market Street and Wayne Street

Time Period		Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			Saturday Midday Peak Hour		
Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year	
Development Condition		Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev
W. Market Street	Left	B	B	B	B	B	B	A	A	A
	EB Thru	11.1	11.3	11.7	10.6	10.7	11.5	9.1	9.2	9.4
	Right									
	WB Thru	8.1	8.1	8.4	8.8	8.9	9.6	7.8	7.8	8.2
Wayne Street	Left	A	A	A	B	B	B	A	A	A
	NB Thru	8.9	8.9	9.3	11.8	11.9	13.5	8.8	8.8	9.2
	Right									
	SB Thru	9.1	9.1	9.3	9.2	9.2	9.7	8.4	8.4	8.6
Overall		B	B	B	B	B	B	A	A	A
		10.2	10.3	10.5	10.8	10.9	11.9	8.8	8.8	9.1

Table A - Level of Service Matrices

W. Market Street and Potter Alley

Time Period		Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			Saturday Midday Peak Hour		
Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year	
Development Condition		Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev
W. Market Street	Left	A	A	A	A	A	A	A	A	A
	EB Thru									
	Right	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1
	WB Thru									
Potter Alley	Left	A	A	A	A	A	A	A	A	A
	NB Thru									
	Right	0.0	0.0	0.6	0.0	0.0	1.6	0.0	0.0	2.1
	SB Thru									
Overall	Left	B	B	B	B	B	B	B	B	B
	NB Thru	10.9	11.0	11.4	10.7	10.8	10.9	10.0	10.0	10.3
Overall	Left	B	B	B	A	A	B	B	B	B
	SB Thru	10.4	10.5	11.1	9.8	9.9	10.6	10.0	10.0	10.6
Overall		A	A	A	A	A	A	A	A	A
		0.6	0.6	1.1	1.5	1.5	1.8	0.6	0.6	1.2

Table A - Level of Service Matrices
W. Market Street and New Street

Time Period		Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			Saturday Midday Peak Hour		
Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year	
Development Condition		Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev
W. Market Street	Thru	C	C	C	C	C	C	C	C	C
	EB Right	33.2	33.1	32.0	34.6	34.6	33.8	34.1	34.2	34.2
New Street	Left	A 5.9	A 6.1	A 7.1	A 4.8	A 4.9	A 5.7	A 4.3	A 4.4	A 4.9
	SB Left/Thru/Right	6.3	6.5	7.6	5.0	5.1	6.0	4.5	4.6	5.2
	Overall	B 14.1	B 14.2	B 15.2	B 12.1	B 12.2	B 13.1	B 12.5	B 12.6	B 13.6

Table A - Level of Service Matrices
Site Access and S. Wayne Street

Time Period		Weekday Morning Peak Hour	Weekday Afternoon Peak Hour	Saturday Midday Peak Hour
Year		2026 Build-Out Year	2026 Build-Out Year	2026 Build-Out Year
Development Condition		w/ Dev	w/ Dev	w/ Dev
Site Access	Left WB Right	A 9.0	B 10.6	A 9.6
	Thru NB Right	(1)	(1)	(1)
S. Wayne Street	Left SB Thru	A 1.3	A 2.4	A 2.1
	Overall	A 1.9	A 1.5	A 1.7

(1) Movement operates at free-flow conditions.

Table A - Level of Service Matrices
Site Access and Potter Alley

Time Period		Weekday Morning Peak Hour	Weekday Afternoon Peak Hour	Saturday Midday Peak Hour
Year		2026 Build-Out Year	2026 Build-Out Year	2026 Build-Out Year
Development Condition		w/ Dev	w/ Dev	w/ Dev
Site Access	Left EB Right	A 8.1	A 8.1	A 8.2
	Left NB Thru	A 1.6	A 1.5	A 1.3
Potter Alley	Thru SB Right	(1)	(1)	(1)
	Overall	A 5.6	A 2.8	A 3.3

(1) Movement operates at free-flow conditions.

Table B - 95th Percentile Queue Matrices

W. Market Street and New Street

Time Period		Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			Saturday Midday Peak Hour		
Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year		2023	2026 Build-Out Year	
Development Condition		Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev	Existing	w/o Dev	w/Dev
W. Market Street	Thru EB Right	263	268	295	220	225	248	210	215	238
	Left	105	108	125	95	98	115	68	70	80
New Street	SB Left/ Thru/ Right	130	135	153	108	110	128	83	85	98

Table B - 95th Percentile Queue Matrices
Site Access and S. Wayne Street

Time Period		Weekday Morning Peak Hour	Weekday Afternoon Peak Hour	Saturday Midday Peak Hour
Year		2026 Build-Out Year	2026 Build-Out Year	2026 Build-Out Year
Development Condition		w/ Dev	w/ Dev	w/ Dev
Site Access	Left WB Right	25	25	25
	Thru NB Right	-	-	-
S. Wayne Street	Left SB Thru	0	25	25

Table B - 95th Percentile Queue Matrices
Site Access and Potter Alley

Time Period		Weekday Morning Peak Hour	Weekday Afternoon Peak Hour	Saturday Midday Peak Hour
Year		2026 Build-Out Year	2026 Build-Out Year	2026 Build-Out Year
Development Condition		w/ Dev	w/ Dev	w/ Dev
Site Access	Left EB Right	25	0	0
	Left NB Thru	0	0	0
Potter Alley	Thru SB Right	-	-	-

Existing Transportation Settings and Conditions

The proposed development will be located along the south side of W. Market Street between Wayne Street and Potter Alley in the Borough of West Chester, Chester County, Pennsylvania (**Figure 1**). The existing roadways and intersections in the vicinity of the site, which comprise the study area roadway network, are described in this section.

Roadway Characteristics

The study area roadway network and characteristics are summarized below in **Table 1**.

Table 1. Existing Roadway Characteristics

Roadway Name (Jurisdiction)		Average Daily Traffic Volumes (vehicles per day)	Roadway Classification		Travel Lanes (per direction)	Posted Speed Limit (mph)
			Smart Transportation ⁽¹⁾	PennDOT ⁽²⁾		
W. Market Street	West of New Street (Borough)	n/a	Local	Local	1	25
	East of New Street (State – SR 0003)	10,956 ⁽³⁾	Community Arterial	Urban – Principal Arterial	2 (One-Way)	25
N. New Street	North of W. Market Street (State – SR 0003)	10,956 ⁽³⁾	Community Arterial	Urban – Principal Arterial	2 (One-Way)	25
S. New Street	South of W. Market Street (Borough)	2,213 ⁽³⁾	Community Collector	Urban – Major Collector	1	25
Wayne Street	(Borough)	n/a	Local	Local	1	25

(1) Based on Table 1.2 – Roadway Typologies in the PennDOT *Publication 13M, Design Manual Part 2*.

(2) Based on the roadway classifications provided on PennDOT’s Traffic Information Repository (TIRe) website.

(3) Based on traffic data from PennDOT’s Traffic Information Repository (TIRe) website.

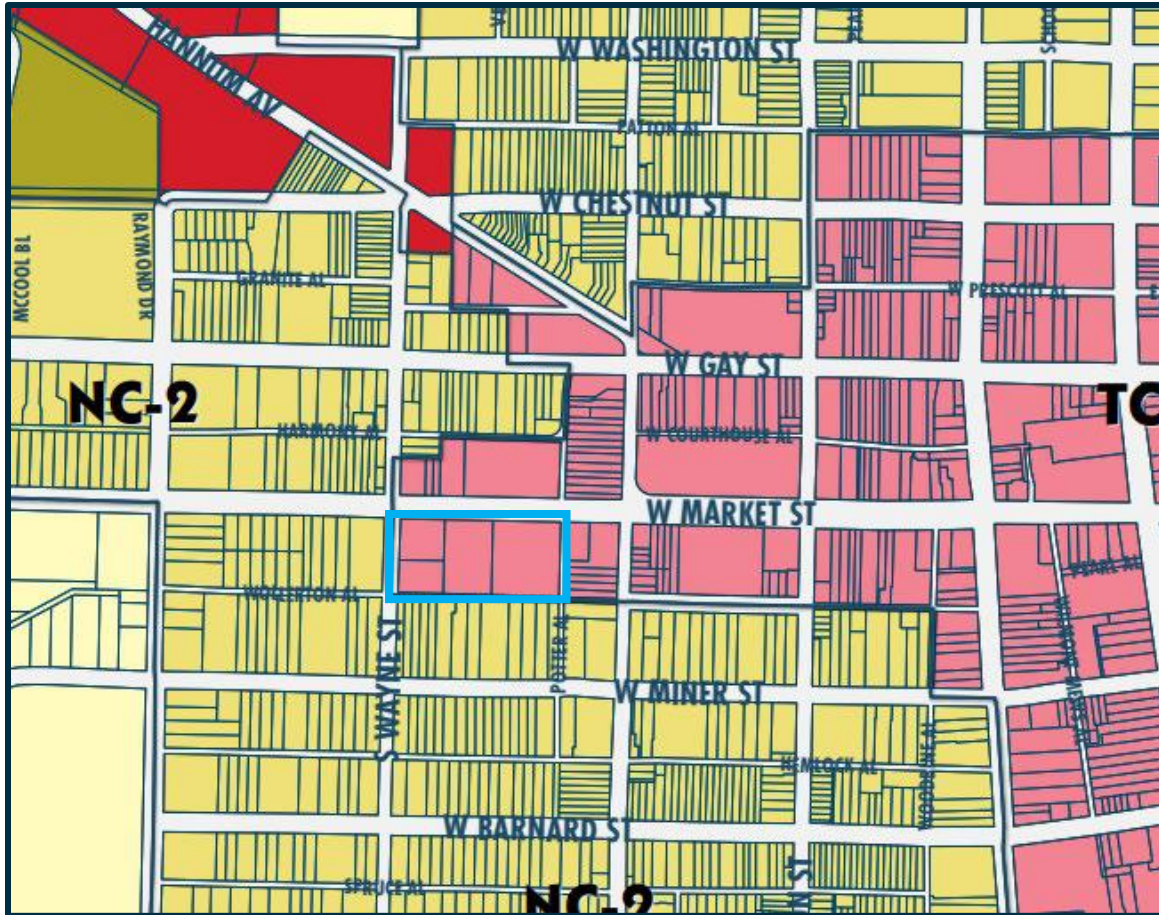
The following key intersections in the vicinity of the site comprise the study area:

- W. Market Street and Wayne Street
- W. Market Street and Potter Alley
- W. Market Street and New Street

The existing characteristics of the study intersections, including photographs, field sketches, and signal permit plans are provided in **Appendix A**.

Land Use Context

The proposed development is located in the Borough of West Chester, within the TC – Town Center zoning district as seen in the Borough of West Chester Zoning Map below.



Source: Borough of West Chester Zoning Map, dated December 9, 2020

Area Transit Services

The West Chester Transportation Center is located along W. Market Street approximately 500 feet east of the site which provides access to SEPTA Bus Routes 92 (West Chester Transportation Center to King of Prussia), 104 (West Chester University to 69th Street Transportation Center), and 135 (Coatesville to West Chester Transportation Center) as well as TMACC's SCCOOT Bus (Oxford to West Chester).

Pedestrian-Bicycle Facilities

Sidewalk is currently provided along both sides of W. Market Street and New Street, providing a direct connection to the expansive sidewalk network within the Borough of West Chester permitting direct access to the various commercial and recreational uses within the Borough. The proposed development will provide sidewalk along the property site frontage along W. Market Street and Wayne Street.

Traffic Count Data

Daily traffic counts were obtained from PennDOT's Traffic Information Repository (TIRe) website. The traffic count data is provided in **Appendix B**.

Turning movement traffic counts were conducted in February 2023 during the weekday morning (7:00 AM – 9:00 AM), weekday afternoon (4:00 PM – 6:00 PM), and Saturday midday (11:00 AM – 1:00 PM) peak periods. The results of these traffic counts are tabulated by 15-minute intervals in **Appendix C**. The four highest consecutive 15-minute peak intervals during these traffic count periods constitute the peak hours that are the basis of this traffic analysis.

The resultant peak hour traffic volumes are depicted in **Figure 3A** for the weekday morning, weekday afternoon, and Saturday midday peak hours. The traffic volumes in Figure 3A were then analyzed to determine the existing operating conditions, and the results of this analysis are shown in **Figure 3B**. Specific details regarding the analysis results and traffic operations are provided later in this report.

Site Characteristics

This section presents the details regarding the proposed site, including the incremental increase in traffic volumes generated by the development during the peak hours and the distribution of site traffic to the study area roadways, as well as the proposed site access configuration, traffic control, and sight distance requirements.

Trip Generation

Traffic volumes generated by the proposed development were prepared based on trip generation data compiled from numerous studies contained in the Institute of Transportation Engineers (ITE) publication, *Trip Generation, 11th Edition*. **Tables 2A and 2B** presents the anticipated vehicular trip generation for the proposed development.

Table 2A. Trip Generation Methodology

Land Use	Land Use Code	Daily	Weekday Morning Peak Hour		Weekday Afternoon Peak Hour		Saturday Midday Peak Hour	
			Method	Enter/Exit	Method	Enter/Exit	Method	Enter/Exit
Multifamily Housing (Mid-Rise)	221	$T = 4.54 (X)$	$T = 0.44(X) - 11.61$	23% / 77%	$T = 0.39(X) + 0.34$	61% / 39%	$\ln(T) = 1.00$ $\ln(X) - 0.91$	51% / 49%
Strip Retail Plaza	822	$T = 54.45 (Y)$	$\ln(T) = 0.66$ $\ln(Y) + 1.84$	60% / 40%	$\ln(T) = 0.71$ $\ln(Y) + 2.72$	50% / 50%	$T = 6.57 (Y)$	51% / 49%

X = Independent Variable (units) | Y = Independent Variable (ksf) | T = Trips

Table 2B. Vehicular Trip Generation

Land Use	Size	Daily	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			Saturday Midday Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Apartments	185 units	840	16	54	70	44	28	72	38	36	74
Retail	3,980 square feet	217	9	7	16	20	20	40	13	13	26
TOTAL		1,057	25	61	86	64	48	112	51	49	100

(1) ITE Land Use Code 221 for Multifamily Housing (Mid-Rise).

(2) ITE Land Use Code 822 for Strip Retail Plaza (<40k).

This trip generation should be considered conservative as:

- A reduction was not taken to account for pedestrian and bicycle trips of residents which would patronize the commercial, retail, and recreational uses within the Borough.
- A reduction was not taken to account for residents who may use public transit accessible within the West Chester Transportation Center to the east of the site.
- A reduction was not taken for pass-by trips for the retail portion of the site.

Trip Distribution and Assignment

Site-generated traffic will approach and depart the site via different routes depending on factors such as the existing traffic patterns, location of major roadways, and the location of the development’s site access. The distribution percentages for the anticipated directions of approach and departure and traffic assignment percentages are illustrated in **Figures 4A and 4B**. Application of the percentages illustrated in Figures 4A and 4B to the new peak hour trips contained in Table 2B, provides an estimate of site traffic to be added to the study area. The site-generated traffic is also shown in **Figure 4C through 4E** for the weekday morning, weekday afternoon, and Saturday midday peak hours.

Site Access Configuration and Traffic Control

Access to the site is proposed via one unsignalized driveway located along S. Wayne Street, approximately 125 feet south of W. Market Street which provides access to the lower-level parking garage and one unsignalized driveway located along Potter Alley, approximately 185 feet south of W. Market Street which provides access to the upper-level parking garage. Internal connection between the upper and lower parking garages is not proposed. The recommendations for the proposed access designs, including auxiliary turn lanes, traffic control, and geometric design, were based on industry accepted criteria and guidelines.

The need for left- and right-turn deceleration lanes was based on the current PennDOT guidelines in accordance with *Publication 46, Chapter 11 – Traffic Studies*. **Table 3** summarizes the results of the auxiliary turn lane warrants for the site access intersection along S. Wayne Street.

Table 3 – Turn Lane Warrant Summary

Intersection	Auxiliary Lane Warrant	Warrant Satisfied? ⁽¹⁾	Required Lane Length ⁽¹⁾	Proposed Lane Length
Site Access and S. Wayne Street	Northbound Right	NO	Not Required	N/A
	Southbound Left	NO	Not Required	N/A

(1) Based on PennDOT Publication 46, *Traffic Engineering Manual*, Chapter 11.16

The various warrant/guideline analysis worksheets are contained in **Appendix D**.

Additionally, the geometric design of the proposed site accesses were preliminarily evaluated based on guidelines contained in the *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads*, as well as local PennDOT District policies.

Based on the results of this evaluation, the following access configurations and traffic controls are recommended, subject to the detailed engineering of the site accesses:

Site Access and S. Wayne Street

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Site Access and Potter Alley

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Sight Distance

Sight distance field measurements and an evaluation were performed at the proposed access intersections along S. Wayne Street and Potter Alley. Generally, the travel speed, roadway grades and profiles, and the number of travel lanes play a role in determining if safe sight distances are available for egress and ingress at the proposed accesses. The existing sight distances at the proposed access intersections were measured and compared to PennDOT’s sight distance requirements. As noted within the Borough Ordinance, these sight distance requirements are contained in *Pennsylvania Code, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads*.

Table 4A and 4B summarizes the available sight distance measurements, as well as PennDOT’s sight distance requirements at the proposed access locations.

**Table 4A. Sight Distance Evaluation
Site Access and S. Wayne Street**

Movement	Direction	Posted Speed (mph)	Approximate Grade	PennDOT Requirements (feet)		Available Sight Distance (feet)
				Desirable ⁽¹⁾	Minimum ⁽²⁾	
Exiting	Looking Left	25	-2.8%	250	169	300+ ⁽³⁾
	Looking Right	25	+2.6%	195	156	105+ ⁽⁴⁾
Left turn	Looking Ahead	25	-2.8%	300	169	335+
Entering	From the Rear	25	+2.6%	n/a	156	105+

(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 the posted speed limit, unless otherwise noted.

(3) Distance measured to the intersection of S. Wayne Street and W. Miner Street.

(4) Distance measured to the intersection of W. Market Street and S. Wayne Street (vehicles approaching from stop condition).

**Table 4B. Sight Distance Evaluation
Site Access and Potter Alley**

Movement	Direction	Assumed Speed (mph)	Approximate Grade	PennDOT Requirements (feet)		Available Sight Distance (feet)
				Desirable ⁽¹⁾	Minimum ⁽²⁾	
Exiting	Looking Left	25	+1.7%	250	158	165+ ⁽³⁾
	Looking Right	25	-2.6%	195	168	40+ ⁽⁴⁾
Left turn Entering	Looking Ahead	25	+1.7%	300	158	200+ ⁽³⁾
	From the Rear	25	-2.6%	n/a	168	40+ ⁽⁴⁾

- (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 the posted speed limit, unless otherwise noted.
- (3) Distance measured to the intersection of Potter Alley and W. Market Street.
- (4) Distance measured to the intersection of Potter Alley and Wollerton Street (vehicles approaching from stop condition).

As shown in Tables 4A and 4B, some of the sight distance measurements were measured to an existing intersection which creates a need for a vehicle to accelerate from a stop due to existing traffic control, resulting in a vehicle speed significantly lower than the posted or assumed travel speed of vehicles. Proper landscaping must be maintained along the site frontage of S. Wayne Street and Potter Alley for provision of sight distances according to the above tables. The actual available sight distances should be verified during detailed engineering of the site accesses.

Future Traffic Conditions

This section presents the 2026 future build-out year and traffic conditions, both without and with the proposed development, which is anticipated to be completed and occupied by 2026. The future 2026 build-out without-development traffic volumes were estimated by increasing the existing 2023 traffic volumes to account for regional growth, as described below. The incremental increase due to the anticipated trip generation for the site was then added, resulting in the future 2026 build-out year with-development traffic volumes.

Regional Traffic Growth

To account for regional traffic growth, the existing traffic volumes were increased by an annual traffic growth rate of 0.54 percent per year compounded for three years to 2026, or 1.63 percent total to 2026. This growth rate is consistent with the traffic growth rate recommended by the PennDOT Bureau of Planning and Research *Growth Factors for August 2022 and July 2023* for similar, Urban Non-Interstate roadways in Chester County.

Local Traffic Growth

There are no significant land development projects in the area which would add traffic to the study area.

Planned Roadway Improvements

The Borough is currently in the process of modernizing the existing traffic signal system within the Borough. While these improvements will improve traffic operations, they are not anticipated to significantly affect the study intersections.

Future Traffic Conditions

The total background growth and nearby approved development traffic volumes were then added to the existing 2023 traffic volumes, resulting in the future 2026 without-development traffic volumes. Next, the site generated traffic volumes, as shown in Figure 4E, were added to the future 2026 without-development traffic volumes, resulting in the future 2026 with-development traffic volumes.

The resultant future 2026 peak hour traffic volumes without development are illustrated in **Figure 5A**, and the future 2026 with-development peak hour traffic volumes are illustrated in **Figure 5B** for the weekday morning, weekday afternoon, and Saturday midday peak hours. These traffic volumes were then analyzed to determine the future 2026 without and with development traffic operating conditions, and the results of this analysis are shown in **Figures 5C and 5D**.

Traffic volume projection worksheets are provided in **Appendix E**.

Capacity/Level-of-Service Results

The peak hour traffic volumes were analyzed to determine the existing and future traffic operating conditions, both without and with the proposed development, in accordance with the standard techniques contained in the current *Highway Capacity Manual (6th Edition)* for both signalized and unsignalized intersections. The HCM 6th Edition Methodology within Synchro 11.1 (build 2, rev. 9) traffic analysis software was utilized in the traffic analyses.

These standard capacity/level-of-service analysis techniques, which calculate total control delay, are described in **Appendix F** for both signalized and unsignalized intersections, as well as the correlation between average total control delay and the respective level-of-service (LOS) criteria for each intersection type.

According to PennDOT's Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permit Plans, the following procedures and assumptions were utilized:

- For signalized intersections, the Pennsylvania base saturation flow rate (Exhibit 10-9) and Pennsylvania traffic signal control calibration parameters (Exhibit 10-10) outlined in PennDOT's *Publication 46, Traffic Engineering Manual*, were used.
- For unsignalized intersections, the base critical headways at TWSC intersections (Exhibit 10-11) and base follow-up headways at TWSC intersections (Exhibit 10-12) outlined in PennDOT's *Publication 46, Traffic Engineering Manual*, were used.
- All traffic signal timings at signalized intersections were optimized in without-development conditions.
- If the evaluation of without-development to with-development conditions indicates that the overall intersection level-of-service has dropped, mitigation will be required if the increase in delay is greater than 10 seconds. If the overall intersection delay increase is less than or equal to 10 seconds, mitigation of the intersection will not be required.

The existing, future 2026 build-out year traffic conditions, both without and with the proposed development, are summarized in **Figures 3B, 5C, 5D**, respectively while the detailed capacity/level-of-service analysis worksheets are provided in **Appendices G, H, and I**. As stated in the Executive Summary, the level-of-service and queue matrices are provided in **Tables A and B**.

As illustrated in **Figures 3B, 5C, and 5D**, with the proposed site and with the site related improvement recommendations, all study intersections will satisfy the Borough's level-of-service criteria, and therefore, mitigation improvements are not required. **Table 5** below summarizes the overall levels of service for the study, and the detailed results of the level-of-service analysis are contained in the matrices provided in **Table A**.

**Table 5. Overall Intersection Levels-of-Service
2026 Future Weekday Morning Peak Hour**

Intersection	Overall Level-of-Service (Delay in Seconds)		Delay Increase	Requires Mitigation ⁽¹⁾
	Without Development	With Development		
W. Market Street and Wanye Street	B (10.3)	B (10.5)	No LOS Drop	NO
W. Market Street and Potter Alley	A (0.6)	A (1.1)	No LOS Drop	NO
W. Market Street and New Street	B (14.2)	B (15.2)	No LOS Drop	NO

Weekday Afternoon Peak Hour

Intersection	Overall Level-of-Service (Delay in Seconds)		Delay Increase	Requires Mitigation ⁽¹⁾
	Without Development	With Development		
W. Market Street and Wanye Street	B (10.9)	B (11.9)	No LOS Drop	NO
W. Market Street and Potter Alley	A (1.5)	A (1.8)	No LOS Drop	NO
W. Market Street and New Street	B (12.2)	B (13.1)	No LOS Drop	NO

Saturday Midday Peak Hour

Intersection	Overall Level-of-Service (Delay in Seconds)		Delay Increase	Requires Mitigation ⁽¹⁾
	Without Development	With Development		
W. Market Street and Wanye Street	A (8.8)	A (9.1)	No LOS Drop	NO
W. Market Street and Potter Alley	A (0.6)	A (1.2)	No LOS Drop	NO
W. Market Street and New Street	B (12.6)	B (13.6)	No LOS Drop	NO

(1) As detailed in §97-38.2F(7)(c) of the Borough ordinance.

Queuing Analysis

A queuing analysis was completed at the study intersections based on the HCM 6th Edition methodology. Based on the queue analysis, the future with-development vehicular queues will remain unchanged or increase by less than two vehicle lengths compared to future without-development conditions.

Matrices summarizing the results of the queuing analysis are provided in **Table B**.

Conclusions and Recommendations

As detailed herein, in the future with the proposed development, all study intersections will operate at the same level-of-service between future without- and future with-development and at level-of-service B or better overall and C or better by movement, and therefore, mitigation improvements are not required based on the Borough ordinance.

The following improvements are proposed in conjunction with the proposed development:

Site Accesses

Site Access and S. Wayne Street

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Site Access and Potter Alley

- Classified as a low volume driveway based on the anticipated daily traffic volumes.
- Provide one ingress lane and one egress lane at the site driveway.
- Provide appropriate corner radius length, which shall be verified based on the largest vehicle anticipated to utilize the garage.
- Provide ADA compliant pedestrian facilities to cross the site access.
- Provide stop control for the access approach.

Pedestrian Improvements

- Provide continuous sidewalk along the W. Market Street and S. Wayne Street site frontages.
- Provide ADA complaint pedestrian facilities to cross the south leg of the W. Market Street and Potter Alley intersection.
- Provide ADA complaint pedestrian facilities to cross the east leg of the S. Wayne Street and Wollerton Street intersection.

The traffic analyses contained herein reveal that efficient access to and from the proposed development can be provided, and furthermore, site-generated traffic can be accommodated at the study area intersections.

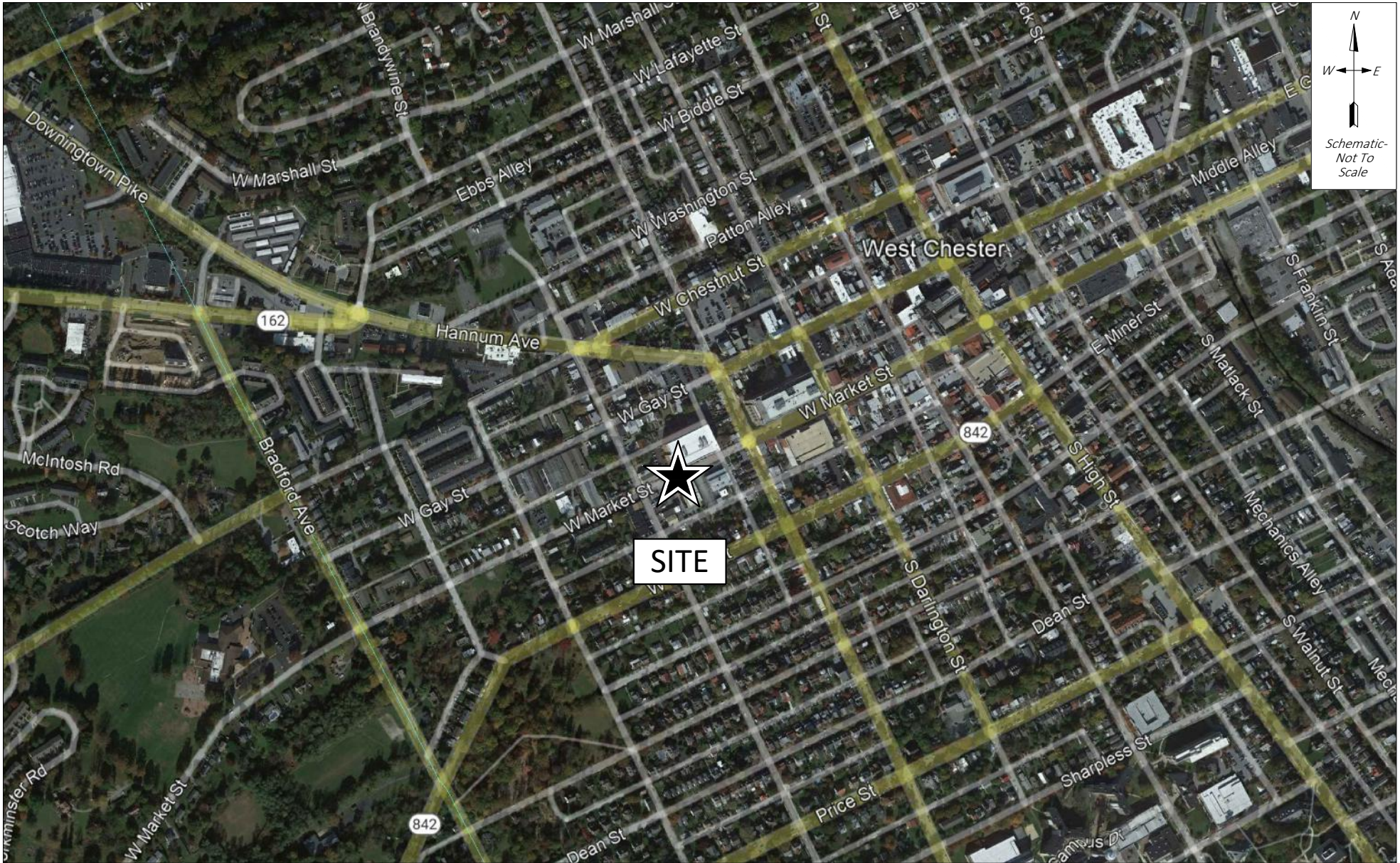


FIGURE 1
Site Location Map
330 W. MARKET STREET
BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

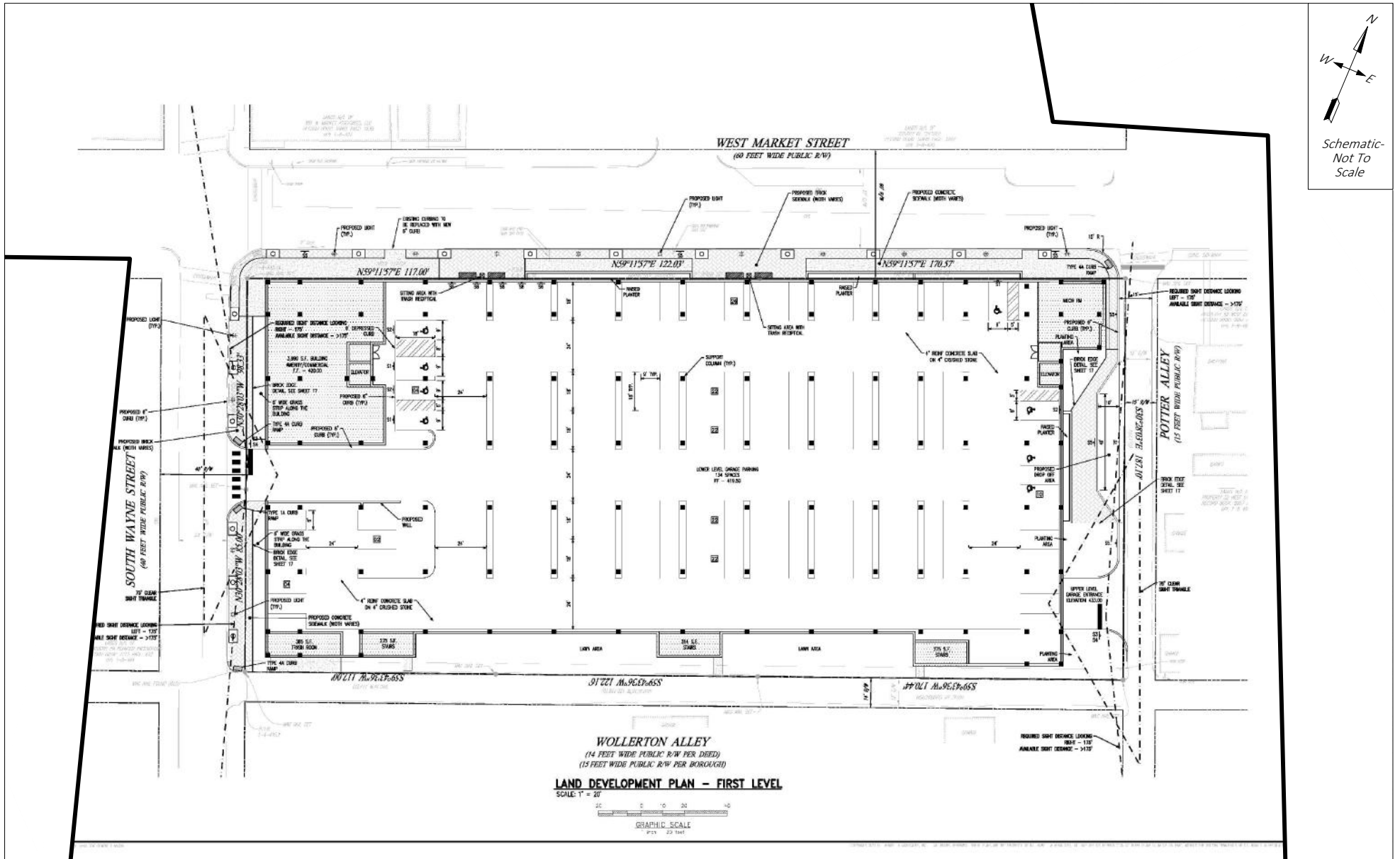


FIGURE 2
Site Plan
330 W. MARKET STREET
BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

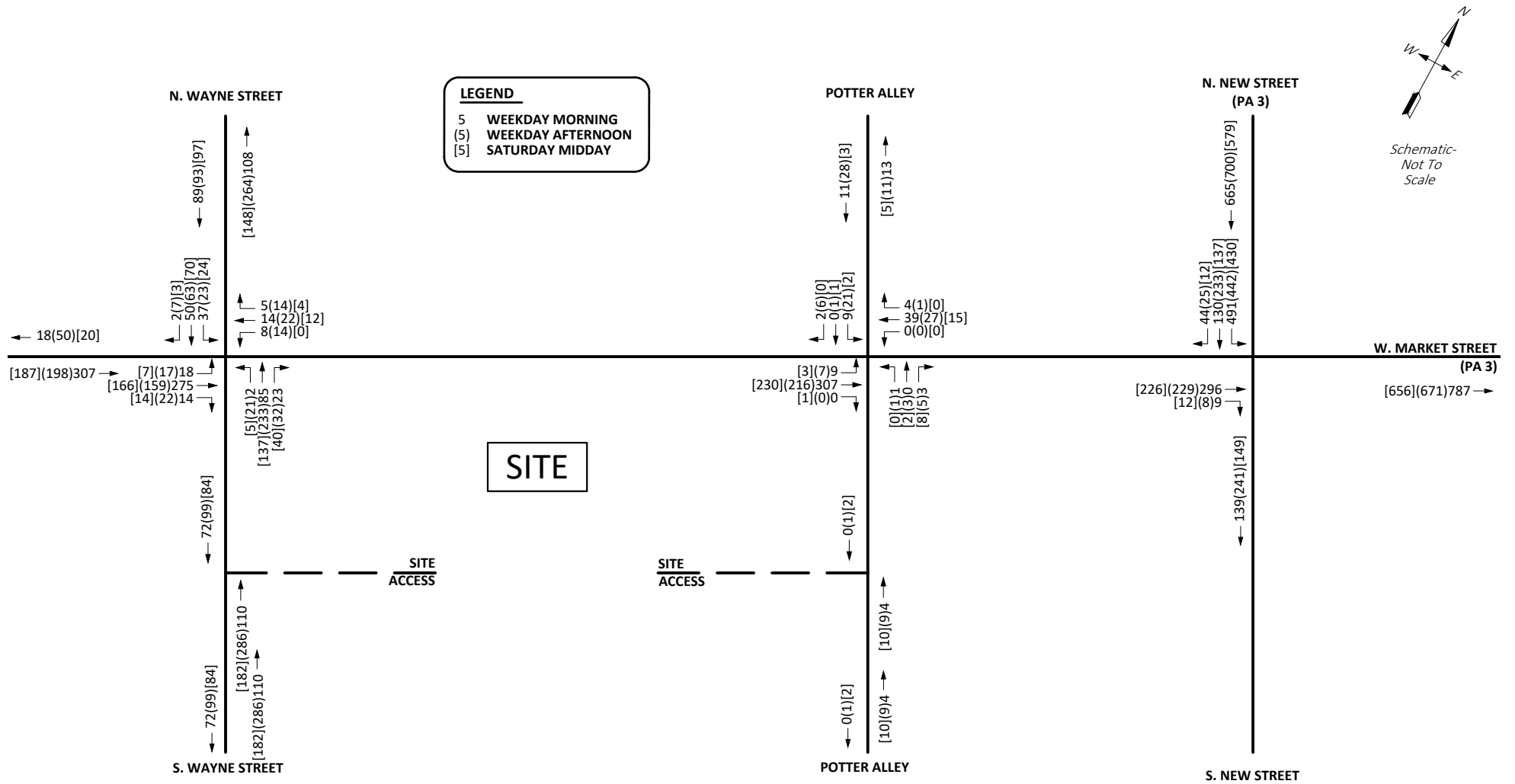


FIGURE 3A
 2023 Existing Peak Hour Traffic Volumes
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

