

CITY OF GLENDALE

NOTE MEETING PLACE:

**The Plan Commission will meet in the
David Hobbs Honda for the People Community Room
Richard E. Maslowski Community Park
2200 West Bender Road
Glendale, Wisconsin 53209**

AGENDA— PLAN COMMISSION

**Tuesday, April 9, 2019
6:00 P.M.**

1. Roll Call and Pledge of Allegiance.
2. Adoption of Minutes of Meeting of March 5, 2019.
3. a. 6:00 P.M. PUBLIC HEARING: Petition to Rezone 5464 North Port Washington Road (Certified Survey Map 7498, Lot 2, Tax Key Parcel 197-9021-000) from B-1, B Business and Commercial District to PD-Planned Unit Development District-Fast Food with a Drive-In Window for a Chick-fil-A Restaurant. Applicant to present Informational Statement and General Development Plan to Interested Citizens and the Plan Commission, followed with Plan Commission inquiry, discussion, and recommendation to the Common Council.
Jennifer Santelli, Chick-fil-A
Joeseeph Vavrina, Engineer
- b. Certified Survey Map, Glendale Yards, 4340 North Green Bay Avenue (Former Railroad Yard). Review and recommend to Common Council approval of the proposed CSM.
John Bielinski
Brian Monroe
- c. Plan Commission Use and Occupancy Review, Just One More Ministry, Incorporated, 4180 North Lydell Avenue (former Hood Leather Products). Review and approve food distributing service use and occupancy.
- d. Comprehensive Plan Request for Proposals Update.

NOTICE: This is NOT a meeting of the Glendale Common Council. Although a majority of Council Members may be present, Council action will not take place.

—Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals.—

Meeting is 6:00 PM Tuesday

**David Hobbs Honda For the People Community Room
Richard E. Maslowski Community Park
2200 West Bender Road
Glendale, Wisconsin**

City of Glendale Plan Commission

6:00 P.M., Tuesday, April 9, 2019

- Plan Commission Report -



- 3a. **6:00 P.M. PUBLIC HEARING: Petition to Rezone 5464 North Port Washington Road (Certified Survey Map 7498, Lot 2, Tax Key Parcel 197-9021-000) from B-1, B Business and Commercial District to PD-Planned Unit Development District-Fast Food with a Drive-In Window for a Chick-fil-A Restaurant.** Applicant to present Informational Statement and General Development Plan to Interested Citizens and the Plan Commission, followed with Plan Commission inquiry, discussion, and recommendation to the Common Council.

Plan Commissioners: Chick-fil-A has recently submitted revised project plan documents in digital format that include elevation views, site photometric plan, signage package, and Traffic Impact Analysis. This information will be included in the presentation Tuesday evening by Chick-fil-A. The digital plans will be available at the City of Glendale website as related to the April 9, 2019, Plan Commission (Agenda Center at www.Glendale-WI.org/AgendaCenter). Also, please bring along the packet materials from the March 5, 2019, Plan Commission.

Chick-fil-A will formally present the Planned Unit Development Informational Statement and General Development Plan to interested citizens and the Plan Commission (Refer to aerial photographs).

The proposed Planned Unit Development (PUD) project involves constructing a 5,000 square-foot Chick-fil-A restaurant within the 56,039 square-foot (1.287 acre) premises. The architecture is modern with classic materials such as brick veneer and vision glass. The proposed design concept includes drive-in window service (with canopy cover) along the North Port Washington Road street frontage, as well as patio seating with five tables seating 20 customers adjacent to the east side of the building, and includes 64 parking stalls (with three ADA marked spaces).

Proposed business operating hours are 6:00 a.m. to 10:30 p.m. Tuesday to Saturday (Closed Sundays). There will be as many as 15 employees working a single shift.

Supportive exhibits for the Chick-fil-A rezone include architecture artistic images, Site Plan, landscape, lighting, and signage plans, along with site civil, stormwater management plan and traffic control study.

Staff Report to the Plan Commission
Meeting of Tuesday, April 9, 2019

Aerial Photograph of Port Washington 5464 LLC Environs



Aerial Photograph of Port Washington 5464 LLC Environs (Zoom View)



Staff Report to the Plan Commission

Meeting of Tuesday, April 9, 2019

The Glendale Site Requirements and Urban Design states buildings should front on the street with primary architecture elements on that façade. The proposed pick-up window street-side appears to be the only Chick-fil-A in the State of Wisconsin that has the drive-in service window included in the street façade.

Project Architecture and Civil Site Improvements

A monument sign with a space for 6-inch readable changeable copy is proposed at the northwest corner of the premises (Street address 5464 must be added or be added to the front of the building), the Chick-fil-A logo is located above the south entrance, two menu cabinets (one per lane), and a thirty-foot height flag pole proposed for a 40 square-foot (8'x5') United States of America flag. An unspecified number of 32 square-foot (8'x4') banner type signs are indicated to be distributed at unidentified places. A single banner sign is permitted at 30 square feet for two 15-day time periods.

Site Management

Staff are aware that Chick-fil-A occasionally holds special events that attract a larger than typical number of customers, and also anticipates that a Grand Opening may also attract a sizable number of persons, some of whom may be present overnight. These special situations should be broached as to what might be planned and/or expected and how they will be managed in a commercial proximate to residential setting.

Project Value

The project is represented as having a value of about \$2.0 million and as Chick-fil-A self-financing all of their projects.

Project Schedule

Chick-fil-A hopes to begin the improvements Spring of 2020.

Required Next Action

The next action by the Plan Commission is to decide to recommend approval by the Common Council.

- 3b. **Certified Survey Map, Glendale Yards, 4340 North Green Bay Avenue (Former Railroad Yard).** Review and recommend to Common Council approval of the proposed CSM.

The necessary action by the Plan Commission is to recommend that the Common Council approve the Certified Survey Map with requirements of payment of the \$190 (\$175.00 plus 1x\$15) administrative fee, making any required technical corrections to the document, and payment of City Engineer CSM technical review fees, and other required fees, if any.

- 3c. **Plan Commission Use and Occupancy Review, Just One More Ministry, Incorporated, 4180 North Lydell Avenue (former Hood Leather Products).** Review and approve food distributing service use and occupancy.

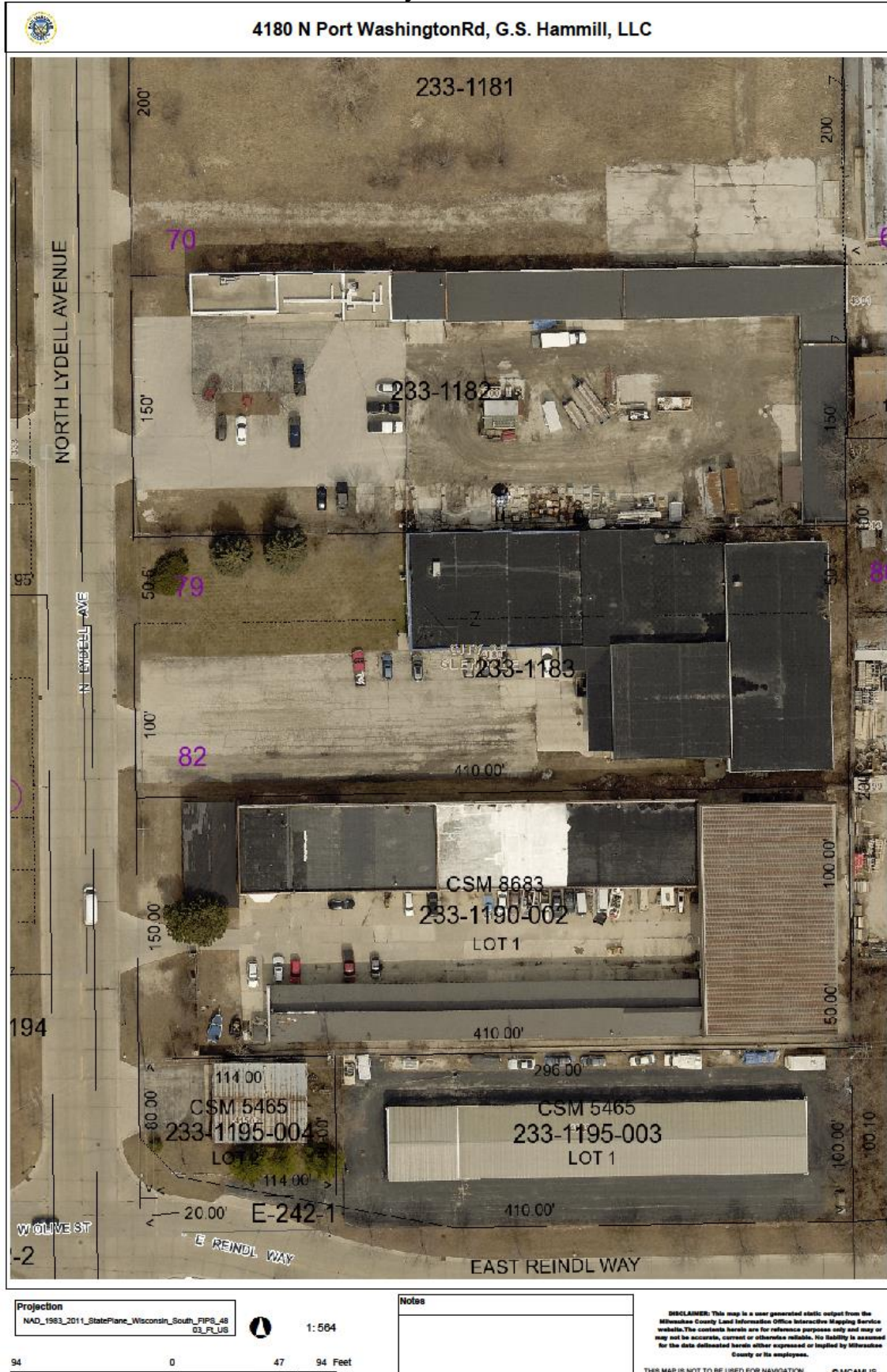
Chris Capper seeks Plan Commission approval for Just One More Ministry, Incorporated, a food rescue mission agency that administrates and coordinates the collecting and distributing of food, to use and occupy the approximately 23,760 square-foot office-warehouse building located at 4180 North Lydell Avenue. The site is zoned M-1, Warehouse, Light Manufacturing, Office and Service District, and the proposed distribution center use and occupancy requires Plan Commission review and approval. Just One More Ministry, Incorporated, will acquire the 4180 North Lydell Avenue property and will function there as owner occupant.

Just One More Ministry, Incorporated, has about seven (7) employees and expects to have as many as ten (10) in the future. The enterprise has a community of more than 400 volunteers that actually pick up food and distribute it. There may be events held at the 4180 North Lydell Avenue premises where as many as thirty (30) persons would be present at the 4180 North Lydell Avenue premises. The existing paved space is about 16,200 square feet (225 feet by 72 feet) which would provide for two rows with 22 parking spaces each with a 24 foot wide drive lane, giving a total of 44 parking stalls. Just One More Ministry, Incorporated, business hours are typically 7:00 a.m. to 3:30 p.m. Monday through Thursday, 7:00 a.m. to 6:00 p.m. Fridays, and 7:00 a.m. to 11:00 a.m. Saturdays.

Parking should be satisfactory for the proposed use.

Staff Report to the Plan Commission
Meeting of Tuesday, April 9, 2019

Aerial View of the 4180 North Lydell Avenue Environs.



Photograph (View toward the east).



Staff Recommendation: Staff recommends that the Plan Commission grant use and occupancy approval for Just One More Ministry, Incorporated, a food rescue mission agency that administrates and coordinates collecting and distributing of food, per the following:

- 1) All landscaping and lighting features being maintained and replaced and/or replenished when necessary;
- 2) All City of Glendale building, health, and fire codes being carried out to the satisfaction of the Building Inspector, the North Shore Health Consortium, and the North Shore Fire Department.

3d. Comprehensive Plan Request for Proposals Update,

City Staff will discuss the two submitted proposals and seek Plan Commission input.

3a.

Glendale Police Department

Memo

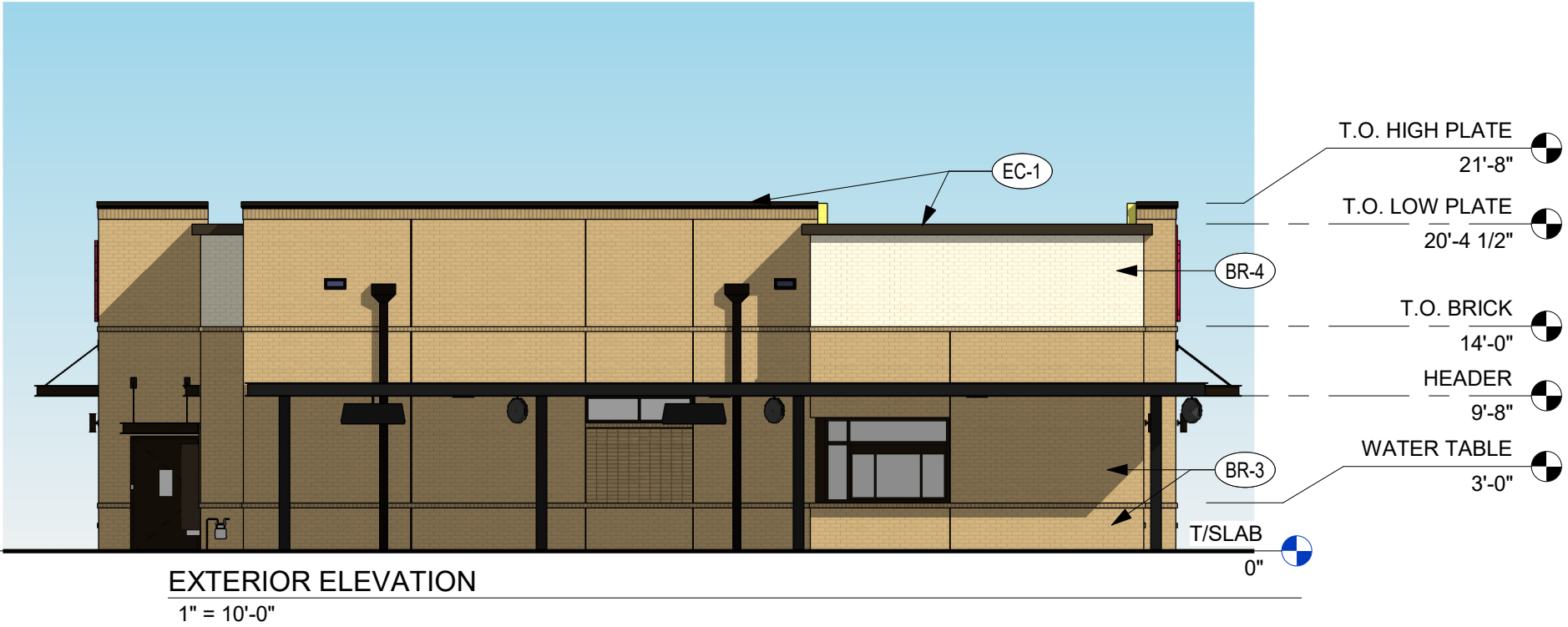
To: City Administrator Rachel Safstrom
From: Chief Ferguson
Date: March 15, 2019
Re: Restaurant Drive-Thrus

The question was posed if the Police Department had any concerns that restaurant drive-thrus posed an increased risk of being more susceptible to criminal activity.

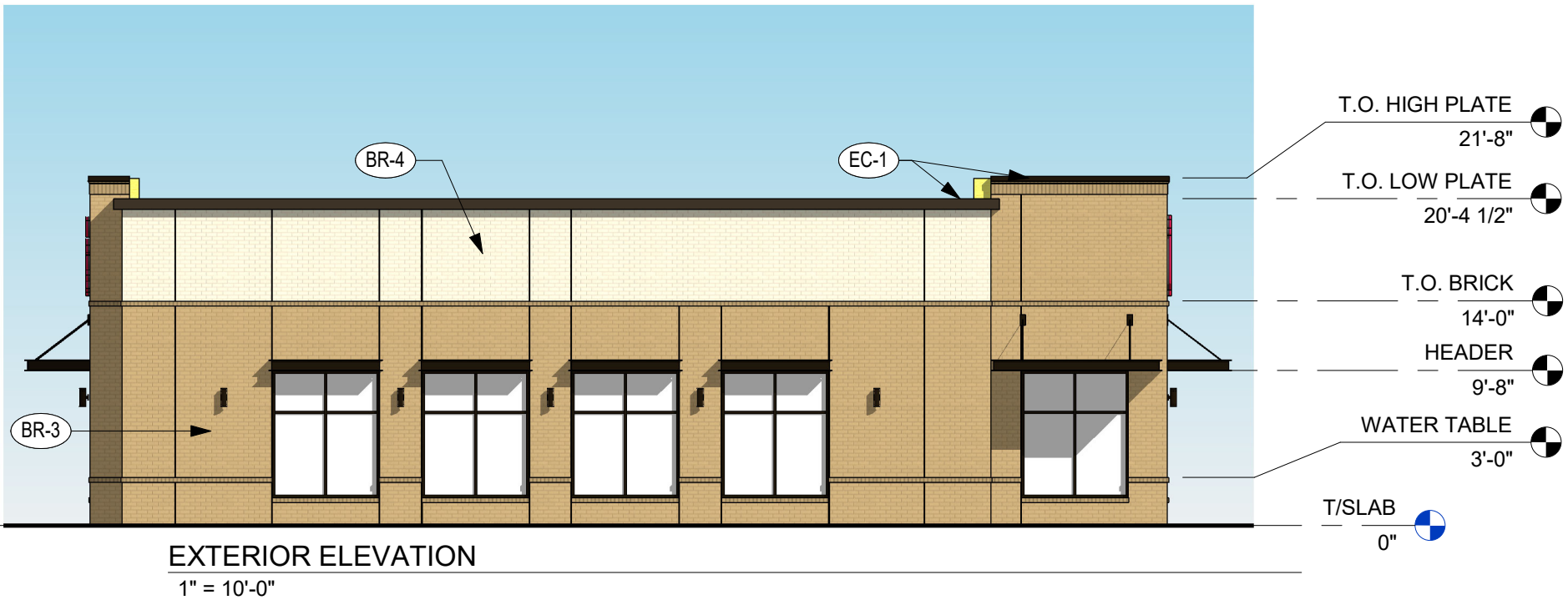
It is my opinion that such drive-thrus do not pose a significantly greater risk of criminal activity to the need where they should require additional regulation.



EXTERIOR ELEVATIONS



A301_ATTACHED CANOPY SCHEDULE						
Mark	Description	Count	Overall Width	Overall Depth	Tie Back Mounting (Offset From Top)	Integral Lighting
C1-C	Exterior Canopy	9	7'-1"	1'-0"	0"	No
C4-A	Exterior Canopy	1	5'-0"	4'-0"	2'-6"	Yes
C4-E	Exterior Canopy	1	7'-1"	4'-0"	2'-6"	Yes
C4-F	Exterior Canopy	4	7'-1"	4'-0"	2'-6"	No
C5-A	Exterior Canopy	1	10'-8"	5'-0"	2'-6"	Yes
Grand total		16				



EXTERIOR FINISHES

BR-4
BRICK VENEER
COLOR: V100
SIZE: MODULAR
MORTAR: ARGOS SAN TAN

BR-3
BRICK VENEER
COLOR: CITADEL
SIZE: MODULAR
MORTAR: ARGOS SAN TAN

EC-1
PREFINISHED METAL COPING
COLOR: DARK BRONZE

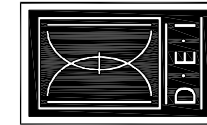
PT-9
EXTERIOR PAINT
COLOR: DARK BRONZE
FINISH: SEMI-GLOSS

ST-1
STOREFRONT
COLOR: DARK BRONZE



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

DICKERSON ENGINEERING, INC.
3343 NORTH RIDGE AVENUE
ARLINGTON HEIGHTS, IL 60004
TEL (847) 966-0230 FAX (847) 966-0234



PROGRESS PRINT
03/18/2019

CHICK-FIL-A
GLENDALE FSU
5464 N PORT WASHINGTON ROAD
GLENDALE, WI 53217

FSR# 04327

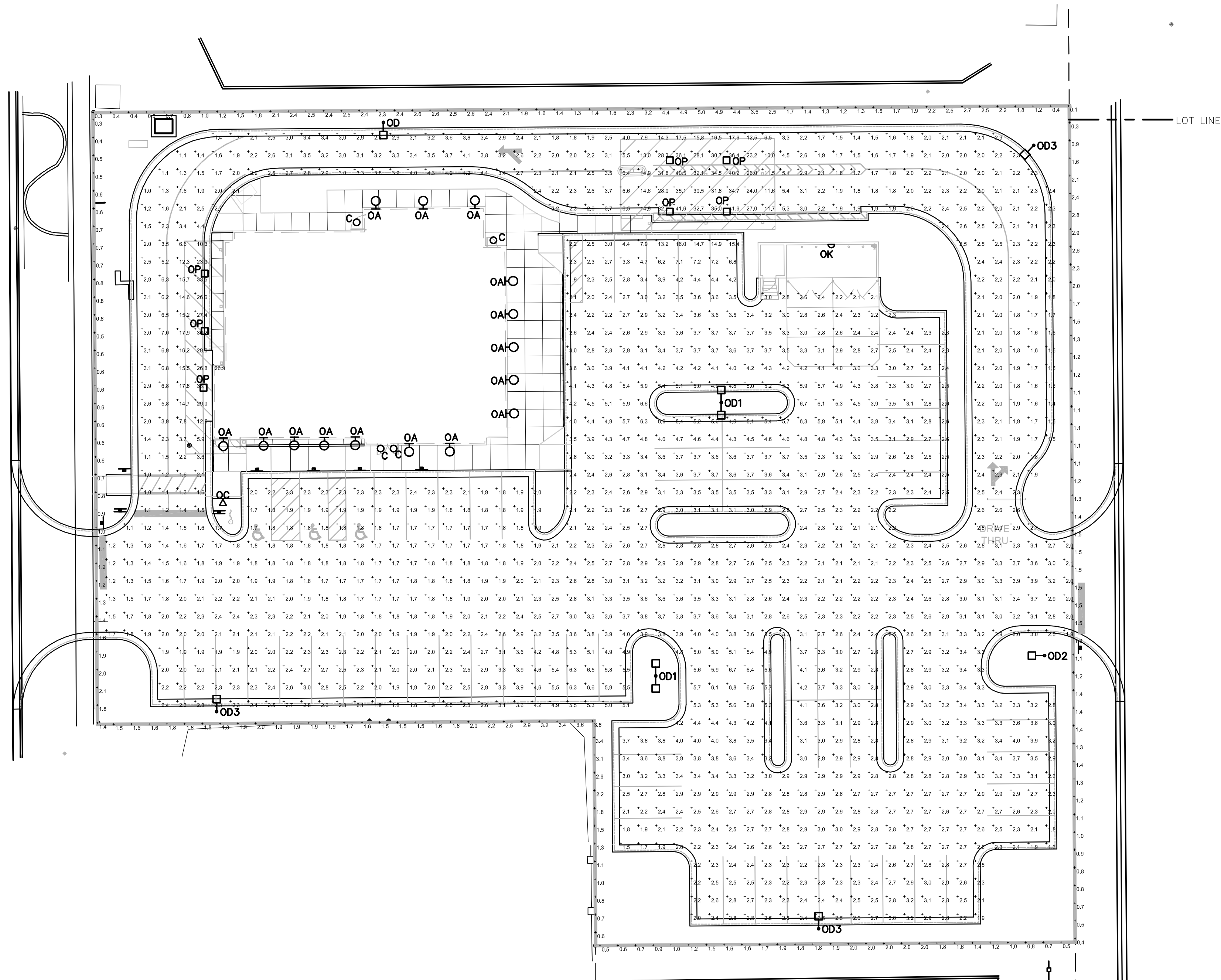
REVISION SCHEDULE
NO. DATE DESCRIPTION

ARCHITECT'S PROJECT #
PRINTED FOR
DATE 03/18/2019
DRAWN BY EU

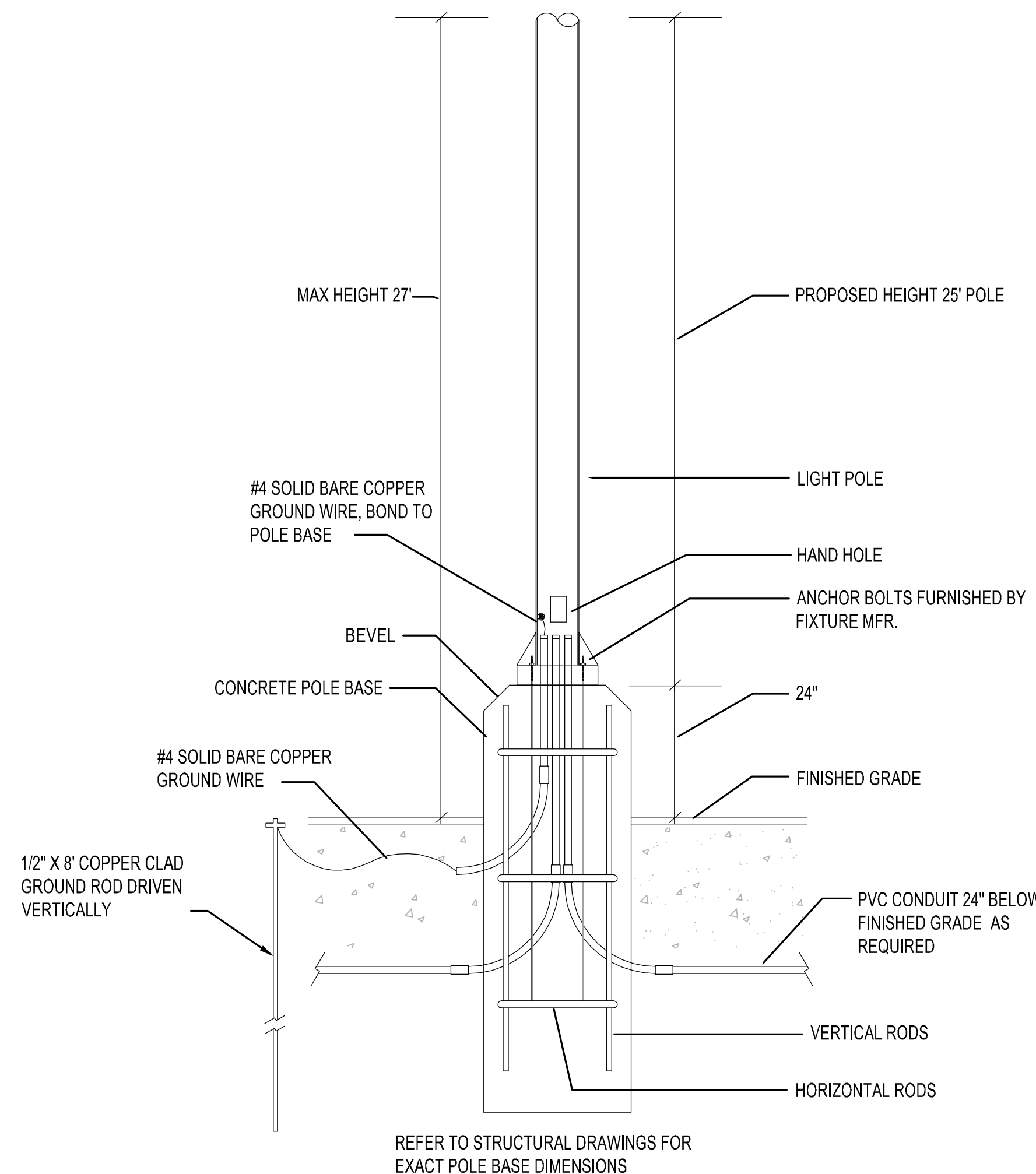
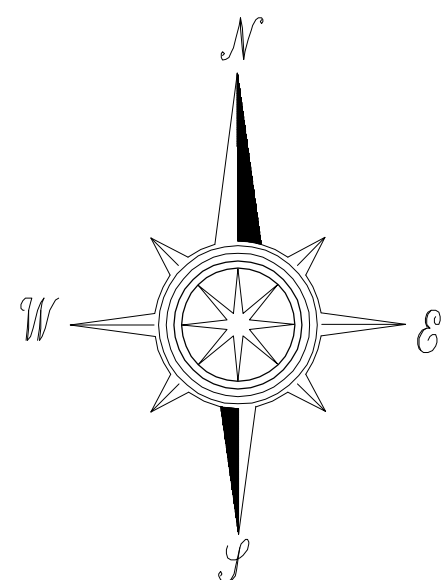
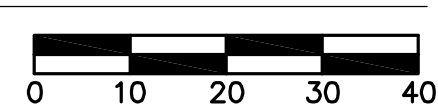
Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from authorized project representatives.

SHEET
PHOTOMETRIC PLAN
SHEET NUMBER

E-603



1 PHOTOMETRIC PLAN
SCALE: 1"=20'-0"



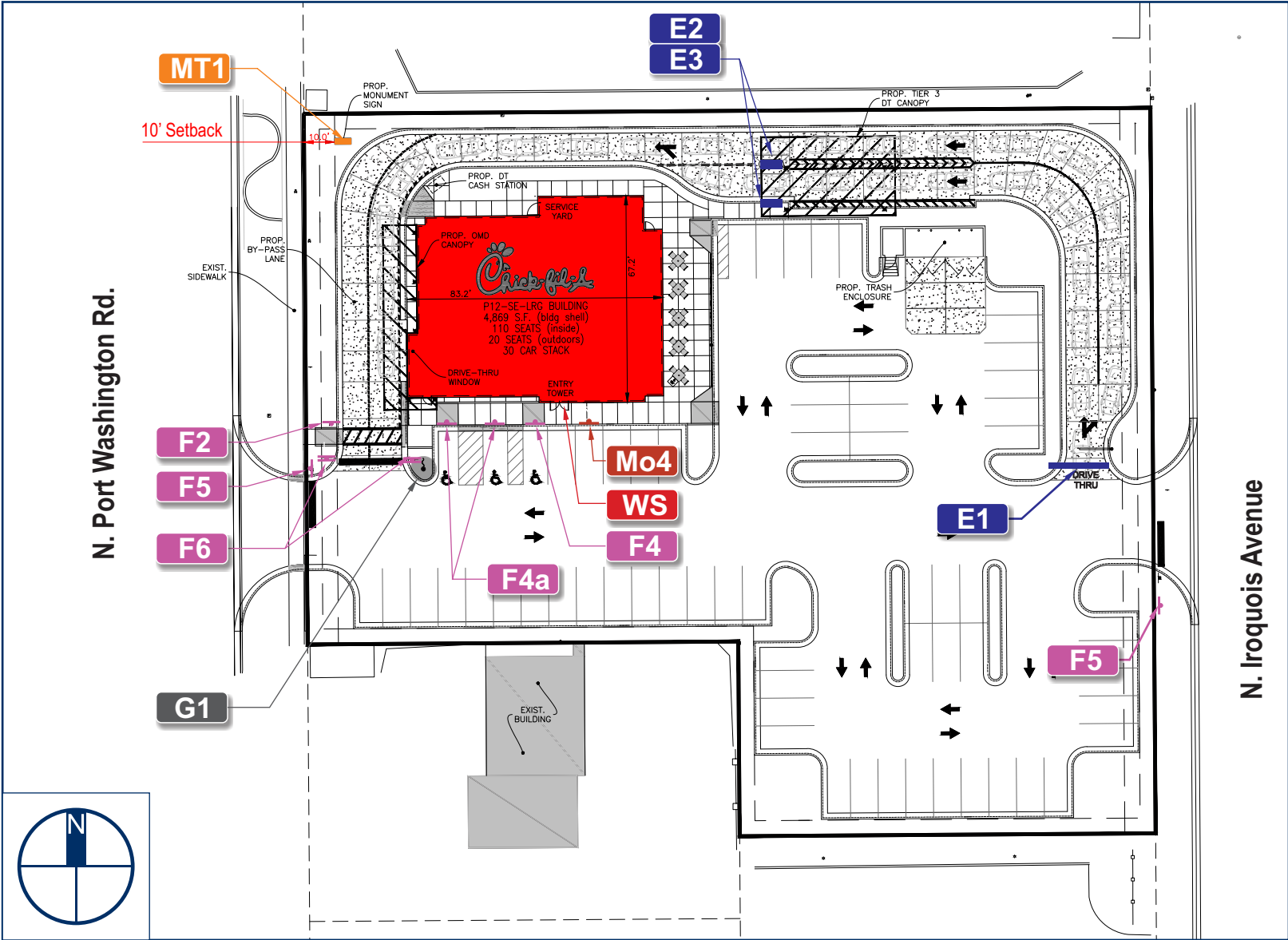
2 TYPICAL POLE BASE DETAIL
NOT TO SCALE

FIXTURE	HEIGHT (UNLESS NOTED OTHERWISE)	LIGHT LOSS FACTOR
C	10'	.9
OC	ON GRADE	.9
OD	27'	.9
OD1	27'	.9
OD2	27'	.9
OD3	27'	.9
OA	8'	.9
OK	8'	.9
OP	9.5'	.9

PHOTOMETRIC STATISTICS (MAINTAINED) IN PARKING LOT	
(NOT INCLUDING UNDER CANOPY LIGHTING)	
AVERAGE	2.8 FC
MAX	6.8 FC
MIN	1.0 FC



- WS** Wall Sign Logo
- MT1** Monument Sign w/ MRB
- E1** Drive Thru Clearance Bar
- E2** Drive Thru Menu Board/ Canopy
- E3** Drive Thru Menu Board/ Canopy
- F2** Post/ Panel - Pedestrian Crosswalk
- F4** DOT- Handicapped Parking
- F4a** DOT- Handicapped Parking/Van
- F5** DOT- Stop Sign
- F6** DOT- DNE/ Stop
- Mo4** DOT- Catering & Carry Out
- G1** Flag Pole



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO	12/06/2018	Original Renderings
	01/21/2019	Revised Site Plan and Elevations
	02/05/2019	Roved script signs and added wall sign
	03/19/2019	Updated Elevations, Wall Sign Allowable, Added 2' Setback

LC
GC
GC
LC

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WS	Chick-fil-A
Type:	Wall Sign
Illumination:	Internally Illuminated w/LED
Square Footage:	35.00
To Grade:	Top of sign to grade = 20'-3" Bottom of sign to grade = 14'-4"



Front Elevation (South)

Scale: 1/8" = 1'-0"

Allowable Square Footage this Elevation:	70.93
Formula: .8 square feet times the building front foot	
Actual Square Footage this Elevation:	35.00

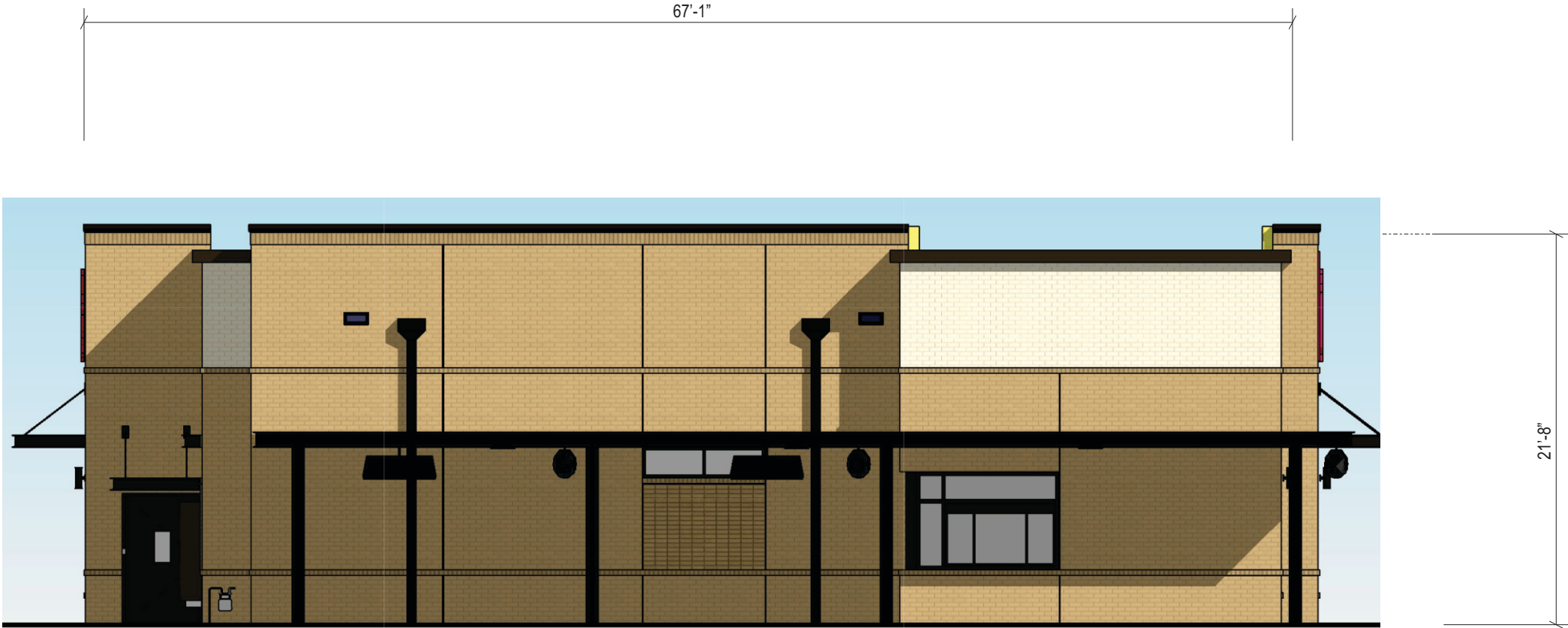


Client:	Chick-Fil-A
Site #:	CF-4327
Address:	5464 N. Port Washington Glendale, WI 53217

REVISION INFO	12/06/2018	Original Renderings	LC
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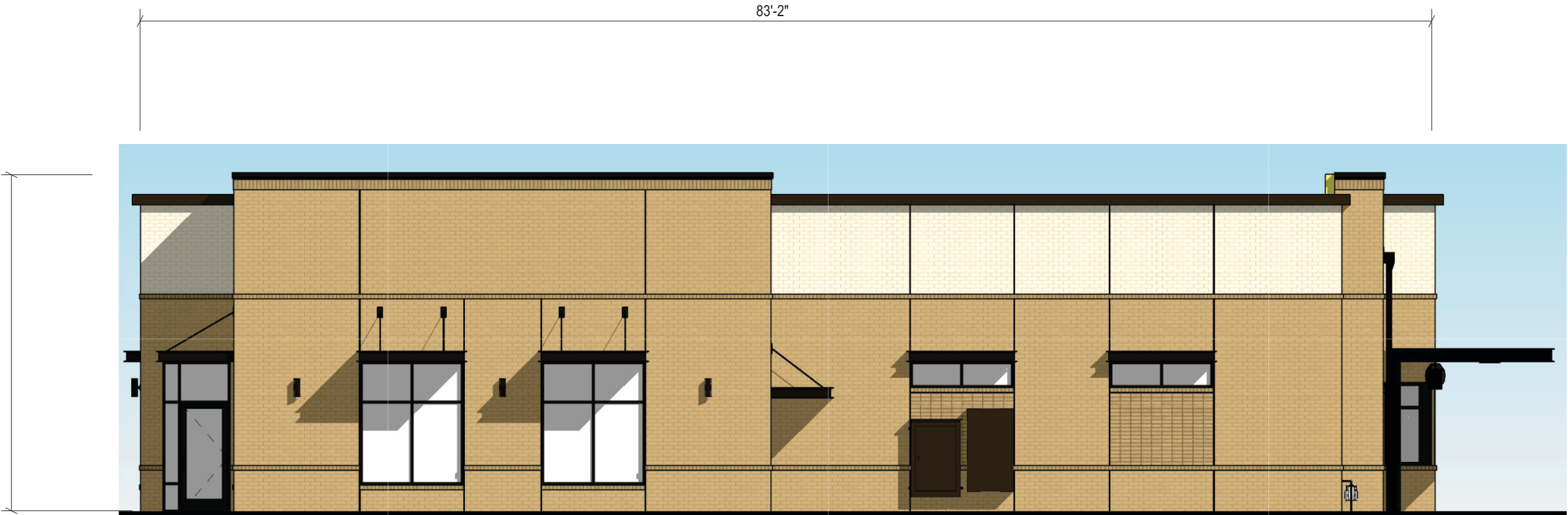
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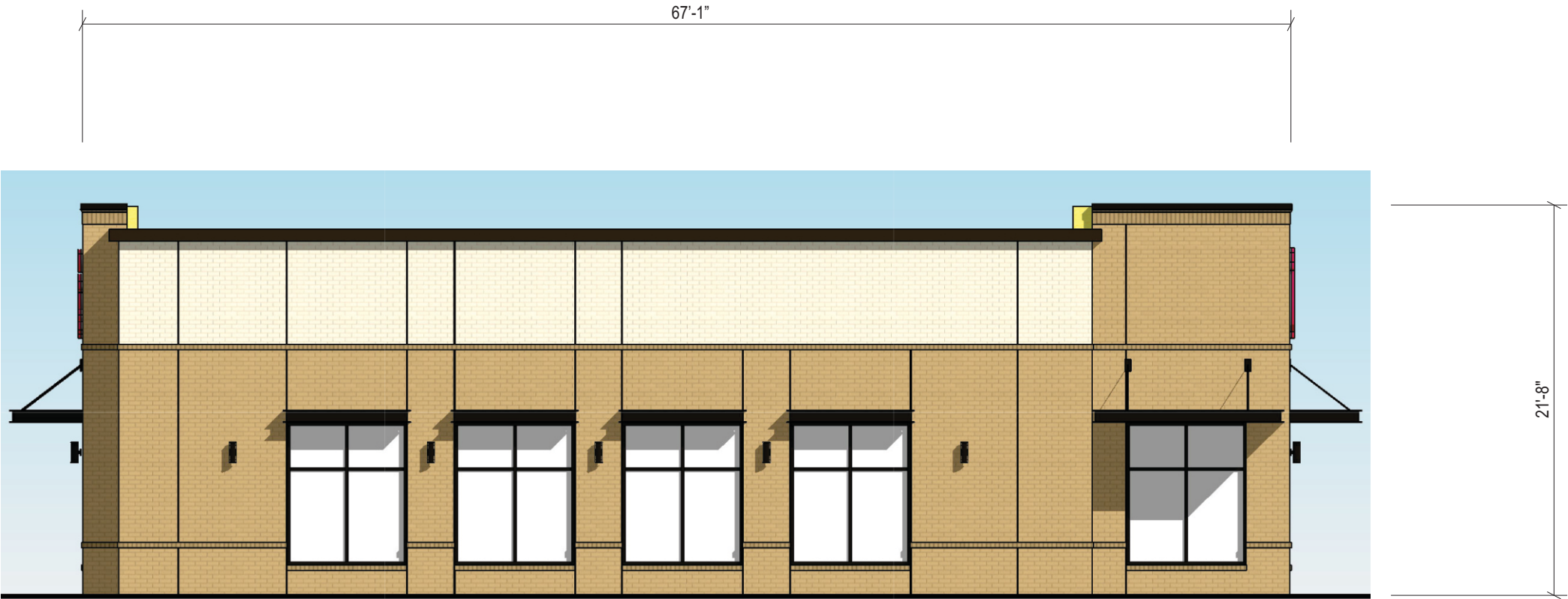


Drive Thru Elevation (West)

Scale: 1/8" = 1'-0"



Rear Elevation (North)
Scale: 1/8" = 1'-0"



Right Elevation (East)
Scale: 1/8" = 1'-0"



Client: Chick-Fil-A
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WS	Chick-fil-A
Type:	Wall Sign
Illumination:	Internally Illuminated w/LED
Square Footage:	35.00
To Grade:	Top of sign to grade = 20'-3" Bottom of sign to grade = 14'-4"

This Product is Listed by
UNDERWRITERS LABORATORIES, INC.
and Bears the Mark:



Electrical:

- White LEDs
- (2) 60w transformers @ .9 amps each
- Total Amps: 1.8
- (1) 20 amp 120V Circuit Req.