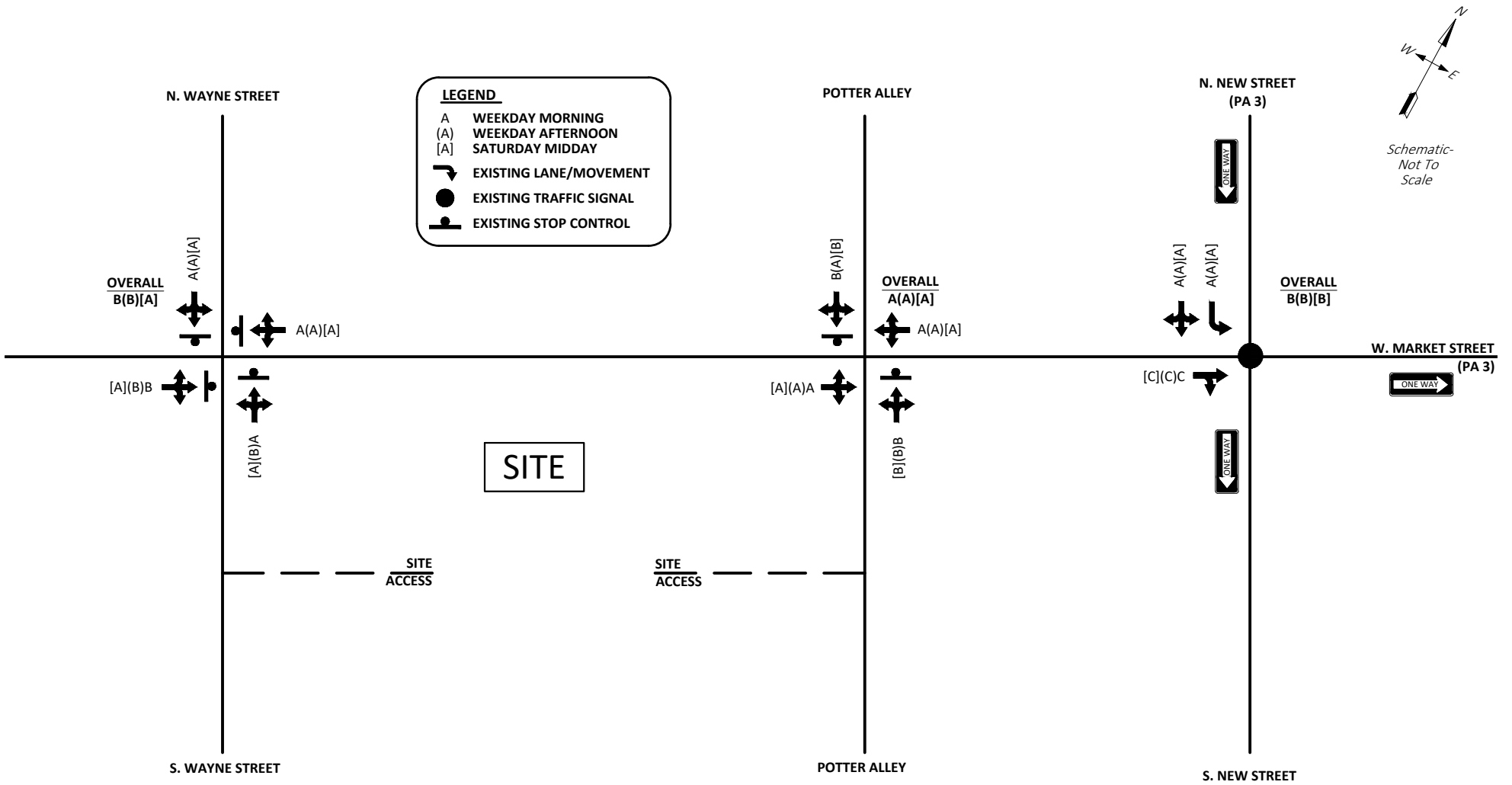


FIGURE 3B
 2023 Existing Peak Hour Levels-of-Service
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

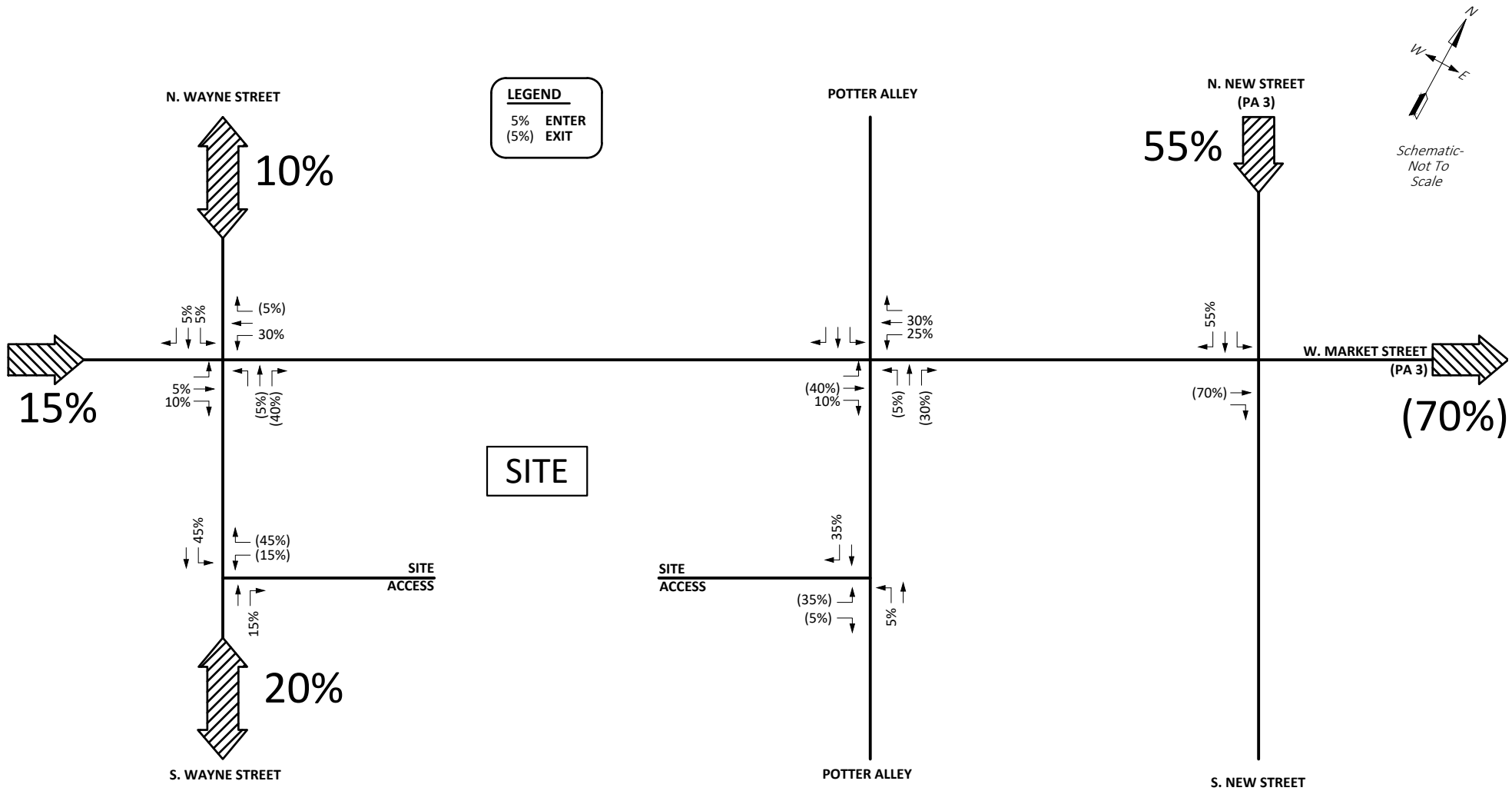


FIGURE 4A
 New Site Trip Distribution - Residential
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

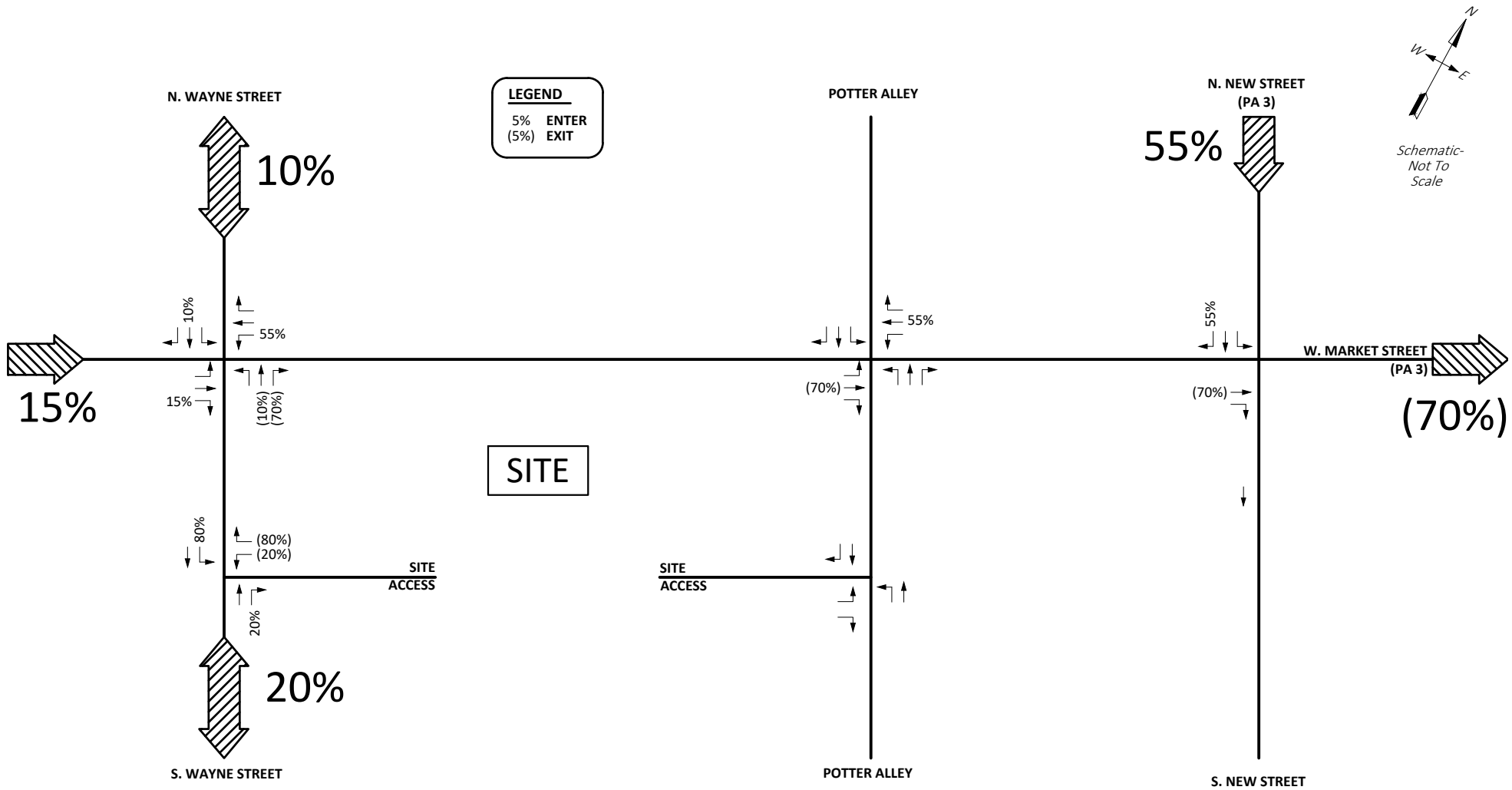


FIGURE 4B
 New Site Trip Distribution - Retail
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA



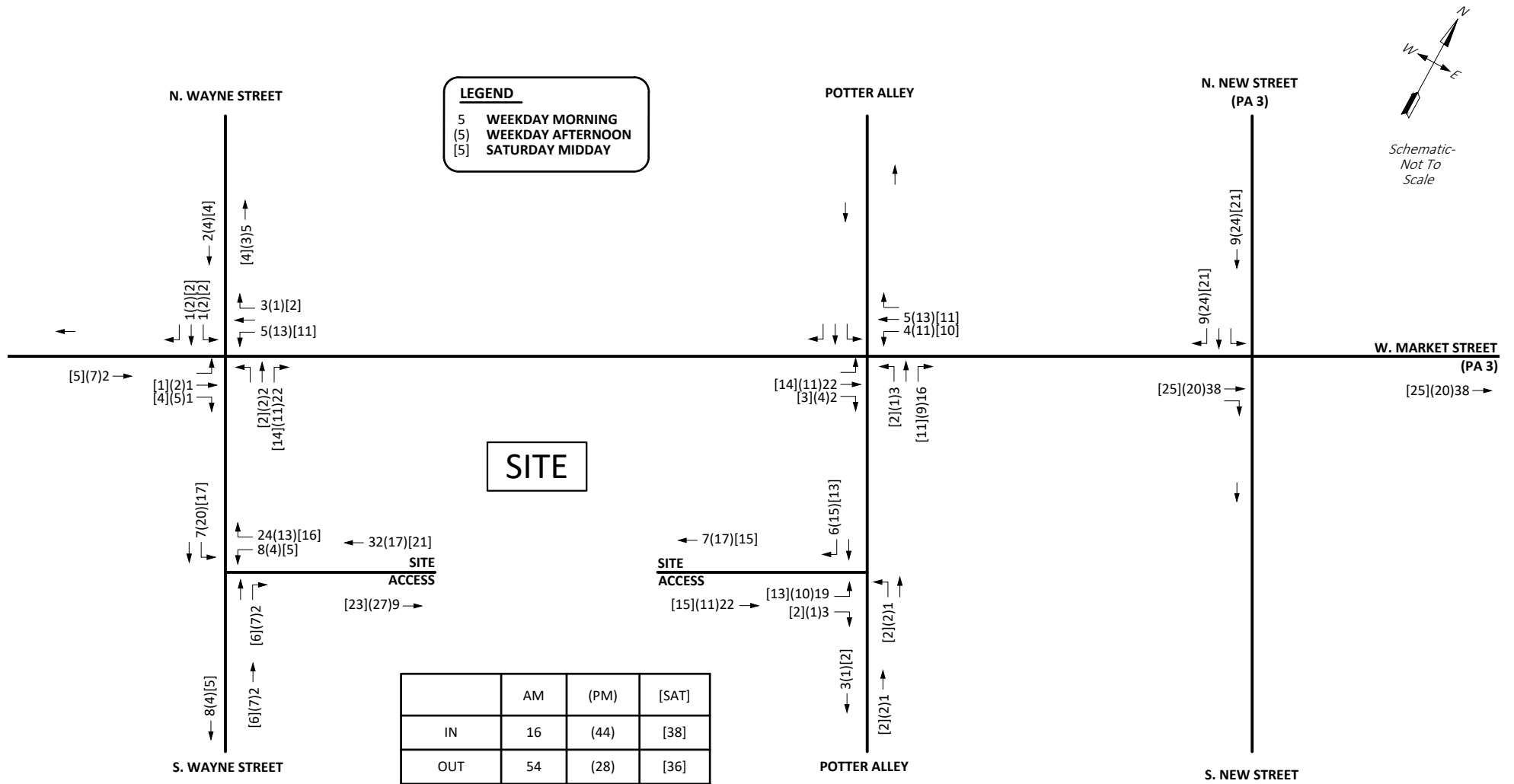


FIGURE 4C
 New Site Trip Assignment - Residential
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

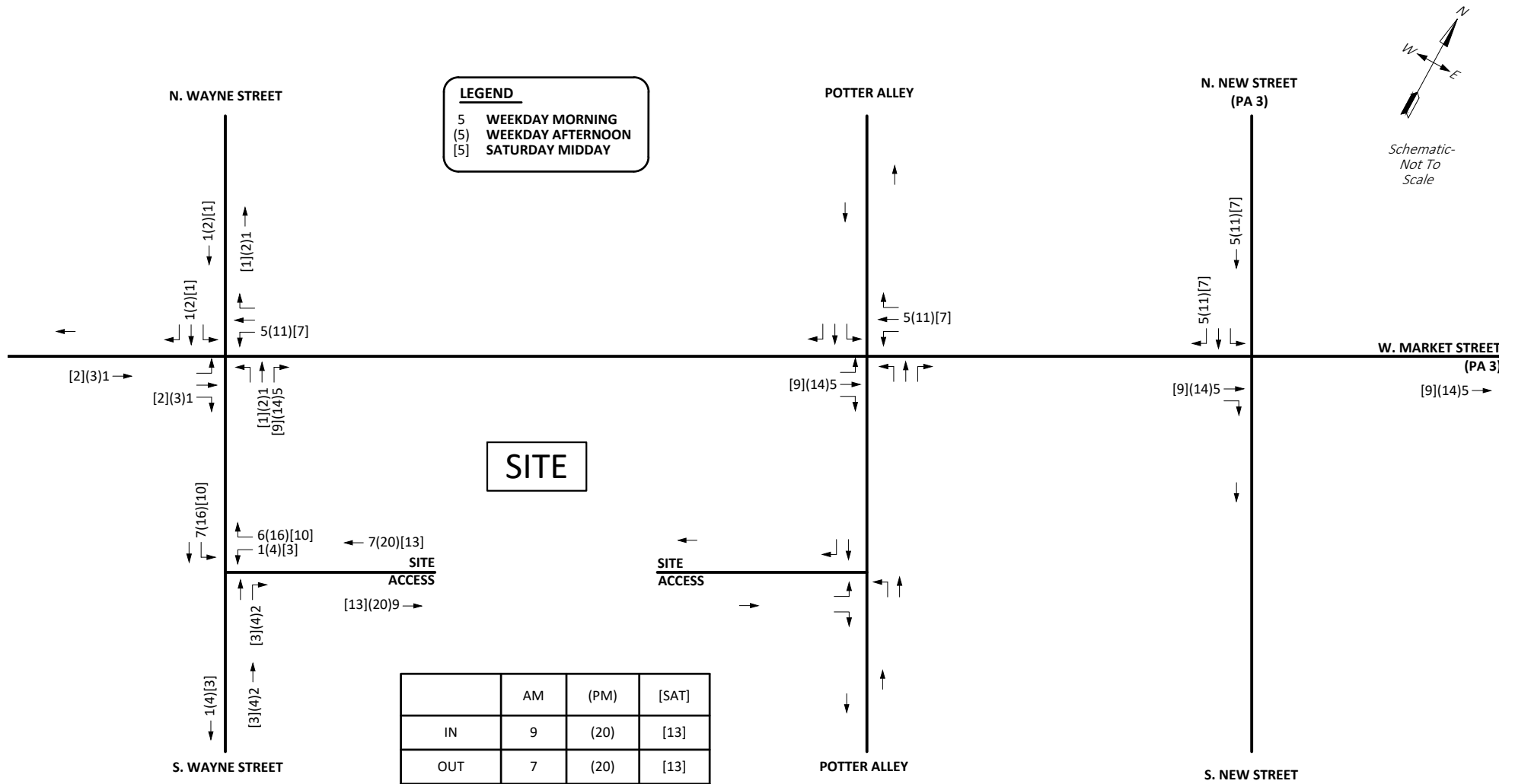
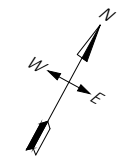
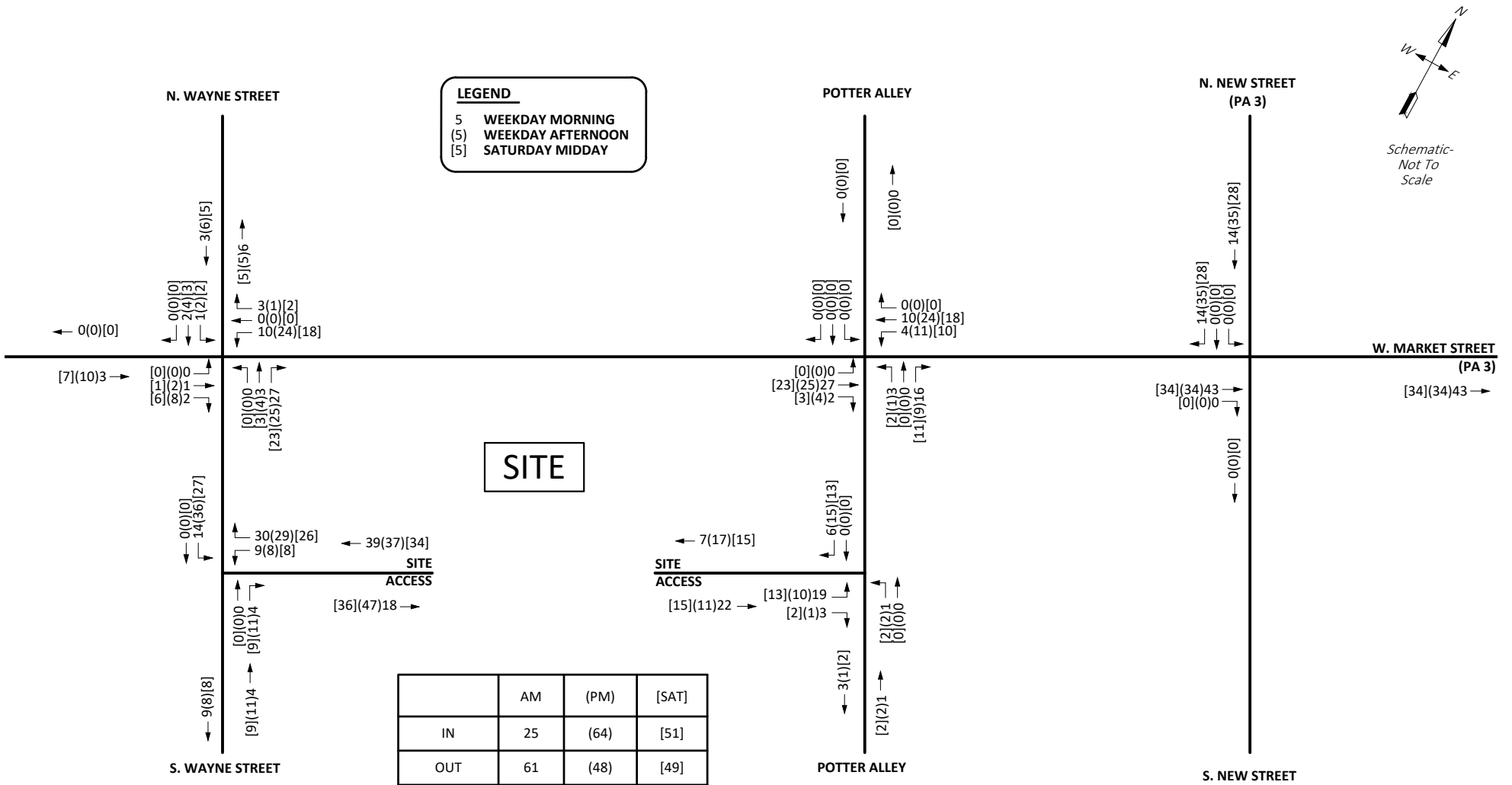


FIGURE 4D
 New Site Trip Assignment - Retail
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA



Schematic - Not To Scale

FIGURE 4E
 Total New Site Trip Assignment
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA



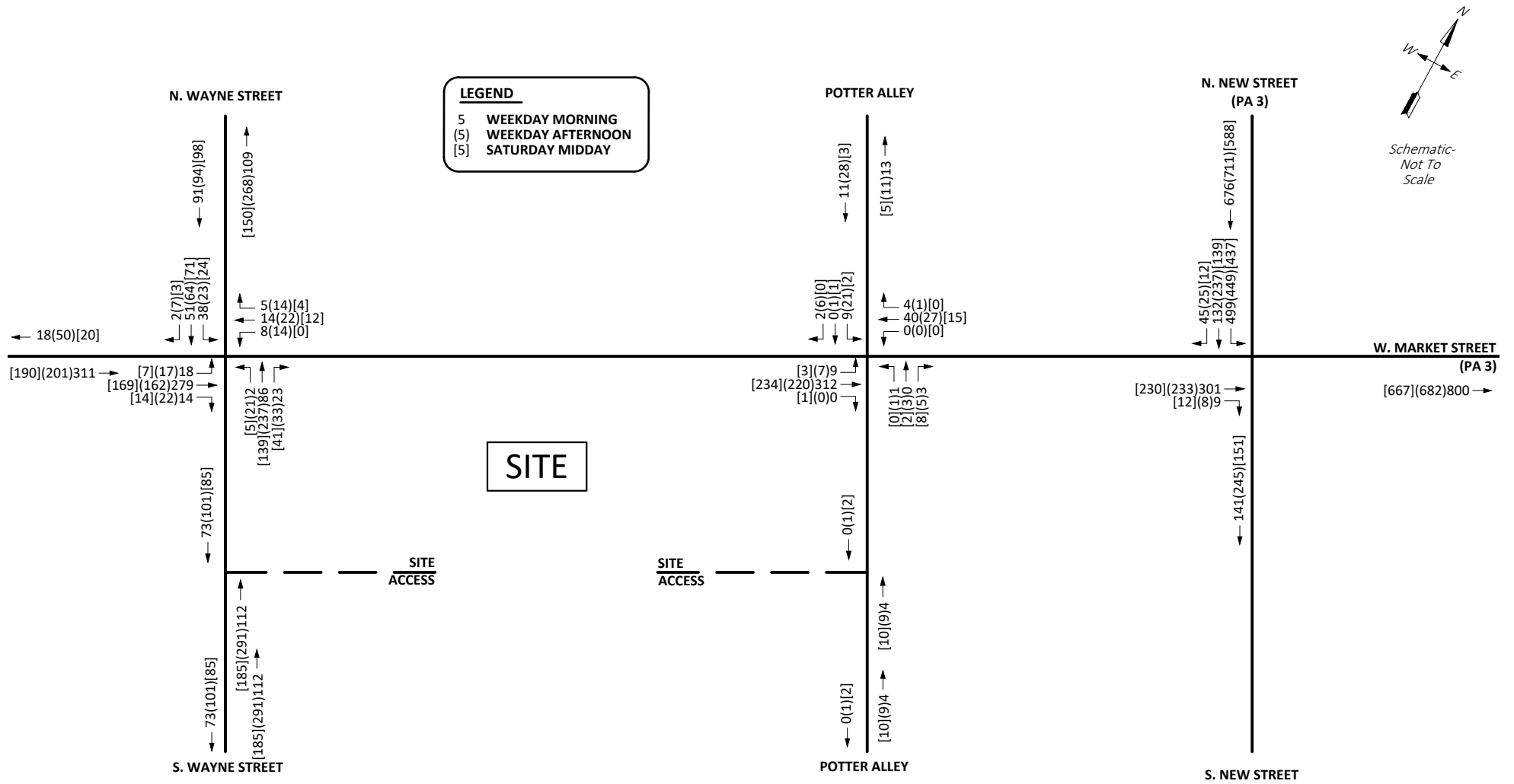


FIGURE 5A
 2026 Future without Development Peak Hour Traffic Volumes
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

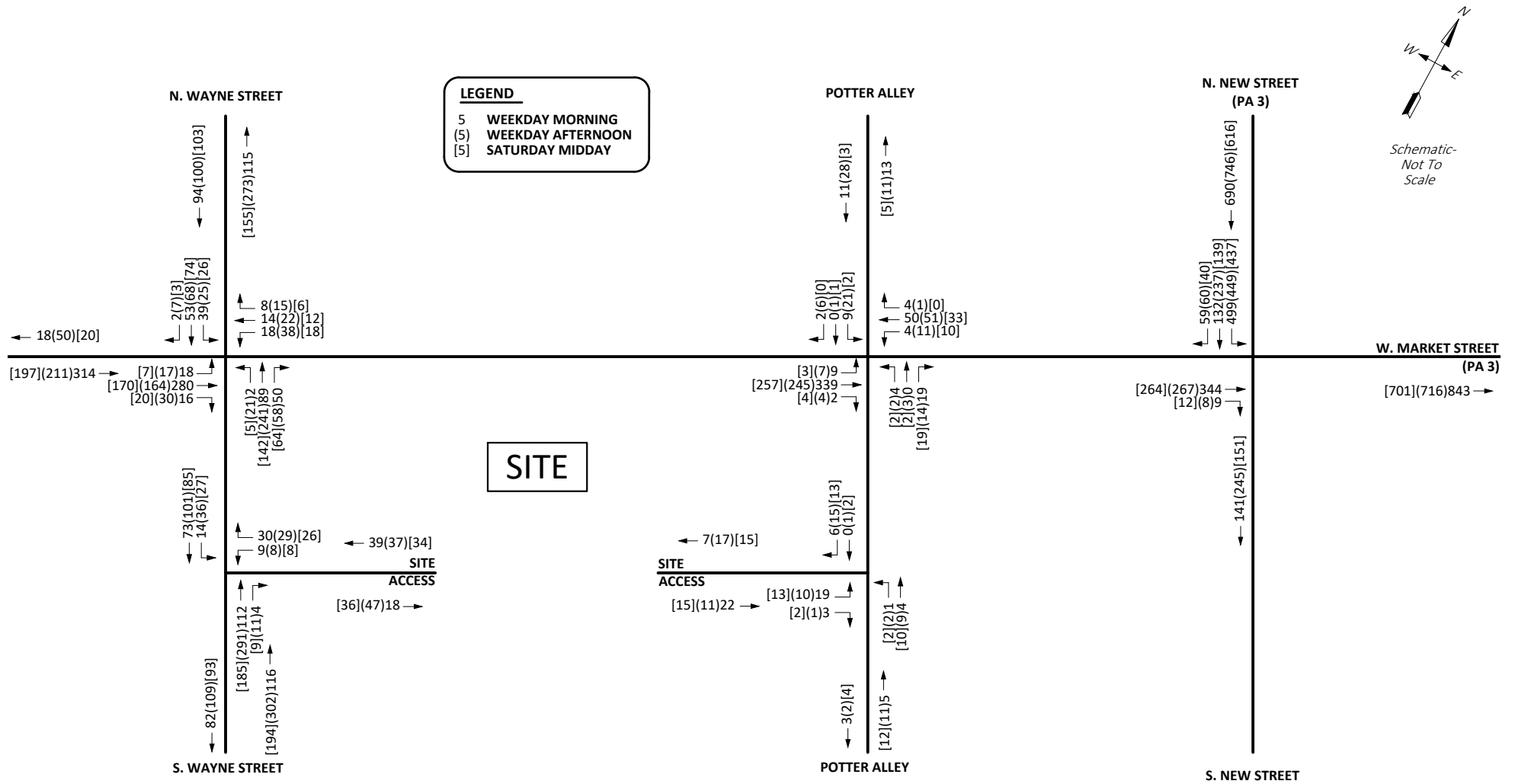


FIGURE 5B
 2026 Future with Development Peak Hour Traffic Volumes
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA



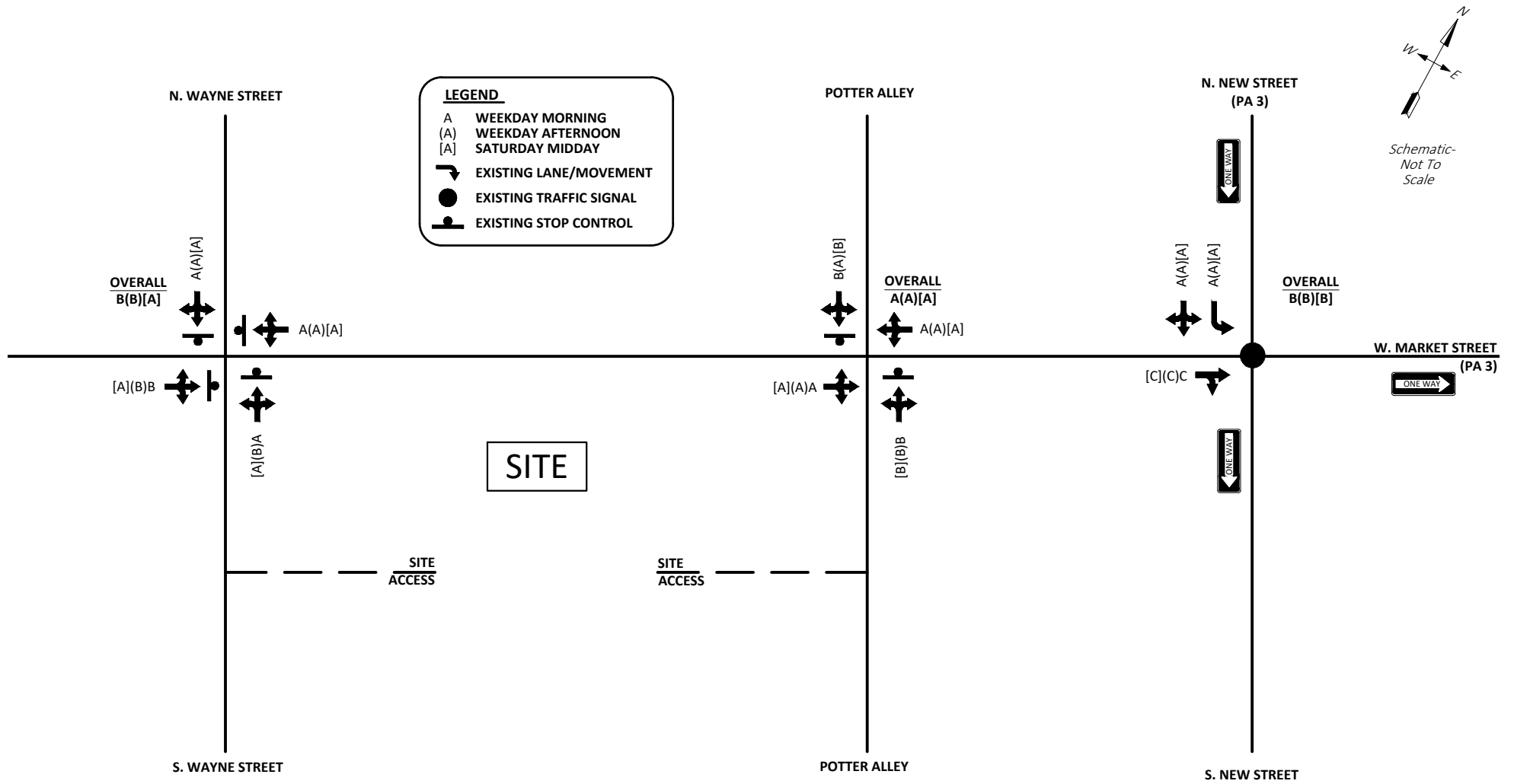


FIGURE 5C
 2026 Future without Development Peak Hour Levels-of-Service
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA

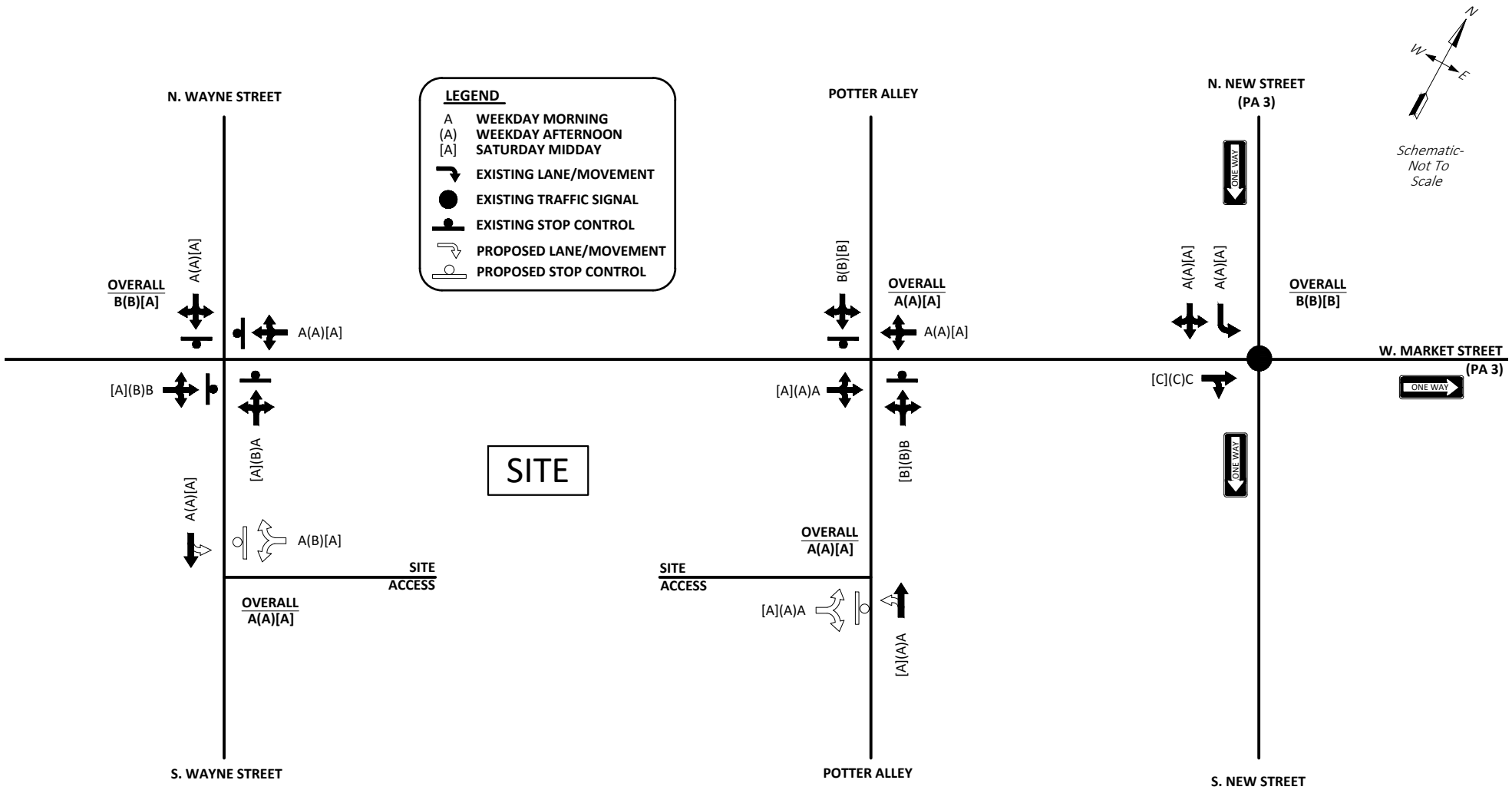


FIGURE 5D
 2026 Future with Development Peak Hour Levels-of-Service
330 W. MARKET STREET
 BOROUGH OF WEST CHESTER, CHESTER COUNTY, PA



Appendix A

Intersection Inventory

Job 330 West Market Street

McMahon Project No. 822667

Sheet 1 of 5

Description Market Street +

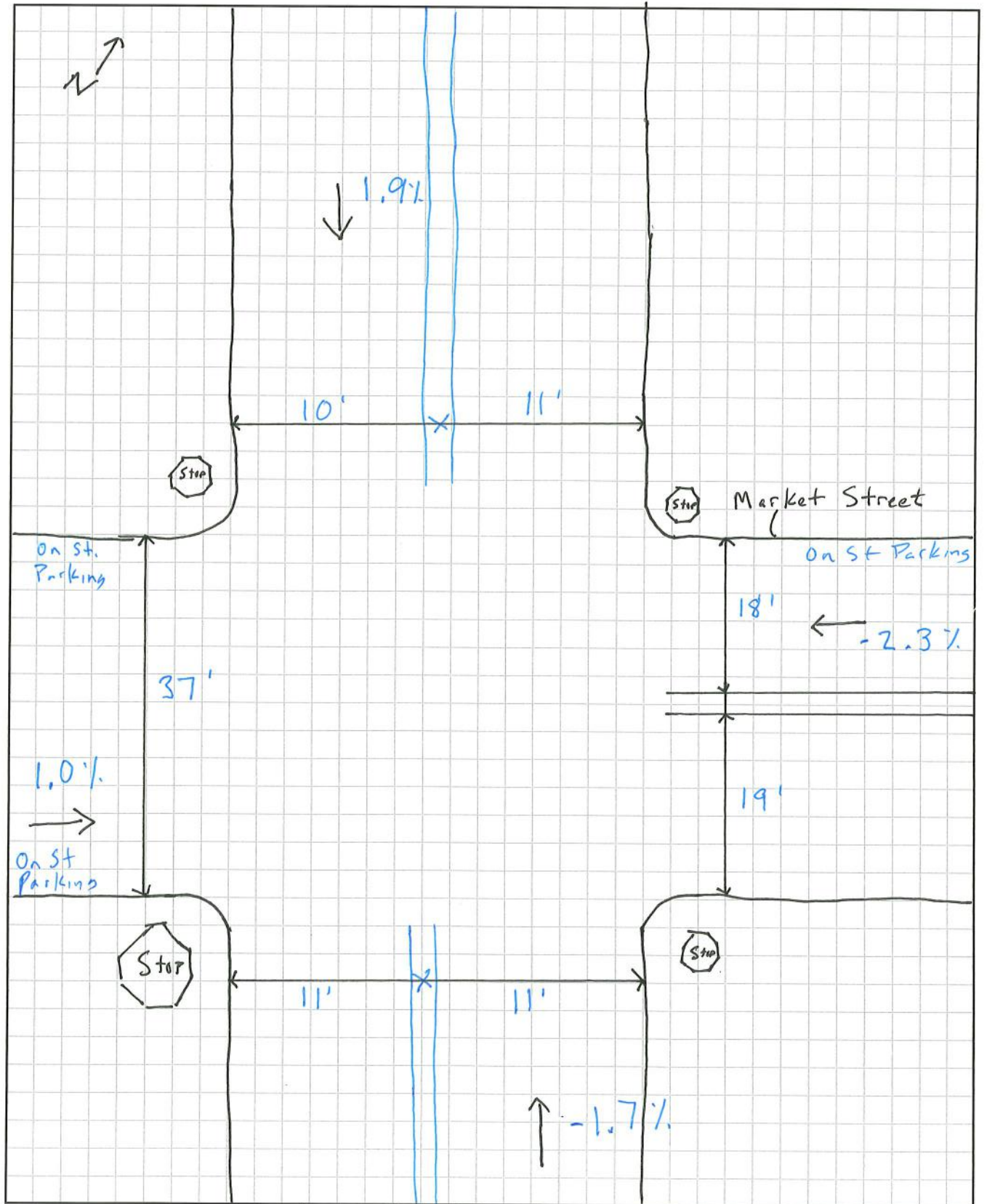
Designed By VSA

Date 2/24/23

Wayne Street

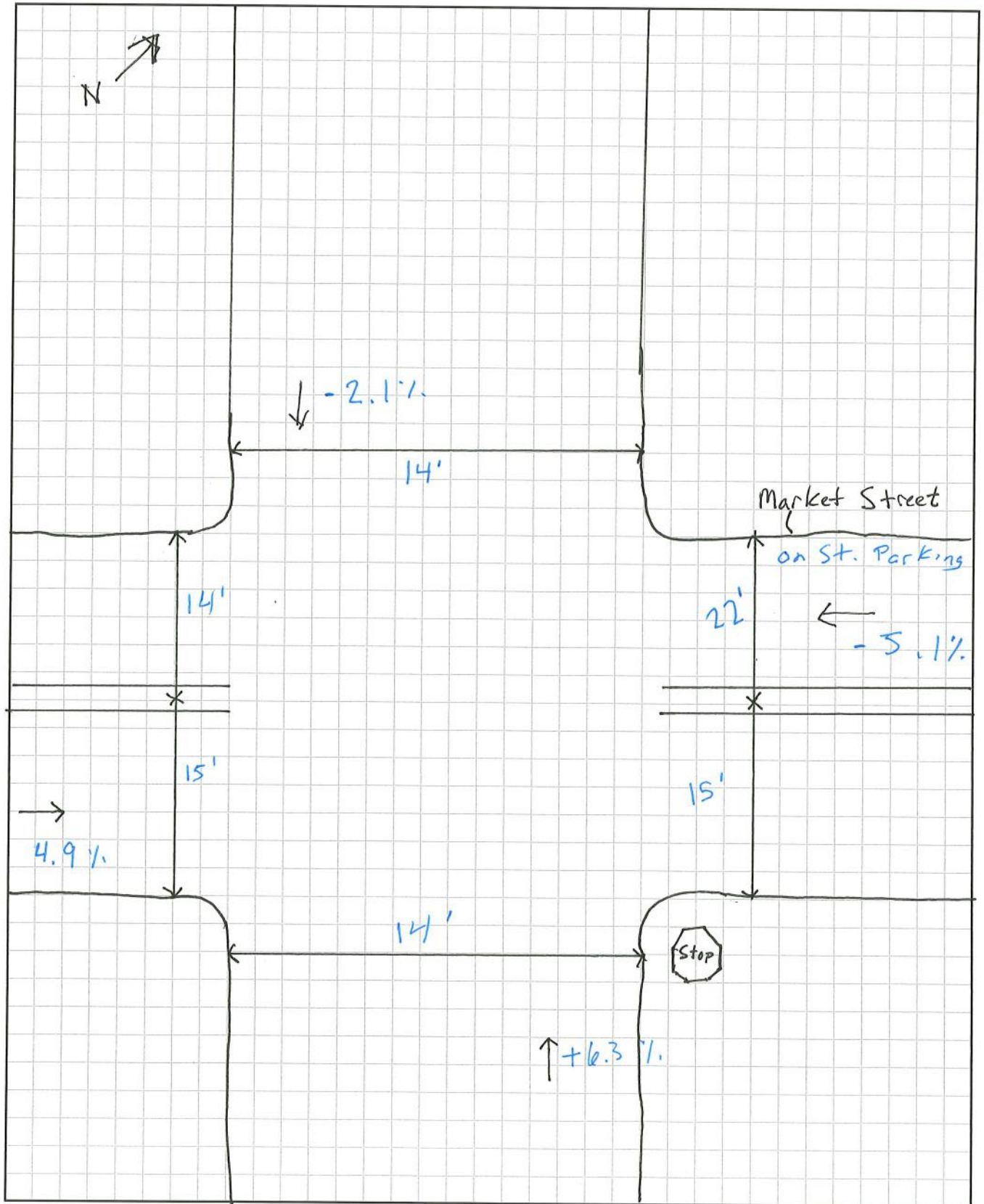
Checked By _____

Date _____



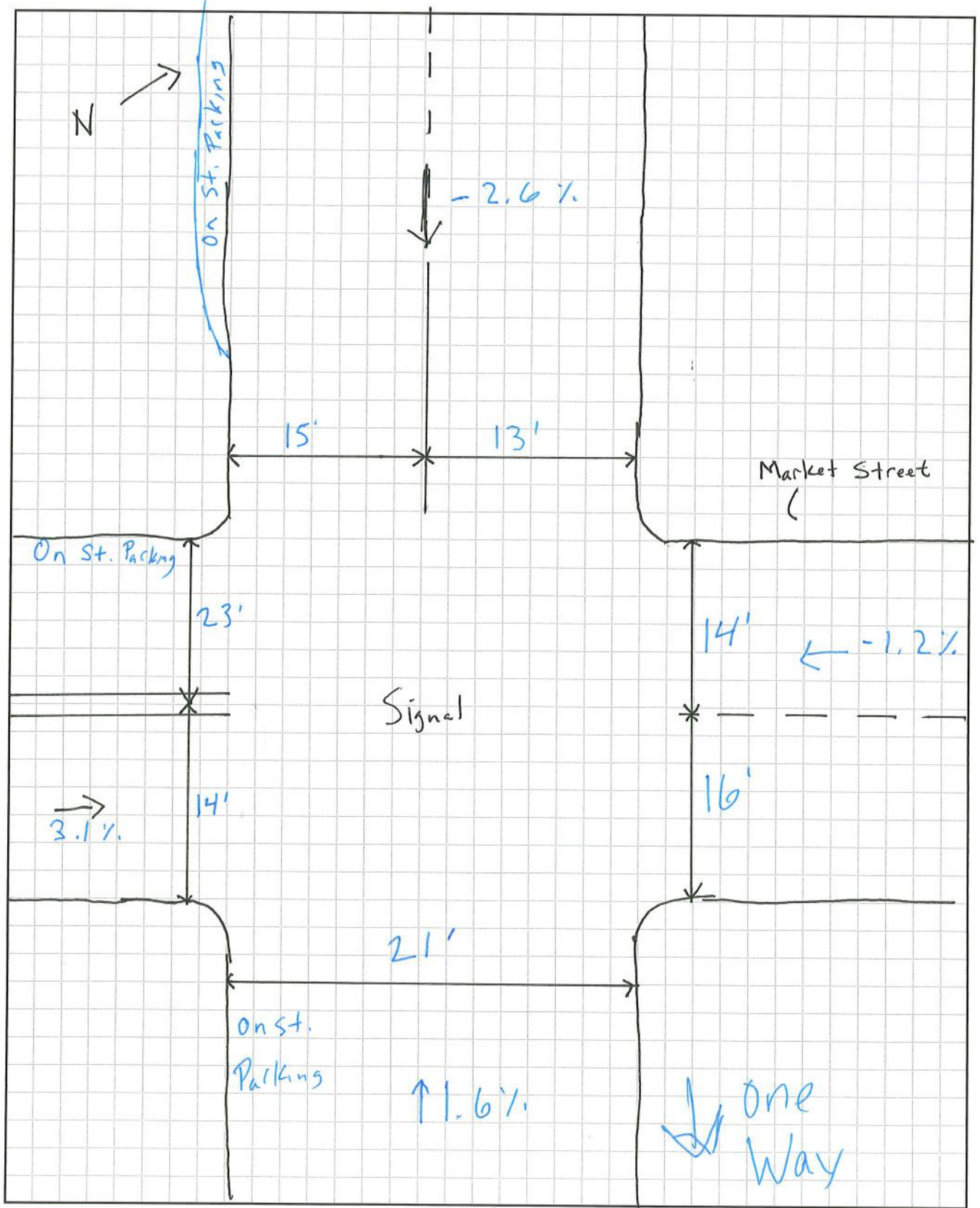
Wayne Street (

Job 330 West Market Street McMahon Project No. 822667 Sheet 2 of 5
 Description Market Street + Designed By VSA Date 2/24/23
Potter Alley Checked By _____ Date _____



Potter Alley (

Job 330 West Market Street McMahon Project No. 822667 Sheet 3 of 5
 Description Market Street + Designed By VSA Date 2/24/23
New Street Checked By _____ Date _____




New Street (

INTERSECTION INVENTORY SUMMARY

W. Market Street and Wayne Street

Northbound Wayne Street Approach	
	<p>Lane Geometry Shared Left/Through/Right</p> <p>Roadway Classification Local</p> <p>Roadway Ownership Borough</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Stop-Controlled</p> <p>Notes</p>


Southbound Wayne Street Approach	
	<p>Lane Geometry Shared Left/Through/Right</p> <p>Roadway Classification Local</p> <p>Roadway Ownership Borough</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Stop-Controlled</p> <p>Notes</p>


Eastbound W. Market Street Approach	
	<p>Lane Geometry Shared Left/Through/Right</p> <p>Roadway Classification Local</p> <p>Roadway Ownership Borough</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Stop-Controlled</p> <p>Notes</p>


Westbound W. Market Street Approach	
	<p>Lane Geometry Shared Left/Through/Right</p> <p>Roadway Classification Local</p> <p>Roadway Ownership Borough</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Stop-Controlled</p> <p>Notes</p>


INTERSECTION INVENTORY SUMMARY

W. Market Street and Potter Alley

Northbound Potter Alley Approach	
	<p><u>Lane Geometry</u> Shared Left/Through/Right</p> <p><u>Roadway Classification</u> Local</p> <p><u>Roadway Ownership</u> Borough</p> <p><u>Posted Speed Limit</u> Not Posted</p> <p><u>Traffic Control</u> Stop-Controlled</p> <p><u>Notes</u></p>

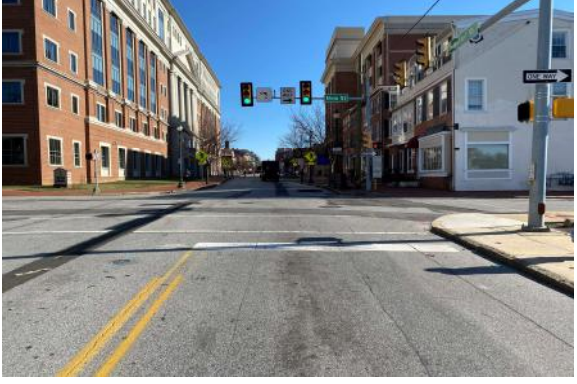
Southbound Potter Alley Approach	
	<p><u>Lane Geometry</u> Shared Left/Through/Right</p> <p><u>Roadway Classification</u> Local</p> <p><u>Roadway Ownership</u> Borough</p> <p><u>Posted Speed Limit</u> Not Posted</p> <p><u>Traffic Control</u> Stop-Controlled</p> <p><u>Notes</u></p>


Eastbound W. Market Street Approach	
	<p><u>Lane Geometry</u> Shared Left/Through/Right</p> <p><u>Roadway Classification</u> Local</p> <p><u>Roadway Ownership</u> Borough</p> <p><u>Posted Speed Limit</u> 25 MPH</p> <p><u>Traffic Control</u> None</p> <p><u>Notes</u></p>

Westbound W. Market Street Approach	
	<p><u>Lane Geometry</u> Shared Left/Through/Right</p> <p><u>Roadway Classification</u> Local</p> <p><u>Roadway Ownership</u> Borough</p> <p><u>Posted Speed Limit</u> 25 MPH</p> <p><u>Traffic Control</u> None</p> <p><u>Notes</u></p>

INTERSECTION INVENTORY SUMMARY

W. Market Street and New Street

Eastbound W. Market Street Approach	
 A photograph showing the eastbound approach to the intersection of W. Market Street and New Street. The view is from the driver's perspective on a two-lane road with a double yellow line. Buildings line both sides of the street, and a traffic signal is visible in the distance.	<p>Lane Geometry SharedThrough/Right</p> <p>Roadway Classification Local</p> <p>Roadway Ownership Borough</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Traffic Signal</p> <p>Notes</p>

Southbound New Street Approach	
 A photograph showing the southbound approach to the intersection of W. Market Street and New Street. The view is from the driver's perspective on a multi-lane road. A dark car is in the lane ahead. Buildings and a traffic signal are visible in the background.	<p>Lane Geometry Left Shared Left/Through/Right</p> <p>Roadway Classification Urban - Principal Arterial</p> <p>Roadway Ownership State</p> <p>Posted Speed Limit 25 MPH</p> <p>Traffic Control Traffic Signal</p> <p>Notes</p>

1. 6:00 AM TO 7:00 AM
 2. 7:00 AM TO 8:00 AM
 3. 8:00 AM TO 9:00 AM
 4. 9:00 AM TO 10:00 AM
 5. 10:00 AM TO 11:00 AM
 6. 11:00 AM TO 12:00 PM
 7. 12:00 PM TO 1:00 PM
 8. 1:00 PM TO 2:00 PM
 9. 2:00 PM TO 3:00 PM
 10. 3:00 PM TO 4:00 PM
 11. 4:00 PM TO 5:00 PM
 12. 5:00 PM TO 6:00 PM
 13. 6:00 PM TO 7:00 PM

86	744	439
78	185	459
97	182	477
36	97	634
36	97	634

Totals

TOILETS

COUNT DATE JUNE 2001

EMERGENCY PRE-EMPTION PHASING MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	9	10	11	12	13	14	15	16	17	18
SIGNAL	1,2	3,5,6,11	4,7,8	9,10						
SELECTIVE YELLOW										
SELECTIVE RED										
SELECTIVE YELLOW										
SELECTIVE RED										

FIXED TIME ① ① ③ 2 ① ① ② 3 2

- ① AS SHOWN IN MOVEMENT, SEQUENCE AND TIMING DIAGRAM
- ② FOR DURATION OF PRE-EMPTION
- ③ SIGNAL INDICATION G WHEN TURNING TO NORMAL OPERATION

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE EASTBOUND APPROACH OF MARKET STREET AND SOUTHBOUND APPROACH OF NEW STREET WITH A FLASHING FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS, EXCEPT THE GREEN INDICATIONS FOR THE PHASE COVERED BY THE APPROACHING EMERGENCY VEHICLE, FOLLOWED BY SELECTIVE CLEARANCES DEPENDENT UPON THE PHASE IN WHICH THE PREEMPTION OCCURS. THE GREEN INDICATIONS FOR THE PREEMPTION PHASE SHALL REMAIN GREEN FOR THE DURATION OF SIGNAL PREEMPTION AND RED INDICATIONS DISPLAYED FOR ALL OTHER PHASES.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE GOVERNED BY THE ACTUATION OF THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING, ALL SIGNALS SHALL REMAIN FLASHING.
- UPON COMPLETION OF PREEMPTION PHASE A OR B IN RETURNING TO NORMAL OPERATION, PHASE 2 INTERVAL 4 SHALL FOLLOW.
- IF THE SIGNAL HAS BEEN ACTUATED BY A PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED DURING THE "MAN" PHASE, THE MAN PHASE SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING TO THE PRE-EMPTION PHASE.

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-1	84"x16"	W MARKET ST
B	D3-1	48"x16"	NEW ST
C	R10-3B	9"x12"	EDUCATIONAL PUSH BUTTON
D	R3-2	30"x30"	NO LEFT TURN SIGN
E	R3-6LSR	30"x36"	LANE USE CONTROL SIGN
F	R3-5L	30"x36"	LEFT TURN SIGN
J	R6-1R	36"x12"	HORIZONTAL RIGHT ONE WAY SIGN
K	R9-3	18"x18"	NO PEDESTRIAN CROSSING
L	R10-11	30"x36"	NO TURN ON RED 8AM-6PM MON-FRI
M	R10-11	24"x30"	NO TURN ON RED 8AM-6PM MON-FRI
N	R5-1	30"x30"	DO NOT ENTER
P	R3-7L	30"x30"	LEFT LANE MUST TURN LEFT

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 68.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 40B.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 187, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, EFFECTIVE DATE DECEMBER 19, 1996.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 40B AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

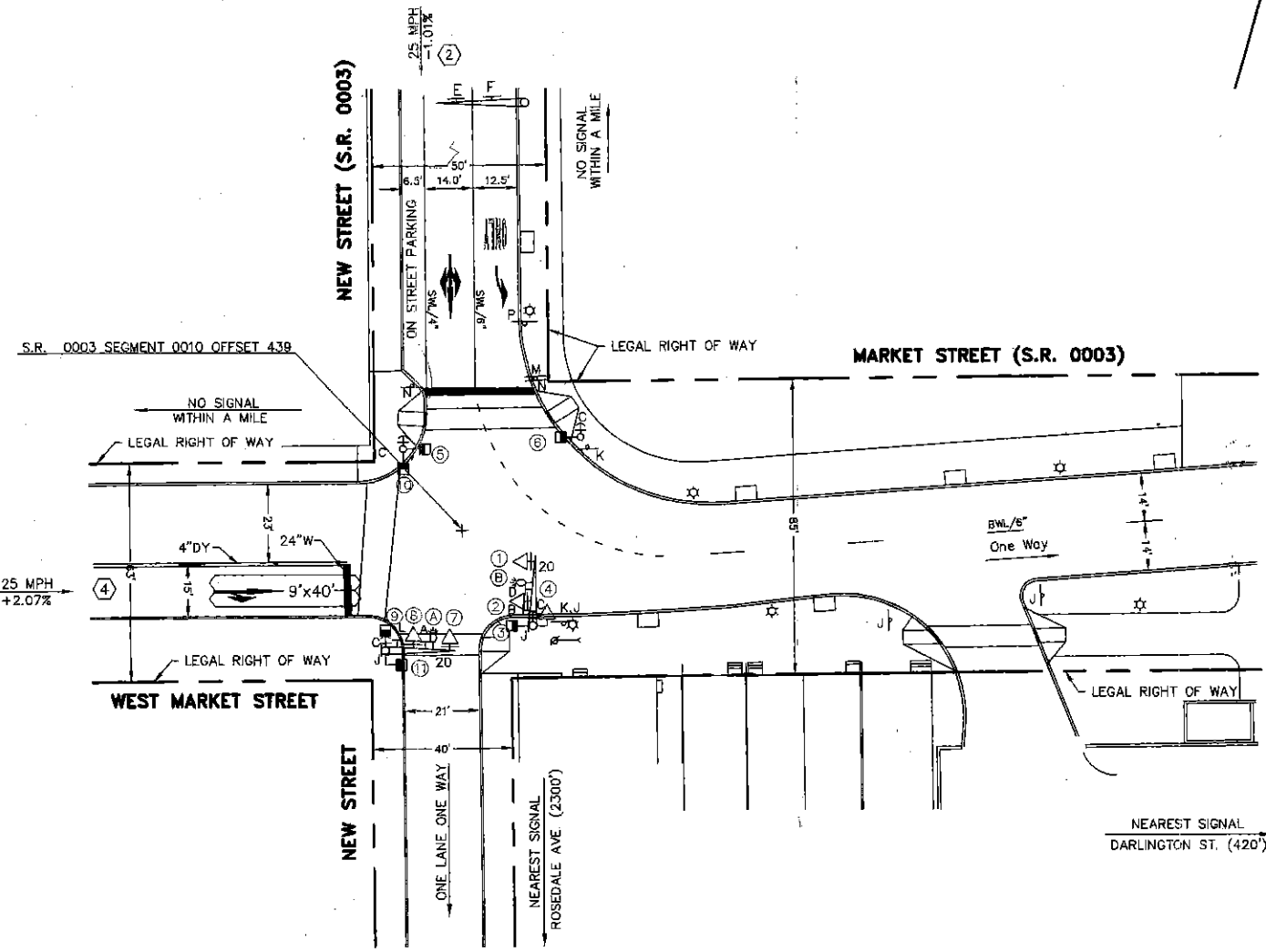
SYSTEM PERMIT # 10056

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
 ENGINEERING DISTRICT 6-0

COUNTY: CHESTER COUNTY
 MUNICIPALITY: WEST CHESTER BOROUGH
 INTERSECTION: MARKET STREET S.R. 0003 &
 NEW STREET S.R. 0003

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL _____ DATE _____
 RECOMMENDED:
 PAUL LUTZ 3-28-03
 MUNICIPAL SIGNALS ENGINEER DATE
 LOUIS R. BELMONT 3-28-03
 DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	REC'D.	DATE
1	MOVE SOUTHWEST CORNER CURBLINE AND DRIVEWAY TO NEW STREET CORNER & ADD PEDESTRIAN SIGNAL INDICATIONS	WPS	3/20/04	MLC	4/6/04	JEB	4/20/04



MOVEMENT, SEQUENCE AND TIMING DIAGRAM

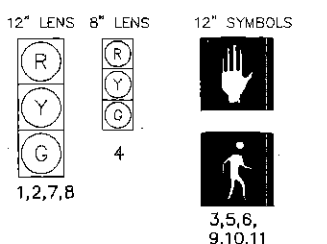
PHASE	2	4	FLASHING
SIGNALS	1,2	3,5,6,11	
1,2	R R R R	G G Y R R	
4,7,8	G G Y R R	M R R R Y	
3,5,6,11	H H H H	H H H H	OFF
9,10	M FH H H	H H H H	OFF

FIXED		9	3	2		3	2
MINIMUM	31				3		
PASSAGE					3		
MAX-1					25		
MAX-2							
PEDESTRIAN *					7	8	
MEMORY	MR				NL		

REFER TO SYSTEM PERMIT #10056 FOR PROGRAM TIMES AND TIME-OF-DAY OPERATION

UPON PEDESTRIAN ACTUATION ONLY. OTHERWISE HAND SYMBOL AT ALL OTHER TIMES

SIGNAL INDICATIONS

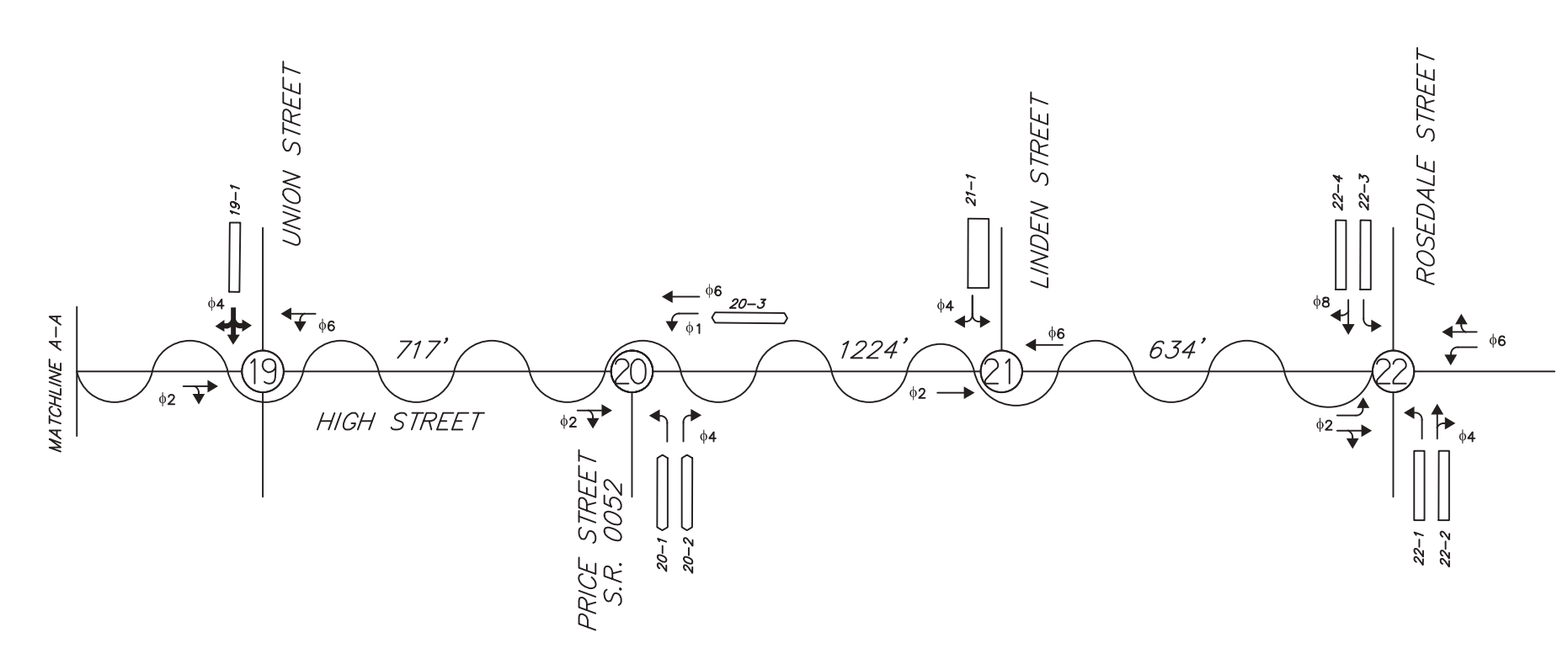
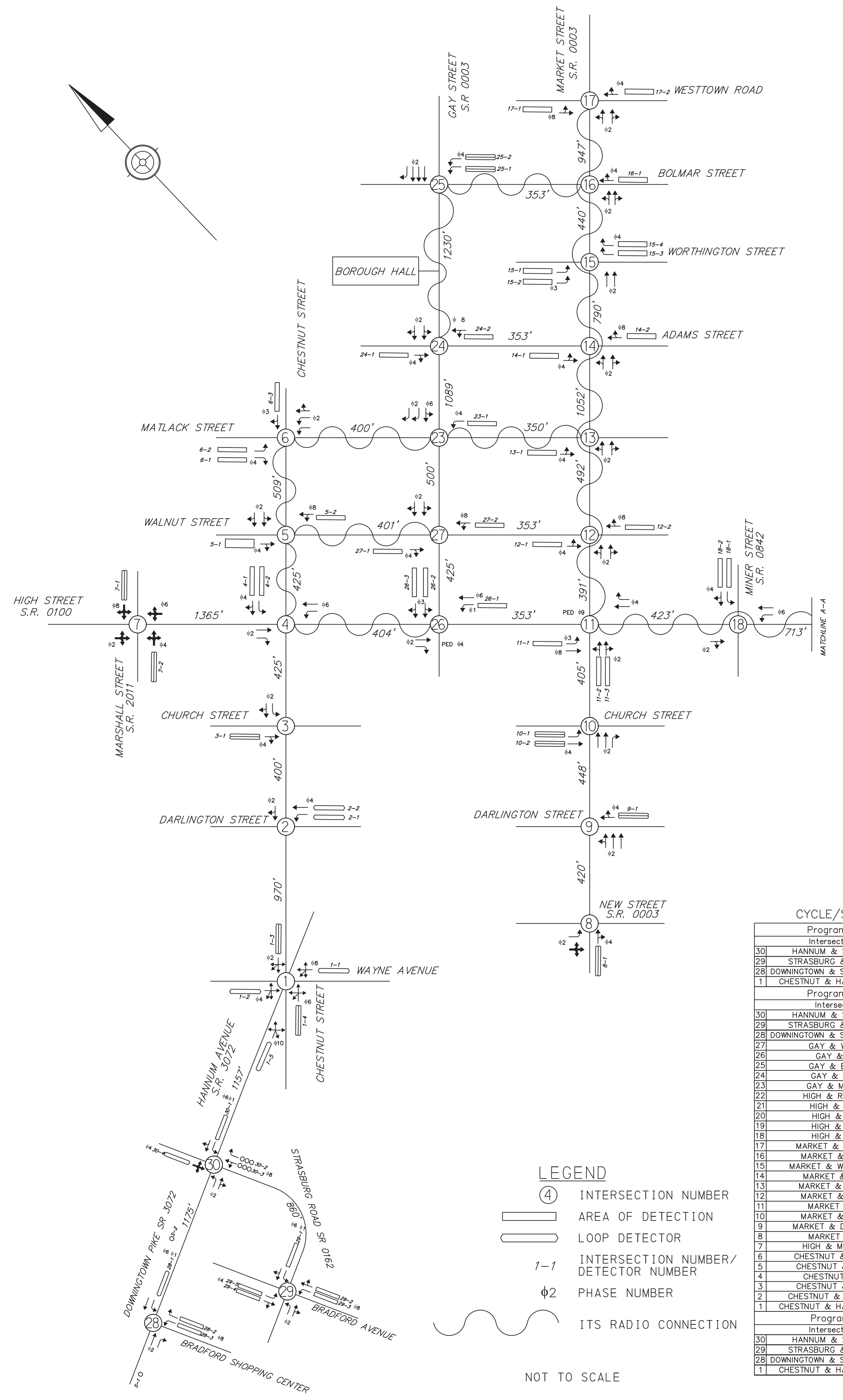


LEGEND

- 20' MAST ARM/IDENTIFYING LENGTH
- VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
- PEDESTRIAN SIGNAL HEAD/IDENTIFYING NUMBER
- PEDESTRIAN PUSHBUTTON/SIGN
- SIGN/IDENTIFYING LETTER
- LOOP SENSOR/SIZE 12'x6'
- MICROWAVE DETECTOR
- EMERGENCY PREEMPTION DEVICE
- CURB CUT RAMP
- UTILITY POLE
- PHASE NUMBER

SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS 1,2,7,8
 SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS & LOUVERS 3,5,6,9,10,11

PW \\PTD-PW-1S... 2/3/2021



GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

SET UP PENNDOT DISTRICT 6-0 COMPUTER WITH THE SYSTEM DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS FOR SYSTEMS REVISIONS.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM NOTES

- PROGRAM TO BE SELECTED BY PENNDOT UNIFIED COMMAND AND CONTROL SYSTEM (UCCS) OR TBC BACKUP.
- OFFSETS ARE REFERENCED TO THE BEGINNING OF NEMA TS2 FIRST GREEN.
- SYSTEM LIMITS:
MARKET STREET (10 INTERSECTIONS) - NEW STREET TO WESTTOWN ROAD
HIGH STREET (9 INTERSECTIONS) - ROSEDALE STREET TO MARSHALL STREET
GAY STREET (5 INTERSECTIONS) - HIGH STREET TO BOLMAR STREET
CHESTNUT STREET (6 INTERSECTIONS) - MATLACK STREET TO HANNUM AVENUE
BRADFORD AVE & BRADFORD SHOPPING CENTER
- PRIMARY COORDINATION(SIGNALS 4, 5, 6, 11-27): UCCS VIA INTERSECTION ITS RADIOS/FIBER TO RT 0003/0202 CAMERA SPLICE.
PRIMARY COORDINATION(SIGNALS 1, 28-30): GPS TIMECLOCK.
SECONDARY COORDINATION: TBC (DEFAULT TO BACKUP TBC).
- SYSTEM IS DESIGNED FOR THE SYSTEM SOFTWARE: INTELIGHT MAXVIEW.
- CYCLES, SPLITS & OFFSETS ARE IN SECONDS

WEEKLY PROGRAM CHART FOR INTERSECTIONS 2-27

EVENT	DAY	TIME	CYCLE	OFFSET	PROGRAM	REMARKS
1	1-5	0600	80	1	2	COORD.
2	1-7	0900	80	1	2	COORD.
3	1-5	1500	80	1	2	COORD.
4	1-7	1900	80	1	2	COORD.

MONDAY = DAY 1
OFFSET REFERENCED TO START AT GREEN

WEEKLY PROGRAM CHART FOR INTERSECTIONS 1 & 28-30

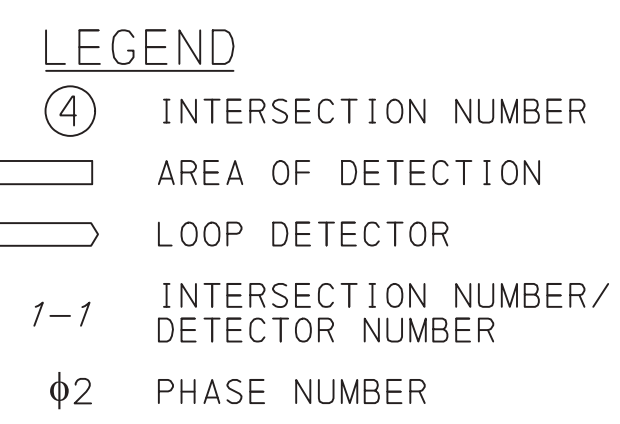
EVENT	DAY	TIME	OFFSET	CYCLE	PROGRAM	REMARKS
1	1-7	0000	2	80	MAXIMUM 1	FREE
2	1-5	0600	2	80	1	AM PEAK
3	1-5	1000	2	80	MAXIMUM 1	FREE
4	1-5	1500	2	80	2	PM PEAK
5	1-7	1900	2	80	MAXIMUM 1	FREE
6	6-7	1000	2	80	3	WEEKEND

MONDAY = DAY 1
OFFSET REFERENCED TO START AT GREEN

Notes: - ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
- REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2, CLEARANCE AND PED TIMES.

CYCLE/SPLIT/OFFSET

Program 1 =		Phase										Cycle	Offsets		
Intersections	File #	1	2	3	4	5	6	7	8	9	10		1	2	3
30 HANNUM & STRASBURG	2746	13(LEAD)	41		26		54		26			80			
29 STRASBURG & BRADFORD	2756	14(LEAD)	41		25		55		25			80			9
28 DOWNTOWN & SHOPPING CENTER	2739	10(LEAD)	53				63		17			80			47
1 CHESTNUT & HANNUM/WAYNE	2008		24		24		24		24		32(Side)	80			18
Program 2 =		Phase										Cycle	Offsets		
30 HANNUM & STRASBURG	2746	23(LEAD)	25		32		48		32			80	1	2	3
29 STRASBURG & BRADFORD	2756	14(LEAD)	36		30		50		30			80			71
28 DOWNTOWN & SHOPPING CENTER	2739	14(LEAD)	46				60		20			80			67
27 GAY & WALNUT	1162		43		37				37			80		79	
26 GAY & HIGH	1168	11(Lead)	24	23	22(Ped)		35					80		46	
25 GAY & BOLMAR	1710		42		38							80		7	
24 GAY & ADAMS	2084		57		23				23			80		30	
23 GAY & MATLACK	1163		60		20		60					80		69	
22 HIGH & ROSEDALE	1157											Free			
21 HIGH & LINDEN	1167											Free			
20 HIGH & PRICE	1166	16(Lead)	36		28		52					80		28	
19 HIGH & UNION	2444		51		29		51					80		73	
18 HIGH & MINER	1160		54		26		54					80		69	
17 MARKET & WESTTOWN	0476		50		30				30			80		42	
16 MARKET & BOLMAR	1452		53		27							80		31	
15 MARKET & WORTHINGTON	1451		44	21(Split)	15(Split)							80		25	
14 MARKET & ADAMS	2370		42		38				38			80		9	
13 MARKET & MATLACK	0232		55		25							80		50	
12 MARKET & WALNUT	0231		45		35				35			80		50	
11 MARKET & HIGH	1161		23	11(Lead)	23				34	23(Ped)		80		0	
10 MARKET & CHURCH	1165		45		35							80		35	
9 MARKET & DARLINGTON	0293		38		42							80		30	
8 MARKET & NEW	1881		36		44							80		8	
7 HIGH & MARSHALL	1159											Free			
6 CHESTNUT & MATLACK	2011		30	25	25							80		10	
5 CHESTNUT & WALNUT	1792		34		46				46			80		2	
4 CHESTNUT & HIGH	1164		34		46		34					80		54	
3 CHESTNUT & CHURCH	2010		47		33							80		18	
2 CHESTNUT & DARLINGTON	2009		48		32							80		28	
1 CHESTNUT & HANNUM/WAYNE	2008		32		25		32		25		23(Side)	80	Uncoord.	14	
Program 3 =		Phase										Cycle	Offsets		
30 HANNUM & STRASBURG	2746	20(LEAD)	33		27		53		27			80	1	2	3
29 STRASBURG & BRADFORD	2756	14(LEAD)	36		30		50		30			80			53
28 DOWNTOWN & SHOPPING CENTER	2739	16(LEAD)	39				55		25			80			52
1 CHESTNUT & HANNUM/WAYNE	2008		31		24		31		24		25(Side)	80			44



NOT TO SCALE

NOT TO SCALE

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: WEST CHESTER BOROUGH
INTERSECTION: TRAFFIC SIGNAL SYSTEM

REVIEWED:
DocuSigned by:
Michael A. Perrow, C.E.P.
DATE
2/3/2021

RECOMMENDED:
A.B. PATEL 5/20/03
L. R. BELMONTE 5/29/03
DISTRICT TRAFFIC ENGINEER DATE

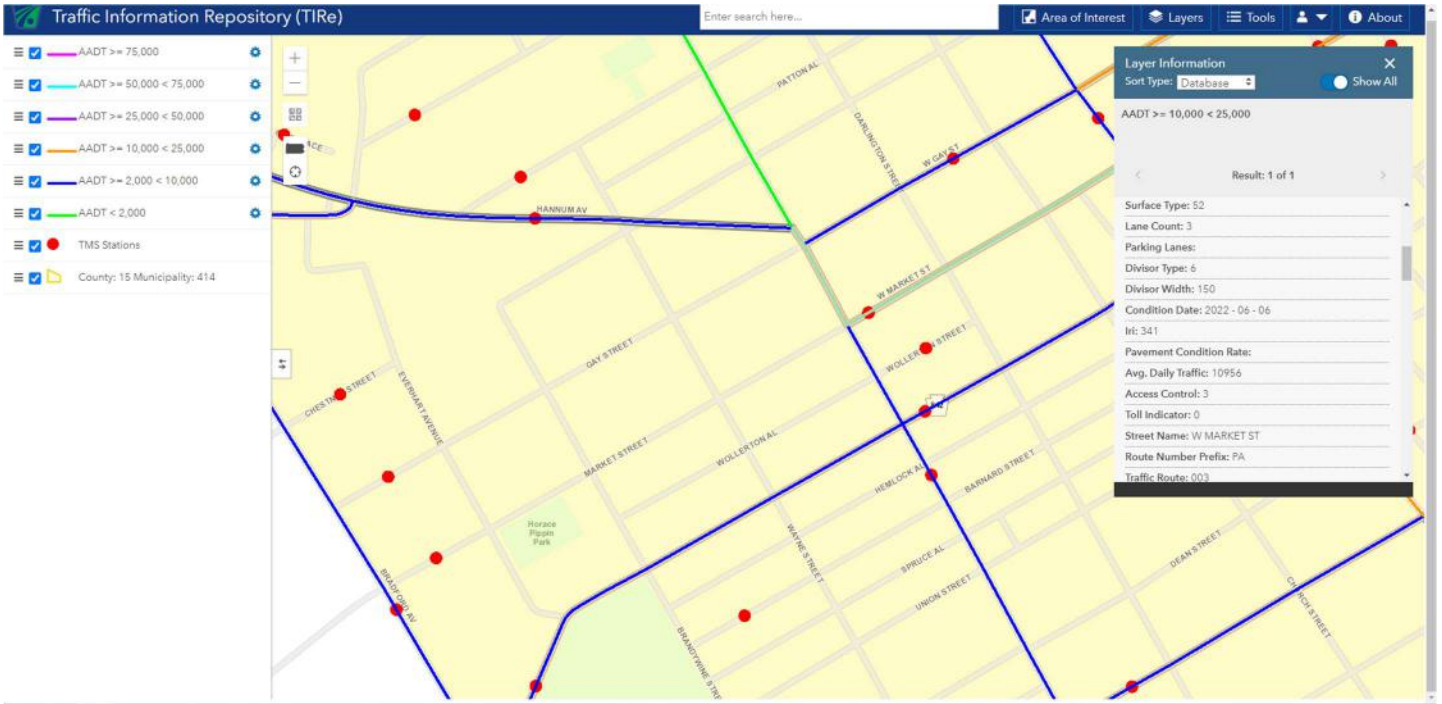
NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	ADDED INTERSECTIONS 28, 29, & 30	TPD	7/3/10	LUTZ	7/2/10	LRB	7/7/10
2	REVISED PHASING INTERSECTION 23	H&K	5/9/13	LUTZ	8/27/13	ABP	8/27/13
3	MODIFY TIMINGS AT INTERSECTION #29	TPD	8/25/20	LUTZ	9/17/20	ABP	9/21/20
4	ADD INTERSECTIONS ALONG AND EAST OF HIGH ST (SOUTH OF MARSHALL) TO MAXVIEW	TPD	2/2/21	LUTZ		ABP	
5							
6							
7							
8							

SYSTEM PERMIT # I-0056, I-0057, I-0058

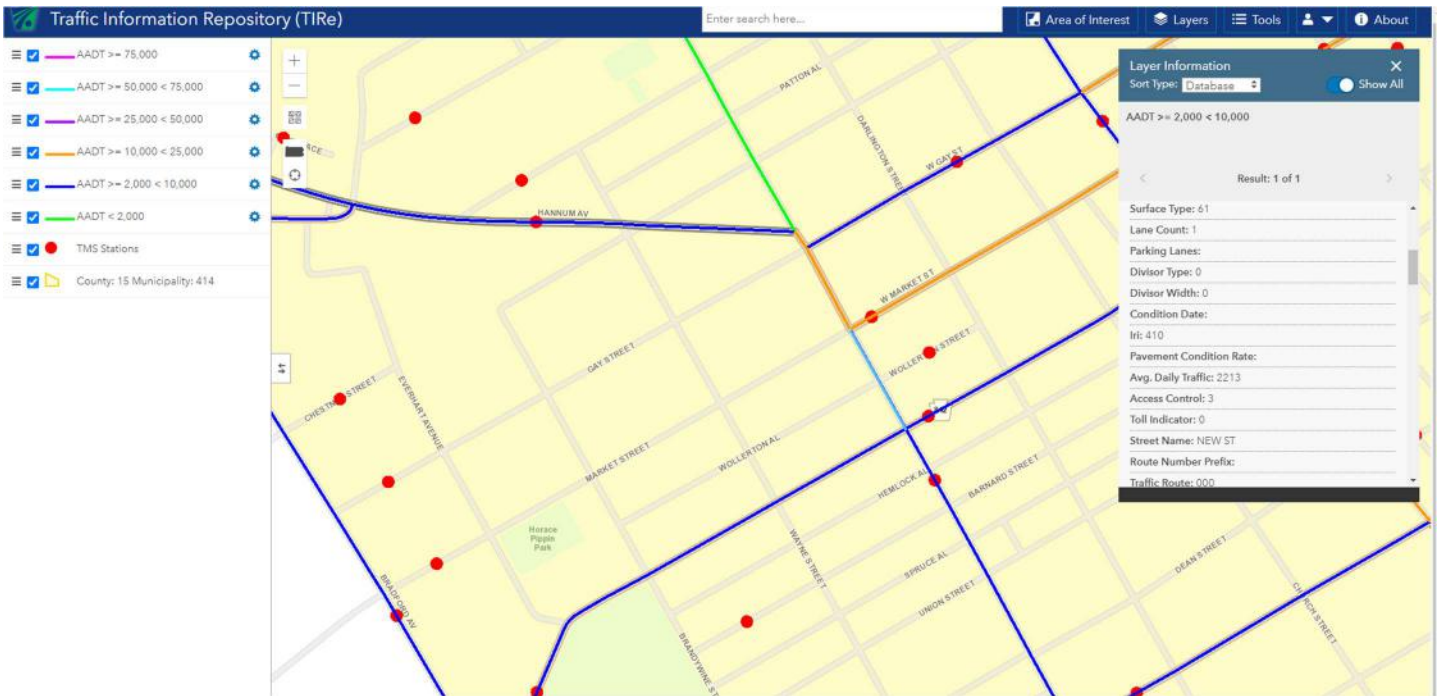
Appendix B

PennDOT TIRe Data

PA 3



S. NEW STREET



Appendix C

Turning Movement Counts



Imperial Traffic & Data Collection
 www.imperialtdc.com
 PO BOX 4637
 Cherry Hill, New Jersey, United States 08034
 609-706-6100 hfurey@imperialtdc.com

Count Name: 1. West Market Street & Potter
 Alley
 Site Code: 1
 Start Date: 02/11/2023
 Page No: 1

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957664, -75.608993

Turning Movement Data

Start Time	Market Street Eastbound						Market Street Westbound						Potter Alley Northbound						Potter Alley Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:00 AM	0	58	0	0	1	58	0	4	0	0	0	4	0	1	2	0	3	3	0	0	0	0	0	0	65
11:15 AM	0	47	1	0	2	48	2	2	0	0	0	4	1	0	5	0	6	6	0	1	0	0	0	1	59
11:30 AM	2	51	0	0	0	53	0	4	0	0	0	4	0	0	1	0	7	1	0	0	2	0	0	2	60
11:45 AM	0	53	0	0	0	53	0	4	1	0	0	5	0	1	1	0	8	2	0	0	1	0	0	1	61
Hourly Total	2	209	1	0	3	212	2	14	1	0	0	17	1	2	9	0	24	12	0	1	3	0	0	4	245
12:00 PM	1	63	0	0	1	64	0	3	0	0	0	3	0	2	1	0	2	3	0	0	0	0	1	0	70
12:15 PM	0	62	1	0	1	63	0	3	0	0	2	3	0	0	0	0	2	0	0	1	0	0	1	1	67
12:30 PM	1	47	0	0	0	48	0	5	0	0	0	5	0	0	4	0	3	4	0	0	0	0	2	0	57
12:45 PM	1	58	0	0	3	59	0	4	0	0	0	4	0	0	3	0	4	3	2	0	0	0	4	2	68
Hourly Total	3	230	1	0	5	234	0	15	0	0	2	15	0	2	8	0	11	10	2	1	0	0	8	3	262
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	56	0	0	0	56	1	2	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	59
7:15 AM	2	64	0	0	0	66	0	1	0	0	0	1	0	0	1	0	5	1	0	0	0	0	0	0	68
7:30 AM	1	81	0	0	0	82	0	10	0	0	0	10	0	0	1	0	2	1	1	0	0	0	2	1	94
7:45 AM	4	96	0	0	2	100	0	8	1	0	0	9	0	0	0	0	2	0	0	0	0	0	1	0	109
Hourly Total	7	297	0	0	2	304	1	21	1	0	0	23	0	0	2	0	11	2	1	0	0	0	3	1	330
8:00 AM	4	55	0	0	1	59	0	10	1	0	1	11	0	0	0	0	2	0	4	0	0	0	0	4	74
8:15 AM	0	75	0	0	0	75	0	11	2	0	0	13	1	0	2	0	8	3	4	0	2	0	1	6	97
8:30 AM	1	68	0	0	0	69	0	9	0	0	0	9	0	0	1	0	1	1	1	0	1	0	0	2	81
8:45 AM	2	61	0	0	1	63	0	10	2	0	0	12	0	0	0	0	2	0	0	0	2	0	0	2	77
Hourly Total	7	259	0	0	2	266	0	40	5	0	1	45	1	0	3	0	13	4	9	0	5	0	1	14	329
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	51	0	0	0	52	0	7	1	0	0	8	0	0	3	0	5	3	5	0	2	0	2	7	70
4:15 PM	2	52	0	0	2	54	0	9	0	0	0	9	0	2	0	0	2	2	6	0	1	0	0	7	72
4:30 PM	1	65	0	0	0	66	0	6	0	0	1	6	1	1	2	0	9	4	6	0	3	0	8	9	85
4:45 PM	3	48	0	0	0	51	0	5	0	0	2	5	0	0	0	0	5	0	4	1	0	0	1	5	61
Hourly Total	7	216	0	0	2	223	0	27	1	0	3	28	1	3	5	0	21	9	21	1	6	0	11	28	288
5:00 PM	2	49	3	0	0	54	0	6	0	0	1	6	0	0	1	0	4	1	2	0	0	0	0	2	63
5:15 PM	0	64	0	0	3	64	1	8	0	0	0	9	0	1	2	0	7	3	3	0	0	0	0	3	79
5:30 PM	3	57	1	0	1	61	0	8	0	0	0	8	0	1	1	0	5	2	2	0	1	0	0	3	74
5:45 PM	2	38	0	0	2	40	0	6	2	0	0	8	0	1	0	0	3	1	2	0	0	0	2	2	51
Hourly Total	7	208	4	0	6	219	1	28	2	0	1	31	0	3	4	0	19	7	9	0	1	0	2	10	267
Grand Total	33	1419	6	0	20	1458	4	145	10	0	7	159	3	10	31	0	99	44	42	3	15	0	25	60	1721
Approach %	2.3	97.3	0.4	0.0	-	-	2.5	91.2	6.3	0.0	-	-	6.8	22.7	70.5	0.0	-	-	70.0	5.0	25.0	0.0	-	-	-
Total %	1.9	82.5	0.3	0.0	-	84.7	0.2	8.4	0.6	0.0	-	9.2	0.2	0.6	1.8	0.0	-	2.6	2.4	0.2	0.9	0.0	-	3.5	-

Lights	33	1390	6	0	-	1429	4	141	10	0	-	155	3	10	30	0	-	43	42	3	15	0	-	60	1687
% Lights	100.0	98.0	100.0	-	-	98.0	100.0	97.2	100.0	-	-	97.5	100.0	100.0	96.8	-	-	97.7	100.0	100.0	100.0	-	-	100.0	98.0
Mediums	0	28	0	0	-	28	0	4	0	0	-	4	0	0	1	0	-	1	0	0	0	0	-	0	33
% Mediums	0.0	2.0	0.0	-	-	1.9	0.0	2.8	0.0	-	-	2.5	0.0	0.0	3.2	-	-	2.3	0.0	0.0	0.0	-	-	0.0	1.9
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	1.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	20	-	-	-	-	-	7	-	-	-	-	-	98	-	-	-	-	-	25	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	99.0	-	-	-	-	-	100.0	-	-



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 PO BOX 4637
 Cherry Hill, New Jersey, United States 08034
 609-706-6100 hfurey@imperialtdc.com

Count Name: 1. West Market Street & Potter
 Alley
 Site Code: 1
 Start Date: 02/11/2023
 Page No: 4

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957664, -75.608993

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Market Street Eastbound						Market Street Westbound						Potter Alley Northbound						Potter Alley Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	1	63	0	0	1	64	0	3	0	0	0	3	0	2	1	0	2	3	0	0	0	0	1	0	70
12:15 PM	0	62	1	0	1	63	0	3	0	0	2	3	0	0	0	0	2	0	0	1	0	0	1	1	67
12:30 PM	1	47	0	0	0	48	0	5	0	0	0	5	0	0	4	0	3	4	0	0	0	0	2	0	57
12:45 PM	1	58	0	0	3	59	0	4	0	0	0	4	0	0	3	0	4	3	2	0	0	0	4	2	68
Total	3	230	1	0	5	234	0	15	0	0	2	15	0	2	8	0	11	10	2	1	0	0	8	3	262
Approach %	1.3	98.3	0.4	0.0	-	-	0.0	100.0	0.0	0.0	-	-	0.0	20.0	80.0	0.0	-	-	66.7	33.3	0.0	0.0	-	-	-
Total %	1.1	87.8	0.4	0.0	-	89.3	0.0	5.7	0.0	0.0	-	5.7	0.0	0.8	3.1	0.0	-	3.8	0.8	0.4	0.0	0.0	-	1.1	-
PHF	0.750	0.913	0.250	0.000	-	0.914	0.000	0.750	0.000	0.000	-	0.750	0.000	0.250	0.500	0.000	-	0.625	0.250	0.250	0.000	0.000	-	0.375	0.936
Lights	3	225	1	0	-	229	0	15	0	0	-	15	0	2	8	0	-	10	2	1	0	0	-	3	257
% Lights	100.0	97.8	100.0	-	-	97.9	-	100.0	-	-	-	100.0	-	100.0	100.0	-	-	100.0	100.0	100.0	-	-	-	100.0	98.1
Mediums	0	5	0	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	5
% Mediums	0.0	2.2	0.0	-	-	2.1	-	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	1.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	-	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	11	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

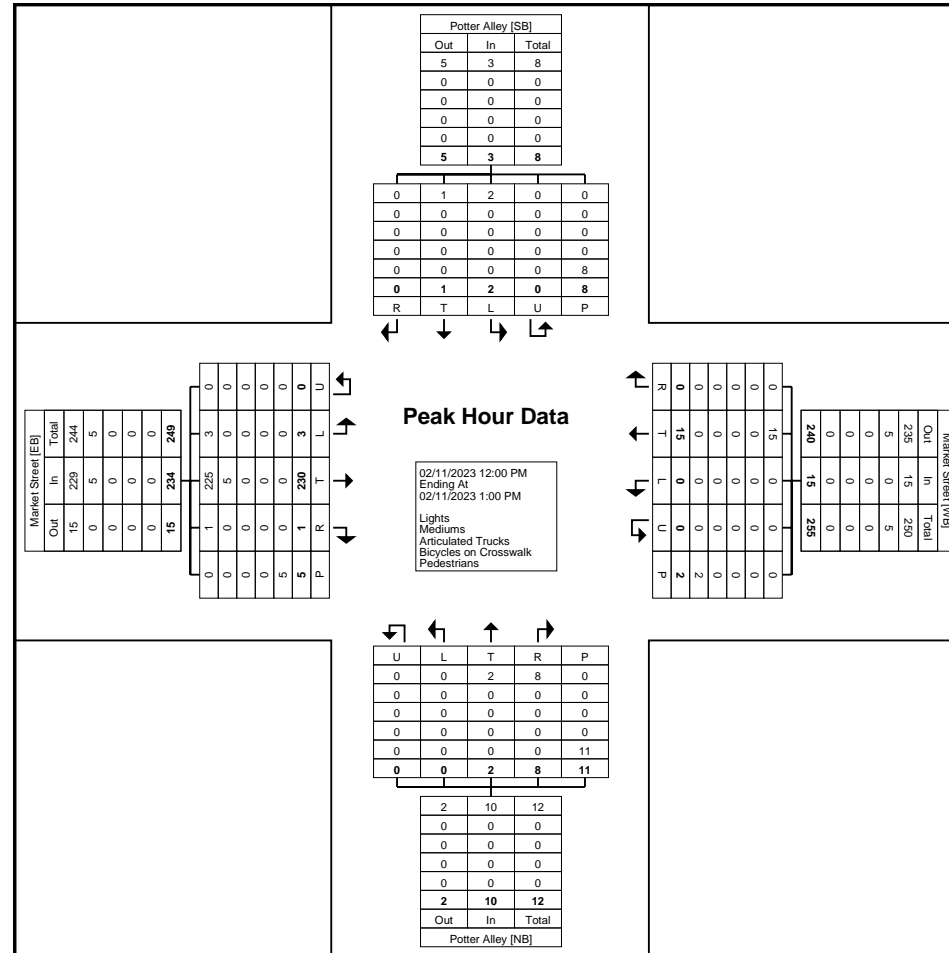


Imperial Traffic & Data Collection
www.imperialtdc.com
PO BOX 4637

Cherry Hill, New Jersey, United States 08034
609-706-6100 hfurey@imperialtdc.com

Count Name: 1. West Market Street & Potter
Alley
Site Code: 1
Start Date: 02/11/2023
Page No: 5

Project: Market Street
Municipality: West Chester, Chester County, PA
Setup: NR
Location: 39.957664, -75.608993



Turning Movement Peak Hour Data Plot (12:00 PM)



Imperial Traffic & Data Collection

www.imperialtdc.com

PO BOX 4637

Cherry Hill, New Jersey, United States 08034

609-706-6100 hfurey@imperialtdc.com

Count Name: 1. West Market Street & Potter

Alley

Site Code: 1

Start Date: 02/11/2023

Page No: 6

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957664, -75.608993

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Market Street Eastbound						Market Street Westbound						Potter Alley Northbound						Potter Alley Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	1	81	0	0	0	82	0	10	0	0	0	10	0	0	1	0	2	1	1	0	0	0	2	1	94
7:45 AM	4	96	0	0	2	100	0	8	1	0	0	9	0	0	0	0	2	0	0	0	0	0	1	0	109
8:00 AM	4	55	0	0	1	59	0	10	1	0	1	11	0	0	0	0	2	0	4	0	0	0	0	4	74
8:15 AM	0	75	0	0	0	75	0	11	2	0	0	13	1	0	2	0	8	3	4	0	2	0	1	6	97
Total	9	307	0	0	3	316	0	39	4	0	1	43	1	0	3	0	14	4	9	0	2	0	4	11	374
Approach %	2.8	97.2	0.0	0.0	-	-	0.0	90.7	9.3	0.0	-	-	25.0	0.0	75.0	0.0	-	-	81.8	0.0	18.2	0.0	-	-	-
Total %	2.4	82.1	0.0	0.0	-	84.5	0.0	10.4	1.1	0.0	-	11.5	0.3	0.0	0.8	0.0	-	1.1	2.4	0.0	0.5	0.0	-	2.9	-
PHF	0.563	0.799	0.000	0.000	-	0.790	0.000	0.886	0.500	0.000	-	0.827	0.250	0.000	0.375	0.000	-	0.333	0.563	0.000	0.250	0.000	-	0.458	0.858
Lights	9	299	0	0	-	308	0	36	4	0	-	40	1	0	3	0	-	4	9	0	2	0	-	11	363
% Lights	100.0	97.4	-	-	-	97.5	-	92.3	100.0	-	-	93.0	100.0	-	100.0	-	-	100.0	100.0	-	100.0	-	-	100.0	97.1
Mediums	0	8	0	0	-	8	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	11
% Mediums	0.0	2.6	-	-	-	2.5	-	7.7	0.0	-	-	7.0	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	2.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	14	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: 1. West Market Street & Potter
 Alley
 Site Code: 1
 Start Date: 02/11/2023
 Page No: 8

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957664, -75.608993

Turning Movement Peak Hour Data (4:00 PM)

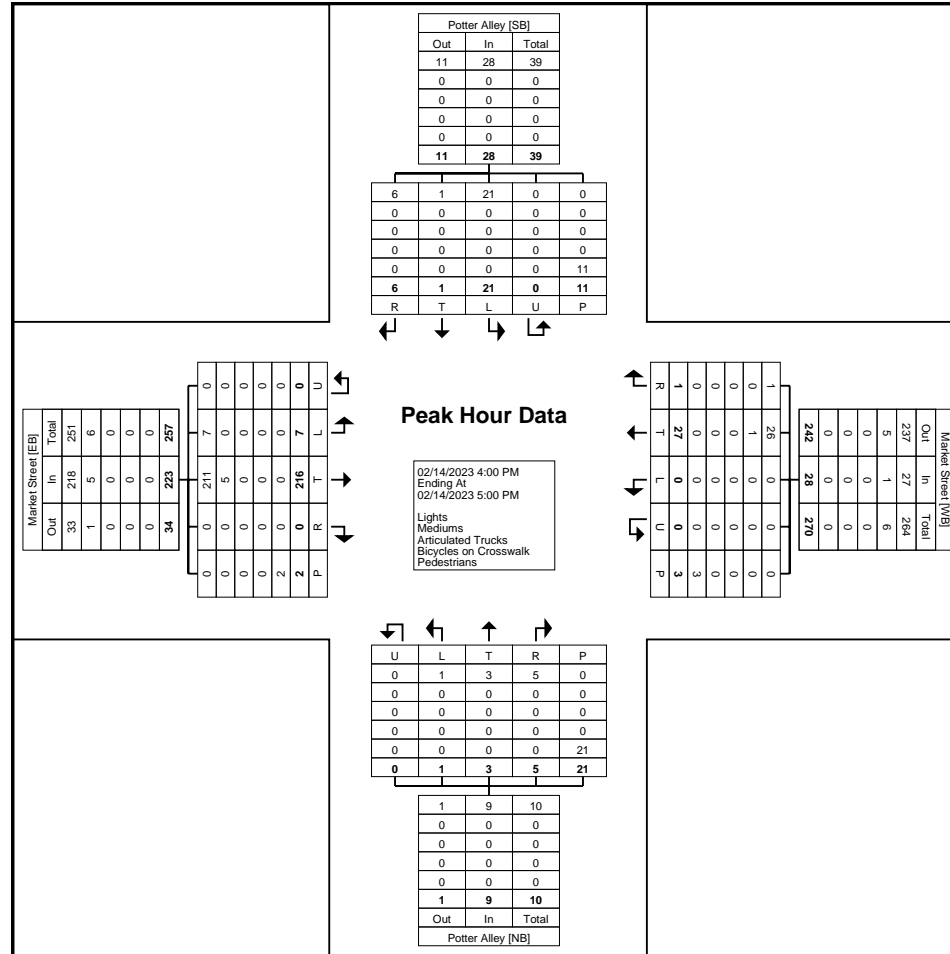
Start Time	Market Street Eastbound						Market Street Westbound						Potter Alley Northbound						Potter Alley Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:00 PM	1	51	0	0	0	52	0	7	1	0	0	8	0	0	3	0	5	3	5	0	2	0	2	7	70
4:15 PM	2	52	0	0	2	54	0	9	0	0	0	9	0	2	0	0	2	2	6	0	1	0	0	7	72
4:30 PM	1	65	0	0	0	66	0	6	0	0	1	6	1	1	2	0	9	4	6	0	3	0	8	9	85
4:45 PM	3	48	0	0	0	51	0	5	0	0	2	5	0	0	0	0	5	0	4	1	0	0	1	5	61
Total	7	216	0	0	2	223	0	27	1	0	3	28	1	3	5	0	21	9	21	1	6	0	11	28	288
Approach %	3.1	96.9	0.0	0.0	-	-	0.0	96.4	3.6	0.0	-	-	11.1	33.3	55.6	0.0	-	-	75.0	3.6	21.4	0.0	-	-	-
Total %	2.4	75.0	0.0	0.0	-	77.4	0.0	9.4	0.3	0.0	-	9.7	0.3	1.0	1.7	0.0	-	3.1	7.3	0.3	2.1	0.0	-	9.7	-
PHF	0.583	0.831	0.000	0.000	-	0.845	0.000	0.750	0.250	0.000	-	0.778	0.250	0.375	0.417	0.000	-	0.563	0.875	0.250	0.500	0.000	-	0.778	0.847
Lights	7	211	0	0	-	218	0	26	1	0	-	27	1	3	5	0	-	9	21	1	6	0	-	28	282
% Lights	100.0	97.7	-	-	-	97.8	-	96.3	100.0	-	-	96.4	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	97.9
Mediums	0	5	0	0	-	5	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	6
% Mediums	0.0	2.3	-	-	-	2.2	-	3.7	0.0	-	-	3.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	2.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	21	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: 1. West Market Street & Potter
 Alley
 Site Code: 1
 Start Date: 02/11/2023
 Page No: 9

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957664, -75.608993



Turning Movement Peak Hour Data Plot (4:00 PM)



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Count Name: 2. West Market Street & South
 Wayne Street
 Site Code: 2.
 Start Date: 02/11/2023
 Page No: 1

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957109, -75.610358

Turning Movement Data

Start Time	Market Street Eastbound						Market Street Westbound						Wayne Street Northbound						Wayne Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:00 AM	1	35	4	0	0	40	1	3	0	0	0	4	4	25	13	0	0	42	9	9	2	0	0	20	106
11:15 AM	3	32	3	0	3	38	2	1	1	0	0	4	2	25	11	0	3	38	5	9	0	0	5	14	94
11:30 AM	1	40	4	0	0	45	1	2	2	0	1	5	0	27	10	0	5	37	3	7	1	0	1	11	98
11:45 AM	1	42	2	0	1	45	2	2	1	0	2	5	0	28	6	0	4	34	6	15	2	0	4	23	107
Hourly Total	6	149	13	0	4	168	6	8	4	0	3	18	6	105	40	0	12	151	23	40	5	0	10	68	405
12:00 PM	1	49	3	0	0	53	0	2	1	0	0	3	0	31	7	0	1	38	6	16	3	0	3	25	119
12:15 PM	0	36	6	0	1	42	0	3	0	0	0	3	1	41	18	0	1	60	8	14	0	0	3	22	127
12:30 PM	4	31	2	0	2	37	0	6	0	0	2	6	2	34	10	0	1	46	9	21	0	0	5	30	119
12:45 PM	2	50	3	0	0	55	0	1	3	0	2	4	2	31	5	0	3	38	1	19	0	0	2	20	117
Hourly Total	7	166	14	0	3	187	0	12	4	0	4	16	5	137	40	0	6	182	24	70	3	0	13	97	482
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	3	49	5	0	0	57	0	1	1	0	1	2	0	7	4	0	1	11	4	11	1	0	0	16	86
7:15 AM	4	54	4	0	0	62	1	0	0	0	0	1	0	11	6	0	5	17	7	9	0	0	2	16	96
7:30 AM	6	70	4	0	1	80	1	1	1	0	1	3	0	19	5	0	1	24	8	13	0	0	2	21	128
7:45 AM	4	85	3	0	1	92	1	2	1	0	0	4	0	26	8	0	1	34	10	15	0	0	2	25	155
Hourly Total	17	258	16	0	2	291	3	4	3	0	2	10	0	63	23	0	8	86	29	48	1	0	6	78	465
8:00 AM	3	53	3	0	0	59	2	5	1	0	0	8	1	17	2	0	0	20	10	11	1	0	1	22	109
8:15 AM	5	67	4	0	4	76	4	6	2	0	1	12	1	23	8	0	5	32	9	11	1	0	9	21	141
8:30 AM	2	67	5	0	0	74	1	4	1	0	1	6	2	12	3	0	1	17	3	7	0	0	1	10	107
8:45 AM	8	57	11	0	1	76	2	5	2	0	0	9	2	15	4	0	0	21	8	11	6	0	3	25	131
Hourly Total	18	244	23	0	5	285	9	20	6	0	2	35	6	67	17	0	6	90	30	40	8	0	14	78	488
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	40	1	0	4	45	2	6	3	0	0	11	5	46	2	0	2	53	6	11	1	0	6	18	127
4:15 PM	9	36	5	0	0	50	3	6	4	0	4	13	3	55	7	0	4	65	9	13	1	0	1	23	151
4:30 PM	4	42	9	0	2	55	5	11	6	1	1	23	15	63	7	0	6	85	7	17	2	0	9	26	189
4:45 PM	1	40	5	0	3	46	4	2	3	0	2	9	1	63	9	0	3	73	5	17	1	0	3	23	151
Hourly Total	18	158	20	0	9	196	14	25	16	1	7	56	24	227	25	0	15	276	27	58	5	0	19	90	618
5:00 PM	3	41	3	0	1	47	2	3	1	0	2	6	2	52	9	0	3	63	2	16	3	0	6	21	137
5:15 PM	3	50	4	0	1	57	0	6	3	0	1	9	4	49	6	0	2	59	7	13	2	0	4	22	147
5:30 PM	4	53	1	0	1	58	4	5	0	0	1	9	1	40	5	0	4	46	2	20	2	0	4	24	137
5:45 PM	7	29	3	0	4	39	2	4	1	0	0	7	3	45	12	0	3	60	1	11	4	0	6	16	122
Hourly Total	17	173	11	0	7	201	8	18	5	0	4	31	10	186	32	0	12	228	12	60	11	0	20	83	543
Grand Total	83	1148	97	0	30	1328	40	87	38	1	22	166	51	785	177	0	59	1013	145	316	33	0	82	494	3001
Approach %	6.3	86.4	7.3	0.0	-	-	24.1	52.4	22.9	0.6	-	-	5.0	77.5	17.5	0.0	-	-	29.4	64.0	6.7	0.0	-	-	-
Total %	2.8	38.3	3.2	0.0	-	44.3	1.3	2.9	1.3	0.0	-	5.5	1.7	26.2	5.9	0.0	-	33.8	4.8	10.5	1.1	0.0	-	16.5	-