General Notes:

This sign is to be installed in accordance with the requirements of Article 600 of the National Electrical Code.

- 1) Grounded and bonded per NEC 600.7/NEC 250
 - 2) Existing branch circuit in compliance with NEC 600.5, not to exceed 20 amps
 - 3) Sign is to be UL listed per NEC 600.3
 - 4) UL disconnect switch per NEC 600.6- required per sign component before leaving manufacturer*
- *For multiple signs, a disconnect is permitted but not required for each section



SF= 35.00

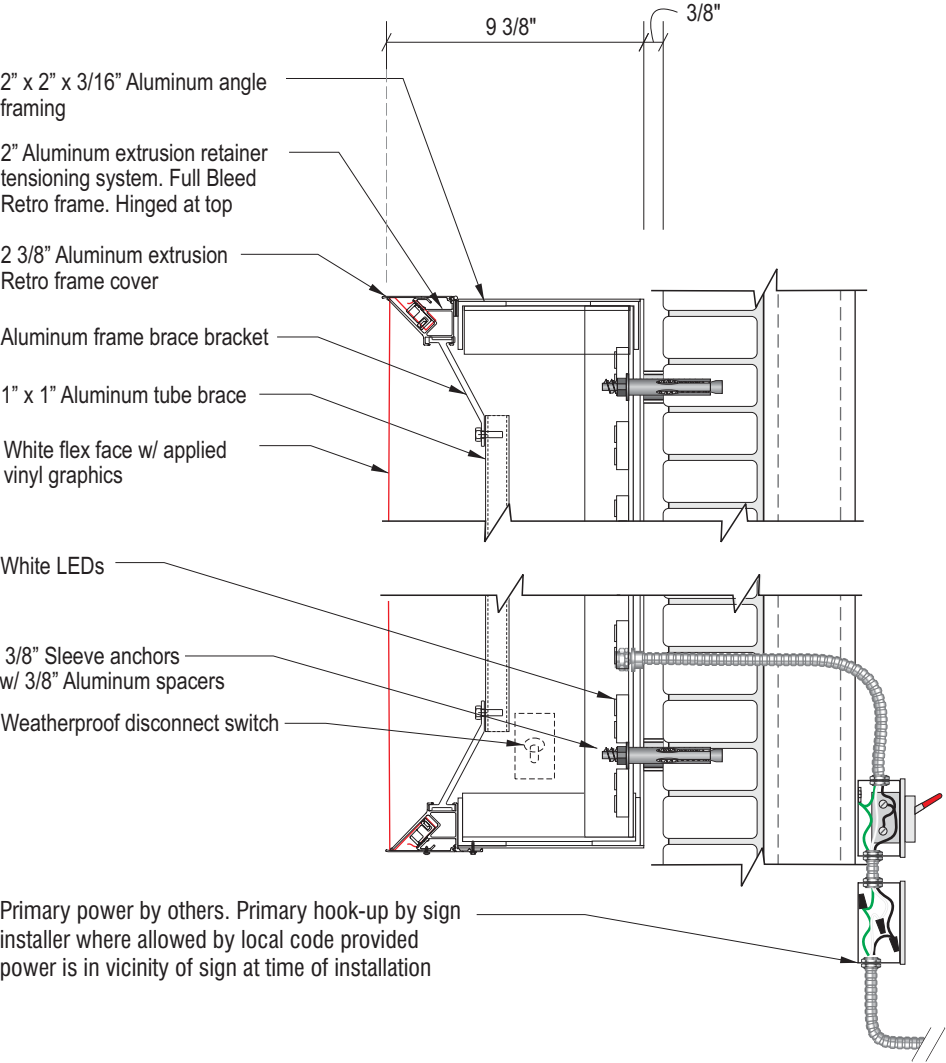


S/F Wall Sign Layouts

Full Bleed Retainer Scale: 3/8" = 1'-0"

Side View

Scale: 3/8" = 1'- 0"



Section Thru Wall Sign

Full Bleed Retainer Scale: NTS



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO

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MT1	Chick-fil-A
Type:	Monument Sign
Illumination:	Internally Illuminated w/ LED's
Square Footage:	45.33

*Variance Required

29.33 SQ FT (Cabinet)
16.00 SQ FT (Reader Board)
45.33 Total

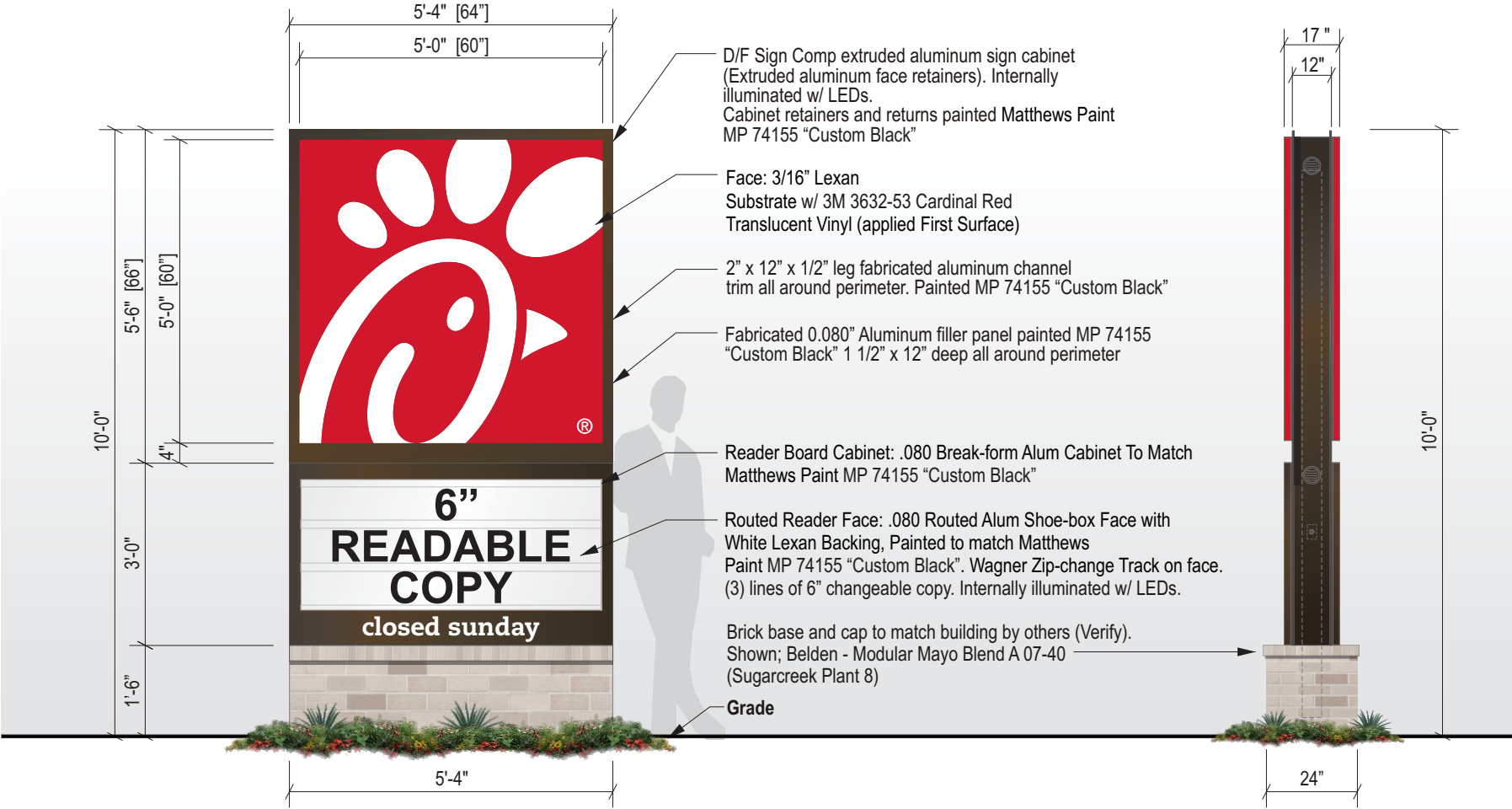
REFER TO
ENGINEERING STAMPED
DRAWING FOR FOUNDATION

This Product is Listed by
UNDERWRITERS LABORATORIES, INC.
and Bears the Mark:



Electrical Detail: Cabinet
White GEDS71-2 LED's (2) GEPS 24-100U @ 2.5 amps TOTAL AMPS = 5.0

General Notes:
This sign is to be installed in accordance with the requirements of Article 600 of the National Electrical Code.
1) Grounded and bonded per NEC 600.7/NEC 250
2) Existing branch circuit in compliance with NEC 600.5, not to exceed 20 amps
3) Sign is to be UL listed per NEC 600.3
4) UL disconnect switch per NEC 600.6- required per sign component before leaving manufacturer*
*For multiple signs, a disconnect is permitted but not required for each section



MT1 **Monument Sign (Logo) w/ MRB**
Scale: 3/8" = 1'-0"

Side View
Scale: 3/8" = 1'-0"

	Client:	Chick-Fil-A	REVISION INFO	12/06/2018	Original Renderings	LC	This rendering is the property of Anchor Sign, Inc. It is for the exclusive use of Anchor Sign, Inc. and the party which requested the rendering. It is an unpublished original drawing not to be distributed, reproduced or exhibited without the consent of Anchor Sign, Inc. Please contact your account manager with questions regarding this statement.
	Site #:	CF-4327		01/21/2019	Revised Site Plan and Elevations	GC	
	Address:	5464 N. Port Washington		02/05/2019	Roved script signs and added wall sign	GC	
		Glendale, WI 53217		03/19/2019	Updated Elevations, Wall Sign Allowable, Added 2' Setback	LC	


1.800.213.3331

Specifications: Clearance Bar

Support pole

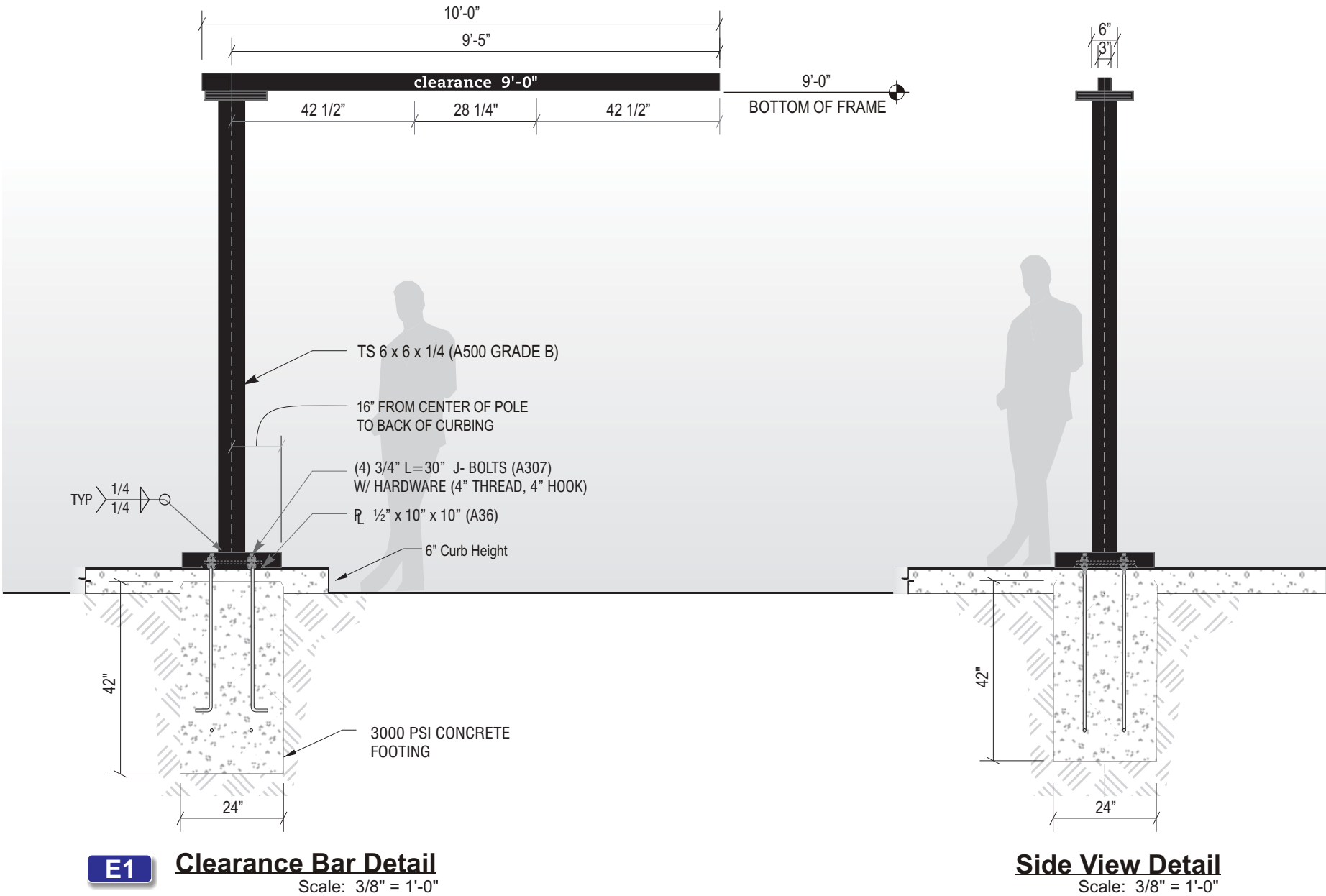
Pole has 13" x 13" x 3/4" thick steel plate with four (4) 1" dia. Holes in each corner 2" from each end and four (4) anchor bolts

Metal Surfaces

■ Painted MATTE BLACK TEXTURED

Graphics

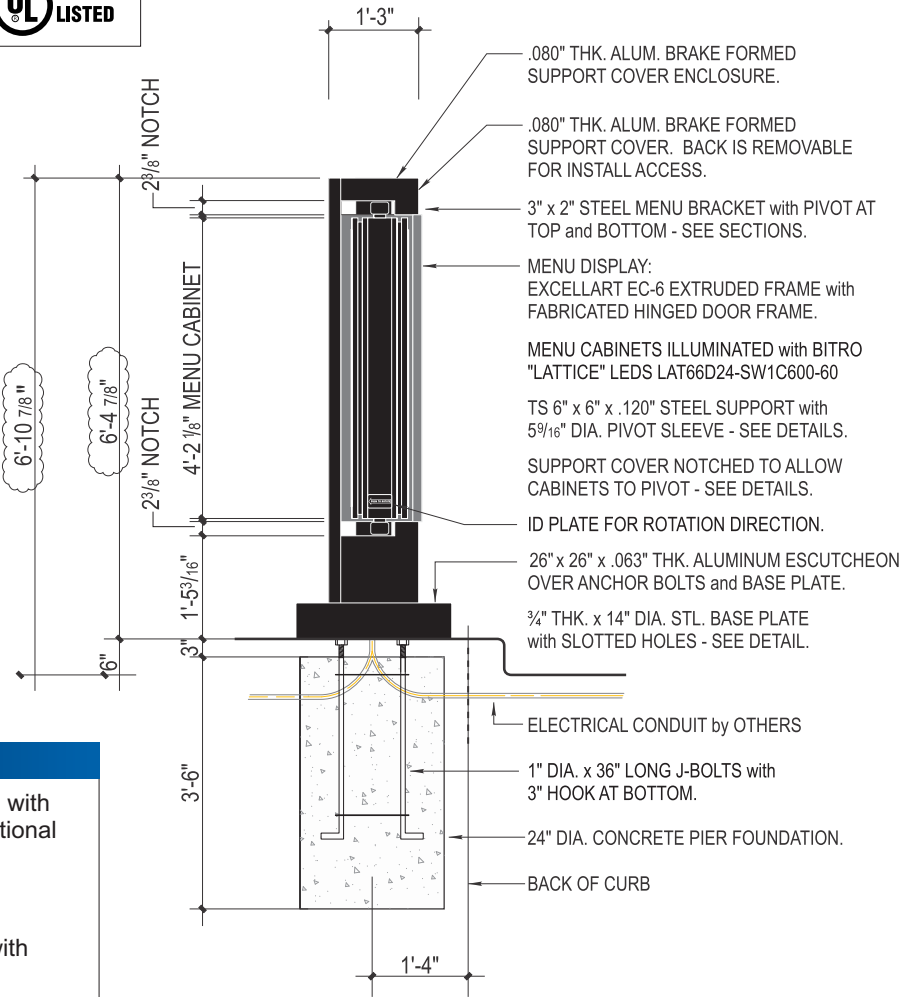
□ White high performance Vinyl film graphics



Electrical Detail:

Bitro Lattice White LEDs LAT66D24-SW1C600-60
(1) 60w Transformer
Total Amps: 1.67
(1) 20 amp 120V Circuit Req.





E2

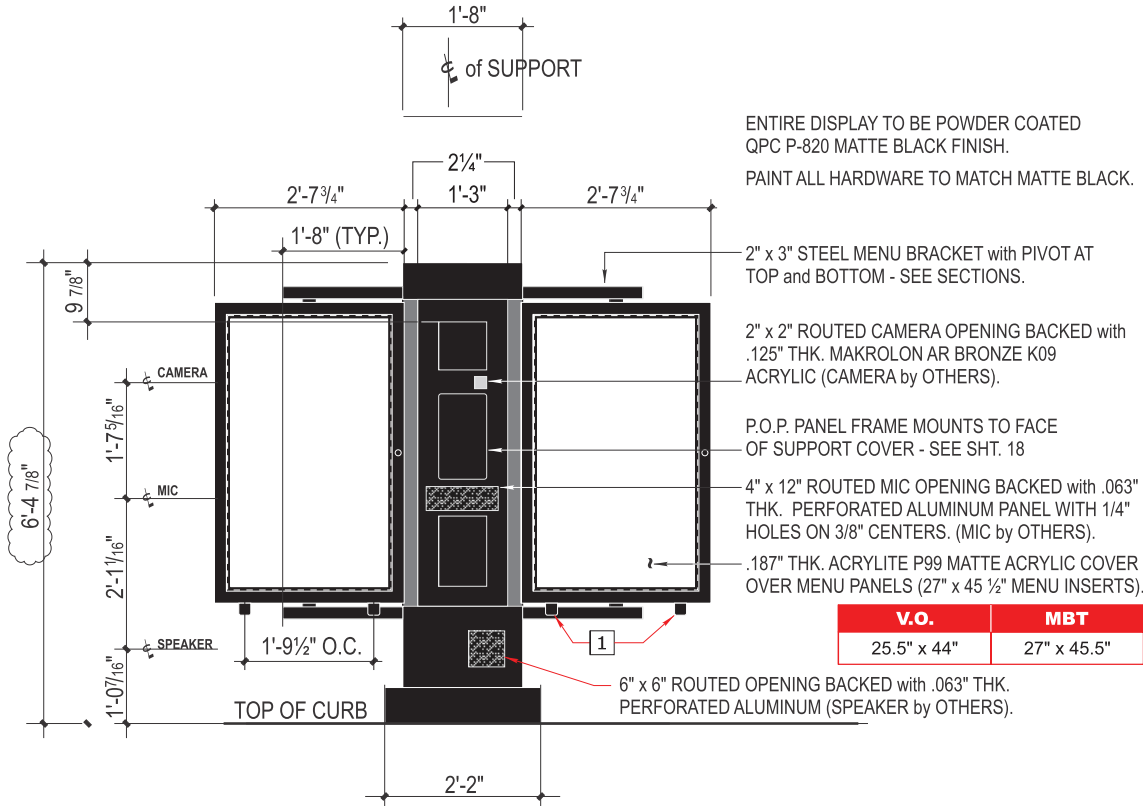
E3

Side View Detail

QTY 2

Scale: 3/8" = 1'-0"

NOTE:
MENU CABINET TO ROTATE WHEN STRUCK AND RETURN TO ORIGINAL POSITION.



Drive Thru Canopy Detail

Scale: 3/8" = 1'-0"

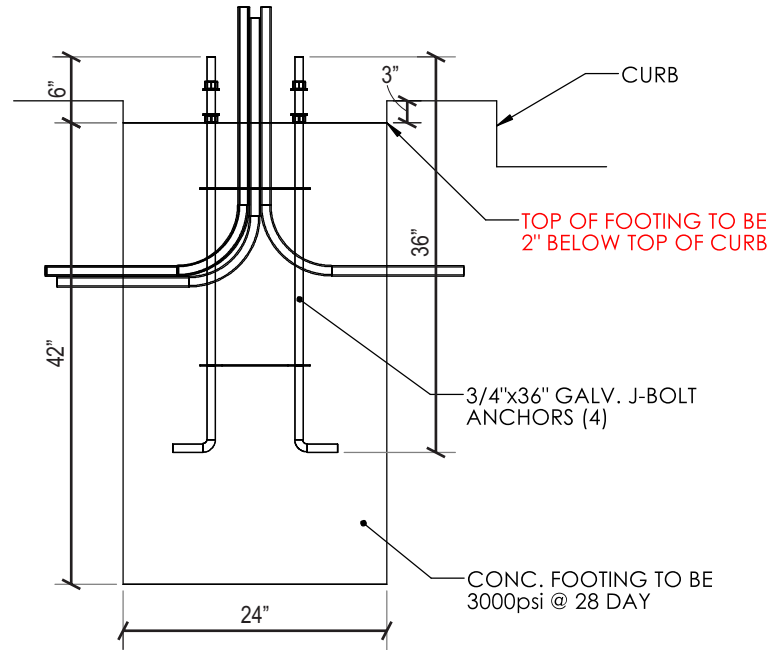
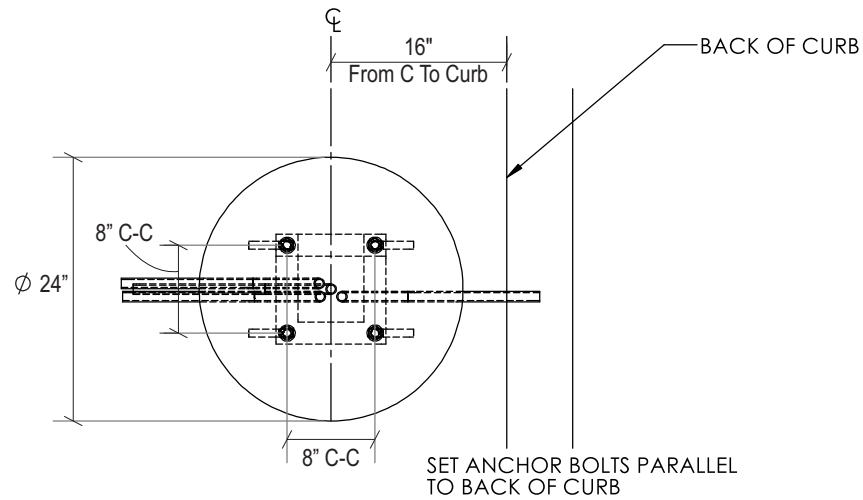
V.O.	MBT
25.5" x 44"	27" x 45.5"

General Notes:

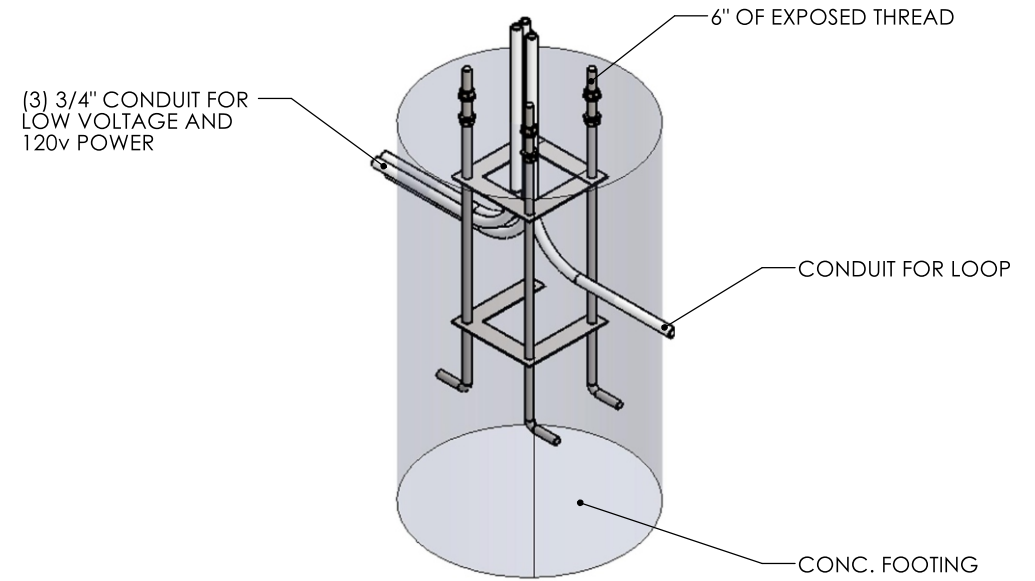
This sign is to be installed in accordance with the requirements of Article 600 of the National Electrical Code.

1) Grounded and bonded per NEC 600.7/NEC 250
2) Existing branch circuit in compliance with NEC 600.5, not to exceed 20 amps
3) Sign is to be UL listed per NEC 600.3
4) UL disconnect switch per NEC 600.6
- required per sign component before leaving manufacturer*

*For multiple signs, a disconnect is permitted but not required for each section



**ANY SITE SPECIFIC ENGINEERING
SUPERSEDES THIS DETAIL**

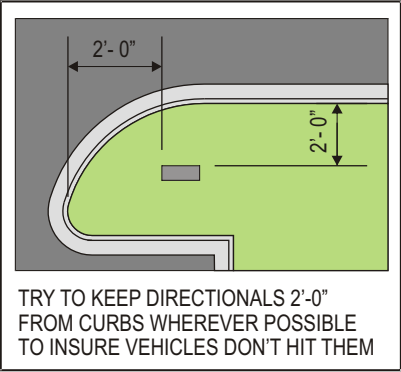


Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO	12/06/2018	Original Renderings	LC
	01/21/2019	Revised Site Plan and Elevations	GC
	02/05/2019	Roved script signs and added wall sign	GC
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Specifications:

SIGN POSTS

Posts are 2" x 2" x .125 square aluminum tubing capped on top
■ Painted Matthews MP 74155 "Custom Black"

SIGN PANELS

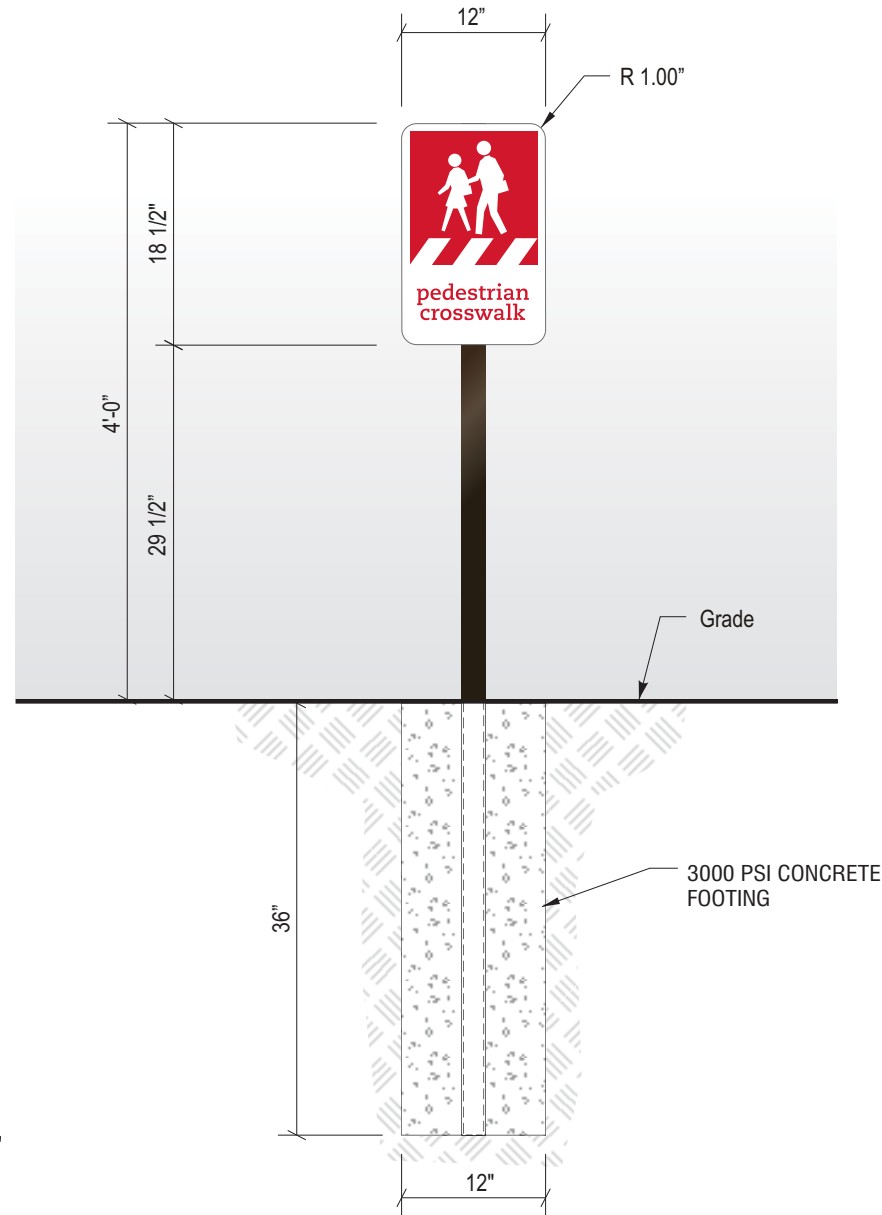
Panels are 0.080" aluminum, backs painted Mathews MP #74155 "Custom Black" with 3M #3290 Reflective White and 3M #3272 Reflective Red background and graphics.

■ 3M #680-82 Reflective Red

□ 3M #3290 Reflective White

Mounting

Panels are to be mounted w/ 3/8"Ø thru bolts w/ washer and nut



Panel Layout Detail

Scale: 1 1/2" = 1'-0"

F2

Post/ Panel - Pedestrian Crosswalk

Qty 1

Scale: 3/4" = 1'-0"



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO

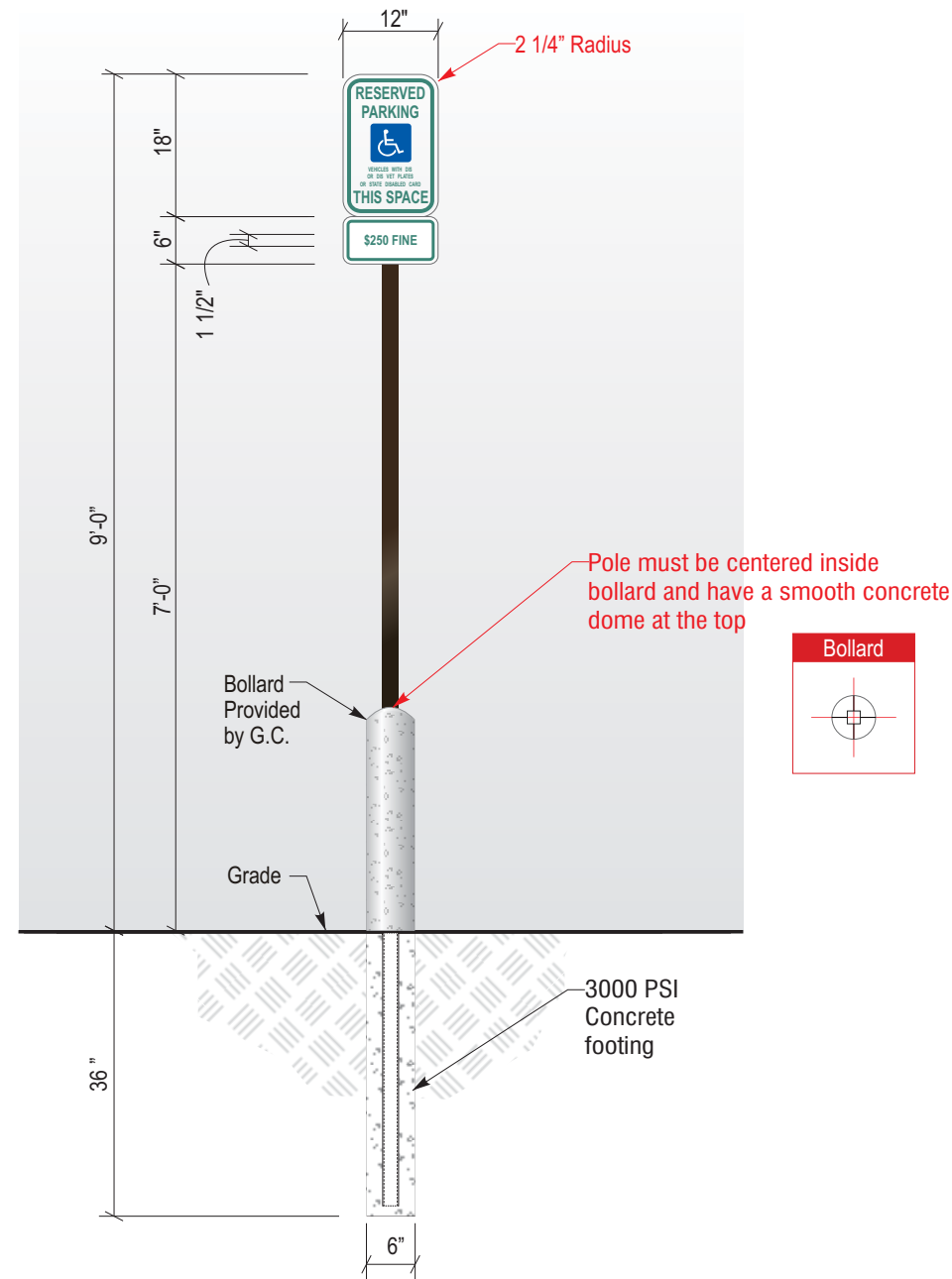
12/06/2018	Original Renderings
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LC
GC
GC
LC

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AnchorSign
1.800.213.3331

SIGN POST



F4



Specifications:

SIGN POST

Posts are 2" x 2" x .125 square aluminum tubing capped on top

 Painted Matthews MP 74155
"Custom Black"

SIGN PANELS

0.080" Aluminum, backs painted MP #71455 "Custom Black". Fronts to be 3M #680-10 Reflective White w/ reflective graphics.