Lights	82	1126	95	0	-	1303	40	85	36	1	-	162	50	773	172	0	-	995	140	302	33	0	-	475	2935
% Lights	98.8	98.1	97.9	-	-	98.1	100.0	97.7	94.7	100.0	-	97.6	98.0	98.5	97.2	-	-	98.2	96.6	95.6	100.0	-	-	96.2	97.8
Mediums	1	22	2	0	-	25	0	2	2	0	-	4	1	12	4	0	-	17	5	14	0	0	-	19	65
% Mediums	1.2	1.9	2.1	-	-	1.9	0.0	2.3	5.3	0.0	-	2.4	2.0	1.5	2.3	-	-	1.7	3.4	4.4	0.0	-	-	3.8	2.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.6	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	3.3	-	-	-	-	-	0.0	-	-	-	-	-	1.7	-	-	-	-	-	1.2	-	-
Pedestrians	-	-	-	-	29	-	-	-	-	-	22	-	-	-	-	-	58	-	-	-	-	-	81	-	-
% Pedestrians	-	-	-	-	96.7	-	-	-	-	-	100.0	-	-	-	-	-	98.3	-	-	-	-	-	98.8	-	-



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Count Name: 2. West Market Street & South
 Wayne Street
 Site Code: 2.
 Start Date: 02/11/2023
 Page No: 4

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957109, -75.610358

Turning Movement Peak Hour Data (12:00 PM)

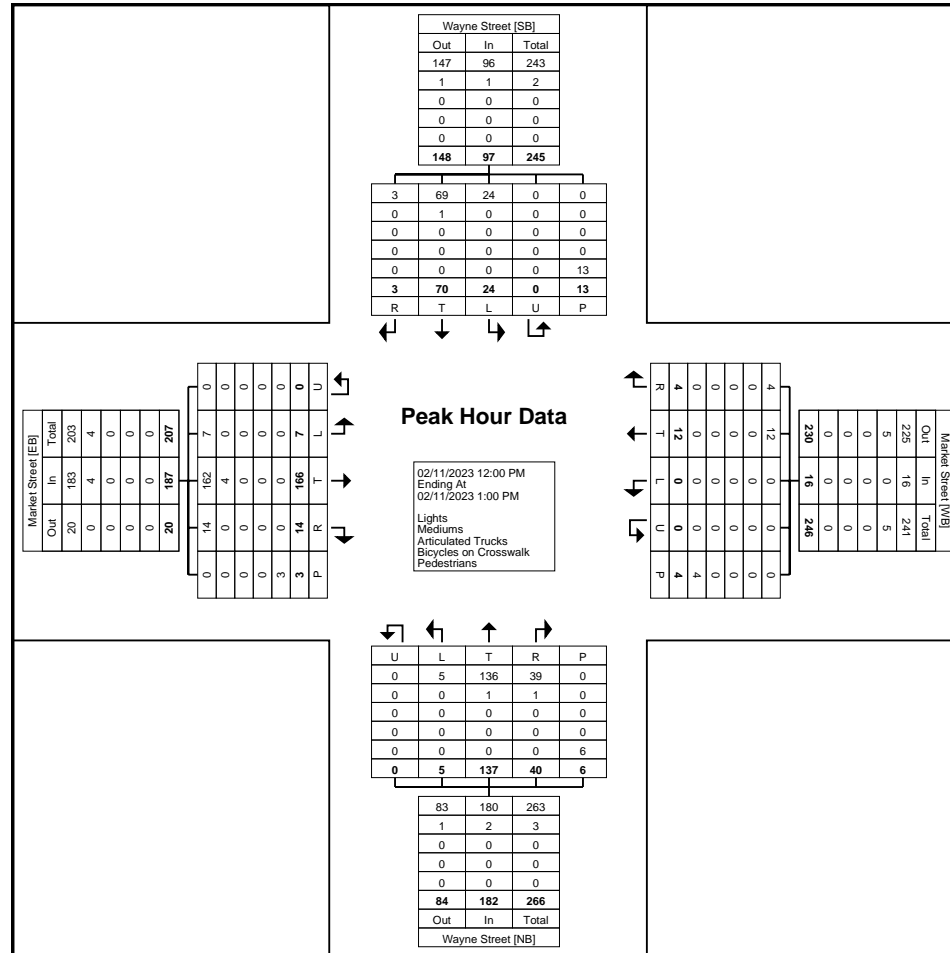
Start Time	Market Street Eastbound						Market Street Westbound						Wayne Street Northbound						Wayne Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	1	49	3	0	0	53	0	2	1	0	0	3	0	31	7	0	1	38	6	16	3	0	3	25	119
12:15 PM	0	36	6	0	1	42	0	3	0	0	0	3	1	41	18	0	1	60	8	14	0	0	3	22	127
12:30 PM	4	31	2	0	2	37	0	6	0	0	2	6	2	34	10	0	1	46	9	21	0	0	5	30	119
12:45 PM	2	50	3	0	0	55	0	1	3	0	2	4	2	31	5	0	3	38	1	19	0	0	2	20	117
Total	7	166	14	0	3	187	0	12	4	0	4	16	5	137	40	0	6	182	24	70	3	0	13	97	482
Approach %	3.7	88.8	7.5	0.0	-	-	0.0	75.0	25.0	0.0	-	-	2.7	75.3	22.0	0.0	-	-	24.7	72.2	3.1	0.0	-	-	-
Total %	1.5	34.4	2.9	0.0	-	38.8	0.0	2.5	0.8	0.0	-	3.3	1.0	28.4	8.3	0.0	-	37.8	5.0	14.5	0.6	0.0	-	20.1	-
PHF	0.438	0.830	0.583	0.000	-	0.850	0.000	0.500	0.333	0.000	-	0.667	0.625	0.835	0.556	0.000	-	0.758	0.667	0.833	0.250	0.000	-	0.808	0.949
Lights	7	162	14	0	-	183	0	12	4	0	-	16	5	136	39	0	-	180	24	69	3	0	-	96	475
% Lights	100.0	97.6	100.0	-	-	97.9	-	100.0	100.0	-	-	100.0	100.0	99.3	97.5	-	-	98.9	100.0	98.6	100.0	-	-	99.0	98.5
Mediums	0	4	0	0	-	4	0	0	0	0	-	0	0	1	1	0	-	2	0	1	0	0	-	1	7
% Mediums	0.0	2.4	0.0	-	-	2.1	-	0.0	0.0	-	-	0.0	0.0	0.7	2.5	-	-	1.1	0.0	1.4	0.0	-	-	1.0	1.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	13	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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 609-706-6100 hfurey@imperialtdc.com

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957109, -75.610358

Count Name: 2. West Market Street & South
 Wayne Street
 Site Code: 2.
 Start Date: 02/11/2023
 Page No: 5



Turning Movement Peak Hour Data Plot (12:00 PM)



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Count Name: 2. West Market Street & South
 Wayne Street
 Site Code: 2.
 Start Date: 02/11/2023
 Page No: 6

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957109, -75.610358

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Market Street Eastbound						Market Street Westbound						Wayne Street Northbound						Wayne Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	6	70	4	0	1	80	1	1	1	0	1	3	0	19	5	0	1	24	8	13	0	0	2	21	128
7:45 AM	4	85	3	0	1	92	1	2	1	0	0	4	0	26	8	0	1	34	10	15	0	0	2	25	155
8:00 AM	3	53	3	0	0	59	2	5	1	0	0	8	1	17	2	0	0	20	10	11	1	0	1	22	109
8:15 AM	5	67	4	0	4	76	4	6	2	0	1	12	1	23	8	0	5	32	9	11	1	0	9	21	141
Total	18	275	14	0	6	307	8	14	5	0	2	27	2	85	23	0	7	110	37	50	2	0	14	89	533
Approach %	5.9	89.6	4.6	0.0	-	-	29.6	51.9	18.5	0.0	-	-	1.8	77.3	20.9	0.0	-	-	41.6	56.2	2.2	0.0	-	-	-
Total %	3.4	51.6	2.6	0.0	-	57.6	1.5	2.6	0.9	0.0	-	5.1	0.4	15.9	4.3	0.0	-	20.6	6.9	9.4	0.4	0.0	-	16.7	-
PHF	0.750	0.809	0.875	0.000	-	0.834	0.500	0.583	0.625	0.000	-	0.563	0.500	0.817	0.719	0.000	-	0.809	0.925	0.833	0.500	0.000	-	0.890	0.860
Lights	18	267	14	0	-	299	8	13	3	0	-	24	2	82	22	0	-	106	35	45	2	0	-	82	511
% Lights	100.0	97.1	100.0	-	-	97.4	100.0	92.9	60.0	-	-	88.9	100.0	96.5	95.7	-	-	96.4	94.6	90.0	100.0	-	-	92.1	95.9
Mediums	0	8	0	0	-	8	0	1	2	0	-	3	0	3	1	0	-	4	2	5	0	0	-	7	22
% Mediums	0.0	2.9	0.0	-	-	2.6	0.0	7.1	40.0	-	-	11.1	0.0	3.5	4.3	-	-	3.6	5.4	10.0	0.0	-	-	7.9	4.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	14	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Cherry Hill, New Jersey, United States 08034
609-706-6100 hfurey@imperialtdc.com

Count Name: 2. West Market Street & South
Wayne Street
Site Code: 2.
Start Date: 02/11/2023
Page No: 8

Project: Market Street
Municipality: West Chester, Chester County, PA
Setup: NR
Location: 39.957109, -75.610358

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Market Street Eastbound						Market Street Westbound						Wayne Street Northbound						Wayne Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:15 PM	9	36	5	0	0	50	3	6	4	0	4	13	3	55	7	0	4	65	9	13	1	0	1	23	151
4:30 PM	4	42	9	0	2	55	5	11	6	1	1	23	15	63	7	0	6	85	7	17	2	0	9	26	189
4:45 PM	1	40	5	0	3	46	4	2	3	0	2	9	1	63	9	0	3	73	5	17	1	0	3	23	151
5:00 PM	3	41	3	0	1	47	2	3	1	0	2	6	2	52	9	0	3	63	2	16	3	0	6	21	137
Total	17	159	22	0	6	198	14	22	14	1	9	51	21	233	32	0	16	286	23	63	7	0	19	93	628
Approach %	8.6	80.3	11.1	0.0	-	-	27.5	43.1	27.5	2.0	-	-	7.3	81.5	11.2	0.0	-	-	24.7	67.7	7.5	0.0	-	-	-
Total %	2.7	25.3	3.5	0.0	-	31.5	2.2	3.5	2.2	0.2	-	8.1	3.3	37.1	5.1	0.0	-	45.5	3.7	10.0	1.1	0.0	-	14.8	-
PHF	0.472	0.946	0.611	0.000	-	0.900	0.700	0.500	0.583	0.250	-	0.554	0.350	0.925	0.889	0.000	-	0.841	0.639	0.926	0.583	0.000	-	0.894	0.831
Lights	17	157	22	0	-	196	14	22	14	1	-	51	21	231	30	0	-	282	23	61	7	0	-	91	620
% Lights	100.0	98.7	100.0	-	-	99.0	100.0	100.0	100.0	100.0	-	100.0	100.0	99.1	93.8	-	-	98.6	100.0	96.8	100.0	-	-	97.8	98.7
Mediums	0	2	0	0	-	2	0	0	0	0	-	0	0	2	1	0	-	3	0	2	0	0	-	2	7
% Mediums	0.0	1.3	0.0	-	-	1.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.9	3.1	-	-	1.0	0.0	3.2	0.0	-	-	2.2	1.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	3.1	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	9	-	-	-	-	-	16	-	-	-	-	-	19	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

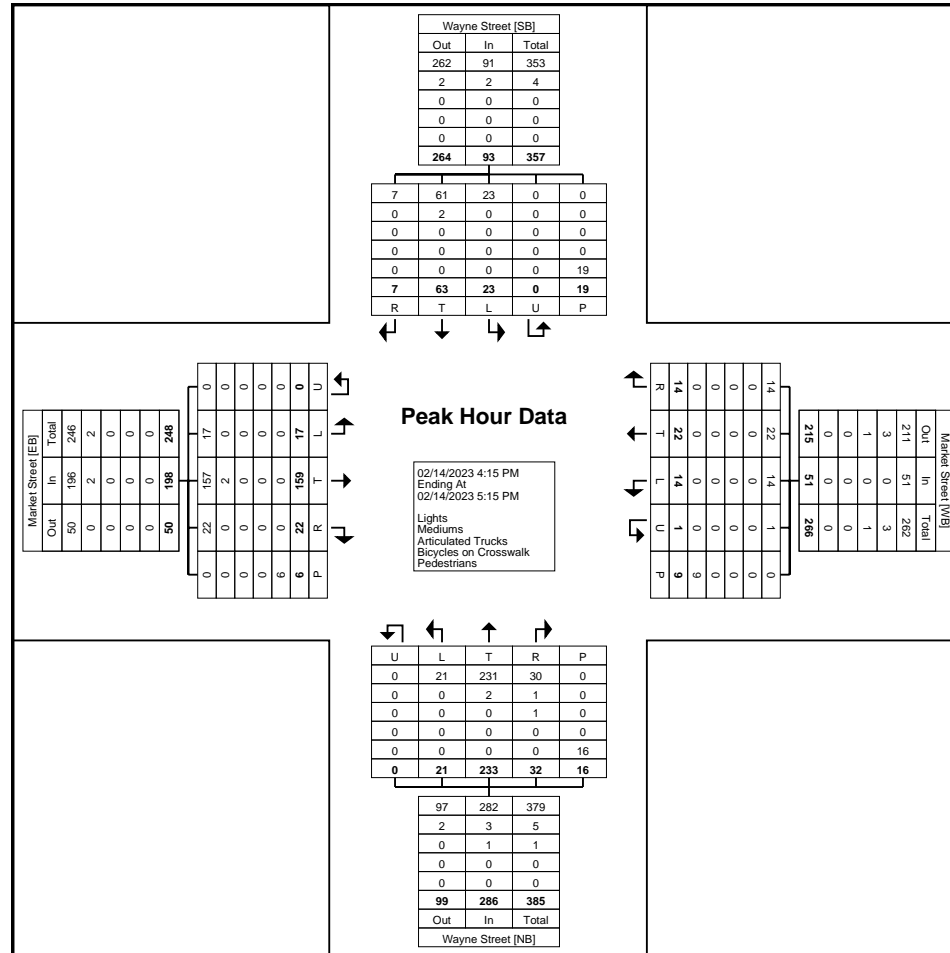


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609-706-6100 hfurey@imperialtdc.com

Count Name: 2. West Market Street & South
Wayne Street
Site Code: 2.
Start Date: 02/11/2023
Page No: 9

Project: Market Street
Municipality: West Chester, Chester County, PA
Setup: NR
Location: 39.957109, -75.610358



Turning Movement Peak Hour Data Plot (4:15 PM)



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609-706-6100 hfurey@imperialtdc.com

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957881, -75.608506

Count Name: 3. Market Street & New Street
 Site Code: 3
 Start Date: 02/11/2023
 Page No: 1

Turning Movement Data

Start Time	Market Street Eastbound						Market Street Westbound					New Street Northbound		New Street Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
11:00 AM	49	3	2	0	5	54	0	0	0	0	0	2	0	114	28	4	0	7	146	200
11:15 AM	53	1	0	0	7	54	0	0	0	0	0	9	0	106	29	3	0	4	138	192
11:30 AM	46	1	1	0	10	48	0	0	0	0	0	14	0	105	34	2	1	9	142	190
11:45 AM	55	4	1	0	8	60	0	0	0	0	0	8	0	101	38	2	1	3	142	202
Hourly Total	203	9	4	0	30	216	0	0	0	0	0	33	0	426	129	11	2	23	568	784
12:00 PM	66	3	0	0	9	69	0	0	0	0	0	3	0	102	33	3	0	12	138	207
12:15 PM	59	2	0	0	9	61	0	0	0	0	0	13	0	122	32	3	0	3	157	218
12:30 PM	47	2	0	0	2	49	0	0	0	0	0	2	0	106	27	4	1	3	138	187
12:45 PM	58	3	0	0	6	61	0	0	0	2	0	5	0	109	28	2	1	5	140	201
Hourly Total	230	10	0	0	26	240	0	0	0	2	0	23	0	439	120	12	2	23	573	813
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	60	1	0	0	0	61	0	0	0	1	0	4	0	73	17	4	0	0	94	155
7:15 AM	65	0	1	0	5	66	0	0	0	1	0	6	0	84	30	0	0	3	114	180
7:30 AM	76	2	1	0	3	79	0	0	0	0	0	3	0	107	34	9	0	7	150	229
7:45 AM	92	4	0	0	7	96	0	0	0	0	0	4	0	128	34	10	0	11	172	268
Hourly Total	293	7	2	0	15	302	0	0	0	2	0	17	0	392	115	23	0	21	530	832
8:00 AM	61	1	0	0	4	62	0	0	0	0	0	2	0	122	36	11	0	13	169	231
8:15 AM	78	1	1	0	6	80	0	0	0	0	0	8	0	113	32	14	0	22	159	239
8:30 AM	65	1	1	0	5	67	0	0	0	0	0	2	0	128	28	9	0	16	165	232
8:45 AM	60	1	1	0	4	62	0	0	0	0	0	4	0	117	39	12	0	8	168	230
Hourly Total	264	4	3	0	19	271	0	0	0	0	0	16	0	480	135	46	0	59	661	932
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	58	3	2	0	6	63	0	0	0	0	0	0	0	108	42	8	0	18	158	221
4:15 PM	58	1	0	0	9	59	0	0	0	0	0	0	0	113	57	7	2	12	179	238
4:30 PM	69	2	0	0	3	71	0	0	0	0	0	0	0	120	67	5	1	36	193	264
4:45 PM	50	1	1	0	6	52	0	0	0	0	0	0	0	105	48	4	1	17	158	210
Hourly Total	235	7	3	0	24	245	0	0	0	0	0	0	0	446	214	24	4	83	688	933
5:00 PM	52	2	1	0	6	55	0	0	0	2	0	12	0	104	61	5	0	10	170	225
5:15 PM	66	1	0	0	8	67	0	0	0	0	0	14	0	104	57	9	0	14	170	237
5:30 PM	57	2	0	0	8	59	0	0	0	2	0	9	0	96	51	7	1	21	155	214
5:45 PM	36	3	1	0	5	40	0	0	0	0	0	6	0	82	53	7	0	11	142	182
Hourly Total	211	8	2	0	27	221	0	0	0	4	0	41	0	386	222	28	1	56	637	858
Grand Total	1436	45	14	0	141	1495	0	0	0	8	0	130	0	2569	935	144	9	265	3657	5152
Approach %	96.1	3.0	0.9	0.0	-	-	0.0	0.0	0.0	-	-	-	-	70.2	25.6	3.9	0.2	-	-	-
Total %	27.9	0.9	0.3	0.0	-	29.0	0.0	0.0	0.0	-	0.0	-	0.0	49.9	18.1	2.8	0.2	-	71.0	-

Lights	1409	44	14	0	-	1467	0	0	0	-	0	-	0	2501	924	139	9	-	3573	5040
% Lights	98.1	97.8	100.0	-	-	98.1	-	-	-	-	-	-	-	97.4	98.8	96.5	100.0	-	97.7	97.8
Mediums	25	1	0	0	-	26	0	0	0	-	0	-	0	63	11	5	0	-	79	105
% Mediums	1.7	2.2	0.0	-	-	1.7	-	-	-	-	-	-	-	2.5	1.2	3.5	0.0	-	2.2	2.0
Articulated Trucks	2	0	0	0	-	2	0	0	0	-	0	-	0	5	0	0	0	-	5	7
% Articulated Trucks	0.1	0.0	0.0	-	-	0.1	-	-	-	-	-	-	-	0.2	0.0	0.0	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.7	-	-	-	-	0.0	-	1.5	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	140	-	-	-	-	8	-	128	-	-	-	-	-	265	-	-
% Pedestrians	-	-	-	-	99.3	-	-	-	-	100.0	-	98.5	-	-	-	-	-	100.0	-	-



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Cherry Hill, New Jersey, United States 08034

609-706-6100 hfurey@imperialtdc.com

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957881, -75.608506

Count Name: 3. Market Street & New Street
 Site Code: 3
 Start Date: 02/11/2023
 Page No: 4

Turning Movement Peak Hour Data (11:30 AM)

Start Time	Market Street Eastbound						Market Street Westbound					New Street Northbound		New Street Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
11:30 AM	46	1	1	0	10	48	0	0	0	0	0	14	0	105	34	2	1	9	142	190
11:45 AM	55	4	1	0	8	60	0	0	0	0	0	8	0	101	38	2	1	3	142	202
12:00 PM	66	3	0	0	9	69	0	0	0	0	0	3	0	102	33	3	0	12	138	207
12:15 PM	59	2	0	0	9	61	0	0	0	0	0	13	0	122	32	3	0	3	157	218
Total	226	10	2	0	36	238	0	0	0	0	0	38	0	430	137	10	2	27	579	817
Approach %	95.0	4.2	0.8	0.0	-	-	0.0	0.0	0.0	-	-	-	-	74.3	23.7	1.7	0.3	-	-	-
Total %	27.7	1.2	0.2	0.0	-	29.1	0.0	0.0	0.0	-	0.0	-	0.0	52.6	16.8	1.2	0.2	-	70.9	-
PHF	0.856	0.625	0.500	0.000	-	0.862	0.000	0.000	0.000	-	0.000	-	0.000	0.881	0.901	0.833	0.500	-	0.922	0.937
Lights	225	10	2	0	-	237	0	0	0	-	0	-	0	425	137	10	2	-	574	811
% Lights	99.6	100.0	100.0	-	-	99.6	-	-	-	-	-	-	-	98.8	100.0	100.0	100.0	-	99.1	99.3
Mediums	1	0	0	0	-	1	0	0	0	-	0	-	0	5	0	0	0	-	5	6
% Mediums	0.4	0.0	0.0	-	-	0.4	-	-	-	-	-	-	-	1.2	0.0	0.0	0.0	-	0.9	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	36	-	-	-	-	0	-	38	-	-	-	-	-	27	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957881, -75.608506

Count Name: 3. Market Street & New Street
 Site Code: 3
 Start Date: 02/11/2023
 Page No: 6

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Market Street Eastbound						Market Street Westbound					New Street Northbound		New Street Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:45 AM	92	4	0	0	7	96	0	0	0	0	0	4	0	128	34	10	0	11	172	268
8:00 AM	61	1	0	0	4	62	0	0	0	0	0	2	0	122	36	11	0	13	169	231
8:15 AM	78	1	1	0	6	80	0	0	0	0	0	8	0	113	32	14	0	22	159	239
8:30 AM	65	1	1	0	5	67	0	0	0	0	0	2	0	128	28	9	0	16	165	232
Total	296	7	2	0	22	305	0	0	0	0	0	16	0	491	130	44	0	62	665	970
Approach %	97.0	2.3	0.7	0.0	-	-	0.0	0.0	0.0	-	-	-	-	73.8	19.5	6.6	0.0	-	-	-
Total %	30.5	0.7	0.2	0.0	-	31.4	0.0	0.0	0.0	-	0.0	-	0.0	50.6	13.4	4.5	0.0	-	68.6	-
PHF	0.804	0.438	0.500	0.000	-	0.794	0.000	0.000	0.000	-	0.000	-	0.000	0.959	0.903	0.786	0.000	-	0.967	0.905
Lights	291	6	2	0	-	299	0	0	0	-	0	-	0	472	129	42	0	-	643	942
% Lights	98.3	85.7	100.0	-	-	98.0	-	-	-	-	-	-	-	96.1	99.2	95.5	-	-	96.7	97.1
Mediums	4	1	0	0	-	5	0	0	0	-	0	-	0	18	1	2	0	-	21	26
% Mediums	1.4	14.3	0.0	-	-	1.6	-	-	-	-	-	-	-	3.7	0.8	4.5	-	-	3.2	2.7
Articulated Trucks	1	0	0	0	-	1	0	0	0	-	0	-	0	1	0	0	0	-	1	2
% Articulated Trucks	0.3	0.0	0.0	-	-	0.3	-	-	-	-	-	-	-	0.2	0.0	0.0	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	4.5	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	21	-	-	-	-	0	-	16	-	-	-	-	-	62	-	-
% Pedestrians	-	-	-	-	95.5	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: 3. Market Street & New Street

Site Code: 3

Start Date: 02/11/2023

Page No: 8

Project: Market Street
 Municipality: West Chester, Chester County, PA
 Setup: NR
 Location: 39.957881, -75.608506

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Market Street Eastbound						Market Street Westbound					New Street Northbound		New Street Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:15 PM	58	1	0	0	9	59	0	0	0	0	0	0	0	113	57	7	2	12	179	238
4:30 PM	69	2	0	0	3	71	0	0	0	0	0	0	0	120	67	5	1	36	193	264
4:45 PM	50	1	1	0	6	52	0	0	0	0	0	0	0	105	48	4	1	17	158	210
5:00 PM	52	2	1	0	6	55	0	0	0	2	0	12	0	104	61	5	0	10	170	225
Total	229	6	2	0	24	237	0	0	0	2	0	12	0	442	233	21	4	75	700	937
Approach %	96.6	2.5	0.8	0.0	-	-	0.0	0.0	0.0	-	-	-	-	63.1	33.3	3.0	0.6	-	-	-
Total %	24.4	0.6	0.2	0.0	-	25.3	0.0	0.0	0.0	-	0.0	-	0.0	47.2	24.9	2.2	0.4	-	74.7	-
PHF	0.830	0.750	0.500	0.000	-	0.835	0.000	0.000	0.000	-	0.000	-	0.000	0.921	0.869	0.750	0.500	-	0.907	0.887
Lights	225	6	2	0	-	233	0	0	0	-	0	-	0	435	228	21	4	-	688	921
% Lights	98.3	100.0	100.0	-	-	98.3	-	-	-	-	-	-	-	98.4	97.9	100.0	100.0	-	98.3	98.3
Mediums	3	0	0	0	-	3	0	0	0	-	0	-	0	7	5	0	0	-	12	15
% Mediums	1.3	0.0	0.0	-	-	1.3	-	-	-	-	-	-	-	1.6	2.1	0.0	0.0	-	1.7	1.6
Articulated Trucks	1	0	0	0	-	1	0	0	0	-	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	0.4	0.0	0.0	-	-	0.4	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	0.0	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	24	-	-	-	-	2	-	12	-	-	-	-	-	75	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	100.0	-	-	-	-	-	100.0	-	-

Appendix D

Warrant Analysis Worksheets

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="AM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> Left or Right-Turn Lane Analysis?: <input type="text" value="Left Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	14	0.0%	14	Advancing Volume: <input type="text" value="90"/>
	Through	-	7.0%	76	Opposing Volume: <input type="text" value="119"/>
	Right			0	Left Turn Volume: <input type="text" value="14"/>
Opposing	Left			0	
	Through	-	4.0%	115	
	Right	Yes	4	0.0%	4
					% Left Turns in Advancing Volume: <input type="text" value="15.56%"/>

Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left			N/A	Advancing Volume: <input type="text" value="N/A"/>
	Through	-	4.0%	N/A	Right Turn Volume: <input type="text" value="N/A"/>
	Right	-	4	0.0%	N/A

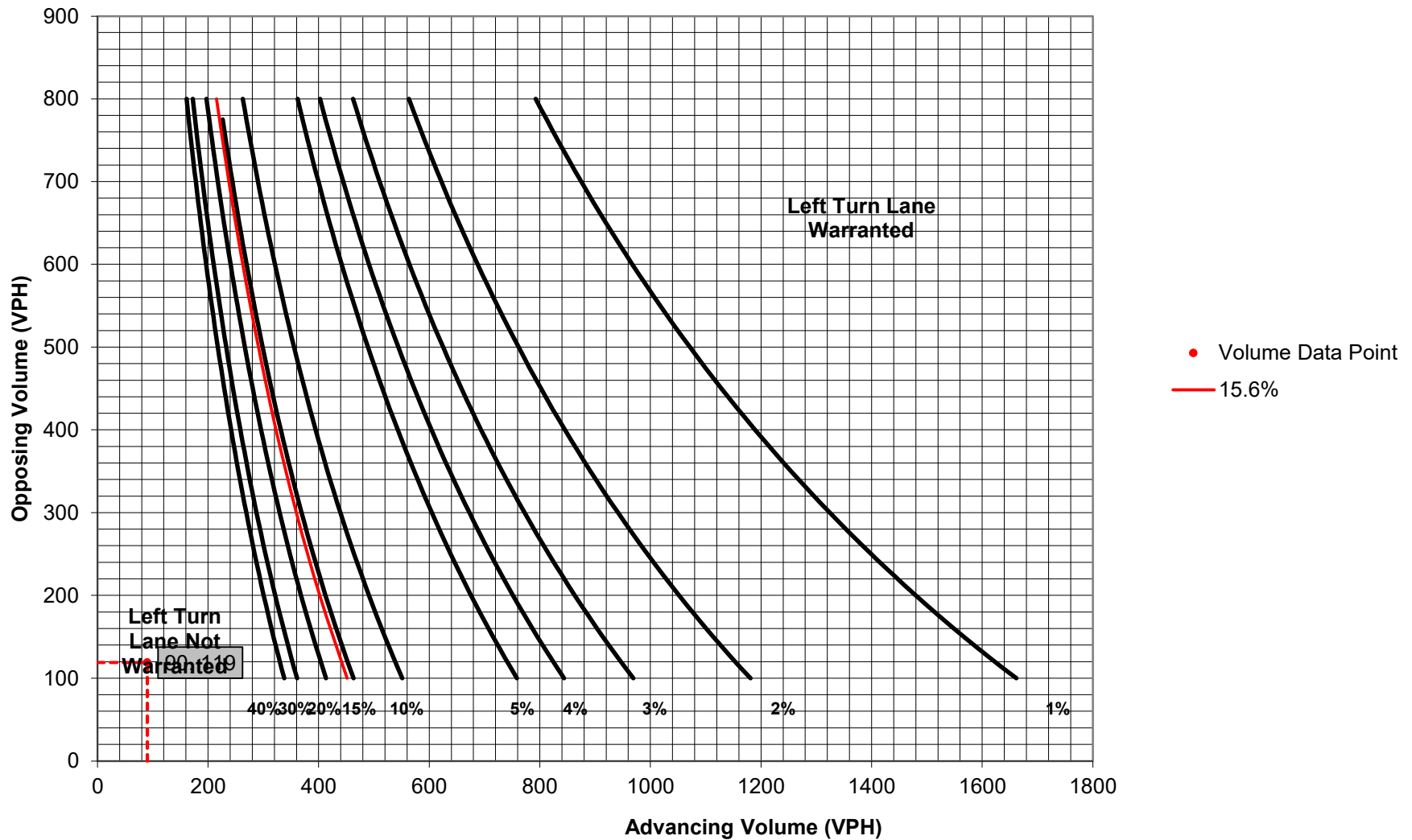
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="Figure 1"/> Warrant Met?: <input type="text" value="No"/>	Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="14"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>																																								
PennDOT Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #FFDAB9;"> <th rowspan="3" style="text-align: left;">Type of Traffic Control</th> <th colspan="6" style="text-align: center;">Speed (MPH)</th> </tr> <tr style="background-color: #FFDAB9;"> <th colspan="2" style="text-align: center;">25-35</th> <th colspan="2" style="text-align: center;">40-45</th> <th colspan="2" style="text-align: center;">50-60</th> </tr> <tr style="background-color: #FFDAB9;"> <th colspan="6" style="text-align: center;">Turn Demand Volume</th> </tr> <tr> <th></th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Signalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> </tr> <tr> <td style="text-align: center;">Unsignalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">C</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B</td> </tr> </tbody> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume							High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																								
	25-35		40-45		50-60																																				
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	High	Low	High	Low	High	Low																																			
Signalized	A	A	B or C	B or C	B or C	B or C																																			
Unsignalized	A	A	C	B	B or C	B																																			
Left Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Left Turn Lane Storage Length: <input type="text" value="N/A"/> Feet																																									
Additional Findings: <input type="text" value="N/A"/>																																									
Additional Comments / Justifications: <input style="width: 100%; height: 40px;" type="text"/>																																									

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)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="AM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 1px solid red; padding: 2px; display: inline-block;">Type of Analysis</div> Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	14	0.0%	N/A
	Through	-	73	7.0%	N/A
	Right				N/A
Opposing	Left				N/A
	Through	-	112	4.0%	N/A
	Right	Yes	4	0.0%	N/A

Advancing Volume:
 Opposing Volume:
 Left Turn Volume:

% Left Turns in Advancing Volume:

Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left			0	
	Through	-	112	4.0%	115
	Right	-	4	0.0%	4

Advancing Volume:
 Right Turn Volume:

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="4"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
---	---

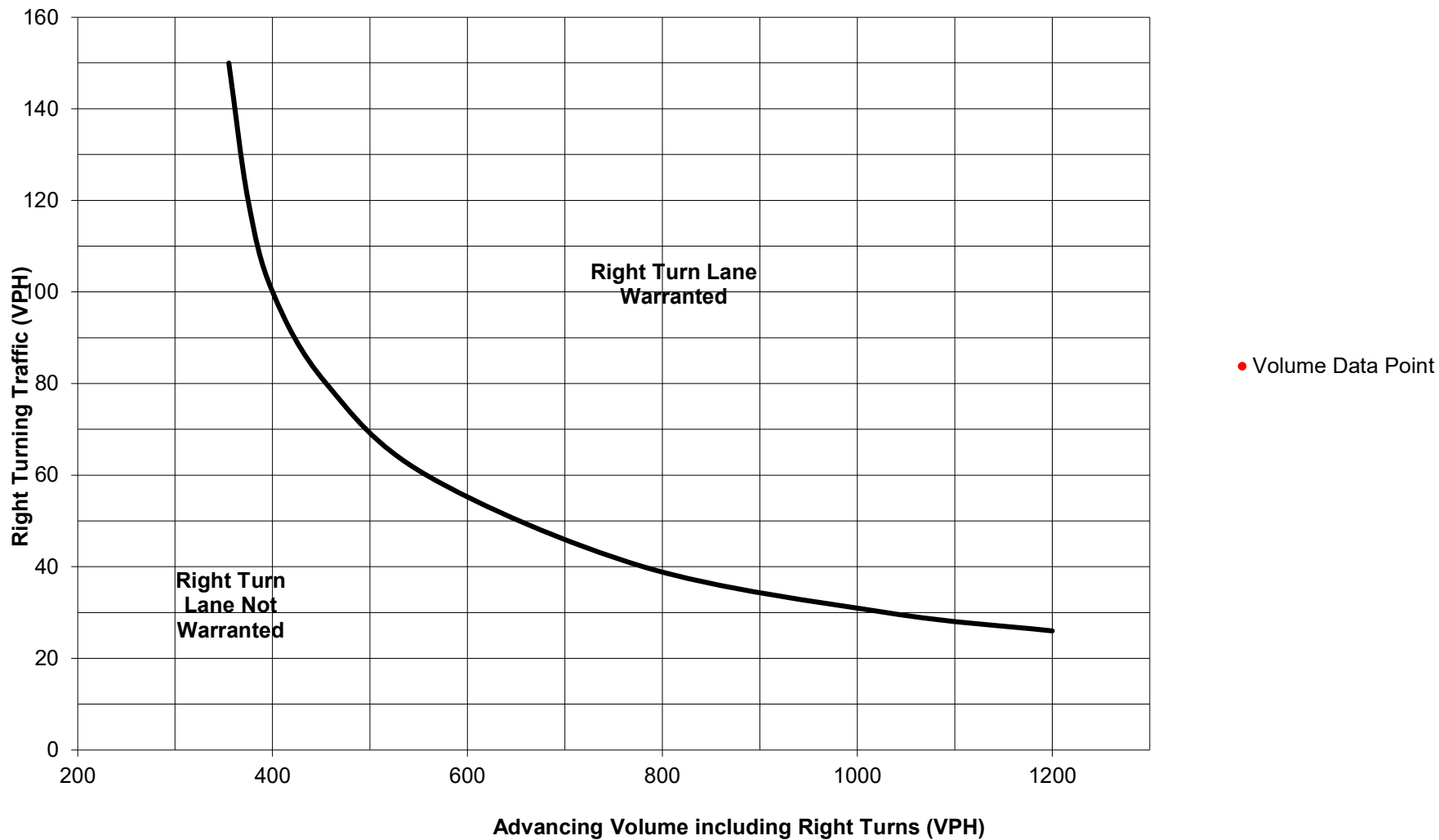
Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A: Feet
 Condition B: Feet
 Condition C: Feet
 Required Right Turn Lane Storage Length: Feet

Additional Findings:

Additional Comments / Justifications:

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



NOTE: The point (112,4) is below the viewport of the graph.

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="PM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 1px solid red; padding: 2px; display: inline-block;">Type of Analysis</div> Left or Right-Turn Lane Analysis?: <input type="text" value="Left Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	36	0.0%	36	Advancing Volume: <input type="text" value="139"/> Opposing Volume: <input type="text" value="304"/> Left Turn Volume: <input type="text" value="36"/>
	Through	-	101	2.0%	103	
	Right				0	
Opposing	Left				0	% Left Turns in Advancing Volume: <input type="text" value="25.90%"/>
	Through	-	291	1.0%	293	
	Right	Yes	11	0.0%	11	
Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left				N/A	Advancing Volume: <input type="text" value="N/A"/> Right Turn Volume: <input type="text" value="N/A"/>
	Through	-	291	1.0%	N/A	
	Right	-	11	0.0%	N/A	

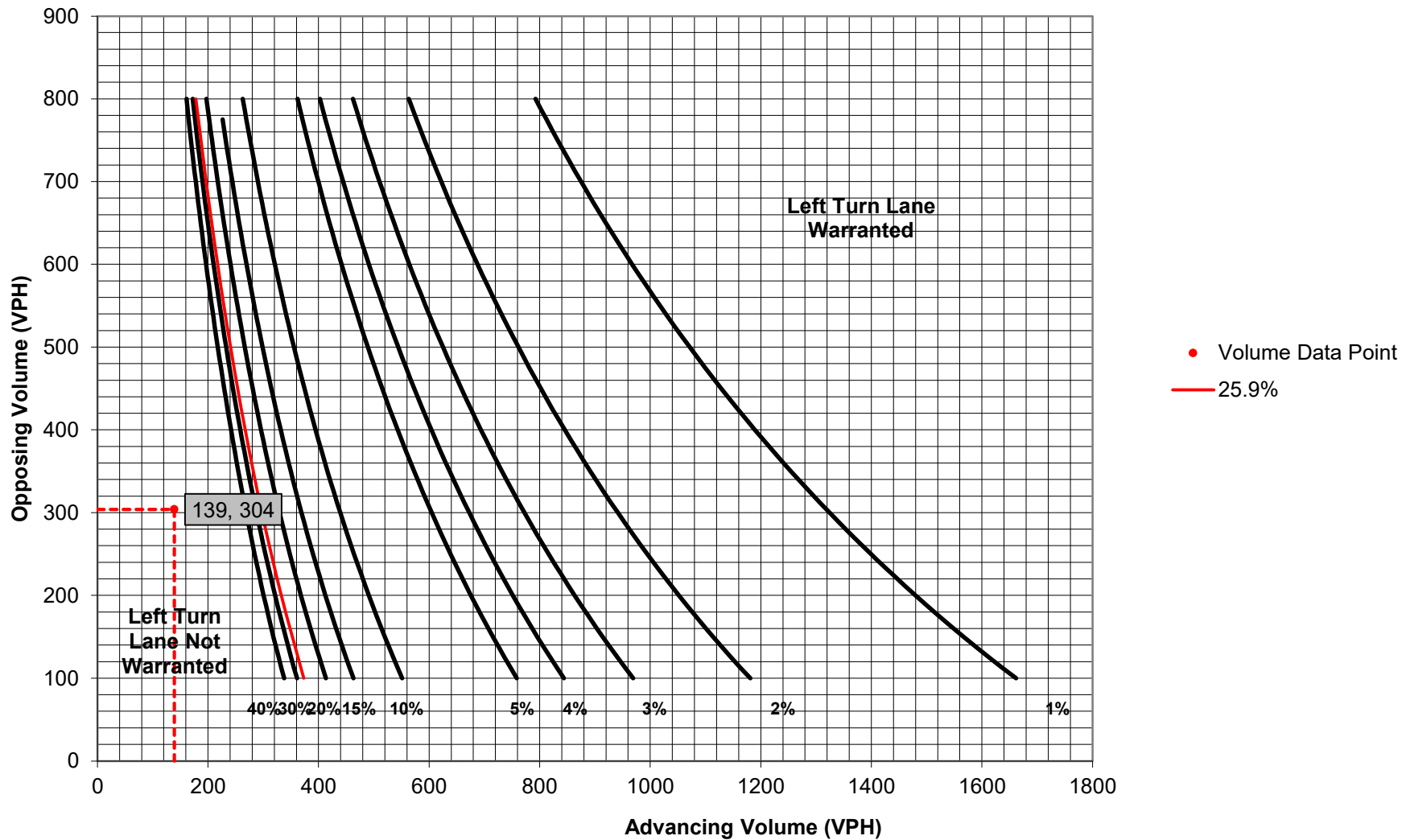
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="Figure 1"/> Warrant Met?: <input type="text" value="No"/>	Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="36"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>																																								
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Type of Traffic Control	Speed (MPH)																																								
	25-35		40-45		50-60																																				
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	High	Low	High	Low	High	Low																																			
Signalized	A	A	B or C	B or C	B or C	B or C																																			
Unsignalized	A	A	C	B	B or C	B																																			
Left Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Left Turn Lane Storage Length: <input type="text" value="N/A"/> Feet																																									
Additional Findings: <input type="text" value="N/A"/>																																									
Additional Comments / Justifications: <input style="width: 100%; height: 40px;" type="text"/>																																									

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)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="PM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> Type of Analysis: Right Turn Lane Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	36	0.0%	N/A	Advancing Volume: <input type="text" value="N/A"/> Opposing Volume: <input type="text" value="N/A"/> Left Turn Volume: <input type="text" value="N/A"/>
	Through	-	101	2.0%	N/A	
	Right				N/A	
Opposing	Left				N/A	% Left Turns in Advancing Volume: <input type="text" value="N/A"/>
	Through	-	291	1.0%	N/A	
	Right	Yes	11	0.0%	N/A	

Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left			0		Advancing Volume: <input type="text" value="304"/> Right Turn Volume: <input type="text" value="11"/>
	Through	-	291	1.0%	293	
	Right	-	11	0.0%	11	

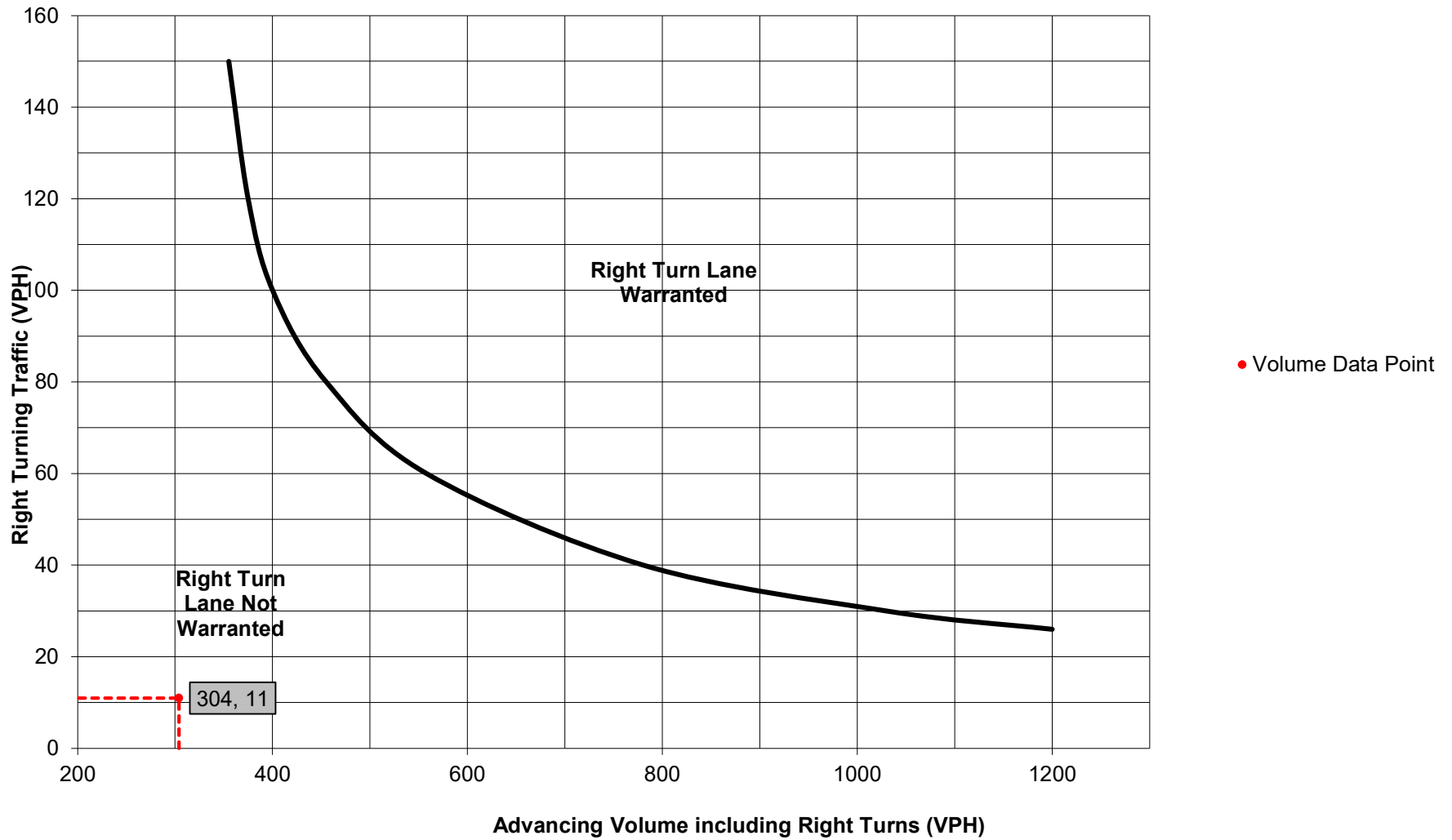
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="11"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>																																								
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Type of Traffic Control	Speed (MPH)																																								
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**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



Turn Lane Warrant and Length Analysis Workbook

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Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="Sat MID Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> Left or Right-Turn Lane Analysis?: <input style="border: 2px solid red;" type="text" value="Type of Analysis"/> <input type="text" value="Left Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	27	0.0%	27	Advancing Volume: <input type="text" value="113"/> Opposing Volume: <input type="text" value="195"/> Left Turn Volume: <input type="text" value="27"/>
	Through	-	85	1.0%	86	
	Right				0	
Opposing	Left				0	% Left Turns in Advancing Volume: <input type="text" value="23.89%"/>
	Through	-	185	1.0%	186	
	Right	Yes	9	0.0%	9	
Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left				N/A	Advancing Volume: <input type="text" value="N/A"/> Right Turn Volume: <input type="text" value="N/A"/>
	Through	-	185	1.0%	N/A	
	Right	-	9	0.0%	N/A	

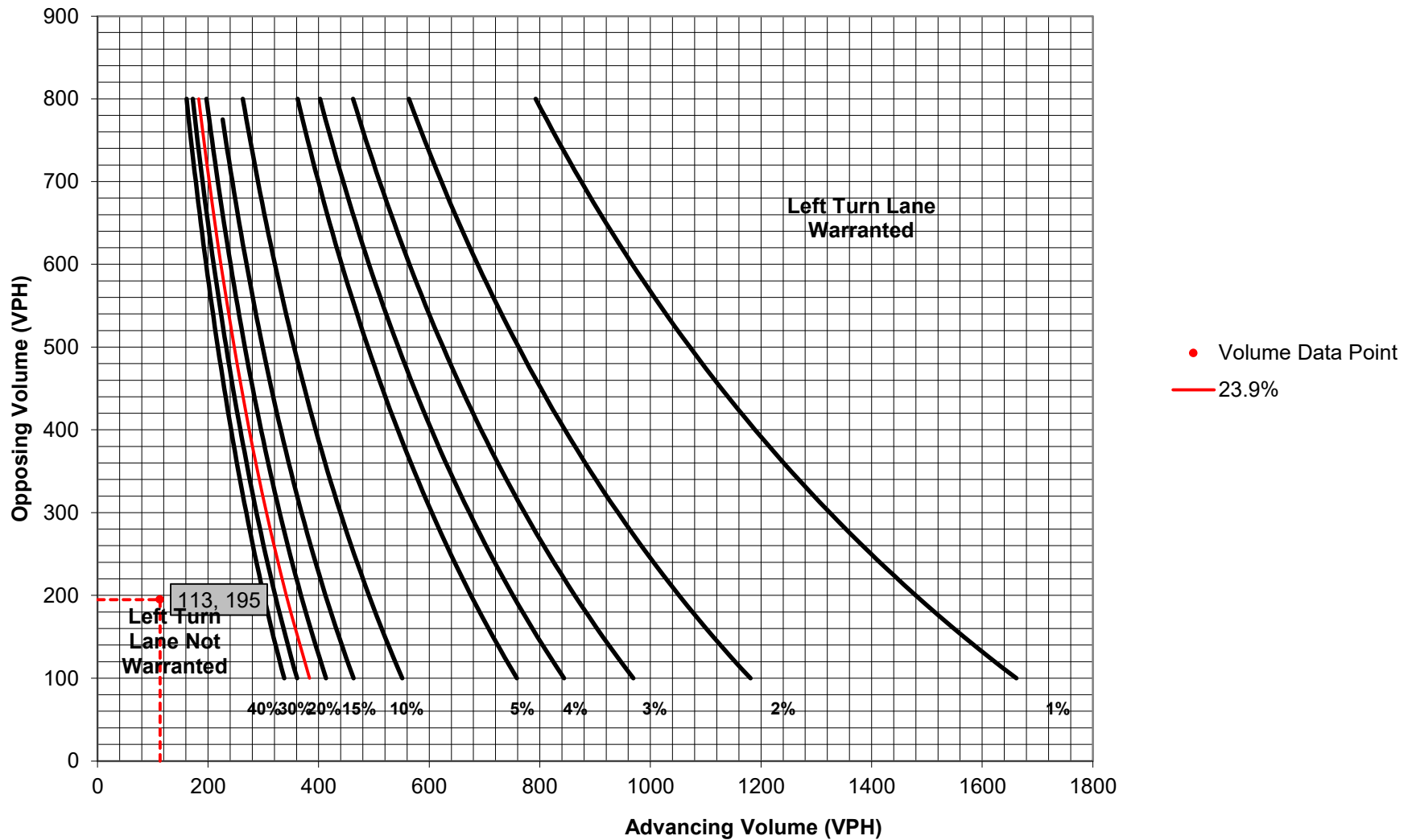
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input style="background-color: #90EE90;" type="text" value="Figure 1"/> Warrant Met?: <input style="background-color: #90EE90;" type="text" value="No"/>	Applicable Warrant Figure: <input style="background-color: #90EE90;" type="text" value="N/A"/> Warrant Met?: <input style="background-color: #90EE90;" type="text" value="N/A"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="27"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>																																								
PennDOT Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #FFDAB9;"> <th rowspan="3" style="text-align: left;">Type of Traffic Control</th> <th colspan="6" style="text-align: center;">Speed (MPH)</th> </tr> <tr style="background-color: #FFDAB9;"> <th colspan="2" style="text-align: center;">25-35</th> <th colspan="2" style="text-align: center;">40-45</th> <th colspan="2" style="text-align: center;">50-60</th> </tr> <tr style="background-color: #FFDAB9;"> <th colspan="6" style="text-align: center;">Turn Demand Volume</th> </tr> <tr> <th></th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> <th style="text-align: center;">High</th> <th style="text-align: center;">Low</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Signalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> </tr> <tr> <td style="text-align: center;">Unsignalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">C</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B</td> </tr> </tbody> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume							High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																								
	25-35		40-45		50-60																																				
	Turn Demand Volume																																								
	High	Low	High	Low	High	Low																																			
Signalized	A	A	B or C	B or C	B or C	B or C																																			
Unsignalized	A	A	C	B	B or C	B																																			
Left Turn Lane Storage Length, Condition A: <input style="background-color: #90EE90;" type="text" value="N/A"/> Feet Condition B: <input style="background-color: #90EE90;" type="text" value="N/A"/> Feet Condition C: <input style="background-color: #90EE90;" type="text" value="N/A"/> Feet Required Left Turn Lane Storage Length: <input style="background-color: #90EE90;" type="text" value="N/A"/> Feet																																									
Additional Findings: <input style="background-color: #90EE90;" type="text" value="N/A"/>																																									
Additional Comments / Justifications: <input style="background-color: #FFFF00;" type="text"/>																																									

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)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="West Chester Borough"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="2/24/2023"/> Conducted By: <input type="text" value="BGG"/> Checked By: <input type="text" value="JDG"/> Agency/Company Name: <input type="text" value="McMahon"/>
Intersection & Approach Description: <input type="text" value="S. Wayne Street and Site Access"/>	
Analysis Period: <input type="text" value="2026 Build"/> Design Hour: <input type="text" value="Sat MID Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="25"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 1px solid red; padding: 2px; display: inline-block;">Type of Analysis</div> Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	27	0.0%	N/A
	Through	-	85	1.0%	N/A
	Right				N/A
Opposing	Left				N/A
	Through	-	185	1.0%	N/A
	Right	Yes	9	0.0%	N/A

Advancing Volume:
 Opposing Volume:
 Left Turn Volume:

% Left Turns in Advancing Volume:

Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left			0	
	Through	-	185	1.0%	186
	Right	-	9	0.0%	9

Advancing Volume:
 Right Turn Volume:

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="9"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
---	---

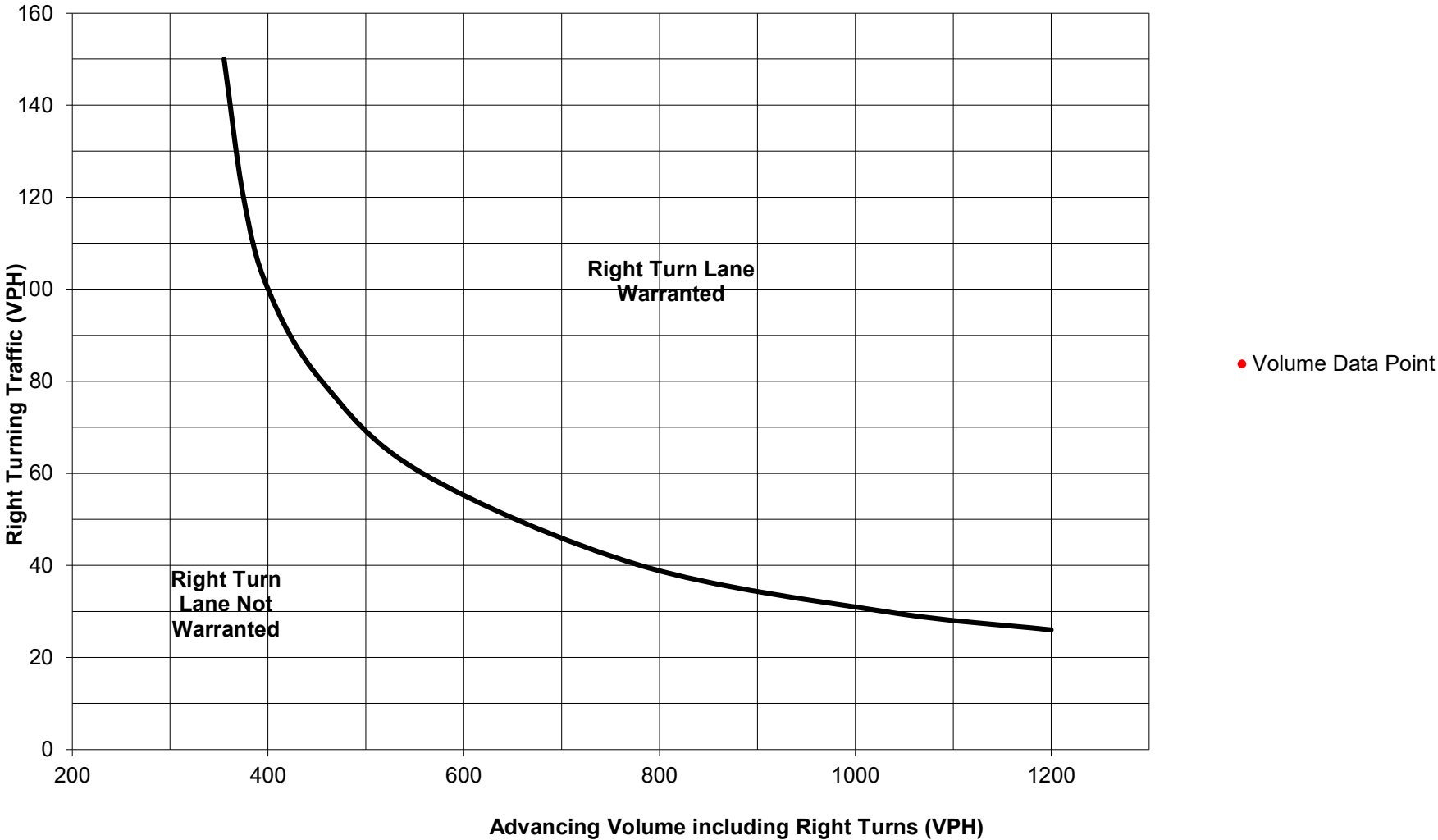
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A:	<input type="text" value="N/A"/>	Feet
Condition B:	<input type="text" value="N/A"/>	Feet
Condition C:	<input type="text" value="N/A"/>	Feet
Required Right Turn Lane Storage Length:	<input type="text" value="N/A"/>	Feet

Additional Findings:

Additional Comments / Justifications:

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



NOTE: The point (185,9) is below the viewport of the graph.

Appendix E

Detailed Volume Projection Worksheets

Wayne Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 7 AM - 9 AM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		18	275	14	8	14	5	2	85	23	37	50	2
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		18	275	14	8	14	5	2	85	23	37	50	2
Background Growth to 2026	1.63%	0	4	0	0	0	0	0	1	0	1	1	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		18	279	14	8	14	5	2	86	23	38	51	2
Multifamily Housing (Mid-Rise)	DIST IN		5%	10%	30%						5%	5%	
	DIST OUT					(5%)		(5%)	(40%)				
ASSIGN		0	1	1	5	0	3	0	2	22	1	1	0
Strip Retail Plaza (<40k)	DIST IN			15%	55%							10%	
	DIST OUT							(10%)	(70%)				
ASSIGN		0	0	1	5	0	0	0	1	5	0	1	0
Total New Site Trip Assignment		0	1	2	10	0	3	0	3	27	1	2	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		18	280	16	18	14	8	2	89	50	39	53	2

Wayne Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 4 PM - 6 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES													
Seasonal Adjustment Factor	1.000	17	159	22	14	22	14	21	233	32	23	63	7
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES													
Background Growth to 2026	1.63%	0	3	0	0	0	0	0	4	1	0	1	0
<i>Total Other Development New Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Development Pass-by Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES													
		17	162	22	14	22	14	21	237	33	23	64	7
Development Volumes													
Multifamily Housing (Mid-Rise)	DIST IN		5%	10%	30%						5%	5%	
	DIST OUT					(5%)		(5%)	(40%)				
ASSIGN		0	2	5	13	0	1	0	2	11	2	2	0
Strip Retail Plaza (<40k)	DIST IN			15%	55%							10%	
	DIST OUT							(10%)	(70%)				
ASSIGN		0	0	3	11	0	0	0	2	14	0	2	0
Total New Site Trip Assignment		0	2	8	24	0	1	0	4	25	2	4	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES													
		17	164	30	38	22	15	21	241	58	25	68	7

Wayne Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Saturday Midday 10 AM - 1 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		7	166	14	0	12	4	5	137	40	24	70	3
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		7	166	14	0	12	4	5	137	40	24	70	3
Background Growth to 2026	1.63%	0	3	0	0	0	0	0	2	1	0	1	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		7	169	14	0	12	4	5	139	41	24	71	3
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN		5% 10%	30%		(5%)		(5%) (40%)			5% 5%		
		0	1	4	11	0	2	0	2	14	2	2	0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN			15% 55%				(10%) (70%)				10%	
		0	0	2	7	0	0	0	1	9	0	1	0
Total New Site Trip Assignment		0	1	6	18	0	2	0	3	23	2	3	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		7	170	20	18	12	6	5	142	64	26	74	3

Potter Alley & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 7 AM - 9 AM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
		EXISTING VOLUMES		9	307	0	0	39	4	1	0	3	9
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		9	307	0	0	39	4	1	0	3	9	0	2
Background Growth to 2026	1.63%	0	5	0	0	1	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		9	312	0	0	40	4	1	0	3	9	0	2
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN			10%	25%	30%		(5%)		(30%)			
		0	22	2	4	5	0	3	0	16	0	0	0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN			(70%)		55%							
		0	5	0	0	5	0	0	0	0	0	0	0
Total New Site Trip Assignment		0	27	2	4	10	0	3	0	16	0	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		9	339	2	4	50	4	4	0	19	9	0	2

Potter Alley & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 4 PM - 6 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
		EXISTING VOLUMES		7	216	0	0	27	1	1	3	5	21
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		7	216	0	0	27	1	1	3	5	21	1	6
Background Growth to 2026	1.63%	0	4	0	0	0	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		7	220	0	0	27	1	1	3	5	21	1	6
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN			10%	25%	30%		(5%)	(30%)				
		0	11	4	11	13	0	1	0	9	0	0	0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN			(70%)		55%							
		0	14	0	0	11	0	0	0	0	0	0	0
Total New Site Trip Assignment		0	25	4	11	24	0	1	0	9	0	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		7	245	4	11	51	1	2	3	14	21	1	6

Potter Alley & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Saturday Midday 10 AM - 1 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		3	230	1	0	15	0	0	2	8	2	1	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		3	230	1	0	15	0	0	2	8	2	1	0
Background Growth to 2026	1.63%	0	4	0	0	0	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		3	234	1	0	15	0	0	2	8	2	1	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN			10%	25%	30%			(5%)	(30%)			
		0	14	3	10	11	0	2	0	11	0	0	0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN			(70%)		55%							
		0	9	0	0	7	0	0	0	0	0	0	0
Total New Site Trip Assignment		0	23	3	10	18	0	2	0	11	0	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		3	257	4	10	33	0	2	2	19	2	1	0

New Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 7 AM - 9 AM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND New Street			SOUTHBOUND New Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
		EXISTING VOLUMES		0	296	9	0	0	0	0	0	0	491
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	296	9	0	0	0	0	0	0	491	130	44
Background Growth to 2026	1.63%	0	5	0	0	0	0	0	0	0	8	2	1
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	301	9	0	0	0	0	0	0	499	132	45
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	38	0	0	0	0	0	0	0	0	0	9
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	5	0	0	0	0	0	0	0	0	0	5
Total New Site Trip Assignment		0	43	0	0	0	0	0	0	0	0	0	14
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	344	9	0	0	0	0	0	0	499	132	59

New Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 4 PM - 6 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND New Street			SOUTHBOUND New Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	229	8	0	0	0	0	0	0	442	233	25
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	229	8	0	0	0	0	0	0	442	233	25
Background Growth to 2026	1.63%	0	4	0	0	0	0	0	0	0	7	4	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	233	8	0	0	0	0	0	0	449	237	25
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	20	0	0	0	0	0	0	0	0	0	24
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	14	0	0	0	0	0	0	0	0	0	11
Total New Site Trip Assignment		0	34	0	0	0	0	0	0	0	0	0	35
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	267	8	0	0	0	0	0	0	449	237	60

New Street & Market Street
INTERSECTION VOLUME PROJECTION SUMMARY
Saturday Midday 10 AM - 1 PM

		EASTBOUND Market Street			WESTBOUND Market Street			NORTHBOUND New Street			SOUTHBOUND New Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
		EXISTING VOLUMES		0	226	12	0	0	0	0	0	0	430
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	226	12	0	0	0	0	0	0	430	137	12
Background Growth to 2026	1.63%	0	4	0	0	0	0	0	0	0	7	2	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	230	12	0	0	0	0	0	0	437	139	12
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	25	0	0	0	0	0	0	0	0	0	21
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN		(70%)										55%
		0	9	0	0	0	0	0	0	0	0	0	7
Total New Site Trip Assignment		0	34	0	0	0	0	0	0	0	0	0	28
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	264	12	0	0	0	0	0	0	437	139	40

Wayne Street & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 7 AM - 9 AM

		EASTBOUND			WESTBOUND Site Access			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	110	0	0	72	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	110	0	0	72	0
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	2	0	0	1	0
<i>Total Other Development New Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Development Pass-by Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	112	0	0	73	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN				(15%) 8		(45%) 24		15% 2		45% 7		0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN				(20%) 1		(80%) 6		20% 2		80% 7		0
Total New Site Trip Assignment		0	0	0	9	0	30	0	0	4	14	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	0	0	9	0	30	0	112	4	14	73	0

Wayne Street & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 4 PM - 6 PM

		EASTBOUND			WESTBOUND Site Access			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	286	0	0	99	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	286	0	0	99	0
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	5	0	0	2	0
<i>Total Other Development New Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Development Pass-by Trip Assignments</i>		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	291	0	0	101	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN				(15%) 4		(45%) 13		15% 7		45% 20		0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN				(20%) 4		(80%) 16		20% 4		80% 16		0
Total New Site Trip Assignment		0	0	0	8	0	29	0	0	11	36	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	0	0	8	0	29	0	291	11	36	101	0

Wayne Street & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Saturday MIDDAY 10 AM - 1 PM

		EASTBOUND			WESTBOUND Site Access			NORTHBOUND Wayne Street			SOUTHBOUND Wayne Street		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	182	0	0	84	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	182	0	0	84	0
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	3	0	0	1	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	185	0	0	85	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN				(15%) 5		(45%) 16		15% 6		45% 17		0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN				(20%) 3		(80%) 10		20% 3		80% 10		0
Total New Site Trip Assignment		0	0	0	8	0	26	0	0	9	27	0	0
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		0	0	0	8	0	26	0	185	9	27	85	0

Potter Alley & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 7 AM - 9 AM

		EASTBOUND Site Access			WESTBOUND			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	4	0	0	0	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	4	0	0	0	0
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	4	0	0	0	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN	(35%) 19	0	(5%) 3	0	0	0	5% 1	0	0	0	35% 6	0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN	0	0	0	0	0	0	0	0	0	0	0	0
Total New Site Trip Assignment		19	0	3	0	0	0	1	0	0	0	0	6
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		19	0	3	0	0	0	1	4	0	0	0	6

Potter Alley & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Weekday 4 PM - 6 PM

		EASTBOUND Site Access			WESTBOUND			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	9	0	0	1	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	9	0	0	0	1
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	9	0	0	0	1
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN	(35%) 10	0 0	(5%) 1	0 0	0 0	0 0	5% 2	0 0	0 0	0 0	35% 0	15 0
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN	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 Trip Assignment		10	0	1	0	0	0	2	0	0	0	0	15
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		10	0	1	0	0	0	2	9	0	0	0	15

Potter Alley & Site Access
INTERSECTION VOLUME PROJECTION SUMMARY
Saturday MIDDAY 10 AM - 1 PM

		EASTBOUND Site Access			WESTBOUND			NORTHBOUND Potter Alley			SOUTHBOUND Potter Alley		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
EXISTING VOLUMES		0	0	0	0	0	0	0	10	0	0	2	0
Seasonal Adjustment Factor	1.000	0	0	0	0	0	0	0	0	0	0	0	0
Balancing Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
Additional Adjustment		0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED EXISTING VOLUMES		0	0	0	0	0	0	0	10	0	0	2	0
Background Growth to 2026	1.63%	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development New Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
Total Other Development Pass-by Trip Assignments		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITHOUT DEVELOPMENT VOLUMES		0	0	0	0	0	0	0	10	0	0	2	0
Multifamily Housing (Mid-Rise)	DIST IN DIST OUT ASSIGN	(35%) 13	0	(5%) 2	0	0	0	5% 2	0	0	0	35% 0	13
Strip Retail Plaza (<40k)	DIST IN DIST OUT ASSIGN	0	0	0	0	0	0	0	0	0	0	0	0
Total New Site Trip Assignment		13	0	2	0	0	0	2	0	0	0	0	13
Total Pass-by Site Trip Assignment		0	0	0	0	0	0	0	0	0	0	0	0
2026 WITH DEVELOPMENT VOLUMES		13	0	2	0	0	0	2	10	0	0	2	13

Appendix F

Capacity / Level-of-Service Methodology

CAPACITY/LEVEL-OF-SERVICE ANALYSIS METHODOLOGY

The detailed capacity/level-of-service analysis contained in this transportation impact study was performed in accordance with the standard techniques contained in the *Highway Capacity Manual 6th Edition*. By definition, capacity represents “the maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.” The level at which an intersection or a uniform section of a lane or roadway function can be expressed in terms of a level of service. Level of service (LOS) is defined as “a quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler’s perspective and LOS F the worst.”

Stop-Controlled Intersections

At unsignalized stop-controlled intersections, such as two-way stop-controlled (TWSC) or all-way stop-controlled (AWSC), a methodology for evaluating the relative functioning of these intersections is based upon the control delay. For these types of unsignalized intersections, the analysis of the control delay is based upon the following data:

- Number and configuration of lanes on each approach;
- Percentage of heavy vehicles on each approach;
- Demand flow rate for each entering vehicular movement and pedestrian crossing movement;
- Unique geometric factors such as, channelization aspects; two-way left-turn lanes, raised or striped median storage; approach grades, flared approaches on the minor street; and upstream signals within 0.25 miles.

At TWSC intersections, only drivers on the minor street approaches are required to stop before proceeding into the intersection and left-turning drivers from the major street may have to yield to on-coming major street through or right-turning traffic, but are not required to stop in the absence of on-coming traffic. The capacity at stop-controlled legs is based primarily on three factors: the distribution of gaps in the major stream, driver judgment in selecting the gaps, and the follow-up headways required by each driver in a queue.

At AWSC intersections, every vehicle is required to stop at the intersection before proceeding, and as a result, the decision to proceed is a function of the traffic conditions on the other approaches. Each driver proceeds only after determining that no vehicles are currently in the intersection and that it is the driver’s turn to proceed. Capacity at an AWSC intersection is described by the saturation headway or time between departures of successive vehicles on a given approach for a particular case assuming a continuous queue; departure headway or the average time between departures of successive vehicles on a given approach accounting for the probability of each possible case; and service time or the average time sent by a vehicle in first position waiting to depart.

At both TWSC and AWSC intersections, the level of service is based upon the control delay, as well as the corresponding volume-to-capacity ratio for each movement/lane group. For TWSC intersections, the level of service is not calculated for major-street approaches or for the intersection as a whole; however, the intersection-wide level of service is calculated for AWSC intersections. The following table provides a summary of the relationship between the level of service, control delay, and volume-to-capacity ratio for TWSC and AWSC intersections.

Control Delay (Sec/Veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 – 15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F

Signalized Intersections

At three or four-legged signalized intersections, a methodology for evaluating the capacity and quality of service provided to road users traveling through the signalized intersection. For signalized intersections, the level of service can be characterized for the entire intersection, each approach, and each lane group. The level of service is based upon the control delay and volume-to-capacity ratio. The delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption, while the volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group. Input data in determining the delay and volume-to-capacity ratio include:

- Demand flow rate for each entering vehicular movement and pedestrian crossing movement, including right-turn on red volumes and percent of heavy vehicles;
- Initial queue for each lane group;
- Number and configuration of lanes on each approach;
- Type of signal control and phase sequence;
- Allocation of minimum/maximum green times and clearance intervals (Yellow plus All Red phases); and
- Phase recall.

At signalized intersections, the level of service is based upon the control delay, as well as the corresponding volume-to-capacity ratio for each movement/lane group. The following table provides a summary of the relationship between the level of service, control delay, and volume-to-capacity ratio for signalized intersections.