 3M #680-76 Reflective Blue

 3M #680-77 Reflective Green

 3M #680-10 Reflective White

Mounting

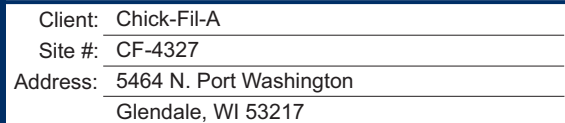
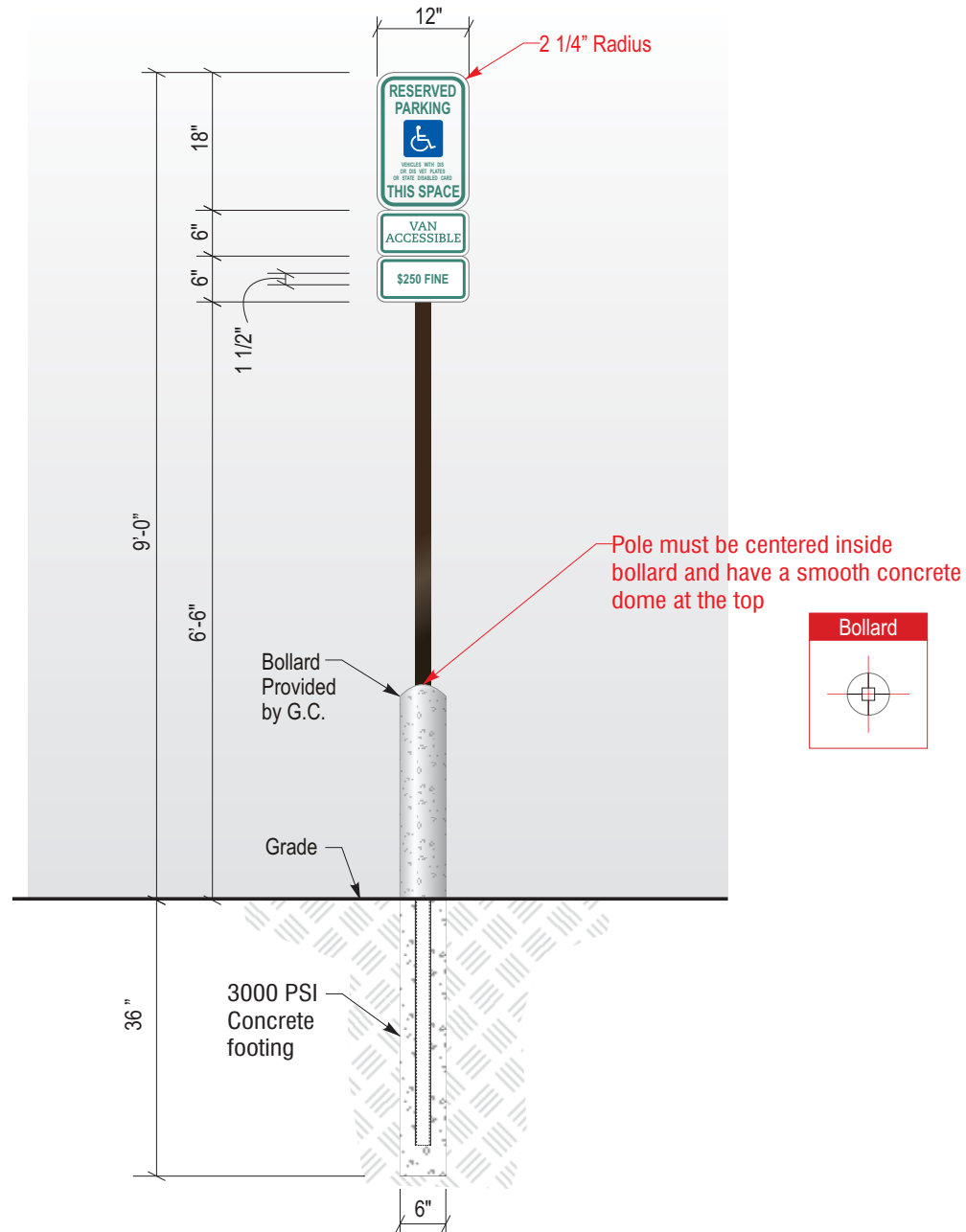
Panels are to be mounted w/ 3/8"Ø thru bolts w/ washer and nut

Posts are 2" x 2" x .125 square aluminum tubing capped on top

0.080" Aluminum, backs painted
MP #71455 "Custom Black". Fronts
to be 3M #680-10 Reflective White
w/ reflective graphics.

- Panels are to be mounted w/
3/8"Ø thru bolts w/ washer and nut

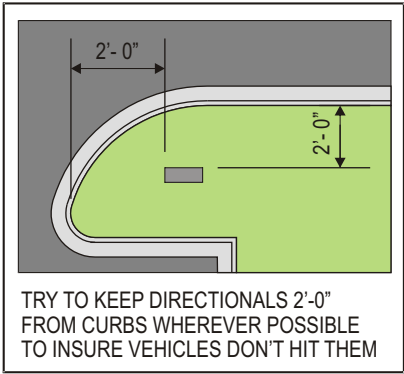
F4a **DOT Signage - HP**
Qty 2 Scale: 1/2" = 1'-0"



REVISION INFO	12/06/2018	Original Renderings	LC
	01/21/2019	Revised Site Plan and Elevations	GC
	02/05/2019	Roved script signs and added wall sign	GC
	03/19/2019	Updated Elevations, Wall Sign Allowable, Added 2' Setback	LC

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Specifications:

SIGN POSTS

Posts are 2" x 2" x .125 square aluminum tubing capped on top
■ Painted Matthews MP 74155 "Custom Black"

SIGN PANELS

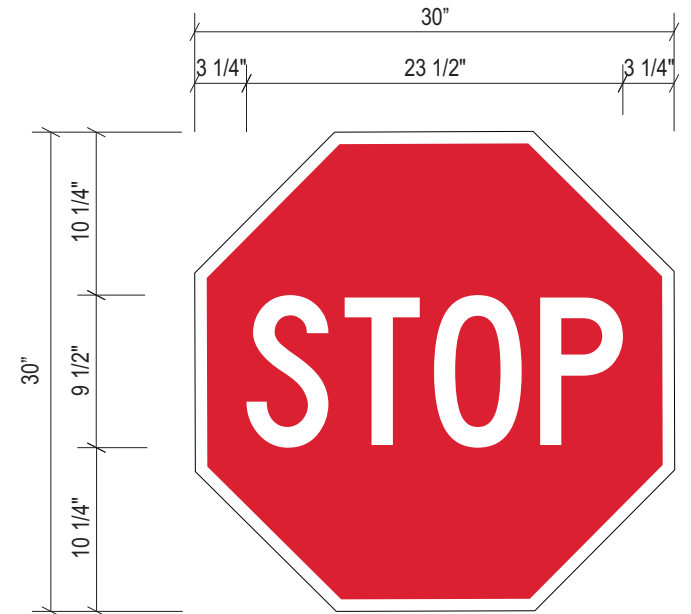
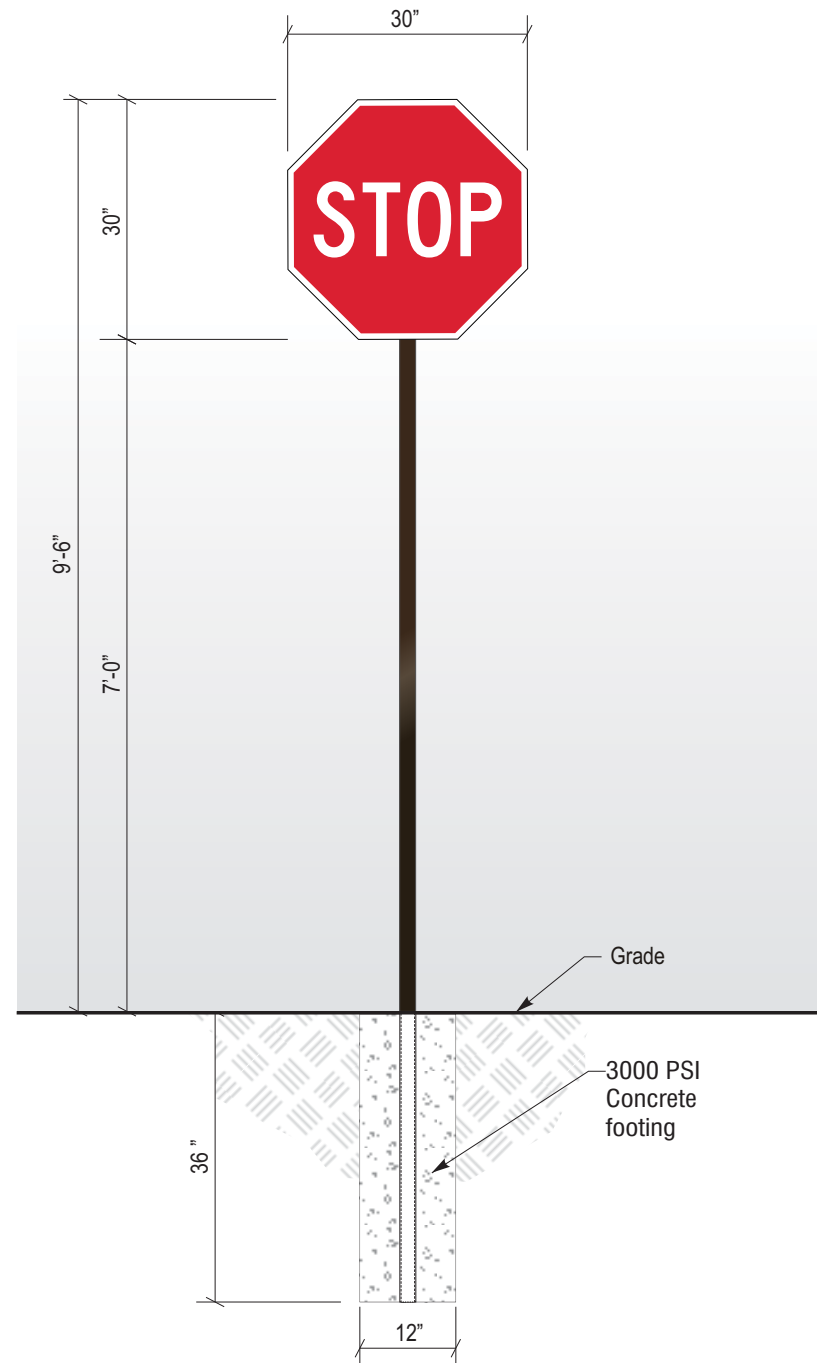
Panels are 0.080" aluminum, backs painted Mathews MP #74155 "Custom Black" with 3M #3290 Reflective White and 3M #3272 Reflective Red background and graphics.

■ 3M #680-82 Reflective Red

□ 3M #3290 Reflective White

Mounting

Panels are to be mounted w/ 3/8"Ø thru bolts w/ washer and nut



Panel Layout Detail

Scale: 1" = 1'-0"

F5

DOT Signage - Stop Sign

Qty 2

Scale: 1/2" = 1'-0"



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO

12/06/2018	Original Renderings
01/21/2019	Revised Site Plan and Elevations
02/05/2019	Roved script signs and added wall sign
03/19/2019	Updated Elevations, Wall Sign Allowable, Added 2' Setback

LC
GC
GC
LC

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Specifications:

SIGN POSTS

Posts are 2" x 2" x .125 square aluminum tubing capped on top
■ Painted Matthews MP 74155 "Custom Black"

SIGN PANELS

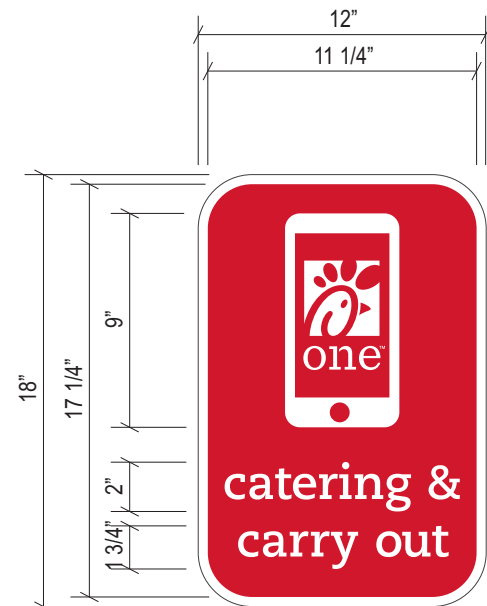
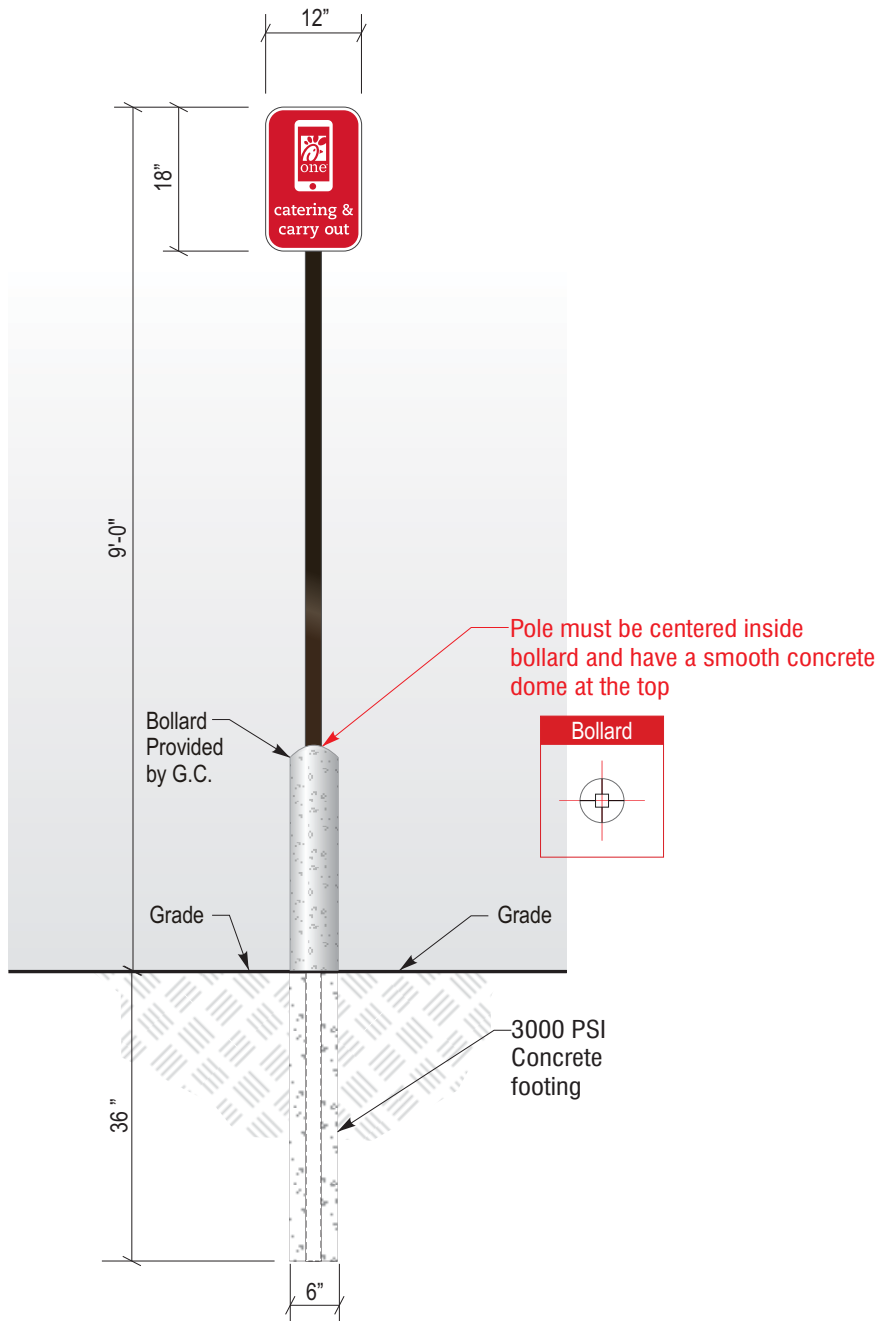
Panels are 0.080" aluminum, backs painted Mathews MP #74155 "Custom Black" with 3M #3290 Reflective White and 3M #3272 Reflective Red background and graphics.

■ 3M #680-82 Reflective Red

□ 3M #3290 Reflective White

Mounting

Panels are to be mounted w/ 3/8"Ø thru bolts w/ washer and nut



Panel Layout Detail

Scale: 1 1/2" = 1'-0"

ALUMINUM PANEL BACKS TO BE PAINTED MATTHEWS #74155 DARK BRONZE.

Mo4 DOT Signage- Catering & Carry Out
Qty 1

Scale: 1/2" = 1'-0"



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

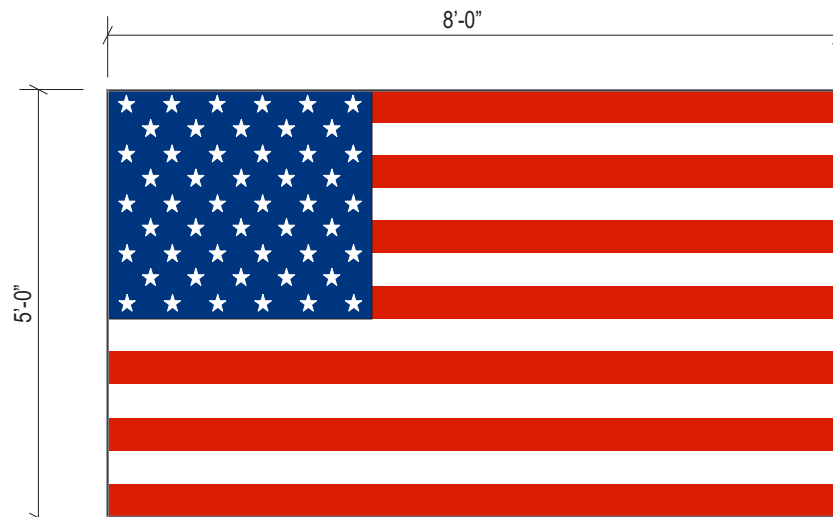
REVISION INFO

12/06/2018	Original Renderings
01/21/2019	Revised Site Plan and Elevations
02/05/2019	Roved script signs and added wall sign
03/19/2019	Updated Elevations, Wall Sign Allowable, Added 2' Setback

LC
GC
GC
LC

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Flag

HEIGHT	A	B	C
30'	3'-6"	30"	24"

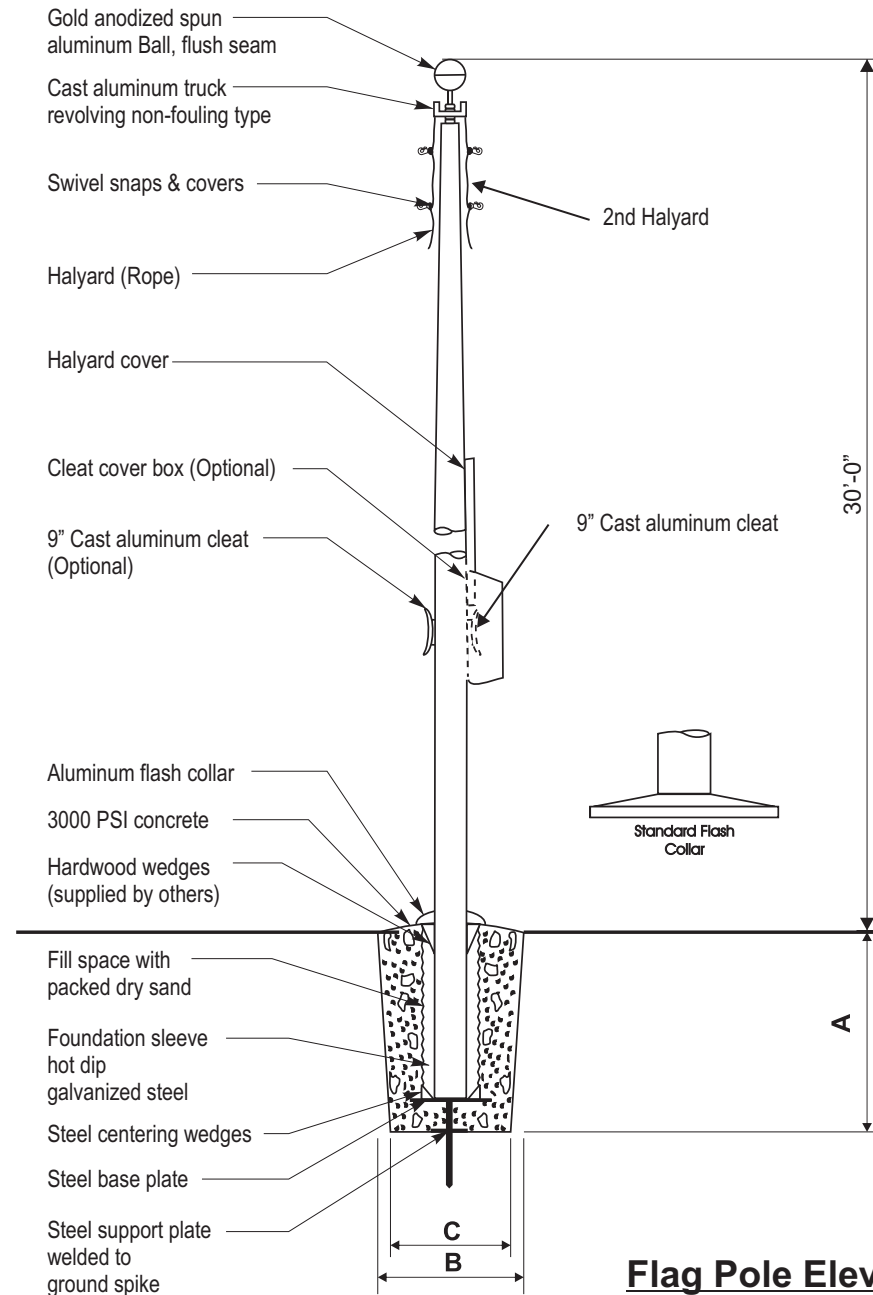
Size Chart

Ground sleeve and concrete installed by the general contractor

Pole installed on pre-installed ground sleeve by sign contractor

G1

Flag Pole



Flag Pole Elevation



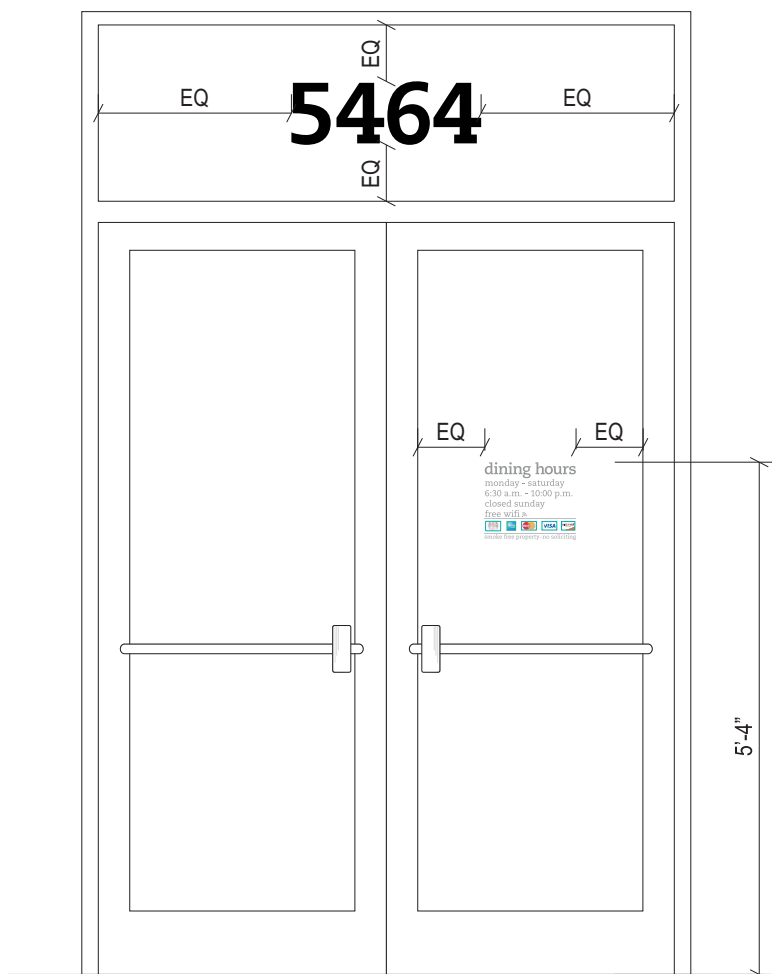
Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO

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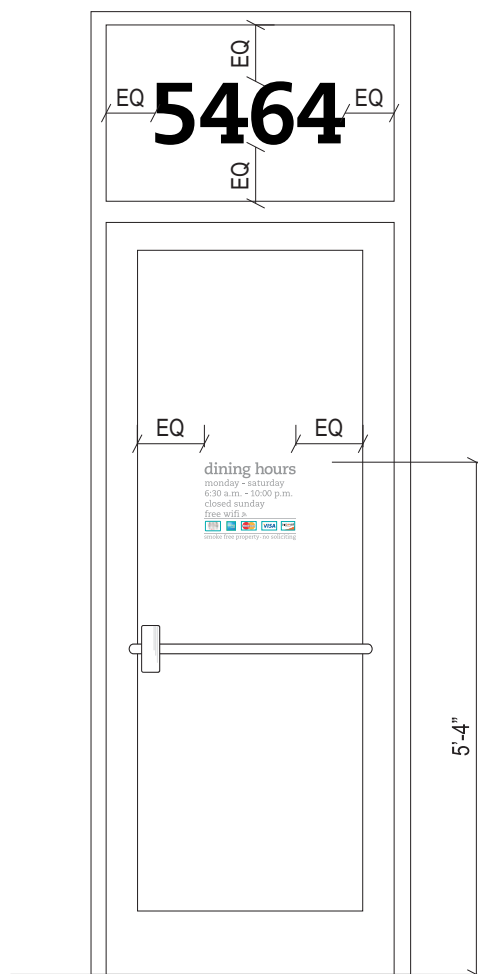




Door Vinyl Elevation Detail

Double Door

Scale: 1/2" = 1'-0"



Door Vinyl Elevation Detail

Single Door

Scale: 1/2" = 1'-0"



Transom Address Vinyl

Qty 2

Scale: 1 1/2" = 1'-0"

Shown In Black
For Clarity



Std

Window Dining Hours

Qty 2

Scale: 3" = 1'-0"



Client: Chick-Fil-A
Site #: CF-4327
Address: 5464 N. Port Washington
Glendale, WI 53217

REVISION INFO

12/06/2018	Original Renderings
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LC
GC
GC
LC

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Banner Layout Detail

Scale: 1" = 1'-0"

**Chick-Fil-A
Traffic Impact Analysis**

City of Glendale
Milwaukee County, Wisconsin

March 27, 2019



TRAFFIC IMPACT STUDY FOR:

CHICK-FIL-A

GLENDAL, MILWAUKEE COUNTY, WISCONSIN

March 27, 2019



PREPARED FOR:

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Appendix G.....Build Traffic – Option B Synchro Model Peak Hour Analysis Outputs

CHAPTER I – INTRODUCTION & EXECUTIVE SUMMARY

PART A – PURPOSE OF REPORT AND STUDY OBJECTIVES

This traffic impact analysis (TIA) report was prepared to determine the traffic impacts of a proposed Chick-Fil-A restaurant along Port Washington Road in the City of Glendale, Milwaukee County, Wisconsin.

PART B – EXECUTIVE SUMMARY

The executive summary includes a description of the study area, description of the development and conclusions based on the findings of this traffic study.

B1. Proposed Development

The 4,869 square foot Chick-Fil-A restaurant is proposed to be constructed on the site of the existing Worth Building, located on the east side of Port Washington Road midway between the I-43 northbound ramps and Richter Road. Access to the site would be at one location to Port Washington Road (right-in/right-out only movements) and Iroquois Avenue.

Trips for the proposed Chick-Fil-A restaurant were based on the weighted average trip rates calculated from two existing Chick-Fil-A restaurants in Brookfield, Wisconsin. Based on these rates, the proposed Chick-Fil-A restaurant is expected to generate about 305 trips (165 in/140 out) during the weekday PM peak hour and 470 trips (245 in/225 out) during the Saturday midday peak hour.

Drive-through queues were also collected at the two existing Chick-Fil-A restaurants in Brookfield. At the busiest restaurant (Capitol Drive Chick-Fil-A), field staff recorded a maximum of 18 vehicles queued up from the ordering kiosks. According to the proposed Port Washington Road Chick-Fil-A site plan, there is space for 20 vehicles to queue up from the ordering kiosks. If the Port Washington Chick-Fil-A turns out to be as busy as the Capitol Drive Chick-Fil-A during the peak hours, then there is expected to be adequate queue storage for drive-through vehicles without vehicles extending into or blocking the internal parking or circulating roadways.

B2. Study Area Intersections

The existing and future intersections evaluated in this study include the following:

- Port Washington Road & the I-43 Northbound Ramps (traffic signal control)
- Port Washington Road & Richter Place (stop sign control)
- Port Washington Road & the Chick-Fil-A driveway (stop sign control)
- Iroquois Avenue & the Chick-Fil-A driveway (stop sign control)

U-turns are currently not allowed on Port Washington Road, although field staff noted that this restriction is largely ignored.

B3. Traffic Operations

The Existing traffic analysis shows that there are unacceptable (LOS E) delays for the westbound left-turn and through movements at the Port Washington Road/Richter Place intersection. During data collection, multiple field staff noted that this intersection appeared to operate unsafely, citing many illegal U-turns, limited gaps, aborted turns/quick maneuvers to other lanes, illegal turns from the Kopp's driveway, and pedestrian issues. With the construction of a Chick-Fil-A restaurant on the Worth Building site, traffic turning at the Port Washington Road/Richter Place intersection is expected to increase, resulting in increased delays and a further reduction in

safety. Traffic signal control at the Port Washington Road/Richter Place intersection is expected to mitigate delays during the peak hours (warrants are expected to be met).

As an option, U-turns could be allowed on Port Washington Road so that the majority of the Chick-Fil-A traffic enters and exits at the Port Washington Road and not at Iroquois Avenue (via Richter Place). With this scenario, traffic volumes and delays for traffic along both Richter Place and Iroquois Avenue are expected to be much less than if U-turns continue to be restricted on Port Washington Road.

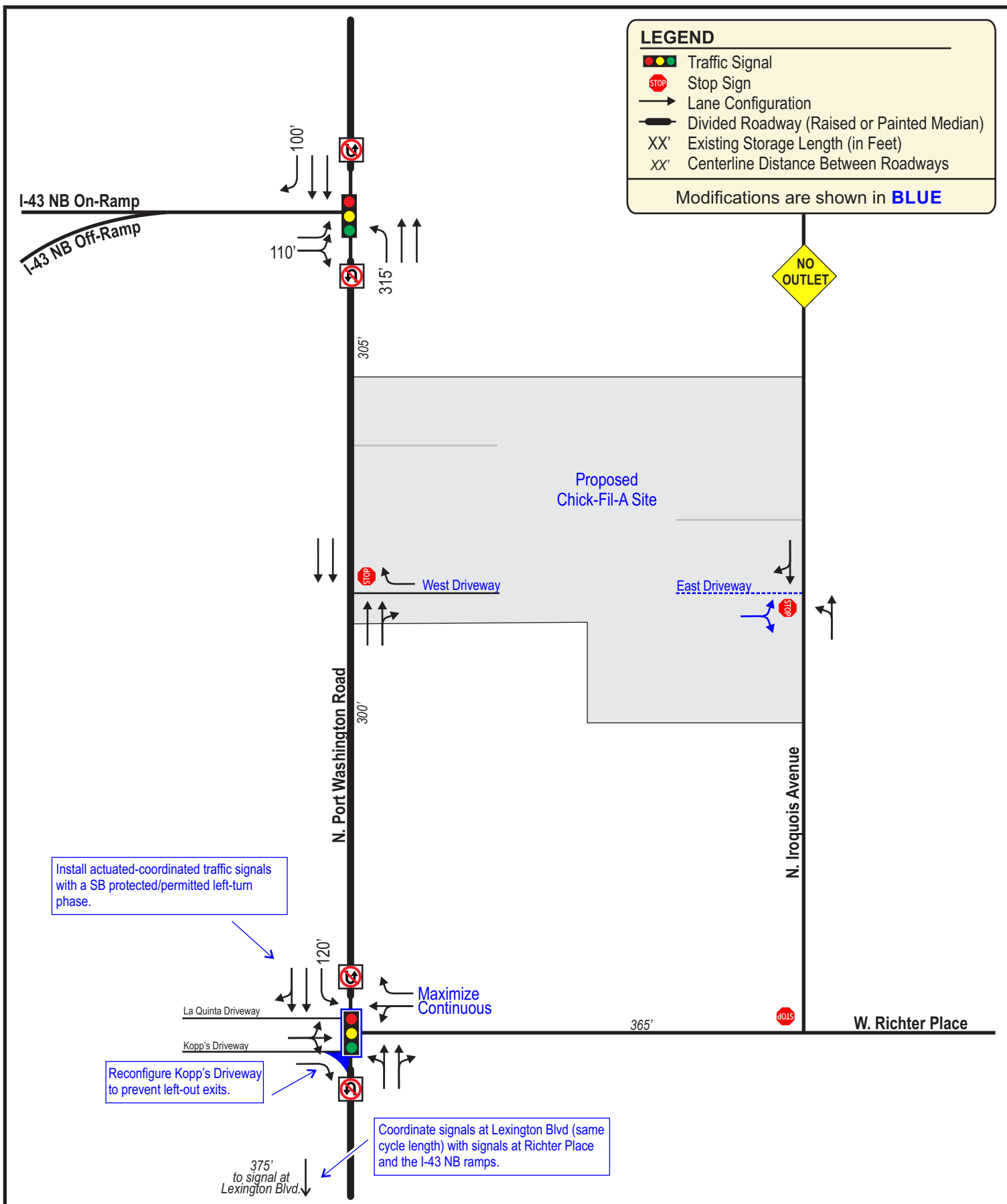
The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual, 6th edition* (HCM) using Synchro 10. For the purpose of this study, LOS D was used to define acceptable peak hour operating conditions. *Note that improvements discussed below are recommended for consideration and are not legally binding. All agencies reserve the right to determine alternative solutions.*

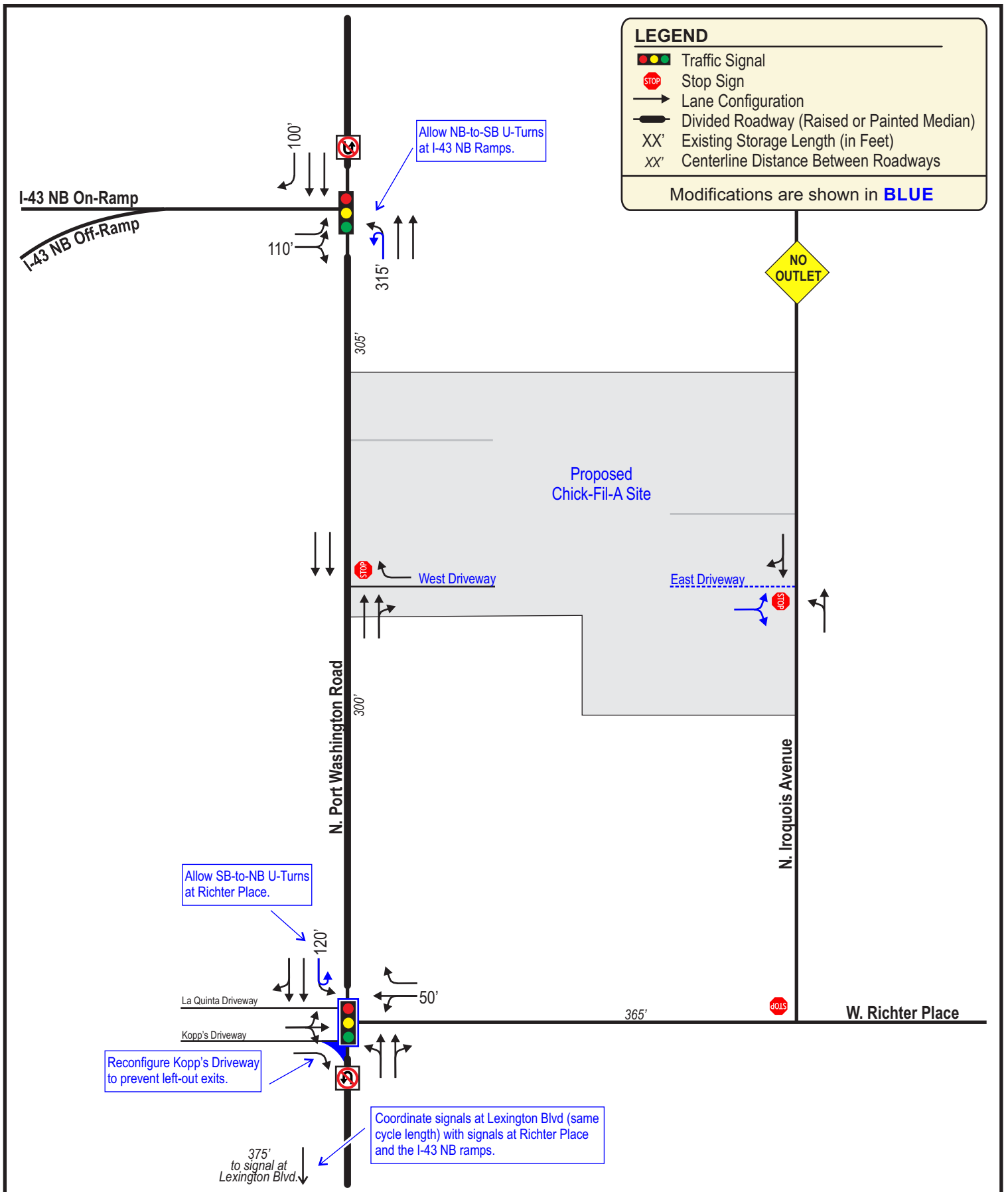
The following modifications are recommended to accommodate traffic based on the assumptions outlined in the TIA. Recommendations are also shown on Exhibit 1-1 for Option A (no U-turns) and on Exhibit 1-2 for Option B.