Control Delay (Sec/Veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Appendix G

Existing Capacity/Level-of-Service Analysis Worksheets

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Volume (vph)	18	275	14	8	14	5	2	85	23	37	50	2
Future Volume (vph)	18	275	14	8	14	5	2	85	23	37	50	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)		1%			-2%			-2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.974			0.972			0.997	
Fit Protected		0.997			0.986			0.999			0.980	
Satd. Flow (prot)	0	2068	0	0	1876	0	0	1733	0	0	1592	0
Fit Permitted		0.997			0.986			0.999			0.980	
Satd. Flow (perm)	0	2068	0	0	1876	0	0	1733	0	0	1592	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		919			432			131			147	
Travel Time (s)		25.1			11.8			3.6			4.0	
Confl. Peds. (#/hr)	14		7	7		14	6		2	2		6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	0%	0%	7%	40%	0%	4%	4%	5%	10%	0%
Adj. Flow (vph)	21	320	16	9	16	6	2	99	27	43	58	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	357	0	0	31	0	0	128	0	0	103	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Weekday AM

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	18	275	14	8	14	5	2	85	23	37	50	2
Future Vol, veh/h	18	275	14	8	14	5	2	85	23	37	50	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	3	0	0	7	40	0	4	4	5	10	0
Mvmt Flow	21	320	16	9	16	6	2	99	27	43	58	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	8.1	8.9	9.1
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	6%	30%	42%
Vol Thru, %	77%	90%	52%	56%
Vol Right, %	21%	5%	19%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	307	27	89
LT Vol	2	18	8	37
Through Vol	85	275	14	50
RT Vol	23	14	5	2
Lane Flow Rate	128	357	31	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.172	0.446	0.042	0.147
Departure Headway (Hd)	4.827	4.496	4.841	5.129
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	741	800	735	696
Service Time	2.877	2.534	2.9	3.183
HCM Lane V/C Ratio	0.173	0.446	0.042	0.148
HCM Control Delay	8.9	11.1	8.1	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.6	2.3	0.1	0.5

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↕			↕			↕			↕				
Traffic Volume (vph)	9	307	0	0	39	4	1	0	3	9	0	2		
Future Volume (vph)	9	307	0	0	39	4	1	0	3	9	0	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8		
Grade (%)		5%			-5%			6%			-2%			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor														
Frt					0.986					0.899				
Fit Protected	0.999						0.988				0.960			
Satd. Flow (prot)	0	1978	0	0	2030	0	0	1419	0	0	1560	0		
Fit Permitted	0.999						0.988				0.960			
Satd. Flow (perm)	0	1978	0	0	2030	0	0	1419	0	0	1560	0		
Link Speed (mph)	25				25		25				25			
Link Distance (ft)	432				162		129				113			
Travel Time (s)	11.8				4.4		3.5				3.1			
Confl. Peds. (#/hr)	4	14		14	4		3	1		1	3			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86		
Heavy Vehicles (%)	0%	3%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	10	357	0	0	45	5	1	0	3	10	0	2		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	367	0	0	50	0	0	4	0	0	12	0		
Sign Control	Free				Free		Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Weekday AM

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	9	307	0	0	39	4	1	0	3	9	0	2
Future Vol, veh/h	9	307	0	0	39	4	1	0	3	9	0	2
Conflicting Peds, #/hr	4	0	14	14	0	4	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	3	0	0	8	0	0	0	0	0	0	0
Mvmt Flow	10	357	0	0	45	5	1	0	3	10	0	2

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	54	0	0	371
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1151	-	-	896
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1148	-	-	888
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	10.9	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	616	1148	-	-	888	-	-	680
HCM Lane V/C Ratio	0.008	0.009	-	-	-	-	-	0.019
HCM Control Delay (s)	10.9	8.2	0	0	0	-	-	10.4
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

McMahon
3: New St & Market St

330 W Market St
2023 Existing Weekday AM

	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖								↘	↙	
Traffic Volume (vph)	0	296	9	0	0	0	0	0	0	491	130	44
Future Volume (vph)	0	296	9	0	0	0	0	0	0	491	130	44
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00									0.99	
Frt		0.996									0.980	
Fit Protected										0.950	0.977	
Satd. Flow (prot)	0	1837	0	0	0	0	0	0	0	1638	1758	0
Fit Permitted										0.950	0.977	
Satd. Flow (perm)	0	1837	0	0	0	0	0	0	0	1638	1758	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		3								367	79	
Link Speed (mph)		25			25				25		25	
Link Distance (ft)		162			368				418		259	
Travel Time (s)		4.4			10.0				11.4		7.1	
Confl. Peds. (#/hr)			16									22
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	14%	0%	0%	0%	0%	0%	0%	4%	1%	5%
Adj. Flow (vph)	0	325	10	0	0	0	0	0	0	540	143	48
Shared Lane Traffic (%)										32%		
Lane Group Flow (vph)	0	335	0	0	0	0	0	0	0	367	364	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
\\ehfsmcmeng\EKAHND\1822C67 - 330 West Market Street\TrafficAnalysis\2023-03 TIS\SYNCHRO\EX WO W.synchrono 11 (11.1.2.9)

McMahon
3: New St & Market St

330 W Market St
2023 Existing Weekday AM

	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0								3.0	3.0	
Recall Mode		None								C-Max	C-Max	
Walk Time (s)		7.0								7.0	7.0	
Flash Dont Walk (s)		8.0								9.0	9.0	
Pedestrian Calls (#/hr)		0								0	0	
Intersection Summary												
Area Type:		Other										
Cycle Length:		80										
Actuated Cycle Length:		80										
Offset:		8 (10%), Referenced to phase 2:SBTL, Start of Green										
Natural Cycle:		60										
Control Type:		Actuated-Coordinated										
Splits and Phases:	3: New St & Market St											
	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
	02 (R)									04		
	36 s									44 s		

Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2023 Existing Weekday AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	296	9	0	0	0	0	0	0	491	130	44
Future Volume (veh/h)	0	296	9	0	0	0	0	0	0	491	130	44
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1791	1615							1929	1973	1914
Adj Flow Rate, veh/h	0	325	8							366	387	48
Peak Hour Factor	0.91	0.91	0.91							0.91	0.91	0.91
Percent Heavy Veh, %	0	2	14							4	1	5
Cap, veh/h	0	399	10							1322	1153	143
Arrive On Green	0.00	0.23	0.22							0.67	0.67	0.66
Sat Flow, veh/h	0	1738	43							1837	1719	213
Grp Volume(v), veh/h	0	0	333							366	0	435
Grp Sat Flow(s),veh/h/ln	0	0	1781							1837	0	1933
Q Serve(g_s), s	0.0	0.0	14.2							6.6	0.0	7.7
Cycle Q Clear(g_c), s	0.0	0.0	14.2							6.6	0.0	7.7
Prop In Lane	0.00		0.02							1.00		0.11
Lane Grp Cap(c), veh/h	0	0	409							1322	0	1296
V/C Ratio(X)	0.00	0.00	0.82							0.28	0.00	0.34
Avail Cap(c_a), veh/h	0	0	890							1322	0	1296
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	29.2							5.4	0.0	5.6
Incr Delay (d2), s/veh	0.0	0.0	4.0							0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	10.5							4.2	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.2							5.9	0.0	6.3
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		333									801	
Approach Delay, s/veh		33.2									6.2	
Approach LOS		C									A	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		57.6		22.4								
Change Period (Y+Rc), s		5.0		5.0								
Max Green Setting (Gmax), s		31.0		39.0								
Max Q Clear Time (g_c+I1), s		0.0		16.2								
Green Ext Time (p_c), s		0.0		1.2								

Intersection Summary		
HCM 6th Ctrl Delay		14.1
HCM 6th LOS		B

Notes
User approved volume balancing among the lanes for turning movement.

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	17	159	22	14	22	14	21	233	32	23	63	7
Future Volume (vph)	17	159	22	14	22	14	21	233	32	23	63	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%				-2%						2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.985				0.962				0.985		0.990	
Fit Protected	0.996				0.986				0.996		0.988	
Satd. Flow (prot)	0	2085	0	0	2063	0	0	1793	0	0	1683	0
Fit Permitted	0.996				0.986				0.996		0.988	
Satd. Flow (perm)	0	2085	0	0	2063	0	0	1793	0	0	1683	0
Link Speed (mph)	25				25				25		25	
Link Distance (ft)	919				432				131		147	
Travel Time (s)	25.1				11.8				3.6		4.0	
Confl. Peds. (#/hr)	19		16	16		19	6		9	9		6
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	1%	6%	0%	3%	0%
Adj. Flow (vph)	20	192	27	17	27	17	25	281	39	28	76	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	0	0	61	0	0	345	0	0	112	0
Sign Control	Stop				Stop				Stop		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Weekday PM

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	17	159	22	14	22	14	21	233	32	23	63	7
Future Vol, veh/h	17	159	22	14	22	14	21	233	32	23	63	7
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	1	0	0	0	0	0	1	6	0	3	0
Mvmt Flow	20	192	27	17	27	17	25	281	39	28	76	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	8.8	11.8	9.2
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	9%	28%	25%
Vol Thru, %	81%	80%	44%	68%
Vol Right, %	11%	11%	28%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	286	198	50	93
LT Vol	21	17	14	23
Through Vol	233	159	22	63
RT Vol	32	22	14	7
Lane Flow Rate	345	239	60	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.454	0.333	0.089	0.158
Departure Headway (Hd)	4.745	5.023	5.326	5.09
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	709	677	696
Service Time	2.819	3.104	3.326	3.186
HCM Lane V/C Ratio	0.459	0.337	0.089	0.161
HCM Control Delay	11.8	10.6	8.8	9.2
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	2.4	1.5	0.3	0.6

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↔			↔			↔			↔				
Traffic Volume (vph)	7	216	0	0	27	1	1	3	5	21	1	6		
Future Volume (vph)	7	216	0	0	27	1	1	3	5	21	1	6		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8		
Grade (%)		5%			-5%			6%			-2%			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor														
Frt					0.996					0.926				
Fit Protected	0.998						0.995				0.964			
Satd. Flow (prot)	0	1995	0	0	2116	0	0	1472	0	0	1557	0		
Fit Permitted	0.998						0.995				0.964			
Satd. Flow (perm)	0	1995	0	0	2116	0	0	1472	0	0	1557	0		
Link Speed (mph)	25				25		25				25			
Link Distance (ft)	432				162		129				113			
Travel Time (s)	11.8				4.4		3.5				3.1			
Confl. Peds. (#/hr)	11		21	21		11	2		3	3		2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		
Heavy Vehicles (%)	0%	2%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	8	254	0	0	32	1	1	4	6	25	1	7		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	262	0	0	33	0	0	11	0	0	33	0		
Sign Control	Free				Free		Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Weekday PM

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	7	216	0	0	27	1	1	3	5	21	1	6
Future Vol, veh/h	7	216	0	0	27	1	1	3	5	21	1	6
Conflicting Peds. #/hr	11	0	21	21	0	11	2	0	3	3	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	2	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	8	254	0	0	32	1	1	4	6	25	1	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	44	0	0	275
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1160	-	-	967
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1152	-	-	954
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.7	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	640	1152	-	-	954	-	-	777
HCM Lane V/C Ratio	0.017	0.007	-	-	-	-	-	0.042
HCM Control Delay (s)	10.7	8.1	0	0	0	0	0	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

McMahon
3: New St & Market St

330 W Market St
2023 Existing Weekday PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	229	8	0	0	0	0	0	0	442	233	25
Future Volume (vph)	0	229	8	0	0	0	0	0	0	442	233	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)	3%			-1%			2%			-3%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	1.00											
Frt	0.995										0.989	
Fit Protected											0.950 0.987	
Satd. Flow (prot)	0	1842	0	0	0	0	0	0	0	1670	1820	0
Fit Permitted	0.950 0.987											
Satd. Flow (perm)	0	1842	0	0	0	0	0	0	0	1670	1820	0
Right Turn on Red	Yes			Yes			Yes			Yes		Yes
Satd. Flow (RTOR)	3									388		34
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	162			368			418			259		
Travel Time (s)	4.4			10.0			11.4			7.1		
Confl. Peds. (#/hr)	12											
Confl. Bikes (#/hr)	12											
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	0	257	9	0	0	0	0	0	0	497	262	28
Shared Lane Traffic (%)	22%											
Lane Group Flow (vph)	0	266	0	0	0	0	0	0	0	388	399	0
Number of Detectors	1											
Detector Template												
Leading Detector (ft)	37										0 0	
Trailing Detector (ft)	-3											
Detector 1 Position(ft)	-3											
Detector 1 Size(ft)	40										20 6	
Detector 1 Type	CI+Ex										CI+Ex CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0										0.0 0.0	
Detector 1 Queue (s)	0.0											
Detector 1 Delay (s)	0.0											
Turn Type	NA										Perm NA	
Protected Phases	4											
Permitted Phases	2											
Detector Phase	4										2 2	
Switch Phase												
Minimum Initial (s)	3.0										31.0 31.0	
Minimum Split (s)	23.0											
Total Split (s)	44.0											
Total Split (%)	55.0%										45.0% 45.0%	
Maximum Green (s)	39.0											
Yellow Time (s)	3.0											
All-Red Time (s)	2.0											
Lost Time Adjust (s)	-1.0										-1.0 -1.0	

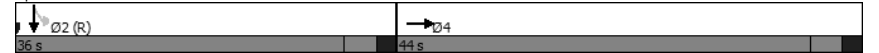
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McMahon
3: New St & Market St

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	4.0											
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)											3.0 3.0	
Recall Mode	None										C-Max C-Max	
Walk Time (s)	7.0											
Flash Dont Walk (s)	8.0											
Pedestrian Calls (#/hr)	0											
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											
Actuated Cycle Length:	80											
Offset:	8 (10%), Referenced to phase 2:SBTL, Start of Green											
Natural Cycle:	60											
Control Type:	Actuated-Coordinated											

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2023 Existing Weekday PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	229	8	0	0	0	0	0	0	442	233	25
Future Volume (veh/h)	0	229	8	0	0	0	0	0	0	442	233	25
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1791	1820							1959	1959	1988
Adj Flow Rate, veh/h	0	257	7							394	407	28
Peak Hour Factor	0.89	0.89	0.89							0.89	0.89	0.89
Percent Heavy Veh, %	0	2	0							2	2	0
Cap, veh/h	0	330	9							1413	1283	88
Arrive On Green	0.00	0.19	0.18							0.71	0.71	0.70
Sat Flow, veh/h	0	1730	47							1865	1810	125
Grp Volume(v), veh/h	0	0	264							394	0	435
Grp Sat Flow(s),veh/h/ln	0	0	1777							1865	0	1935
Q Serve(g_s), s	0.0	0.0	11.3							6.2	0.0	6.8
Cycle Q Clear(g_c), s	0.0	0.0	11.3							6.2	0.0	6.8
Prop In Lane	0.00		0.03							1.00		0.06
Lane Grp Cap(c), veh/h	0	0	339							1413	0	1372
V/C Ratio(X)	0.00	0.00	0.78							0.28	0.00	0.32
Avail Cap(c_a), veh/h	0	0	889							1413	0	1372
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	30.8							4.3	0.0	4.4
Incr Delay (d2), s/veh	0.0	0.0	3.9							0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	8.8							3.8	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	34.6							4.8	0.0	5.0
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		264									829	
Approach Delay, s/veh		34.6									4.9	
Approach LOS		C									A	
Timer - Assigned Phs		2				4						
Phs Duration (G+Y+Rc), s		60.7				19.3						
Change Period (Y+Rc), s		5.0				5.0						
Max Green Setting (Gmax), s		31.0				39.0						
Max Q Clear Time (g_c+I1), s		0.0				13.3						
Green Ext Time (p_c), s		0.0				0.9						
Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	7	166	14	0	12	4	5	137	40	24	70	3
Future Volume (vph)	7	166	14	0	12	4	5	137	40	24	70	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%			-2%			-2%			2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.968			0.970			0.996		
Fit Protected	0.998						0.999			0.988		
Satd. Flow (prot)	0	2080	0	0	2105	0	0	1773	0	0	1715	0
Fit Permitted	0.998						0.999			0.988		
Satd. Flow (perm)	0	2080	0	0	2105	0	0	1773	0	0	1715	0
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	919			432			131			147		
Travel Time (s)	25.1			11.8			3.6			4.0		
Confl. Peds. (#/hr)	13	6		6	13		3	4		4	3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	1%	3%	0%	1%	0%
Adj. Flow (vph)	7	175	15	0	13	4	5	144	42	25	74	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	17	0	0	191	0	0	102	0
Sign Control	Stop				Stop		Stop				Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2023 Existing Saturday MID

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	7	166	14	0	12	4	5	137	40	24	70	3
Future Vol, veh/h	7	166	14	0	12	4	5	137	40	24	70	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	2	0	0	0	0	0	1	3	0	1	0
Mvmt Flow	7	175	15	0	13	4	5	144	42	25	74	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	7.8	8.8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	4%	0%	25%
Vol Thru, %	75%	89%	75%	72%
Vol Right, %	22%	7%	25%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	187	16	97
LT Vol	5	7	0	24
Through Vol	137	166	12	70
RT Vol	40	14	4	3
Lane Flow Rate	192	197	17	102
Geometry Grp	1	1	1	1
Degree of Util (X)	0.234	0.249	0.022	0.132
Departure Headway (Hd)	4.399	4.552	4.659	4.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	816	789	766	771
Service Time	2.426	2.581	2.699	2.682
HCM Lane V/C Ratio	0.235	0.25	0.022	0.132
HCM Control Delay	8.8	9.1	7.8	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	1	0.1	0.5

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↕			↕			↕			↕			
Traffic Volume (vph)	3	230	1	0	15	0	0	2	8	2	1	0	
Future Volume (vph)	3	230	1	0	15	0	0	2	8	2	1	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8	
Grade (%)		5%			-5%			6%			-2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor													
Frt	0.999												0.890
Fit Protected	0.999												0.968
Satd. Flow (prot)	0	1994	0	0	2207	0	0	1422	0	0	1610	0	
Fit Permitted	0.999												0.968
Satd. Flow (perm)	0	1994	0	0	2207	0	0	1422	0	0	1610	0	
Link Speed (mph)	25												25
Link Distance (ft)	432												113
Travel Time (s)	11.8												3.1
Confl. Peds. (#/hr)	8		11	11		8	5		2	2		5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	3	245	1	0	16	0	0	2	9	2	1	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	249	0	0	16	0	0	11	0	0	3	0	
Sign Control	Free		Free				Stop		Stop				

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2023 Existing Saturday MID

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	230	1	0	15	0	0	2	8	2	1	0
Future Vol, veh/h	3	230	1	0	15	0	0	2	8	2	1	0
Conflicting Peds, #/hr	8	0	11	11	0	8	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	245	1	0	16	0	0	2	9	2	1	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	24	0	0	257
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1178	-	-	981
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1172	-	-	974
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	10	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	727	1172	-	-	974	-	-	724
HCM Lane V/C Ratio	0.015	0.003	-	-	-	-	-	0.004
HCM Control Delay (s)	10	8.1	0	0	0	0	0	10
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

McMahon
3: New St & Market St

330 W Market St
2023 Existing Saturday MID

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↕	
Traffic Volume (vph)	0	226	12	0	0	0	0	0	0	430	137	12
Future Volume (vph)	0	226	12	0	0	0	0	0	0	430	137	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99								1.00		
Frt		0.993								0.994		
Fit Protected										0.950	0.976	
Satd. Flow (prot)	0	1849	0	0	0	0	0	0	0	1687	1835	0
Fit Permitted										0.950	0.976	
Satd. Flow (perm)	0	1849	0	0	0	0	0	0	0	1687	1835	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		5								306	74	
Link Speed (mph)		25			25			25		25		
Link Distance (ft)		162			368			418		259		
Travel Time (s)		4.4			10.0			11.4		7.1		
Confl. Peds. (#/hr)			38									36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	0	240	13	0	0	0	0	0	0	457	146	13
Shared Lane Traffic (%)										33%		
Lane Group Flow (vph)	0	253	0	0	0	0	0	0	0	306	310	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
\\ehfsmcmeng\EKAHND\1822C67 - 330 West Market Street\TrafficAnalysis\2023-03 TIS\SYNCHRO\EX WO W.synchro 11 (11.1.2.9)

McMahon
3: New St & Market St

330 W Market St
2023 Existing Saturday MID

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)										3.0	3.0	
Recall Mode										None	C-Max	C-Max
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										8.0	9.0	9.0
Pedestrian Calls (#/hr)										0	0	0
Intersection Summary												
Area Type:										Other		
Cycle Length:										80		
Actuated Cycle Length:										80		
Offset:										8 (10%), Referenced to phase 2:SBTL, Start of Green		
Natural Cycle:										60		
Control Type:										Actuated-Coordinated		
Splits and Phases:										3: New St & Market St		
	↓	↔	↕	↔	↔	↔	↔	↔	↔	↔	↔	↔
	36 s									44 s		

Lanes, Volumes, Timings
\\ehfsmcmeng\EKAHND\1822C67 - 330 West Market Street\TrafficAnalysis\2023-03 TIS\SYNCHRO\EX WO W.synchro 11 (11.1.2.9)

McMahon
3: New St & Market St

330 W Market St
2023 Existing Saturday MID



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	226	12	0	0	0	0	0	0	430	137	12
Future Volume (veh/h)	0	226	12	0	0	0	0	0	0	430	137	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89							1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1805	1820							1973	1988	1988
Adj Flow Rate, veh/h	0	240	11							307	356	11
Peak Hour Factor	0.94	0.94	0.94							0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0							1	0	0
Cap, veh/h	0	320	15							1429	1366	42
Arrive On Green	0.00	0.19	0.18							0.71	0.71	0.70
Sat Flow, veh/h	0	1702	78							1879	1917	59
Grp Volume(v), veh/h	0	0	251							307	0	367
Grp Sat Flow(s),veh/h/ln	0	0	1780							1879	0	1976
Q Serve(g_s), s	0.0	0.0	10.7							4.5	0.0	5.3
Cycle Q Clear(g_c), s	0.0	0.0	10.7							4.5	0.0	5.3
Prop In Lane	0.00		0.04							1.00		0.03
Lane Grp Cap(c), veh/h	0	0	334							1429	0	1408
V/C Ratio(X)	0.00	0.00	0.75							0.21	0.00	0.26
Avail Cap(c_a), veh/h	0	0	890							1429	0	1408
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	30.7							4.0	0.0	4.1
Incr Delay (d2), s/veh	0.0	0.0	3.4							0.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	8.4							2.7	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	34.1							4.3	0.0	4.5
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		251									674	
Approach Delay, s/veh		34.1									4.4	
Approach LOS		C									A	
Timer - Assigned Phs		2									4	
Phs Duration (G+Y+Rc), s		61.0									19.0	
Change Period (Y+Rc), s		5.0									5.0	
Max Green Setting (Gmax), s		31.0									39.0	
Max Q Clear Time (g_c+I1), s		0.0									12.7	
Green Ext Time (p_c), s		0.0									0.9	
Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Appendix H

2026 Future without Development Capacity/Level-of-Service Analysis Worksheets

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future without Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	18	279	14	8	14	5	2	86	23	38	51	2
Future Volume (vph)	18	279	14	8	14	5	2	86	23	38	51	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)		1%			-2%			-2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.994		0.974		0.972		0.997					
Fit Protected	0.997		0.986		0.999		0.979					
Satd. Flow (prot)	0	2068	0	0	1876	0	0	1733	0	0	1591	0
Fit Permitted	0.997		0.986		0.999		0.979					
Satd. Flow (perm)	0	2068	0	0	1876	0	0	1733	0	0	1591	0
Link Speed (mph)	25		25		25		25					
Link Distance (ft)	919		432		131		147					
Travel Time (s)	25.1		11.8		3.6		4.0					
Confl. Peds. (#/hr)	14	7	7	14	6	2	2	6				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	0%	0%	7%	40%	0%	4%	5%	10%	0%	0%
Adj. Flow (vph)	21	324	16	9	16	6	2	100	27	44	59	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	361	0	0	31	0	0	129	0	0	105	0
Sign Control	Stop		Stop		Stop		Stop					

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future without Dev Weekday AM

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	18	279	14	8	14	5	2	86	23	38	51	2
Future Vol, veh/h	18	279	14	8	14	5	2	86	23	38	51	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	3	0	0	7	40	0	4	4	5	10	0
Mvmt Flow	21	324	16	9	16	6	2	100	27	44	59	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	8.1	8.9	9.1
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	6%	30%	42%
Vol Thru, %	77%	90%	52%	56%
Vol Right, %	21%	5%	19%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	311	27	91
LT Vol	2	18	8	38
Through Vol	86	279	14	51
RT Vol	23	14	5	2
Lane Flow Rate	129	362	31	106
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.453	0.042	0.151
Departure Headway (Hd)	4.844	4.508	4.859	5.144
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	799	732	694
Service Time	2.896	2.545	2.919	3.2
HCM Lane V/C Ratio	0.175	0.453	0.042	0.153
HCM Control Delay	8.9	11.3	8.1	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.6	2.4	0.1	0.5

McMahon
2: Potter Alley & Market St

330 W Market St
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↔			↔			↔			↔				
Traffic Volume (vph)	9	312	0	0	40	4	1	0	3	9	0	2		
Future Volume (vph)	9	312	0	0	40	4	1	0	3	9	0	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8		
Grade (%)		5%			-5%			6%			-2%			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor														
Frt					0.987					0.899				
Fit Protected	0.999						0.988				0.960			
Satd. Flow (prot)	0	1978	0	0	2032	0	0	1419	0	0	1560	0		
Fit Permitted	0.999						0.988				0.960			
Satd. Flow (perm)	0	1978	0	0	2032	0	0	1419	0	0	1560	0		
Link Speed (mph)	25				25		25				25			
Link Distance (ft)	432				162		129				113			
Travel Time (s)	11.8				4.4		3.5				3.1			
Confl. Peds. (#/hr)	4	14		14	4		3	1		1	3			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86		
Heavy Vehicles (%)	0%	3%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	10	363	0	0	47	5	1	0	3	10	0	2		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	373	0	0	52	0	0	4	0	0	12	0		
Sign Control	Free				Free		Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

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Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	9	312	0	0	40	4	1	0	3	9	0	2
Future Vol, veh/h	9	312	0	0	40	4	1	0	3	9	0	2
Conflicting Peds. #/hr	4	0	14	14	0	4	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	3	0	0	8	0	0	0	0	0	0	0
Mvmt Flow	10	363	0	0	47	5	1	0	3	10	0	2

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	56	0	0	377
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1149	-	-	891
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1146	-	-	883
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	11	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	609	1146	-	-	883	-	-	673
HCM Lane V/C Ratio	0.008	0.009	-	-	-	-	-	0.019
HCM Control Delay (s)	11	8.2	0	0	0	0	0	10.5
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

McMahon
3: New St & Market St

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (vph)	0	301	9	0	0	0	0	0	0	499	132	45
Future Volume (vph)	0	301	9	0	0	0	0	0	0	499	132	45
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00									0.99	
Frt		0.996									0.980	
Fit Protected										0.950	0.977	
Satd. Flow (prot)	0	1837	0	0	0	0	0	0	0	1638	1758	0
Fit Permitted										0.950	0.977	
Satd. Flow (perm)	0	1837	0	0	0	0	0	0	0	1638	1758	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		3								373	79	
Link Speed (mph)		25			25			25		25		25
Link Distance (ft)		162			368			418		259		259
Travel Time (s)		4.4			10.0			11.4		7.1		7.1
Confl. Peds. (#/hr)			16									22
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	14%	0%	0%	0%	0%	0%	0%	4%	1%	5%
Adj. Flow (vph)	0	331	10	0	0	0	0	0	0	548	145	49
Shared Lane Traffic (%)										32%		
Lane Group Flow (vph)	0	341	0	0	0	0	0	0	0	373	369	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
\\ehfsmcmeng\EKAHND\1822C67 - 330 West Market Street\TrafficAnalysis\2023-03 TIS\SYNCHRO\EX WO W.synchrono 11 (11.1.2.9)

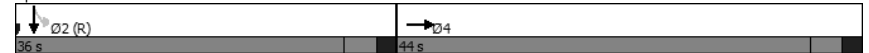
McMahon
3: New St & Market St

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2026 Future without Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0								3.0	3.0	
Recall Mode		None								C-Max	C-Max	
Walk Time (s)		7.0								7.0	7.0	
Flash Dont Walk (s)		8.0								9.0	9.0	
Pedestrian Calls (#/hr)		0								0	0	
Intersection Summary												
Area Type:		Other										
Cycle Length:		80										
Actuated Cycle Length:		80										
Offset:		8 (10%), Referenced to phase 2:SBTL, Start of Green										
Natural Cycle:		60										
Control Type:		Actuated-Coordinated										

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
\\ehfsmcmeng\EKAHND\1822C67 - 330 West Market Street\TrafficAnalysis\2023-03 TIS\SYNCHRO\EX WO W.synchrono 11 (11.1.2.9)

McMahon
3: New St & Market St

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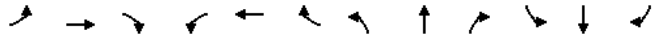
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	301	9	0	0	0	0	0	0	499	132	45
Future Volume (veh/h)	0	301	9	0	0	0	0	0	0	499	132	45
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1791	1615							1929	1973	1914
Adj Flow Rate, veh/h	0	331	8							371	393	49
Peak Hour Factor	0.91	0.91	0.91							0.91	0.91	0.91
Percent Heavy Veh, %	0	2	14							4	1	5
Cap, veh/h	0	405	10							1316	1146	143
Arrive On Green	0.00	0.23	0.22							0.67	0.67	0.65
Sat Flow, veh/h	0	1739	42							1837	1718	214
Grp Volume(v), veh/h	0	0	339							371	0	442
Grp Sat Flow(s),veh/h/ln	0	0	1781							1837	0	1932
Q Serve(g_s), s	0.0	0.0	14.4							6.7	0.0	7.9
Cycle Q Clear(g_c), s	0.0	0.0	14.4							6.7	0.0	7.9
Prop In Lane	0.00		0.02							1.00		0.11
Lane Grp Cap(c), veh/h	0	0	415							1316	0	1289
V/C Ratio(X)	0.00	0.00	0.82							0.28	0.00	0.34
Avail Cap(c_a), veh/h	0	0	891							1316	0	1289
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	29.1							5.6	0.0	5.8
Incr Delay (d2), s/veh	0.0	0.0	4.0							0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	10.7							4.3	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.1							6.1	0.0	6.5
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		339									813	
Approach Delay, s/veh		33.1									6.3	
Approach LOS		C									A	
Timer - Assigned Phs		2									4	
Phs Duration (G+Y+Rc), s		57.4									22.6	
Change Period (Y+Rc), s		5.0									5.0	
Max Green Setting (Gmax), s		31.0									39.0	
Max Q Clear Time (g_c+I1), s		0.0									16.4	
Green Ext Time (p_c), s		0.0									1.2	

Intersection Summary		
HCM 6th Ctrl Delay		14.2
HCM 6th LOS		B

Notes
User approved volume balancing among the lanes for turning movement.

McMahon
1: Wayne St & Market St

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2026 Future without Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Volume (vph)	17	162	22	14	22	14	21	237	33	23	64	7
Future Volume (vph)	17	162	22	14	22	14	21	237	33	23	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)		1%			-2%			-2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.985		0.962		0.985		0.990					
Fit Protected	0.996		0.986		0.996		0.988					
Satd. Flow (prot)	0	2085	0	0	2063	0	0	1793	0	0	1683	0
Fit Permitted	0.996		0.986		0.996		0.988					
Satd. Flow (perm)	0	2085	0	0	2063	0	0	1793	0	0	1683	0
Link Speed (mph)	25		25		25		25					
Link Distance (ft)	919		432		131		147					
Travel Time (s)	25.1		11.8		3.6		4.0					
Confl. Peds. (#/hr)	19	16	16	19	6	9	9	6				
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	1%	6%	0%	3%	0%	0%
Adj. Flow (vph)	20	195	27	17	27	17	25	286	40	28	77	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	0	0	61	0	0	351	0	0	113	0
Sign Control	Stop		Stop		Stop		Stop					

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

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2026 Future without Dev Weekday PM

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	17	162	22	14	22	14	21	237	33	23	64	7
Future Vol, veh/h	17	162	22	14	22	14	21	237	33	23	64	7
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	1	0	0	0	0	1	6	0	3	0	0
Mvmt Flow	20	195	27	17	27	17	25	286	40	28	77	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	8.9	11.9	9.2
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	8%	28%	24%
Vol Thru, %	81%	81%	44%	68%
Vol Right, %	11%	11%	28%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	291	201	50	94
LT Vol	21	17	14	23
Through Vol	237	162	22	64
RT Vol	33	22	14	7
Lane Flow Rate	351	242	60	113
Geometry Grp	1	1	1	1
Degree of Util (X)	0.463	0.339	0.09	0.161
Departure Headway (Hd)	4.758	5.043	5.357	5.111
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	750	705	673	693
Service Time	2.835	3.128	3.357	3.21
HCM Lane V/C Ratio	0.468	0.343	0.089	0.163
HCM Control Delay	11.9	10.7	8.9	9.2
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	2.5	1.5	0.3	0.6

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future without Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↕			↕			↕			↕				
Traffic Volume (vph)	7	220	0	0	27	1	1	3	5	21	1	6		
Future Volume (vph)	7	220	0	0	27	1	1	3	5	21	1	6		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8		
Grade (%)		5%			-5%			6%			-2%			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor														
Frt					0.996					0.926				
Fit Protected	0.999						0.995				0.964			
Satd. Flow (prot)	0	1997	0	0	2116	0	0	1472	0	0	1557	0		
Fit Permitted	0.999						0.995				0.964			
Satd. Flow (perm)	0	1997	0	0	2116	0	0	1472	0	0	1557	0		
Link Speed (mph)	25				25		25				25			
Link Distance (ft)	432				162		129				113			
Travel Time (s)	11.8				4.4		3.5				3.1			
Confl. Peds. (#/hr)	11		21	21		11	2		3	3		2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		
Heavy Vehicles (%)	0%	2%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	8	259	0	0	32	1	1	4	6	25	1	7		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	267	0	0	33	0	0	11	0	0	33	0		
Sign Control	Free				Free		Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

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2026 Future without Dev Weekday PM

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	7	220	0	0	27	1	1	3	5	21	1	6
Future Vol, veh/h	7	220	0	0	27	1	1	3	5	21	1	6
Conflicting Peds. #/hr	11	0	21	21	0	11	2	0	3	3	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	2	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	8	259	0	0	32	1	1	4	6	25	1	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	44	0	0	280
Stage 1	-	-	-	296
Stage 2	-	-	-	39
Critical Hdwy	4.3	-	4.3	-
Critical Hdwy Stg 1	-	-	-	7.3
Critical Hdwy Stg 2	-	-	-	7.3
Follow-up Hdwy	3	-	3	-
Pot Cap-1 Maneuver	1160	-	963	-
Stage 1	-	-	-	743
Stage 2	-	-	-	1127
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1152	-	950	-
Mov Cap-2 Maneuver	-	-	-	616
Stage 1	-	-	-	727
Stage 2	-	-	-	1115

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.8	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	635	1152	-	-	950	-	-	773
HCM Lane V/C Ratio	0.017	0.007	-	-	-	-	-	0.043
HCM Control Delay (s)	10.8	8.1	0	0	0	0	0	9.9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Weekday PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	233	8	0	0	0	0	0	0	449	237	25
Future Volume (vph)	0	233	8	0	0	0	0	0	0	449	237	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)	3%			-1%			2%			-3%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	1.00											
Frt	0.996											
Fit Protected	0.950											
Satd. Flow (prot)	0	1844	0	0	0	0	0	0	0	1670	1820	0
Fit Permitted	0.950											
Satd. Flow (perm)	0	1844	0	0	0	0	0	0	0	1670	1820	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	3								393		34	
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	162			368			418			259		
Travel Time (s)	4.4			10.0			11.4			7.1		
Confl. Peds. (#/hr)	12											
Confl. Bikes (#/hr)	12											
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	0	262	9	0	0	0	0	0	0	504	266	28
Shared Lane Traffic (%)	22%											
Lane Group Flow (vph)	0	271	0	0	0	0	0	0	0	393	405	0
Number of Detectors	1											
Detector Template												
Leading Detector (ft)	37											
Trailing Detector (ft)	-3											
Detector 1 Position(ft)	-3											
Detector 1 Size(ft)	40											
Detector 1 Type	CI+Ex											
Detector 1 Channel	CI+Ex											
Detector 1 Extend (s)	0.0											
Detector 1 Queue (s)	0.0											
Detector 1 Delay (s)	0.0											
Turn Type	NA											
Protected Phases	4											
Permitted Phases	2											
Detector Phase	4											
Switch Phase												
Minimum Initial (s)	3.0											
Minimum Split (s)	23.0											
Total Split (s)	44.0											
Total Split (%)	55.0%											
Maximum Green (s)	39.0											
Yellow Time (s)	3.0											
All-Red Time (s)	2.0											
Lost Time Adjust (s)	-1.0											

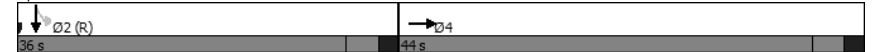
Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Weekday PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	4.0											
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0											
Recall Mode	None											
Walk Time (s)	7.0											
Flash Dont Walk (s)	8.0											
Pedestrian Calls (#/hr)	0											
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											
Actuated Cycle Length:	80											
Offset:	8 (10%), Referenced to phase 2:SBTL, Start of Green											
Natural Cycle:	60											
Control Type:	Actuated-Coordinated											

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Weekday PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	233	8	0	0	0	0	0	0	449	237	25
Future Volume (veh/h)	0	233	8	0	0	0	0	0	0	449	237	25
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1791	1820							1959	1959	1988
Adj Flow Rate, veh/h	0	262	7							399	413	28
Peak Hour Factor	0.89	0.89	0.89							0.89	0.89	0.89
Percent Heavy Veh, %	0	2	0							2	2	0
Cap, veh/h	0	335	9							1408	1280	87
Arrive On Green	0.00	0.19	0.18							0.71	0.71	0.69
Sat Flow, veh/h	0	1731	46							1865	1812	123
Grp Volume(v), veh/h	0	0	269							399	0	441
Grp Sat Flow(s),veh/h/ln	0	0	1778							1865	0	1935
Q Serve(g_s), s	0.0	0.0	11.5							6.4	0.0	6.9
Cycle Q Clear(g_c), s	0.0	0.0	11.5							6.4	0.0	6.9
Prop In Lane	0.00		0.03							1.00		0.06
Lane Grp Cap(c), veh/h	0	0	344							1408	0	1367
V/C Ratio(X)	0.00	0.00	0.78							0.28	0.00	0.32
Avail Cap(c_a), veh/h	0	0	889							1408	0	1367
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	30.7							4.4	0.0	4.5
Incr Delay (d2), s/veh	0.0	0.0	3.9							0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	9.0							3.9	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	34.6							4.9	0.0	5.1
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		269									840	
Approach Delay, s/veh		34.6									5.0	
Approach LOS		C									A	
Timer - Assigned Phs		2									4	
Phs Duration (G+Y+Rc), s		60.5									19.5	
Change Period (Y+Rc), s		5.0									5.0	
Max Green Setting (Gmax), s		31.0									39.0	
Max Q Clear Time (g_c+I1), s		0.0									13.5	
Green Ext Time (p_c), s		0.0									0.9	
Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future without Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	7	169	14	0	12	4	5	139	41	24	71	3
Future Volume (vph)	7	169	14	0	12	4	5	139	41	24	71	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%			-2%			-2%			2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.968			0.970			0.996		
Fit Protected	0.998						0.999			0.988		
Satd. Flow (prot)	0	2080	0	0	2105	0	0	1772	0	0	1715	0
Fit Permitted	0.998						0.999			0.988		
Satd. Flow (perm)	0	2080	0	0	2105	0	0	1772	0	0	1715	0
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	919			432			131			147		
Travel Time (s)	25.1			11.8			3.6			4.0		
Confl. Peds. (#/hr)	13		6	6		13	3		4	4		3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	1%	3%	0%	1%	0%
Adj. Flow (vph)	7	178	15	0	13	4	5	146	43	25	75	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	17	0	0	194	0	0	103	0
Sign Control	Stop				Stop		Stop				Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future without Dev Saturday MID