- Provide Chick-Fil-A site driveways to Port Washington Road and Iroquois Avenue as shown on the development site plan. Both driveway should have single entry and exit lanes with stop sign control at each driveway exit.
- Retime the Port Washington Road traffic signals at Lexington Boulevard to coordinate with the signals at the I-43 northbound ramps.
- Reconfigure the Kopp's driveway to prevent left-out exits through the Port Washington Road median at Richter Place.
- Option A: Install actuated-coordinated traffic signals with a southbound protected/permitted left-turn phase at the Port Washington Road/Richter Place intersection. Restripe the westbound Richter Place approach so that the left-turn lane is continuous along Richter Place (to maximize queue storage) and the right-turn lane has a storage lane that tapers back into the through lane. If possible extend the pavement on Richter Place to maximize the amount of turn lane storage available for the westbound right-turn lane.
- Option B: Install actuated-coordinated traffic signals with a southbound protected/permitted left-turn phase at the Port Washington Road/Richter Place intersection. Allow northbound-to-southbound U-turns at the Port Washington Road/I-43 northbound ramps intersection and allow southbound-to-northbound U-turns at the Port Washington Road/Richter Place intersection.

B4. Conclusion

All movements at the study area intersections are expected to operate efficiently with the assumptions outlined in this TIA and with the identified recommended modifications.





CHAPTER II – EXISTING CONDITIONS

PART A – STUDY AREA

A project overview map illustrating the location of the study intersections and proposed development area is shown on Exhibit 2-1. The intersections evaluated in this study include:

- Port Washington Road & the I-43 Northbound Ramps (traffic signal control)
- Port Washington Road & Richter Place (stop sign control)
- Port Washington Road & the Chick-Fil-A driveway (stop sign control)
- Iroquois Avenue & the Chick-Fil-A driveway (stop sign control)

Exhibit 2-2 shows the existing transportation system detail for the roadways within the study area. The exhibit illustrates posted speed limits, distances between driveways and intersections, and existing intersection geometrics (travel lanes, intersection turn lanes, traffic control, and turn-lane storage).

Port Washington Road is a four-lane divided north/south Principal Arterial with a 35-mph speed limit in the study area. According to the Wisconsin Department of Transportation (WisDOT), the 2016 annual average daily traffic (AADT) on Port Washington Road was 21,500 vpd north of Richter Place. Sidewalks run along both sides of Port Washington Road in the study area. Posted signs indicate no U-turns on Port Washington Road. During traffic counts, field staff noted that many drivers made illegal U-turns on both northbound and southbound Port Washington Road.

Richter Place is a two-lane undivided east/west local roadway connecting Port Washington Road to residential neighborhood roadways to the east. The Walgreen's Pharmacy, McDonald's, and a bank all have driveway access to Richter Place. Pedestrian sidewalks are located directly adjacent to the Richter Place pavement on the north side of the road.

Iroquois Avenue is a two-lane undivided north/south local roadway connecting Richter Place to an east/west commercial drive just south of Silver Spring Drive. A "No Outlet" sign is posted on the north end of Iroquois Avenue, at the location where Iroquois Avenue connects to the commercial drive. Iroquois Avenue has a 25-mph posted speed limit and no sidewalks.

La Quinta & Kopp's Driveways are located across from Richter Place, but somewhat offset of the median opening. There are no restrictions for turns to/from the La Quinta driveway, but in-pavement striping indicates that the Kopp's northern driveway is for right-turns only. During traffic counts, field staff noted that many drivers turned in and out of both the La Quinta driveway and the Kopp's northern driveway (ignoring the restrictions) at the Richter Place median opening.

PART B – DATA COLLECTION

TADI collected turning movement traffic volumes at the study intersections in January 2019. At all study intersections, weekday afternoon traffic counts were collected from 4:00-6:00 p.m. and Saturday midday traffic counts were collected from 11:00 a.m. to 1:00 p.m. At the Port Washington Road/Richter Place intersection, weekday traffic counts were collected from 7:00 a.m. to 4:00 p.m. (for the signal warrant analysis). The excess gaps in traffic on Port Washington Road at the Richter Place intersection were also counted on a weekday from 4:45-5:45 p.m.

Weekday afternoon and Saturday midday traffic counts were also collected at the existing Worth Building driveways to Port Washington Road (two driveways) and Iroquois Avenue (one

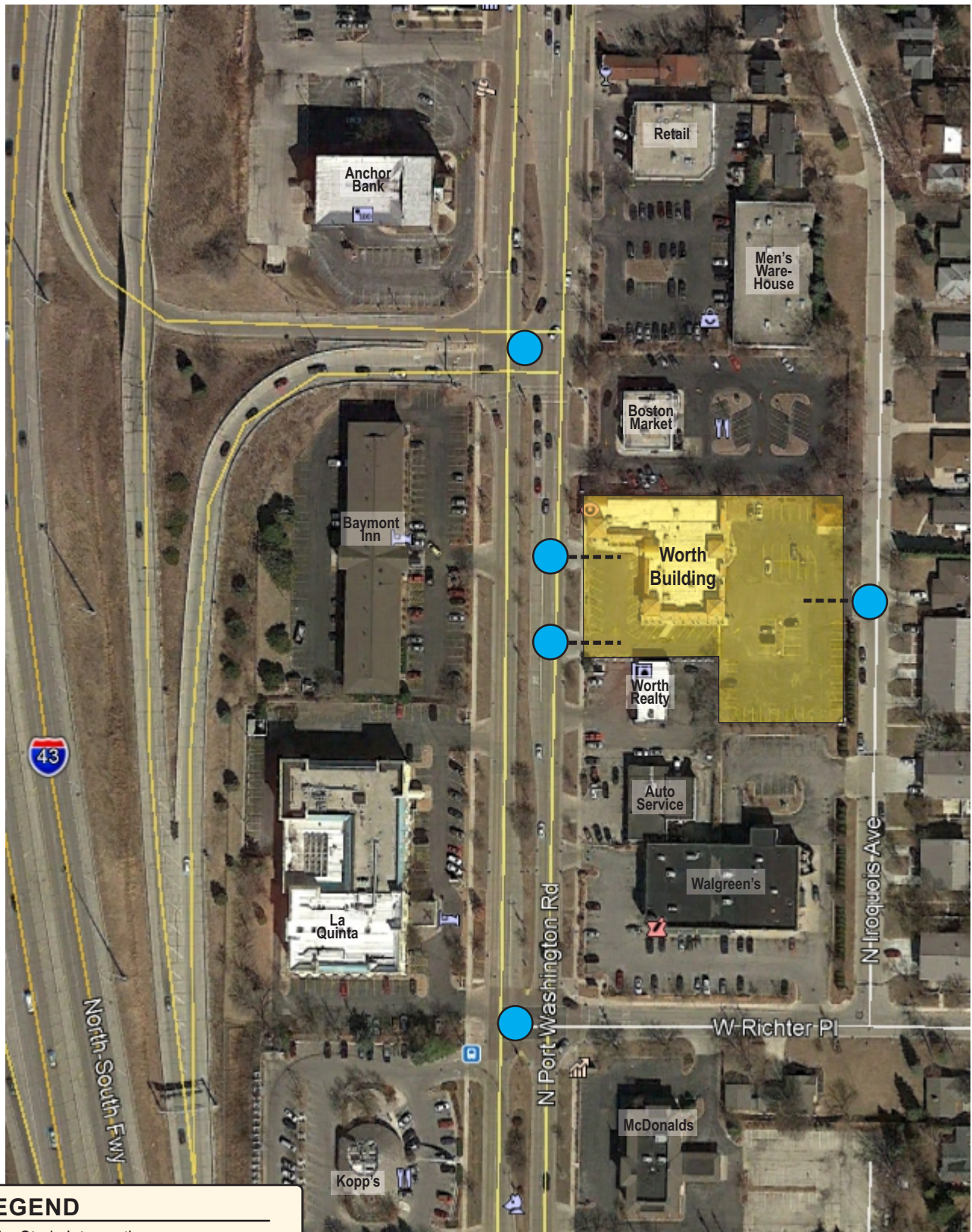
driveway). The Worth Building would be razed to make room for the proposed Chick-Fil-A restaurant.

To determine the number of trips and drive-through queues typically generated by Chick-Fil-A restaurants in southeast Wisconsin, TADI counted the total number of trips entering and exiting the existing Brookfield Chick-Fil-A restaurants on Capitol Drive and in Brookfield Square on Moorland Road. TADI also counted the total number of queued vehicles in the drive-through lane (by minute) at these existing sites.

Traffic signal timing data for the Port Washington Road intersection with the I-43 northbound ramps was obtained from WisDOT. All signal timing and traffic count data collected for this study is located in Appendix A.

PART C – EXISTING TRAFFIC VOLUMES

Based on the compiled traffic data at all intersections, the study area peak hours were determined to occur from 4:45-5:45 p.m. (Weekday PM peak hour) and from 12:00-1:00 p.m. (Saturday midday peak hour). The peak hour traffic volumes were balanced between intersections (where appropriate) and are shown on Exhibit 2-3 as the Existing Traffic Volumes evaluated for this study.

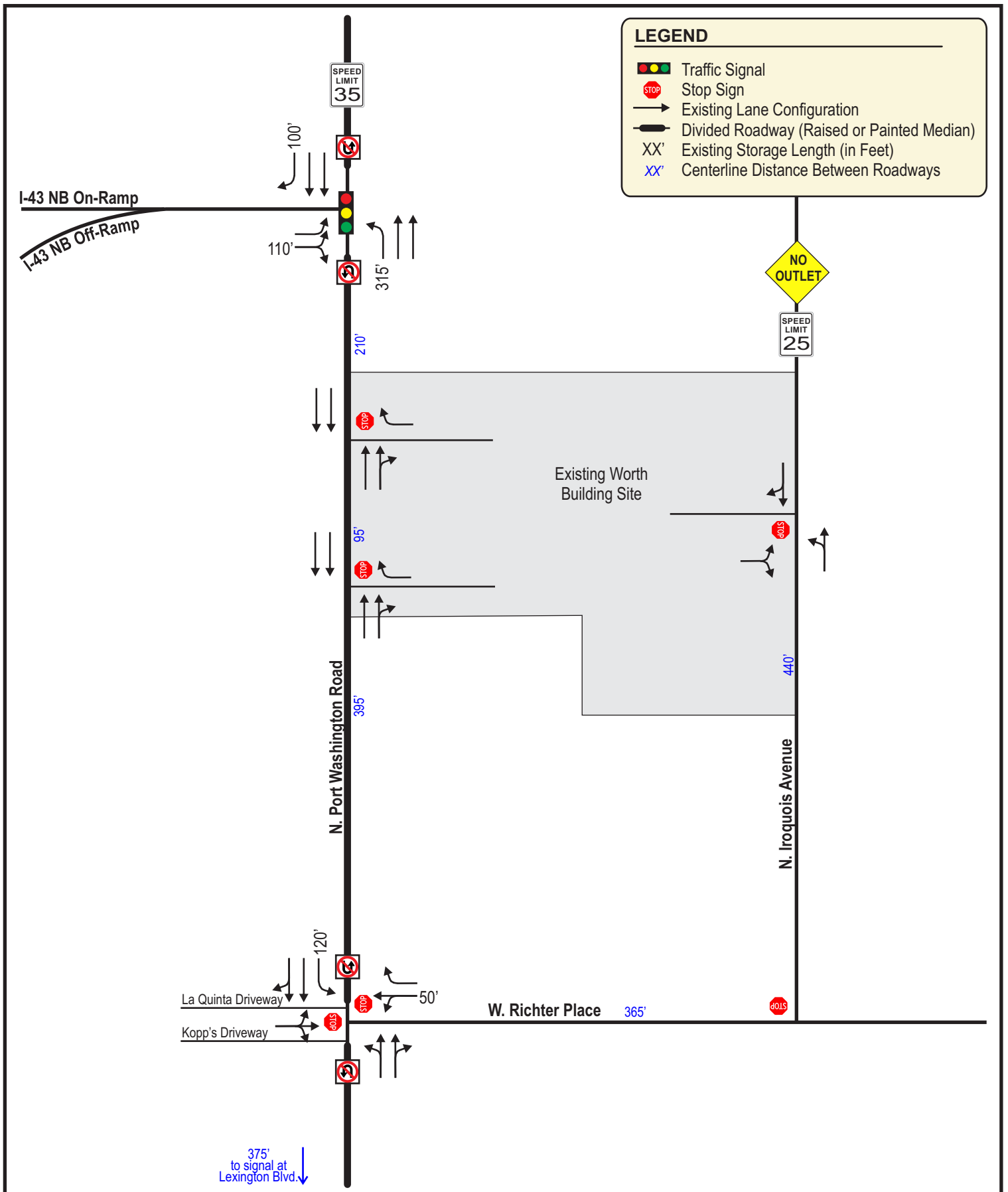


LEGEND

- Study Intersections
- Proposed Development Site



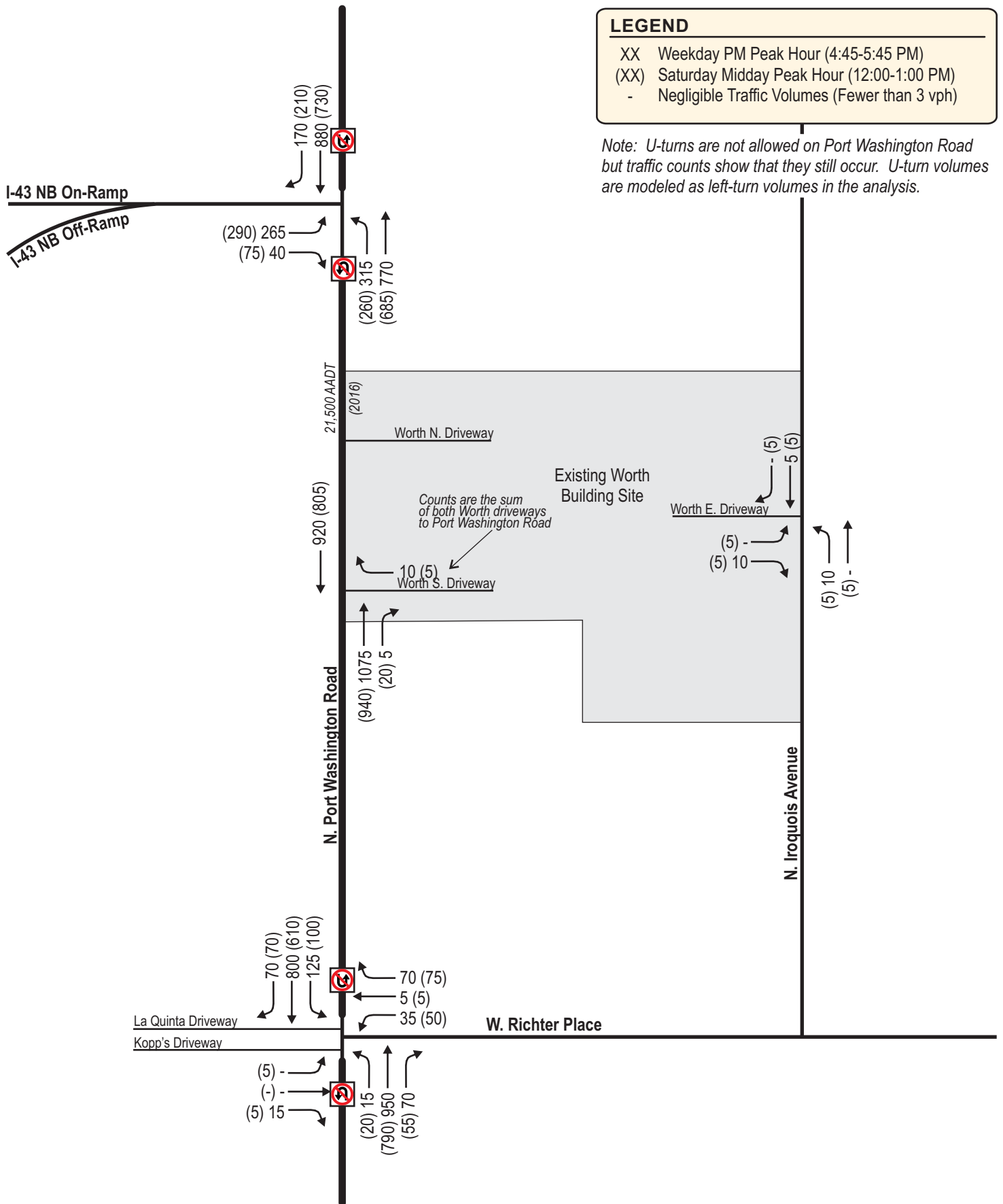
NOT TO SCALE



LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

Note: U-turns are not allowed on Port Washington Road but traffic counts show that they still occur. U-turn volumes are modeled as left-turn volumes in the analysis.



NOT TO SCALE

CHAPTER III – PROPOSED DEVELOPMENT

PART A – DEVELOPMENT SITE PLAN

The construction of the proposed Chick-Fil-A restaurant is expected to occur in a single development phase. The development site plan is shown on Exhibit 3-1. The Worth Building is currently on this site, but it will be razed to make room for the new Chick-Fil-A restaurant and drive-through area. The existing site access will be reconfigured slightly so that there is only one driveway to Port Washington Road (right-in/right-out only movements) and one driveway to Iroquois Avenue (full access movements).

PART B – ON-SITE CIRCULATION/QUEUES

B1. Drive-Through Queues

The maximum total queue (in both drive-through lanes) at the existing Brookfield Chick-Fil-A restaurants was recorded to be in the five-to-18 vehicle range (total of both lanes). The queue data collected was for queues backed up from the ordering kiosks. The maximum total kiosk queue by restaurant location and peak hour is shown in Table 1.

Table 1. Existing Chick-Fil-A Drive-Through Queues

Location	PM Max Queue	SAT Max Queue
Brookfield Square	5	6
Capitol Drive	16	18

Note that at the Capitol Drive Chick-Fil-A, about 20-25 percent more entering trips were counted during the peak hours compared to the Brookfield Square Chick-Fil-A. This generally supports the greater number of cars counted in queue for the Capitol Drive Chick-Fil-A.

At its peak, the Capitol Drive queue maxed out at 18 cars from the ordering kiosks. According to the Port Washington Road Chick-Fil-A site plan, there is space for 20 vehicles to queue up from the ordering kiosks. If the Port Washington Chick-Fil-A turns out to be as busy as the Capitol Drive Chick-Fil-A during the peak hours, then there is expected to be adequate queue storage for drive-through vehicles without vehicles extending into or blocking the internal parking or circulating roadways.

B2. Site Circulation

Assuming all Chick-Fil-A traffic will obey the U-turn restrictions on Port Washington Road,

Based on the site access, most of the northbound traffic on Port Washington Road will enter and exit the Chick-Fil-A from the right-in/right-out only driveway to Port Washington Road.

Assuming all Chick-Fil-A traffic will obey the U-turn restrictions on Port Washington Road, all other site traffic will turn onto Richter Place and enter the site driveway at Iroquois Avenue.

Field reports have indicated that the northbound queue from the Port Washington Road/I-43 northbound ramps intersection occasionally backs up to the northern edge of the proposed site driveway. Except for two occasions, these queues last only a few seconds as the light changed from red to green downstream. The longer queues that were reported only lasted from 15-25 seconds and then cleared during the green light.

The site plan shows that the drive-through exit is positioned such that any vehicle exiting to Port Washington Road from the right-in/right-out site driveway will block the drive-through exit lane. During times when northbound queues are backed up from the I-43 northbound ramps, these vehicles may temporarily block drive-through vehicles from exiting, potentially creating longer queues throughout the length of the drive-through lanes. If the Lexington Boulevard intersection is retimed to coordinate with the I-43 ramp signal (see Chapter V – Recommendations and Conclusion), then northbound queues from the I-43 northbound ramps may be metered in such a way that they do not back up to or block right-turn exits from the Chick-Fil-A site driveway. If this occurs, then the potential for blockages and backups within the Chick-Fil-A site are expected to be minimized.

PART C – DEVELOPMENT TRAFFIC VOLUMES

C1. Trip Generation

The expected traffic volumes generated by study area developments were calculated from the weighted average inbound and outbound trips at the existing Brookfield Chick-Fil-A restaurants on Capital Drive and in Brookfield Square on Moorland Road. The existing Brookfield Chick-Fil-A restaurant trips and weighted average trips are summarized on Exhibit 3-2.

The calculated weighted average trip rates from the existing sites were applied to the proposed 4,869-square foot Chick-Fil-A restaurant on Port Washington Road in Glendale. As shown on Exhibit 3-2, the proposed Chick-Fil-A restaurant is expected to generate about 305 driveway trips during the weekday PM peak hour and about 470 driveway trips during the Saturday midday peak hour. Based on the Institute of Transportation Engineers (ITE) *Trip Generation Handbook*, about 50 percent of fast-food restaurant trips are pass-by trips. A pass-by trip is one that is already on the roadway system, but diverts to the new development before continuing along on their original route.

After pass-by trips reductions and after the existing Worth Building trips are subtracted, the net new trips expected to be generated by the proposed Chick-Fil-A restaurant on Port Washington Road is 120 during the weekday PM peak hour and 185 during the Saturday midday peak hour.

C2. Traffic Assignment

The net new trips were assigned to the study area intersections based on the trip distributions shown on the trip generation tables (also shown graphically on Exhibit 3-3). This trip distribution was based on existing traffic patterns at the study intersections. Pass-by trips were assigned to the proposed Chick-Fil-A driveways based on northbound and southbound traffic patterns on Port Washington Road.

Traffic assignment patterns were generated for two traffic movement options along Port Washington Road. Option A assumes that the existing U-turn restrictions remain in place and are followed by all new Chick-Fil-A traffic. Option B assumes that Port Washington Road U-turns would be allowed at the I-43 northbound ramps intersection (northbound-to-southbound U-turns only) and at the Richter Place intersection (southbound-to-northbound U-turns only). The traffic assignments for both Options are shown on the following exhibits:

Option A Traffic Assignment

- Chick-Fil-A Net New Trips – Option A: Exhibit 3-4A
- Chick-Fil-A Pass-by Trips – Option A : Exhibit 3-4B
- Chick-Fil-A Net Driveway Trips – Option A: Exhibit 3-4C

Option B Traffic Assignment

- Chick-Fil-A Net New Trips – Option B: Exhibit 3-5A
- Chick-Fil-A Pass-by Trips – Option B : Exhibit 3-5B
- Chick-Fil-A Net Driveway Trips – Option B: Exhibit 3-5C

PART D – BUILD TRAFFIC VOLUMES

The Build traffic volumes were generated by adding the Chick-Fil-A net new driveway trips for Options A and B to the Existing traffic volumes from Exhibit 2-3. The Build traffic volumes for Option A (no U-turns) are shown on Exhibit 3-6 and the Build traffic volumes for Option B (U-turns allowed) are shown on Exhibit 3-7.

Existing Chick-Fil-A Trips - Brookfield, WI

Land Use	Source	Existing Size	PM Peak			SAT Peak		
			In	Out	Total	In	Out	Total
Chick-Fil-A (Capitol Drive, Brookfield)	Local	4,900 Sq. Ft.	197	168	365	282	254	536
Chick-Fil-A (Brookfield Square, Brookfield)	Local	4,730 Sq. Ft.	127	112	239	198	196	394
Totals		9,630 Sq. Ft.	324	280	604	480	450	930
Weighted Average			54%	46%	62.72	52%	48%	96.57

Proposed Chick-Fil-A Trips

Land Use	ITE Code	Proposed Size	Weekday Daily	PM Peak			SAT Peak		
				In	Out	Total	In	Out	Total
Chick-Fil-A Restaurant	Wtd. Avg.	4,869 SF	4,370	165	140	305	245	225	470
			Est.	(54%)	(46%)	(62.72)	(52%)	(48%)	(96.57)
Total Driveway Trips			4,370	165	140	305	245	225	470
<i>Minus Pass-by Trips</i>			<i>50%</i>	-2,190	-75	-75	-150	-120	-240
Total New Trips			2,180	90	65	155	125	105	230
<i>Minus Existing Worth Building Trips</i>				-500	-15	-20	-35	-30	-45
Net New Trips			1,680	75	45	120	95	90	185

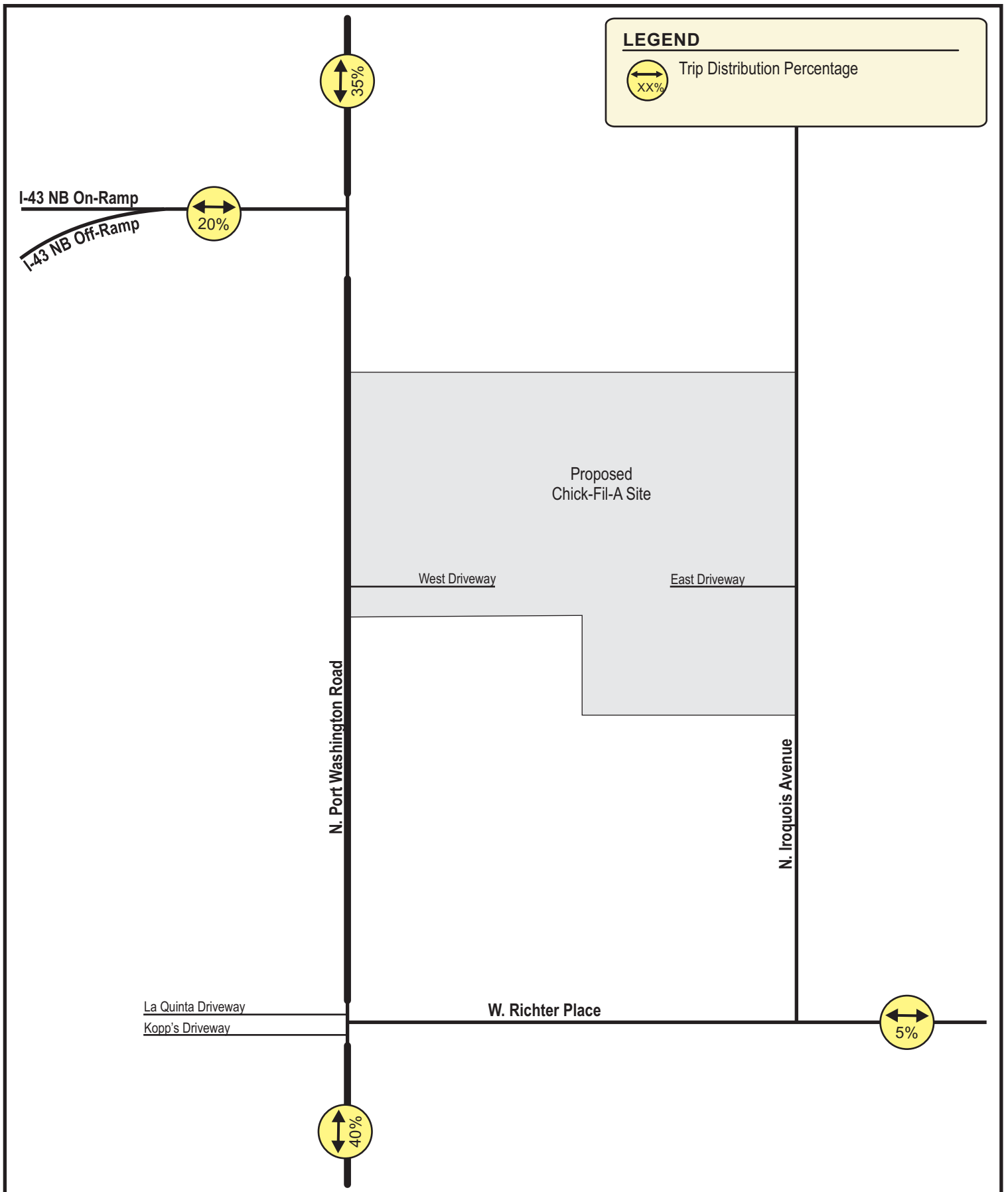
Trip rates and in/out percentages were based on the weighted averages of two existing Chick-Fil-A restaurants in Brookfield. Daily trip rates were calculated by dividing PM total trips by 0.07 to match the PM-Daily trip ratio for the ITE Fast-Food Restaurant land use.

TRIP DISTRIBUTION - New New Trips

N. on Port Washington Road	35%	760	25	15	35	30
S. on Port Washington Road	40%	870	30	20	40	35
W. on I-43 NB Ramps	20%	440	15	10	15	20
E. on Richer Place	5%	110	5	0	5	5
	100%	2180	75	45	95	90

TRIP DISTRIBUTION (Pass-by Trips)

SB Port Washington Road	46%	1010	35	35	55	55
NB Port Washington Road	54%	1180	40	40	65	65
	100%	2190	75	75	120	120

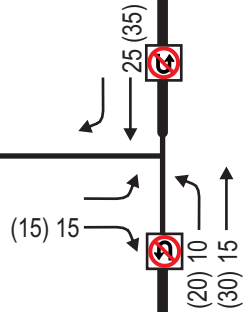


LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

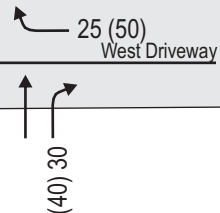
I-43 NB On-Ramp

I-43 NB Off-Ramp



N. Port Washington Road

40 (50)



Proposed Chick-Fil-A Site

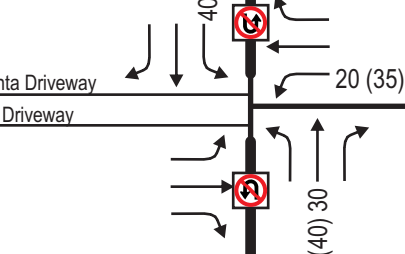
East Driveway

(40) 20

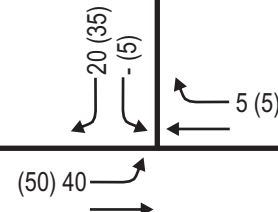
(55) 45

N. Iroquois Avenue

La Quinta Driveway
Kopp's Driveway



W. Richter Place



NOT TO SCALE

LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

I-43 NB On-Ramp

I-43 NB Off-Ramp

Proposed
Chick-Fil-A Site

40 (65)
West Driveway

East Driveway

(55) 35

N. Port Washington Road

N. Iroquois Avenue

La Quinta Driveway

Kopp's Driveway

W. Richter Place

(55) 35



TRAFFIC ANALYSIS & DESIGN, INC.

2296: 03-27-19



NOT TO SCALE

OPTION A: NO U-TURNS ON PORT WASHINGTON ROAD

EXHIBIT 3-4B

CHICK-FIL-A PASS-BY TRIPS

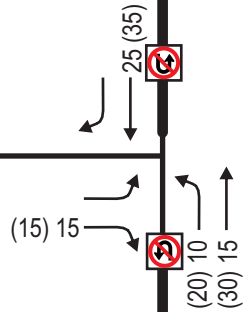
GLENDALE, WISCONSIN

LEGEND

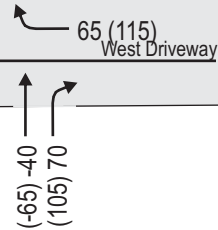
- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

I-43 NB On-Ramp

I-43 NB Off-Ramp



N. Port Washington Road



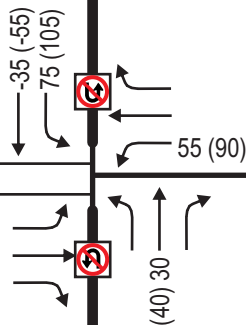
Proposed Chick-Fil-A Site

East Driveway

(95) 55

(110) 80

La Quinta Driveway
Kopp's Driveway



W. Richter Place

(105) 75

55 (90)

5 (5)

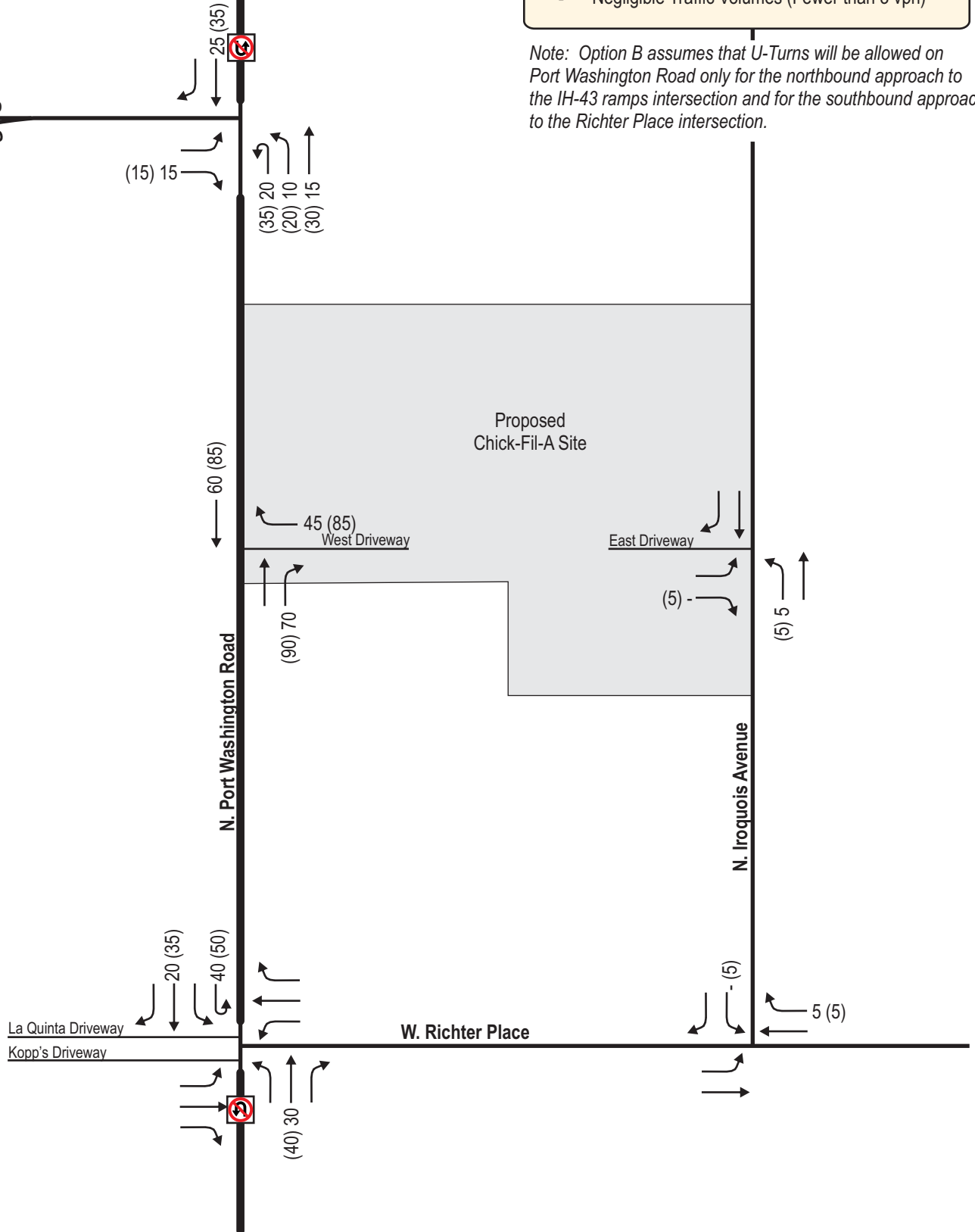
N. Iroquois Avenue

LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

Note: Option B assumes that U-Turns will be allowed on Port Washington Road only for the northbound approach to the IH-43 ramps intersection and for the southbound approach to the Richter Place intersection.

I-43 NB On-Ramp
I-43 NB Off-Ramp



LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

Note: Option B assumes that U-Turns will be allowed on Port Washington Road only for the northbound approach to the IH-43 ramps intersection and for the southbound approach to the Richter Place intersection.

I-43 NB On-Ramp
I-43 NB Off-Ramp



NOT TO SCALE

OPTION B: U-TURNS ALLOWED ON PORT WASHINGTON ROAD

EXHIBIT 3-5A
CHICK-FIL-A PASS-BY TRIPS

GLENDAL, WISCONSIN

LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

Note: Option B assumes that U-Turns will be allowed on Port Washington Road only for the northbound approach to the IH-43 ramps intersection and for the southbound approach to the Richter Place intersection.

I-43 NB On-Ramp

I-43 NB Off-Ramp

(15) 15
(90) 55
(20) 10
(30) 15

95 (140)

N. Port Washington Road

120 (205)
West Driveway

(-65) -40
(210) 145

East Driveway

(5) -

(5) 5

N. Iroquois Avenue

La Quinta Driveway
Kopp's Driveway

W. Richter Place

(5) - (5)

5 (5)

(40) 30



NOT TO SCALE

LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

I-43 NB On-Ramp

I-43 NB Off-Ramp

170 (210)
905 (765)
(290) 265
(90) 55
(280) 325
(715) 785

N. Port Washington Road

Proposed
Chick-Fil-A Site

75 (120)
West Driveway

East Driveway

(5) -
(100) 65

(115) 90
(5) -

N. Iroquois Avenue

70 (70)
765 (555)
200 (205)
La Quinta Driveway
Kopp's Driveway

70 (75)
5 (5)
90 (140)
(5) -
(-) -
(5) 15
(20) 15
(830) 980
(55) 70

W. Richter Place



NOT TO SCALE

LEGEND

- XX Weekday PM Peak Hour (4:45-5:45 PM)
- (XX) Saturday Midday Peak Hour (12:00-1:00 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

Note: Option B assumes that U-Turns will be allowed on Port Washington Road only for the northbound approach to the IH-43 ramps intersection and for the southbound approach to the Richter Place intersection.

I-43 NB On-Ramp
I-43 NB Off-Ramp

170 (210)
905 (765)
(290) 265
(90) 55
(90) 55
(280) 325
(715) 785

N. Port Washington Road

Proposed
Chick-Fil-A Site

130 (210)
West Driveway

East Driveway

(5) -
(10) 10

(10) 15
(5) -

N. Iroquois Avenue

La Quinta Driveway
Kopp's Driveway
70 (70)
820 (645)
125 (100)
75 (105)

70 (75)
5 (5)
35 (50)

W. Richter Place

(5) -
(-) -
(5) 15
(20) 15
(830) 980
(55) 70

CHAPTER IV – CAPACITY ANALYSIS

PART A – LEVEL OF SERVICE DEFINITIONS

The study area intersections were analyzed based on the procedures set forth in the 2010 *Highway Capacity Manual* (HCM). Intersection operation is defined by “level of service”. Level of service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS ‘A’, to very poor, represented by LOS ‘F’. For the purpose of this study, LOS D was used to define acceptable peak hour operating conditions. Descriptions of the various levels of service are as follows:

LOS A is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. At signalized and unsignalized intersections, average delays are less than 10 seconds.

LOS B represents stable operation. At signalized intersections, average vehicle delays are 10 to 20 seconds. At unsignalized intersections, average delays are 10 to 15 seconds.

LOS C still represents stable operation, but periodic backups of a few vehicles may develop behind turning vehicles. Most drivers begin to feel restricted, but not objectionably so. At signalized intersections, average vehicle delays are 20 to 35 seconds. At unsignalized intersections, average delays are 15 to 25 seconds.

LOS D represents increasing traffic restrictions as the intersection approaches instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, thus preventing excessive backups. At signalized intersections, average vehicle delays are 35 to 55 seconds. At unsignalized intersections, average delays are 25 to 35 seconds.

LOS E represents the capacity of the intersection. At signalized intersections, average vehicle delays are 55 to 80 seconds. At unsignalized intersections, average delays are 35 to 50 seconds.

LOS F represents jammed conditions where the intersection is over capacity and acceptable gaps for unsignalized intersections in the mainline traffic flow are minimal. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average delays exceed 50 seconds.

PART B – EXISTING CONDITIONS

B1. Existing Peak Hour Traffic Operations

The Existing traffic volumes were evaluated at the existing study intersections using the existing geometrics and traffic control. Although not included as a study intersection for this traffic impact study, the signal timings and approximated traffic volumes were included in the traffic model for the Port Washington Road/Lexington Boulevard traffic signal, which is located about 400 feet south of Richter Place. Based on signal timing and phasing data provided by the City of Glendale, the Lexington Boulevard signal operates as an actuated-coordinated signal, but with cycle lengths that are different than what is being run at the I-43 northbound ramps signal to the north. With different cycle lengths, there is currently no signal coordination along Port Washington Road between the I-43 northbound ramps and Lexington Boulevard.

The Existing traffic LOS and queues are shown on Exhibit 4-1. As shown, the westbound left-turn movement at the Port Washington Road intersection with Richter Place operates unacceptably at LOS E during the weekday PM peak hour. All other turning movements at the study intersections

operate acceptably during the peak hours. The Existing traffic analysis worksheets from Synchro are located in Appendix B.

During data collection, field staff noted the following operational and safety concerns at the Port Washington Road intersection Richter Place. These concerns include:

- Southbound traffic from the Lexington Boulevard signal backed up on Port Washington Road through (and blocking) Richter Place. This occurred three-four times during the PM peak hour.
- Due to limited gaps in Port Washington Road traffic, vehicles used the center of the intersection to complete two-stage turns (e.g. move from Richter Place to the median in stage 1, move from the median to southbound Port Washington Road in stage 2). While this is somewhat standard on divided roadways, the illegal U-turns (despite posted restrictions) and turns to/from the Kopp's northern driveway (which is offset from Richter Place) complicate turns through the median of Port Washington Road.
- The majority of the illegal U-turns occurred from southbound to northbound Port Washington Road.
- Some of the vehicles waiting to turn from the median on Port Washington Road were not completely clear of the through lanes on Port Washington Road, blocking traffic in that lane.
- Many cars aborted their plans for turning left due to limited gaps. Some of the aborted turns resulted in "near misses" as this traffic merged back into the through lanes.
- Pedestrians were running to cross the street before oncoming traffic approached them.

B2. Existing Traffic Gaps

A traffic gap study was completed at the Port Washington Road/Richter Place intersection to determine the number of excess traffic gaps on Port Washington Road that are available for additional turning traffic from the proposed Chick-Fil-A development. The length of gaps (in time) between vehicles traveling northbound and southbound on Port Washington Road was collected for the weekday PM peak hour to help support justification for traffic signals at this intersection.

The calculations for the critical gaps and follow-up times for turning movements were based on the Highway Capacity Manual (HCM) equations 17-1 and 17-2. These equations include adjustment factors for heavy vehicles, grade, divided roadways, and intersection geometry. Equivalent gaps were calculated assuming two-stage turning movements in the median on Port Washington Road (vehicles first cross one direction of Port Washington Road, wait in the median for gaps, then turn on or cross the other direction of Port Washington Road. The gap analysis worksheet calculations are located in Appendix C. The number of equivalent gaps expected to accommodate additional traffic to and from Richter Place are shown in Table 2.

After all existing turns are accommodated, there is expected to be about 100 gaps in Port Washington Road traffic during the weekday PM peak hour that are long enough to accommodate additional westbound left-turns from Richter Place. This number is the maximum number of gaps between the stage 1 (through movement from Richter Place into the median on Port Washington Road) and the stage 2 (left-turn from the median onto southbound Port Washington Road). Independently, there are also 132 gaps in northbound Port Washington Road traffic for traffic turning left from southbound Port Washington Road onto Richter Place.

Table 2. Port Washington Road/Richter Place – PM Peak Hour Additional Gaps

Turn Direction	Equivalent Gaps	Equivalent Gaps (-7%)
WB TH from Richter Place (Stage 1)	100	93
WB LT from Richter Place (Stage 2)	112	104
WB RT from Richter Place	70	65
SB LT from Port Washington Road	132	123

At the intersection, the proposed Chick-Fil-A development is expected to generate new turns to/from Richter Place (trips to/from the Iroquois Avenue driveway, Option A only), new southbound-to-northbound U-turns at Richter Place (Option B, only), and new northbound through traffic on Port Washington Road (both Options A and B). The new northbound through trips are expected to reduce the number of available gaps on northbound Port Washington Road, and therefore are expected to reduce the equivalent gaps for all movements shown in Table 2. A gross estimation of the reduction (calculated by taking the percentage of additional Chick-Fil-A through traffic volumes on Port Washington Road) would be about seven percent. The revised number of equivalent gaps with this reduction is also shown on Table 2.

During turns, it is not likely that southbound left-turns or U-turns from Port Washington Road and westbound left-turns from Richter Place would occupy the median at the same time. Therefore, it is not likely that these turns would use the same available gaps in either northbound or southbound Port Washington Road. Without being able to use simultaneous gaps, the total number of gaps available for additional southbound left turns or U-turns *and* additional westbound left turns is 93 during the weekday PM peak hour. Based on the trip generation and traffic assignment for the proposed Chick-Fil-A restaurant, there is expected to be a total of 130 southbound and westbound left-turns at the Port Washington Road/Richter Place intersection during that time for Option A (no U-turns). These turns exceed the number of available gaps on Port Washington Road, indicating that additional traffic backups and delays are likely to occur.

If U-turns are allowed (Option B), then there are only expected to be a total of 75 southbound and westbound PM peak hour left-turns/U-turns at the intersection. These turns are less than the number of available gaps on Port Washington Road, indicating that these additional turns may be able to turn without adding too much additional delays at the intersection.

PART C – BUILD TRAFFIC ANALYSIS: OPTION A (NO U-TURNS)

C1. Build Option A Peak Hour Traffic Operations – No Modifications

The Build Option A traffic volumes were evaluated at the study intersections using the same geometrics and traffic control as evaluated for the Existing traffic volumes. The Build Option A traffic LOS and queues are shown on Exhibit 4-2. As shown, the westbound left-turn movement at the stop-controlled Port Washington Road intersection with Richter Place is expected to continue to operate unacceptably, with delays at LOS F (2 – 2 ½ minutes per vehicle) during the weekday PM and Saturday midday peak hours. All other turning movements at the study intersections operate acceptably at LOS D or better during the peak hours. The Build Option A traffic analysis worksheets from Synchro are located in Appendix D.

C2. Build Option A Peak Hour Traffic Operations – With Modifications

A traffic signal warrant analysis was completed for the Port Washington Road/Richter Place intersection to determine if signal installation would be a justifiable alternative to mitigate the existing and future operational issues at the intersection. Based on the warrant analysis (located in

Appendix E), existing traffic volumes, delays, and crash history are not high enough to meet any of the signal warrants. With the additional traffic expected from the proposed Chick-Fil-A development, however, Warrant 2 (Four-Hour Volumes) and Warrant 3 (Peak Hour Volume) are expected to be met. Warrant 1 (Eight-Hour Vehicular Volume) is expected to be nearly met with seven of the required eight hours meeting volume thresholds. Although field staff noted many near-miss crashes and general safety issues with existing traffic operations, the historical crashes do not reach the required five or more reported crashes within a 12-month period. Therefore, Warrant 7 (Crash History) is not met.

Since traffic signals are expected to be warranted with the Build Option A traffic volumes, the Port Washington Road/Richter Place intersection was evaluated with actuated-coordinated traffic signals with a southbound left-turn phase to mitigate the expected delays. Traffic volumes to/from the Kopp's driveway were removed from the Richter Place intersection assuming that the driveway would be reconfigured so that only right-in/right-out movements could be made.

The Port Washington Road corridor was also evaluated assuming that all signals from the I-43 northbound ramps to Lexington Boulevard would operate with the same cycle length and optimized offsets for maximum progression and queue mitigation. With these modifications, all turning movements at the Port Washington Road/Richter Place intersection are expected to improve to LOS D or better conditions during the peak hours. The Build Option A traffic LOS and queues with the recommended modifications are shown on Exhibit 4-3.

PART D – BUILD TRAFFIC ANALYSIS: OPTION B (U-TURNS ALLOWED)

D1. Build Option B Peak Hour Traffic Operations – No Modifications

The Build Option B traffic volumes were evaluated at the study intersections using the same geometrics and traffic control as evaluated for the Existing traffic volumes, but with northbound-to-southbound U-turns allowed at the I-43 northbound ramps intersection and southbound-to-northbound U-turns allowed at the Richter Place intersection. A geometric analysis was completed to verify the ability for vehicles to physically be able to make the U-turn movements at these intersections. As shown on the turning templates located in Appendix F, passenger vehicles (template is of a 19-foot vehicle with an 11-foot wheelbase, covering most passenger cars, SUV's, and pick-up trucks) are able to U-turn on Port Washington Road at both intersections without encroaching on curbs or other non-pavement areas. Single-unit trucks and larger, however, will not be able to U-turn on Port Washington Road.

The Build Option B traffic LOS and queues are shown on Exhibit 4-4. Similar to Option A, the Build Option B traffic volumes are expected to result in LOS F conditions for westbound left-turn movements from Richter Place, but with much lower delays (less than one minute per vehicle). All other turning movements at the study intersections operate acceptably at LOS D or better during the peak hours. The Build Option B traffic analysis worksheets from Synchro are located in Appendix G.

D2. Build Option B Peak Hour Traffic Operations – With Modifications

The Build Option B traffic volumes were evaluated against the warrants for traffic signal control. With U-turns allowed at both the I-43 northbound ramps and Richter Place, there is expected to be very little Chick-Fil-A traffic making a westbound left-turn from Richter Place onto southbound Port Washington Road. Due to the high southbound left-turns and U-turns with Build Option B, however, these movements can be evaluated as the Minor Approach (instead of Richter Place) in the signal warrant analysis. With the left-turns and U-turns as the minor approach, Warrant 1 (Eight-Hour Vehicular Volume) is expected to be nearly met for 6 of the 8 required hours. Warrant

2 (Four-Hour Volume) is also expected to be nearly met for 3 of the 4 required hours. If only six more vehicles make a southbound left-turn or U-turn at Richter Place, then the fourth hour would be met. With the high weekday traffic volumes recorded at the intersection from 6:00-7:00 p.m., it is expected that the next hour (not counted) would also meet the fourth data point for Warrant 2. Warrant 1 (Peak Hour Volume) is also met for Build Option B. Therefore, it is recommended that traffic signals be installed for this option.

Since traffic signals are expected to be warranted with the Build Option B traffic volumes, the Port Washington Road/Richter Place intersection was evaluated similar to Build Option A with actuated-coordinated traffic signals with a southbound left-turn phase. Traffic volumes to/from the Kopp's driveway were removed from the Richter Place intersection assuming that the driveway would be reconfigured so that only right-in/right-out movements could be made.

The Port Washington Road corridor was also evaluated assuming that all signals from the I-43 northbound ramps to Lexington Boulevard would operate with the same cycle length and optimized offsets for maximum progression and queue mitigation. With these modifications, all turning movements at the Port Washington Road/Richter Place intersection are expected to improve to LOS D or better conditions during the peak hours. The Build Option B traffic LOS and queues with the recommended modifications are shown on Exhibit 4-5.

Year 2019 Existing Traffic Operations & Queues
Existing Geometrics and Traffic Control

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
#100 - N. Port Washington Road & I-43 NB Ramps Traffic Signal	PM	LOS	D			-			A			-		
		Queue	140			-			90			-		
	SAT	LOS	D			-			A			-		
		Queue	145			-			80			-		
#200 - N Port Washington Road & Richter Place Stop Sign	PM	LOS	B			E			A			B		
		Queue	5			30			5			20		
	SAT	LOS	C			D			A			B		
		Queue	5			30			5			15		

(--) indicates a movement that is prohibited or does not exist; free-flow movements are shown as LOS A.

Queue is maximum of the 50th & 95th percentile queue, measured in feet, from Synchro output.

#200 PM: WB LT LOS E= 41.1s/v; 0.30 v/c; 40 vph

Year 2019 Build Option A (No Uturns) Traffic Operations & Queues
Existing Geometrics and Traffic Control

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
#100 - N. Port Washington Road & I-43 NB Ramps Traffic Signal	PM	LOS	D			-	-	-	A	A	-	-	A	A
		Queue	145			-	-	-	100	120	-	-	285	35
	SAT	LOS	D			-	-	-	A	A	-	-	B	A
		Queue	150			-	-	-	85	110	-	-	205	35
#200 - N Port Washington Road & Richter Place Stop Sign	PM	LOS	C			F			B			A		A
		Queue	5			130			15			5		35
	SAT	LOS	D			F			B			A		A
		Queue	5			205			15			5		30
#300 - N. Port Washington Road & Chick-Fil-A West Driveway Stop Sign	PM	LOS	-	-	-	-	-	C	-	A	-	-	A	-
		Queue	-	-	-	-	-	20	-	0	-	-	0	-
	SAT	LOS	-	-	-	-	-	C	-	A	-	-	A	-
		Queue	-	-	-	-	-	35	-	0	-	-	0	-
#400 - N. Port Washington Road & Chick-Fil-A East Driveway Stop Sign	PM	LOS	A			-	-	-	A			-		A
		Queue	5			-	-	-	5			-		0
	SAT	LOS	A			-	-	-	A			-		A
		Queue	10			-	-	-	10			-		0

(--) indicates a movement that is prohibited or does not exist; free-flow movements are shown as LOS A.

Queue is maximum of the 50th & 95th percentile queue, measured in feet, from Synchro output.

#200 PM: WB LT LOS F= 122.3s/v; 0.87 v/c; 90 vph

#200 SAT: WB LT LOS F=155.8 s/v; 1.06 v/c; 140 vph

**Year 2019 Build Option A (No Uturns) Traffic Operations & Queues
With Modifications**

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
#100 - N. Port Washington Road & I-43 NB Ramps Traffic Signal	PM	LOS	D			-			A			-		
		Queue	145			-			35			-		
	SAT	LOS	D			-			A			-		
		Queue	150			-			175			-		
#200 - N Port Washington Road & Richter Place Traffic Signal	PM	LOS	D			D			A			A		
		Queue	15			110			45			170		
	SAT	LOS	C			D			B			A		
		Queue	10			140			55			85		
#300 - N. Port Washington Road & Chick-Fil-A West Driveway Stop Sign	PM	LOS	-	-	-	-	-	C	-	A		-	A	-
		Queue	-	-	-	-	-	20	-	0		-	0	-
	SAT	LOS	-	-	-	-	-	C	-	A		-	A	-
		Queue	-	-	-	-	-	35	-	0		-	0	-
#400 - N. Port Washington Road & Chick-Fil-A East Driveway Stop Sign	PM	LOS	A			-			A			-		
		Queue	5			-			5			-		
	SAT	LOS	A			-			A			-		
		Queue	10			-			10			-		

(--) indicates a movement that is prohibited or does not exist; free-flow movements are shown as LOS A.
Queue is maximum of the 50th & 95th percentile queue, measured in feet, from Synchro output.

Year 2019 Build Option B (Uturns Allowed) Traffic Operations & Queues
Existing Geometrics and Traffic Control

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
#100 - N. Port Washington Road & I-43 NB Ramps Traffic Signal	PM	LOS	D			-			A			-		
		Queue	145			-			160			120		
	SAT	LOS	D			-			A			-		
		Queue	150			-			125			110		
#200 - N Port Washington Road & Richter Place Stop Sign	PM	LOS	C			F			B			A		
		Queue	5			40			15			5		
	SAT	LOS	D			F			B			A		
		Queue	5			50			15			5		
#300 - N. Port Washington Road & Chick-Fil-A West Driveway Stop Sign	PM	LOS	-	-	-	-	-	C	-	A		-	A	-
		Queue	-	-	-	-	-	40	-	0		-	0	-
	SAT	LOS	-	-	-	-	-	D	-	A		-	A	-
		Queue	-	-	-	-	-	95	-	0		-	0	-
#400 - N. Port Washington Road & Chick-Fil-A East Driveway Stop Sign	PM	LOS	A			-			A			-		
		Queue	0			-			0			-		
	SAT	LOS	A			-			A			-		
		Queue	0			-			0			-		

(--) indicates a movement that is prohibited or does not exist; free-flow movements are shown as LOS A.

Queue is maximum of the 50th & 95th percentile queue, measured in feet, from Synchro output.

#200 PM: WB LT LOS F= 57.6s/v; 0.38 v/c; 40 vph

#200 SAT: WB LT LOS F=50.6 s/v; 0.43 v/c; 55 vph

**Year 2019 Build Option B (Uturns Allowed) Traffic Operations & Queues
With Modifications**

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
#100 - N. Port Washington Road & I-43 NB Ramps Traffic Signal	PM	LOS	D			-	-	-	A	A	-	-	A	A
		Queue	145			-	-	-	50	45	-	-	300	40
	SAT	LOS	D			-	-	-	A	A	-	-	B	A
		Queue	150			-	-	-	200	110	-	-	220	40
#200 - N Port Washington Road & Richter Place Traffic Signal	PM	LOS	D			D			A			A	A	
		Queue	15			60			10			60	85	
	SAT	LOS	D			D			A			A	A	
		Queue	10			65			40			65	30	
#300 - N. Port Washington Road & Chick-Fil-A West Driveway Stop Sign	PM	LOS	-	-	-	-	-	C	-	A		-	A	-
		Queue	-	-	-	-	-	40	-	0		-	0	-
	SAT	LOS	-	-	-	-	-	D	-	A		-	A	-
		Queue	-	-	-	-	-	95	-	0		-	0	-
#400 - N. Port Washington Road & Chick-Fil-A East Driveway Stop Sign	PM	LOS	A			-	-	-	A			A		
		Queue	0			-	-	-	0			0		
	SAT	LOS	A			-	-	-	A			A		
		Queue	0			-	-	-	0			0		

(--) indicates a movement that is prohibited or does not exist; free-flow movements are shown as LOS A.
Queue is maximum of the 50th & 95th percentile queue, measured in feet, from Synchro output.

CHAPTER V – RECOMMENDATIONS AND CONCLUSION

PART A – RECOMMENDATIONS

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual, 6th edition* (HCM) using Synchro 10. For the purpose of this study, LOS D was used to define acceptable peak hour operating conditions. *Note that improvements discussed below are recommended for consideration and are not legally binding. All agencies reserve the right to determine alternative solutions.*

The following modifications are recommended to accommodate traffic based on the assumptions outlined in the TIA.

- Provide Chick-Fil-A site driveways to Port Washington Road and Iroquois Avenue as shown on the development site plan. Both driveway should have single entry and exit lanes with stop sign control at each driveway exit.
- Retime the Port Washington Road traffic signals at Lexington Boulevard to coordinate with the signals at the I-43 northbound ramps.
- Reconfigure the Kopp's driveway to prevent left-out exits through the Port Washington Road median at Richter Place.
- Option A: Install actuated-coordinated traffic signals with a southbound protected/permitted left-turn phase at the Port Washington Road/Richter Place intersection. Restripe the westbound Richter Place approach so that the left-turn lane is continuous along Richter Place (to maximize queue storage) and the right-turn lane has a storage lane that tapers back into the through lane. If possible extend the pavement on Richter Place to maximize the amount of turn lane storage available for the westbound right-turn lane.
- Option B: Install actuated-coordinated traffic signals with a southbound protected/permitted left-turn phase at the Port Washington Road/Richter Place intersection. Allow northbound-to-southbound U-turns at the Port Washington Road/I-43 northbound ramps intersection and allow southbound-to-northbound U-turns at the Port Washington Road/Richter Place intersection.

PART B – CONCLUSION

All movements at the study area intersections are expected to operate efficiently with the assumptions outlined in this TIA and with the identified recommended modifications.

APPENDIX A

Traffic Volumes & Signal Timings

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1		Page 1 of 13	
Start Date:	#REF!		#REF!	Schools in Session	
Total Number of Hours Counted:	2		Non-Holiday	No Special Events	



Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Port Washington Road and I43 NB Ramps

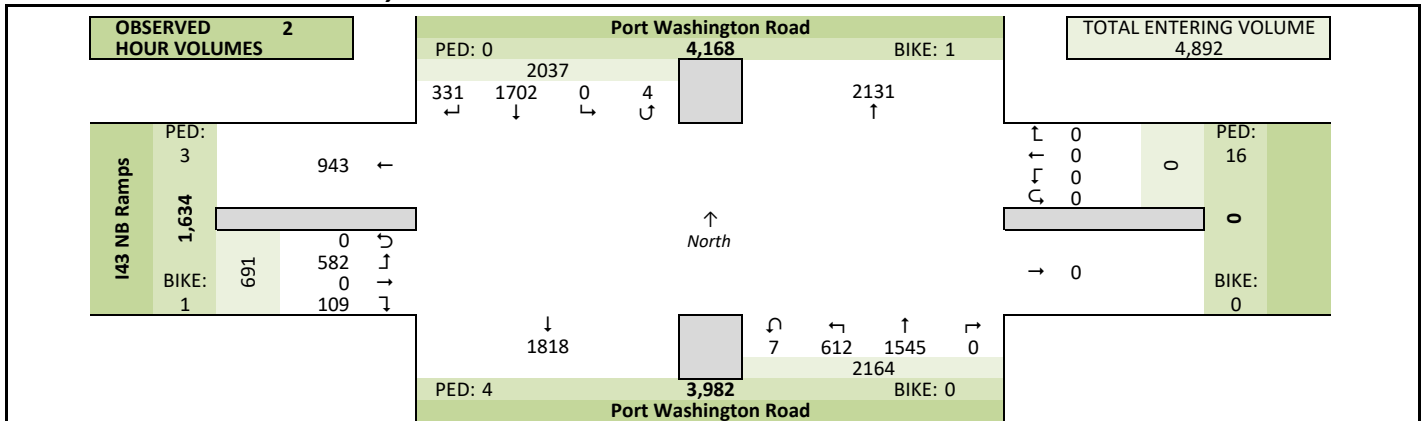
Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names	North Direction ↑		
North Leg	Port Washington Road		
East Leg			
South Leg	Port Washington Road		
West Leg	I43 NB Ramps		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementary school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None		

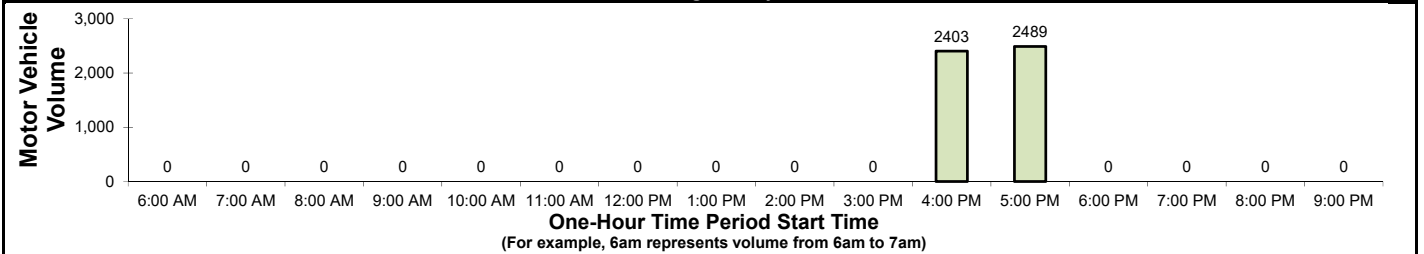
Count Information

Hrs Counted:	4:00 PM-6:00 PM		
1st Day of Count	Tuesday, January 8, 2019		Weather
AM Peak Period	Tuesday, January 8, 2019		Clear & Dry
Midday Peak Period	Tuesday, January 8, 2019		Clear & Dry
PM Peak Period	Tuesday, January 8, 2019		Clear & Dry
Calculated Peak Hours			
AM	MD	PM	5:00-6:00pm
Peak Hours Selected for Analysis			
AM	MD	PM	4:45-5:45pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	1	Count Expansion Factor	5.930
Company Name	TADI, Inc.		Manual Adj. 1.000
Observers			
AM Peak Period	None		
Midday Peak Period	None		
PM Peak Period	Amy Scheuerlein		
Comments	2017 DOT Seasonal Factors		

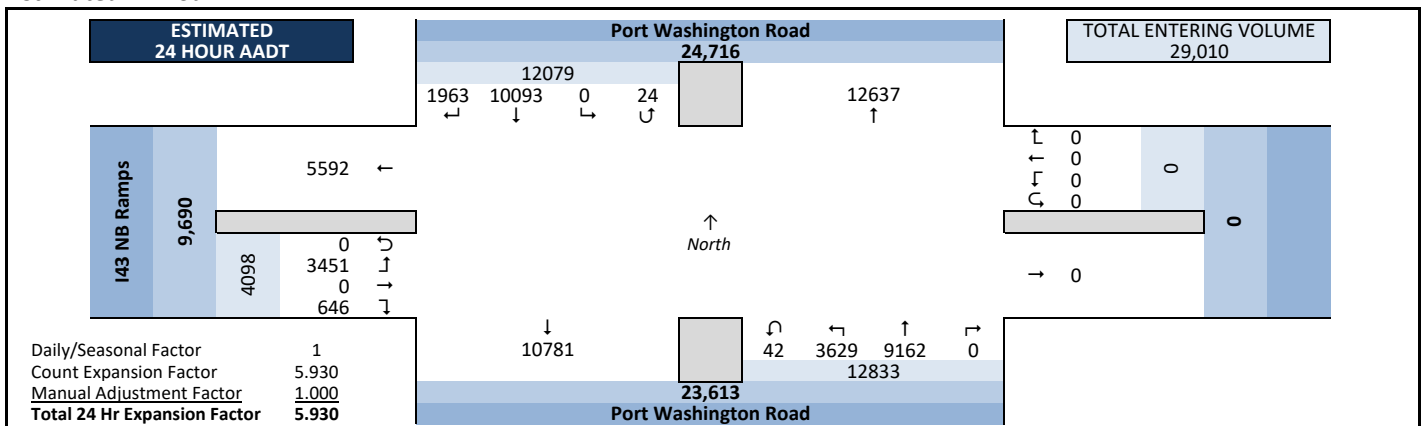
Observed 2 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events

Peak Hour Volume Summary

Port Washington Road and I43 NB Ramps

Peak Hour Volumes, Truck Percentages, and PHFs



Tuesday, January 8, 2019		From North					From East					From South					From West						
		Port Washington Road										Port Washington Road					I43 NB Ramps						
AM Peak Hour	AM Peak Hour																						
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

N/A		From North					From East					From South					From West						
		Port Washington Road										Port Washington Road					I43 NB Ramps						
Midday (MD) Peak Hour	MD Peak Hour Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	% Single Unit 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	0.0	0.0	0.0	0.0	
	% Heavy 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	0.0	0.0	0.0	0.0	
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Tuesday, January 8, 2019		From North					From East					From South					From West					
PM Peak Hour	PM Peak Hour	Port Washington Road										Port Washington Road					I43 NB Ramps					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	4:45 PM	41	201	0	0	242	0	0	0	0	0	0	184	82	3	269	12	0	70	0	82	593
	5:00 PM	44	219	0	0	263	0	0	0	0	0	0	190	81	1	272	9	0	72	0	81	616
	5:15 PM	44	228	0	1	273	0	0	0	0	0	0	193	76	1	270	7	0	61	0	68	611
	5:30 PM	41	230	0	1	272	0	0	0	0	0	0	202	76	0	278	14	0	63	0	77	627
	Peak Hour Volume	170	878	0	2	1050	0	0	0	0	0	0	769	315	5	1089	42	0	266	0	308	2447
	Rounded Hourly Volume	170	880	0	0	1050	0	0	0	0	0	0	770	315	5	1090	40	0	265	0	305	2445
	% Single Unit Trucks	2.4	1.5	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.3	0.0	0.7	0.0	0.0	0.8	0.0	0.6	1.1
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
	% Trucks (Total)	2.4	1.5	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.3	0.0	0.9	0.0	0.0	0.8	0.0	0.6	1.2
Peak Hour Factor (PHF)	0.97	0.95	0.00	0.50	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.96	0.42	0.98	0.75	0.00	0.92	0.00	0.94	0.98	

Peak Hour Pedestrian and Bicyclist Volumes

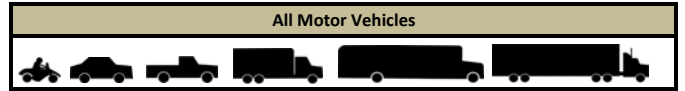
Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
		Port Washington Road						Port Washington Road			I43 NB Ramps			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	2	0	2	1	0	1	0	0	0	3
	5:00 PM	0	1	1	1	0	1	0	0	0	1	0	1	3
	5:15 PM	0	0	0	1	0	1	0	0	0	0	1	1	2
	5:30 PM	0	0	0	3	0	3	0	0	0	0	0	0	3
	Total	0	1	1	7	0	7	1	0	1	1	1	2	11

Intersection Traffic Volume Report

Count Basics				Page 5 of 13
Start Date:	#REF!	#REF!	Schools in Session	
Total Number of Hours Counted:	2	Non-Holiday	No Special Events	

15-Minute Motor Vehicle Data

Port Washington Road and I43 NB Ramps



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF
	Port Washington Road					Port Washington Road					I43 NB Ramps												
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total								
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	48	175	0	0	223	0	0	0	0	0	230	88	1	319	16	0	80	0	96	638	2403	0.94
	4:15 PM	34	212	0	0	246	0	0	0	0	0	164	62	0	226	15	0	82	0	97	569	2381	0.97
	4:30 PM	41	208	0	0	249	0	0	0	0	0	185	81	0	266	16	0	72	0	88	603	2423	0.98
	4:45 PM	41	201	0	0	242	0	0	0	0	0	184	82	3	269	12	0	70	0	82	593	2447	0.98
	5:00 PM	44	219	0	0	263	0	0	0	0	0	190	81	1	272	9	0	72	0	81	616	2489	0.98
	5:15 PM	44	228	0	1	273	0	0	0	0	0	193	76	1	270	7	0	61	0	68	611		
	5:30 PM	41	230	0	1	272	0	0	0	0	0	202	76	0	278	14	0	63	0	77	627		
	5:45 PM	38	229	0	2	269	0	0	0	0	0	197	66	1	264	20	0	82	0	102	635		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Totals	331	1702	0	4	2037	0	0	0	0	0	0	1545	612	7	2164	109	0	582	0	691	4892		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	↓ From North					← From East					↑ From South					→ From West					Total Hourly Volume	PHF
	Port Washington Road										Port Washington Road					I43 NB Ramps						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:45 PM	170	878	0	2	1050	0	0	0	0	0	0	769	315	5	1089	42	0	266	0	308	2447	0.98

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Port Washington Road and I43 NB Ramps

Count Basics			Page 9 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum
	Port Washington Road										Port Washington Road					I43 NB Ramps						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	1	4	0	0	5	0	0	0	0	0	5	1	0	6	1	0	1	0	2	13	41
	4:15 PM	1	3	0	0	4	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6	35
	4:30 PM	2	7	0	0	9	0	0	0	0	0	4	2	0	6	0	0	0	0	0	15	39
	4:45 PM	1	4	0	0	5	0	0	0	0	0	1	0	0	1	0	0	1	0	1	7	29
	5:00 PM	1	4	0	0	5	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7	29
	5:15 PM	1	4	0	0	5	0	0	0	0	0	4	0	0	4	0	0	1	0	1	10	
	5:30 PM	1	1	0	0	2	0	0	0	0	0	2	1	0	3	0	0	0	0	0	5	
	5:45 PM	3	2	0	0	5	0	0	0	0	0	1	0	0	1	0	0	1	0	1	7	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals	11	29	0	0	40	0	0	0	0	0	0	21	4	0	25	1	0	4	0	5	70	

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume
	Port Washington Road										Port Washington Road					I43 NB Ramps					
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:45 PM	4	13	0	0	17	0	0	0	0	0	0	9	1	0	10	0	0	2	0	2	29

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	Port Washington Road		
East Leg			
South Leg	Port Washington Road		
West Leg	I43 NB Ramps		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

Hrs Counted:		11:00 AM-1:00 PM	
1st Day of Count		Saturday, January 5, 2019	Weather
AM Peak Period		Saturday, January 5, 2019	Clear & Dry
Midday Peak Period		Saturday, January 5, 2019	Clear & Dry
PM Peak Period		Saturday, January 5, 2019	Clear & Dry
Calculated Peak Hours			
AM	MD	12:00-1:00pm	PM
Peak Hours Selected for Analysis			
AM	MD	12:00-1:00pm	PM
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		1	Count Expansion Factor 8.989
Company Name TADI, Inc.			Manual Adj. 1.000
Observers	AM Peak Period	None	
	Midday Peak Period	Amy Scheuerlein	
	PM Peak Period	None	
Comments	2017 DOT Seasonal Factors		

The diagram illustrates the traffic volumes at the intersection of Port Washington Road and 143rd Street. It shows the flow of vehicles (cars, bicycles, and pedestrians) in both directions along Port Washington Road and the volumes for the 143rd Street NB and SB ramps.

Port Washington Road (Northbound):

- Observed Hour Volumes:** 2
- PED: 0**
- BIKE: 0**
- Total Entering Volume:** 4,277
- Vehicle Volumes:** 394 (left turn), 1383 (through), 0 (right turn), 4 (pedestrian/bike), 1781 (bicycle), 1886 (bicycle), 3,667 (total).

Port Washington Road (Southbound):

- PED: 15**
- BIKE: 1**
- Vehicle Volumes:** 1508 (left turn), 7 (bicycle), 489 (bicycle), 1308 (bicycle), 1804 (bicycle), 3,312 (total).

143 NB Ramps:

- PED: 3**
- BIKE: 0**
- Vehicle Volumes:** 883 (left turn), 1,575 (through), 692 (right turn), 574 (bicycle), 0 (bicycle), 118 (bicycle).

143 SB Ramps:

- PED: 29**
- BIKE: 1**
- Vehicle Volumes:** 0 (left turn), 0 (bicycle), 0 (bicycle), 0 (bicycle), 0 (bicycle), 0 (bicycle).