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	7	169	14	0	12	4	5	139	41	24	71	3
Future Vol, veh/h	7	169	14	0	12	4	5	139	41	24	71	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	2	0	0	0	0	0	1	3	0	1	0
Mvmt Flow	7	178	15	0	13	4	5	146	43	25	75	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	7.8	8.8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	4%	0%	24%
Vol Thru, %	75%	89%	75%	72%
Vol Right, %	22%	7%	25%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	190	16	98
LT Vol	5	7	0	24
Through Vol	139	169	12	71
RT Vol	41	14	4	3
Lane Flow Rate	195	200	17	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.239	0.254	0.022	0.134
Departure Headway (Hd)	4.41	4.564	4.676	4.665
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	786	763	767
Service Time	2.437	2.594	2.718	2.697
HCM Lane V/C Ratio	0.24	0.254	0.022	0.134
HCM Control Delay	8.8	9.2	7.8	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	1	0.1	0.5

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future without Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔			↔			↔			↔			
Traffic Volume (vph)	3	234	1	0	15	0	0	2	8	2	1	0	
Future Volume (vph)	3	234	1	0	15	0	0	2	8	2	1	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8	
Grade (%)		5%			-5%			6%			-2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor													
Frt	0.999												0.890
Fit Protected	0.999												0.968
Satd. Flow (prot)	0	1994	0	0	2207	0	0	1422	0	0	1610	0	
Fit Permitted	0.999												0.968
Satd. Flow (perm)	0	1994	0	0	2207	0	0	1422	0	0	1610	0	
Link Speed (mph)	25												25
Link Distance (ft)	432												113
Travel Time (s)	11.8												3.1
Confl. Peds. (#/hr)	8		11	11		8	5		2	2		5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	3	249	1	0	16	0	0	2	9	2	1	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	253	0	0	16	0	0	11	0	0	3	0	
Sign Control	Free		Free				Stop		Stop				

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future without Dev Saturday MID

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	3	234	1	0	15	0	0	2	8	2	1	0
Future Vol, veh/h	3	234	1	0	15	0	0	2	8	2	1	0
Conflicting Peds, #/hr	8	0	11	11	0	8	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	249	1	0	16	0	0	2	9	2	1	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	24	0	0	261
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1178	-	-	978
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1172	-	-	971
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	10	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	724	1172	-	-	971	-	-	719
HCM Lane V/C Ratio	0.015	0.003	-	-	-	-	-	0.004
HCM Control Delay (s)	10	8.1	0	0	0	0	0	10
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↕	
Traffic Volume (vph)	0	230	12	0	0	0	0	0	0	437	139	12
Future Volume (vph)	0	230	12	0	0	0	0	0	0	437	139	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99									1.00	
Frt		0.993									0.994	
Fit Protected										0.950	0.976	
Satd. Flow (prot)	0	1849	0	0	0	0	0	0	0	1687	1835	0
Fit Permitted										0.950	0.976	
Satd. Flow (perm)	0	1849	0	0	0	0	0	0	0	1687	1835	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		5								312	74	
Link Speed (mph)		25			25			25		25		
Link Distance (ft)		162			368			418		259		
Travel Time (s)		4.4			10.0			11.4		7.1		
Confl. Peds. (#/hr)			38									36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	0	245	13	0	0	0	0	0	0	465	148	13
Shared Lane Traffic (%)										33%		
Lane Group Flow (vph)	0	258	0	0	0	0	0	0	0	312	314	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
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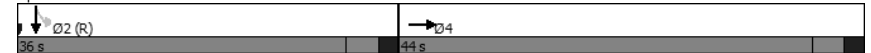
McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)										3.0	3.0	
Recall Mode										None	C-Max	C-Max
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										8.0	9.0	9.0
Pedestrian Calls (#/hr)										0	0	0
Intersection Summary												
Area Type:										Other		
Cycle Length:										80		
Actuated Cycle Length:										80		
Offset:										8 (10%), Referenced to phase 2:SBTL, Start of Green		
Natural Cycle:										60		
Control Type:										Actuated-Coordinated		

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future without Dev Saturday MID



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	230	12	0	0	0	0	0	0	437	139	12
Future Volume (veh/h)	0	230	12	0	0	0	0	0	0	437	139	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89							1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1805	1820							1973	1988	1988
Adj Flow Rate, veh/h	0	245	11							312	362	11
Peak Hour Factor	0.94	0.94	0.94							0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0							1	0	0
Cap, veh/h	0	323	15							1425	1363	41
Arrive On Green	0.00	0.19	0.18							0.71	0.71	0.70
Sat Flow, veh/h	0	1704	77							1879	1918	58
Grp Volume(v), veh/h	0	0	256							312	0	373
Grp Sat Flow(s),veh/h/ln	0	0	1781							1879	0	1977
Q Serve(g_s), s	0.0	0.0	10.9							4.6	0.0	5.4
Cycle Q Clear(g_c), s	0.0	0.0	10.9							4.6	0.0	5.4
Prop In Lane	0.00		0.04							1.00		0.03
Lane Grp Cap(c), veh/h	0	0	338							1425	0	1404
V/C Ratio(X)	0.00	0.00	0.76							0.22	0.00	0.27
Avail Cap(c_a), veh/h	0	0	890							1425	0	1404
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	30.7							4.0	0.0	4.1
Incr Delay (d2), s/veh	0.0	0.0	3.5							0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	8.6							2.8	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	34.2							4.4	0.0	4.6
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		256								685		
Approach Delay, s/veh		34.2								4.5		
Approach LOS		C								A		
Timer - Assigned Phs		2				4						
Phs Duration (G+Y+Rc), s		60.8				19.2						
Change Period (Y+Rc), s		5.0				5.0						
Max Green Setting (Gmax), s		31.0				39.0						
Max Q Clear Time (g_c+I1), s		0.0				12.9						
Green Ext Time (p_c), s		0.0				0.9						
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Appendix I

2026 Future with Development Capacity/Level-of-Service Analysis Worksheets

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	18	280	16	18	14	8	2	89	50	39	53	2
Future Volume (vph)	18	280	16	18	14	8	2	89	50	39	53	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%			-2%			-2%			2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.993		0.974		0.952		0.998					
Fit Protected	0.997		0.978		0.999		0.980					
Satd. Flow (prot)	0	2066	0	0	1879	0	0	1697	0	0	1594	0
Fit Permitted	0.997		0.978		0.999		0.980					
Satd. Flow (perm)	0	2066	0	0	1879	0	0	1697	0	0	1594	0
Link Speed (mph)	25		25		25		25					
Link Distance (ft)	919		432		131		147					
Travel Time (s)	25.1		11.8		3.6		4.0					
Confl. Peds. (#/hr)	14	7	7	14	6	2	2	6				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	0%	0%	7%	40%	0%	4%	4%	5%	10%	0%
Adj. Flow (vph)	21	326	19	21	16	9	2	103	58	45	62	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	366	0	0	46	0	0	163	0	0	109	0
Sign Control	Stop		Stop		Stop		Stop					

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Weekday AM

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	18	280	16	18	14	8	2	89	50	39	53	2
Future Vol, veh/h	18	280	16	18	14	8	2	89	50	39	53	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	3	0	0	7	40	0	4	4	5	10	0
Mvmt Flow	21	326	19	21	16	9	2	103	58	45	62	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	8.4	9.3	9.3
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	6%	45%	41%
Vol Thru, %	63%	89%	35%	56%
Vol Right, %	35%	5%	20%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	314	40	94
LT Vol	2	18	18	39
Through Vol	89	280	14	53
RT Vol	50	16	8	2
Lane Flow Rate	164	365	47	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.22	0.468	0.065	0.159
Departure Headway (Hd)	4.82	4.614	4.995	5.249
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	778	711	678
Service Time	2.885	2.666	3.071	3.322
HCM Lane V/C Ratio	0.222	0.469	0.066	0.161
HCM Control Delay	9.3	11.7	8.4	9.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.8	2.5	0.2	0.6

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Volume (vph)	9	339	2	4	50	4	4	0	19	9	0	2
Future Volume (vph)	9	339	2	4	50	4	4	0	19	9	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8
Grade (%)		5%			-5%			6%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.990			0.890			0.977	
Fit Protected		0.999			0.996			0.991			0.960	
Satd. Flow (prot)	0	1976	0	0	2037	0	0	1409	0	0	1560	0
Fit Permitted		0.999			0.996			0.991			0.960	
Satd. Flow (perm)	0	1976	0	0	2037	0	0	1409	0	0	1560	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		432			162			129			113	
Travel Time (s)		11.8			4.4			3.5			3.1	
Confl. Peds. (#/hr)	4		14	14		4	3		1	1		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	10	394	2	5	58	5	5	0	22	10	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	406	0	0	68	0	0	27	0	0	12	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Weekday AM

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	9	339	2	4	50	4	4	0	19	9	0	2
Future Vol, veh/h	9	339	2	4	50	4	4	0	19	9	0	2
Conflicting Peds, #/hr	4	0	14	14	0	4	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	3	0	0	8	0	0	0	0	0	0	0
Mvmt Flow	10	394	2	5	58	5	5	0	22	10	0	2

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	67	0	0	410
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1139	-	-	868
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1136	-	-	860
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	11.4	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	588	1136	-	-	860	-	-	601
HCM Lane V/C Ratio	0.045	0.009	-	-	0.005	-	-	0.021
HCM Control Delay (s)	11.4	8.2	0	-	9.2	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (vph)	0	344	9	0	0	0	0	0	0	499	132	59
Future Volume (vph)	0	344	9	0	0	0	0	0	0	499	132	59
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00									0.99	
Frt		0.997									0.974	
Fit Protected										0.950	0.978	
Satd. Flow (prot)	0	1840	0	0	0	0	0	0	0	1638	1743	0
Fit Permitted										0.950	0.978	
Satd. Flow (perm)	0	1840	0	0	0	0	0	0	0	1638	1743	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		2								378	76	
Link Speed (mph)		25			25				25		25	
Link Distance (ft)		162			368				418		259	
Travel Time (s)		4.4			10.0				11.4		7.1	
Confl. Peds. (#/hr)			16									22
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	14%	0%	0%	0%	0%	0%	0%	4%	1%	5%
Adj. Flow (vph)	0	378	10	0	0	0	0	0	0	548	145	65
Shared Lane Traffic (%)										31%		
Lane Group Flow (vph)	0	388	0	0	0	0	0	0	0	378	380	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases											2	
Detector Phase		4									2	2
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
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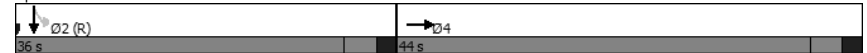
McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0							3.0	3.0	
Recall Mode			None							C-Max	C-Max	
Walk Time (s)			7.0							7.0	7.0	
Flash Dont Walk (s)			8.0							9.0	9.0	
Pedestrian Calls (#/hr)			0							0	0	
Intersection Summary												
Area Type:			Other									
Cycle Length:			80									
Actuated Cycle Length:			80									
Offset:			8 (10%), Referenced to phase 2:SBTL, Start of Green									
Natural Cycle:			60									
Control Type:			Actuated-Coordinated									

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	344	9	0	0	0	0	0	0	499	132	59
Future Volume (veh/h)	0	344	9	0	0	0	0	0	0	499	132	59
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No								No		
Adj Sat Flow, veh/h/ln	0	1791	1615							1929	1973	1914
Adj Flow Rate, veh/h	0	378	8							379	382	65
Peak Hour Factor	0.91	0.91	0.91							0.91	0.91	0.91
Percent Heavy Veh, %	0	2	14							4	1	5
Cap, veh/h	0	453	10							1267	1051	179
Arrive On Green	0.00	0.26	0.25							0.64	0.64	0.63
Sat Flow, veh/h	0	1746	37							1837	1641	279
Grp Volume(v), veh/h	0	0	386							379	0	447
Grp Sat Flow(s),veh/h/ln	0	0	1782							1837	0	1920
Q Serve(g_s), s	0.0	0.0	16.4							7.5	0.0	8.8
Cycle Q Clear(g_c), s	0.0	0.0	16.4							7.5	0.0	8.8
Prop In Lane	0.00		0.02							1.00		0.15
Lane Grp Cap(c), veh/h	0	0	462							1267	0	1230
V/C Ratio(X)	0.00	0.00	0.83							0.30	0.00	0.36
Avail Cap(c_a), veh/h	0	0	891							1267	0	1230
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	28.0							6.5	0.0	6.8
Incr Delay (d2), s/veh	0.0	0.0	4.0							0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	11.8							5.0	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	32.0							7.1	0.0	7.6
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		386									826	
Approach Delay, s/veh		32.0									7.4	
Approach LOS		C									A	
Timer - Assigned Phs		2				4						
Phs Duration (G+Y+Rc), s		55.2				24.8						
Change Period (Y+Rc), s		5.0				5.0						
Max Green Setting (Gmax), s		31.0				39.0						
Max Q Clear Time (g_c+I1), s		0.0				18.4						
Green Ext Time (p_c), s		0.0				1.4						

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Weekday AM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Volume (vph)	9	30	112	4	14	73
Future Volume (vph)	9	30	112	4	14	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%		-3%			3%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.896		0.996			
Flt Protected	0.989					0.992
Satd. Flow (prot)	1684	0	1787	0	0	1696
Flt Permitted	0.989					0.992
Satd. Flow (perm)	1684	0	1787	0	0	1696
Link Speed (mph)	25		25			25
Link Distance (ft)	133		280			131
Travel Time (s)	3.6		7.6			3.6
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	0%	0%	7%
Adj. Flow (vph)	10	33	124	4	16	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	0	128	0	0	97
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Weekday AM

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕			↕
Traffic Vol, veh/h	9	30	112	4	14	73
Future Vol, veh/h	9	30	112	4	14	73
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-3	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	4	0	0	7
Mvmt Flow	10	33	124	4	16	81

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	241	128	0	0	130
Stage 1	128	-	-	-	-
Stage 2	113	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	863	984	-	-	1084
Stage 1	1044	-	-	-	-
Stage 2	1061	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	848	982	-	-	1082
Mov Cap-2 Maneuver	848	-	-	-	-
Stage 1	1042	-	-	-	-
Stage 2	1045	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	947	1082
HCM Lane V/C Ratio	-	-	0.046	0.014
HCM Control Delay (s)	-	-	9	8.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Weekday AM

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Volume (vph)	19	3	1	4	0	6
Future Volume (vph)	19	3	1	4	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	10	10
Grade (%)	0%			-3%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr	0.983				0.865	
Fit Protected	0.958			0.990		
Satd. Flow (prot)	1789	0	0	1782	1519	0
Fit Permitted	0.958			0.990		
Satd. Flow (perm)	1789	0	0	1782	1519	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	116			122	129	
Travel Time (s)	2.6			2.8	2.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	3	1	4	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	0	5	7	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Weekday AM

Intersection

Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	¶			¶	¶	
Traffic Vol, veh/h	19	3	1	4	0	6
Future Vol, veh/h	19	3	1	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-3	2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	3	1	4	0	7

Major/Minor

	Minor2	Major1	Major2		
Conflicting Flow All	10	4	7	0	0
Stage 1	4	-	-	-	-
Stage 2	6	-	-	-	-
Critical Hdwy	6.4	6.2	4.3	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-
Pot Cap-1 Maneuver	1184	1155	1193	-	-
Stage 1	1195	-	-	-	-
Stage 2	1192	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1183	1155	1193	-	-
Mov Cap-2 Maneuver	1183	-	-	-	-
Stage 1	1194	-	-	-	-
Stage 2	1192	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s	8.1	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt

	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1193	- 1179	-	-
HCM Lane V/C Ratio	0.001	- 0.021	-	-
HCM Control Delay (s)	8	0 8.1	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0.1	-	-

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	17	164	30	38	22	15	21	241	58	25	68	7
Future Volume (vph)	17	164	30	38	22	15	21	241	58	25	68	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%			-2%			-2%			2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.981				0.973				0.975			
Fit Protected	0.996				0.975				0.997			
Satd. Flow (prot)	0	2077	0	0	2063	0	0	1771	0	0	1684	0
Fit Permitted	0.996				0.975				0.997			
Satd. Flow (perm)	0	2077	0	0	2063	0	0	1771	0	0	1684	0
Link Speed (mph)	25				25				25			
Link Distance (ft)	919				432				131			
Travel Time (s)	25.1				11.8				3.6			
Confl. Peds. (#/hr)	19		16	16		19	6		9	9		6
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	1%	6%	0%	3%	0%
Adj. Flow (vph)	20	198	36	46	27	18	25	290	70	30	82	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	254	0	0	91	0	0	385	0	0	120	0
Sign Control	Stop				Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Weekday PM

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	17	164	30	38	22	15	21	241	58	25	68	7
Future Vol, veh/h	17	164	30	38	22	15	21	241	58	25	68	7
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	1	0	0	0	0	0	1	6	0	3	0
Mvmt Flow	20	198	36	46	27	18	25	290	70	30	82	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.5	9.6	13.5	9.7
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	8%	51%	25%
Vol Thru, %	75%	78%	29%	68%
Vol Right, %	18%	14%	20%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	211	75	100
LT Vol	21	17	38	25
Through Vol	241	164	22	68
RT Vol	58	30	15	7
Lane Flow Rate	386	254	90	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.533	0.374	0.141	0.182
Departure Headway (Hd)	4.978	5.302	5.632	5.434
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	679	635	660
Service Time	2.978	3.339	3.678	3.472
HCM Lane V/C Ratio	0.529	0.374	0.142	0.182
HCM Control Delay	13.5	11.5	9.6	9.7
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.2	1.7	0.5	0.7

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Volume (vph)	7	245	4	11	51	1	2	3	14	21	1	6
Future Volume (vph)	7	245	4	11	51	1	2	3	14	21	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8
Grade (%)		5%			-5%			6%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.998			0.902				0.971
Fit Protected		0.999			0.991			0.995				0.964
Satd. Flow (prot)	0	1993	0	0	2114	0	0	1434	0	0	1557	0
Fit Permitted		0.999			0.991			0.995				0.964
Satd. Flow (perm)	0	1993	0	0	2114	0	0	1434	0	0	1557	0
Link Speed (mph)		25			25			25				25
Link Distance (ft)		432			162			129				113
Travel Time (s)		11.8			4.4			3.5				3.1
Confl. Peds. (#/hr)	11		21	21		11	2		3	3		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	2%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	288	5	13	60	1	2	4	16	25	1	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	301	0	0	74	0	0	22	0	0	33	0
Sign Control		Free			Free			Stop				Stop

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Weekday PM

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	7	245	4	11	51	1	2	3	14	21	1	6
Future Vol, veh/h	7	245	4	11	51	1	2	3	14	21	1	6
Conflicting Peds, #/hr	11	0	21	21	0	11	2	0	3	3	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	0	-
Grade, %	-	5	-	-	-5	-	-	-	6	-	-	-2
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	2	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	8	288	5	13	60	1	2	4	16	25	1	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	72	0	0	314
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1134	-	-	937
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1126	-	-	925
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.6	10.9	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	628	1126	-	-	925	-	-	671
HCM Lane V/C Ratio	0.036	0.007	-	-	0.014	-	-	0.049
HCM Control Delay (s)	10.9	8.2	0	-	8.9	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↕	
Traffic Volume (vph)	0	267	8	0	0	0	0	0	0	449	237	60
Future Volume (vph)	0	267	8	0	0	0	0	0	0	449	237	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00								0.99		
Frt		0.996								0.976		
Fit Protected										0.950	0.990	
Satd. Flow (prot)	0	1845	0	0	0	0	0	0	0	1670	1791	0
Fit Permitted										0.950	0.990	
Satd. Flow (perm)	0	1845	0	0	0	0	0	0	0	1670	1791	0
Right Turn on Red		Yes			Yes			Yes	Yes		Yes	
Satd. Flow (RTOR)		3								418	33	
Link Speed (mph)		25			25			25		25		
Link Distance (ft)		162			368			418		259		
Travel Time (s)		4.4			10.0			11.4		7.1		
Confl. Peds. (#/hr)			12									24
Confl. Bikes (#/hr)			12									
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	0	300	9	0	0	0	0	0	0	504	266	67
Shared Lane Traffic (%)										17%		
Lane Group Flow (vph)	0	309	0	0	0	0	0	0	0	418	419	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		CI+Ex								CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	

Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		4.0								4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0							3.0	3.0	
Recall Mode			None							C-Max	C-Max	
Walk Time (s)			7.0							7.0	7.0	
Flash Dont Walk (s)			8.0							9.0	9.0	
Pedestrian Calls (#/hr)			0							0	0	

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	8 (10%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated

Splits and Phases: 3: New St & Market St



Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Weekday PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	267	8	0	0	0	0	0	0	449	237	60
Future Volume (veh/h)	0	267	8	0	0	0	0	0	0	449	237	60
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No								No		
Adj Sat Flow, veh/h/ln	0	1791	1820							1959	1959	1988
Adj Flow Rate, veh/h	0	300	7							418	386	67
Peak Hour Factor	0.89	0.89	0.89							0.89	0.89	0.89
Percent Heavy Veh, %	0	2	0							2	2	0
Cap, veh/h	0	373	9							1369	1112	193
Arrive On Green	0.00	0.21	0.20							0.69	0.69	0.67
Sat Flow, veh/h	0	1739	41							1865	1623	282
Grp Volume(v), veh/h	0	0	307							418	0	453
Grp Sat Flow(s),veh/h/ln	0	0	1780							1865	0	1904
Q Serve(g_s), s	0.0	0.0	13.1							7.3	0.0	7.9
Cycle Q Clear(g_c), s	0.0	0.0	13.1							7.3	0.0	7.9
Prop In Lane	0.00		0.02							1.00		0.15
Lane Grp Cap(c), veh/h	0	0	382							1369	0	1305
V/C Ratio(X)	0.00	0.00	0.80							0.31	0.00	0.35
Avail Cap(c_a), veh/h	0	0	890							1369	0	1305
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	29.8							5.1	0.0	5.2
Incr Delay (d2), s/veh	0.0	0.0	4.0							0.6	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	9.9							4.6	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.8							5.7	0.0	6.0
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		307									871	
Approach Delay, s/veh		33.8									5.8	
Approach LOS		C									A	
Timer - Assigned Phs		2				4						
Phs Duration (G+Y+Rc), s		58.8				21.2						
Change Period (Y+Rc), s		5.0				5.0						
Max Green Setting (Gmax), s		31.0				39.0						
Max Q Clear Time (g_c+I1), s		0.0				15.1						
Green Ext Time (p_c), s		0.0				1.1						

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Weekday PM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Volume (vph)	8	29	291	11	36	101
Future Volume (vph)	8	29	291	11	36	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%		-3%			3%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895		0.995			
Flt Protected	0.989					0.987
Satd. Flow (prot)	1682	0	1837	0	0	1760
Flt Permitted	0.989					0.987
Satd. Flow (perm)	1682	0	1837	0	0	1760
Link Speed (mph)	25		25			25
Link Distance (ft)	133		280			131
Travel Time (s)	3.6		7.6			3.6
Confl. Peds. (#/hr)				9		9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	9	32	323	12	40	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	335	0	0	152
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Weekday PM

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕			↕
Traffic Vol, veh/h	8	29	291	11	36	101
Future Vol, veh/h	8	29	291	11	36	101
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-3	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	9	32	323	12	40	112

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	530	338	0	0	344
Stage 1	338	-	-	-	-
Stage 2	192	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	579	748	-	-	915
Stage 1	829	-	-	-	-
Stage 2	974	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	547	742	-	-	907
Mov Cap-2 Maneuver	547	-	-	-	-
Stage 1	822	-	-	-	-
Stage 2	928	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	689	907
HCM Lane V/C Ratio	-	-	0.06	0.044
HCM Control Delay (s)	-	-	10.6	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Weekday PM

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Volume (vph)	10	1	2	9	1	15
Future Volume (vph)	10	1	2	9	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	10	10
Grade (%)	0%			-3%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.872	
Fit Protected	0.956			0.992		
Satd. Flow (prot)	1796	0	0	1786	1531	0
Fit Permitted	0.956			0.992		
Satd. Flow (perm)	1796	0	0	1786	1531	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	116			122	129	
Travel Time (s)	3.2			3.3	3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	1	2	10	1	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	12	18	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Weekday PM

Intersection

Int Delay, s/veh 2.8

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	1		2	9	1	15
Traffic Vol, veh/h	10	1	2	9	1	15
Future Vol, veh/h	10	1	2	9	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None	-	- None	-	- None	-
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-3	2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	1	2	10	1	17

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	24	10	18	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	14	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	1161	1146	1183	-	-	-
Stage 1	1187	-	-	-	-	-
Stage 2	1182	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1159	1146	1183	-	-	-
Mov Cap-2 Maneuver	1159	-	-	-	-	-
Stage 1	1185	-	-	-	-	-
Stage 2	1182	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	8.1	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1183	-	1158	-	-
HCM Lane V/C Ratio	0.002	-	0.011	-	-
HCM Control Delay (s)	8	0	8.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	7	170	20	18	12	6	5	142	64	26	74	3
Future Volume (vph)	7	170	20	18	12	6	5	142	64	26	74	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	11	11	11	10	10	10
Grade (%)	1%				-2%						2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.986				0.979				0.959			
Fit Protected	0.998				0.976				0.999			
Satd. Flow (prot)	0	2073	0	0	2078	0	0	1749	0	0	1715	0
Fit Permitted	0.998				0.976				0.999			
Satd. Flow (perm)	0	2073	0	0	2078	0	0	1749	0	0	1715	0
Link Speed (mph)	25				25				25			
Link Distance (ft)	919				432				131			
Travel Time (s)	25.1				11.8				3.6			
Confl. Peds. (#/hr)	13	6		6	13		3	4		4	3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	1%	3%	0%	1%	0%
Adj. Flow (vph)	7	179	21	19	13	6	5	149	67	27	78	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	38	0	0	221	0	0	108	0
Sign Control	Stop				Stop				Stop			

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
1: Wayne St & Market St

330 W Market St
2026 Future with Dev Saturday MID

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	7	170	20	18	12	6	5	142	64	26	74	3
Future Vol, veh/h	7	170	20	18	12	6	5	142	64	26	74	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	2	0	0	0	0	0	1	3	0	1	0
Mvmt Flow	7	179	21	19	13	6	5	149	67	27	78	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.2	9.2	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	4%	50%	25%
Vol Thru, %	67%	86%	33%	72%
Vol Right, %	30%	10%	17%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	197	36	103
LT Vol	5	7	18	26
Through Vol	142	170	12	74
RT Vol	64	20	6	3
Lane Flow Rate	222	207	38	108
Geometry Grp	1	1	1	1
Degree of Util (X)	0.274	0.268	0.052	0.144
Departure Headway (Hd)	4.445	4.652	4.922	4.778
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	769	724	748
Service Time	2.481	2.693	2.974	2.821
HCM Lane V/C Ratio	0.275	0.269	0.052	0.144
HCM Control Delay	9.2	9.4	8.2	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	1.1	0.2	0.5

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	3	257	4	10	33	0	2	2	19	2	1	0
Future Volume (vph)	3	257	4	10	33	0	2	2	19	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	16	16	16	8	8	8	8	8	8
Grade (%)		5%			-5%			6%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998						0.887				
Fit Protected		0.999			0.988			0.996			0.968	
Satd. Flow (prot)	0	1993	0	0	2181	0	0	1411	0	0	1610	0
Fit Permitted		0.999			0.988			0.996			0.968	
Satd. Flow (perm)	0	1993	0	0	2181	0	0	1411	0	0	1610	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		432			162			129			113	
Travel Time (s)		11.8			4.4			3.5			3.1	
Confl. Peds. (#/hr)	8		11	11		8	5		2	2		5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	273	4	11	35	0	2	2	20	2	1	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	0	46	0	0	24	0	0	3	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

McMahon
2: Potter Alley & Market St

330 W Market St
2026 Future with Dev Saturday MID

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	3	257	4	10	33	0	2	2	19	2	1	0
Future Vol, veh/h	3	257	4	10	33	0	2	2	19	2	1	0
Conflicting Peds. #/hr	8	0	11	11	0	8	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	6	-	-	-2	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	273	4	11	35	0	2	2	20	2	1	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	43	0	0	288
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.3	-	-	4.3
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3	-	-	3
Pot Cap-1 Maneuver	1160	-	-	957
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1154	-	-	950
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.1	10.3	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1154	-	-	950	-	-	641
HCM Lane V/C Ratio	0.035	0.003	-	-	0.011	-	-	0.005
HCM Control Delay (s)	10.3	8.1	0	-	8.8	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Saturday MID

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↕	
Traffic Volume (vph)	0	264	12	0	0	0	0	0	0	437	139	40
Future Volume (vph)	0	264	12	0	0	0	0	0	0	437	139	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	14	14	14	14	14	14	16	16	16	13	15	15
Grade (%)		3%			-1%			2%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99									0.99	
Frt		0.994									0.981	
Fit Protected										0.950	0.979	
Satd. Flow (prot)	0	1852	0	0	0	0	0	0	0	1687	1800	0
Fit Permitted										0.950	0.979	
Satd. Flow (perm)	0	1852	0	0	0	0	0	0	0	1687	1800	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		4								325	66	
Link Speed (mph)		25			25				25		25	
Link Distance (ft)		162			368				418		259	
Travel Time (s)		4.4			10.0				11.4		7.1	
Confl. Peds. (#/hr)			38									36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	0	281	13	0	0	0	0	0	0	465	148	43
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	0	294	0	0	0	0	0	0	0	325	331	0
Number of Detectors		1								0	0	
Detector Template												
Leading Detector (ft)		37								0	0	
Trailing Detector (ft)		-3								0	0	
Detector 1 Position(ft)		-3								0	0	
Detector 1 Size(ft)		40								20	6	
Detector 1 Type		Cl+Ex								Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0								0.0	0.0	
Detector 1 Queue (s)		0.0								0.0	0.0	
Detector 1 Delay (s)		0.0								0.0	0.0	
Turn Type		NA								Perm	NA	
Protected Phases		4									2	
Permitted Phases										2		
Detector Phase		4								2	2	
Switch Phase												
Minimum Initial (s)		3.0								31.0	31.0	
Minimum Split (s)		23.0								36.0	36.0	
Total Split (s)		44.0								36.0	36.0	
Total Split (%)		55.0%								45.0%	45.0%	
Maximum Green (s)		39.0								31.0	31.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		2.0								2.0	2.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		4.0								4.0	4.0	

Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Saturday MID

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)										3.0	3.0	
Recall Mode										None	C-Max	C-Max
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										8.0	9.0	9.0
Pedestrian Calls (#/hr)										0	0	0
Intersection Summary												
Area Type:										Other		
Cycle Length:										80		
Actuated Cycle Length:										80		
Offset:										8 (10%), Referenced to phase 2:SBTL, Start of Green		
Natural Cycle:										60		
Control Type:										Actuated-Coordinated		
Splits and Phases:										3: New St & Market St		
	↓	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
	36 s									44 s		

Lanes, Volumes, Timings
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McMahon
3: New St & Market St

330 W Market St
2026 Future with Dev Saturday MID



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔	↔	
Traffic Volume (veh/h)	0	264	12	0	0	0	0	0	0	437	139	40
Future Volume (veh/h)	0	264	12	0	0	0	0	0	0	437	139	40
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No								No		
Adj Sat Flow, veh/h/ln	0	1805	1820							1973	1988	1988
Adj Flow Rate, veh/h	0	281	11							327	341	41
Peak Hour Factor	0.94	0.94	0.94							0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0							1	0	0
Cap, veh/h	0	353	14							1395	1207	145
Arrive On Green	0.00	0.21	0.19							0.69	0.69	0.68
Sat Flow, veh/h	0	1717	67							1879	1738	209
Grp Volume(v), veh/h	0	0	292							327	0	382
Grp Sat Flow(s),veh/h/ln	0	0	1784							1879	0	1947
Q Serve(g_s), s	0.0	0.0	12.4							5.1	0.0	6.0
Cycle Q Clear(g_c), s	0.0	0.0	12.4							5.1	0.0	6.0
Prop In Lane	0.00		0.04							1.00		0.11
Lane Grp Cap(c), veh/h	0	0	367							1395	0	1352
V/C Ratio(X)	0.00	0.00	0.80							0.23	0.00	0.28
Avail Cap(c_a), veh/h	0	0	892							1395	0	1352
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	30.2							4.5	0.0	4.7
Incr Delay (d2), s/veh	0.0	0.0	4.0							0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	9.5							3.2	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	34.2							4.9	0.0	5.2
LnGrp LOS	A	A	C							A	A	A
Approach Vol, veh/h		292									709	
Approach Delay, s/veh		34.2									5.1	
Approach LOS		C									A	
Timer - Assigned Phs		2				4						
Phs Duration (G+Y+Rc), s		59.6				20.4						
Change Period (Y+Rc), s		5.0				5.0						
Max Green Setting (Gmax), s		31.0				39.0						
Max Q Clear Time (g_c+I1), s		0.0				14.4						
Green Ext Time (p_c), s		0.0				1.0						

Intersection Summary		
HCM 6th Ctrl Delay		13.6
HCM 6th LOS		B

Notes
User approved volume balancing among the lanes for turning movement.

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Saturday MID



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Volume (vph)	8	26	185	9	27	85
Future Volume (vph)	8	26	185	9	27	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)			-3%			3%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.897		0.994			
Flt Protected	0.988					0.988
Satd. Flow (prot)	1684	0	1836	0	0	1774
Flt Permitted	0.988					0.988
Satd. Flow (perm)	1684	0	1836	0	0	1774
Link Speed (mph)	25		25			25
Link Distance (ft)	133		280			131
Travel Time (s)	3.6		7.6			3.6
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	9	29	206	10	30	94
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	216	0	0	124
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

McMahon
4: Wayne St & Site Access

330 W Market St
2026 Future with Dev Saturday MID

Intersection

Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	8	26	185	9	27	85
Future Vol, veh/h	8	26	185	9	27	85
Conflicting Peds, #/hr	0	0	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-3	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	9	29	206	10	30	94

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	369	215	0	0	220
Stage 1	215	-	-	-	-
Stage 2	154	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	723	878	-	-	1010
Stage 1	949	-	-	-	-
Stage 2	1015	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	698	875	-	-	1006
Mov Cap-2 Maneuver	698	-	-	-	-
Stage 1	945	-	-	-	-
Stage 2	984	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	9.6	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	826	1006
HCM Lane V/C Ratio	-	-	0.046	0.03
HCM Control Delay (s)	-	-	9.6	8.7
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Saturday MID



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↓	↔
Traffic Volume (vph)	13	2	2	10	2	13
Future Volume (vph)	13	2	2	10	2	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	10	10
Grade (%)	0%			-3%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983				0.882	
Fit Protected	0.958			0.992		
Satd. Flow (prot)	1789	0	0	1786	1548	0
Fit Permitted	0.958			0.992		
Satd. Flow (perm)	1789	0	0	1786	1548	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	116			122	129	
Travel Time (s)	2.6			2.8	2.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	2	2	11	2	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	13	16	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized

McMahon
5: Potter Alley & Site Access

330 W Market St
2026 Future with Dev Saturday MID

Intersection

Int Delay, s/veh 3.3

Movement

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	13	2	2	10	2	13
Future Vol, veh/h	13	2	2	10	2	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-3	2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	2	2	11	2	14

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	24	9	16
Stage 1	9	-	-
Stage 2	15	-	-
Critical Hdwy	6.4	6.2	4.3
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3	3.1	3
Pot Cap-1 Maneuver	1161	1148	1185
Stage 1	1188	-	-
Stage 2	1181	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1159	1148	1185
Mov Cap-2 Maneuver	1159	-	-
Stage 1	1186	-	-
Stage 2	1181	-	-

Approach

	EB	NB	SB
HCM Control Delay, s	8.2	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt

	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1185	-	1158	-
HCM Lane V/C Ratio	0.002	-	0.014	-
HCM Control Delay (s)	8	0	8.2	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	-