Motor Vehicle Volume

One-Hour Time Period Start Time
(For example, 6am represents volume from 6am to 7am)

One-Hour Time Period Start Time	Motor Vehicle Volume
6:00 AM	0
7:00 AM	0
8:00 AM	0
9:00 AM	0
10:00 AM	0
11:00 AM	2022
12:00 PM	2255
1:00 PM	0
2:00 PM	0
3:00 PM	0
4:00 PM	0
5:00 PM	0
6:00 PM	0
7:00 PM	0
8:00 PM	0
9:00 PM	0

ESTIMATED 24 HOUR AADT

Port Washington Road

32,963

TOTAL ENTERING VOLUME

38,447

143 NB Ramps

14,158

6221

7937

0

5160

0

1061

North

13556

63

4396

11758

0

16217

29,772

Port Washington Road

Daily/Seasonal Factor 1

Count Expansion Factor 8.989

Manual Adjustment Factor 1.000

Total 24 Hr Expansion Factor 8.989

Peak Hour Volumes, Truck Percentages, and PHFs

All Motor Vehicles

[illegible]

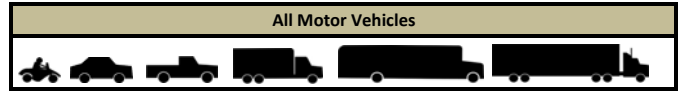
Pedestrians and Bicyclists														Total Ped & Bike Volume
		North Approach Port Washington Road						South Approach Port Washington Road			West Approach I43 NB Ramps			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	5	0	5	5	0	5	0	0	0	10
	12:15 PM	0	0	0	3	1	4	2	0	2	0	0	0	6
	12:30 PM	0	0	0	2	0	2	0	0	0	0	0	0	2
	12:45 PM	0	0	0	8	0	8	4	0	4	0	0	0	12
	Total	0	0	0	18	1	19	11	0	11	0	0	0	30
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics				Page 5 of 13
Start Date:	#REF!	#REF!	Schools in Session	
Total Number of Hours Counted:	2	Non-Holiday	No Special Events	

15-Minute Motor Vehicle Data

Port Washington Road and I43 NB Ramps



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
	Port Washington Road					Port Washington Road					I43 NB Ramps													
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	39	149	0	0	188	0	0	0	0	0	0	164	56	2	222	9	0	68	0	77	487	2022	0.96
	11:15 AM	50	169	0	1	220	0	0	0	0	0	0	154	53	1	208	14	0	70	0	84	512	2104	0.92
	11:30 AM	41	160	0	1	202	0	0	0	0	0	0	154	56	0	210	9	0	75	0	84	496	2156	0.95
	11:45 AM	53	174	0	0	227	0	0	0	0	0	0	151	62	2	215	13	0	72	0	85	527	2202	0.97
	12:00 PM	58	198	0	0	256	0	0	0	0	0	0	163	60	0	223	15	0	75	0	90	569	2255	0.97
	12:15 PM	52	193	0	1	246	0	0	0	0	0	0	173	62	0	235	17	0	66	0	83	564		
	12:30 PM	52	171	0	0	223	0	0	0	0	0	0	164	64	1	229	21	0	69	0	90	542		
	12:45 PM	49	169	0	1	219	0	0	0	0	0	0	185	76	1	262	20	0	79	0	99	580		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF
	Port Washington Road										Port Washington Road					I43 NB Ramps						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	211	731	0	2	944	0	0	0	0	0	0	685	262	2	949	73	0	289	0	362	2255	0.97
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

Port Washington Road and I43 NB Ramps

Peak Hour Heavy Vehicle Volume Summary

[illegible]

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1	Page 1 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2		Non-Holiday	No Special Events

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Port Washington Road and Richter Place



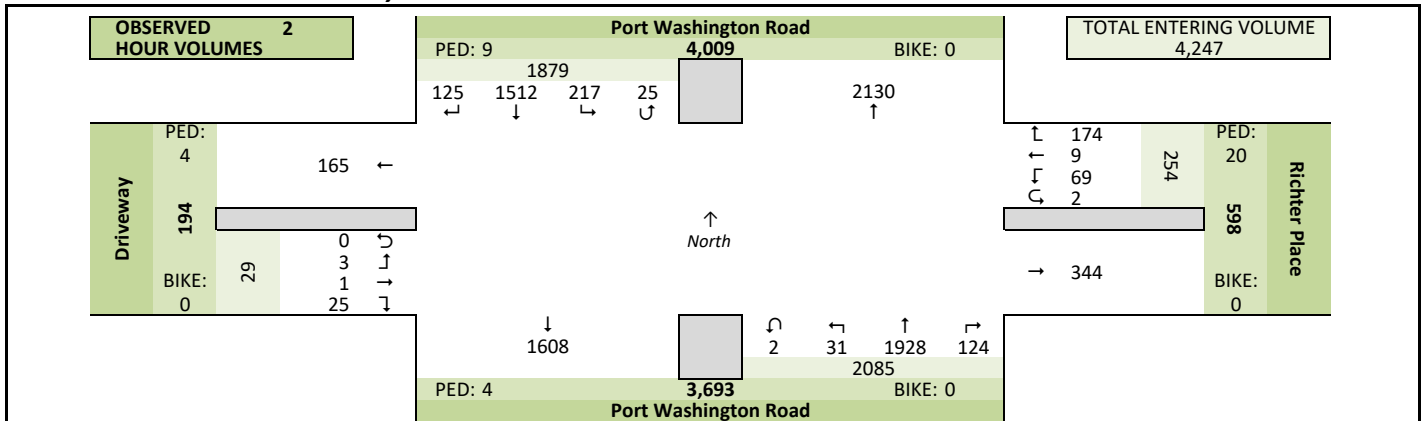
Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names	North Direction		↑
North Leg	Port Washington Road		
East Leg	Richter Place		
South Leg	Port Washington Road		
West Leg	Driveway		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	None

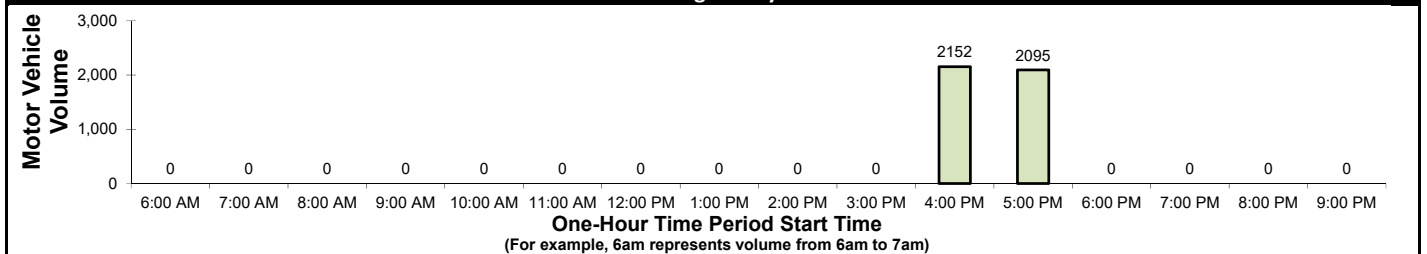
Count Information

Hrs Counted: 4:00 PM-6:00 PM				
1st Day of Count		Thursday, January 3, 2019		Weather
AM Peak Period		Thursday, January 3, 2019		Clear & Dry
Midday Peak Period		Thursday, January 3, 2019		Clear & Dry
PM Peak Period		Thursday, January 3, 2019		Clear & Dry
Calculated Peak Hours				
	AM	MD		PM 4:45-5:45pm
Peak Hours Selected for Analysis				
	AM	MD		PM 4:45-5:45pm
Daily/Seasonal Adjustment Group			(2) Urban Arterials & Collectors	
Count Expansion Group			(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor			1	Count Expansion Factor 5.930
Company Name			TADI, Inc.	Manual Adj. 1.000
Observers	AM Peak Period		None	
	Midday Peak Period		None	
	PM Peak Period		JK Bieberitz	
Comments	2017 DOT Seasonal Factors			

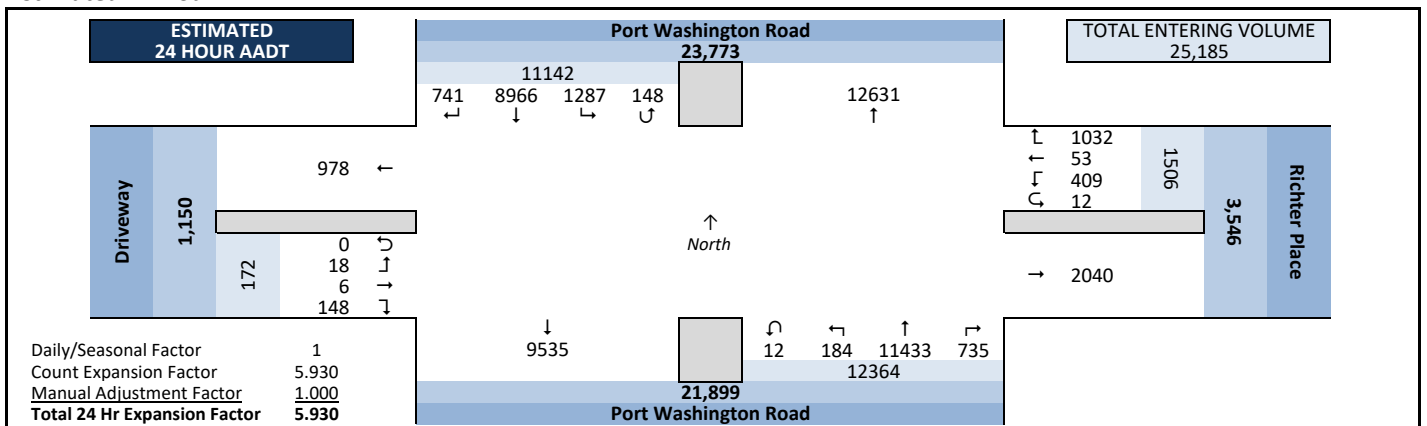
Observed 2 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events

Peak Hour Volume Summary

Port Washington Road and Richter Place

Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, January 3, 2019		From North					From East					From South					From West						
AM Peak Hour	AM Peak Hour	Port Washington Road					Richter Place					Port Washington Road					Driveway						
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

N/A		From North					From East					From South					From West					
Midday (MD) Peak Hour	MD Peak Hour	Port Washington Road					Richter Place					Port Washington Road					Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, January 3, 2019		↴					↶					↴					↷					
		From North					From East					From South					From West					
		Port Washington Road					Richter Place					Port Washington Road					Driveway					
PM Peak Hour	PM Peak Hour																					Totals
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	4:45 PM	17	193	29	2	241	23	0	10	0	33	18	234	7	1	260	6	0	0	0	6	540
	5:00 PM	16	192	37	3	248	17	1	9	2	29	11	244	6	0	261	4	0	0	0	4	542
	5:15 PM	16	198	25	2	241	17	2	8	0	27	22	261	3	0	286	5	0	0	0	5	559
	5:30 PM	19	218	33	4	274	14	0	9	0	23	18	210	1	0	229	1	1	2	0	4	530
	Peak Hour Volume	68	801	124	11	1004	71	3	36	2	112	69	949	17	1	1036	16	1	2	0	19	2171
	Rounded Hourly Volume	70	800	125	10	1005	70	5	35	0	110	70	950	15	0	1035	15	0	0	0	15	2165
	% Single Unit Trucks	0.0	1.4	0.8	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.8
	% Heavy Trucks	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
% Trucks (Total)	0.0	1.7	0.8	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.0	
Peak Hour Factor (PHF)	0.89	0.92	0.84	0.69	0.92	0.77	0.37	0.90	0.25	0.85	0.78	0.91	0.61	0.25	0.91	0.67	0.25	0.25	0.00	0.79	0.97	

Peak Hour Pedestrian and Bicyclist Volumes

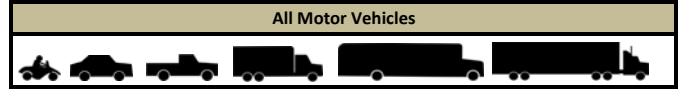
Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike
 		North Approach 			East Approach 			South Approach 			West Approach 			
		Port Washington Road			Richter Place			Port Washington Road			Driveway			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	2	0	2	5	0	5	0	0	0	1	0	1	8
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
	Total	2	0	2	5	0	5	0	0	0	3	0	3	10

Intersection Traffic Volume Report

Count Basics				Page 5 of 13
Start Date:	#REF!	#REF!	Schools in Session	
Total Number of Hours Counted:	2	Non-Holiday	No Special Events	

15-Minute Motor Vehicle Data

Port Washington Road and Richter Place



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
	Port Washington Road					Richter Place					Port Washington Road					Driveway								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	8	194	24	3	229	34	1	7	0	42	15	268	5	0	288	0	0	0	0	0	559	2152	0.96
	4:15 PM	11	193	27	2	233	31	1	13	0	45	12	259	1	1	273	5	0	0	0	5	556	2135	0.96
	4:30 PM	13	154	23	3	193	19	1	8	0	28	13	257	3	0	273	3	0	0	0	3	497	2138	0.96
	4:45 PM	17	193	29	2	241	23	0	10	0	33	18	234	7	1	260	6	0	0	0	6	540	2171	0.97
	5:00 PM	16	192	37	3	248	17	1	9	2	29	11	244	6	0	261	4	0	0	0	4	542	2095	0.94
	5:15 PM	16	198	25	2	241	17	2	8	0	27	22	261	3	0	286	5	0	0	0	5	559		
	5:30 PM	19	218	33	4	274	14	0	9	0	23	18	210	1	0	229	1	1	2	0	4	530		
	5:45 PM	25	170	19	6	220	19	3	5	0	27	15	195	5	0	215	1	0	1	0	2	464		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Totals	125	1512	217	25	1879	174	9	69	2	254	124	1928	31	2	2085	25	1	3	0	29	4247			

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF
	Port Washington Road					Richter Place					Port Washington Road					Driveway						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:45 PM	68	801	124	11	1004	71	3	36	2	112	69	949	17	1	1036	16	1	2	0	19	2171	0.97

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

15-Minute Heavy Vehicle Data

Peak Hour Heavy Vehicle Volume Summary

Peak Hour Heavy Vehicle Volume Summary																	
Hourly Time Period Start Time	From North				From East				From South				From West				Total Hourly Volume
	Port Washington Road				Richter Place				Port Washington Road				Driveway				
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:45 PM	0	14	1	0	15	0	0	0	0	0	0	6	0	0	6	0	21

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1		Page 1 of 13	
Start Date:	#REF!		#REF!	Schools in Session	
Total Number of Hours Counted:	2		Non-Holiday	No Special Events	

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Port Washington Road and Richter Place



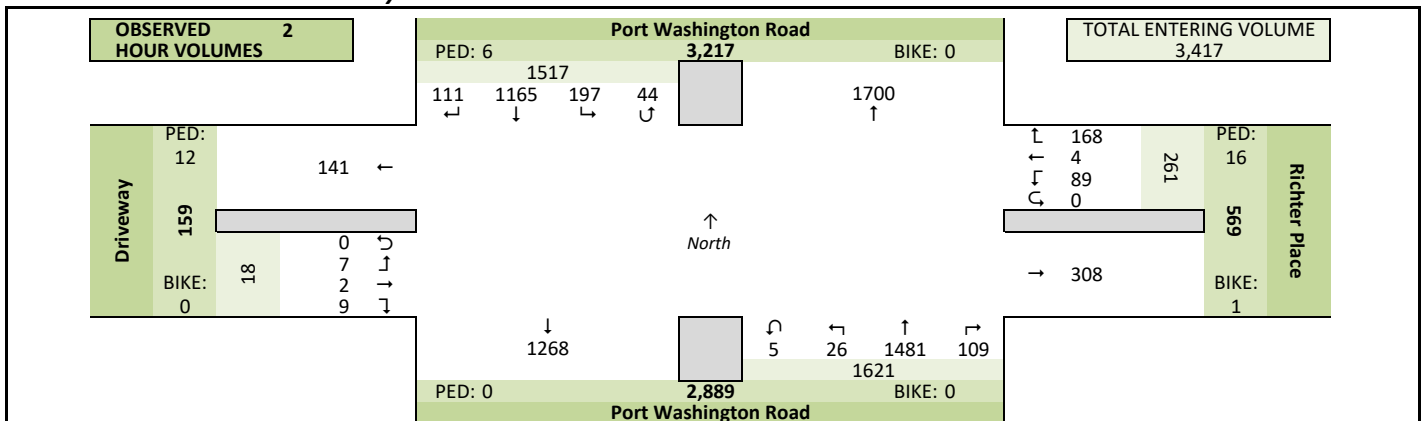
Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names	North Direction		↑
North Leg	Port Washington Road		
East Leg	Richter Place		
South Leg	Port Washington Road		
West Leg	Driveway		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

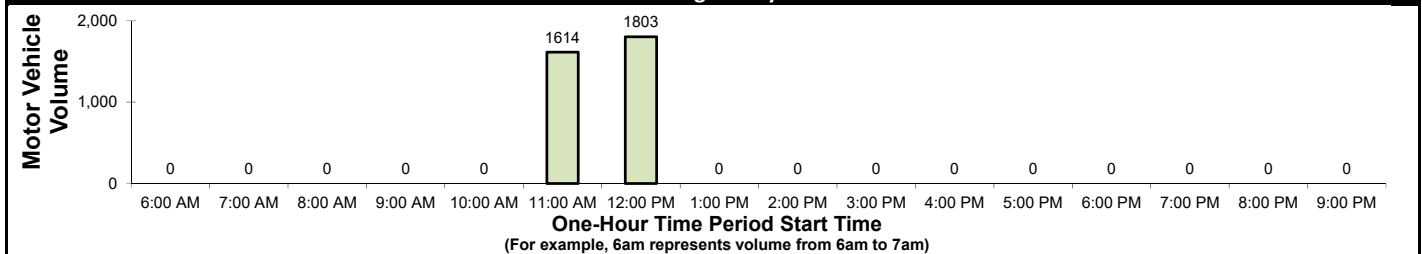
Count Information

Hrs Counted:		11:00 AM-1:00 PM	
1st Day of Count		Saturday, January 5, 2019	
AM Peak Period		Clear & Dry	
Midday Peak Period		Clear & Dry	
PM Peak Period		Clear & Dry	
Calculated Peak Hours			
AM	MD	12:00-1:00pm	PM
Peak Hours Selected for Analysis			
AM	MD	12:00-1:00pm	PM
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		1	Count Expansion Factor 8.989
Company Name		TADI, Inc.	Manual Adj. 1.000
Observers	AM Peak Period	None	
	Midday Peak Period	Jeff Schleif	
	PM Peak Period	None	
Comments	2017 DOT Seasonal Factors		

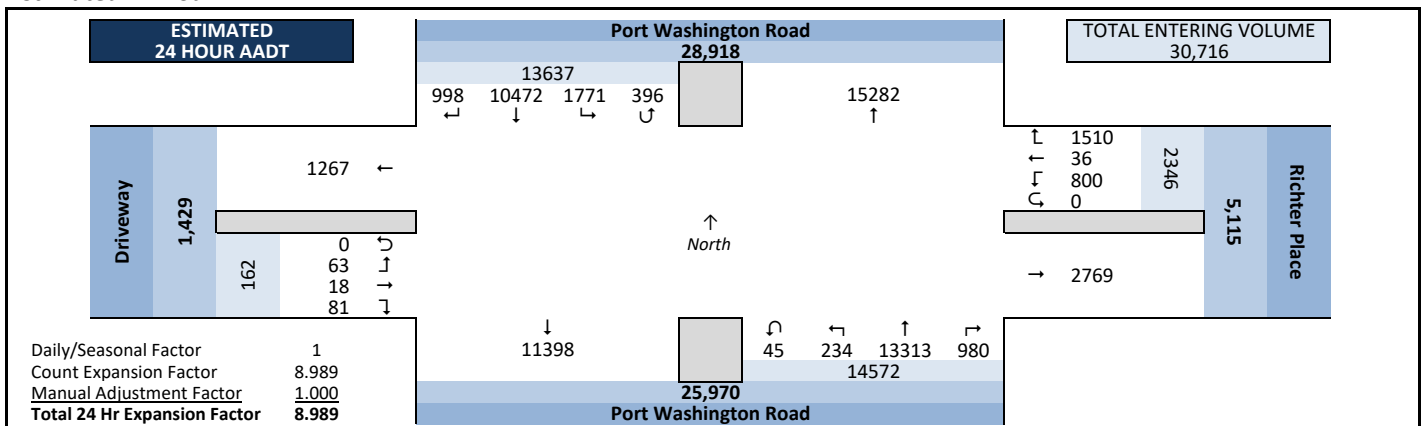
Observed 2 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



Port Washington Road and Richter Place

Count Basics		Page 3 of 13
Start Date: #REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2	Non-Holiday	No Special Events

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Saturday, January 5, 2019		 From North					 From East					 From South					 From West					Totals
AM Peak Hour	AM Peak Hour	Port Washington Road					Richter Place					Port Washington Road					Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Saturday, January 5, 2019		↓					←					↑					→					Totals
		From North					From East					From South					From West					
Midday (MD) Peak Hour	MD Peak Hour	Port Washington Road					Richter Place					Port Washington Road					Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	18	164	29	2	213	20	0	12	0	32	9	182	3	2	196	2	0	1	0	3	444
	12:15 PM	15	160	29	4	208	14	0	6	0	20	14	205	9	0	228	0	1	1	0	2	458
	12:30 PM	20	139	23	10	192	17	0	13	0	30	18	185	5	1	209	1	0	1	0	2	433
	12:45 PM	15	147	18	4	184	26	3	18	0	47	16	217	2	0	235	1	0	1	0	2	468
	Peak Hour Volume	68	610	99	20	797	77	3	49	0	129	57	789	19	3	868	4	1	4	0	9	1803
	Rounded Hourly Volume	70	610	100	20	800	75	5	50	0	130	55	790	20	5	870	5	0	5	0	10	1810
	% Single Unit Trucks	0.0	1.5	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.8
	% Heavy Trucks	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
% Trucks (Total)	0.0	1.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.9	
Peak Hour Factor (PHF)	0.85	0.93	0.85	0.50	0.94	0.74	0.25	0.68	0.00	0.69	0.79	0.91	0.53	0.37	0.92	0.50	0.25	1.00	0.00	0.75	0.95	

Saturday, January 5, 2019		↓ From North					← From East					↑ From South					→ From West					Totals
PM Peak Hour	PM Peak Hour	Port Washington Road					Richter Place					Port Washington Road					Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Peak Hour Pedestrian and Bicyclist Volumes

[illegible]

15-Minute Motor Vehicle Data

Port Washington Road and Richter Place



Peak Hour All Vehicle Volume Summary

[illegible]

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Port Washington Road and Richter Place

15-Minute Heavy Vehicle Data

Count Basics		Page 9 of 13
Start Date: #REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2	Non-Holiday	No Special Events



15-Minute Time Period Start Time		From North					From East					From South					From West					15-Min Totals	Hourly Sum
		Port Washington Road					Richter Place					Port Washington Road					Driveway						
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
	11:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
	11:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
	11:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
	12:15 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6
12:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	
12:45 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	16	0	0	16	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	31

Peak Hour Heavy Vehicle Volume Summary

[illegible]

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Site Information

Municipality	City of Glendale	
County	Milwaukee	WisDOT Region SE
Traffic Control	Partial Stop Control	
Roadway Names	North Direction	↑
North Leg	Port Washington Road	
East Leg	Worth Building DW	
South Leg	Port Washington Road	
West Leg		
Special Considerations		
Schools	In Session	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
	Pre-school children	None
	Elementary school age children	None
	Visually impaired (white cane/helper dog)	None
	Elderly/disabled (except wheelchairs)	None
	Wheelchairs/electric scooters	None
	Other (describe)	None

Hrs Counted: 4:00 PM-6:00 PM				
1st Day of Count		Thursday, January 3, 2019		Weather
AM Peak Period		Thursday, January 3, 2019		Clear & Dry
Midday Peak Period		Thursday, January 3, 2019		Clear & Dry
PM Peak Period		Thursday, January 3, 2019		Clear & Dry
Calculated Peak Hours				
AM		MD		PM 4:00-5:00pm
Peak Hours Selected for Analysis				
AM		MD		PM 4:45-5:45pm
Daily/Seasonal Adjustment Group			(2) Urban Arterials & Collectors	
Count Expansion Group			(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor			1	Count Expansion Factor 5.930
Company Name TADI, Inc.				Manual Adj. 1.000
Observers	AM Peak Period		None	
	Midday Peak Period		None	
	PM Peak Period		Ted Atwell	
Comments	2017 DOT Seasonal Factors			



The diagram illustrates the traffic flow at the intersection of Port Washington Road and Worth Building Drive. It includes observed hourly volumes, total entering volumes, and detailed turning movement counts for pedestrians, bicycles, and vehicles.

Observed Hourly Volumes: 2

Total Entering Volume: 36

Turning Movements (Pedestrian, Bicycle, Vehicle):

- Northbound (Port Washington Road):**
 - Left Turn: 0
 - Through/Right Turn: 23
- Southbound (Port Washington Road):**
 - Left Turn: 0
 - Through/Right Turn: 13
- Eastbound (Worth Building Drive):**
 - Left Turn: 0
 - Through/Right Turn: 36
- Westbound (Worth Building Drive):**
 - Left Turn: 0
 - Through/Right Turn: 0

Motor Vehicle Volume

One-Hour Time Period Start Time
(For example, 6am represents volume from 6am to 7am)

One-Hour Time Period Start Time	Motor Vehicle Volume
6:00 AM	0
7:00 AM	0
8:00 AM	0
9:00 AM	0
10:00 AM	0
11:00 AM	0
12:00 PM	0
1:00 PM	0
2:00 PM	0
3:00 PM	0
4:00 PM	24
5:00 PM	12
6:00 PM	0
7:00 PM	0
8:00 PM	0
9:00 PM	0

ESTIMATED 24 HOUR AADT

Port Washington Road

136

TOTAL ENTERING VOLUME
213

Worth Building DW

213

North

Port Washington Road

77

Daily/Seasonal Factor 1
 Count Expansion Factor 5.930
 Manual Adjustment Factor 1.000
Total 24 Hr Expansion Factor 5.930

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		Port Washington Road			Worth Building DW			Port Washington Road						
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

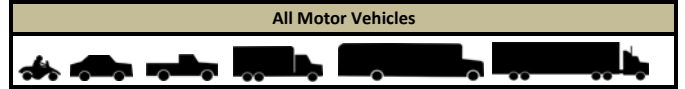
Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Port Washington Road and Worth Building DW

15-Minute Motor Vehicle Data

Count Basics				Page 5 of 13	
Start Date:	#REF!	#REF!	Schools in Session		
Total Number of Hours Counted:	2	Non-Holiday	No Special Events		



15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF
	Port Washington Road					Worth Building DW					Port Washington Road												
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	0	0	0	2	0	0	0	2	3	0	0	0	3	0	0	0	0	0	5	
	4:15 PM	0	0	0	0	0	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	5	
	4:30 PM	0	0	0	0	0	6	0	0	0	6	2	0	0	0	2	0	0	0	0	0	8	
	4:45 PM	0	0	0	0	0	4	0	0	0	4	2	0	0	0	2	0	0	0	0	0	6	
	5:00 PM	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	3	
	5:15 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
	5:30 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
	5:45 PM	0	0	0	0	0	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	4	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		0	0	0	0	0	23	0	0	0	23	13	0	0	0	13	0	0	0	0	0	36	

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF
	Port Washington Road					Worth Building DW					Port Washington Road											
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:45 PM	0	0	0	0	0	10	0	0	0	0	10	4	0	0	0	4	0	0	0	0	14	

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Port Washington Road and Worth Building DW

Count Basics			Page 9 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North						From East					From South					From West					15-Min Totals	Hourly Sum		
	Port Washington Road						Worth Building DW					Port Washington Road													
	Right	Thru	Left	U-Tn	Total		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	4:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	2	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0</										

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North ↓					From East ←					From South ↑					From West →					Total Hourly Volume
	Port Washington Road					Worth Building DW					Port Washington Road										
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	2	

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Site Information

Municipality	City of Glendale	
County	Milwaukee	WisDOT Region
Traffic Control	Partial Stop Control	
Roadway Names	North Direction	↑
North Leg	Port Washington Road	
East Leg	Worth Building DW	
South Leg	Port Washington Road	
West Leg		
Special Considerations		
Schools	In Session	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
	Pre-school children	None
	Elementary school age children	None
	Visually impaired (white cane/helper dog)	None
	Elderly/disabled (except wheelchairs)	None
	Wheelchairs/electric scooters	None
	Other (describe)	None

Hrs Counted:		11:00 AM-1:00 PM	
1st Day of Count		Saturday, January 5, 2019	Weather
AM Peak Period		Saturday, January 5, 2019	Clear & Dry
Midday Peak Period		Saturday, January 5, 2019	Clear & Dry
PM Peak Period		Saturday, January 5, 2019	Clear & Dry
Calculated Peak Hours			
AM	MD	11:00-12:00am	PM
Peak Hours Selected for Analysis			
AM	MD	12:00-1:00pm	PM
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		1	Count Expansion Factor 8.989
Company Name TADI, Inc.			Manual Adj. 1.000
Observers	AM Peak Period	None	
	Midday Peak Period	None	
	PM Peak Period	Larry Numerich	
Comments	2017 DOT Seasonal Factors		



The diagram illustrates the traffic flow at the intersection of Port Washington Road and Worth Building DW. The intersection is oriented with North at the top.

Observed Hour Volumes:

- Port Washington Road (Northbound):**
 - PED: 0
 - BIKE: 0
 - Volume: 21
- Port Washington Road (Southbound):**
 - PED: 0
 - BIKE: 0
 - Volume: 40
- Worth Building DW (Eastbound):**
 - PED: 20
 - BIKE: 0
 - Volume: 61
- Worth Building DW (Westbound):**
 - PED: 0
 - BIKE: 0
 - Volume: 11

Total Entering Volume: 61

Observed Hour Volumes: 2

Worth Building DW: 11

Port Washington Road: 21, 40

North

Motor Vehicle Volume

One-Hour Time Period Start Time
(For example, 6am represents volume from 6am to 7am)

One-Hour Time Period Start Time	Motor Vehicle Volume
6:00 AM	0
7:00 AM	0
8:00 AM	0
9:00 AM	0
10:00 AM	0
11:00 AM	35
12:00 PM	26
1:00 PM	0
2:00 PM	0
3:00 PM	0
4:00 PM	0
5:00 PM	0
6:00 PM	0
7:00 PM	0
8:00 PM	0
9:00 PM	0

The diagram illustrates the intersection of Port Washington Road and Worth Building Drive. It includes traffic volume data for the intersection and expansion factors for the analysis.

Intersection Data:

- Port Washington Road (Northbound):** 189 vehicles.
- Port Washington Road (Southbound):** 360 vehicles.
- Worth Building Drive (Eastbound):** 548 vehicles.
- Worth Building Drive (Westbound):** 449 vehicles.

Expansion Factors:

Factor	Value
Daily/Seasonal Factor	1
Count Expansion Factor	8.989
Manual Adjustment Factor	1.000
Total 24 Hr Expansion Factor	8.989

[illegible]

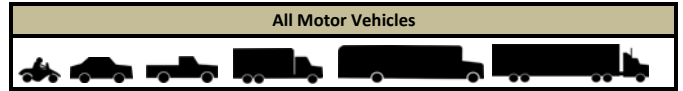
Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Port Washington Road and Worth Building DW

15-Minute Motor Vehicle Data

Count Basics			Page 5 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events



15-Minute Time Period Start Time	From North ↓					From East ←					From South ↑					From West →					15-Min Totals	Hourly Sum	PHF	
	Port Washington Road					Worth Building DW					Port Washington Road													
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	3	0	3	0	0	1	0	1	9	0	0	0	9	0	0	0	0	0	13	35	0.67
	11:15 AM	0	0	5	0	5	0	0	1	0	1	4	0	0	0	4	0	0	0	0	0	10	27	0.61
	11:30 AM	0	0	3	0	3	0	0	3	0	3	5	0	0	0	5	0	0	0	0	0	11	22	0.50
	11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	26	0.43
	12:00 PM	0	0	1	0	1	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	5	26	0.43
	12:15 PM	0	0	1	0	1	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	5		
	12:30 PM	0	0	7	0	7	0	0	2	0	2	6	0	0	0	6	0	0	0	0	0	15		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Totals		0	0	21	0	21	0	0	11	0	11	29	0	0	0	29	0	0	0	0	0	61		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North ↓					From East ←					From South ↑					From West →					Total Hourly Volume	PHF
	Port Washington Road					Worth Building DW					Port Washington Road											
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	9	0	9	0	0	6	0	6	11	0	0	0	11	0	0	0	0	0	26	0.43
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

15-Minute Heavy Vehicle Data

Peak Hour Heavy Vehicle Volume Summary

Peak Hour Heavy Vehicle Volume Summary																					
Hourly Time Period Start Time	↙ From North					← From East					↗ From South					→ From West					Total Hourly Volume
	Port Washington Road					Worth Building DW					Port Washington Road										
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1	Page 1 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **Iriquois Avenue and Worth Building DW**



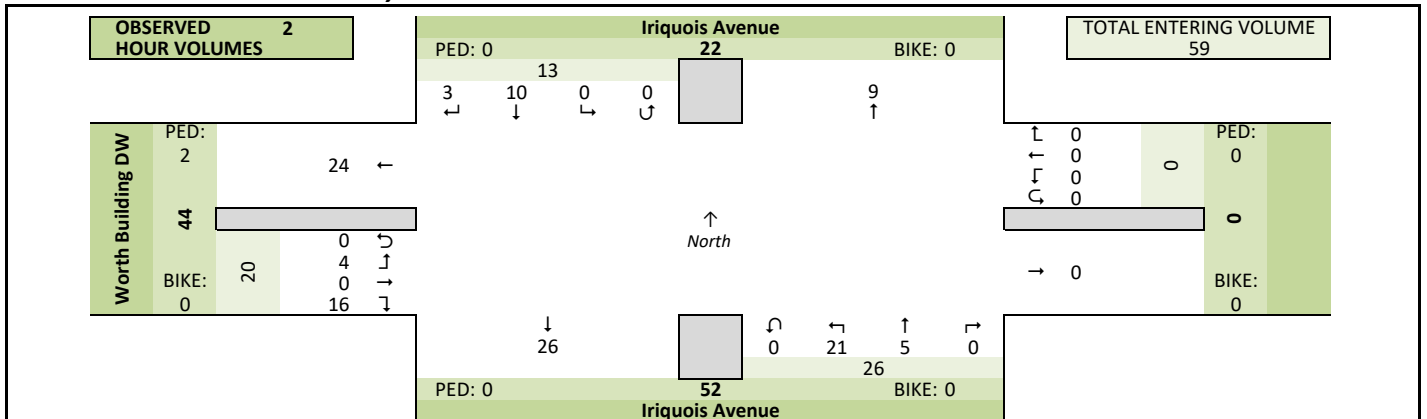
Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Iriquois Avenue		
East Leg			
South Leg	Iriquois Avenue		
West Leg	Worth Building DW		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None None	

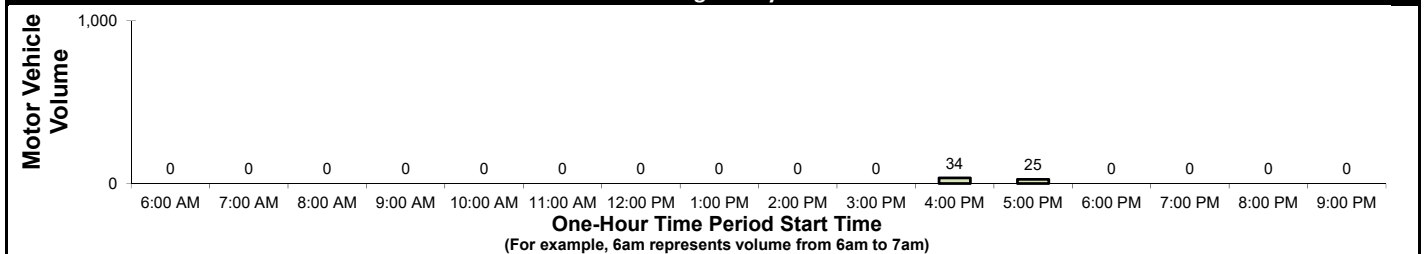
Count Information

Hrs Counted: 4:00 PM-6:00 PM				
1st Day of Count		Thursday, January 3, 2019		Weather
AM Peak Period		Thursday, January 3, 2019		Clear & Dry
Midday Peak Period		Thursday, January 3, 2019		Clear & Dry
PM Peak Period		Thursday, January 3, 2019		Clear & Dry
Calculated Peak Hours				
	AM	MD		PM 4:15-5:15pm
Peak Hours Selected for Analysis				
	AM	MD		PM 4:45-5:45pm
Daily/Seasonal Adjustment Group			(2) Urban Arterials & Collectors	
Count Expansion Group			(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor			1	Count Expansion Factor 5.930
Company Name			TADI, Inc.	Manual Adj. 1.000
Observers	AM Peak Period		None	
	Midday Peak Period		None	
	PM Peak Period		Wendy Picard	
Comments	2017 DOT Seasonal Factors			

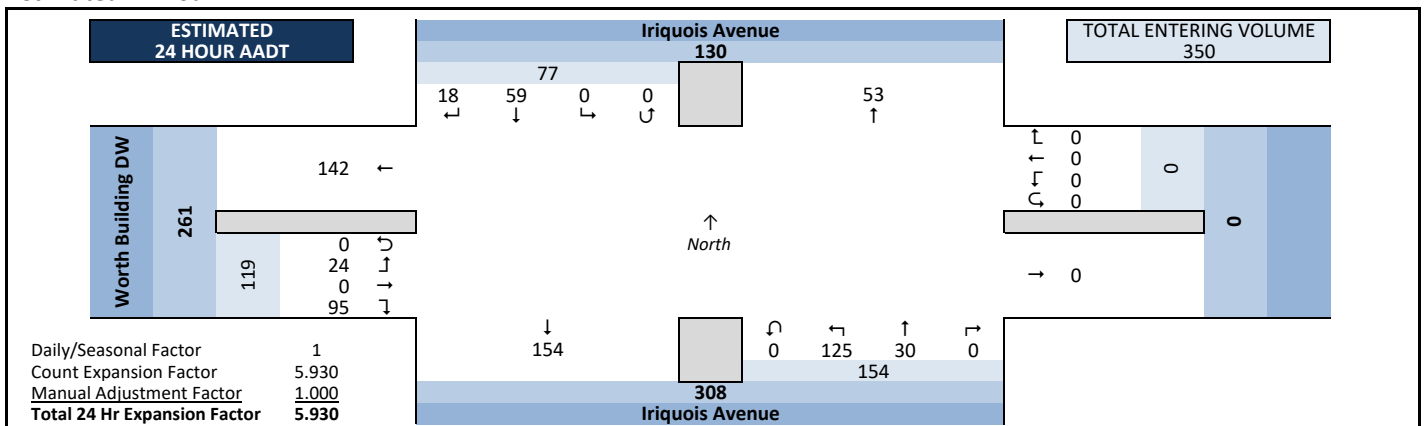
Observed 2 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



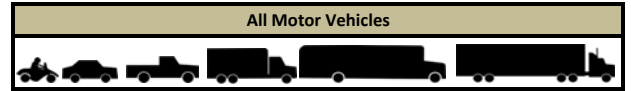
Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events

Peak Hour Volume Summary

Iriquois Avenue and Worth Building DW

Peak Hour Volumes, Truck Percentages, and PHFs



Thursday, January 3, 2019		From North					From East					From South					From West					Totals
		Iriquois Avenue										Iriquois Avenue					Worth Building DW					
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM Peak Hour	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

N/A		From North					From East					From South					From West					Totals
		Iriquois Avenue										Iriquois Avenue					Worth Building DW					
Midday (MD) Peak Hour	MD Peak Hour	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	Start Time																					
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	% Single Unit 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	0.0	0.0	0.0	
	% Heavy 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	0.0	0.0	0.0	
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Thursday, January 3, 2019		From North					From East					From South					From West						
PM Peak Hour	PM Peak Hour	Iriquois Avenue										Iriquois Avenue					Worth Building DW						
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	4:45 PM	1	2	0	0	3	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	6
	5:00 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	2	0	1	0	3	7	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	0	1	5	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4	0	1	0	5	8	
	Peak Hour Volume	1	5	0	0	6	0	0	0	0	0	0	2	8	0	10	8	0	2	0	10	26	
	Rounded Hourly Volume	0	5	0	0	5	0	0	0	0	0	0	0	10	0	10	10	0	0	0	10	25	
	% Single Unit 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	12.5	0.0	10.0	0.0	0.0	50.0	0.0	10.0	7.7
	% Heavy 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	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	10.0	0.0	0.0	50.0	0.0	10.0	7.7
Peak Hour Factor (PHF)	0.25	0.42	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.62	0.50	0.00	0.50	0.00	0.50	0.81		

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		Iriquois Avenue			Iriquois Avenue			Iriquois Avenue			Worth Building DW			
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
	5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
	Total	0	0	0	0	0	0	0	0	0	2	0	2	2

Iriquois Avenue and Worth Building DW

Count Basics		Page 5 of 13
Start Date: #REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2	Non-Holiday	No Special Events

All Motor Vehicles

15-Minute Motor Vehicle Data

[illegible]

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF
	Iriquois Avenue										Iriquois Avenue					Worth Building DW						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:45 PM	1	5	0	0	6	0	0	0	0	0	0	2	8	0	10	8	0	2	0	10	26	0.81

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Iriquois Avenue and Worth Building DW

Count Basics			Page 9 of 13
Start Date:	#REF!	#REF!	Schools in Session
Total Number of Hours Counted:	2	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period	From North							From East					From South					From West					15-Min Totals	Hourly Sum
	Iriquois Avenue												Iriquois Avenue					Worth Building DW						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume
	Iriquois Avenue										Iriquois Avenue					Worth Building DW					
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1		Page 1 of 13	
Start Date:	#REF!		#REF!	Schools in Session	
Total Number of Hours Counted:	2		Non-Holiday	No Special Events	

Base Information, Observed (2) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **Iriquois Avenue and Worth Building DW**



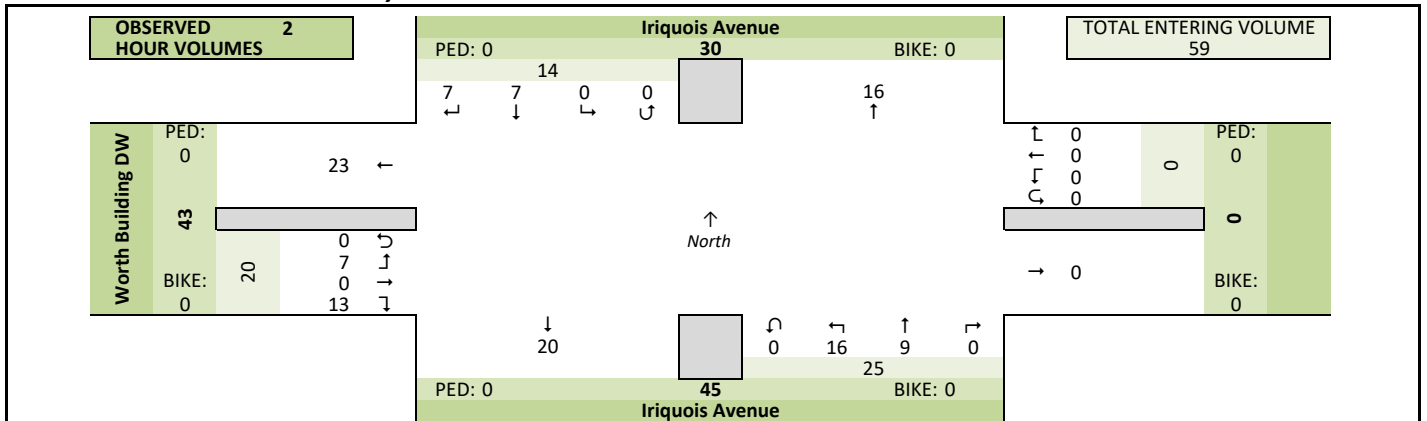
Site Information

Municipality	City of Glendale		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names	North Direction		
North Leg	Iriquois Avenue		
East Leg			
South Leg	Iriquois Avenue		
West Leg	Worth Building DW		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementary school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None		

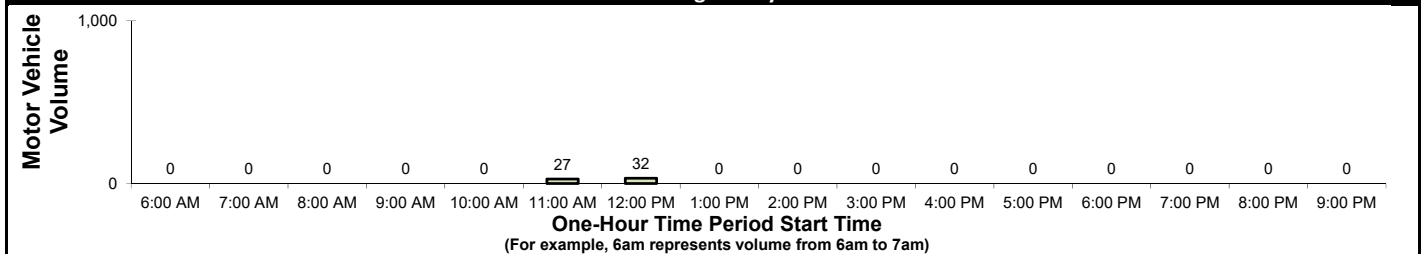
Count Information

Hrs Counted:	11:00 AM-1:00 PM		
1st Day of Count	Saturday, January 5, 2019		Weather
AM Peak Period	Saturday, January 5, 2019		Clear & Dry
Midday Peak Period	Saturday, January 5, 2019		Clear & Dry
PM Peak Period	Saturday, January 5, 2019		Clear & Dry
Calculated Peak Hours			
AM	MD	12:00-1:00pm	PM
Peak Hours Selected for Analysis			
AM	MD	12:00-1:00pm	PM
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	1	Count Expansion Factor	8.989
Company Name	TADI, Inc.		Manual Adj. 1.000
Observers			
AM Peak Period	None		
Midday Peak Period	Larry Numerich		
PM Peak Period	None		
Comments	2017 DOT Seasonal Factors		

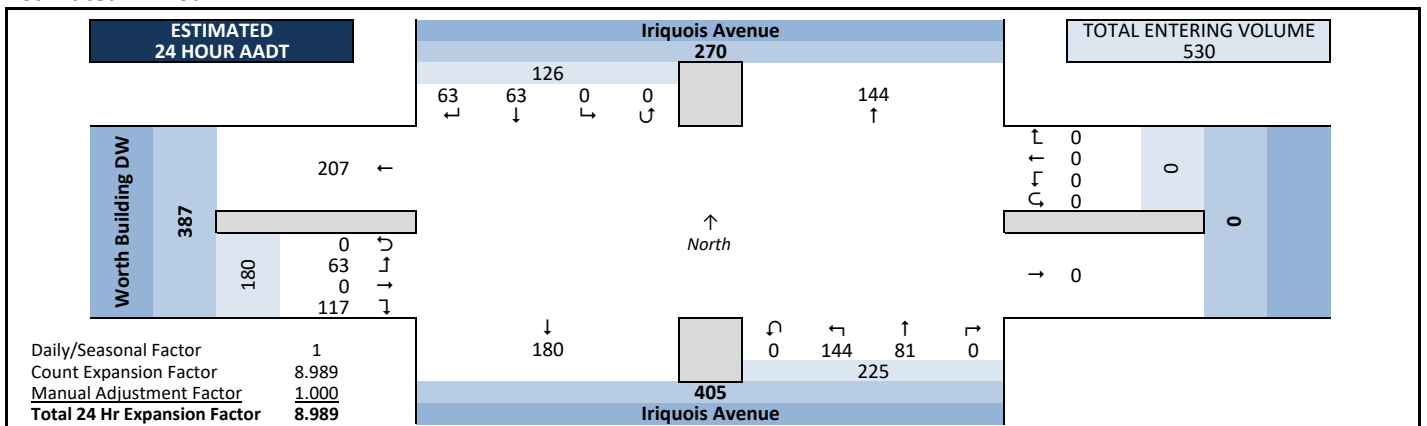
Observed 2 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



Peak Hour Volumes, Truck Percentages, and PHFs

All Motor Vehicles

[illegible][illegible]

Iriquois Avenue and Worth Building DW

Count Basics		Page 5 of 13
Start Date: #REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2	Non-Holiday	No Special Events



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time		From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
		Iriquois Avenue										Iriquois Avenue					Worth Building DW								
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	1	0	0	0	1	0	0	0	0	0	0	3	3	0	6	1	0	2	0	3	10	27	0.68	
	11:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	5	27	0.68	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	1	0	2	0	3	8	30	0.75	
	11:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2	4	31	0.78	
	12:00 PM	3	2	0	0	5	0	0	0	0	0	0	1	1	0	2	2	0	1	0	3	10	32	0.80	
	12:15 PM	2	1	0	0	3	0	0	0	0	0	0	1	2	0	3	2	0	0	0	2	8			
	12:30 PM	1	1	0	0	2	0	0	0	0	0	0	2	2	0	4	2	0	1	0	3	9			
	12:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	1	0	1	0	2	5			
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0											

Peak Hour All Vehicle Volume Summary

[illegible]

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Iriquois Avenue and Worth Building DW

15-Minute Heavy Vehicle Data

Count Basics		Page 9 of 13
Start Date: #REF!	#REF!	Schools in Session
Total Number of Hours Counted: 2	Non-Holiday	No Special Events

[illegible]

Peak Hour Heavy Vehicle Volume Summary

[illegible]

File Name: C:\Users\Inge\Counts\2296 Glendale\Original Counts\Brookfield Capitol Dr. Chick-Fil-A Ins-Outs, PM.ppd

Start Date: 1/8/2019

Start Time: 4:00:00 PM

Site Code: 00000000

Comment 1: Brookfield

Comment 2: Weekday PM

Comment 3: #5009

Comment 4: RA.

	CHICK A FILA DRIVES From North				BOOKFIELD EW DRIVE From East				CHICK A FILA DRIVES From South				BOOKFIELD EW DRIVE From West				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
04:00 PM	0	0	23	0	0	0	0	0	0	0	1	0	30	0	0	0	
04:15 PM	0	0	31	0	0	0	0	0	0	0	0	0	32	0	0	0	
04:30 PM	0	0	28	0	0	0	0	0	0	0	0	0	39	0	0	0	
04:45 PM	0	0	31	0	0	0	0	0	0	0	0	0	37	0	0	0	
05:00 PM	0	0	35	0	0	0	0	0	0	1	0	0	48	0	0	0	
05:15 PM	0	0	45	0	0	0	0	0	0	0	1	0	43	0	0	0	
05:30 PM	0	0	40	0	0	0	0	0	4	0	0	0	50	0	0	0	
05:45 PM	0	0	46	0	0	0	0	0	1	2	1	0	53	0	0	0	
	4	3	2	1	8	7	6	5	12	11	10	9	16	15	14	13	
			OUT					ignore	IN	OUT		IN					

Start Time	IN	OUT
04:00 PM	30	24
04:15 PM	32	31
04:30 PM	39	28
04:45 PM	37	31
05:00 PM	49	35
05:15 PM	43	46
05:30 PM	50	40
05:45 PM	55	47

File Name: C:\Users\Inge\Counts\2296 Glendale\Brookfield Capitol Dr. Chick-Fil-A Ins-Outs, Sat.ppd

Start Date: 1/5/2019

Start Time: 11:00:00 AM

Site Code: 00000000

Comment 1: Brookfield Capitol Dr

Comment 2: Saturday Midday

Comment 3: #4919

Comment 4: WP.

Start Time	OUT From North				CHICK FIL A CAPITOL DR From East				IN From South				CHICK FIL A CAPITOL DR From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
11:00 AM	0	24	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0
11:15 AM	0	34	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0
11:30 AM	0	29	0	0	0	0	0	0	0	48	0	0	0	0	0	0	0
11:45 AM	0	57	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0
12:00 PM	0	58	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0
12:15 PM	0	58	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0
12:30 PM	0	67	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0
12:45 PM	0	71	0	0	0	0	0	0	0	78	0	0	0	0	0	0	0

File Name: C:\Users\Inge\Counts\2296 Glendale\Brookfield Square Chick-Fil-A Ins-Outs, PM.ppd

Start Date: 1/9/2019

Start Time: 4:00:00 PM

Site Code: 00000000

Comment 1: Brookfield Square

Comment 2: Weekday PM

Comment 3: #4755

Comment 4: TA.

Start Time	CHICK FIL A BKFLD SQ From North				IN From East				CHICK FIL A BKFLD SQ From South				OUT From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
04:00 PM	0	0	0	0	0	21	0	0	0	0	0	0	0	21	0	0	
04:15 PM	0	0	0	0	0	15	0	0	0	0	0	0	0	17	0	0	
04:30 PM	0	0	0	0	0	21	0	0	0	0	0	0	0	22	0	0	
04:45 PM	0	0	0	0	0	26	0	0	0	0	0	0	0	20	0	0	
05:00 PM	0	0	0	0	0	27	0	0	0	0	0	0	0	25	0	0	
05:15 PM	0	0	0	0	0	29	0	0	0	0	0	0	0	28	0	0	
05:30 PM	0	0	0	0	0	33	0	0	0	0	0	0	0	28	0	0	
05:45 PM	0	0	0	0	0	38	0	0	0	0	0	0	0	31	0	0	

File Name: C:\Users\Inge\Counts\2296 Glendale\Brookfield Square Chick-Fil-A Ins-Outs, Sat.ppd

Start Date: 1/5/2019

Start Time: 11:00:00 AM

Site Code: 00000000

Comment 1: Brookfield

Comment 2: Saturday Midday

Comment 3: #4755

Comment 4: TA.

Start Time	CHICK FIL A BKFLD SQ From North				IN From East				CHICK FIL A BKFLD SQ From South				OUT From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
11:00 AM	0	0	0	0	0	24	0	0	0	0	0	0	0	19	0	0	
11:15 AM	0	0	0	0	0	28	0	0	0	0	0	0	0	15	0	0	
11:30 AM	0	0	0	0	0	37	0	0	0	0	0	0	0	22	0	0	
11:45 AM	0	0	0	0	0	51	0	0	0	0	0	0	0	36	0	0	
12:00 PM	0	0	0	0	0	52	0	0	0	0	0	0	0	41	0	0	
12:15 PM	0	0	0	0	0	56	0	0	0	0	0	0	0	52	0	0	
12:30 PM	0	0	0	0	0	34	0	0	0	0	0	0	0	48	0	0	
12:45 PM	0	0	0	0	0	56	0	0	0	0	0	0	0	55	0	0	

Chick-fil-a Brookfield Square
1/9/2019

Total Cars Queued in Drive Through each Minute

Time	Lane 1	Lane 2	Total	Time	Lane 1	Lane 2	Total	Time	Lane 1	Lane 2	Total
4:00	1	1	2	4:40	0	0	0	5:20	0	0	0
1	0	1	1	41	1	1	2	21	1	1	2
2	0	0	0	42	0	1	1	22	1	1	2
3	0	0	0	43	2	1	3	23	0	0	0
4	0	0	0	44	2	2	4	24	1	0	1
5	1	1	2	45	1	1	2	25	0	0	0
6	0	0	0	46	1	1	2	26	0	0	0
7	0	0	0	47	0	1	1	27	0	0	0
8	0	0	0	48	0	2	2	28	1	1	2
9	1	0	1	49	2	2	4	29	1	1	2
4:10	0	0	0	4:50	1	1	2	5:30	0	0	0
11	1	0	1	51	0	1	1	31	0	0	0
12	1	0	1	52	1	1	2	32	0	0	0
13	1	1	2	53	0	0	0	33	1	1	2
14	1	0	1	54	0	0	0	34	2	1	3
15	1	0	1	55	1	0	1	35	1	0	1
16	0	0	0	56	1	1	2	36	0	1	1
17	0	0	0	57	0	0	0	37	2	2	4
18	0	0	0	58	1	1	2	38	3	1	4
19	1	0	1	59	0	0	0	39	1	1	2
4:20	0	1	1	5:00	0	1	1	5:40	2	2	4
21	0	1	1	1	0	0	0	41	2	3	5
22	0	0	0	2	1	0	1	42	2	1	3
23	1	1	2	3	0	0	0	43	3	2	5
24	1	1	2	4	1	0	1	44	1	2	3
25	0	1	1	5	1	1	2	45	2	1	3
26	0	0	0	6	1	1	2	46	1	0	1
27	0	1	1	7	2	1	3	47	1	0	1
28	0	1	1	8	1	0	1	48	0	1	1
29	0	0	0	9	0	0	0	49	1	0	1
4:30	1	0	1	5:10	0	0	0	5:50	1	1	2
31	1	0	1	11	1	0	1	51	0	0	0
32	0	0	0	12	1	0	1	52	0	0	0
33	0	0	0	13	0	0	0	53	2	2	4
34	0	1	1	14	1	0	1	54	3	2	5
35	1	0	1	15	1	1	2	55	2	2	4
36	0	0	0	16	0	0	0	56	1	1	2
37	0	0	0	17	1	1	2	57	0	0	0
38	1	1	2	18	1	0	1	58	0	0	0
39	0	0	0	19	1	0	1	59	1	0	1

Queue Summary	
All Data	
Minimum	0
Maximum	5
Average	1

Queue Summary	
Peak Hour	
5:00-6:00 p.m.	
Minimum	0
Maximum	5
Average	2

Pk hr of Chick-Fil-A in
Brookfield Square

Chick-fil-a Brookfield Square
1/5/2019

Total Cars Queued in Drive Through each Minute

Time	Total	Time	Total	Time	Total
11:00	0	11:40	0	12:20	4
1	0	41	0	21	5
2	0	42	0	22	5
3	0	43	0	23	5
4	1	44	0	24	3
5	1	45	0	25	0
6	0	46	0	26	1
7	0	47	1	27	2
8	0	48	0	28	1
9	0	49	0	29	2
11:10	0	11:50	2	12:30	2
11	0	51	2	31	1
12	0	52	1	32	2
13	0	53	0	33	2
14	0	54	0	34	1
15	0	55	0	35	0
16	0	56	0	36	0
17	0	57	0	37	0
18	0	58	0	38	0
19	0	59	0	39	0
11:20	0	12:00	0	12:40	0
21	0	1	0	41	0
22	0	2	0	42	2
23	0	3	2	43	3
24	0	4	0	44	1
25	0	5	1	45	1
26	1	6	0	46	1
27	0	7	0	47	0
28	1	8	5	48	2
29	0	9	5	49	2
11:30	0	12:10	4	12:50	4
31	0	11	4	51	3
32	0	12	2	52	4
33	0	13	2	53	2
34	0	14	1	54	2
35	0	15	1	55	6
36	0	16	1	56	6
37	0	17	0	57	5
38	0	18	4	58	3
39	0	19	6	59	5

Queue Summary	
All Data	
Minimum	0
Maximum	6
Average	1

Queue Summary	
Peak Hour	
12:00-1:00 p.m.	
Minimum	0
Maximum	6
Average	2

*Pk hr of Chick-Fil-A in
Brookfield Square*

Chick-fil-a Brookfield at 128th/Capitol Drive
1/9/2019

Total Cars Queued in Drive Through each Minute

Time	Lane 1	Lane 2	Total	Time	Lane 1	Lane 2	Total	Time	Lane 1	Lane 2	Total
4:00	3	3	6	4:40	3	3	6	5:20	3	2	5
1	3	3	6	41	3	2	5	21	2	2	4
2	2	2	4	42	4	3	7	22	3	3	6
3	2	1	3	43	3	3	6	23	4	3	7
4	3	1	4	44	5	4	9	24	3	2	5
5	2	1	3	45	4	5	9	25	2	3	5
6	2	2	4	46	4	4	8	26	1	1	2
7	2	2	4	47	4	3	7	27	1	1	2
8	3	2	5	48	3	3	6	28	0	0	0
9	3	2	5	49	3	3	6	29	1	1	2
4:10	4	3	7	4:50	2	3	5	5:30	1	2	3
11	4	3	7	51	3	4	7	31	3	3	6
12	4	2	6	52	3	3	6	32	6	5	11
13	3	1	4	53	2	2	4	33	5	6	11
14	2	1	3	54	3	1	4	34	5	5	10
15	2	1	3	55	3	1	4	35	6	6	12
16	1	1	2	56	2	2	4	36	5	6	11
17	1	1	2	57	1	1	2	37	5	6	11
18	1	2	3	58	2	2	4	38	6	6	12
19	1	2	3	59	1	1	2	39	5	5	10
4:20	2	1	3	5:00	0	1	1	5:40	5	5	10
21	2	2	4	1	1	1	2	41	4	6	10
22	1	1	2	2	2	1	3	42	5	6	11
23	2	1	3	3	3	2	5	43	4	5	9
24	1	2	3	4	1	2	3	44	4	6	10
25	1	1	2	5	2	2	4	45	5	6	11
26	2	2	4	6	1	3	4	46	4	5	9
27	1	1	2	7	1	1	2	47	4	4	8
28	1	0	1	8	1	1	2	48	5	5	10
29	0	1	1	9	1	0	1	49	6	6	12
4:30	1	1	2	5:10	1	2	3	5:50	5	5	10
31	2	1	3	11	1	2	3	51	4	5	9
32	3	2	5	12	3	2	5	52	6	6	12
33	3	3	6	13	3	1	4	53	6	6	12
34	5	5	10	14	1	1	2	54	6	7	13
35	4	4	8	15	1	1	2	55	6	7	13
36	4	5	9	16	2	2	4	56	7	7	14
37	4	4	8	17	1	2	3	57	8	7	15
38	3	4	7	18	1	2	3	58	7	8	15
39	3	4	7	19	1	1	2	59	8	8	16

Queue Summary	
All Data	
Minimum	0
Maximum	16
Average	6

Queue Summary	
Peak Hour	
5:00-6:00 p.m.	
Minimum	0
Maximum	16
Average	7

Pk hr of Chick-Fil-A in
Brookfield Square

*At 6:01, field staff noted that the drive-through lane queue exceeded storage space and the queue was extending into the parking lot.

Chick-fil-a Brookfield at 128th/Capitol Drive

1/5/2019

Total Cars Queued in Drive Through each Minute

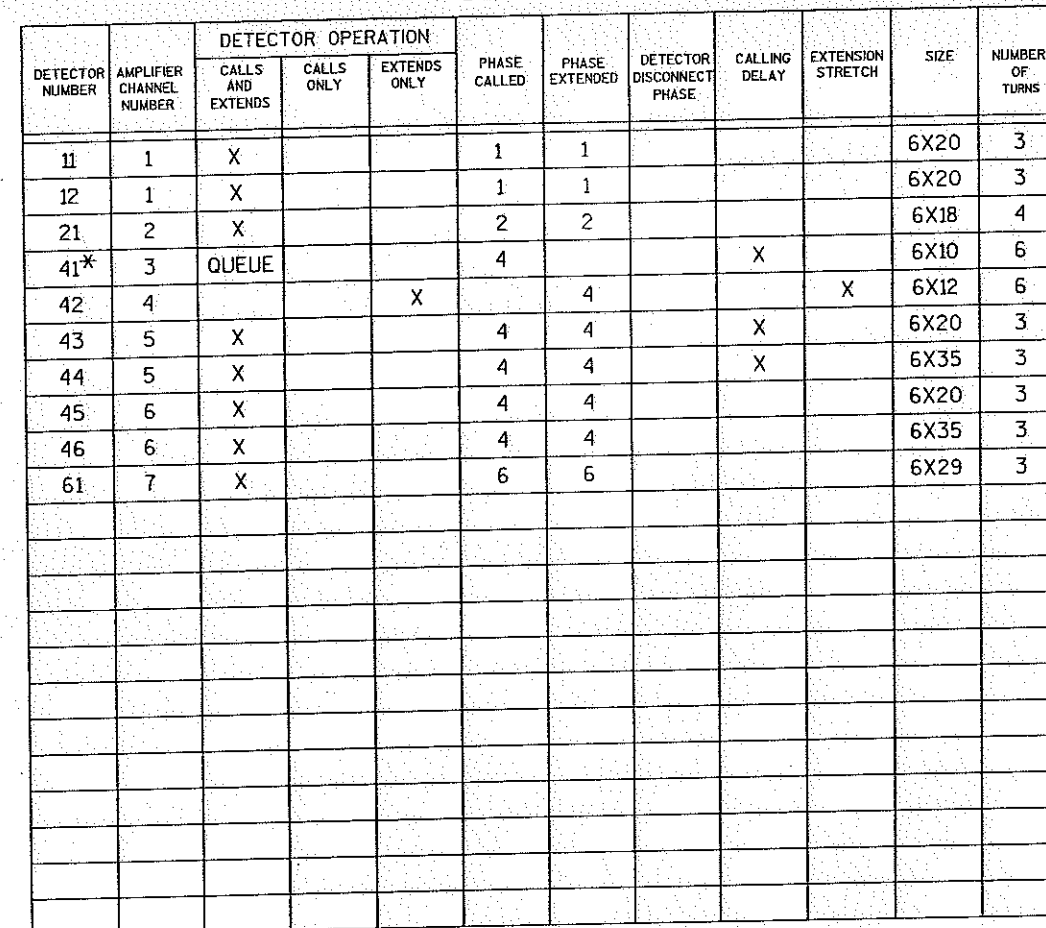
Time	Total	Time	Total	Time	Total
11:00	4	11:40	8	12:20	8
1	4	41	9	21	8
2	3	42	9	22	6
3	1	43	8	23	7
4	1	44	10	24	7
5	1	45	10	25	7
6	1	46	10	26	9
7	1	47	10	27	10
8	1	48	7	28	14
9	1	49	10	29	14
11:10	1	11:50	8	12:30	18
11	1	51	10	31	17
12	0	52	10	32	14
13	0	53	11	33	10
14	3	54	11	34	8
15	5	55	8	35	12
16	5	56	10	36	15
17	3	57	9	37	17
18	2	58	8	38	17
19	1	59	7	39	15
11:20	2	12:00	7	12:40	13
21	3	1	7	41	10
22	2	2	5	42	10
23	2	3	5	43	8
24	3	4	4	44	10
25	0	5	10	45	9
26	1	6	12	46	11
27	1	7	11	47	12
28	1	8	12	48	12
29	3	9	14	49	12
11:30	6	12:10	12	12:50	9
31	3	11	13	51	9
32	4	12	12	52	7
33	6	13	9	53	7
34	7	14	8	54	5
35	7	15	8	55	4
36	8	16	7	56	4
37	8	17	9	57	5
38	6	18	10	58	6
39	7	19	9	59	11

Queue Summary	
All Data	
Minimum	0
Maximum	18
Average	7

Queue Summary	
Peak Hour	
12:00-1:00 p.m.	
Minimum	4
Maximum	18
Average	10

*Pk hr of Chick-Fil-A on
Capitol Dr.*

CONTROLLER LOGIC



PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN.	X
3				
4				X
5				
6	X	2	MIN.	X
7				
8				X

OVERLAPS

O.L. "A" = NOT USED
O.L. "B" = NOT USED
O.L. "C" = NOT USED
O.L. "D" = NOT USED

TYPE OF INTERCONNECT		TYPE OF PRE-EMPT		TYPE OF LIGHTING	
NONE		NONE	X	NONE	
TBC		RAILROAD		IN TRAFFIC CONTROL CABINET	
CLOSED LOOP	X	EMERGENCY VEHICLE		IN SEPARATE CONTROL CABINET	
HARDWIRE					
tone (FREQ)					
FIBER OPTIC					

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL.
(SEE CHART 1AT LEFT.)
3. IF ANY OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
4. * LOOP 41USED TO CALL A PRE-EMPT THAT CLEARS
SIGNAL TO PHASE 4 GREEN

IH 43 NB ON/OFF RAMP &
 PORT WASHINGTON ROAD
 MILWAUKEE COUNTY

SIGNAL NO. M125

CONTROLLER TYPE:EPAC

DATE 02/06

PAGE NO. 3 OF 3

SHEET

11

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
Ø1	6	2,4
Ø2	6	1,4
Ø3		
Ø4	NONE	1,2,6
Ø5		
Ø6	1 OR 2	4
Ø7		
Ø8		

Timing Cover Sheet for Signal: S1149 HWY: 43 and N Port Washington Rd

Date: 11/5/2018
Signal No: S1149
County: MIL
Controller: EPAC
School:

Changes Made By: M. Cowap
Highway: 43
Local Hwy: NB
Location: N Port Washington Rd
Ped: Standard

Pre-emption

Preemption: Type: Phases:
Queue Loop Queue Loop 4

Coordination

System No: SS0026 IP Address:
Coordination Type: Time-Based Comments: I/C cable exists for future hook-up.
Comm Type:

	<u>Length</u>	<u>Split 1</u>	<u>Split 2</u>	<u>Split 3</u>	<u>Split 4</u>
Cycle 1=	90 sec	6:00am - 9:00am M-F 8:00am - 10:00am S-S	9:00am - 2:30pm M-F 6:00pm - 10:00pm M-F 10:00am - 10:00pm S-S		
Cycle 2=	100 sec	2:30pm - 6:00pm M-F	11:00am - 3:00pm holiday Sat 11:00am - 3:00pm holiday Sun		
Cycle 3=	80 sec	9:00am - 11:00am holiday Sat 9:30am - 11:00am holiday Sun	3:00pm - 10:00pm holiday Sat 3:00pm - 9:00pm holiday Sun		
Cycle 4=					

Cabinet Type: TS1

Part of a Local System: Yes

Local Contact: Dave Eastman

Phone Number: 414-228-1700

☐ Battery Backup

Turn Operations

Phases with

Overlaps

Overlap A = Phases:

Overlap B = Phases:

Overlap C = Phases:

Overlap D = Phases:

FYA TOD ☐

5 Section Head ☐

Lead/Lag ☐

Phase Omit ☐

Dynamic FYA ☐

Split Phase ☐

Detector Timing

Dilemma Zone: No

Bike Detection ☐

Detection Type(s): Loop

Detector Number	41	42	43	44										
Stretch		4.75												
Right Turn Delay	4		8	8										
Left Turn Delay														

Unique Features

Emergency preempt called for phase 4 when ramp queueing reaches loop 41.
Holiday timings operate on Black Friday and every Saturday & Sunday until Christmas. Special day 50-59 for 2018. Special day 60-68 for 2019. Special day 70-77 for 2020.

SEPAC ECOM All Data

11/15/2018

7:37:19AM

Intersection Name: **SE40S1149 IH 43 NB & PortWA Rd**

Intersection Alias: **S1149**

Access Data

1 :1200/1312 Baud

3 :1200/1312 Baud

Access Code: **9999**

Channel: 1

Address: **0**

Revision: **3.34e**

IP Address:

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	1-Inact	4-Grn	0-None	1-Inact	0-None	4-Grn	0-None	1-Inact	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None

PHASE DATA

Vehical Basic Timings							Misc Timings					Pedestrian Timings						
Min						All	Green	Yellow	Walk	Offset	Bike	Ped		Alt	Flash	Ext	Actuated	
Phase	Green	Passage	Max1	Max2	Yellow	Red	Delay	Delay	Off Time	Mode	Green	Walk	Clr	Walk	Clr	Ped Clr	Rest in	
1	6	1.5	20	20	3.5	1.0	0	0	0	0-Advance	0	0	0		No	0	No	
2	10	5.7	40	40	3.6	3.0	0	0	0	0-Advance	0	7	30		No	2	No	
3	0	0.0	0	0	3.5	0.0	0	0	0	0-Advance	0	0	0		No	0	No	
4	8	1.5	35	35	3.6	3.0	0	0	0	0-Advance	0	7	27		No	2	No	
5	0	0.0	0	0	3.5	0.0	0	0	0	0-Advance	0	0	0		No	0	No	
6	10	4.9	40	40	3.6	3.0	0	0	0	0-Advance	0	0	0		No	0	No	
7	0	0.0	0	0	3.5	0.0	0	0	0	0-Advance	0	0	0		No	0	No	
8	8	1.5	35	35	3.6	3.0	0	0	0	0-Advance	0	0	0		No	0	No	
9	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
10	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
11	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
12	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
13	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
14	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
15	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	
16	0	0.0	0	0	4.0	2.0	0	0	0	0-Advance	0	0	0		No	0	No	

Vehicle Density Timings							General Control				Miscellaneous				No Simu	Special Sequence		
Ph.	Added Initial	Max Initial	Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	Gap Out	Omit	Minus Yel	Omit Call
1	0.0	6	20	0	0	1.5	None	None	None	0	Yes	No	No	No	No	0	0	0
2	2.3	28	28	0	12	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	8	35	0	0	1.5	None	None	None	0	Yes	Yes	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
6	2.4	24	24	0	16	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
8	0.0	8	35	0	0	1.5	None	None	None	0	Yes	Yes	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Vehical Detector Phase Assignment						Pedestrian Detector					Special Detector Phase Assignment					
Assign			Switch			Default Data					Assign			Switch		
Phase	Mode	Phase	Extend	Delay							Phase	Mode	Phase	Extend	Delay	
Default Data											:					
											Default Data					

Unit Data

General Control				
Startup Time:	6sec		Input	Output
Startup State:	All Red	Ring	Respons	Selection
Red Revert:	20sec	1	Ring 1	Ring 1
Auto Ped Clr:	No	2	Ring 2	Ring 2
Stop T Reset:	No	3	None	None
Alt Sequence:	0	4	None	None
Special Seq:	0-Standard			
I/O Modes:				
ABC Input(Entry) Modes: 0		D Input(Entry) Modes: 0		
ABC Output(O/STS) Modes: 0		D Output(O/STS) Modes: 0		

Remote Flash					
Test A = Flash No				Flash	Flash
Phase	Entry	Exit	Channel	Color	Alternat
2		Yes	Default Data - No Flash		
6		Yes			

Overlaps																
Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Start Green																
Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Trail Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
TG Preempt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stop Grn/Yel Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring			Phase(s)																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Phase	Ring	Next Phase	Concurrent Phases	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
1	1	2		5	5	7	7	2	2	4	4								
2	1	3		6	6	8	8	5	6	7	8								
4	1	1																	
6	2	7																	
8	2	5																	

Alternate Sequences

Alternate Sequences																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Phase Pair(s)	1	1 2	3 4	1 2	5 6	1 2	3 4	1 2	7 8	1 2	3 4	1 2	5 6	1 2	3 4	1 2
	2	0 0	0 0	3 4	0 0	5 6	5 6	3 4	0 0	7 8	7 8	3 4	7 8	5 6	5 6	3 4
	3	0 0	0 0	0 0	0 0	0 0	0 0	5 6	0 0	0 0	0 0	7 8	0 0	7 8	7 8	5 6
	4	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	7 8

Port 1 Data

BIU Addr	Port Status	Basic Det	Message 40
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Default Data

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data

General Coordination Data			Dial/Split	Cycle
Operation Mode: 1=Auto	Offset Mode: 0=Beg Grn	Manual Dial: 1	1/1	90
Coordination Mode: 2=Permissive Yield	Force Mode: 1=Cycle	Manual Split: 1	1/2	90
Maximun Mode: 0=Inhibit	Max Dwell Time: 15	Manual Offset: 1	2/1	100
Correction Mode: 3=Short Way Plus	Yield Period: 3		2/2	100
			3/1	80
			3/2	80

Split Times and Phase Mode											
Dial 1 / Split 1											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	26	0=Actuated	2	44	1=Coordinate	4	20	0=Actuated	6	70	1=Coordinate
8	20	0=Actuated									
Dial 1 / Split 2											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	46	1=Coordinate	4	24	0=Actuated	6	66	1=Coordinate
8	24	0=Actuated									
Dial 2 / Split 1											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	49	1=Coordinate	4	28	0=Actuated	6	72	1=Coordinate
8	28	0=Actuated									
Dial 2 / Split 2											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	22	0=Actuated	2	49	1=Coordinate	4	29	0=Actuated	6	71	1=Coordinate
8	29	0=Actuated									
Dial 3 / Split 1											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	33	1=Coordinate	4	27	0=Actuated	6	53	1=Coordinate
8	27	0=Actuated									
Dial 3 / Split 2											
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	18	0=Actuated	2	37	1=Coordinate	4	25	0=Actuated	6	55	1=Coordinate
8	27	0=Actuated									

Traffic Plan Data					
Plan: 1/1/1	Offset Time: 36 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 1/2/1	Offset Time: 76 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 2/1/1	Offset Time: 64 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 2/2/2	Offset Time: 2 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 3/1/1	Offset Time: 8 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 3/2/2	Offset Time: 74 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

Local TBC Data						Equate Days							
Start of Daylight Saving	Month: 3	Week: 2	Cycle Zero Reference	Hours: 24	Min: 0	Source Day	1	2	3	4	5	6	7
End of Daylight Saving	Month: 11	Week: 1				1	7	0	0	0	0	0	0
						2	3	4	5	6	0	0	0
						50	51	52	53	54	55	0	0
						56	57	58	59	0	0	0	0
						60	61	62	63	64	0	0	0
						65	66	67	68	0	0	0	0
						70	71	72	73	74	0	0	0
						75	76	77	0	0	0	0	0
						80	81	82	83	84	0	0	0
						85	86	87	0	0	0	0	0

APPENDIX B
Existing Traffic
Synchro Model Peak Hour Analysis Output

Lanes, Volumes, Timings
100: Port Washington Road & I-43 NB Ramps

2019 Existing
PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖		↖	↑↑	↑↑	↗
Traffic Volume (vph)	265	40	315	770	880	170
Future Volume (vph)	265	40	315	770	880	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	311	0	321	786	898	108
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	28.0		23.0	72.0	49.0	28.0
Total Split (%)	28.0%		23.0%	72.0%	49.0%	28.0%
Maximum Green (s)	21.4		18.5	65.4	42.4	21.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.70		0.64	0.30	0.43	0.09
Control Delay	50.2		10.1	5.0	13.3	3.3

Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
Page 1

Lanes, Volumes, Timings
100: Port Washington Road & I-43 NB Ramps

2019 Existing
PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.2		10.1	5.0	13.3	3.3
Queue Length 50th (ft)	98		49	74	148	12
Queue Length 95th (ft)	138		91	115	261	34
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)					100	
Base Capacity (vph)	733		605	2639	2082	1374
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.42		0.53	0.30	0.43	0.08

Intersection Summary

Area Type: Other

Cycle Length: 100

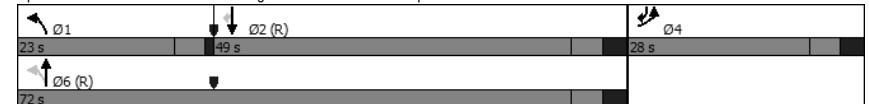
Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps



Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
Page 2

HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Existing
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	265	40	315	770	880	170
Future Volume (veh/h)	265	40	315	770	880	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1870	1870
Adj Flow Rate, veh/h	308	0	321	786	898	108
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	1	1	2	2
Cap, veh/h	384	172	505	2726	2262	1178
Arrive On Green	0.11	0.00	0.08	0.76	0.64	0.64
Sat Flow, veh/h	3591	1610	1795	3676	3647	1585
Grp Volume(v), veh/h	308	0	321	786	898	108
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1777	1585
Q Serve(g_s), s	8.4	0.0	5.7	6.7	12.3	1.9
Cycle Q Clear(g_c), s	8.4	0.0	5.7	6.7	12.3	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	384	172	505	2726	2262	1178
V/C Ratio(X)	0.80	0.00	0.64	0.29	0.40	0.09
Avail Cap(c_a), veh/h	768	345	694	2726	2262	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	0.0	6.6	3.7	8.8	3.5
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	1.7	1.9	4.4	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.1	0.0	7.1	3.9	9.4	3.7
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	308			1107	1006	
Approach Delay, s/veh	45.1			4.8	8.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.5	70.2		17.3		82.7
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	18.5	42.4		21.4		65.4
Max Q Clear Time (g_c+I1), s	7.7	14.3		10.4		8.7
Green Ext Time (p_c), s	0.2	15.5		0.3		13.0
Intersection Summary						
HCM 6th Ctrl Delay			11.6			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Existing
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	15	35	5	70	15	950	70	125	800	70
Future Volume (vph)	1	1	15	35	5	70	15	950	70	125	800	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%		0%			0%				0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	41	72	0	1066	0	129	897	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 6th TWSC
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Existing
PM Peak Hour

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔	↔		↔		↔	↔	
Traffic Vol, veh/h	1	1	15	35	5	70	15	950	70	125	800	70
Future Vol, veh/h	1	1	15	35	5	70	15	950	70	125	800	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	1	1	15	36	5	72	15	979	72	129	825	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1641	2200	449	1716	2200	526	897	0	0	1051	0	0
Stage 1	1119	1119	-	1045	1045	-	-	-	-	-	-	-
Stage 2	522	1081	-	671	1155	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	67	45	563	59	45	502	759	-	-	658	-	-
Stage 1	224	285	-	248	308	-	-	-	-	-	-	-
Stage 2	511	296	-	417	274	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	46	34	563	47	34	502	759	-	-	658	-	-
Mov Cap-2 Maneuver	131	98	-	143	125	-	-	-	-	-	-	-
Stage 1	213	229	-	236	293	-	-	-	-	-	-	-
Stage 2	409	282	-	325	220	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.9		23.5		0.3		1.5	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	759	-	-	382	140	502	658	-	-
HCM Lane V/C Ratio	0.02	-	-	0.046	0.295	0.144	0.196	-	-
HCM Control Delay (s)	9.8	0.2	-	14.9	41.1	13.4	11.8	-	-
HCM Lane LOS	A	A	-	B	E	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.1	0.5	0.7	-	-

Lanes, Volumes, Timings
300: Port Washington Road & W. Dwy.

2019 Existing
PM Peak Hour

	↖		↗		↑		↘		↓	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations		↖↖↖	↗↗↗			↘↘↘			↙↙↙	
Traffic Volume (vph)	0	10	1075	5	0	920				
Future Volume (vph)	0	10	1075	5	0	920				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	12	12	12	12	12	12				
Grade (%)	0%		0%			0%				
Storage Length (ft)	0	0		0	0					
Storage Lanes	0	1		0	0					
Taper Length (ft)	100				100					
Link Speed (mph)	30		35			35				
Link Distance (ft)	133		100			310				
Travel Time (s)	3.0		1.9			6.0				
Confl. Peds. (#/hr)										
Confl. Bikes (#/hr)										
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				
Growth Factor	100%	100%	100%	100%	100%	100%				
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%				
Bus Blockages (#/hr)	0	0	0	0	0	0				
Parking (#/hr)										
Mid-Block Traffic (%)	0%		0%			0%				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	10	1102	0	0	939				
Sign Control	Stop		Free			Free				

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
300: Port Washington Road & W. Dwy.

2019 Existing
PM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑				↑↑
Traffic Vol, veh/h	0	10	1075	5	0	920
Future Vol, veh/h	0	10	1075	5	0	920
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	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	0	10	1097	5	0	939

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	551	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.91	-	-	-
Pot Cap-1 Maneuver	0	411	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	411	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	411
HCM Lane V/C Ratio	-	-	0.025
HCM Control Delay (s)	-	-	14
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Lanes, Volumes, Timings
400: Iroquios Avenue & E. Dwy.

2019 Existing
PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1	10	10	1	5	1
Future Volume (vph)	1	10	10	1	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			25	25	
Link Distance (ft)	134			390	435	
Travel Time (s)	3.7			10.6	11.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	12	6	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
400: Iroquios Avenue & E. Dwy.

2019 Existing
PM Peak Hour

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	1	10	10	1	5	1
Future Vol, veh/h	1	10	10	1	5	1
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	11	11	1	5	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	29	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	986	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	979	1077	1615	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	8.4	6.6	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1615	-	1067	-	-	
HCM Lane V/C Ratio	0.007	-	0.011	-	-	
HCM Control Delay (s)	7.2	0	8.4	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings
100: Port Washington Road & I-43 NB Ramps

2019 Existing
SAT Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔↔	↔	↔	↕↕	↕↕	↔
Traffic Volume (vph)	290	75	260	685	730	210
Future Volume (vph)	290	75	260	685	730	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	268	706	753	134
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	24.0		20.0	66.0	46.0	24.0
Total Split (%)	26.7%		22.2%	73.3%	51.1%	26.7%
Maximum Green (s)	17.4		15.5	59.4	39.4	17.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.73		0.50	0.28	0.38	0.11
Control Delay	44.7		7.9	5.6	12.9	2.9

Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
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Lanes, Volumes, Timings
100: Port Washington Road & I-43 NB Ramps

2019 Existing
SAT Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	44.7		7.9	5.6	12.9	2.9
Queue Length 50th (ft)	106		41	67	117	14
Queue Length 95th (ft)	146		79	105	191	32
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)						100
Base Capacity (vph)	657		623	2506	1983	1313
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.57		0.43	0.28	0.38	0.10

Intersection Summary

Area Type: Other

Cycle Length: 90

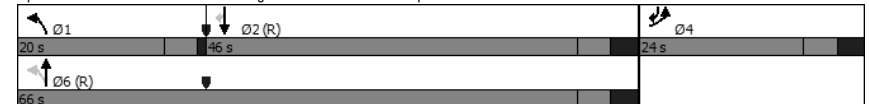
Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps



Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
Page 2

HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Existing
SAT Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	290	75	260	685	730	210
Future Volume (veh/h)	290	75	260	685	730	210
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1885	1885
Adj Flow Rate, veh/h	188	196	268	706	753	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	1	1	1	1
Cap, veh/h	257	231	519	2543	2079	1156
Arrive On Green	0.14	0.14	0.08	0.71	0.58	0.58
Sat Flow, veh/h	1795	1610	1795	3676	3676	1598
Grp Volume(v), veh/h	188	196	268	706	753	134
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1791	1598
Q Serve(g_s), s	9.0	10.7	5.0	6.4	10.1	2.3
Cycle Q Clear(g_c), s	9.0	10.7	5.0	6.4	10.1	2.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	257	231	519	2543	2079	1156
V/C Ratio(X)	0.73	0.85	0.52	0.28	0.36	0.12
Avail Cap(c_a), veh/h	347	311	685	2543	2079	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	37.6	6.7	4.7	10.0	3.8
Incr Delay (d2), s/veh	2.9	11.9	0.3	0.3	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	9.9	1.6	1.9	3.7	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.8	49.5	7.0	5.0	10.5	4.0
LnGrp LOS	D	D	A	A	B	A
Approach Vol, veh/h	384			974	887	
Approach Delay, s/veh	44.8			5.6	9.5	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.7	58.8		19.5		70.5
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	15.5	39.4		17.4		59.4
Max Q Clear Time (g_c+I1), s	7.0	12.1		12.7		8.4
Green Ext Time (p_c), s	0.2	13.1		0.2		11.0
Intersection Summary						
HCM 6th Ctrl Delay			13.8			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Existing
SAT Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	50	5	75	20	790	55	100	610	70
Future Volume (vph)	5	1	5	50	5	75	20	790	55	100	610	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35				35
Link Distance (ft)		284			360			390				290
Travel Time (s)		6.5			9.8			7.6				5.6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	57	78	0	901	0	104	708	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 6th TWSC
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Existing
SAT Peak Hour

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔			↔			↔	
Traffic Vol, veh/h	5	1	5	50	5	75	20	790	55	100	610	70
Future Vol, veh/h	5	1	5	50	5	75	20	790	55	100	610	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	5	1	5	52	5	78	21	823	57	104	635	73

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1336	1802	354	1420	1810	440	708	0	0	880	0	0
Stage 1	880	880	-	894	894	-	-	-	-	-	-	-
Stage 2	456	922	-	526	916	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	114	80	648	98	80	570	893	-	-	770	-	-
Stage 1	312	368	-	306	362	-	-	-	-	-	-	-
Stage 2	559	352	-	508	354	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	83	66	648	84	66	570	893	-	-	770	-	-
Mov Cap-2 Maneuver	184	151	-	193	172	-	-	-	-	-	-	-
Stage 1	297	318	-	292	345	-	-	-	-	-	-	-
Stage 2	453	335	-	434	306	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.2		20.5		0.4		1.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	893	-	-	265	191	570	770	-	-
HCM Lane V/C Ratio	0.023	-	-	0.043	0.3	0.137	0.135	-	-
HCM Control Delay (s)	9.1	0.2	-	19.2	31.7	12.3	10.4	-	-
HCM Lane LOS	A	A	-	C	D	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.2	0.5	0.5	-	-

APPENDIX C

Traffic Gap Study

Gap Analysis Calculations
Glendale: Port Washington Road & Richter Place

Inputs	
Lanes on Major St. (both dir.)	4 lanes
%HV on Minor Street (AM)	0.0%
%HV on Minor Street (Midday)	0.0%
%HV on Minor Street (PM)	0.0%
%HV on Minor Street (SAT)	0.0%
Grade	0.0%
Gap Acceptance	2 stage
Legs at Intersection	4 leg

Calculations	AM					Midday					PM				
	T _{c,x}	T _{f,x}	1 Veh	2 Veh	3 Veh	T _{c,x}	T _{f,x}	1 Veh	2 Veh	3 Veh	T _{c,x}	T _{f,x}	1 Veh	2 Veh	3 Veh
Left turn from major	3.1	2.2	3.1	8.4	13.7	3.1	2.2	3.1	8.4	13.7	3.1	2.2	3.1	8.4	13.7
Right Turn from Minor	5.9	3.3	5.9	15.1	24.3	5.9	3.3	5.9	15.1	24.3	5.9	3.3	5.9	15.1	24.3
Through Traffic on Minor	5.5	4.0	5.5	15.0	24.5	5.5	4.0	5.5	15.0	24.5	5.5	4.0	5.5	15.0	24.5
Left Turn from Minor	6.5	3.5	6.5	16.5	26.5	6.5	3.5	6.5	16.5	26.5	6.5	3.5	6.5	16.5	26.5
SAT															
	T _{c,x}	T _{f,x}	1 Veh	2 Veh	3 Veh										
	3.1	2.2	3.1	8.4	13.7										
	5.9	3.3	5.9	15.1	24.3										
	5.5	4.0	5.5	15.0	24.5										
	6.5	3.5	6.5	16.5	26.5										

Equations

$$T_{c,x} = T_{c,base} + T_{c,HV}P_{HV} + T_{c,G}G - T_{c,T} - T_{3,LT}$$
$$T_{f,x} = T_{f,base} + T_{f,HV}P_{HV}$$

- Definitions
- T_{c,x} Critical gap for movement
- T_{c,base} base critical gap (Exhibit 17-5)
- T_{c,HV} HV adjustment factor (1.0 2-ln, 2.0 4-ln) for major street
- P_{HV} proportion of heavy vehicles for minor movement
- T_{c,G} grade adjustment factor (0.1 mvmts 9 & 12, 0.2 mvmts 7, 8, 10, & 11)
- G percent grade divided by 100
- T_{c,T} 2-stage gap acceptance adjustment factor (1.0 for 1st or 2nd stage, 0.0 for only 1 stage)
- T_{3,LT} intersection geometry adjsutment factor (0.7 minor street left turn at 3-leg intersection, 0.0 otherwise)

- T_{f,x} minor movement follow-up time
- T_{f,base} base follow-up time from exhibit 17-5
- T_{f,HV} heavy vehicle adjustment factor (0.9 for 2-ln major, 1.0 for 4-ln major)
- P_{HV} proportion of heavy vehicles for minor movement

Look Up Tables		
Major Street	T _{c,HV}	T _{f,HV}
2 lanes	1.0	0.9
4 lanes	2.0	1.0

Grade Adjust.	T _{c,G}
Minor RT	0.1
Minor LT/TH	0.2

Gap Acceptance	T _{c,T}
1 stage	0.0
2 stage	1.0

Geometry	T _{3,LT}
3-leg	0.7
4-leg	0.0

HCM Exhibit 17-5 Vehicle Movement	Base Critical Gap T _{c,base} (s)		Base follow-up
	2-Ln Major	4-Ln Major	T _{f,base} (s)
LT from Major	4.1	4.1	2.2
RT from Minor	6.2	6.9	3.3
TH on Minor	6.5	6.5	4.0
LT from Minor	7.1	7.5	3.5

Calculated Values	
T _{c,HV}	T _{f,HV}
2.0	1.0

G
0.0

T _{c,T}
1.0

T _{3,LT}
0.0

T _{c,base}	T _{f,base}	T _{c,G}
4.1	2.2	0.0
6.9	3.3	0.1
6.5	4.0	0.2
7.5	3.5	0.2

	P _{HV}
AM	0.00
Mid	0.00
PM	0.00
SAT	0.00

CTH H (88th Avenue) Gaps at 58th Place

Weekday PM 1/17/19																
Northbound Gaps																
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	
04:45 PM	11	5	7	2	1	4	1	2	1	0	0	1	0	0	0	1
05:00 PM	11	8	3	4	3	1	0	1	0	1	0	0	0	0	0	0
05:15 PM	10	6	7	2	3	2	3	0	1	0	1	1	0	0	0	0
05:30 PM	12	15	5	4	2	2	1	2	0	0	1	0	1	0	0	0
Total	44	34	22	12	9	9	5	5	2	1	2	2	1	0	1	1
Southbound Gaps																
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	
04:45 PM	2	3	2	4	0	4	2	2	1	0	0	0	0	0	0	5
05:00 PM	1	3	4	0	0	1	1	3	2	0	1	0	0	0	0	2
05:15 PM	4	5	2	3	3	3	2	0	2	1	1	0	1	1	1	1
05:30 PM	2	5	2	2	2	1	2	2	2	0	1	2	1	0	0	1
Total	9	16	10	9	5	9	7	7	7	1	3	2	2	1	1	9
Combined Gap																
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	
04:45 PM	13	2	4	1	1	3	0	1	0	0	0	0	0	0	0	0
05:00 PM	7	6	0	1	1	1	0	2	0	0	0	0	0	0	0	0
05:15 PM	5	7	2	3	1	1	2	0	0	0	0	0	0	0	0	0
05:30 PM	12	11	3	2	0	0	1	1	0	0	0	0	0	0	0	0
Total	37	26	9	7	3	5	3	4	0	0	0	0	0	0	0	0

Gap Calcs	WB RT from Minor		
	Gap Times	Gaps	
1 Veh (x1)	5.9	15	34
2 Veh (x2)	15.1	24.2	25
3 Veh (x3)	24.3	& up	11
Equivalent Gaps	70		

Northbound Gap

	EB RT from Minor		
	Gap Times	Gaps	
	5.9	15	27
	15.1	24.2	43
	24.3	& up	41
	112		

Southbound Gap

Gap Calcs	SB LT from Major		
	Gap Times	Gaps	
1 Veh (x1)	3.1	8.3	51
2 Veh (x2)	8.4	13.6	51
3 Veh (x3)	13.7	& up	30
Equivalent Gaps	132		

Northbound Gap

	NB LT from Major		
	Gap Times	Gaps	
	3.1	8.3	27
	8.4	13.6	52
	13.7	& up	79
	158		

Southbound Gap

One-Stage Turning Movements Only

Gap Calcs	EB LT from Minor		
	Gap Times	Gaps	
1 Veh (x1)	6.5	16.4	26
2 Veh (x2)	16.5	26.4	6
3 Veh (x3)	26.5	& up	0
Equivalent Gaps	32		

Combined Gap

	WB LT from Minor		
	Gap Times	Gaps	
	6.5	16.4	26
	16.5	26.4	6
	26.5	& up	0
	32		

Combined Gap

Two-Stage Turning Movements Only

Gap Calcs	WB TH from Minor			WB LT from Minor		
	Gap Times	Gaps		Gap Times	Gaps	
1 Veh (x1)	5.5	14.9	63	6.5	16.4	39
2 Veh (x2)	15.0	24.4	26	16.5	26.4	38
3 Veh (x3)	24.5	& up	11	26.5	& up	35
Equivalent Gaps	100			112		

Stage 1-NB Gap

Stage 2-SB Gap

	EB TH from Minor			EB LT from Minor		
	Gap Times	Gaps		Gap Times	Gaps	
	5.5	14.9	40	6.5	16.4	53
	15.0	24.4	45	16.5	26.4	22
	24.5	& up	41	26.5	& up	5
	125			80		

Stage 1-SB Gap

Stage 2-NB Gap

APPENDIX D
Build Traffic – Option A
Synchro Model Peak Hour Analysis Output

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)

PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖		↖	↑↑	↑↑	↗
Traffic Volume (vph)	265	55	325	785	905	170
Future Volume (vph)	265	55	325	785	905	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	0	332	801	923	108
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	28.0		23.0	72.0	49.0	28.0
Total Split (%)	28.0%		23.0%	72.0%	49.0%	28.0%
Maximum Green (s)	21.4		18.5	65.4	42.4	21.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.71		0.67	0.31	0.45	0.09
Control Delay	50.0		11.7	5.2	14.5	3.7

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)

PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.0		11.7	5.2	14.5	3.7
Queue Length 50th (ft)	104		53	78	158	12
Queue Length 95th (ft)	143		101	120	284	37
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)					100	
Base Capacity (vph)	730		591	2621	2033	1352
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.45		0.56	0.31	0.45	0.08

Intersection Summary

Area Type: Other

Cycle Length: 100

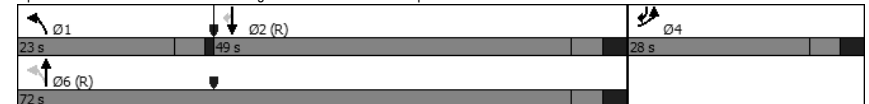
Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	265	55	325	785	905	170
Future Volume (veh/h)	265	55	325	785	905	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1870	1870
Adj Flow Rate, veh/h	322	0	332	801	923	108
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	1	1	2	2
Cap, veh/h	398	178	496	2712	2236	1173
Arrive On Green	0.11	0.00	0.08	0.76	0.63	0.63
Sat Flow, veh/h	3591	1610	1795	3676	3647	1585
Grp Volume(v), veh/h	322	0	332	801	923	108
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1777	1585
Q Serve(g_s), s	8.8	0.0	6.1	7.0	13.0	1.9
Cycle Q Clear(g_c), s	8.8	0.0	6.1	7.0	13.0	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	398	178	496	2712	2236	1173
V/C Ratio(X)	0.81	0.00	0.67	0.30	0.41	0.09
Avail Cap(c_a), veh/h	768	345	679	2712	2236	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	7.2	3.8	9.3	3.6
Incr Delay (d2), s/veh	1.5	0.0	0.6	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.8	2.0	4.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.9	0.0	7.8	4.1	9.9	3.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	322			1133	1031	
Approach Delay, s/veh	44.9			5.2	9.2	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.8	69.5		17.7		82.3
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	18.5	42.4		21.4		65.4
Max Q Clear Time (g_c+I1), s	8.1	15.0		10.8		9.0
Green Ext Time (p_c), s	0.2	15.6		0.3		13.3

Intersection Summary		
HCM 6th Ctrl Delay	12.0	
HCM 6th LOS	B	

Notes	
User approved pedestrian interval to be less than phase max green.	
User approved volume balancing among the lanes for turning movement.	

Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Build: OptA (No UTurns)
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	15	90	5	70	15	980	70	200	765	70
Future Volume (vph)	1	1	15	90	5	70	15	980	70	200	765	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%		0%			0%				0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	98	72	0	1097	0	206	861	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Build: OptA (No UTurns)
PM Peak Hour

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔	↔		↔		↔	↔	
Traffic Vol, veh/h	1	1	15	90	5	70	15	980	70	200	765	70
Future Vol, veh/h	1	1	15	90	5	70	15	980	70	200	765	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	1	1	15	93	5	72	15	1010	72	206	789	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1775	2349	431	1883	2349	541	861	0	0	1082	0	0
Stage 1	1237	1237	-	1076	1076	-	-	-	-	-	-	-
Stage 2	538	1112	-	807	1273	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	54	36	578	~ 44	36	491	783	-	-	640	-	-
Stage 1	189	250	-	238	298	-	-	-	-	-	-	-
Stage 2	500	287	-	346	241	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	32	23	578	~ 31	23	491	783	-	-	640	-	-
Mov Cap-2 Maneuver	99	52	-	114	98	-	-	-	-	-	-	-
Stage 1	180	170	-	226	283	-	-	-	-	-	-	-
Stage 2	398	273	-	227	163	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.4		76.2		0.3		2.6	
HCM LOS	C		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	783	-	-	308	113	491	640	-	-
HCM Lane V/C Ratio	0.02	-	-	0.057	0.867	0.147	0.322	-	-
HCM Control Delay (s)	9.7	0.2	-	17.4	122.3	13.6	13.3	-	-
HCM Lane LOS	A	A	-	C	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.2	0.5	1.4	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
300: Port Washington Road & W. Dwy.

2019 Build: OptA (No UTurns)
PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔			↔
Traffic Volume (vph)	0	75	1035	75	0	960
Future Volume (vph)	0	75	1035	75	0	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	100				100	
Link Speed (mph)	30		35			35
Link Distance (ft)	133		100			310
Travel Time (s)	3.0		1.9			6.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	1133	0	0	980
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized

HCM 6th TWSC

300: Port Washington Road & W. Dwy.

2019 Build: OptA (No UTurns)

PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑				↑↑
Traffic Vol, veh/h	0	75	1035	75	0	960
Future Vol, veh/h	0	75	1035	75	0	960
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	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	0	77	1056	77	0	980

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	567	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.91	-	-	-
Pot Cap-1 Maneuver	0	402	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	402	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	402
HCM Lane V/C Ratio	-	-	0.19
HCM Control Delay (s)	-	-	16
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.7

Lanes, Volumes, Timings

400: Iroquios Avenue & E. Dwy.

2019 Build: OptA (No UTurns)

PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1	65	90	1	5	1
Future Volume (vph)	1	65	90	1	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			25	25	
Link Distance (ft)	134			390	435	
Travel Time (s)	3.7			10.6	11.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	0	99	6	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
400: Iroquios Avenue & E. Dwy.

2019 Build: OptA (No UTurns)
PM Peak Hour

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	1	65	90	1	5	1
Future Vol, veh/h	1	65	90	1	5	1
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	71	98	1	5	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	203	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	786	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	738	1077	1615	-	-	-
Mov Cap-2 Maneuver	738	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	8.6	7.3	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1615	-	1070	-	-	
HCM Lane V/C Ratio	0.061	-	0.067	-	-	
HCM Control Delay (s)	7.4	0	8.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.2	-	-	

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)

SAT Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	290	90	280	715	765	210
Future Volume (vph)	290	90	280	715	765	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	392	0	289	737	789	134
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	24.0		20.0	66.0	46.0	24.0
Total Split (%)	26.7%		22.2%	73.3%	51.1%	26.7%
Maximum Green (s)	17.4		15.5	59.4	39.4	17.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.74		0.56	0.30	0.40	0.11
Control Delay	45.1		9.0	5.8	13.6	3.0

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)

SAT Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.1		9.0	5.8	13.6	3.0
Queue Length 50th (ft)	110		46	72	128	14
Queue Length 95th (ft)	152		86	111	205	33
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)					100	
Base Capacity (vph)	655		604	2492	1951	1299
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.60		0.48	0.30	0.40	0.10

Intersection Summary

Area Type: Other

Cycle Length: 90

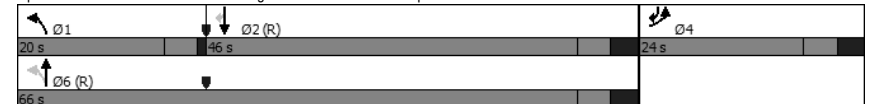
Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns)
SAT Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	290	90	280	715	765	210
Future Volume (veh/h)	290	90	280	715	765	210
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1885	1885
Adj Flow Rate, veh/h	196	203	289	737	789	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	1	1	1	1
Cap, veh/h	265	238	508	2528	2041	1146
Arrive On Green	0.15	0.15	0.09	0.71	0.57	0.57
Sat Flow, veh/h	1795	1610	1795	3676	3676	1598
Grp Volume(v), veh/h	196	203	289	737	789	134
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1791	1598
Q Serve(g_s), s	9.4	11.1	5.6	6.9	10.9	2.3
Cycle Q Clear(g_c), s	9.4	11.1	5.6	6.9	10.9	2.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	265	238	508	2528	2041	1146
V/C Ratio(X)	0.74	0.85	0.57	0.29	0.39	0.12
Avail Cap(c_a), veh/h	347	311	663	2528	2041	1146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	37.4	7.3	4.9	10.7	3.9
Incr Delay (d2), s/veh	3.7	13.3	0.4	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	10.3	1.7	2.1	4.0	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	50.7	7.7	5.2	11.2	4.1
LnGrp LOS	D	D	A	A	B	A
Approach Vol, veh/h	399			1026	923	
Approach Delay, s/veh	45.7			5.9	10.2	
Approach LOS	D			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.2	57.9		19.9		70.1
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	15.5	39.4		17.4		59.4
Max Q Clear Time (g_c+I1), s	7.6	12.9		13.1		8.9
Green Ext Time (p_c), s	0.2	13.4		0.2		11.6

Intersection Summary		
HCM 6th Ctrl Delay	14.3	
HCM 6th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Build: OptA (No UTurns)
SAT Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	140	5	75	20	830	55	205	555	70
Future Volume (vph)	5	1	5	140	5	75	20	830	55	205	555	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%		0%			0%				0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	151	78	0	943	0	214	651	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM 6th TWSC
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

2019 Build: OptA (No UTurns)

SAT Peak Hour

Intersection												
Int Delay, s/veh	13.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔			↔			↔	
Traffic Vol, veh/h	5	1	5	140	5	75	20	830	55	205	555	70
Future Vol, veh/h	5	1	5	140	5	75	20	830	55	205	555	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	5	1	5	146	5	78	21	865	57	214	578	73

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1520	2007	326	1654	2015	461	651	0	0	922	0	0
Stage 1	1043	1043	-	936	936	-	-	-	-	-	-	-
Stage 2	477	964	-	718	1079	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	83	60	676	~ 66	59	553	938	-	-	743	-	-
Stage 1	249	309	-	289	346	-	-	-	-	-	-	-
Stage 2	543	336	-	391	297	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	52	41	676	~ 49	40	553	938	-	-	743	-	-
Mov Cap-2 Maneuver	129	81	-	~ 143	127	-	-	-	-	-	-	-
Stage 1	238	220	-	276	330	-	-	-	-	-	-	-
Stage 2	438	321	-	275	211	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	25.4		107		0.4		2.9	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	938	-	-	188	142	553	743	-	-
HCM Lane V/C Ratio	0.022	-	-	0.061	1.064	0.141	0.287	-	-
HCM Control Delay (s)	8.9	0.2	-	25.4	155.8	12.6	11.8	-	-
HCM Lane LOS	A	A	-	D	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	8.1	0.5	1.2	-	-

Notes									
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon			

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp

PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖		↖	↑↑	↑↑	↗
Traffic Volume (vph)	265	55	325	785	905	170
Future Volume (vph)	265	55	325	785	905	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	0	332	801	923	108
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	28.0		23.0	72.0	49.0	28.0
Total Split (%)	28.0%		23.0%	72.0%	49.0%	28.0%
Maximum Green (s)	21.4		18.5	65.4	42.4	21.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.71		0.67	0.31	0.45	0.09
Control Delay	50.0		10.3	3.7	14.5	3.7

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp

PM Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.0		10.3	3.7	14.5	3.7
Queue Length 50th (ft)	104		57	92	158	12
Queue Length 95th (ft)	143		36	44	284	37
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)					100	
Base Capacity (vph)	730		591	2621	2033	1352
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.45		0.56	0.31	0.45	0.08

Intersection Summary

Area Type: Other

Cycle Length: 100

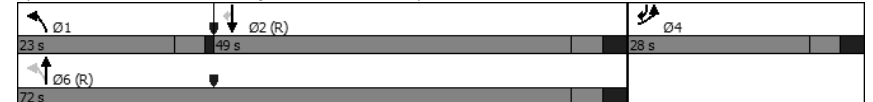
Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
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HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp
PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (veh/h)	265	55	325	785	905	170
Future Volume (veh/h)	265	55	325	785	905	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1870	1870
Adj Flow Rate, veh/h	322	0	332	801	923	108
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	1	1	2	2
Cap, veh/h	398	178	496	2712	2236	1173
Arrive On Green	0.11	0.00	0.08	0.76	0.63	0.63
Sat Flow, veh/h	3591	1610	1795	3676	3647	1585
Grp Volume(v), veh/h	322	0	332	801	923	108
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1777	1585
Q Serve(g_s), s	8.8	0.0	6.1	7.0	13.0	1.9
Cycle Q Clear(g_c), s	8.8	0.0	6.1	7.0	13.0	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	398	178	496	2712	2236	1173
V/C Ratio(X)	0.81	0.00	0.67	0.30	0.41	0.09
Avail Cap(c_a), veh/h	768	345	679	2712	2236	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	7.2	3.8	9.3	3.6
Incr Delay (d2), s/veh	1.5	0.0	0.6	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.8	2.0	4.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.9	0.0	7.8	4.1	9.9	3.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	322			1133	1031	
Approach Delay, s/veh	44.9			5.2	9.2	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.8	69.5		17.7		82.3
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	18.5	42.4		21.4		65.4
Max Q Clear Time (g_c+I1), s	8.1	15.0		10.8		9.0
Green Ext Time (p_c), s	0.2	15.6		0.3		13.3

Intersection Summary						
HCM 6th Ctrl Delay			12.0			
HCM 6th LOS			B			

Notes						
User approved pedestrian interval to be less than phase max green.						
User approved volume balancing among the lanes for turning movement.						

Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta Dwy/Richter Place

2019 Build: OptA (No UTurns) w/Imp
PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	1	1	5	95	1	70	15	980	70	200	830	5
Future Volume (vph)	1	1	5	95	1	70	15	980	70	200	830	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)	50			0		100	0			0	120	0
Storage Lanes	0			0		1	0			0	1	0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			25			35				35
Link Distance (ft)		284			360			390				290
Travel Time (s)		6.5			9.8			7.6				5.6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	99	45	0	1097	0	206	861	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8		8	6			2		
Detector Phase	4	4		8	8	8	6	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	15.0	15.0		6.0	15.0	
Minimum Split (s)	16.7	16.7		16.7	16.7	16.7	20.7	20.7		10.5	20.7	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	60.0	60.0		17.0	77.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%	23.0%	60.0%	60.0%		17.0%	77.0%	
Maximum Green (s)	16.3	16.3		16.3	16.3	16.3	54.3	54.3		12.5	71.3	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.6	3.6		3.5	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		1.0	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		6.7			6.7	6.7		5.7		4.5	5.7	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.03			0.57	0.22		0.51		0.50	0.31	
Control Delay		36.7			53.4	40.7		3.4		15.7	10.4	

Lanes, Volumes, Timings 2019 Build: OptA (No UTurns) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Queue Delay	0.0			0.0	0.0		0.0			0.0	0.0	
Total Delay	36.7			53.4	40.7		3.4			15.7	10.4	
Queue Length 50th (ft)	4			60	26		37			69	121	
Queue Length 95th (ft)	16			110	58		44			170	341	
Internal Link Dist (ft)	204			280			310			210		
Turn Bay Length (ft)					100					120		
Base Capacity (vph)	266			224	263		2158			469	2805	
Starvation Cap Reductn	0			0	0		13			0	0	
Spillback Cap Reductn	0			0	0		0			0	0	
Storage Cap Reductn	0			0	0		0			0	0	
Reduced v/c Ratio	0.03			0.44	0.17		0.51			0.44	0.31	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 16 (16%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 200: Port Washington Road & LaQuinta Dwy/Richter Place

Ø2 (R)	Ø4
77 s	23 s
Ø5	Ø6 (R)
17 s	60 s
	23 s

HCM 6th Signalized Intersection Summary 2019 Build: OptA (No UTurns) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	5	95	1	70	15	980	70	200	830	5
Future Volume (veh/h)	1	1	5	95	1	70	15	980	70	200	830	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	1	1	5	98	1	45	15	1010	72	206	856	5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	2	2	2
Cap, veh/h	49	39	116	214	1	159	50	2201	156	529	2816	16
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	0.06	0.78	0.78
Sat Flow, veh/h	80	392	1181	1440	15	1610	19	3273	231	1781	3622	21
Grp Volume(v), veh/h	7	0	0	99	0	45	576	0	521	206	420	441
Grp Sat Flow(s),veh/h/ln	1653	0	0	1455	0	1610	1849	0	1674	1781	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	6.0	0.0	2.6	0.0	0.0	0.0	3.2	6.9	6.9
Cycle Q Clear(g_c), s	6.4	0.0	0.0	6.5	0.0	2.6	0.0	0.0	0.0	3.2	6.9	6.9
Prop In Lane	0.14		0.71	0.99		1.00	0.03		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	204	0	0	215	0	159	1281	0	1126	529	1382	1451
V/C Ratio(X)	0.03	0.00	0.00	0.46	0.00	0.28	0.45	0.00	0.46	0.39	0.30	0.30
Avail Cap(c_a), veh/h	308	0	0	308	0	262	1281	0	1126	645	1382	1451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.85	0.00	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	0.0	43.5	0.0	41.8	0.0	0.0	0.0	3.5	3.2	3.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.5	0.0	1.0	1.0	0.0	1.2	0.5	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	2.5	0.0	1.1	0.3	0.0	0.4	0.9	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	0.0	0.0	45.1	0.0	42.8	1.0	0.0	1.2	4.0	3.8	3.8
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	7			144			1097			1067		
Approach Delay, s/veh	40.9			44.3			1.1			3.8		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	83.5		16.5	10.5	73.0		16.5					
Change Period (Y+Rc), s	5.7		* 6.7	4.5	5.7		* 6.7					
Max Green Setting (Gmax), s	71.3		* 16	12.5	54.3		* 16					
Max Q Clear Time (g_c+I1), s	8.9		8.4	5.2	2.0		8.5					
Green Ext Time (p_c), s	6.3		0.0	0.3	9.3		0.3					

Intersection Summary

HCM 6th Ctrl Delay

HCM 6th LOS

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

300: Port Washington Road & W. Dwy.

2019 Build: OptA (No UTurns) w/Imp

PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑	↑↑↑↑			↑↑
Traffic Volume (vph)	0	75	1035	75	0	960
Future Volume (vph)	0	75	1035	75	0	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	100			100		
Link Speed (mph)	30		35			35
Link Distance (ft)	133		100			310
Travel Time (s)	3.0		1.9			6.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	1133	0	0	980
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC

300: Port Washington Road & W. Dwy.

2019 Build: OptA (No UTurns) w/Imp

PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑	↑↑↑↑			↑↑
Traffic Vol, veh/h	0	75	1035	75	0	960
Future Vol, veh/h	0	75	1035	75	0	960
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	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	0	77	1056	77	0	980

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	567	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.91	-	-	-
Pot Cap-1 Maneuver	0	402	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	402	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	402
HCM Lane V/C Ratio	-	-	0.19
HCM Control Delay (s)	-	-	16
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.7

Lanes, Volumes, Timings
400: Iroquios Avenue & E. Dwy.

2019 Build: OptA (No UTurns) w/Imp
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	65	90	1	5	1
Future Volume (vph)	1	65	90	1	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			25	25	
Link Distance (ft)	134			390	435	
Travel Time (s)	3.7			10.6	11.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	0	99	6	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
400: Iroquios Avenue & E. Dwy.

2019 Build: OptA (No UTurns) w/Imp
PM Peak Hour

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	65	90	1	5	1
Future Vol, veh/h	1	65	90	1	5	1
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	71	98	1	5	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	203	6	6
Stage 1	6	-	-
Stage 2	197	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	786	1077	1615
Stage 1	1017	-	-
Stage 2	836	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	738	1077	1615
Mov Cap-2 Maneuver	738	-	-
Stage 1	955	-	-
Stage 2	836	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1615	-	1070	-
HCM Lane V/C Ratio	0.061	-	0.067	-
HCM Control Delay (s)	7.4	0	8.6	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp

SAT Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖		↖	↑↑	↑↑	↗
Traffic Volume (vph)	290	90	280	715	765	210
Future Volume (vph)	290	90	280	715	765	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	110	0			100
Storage Lanes	2	1	1			1
Taper Length (ft)	100		100			
Right Turn on Red		No				No
Link Speed (mph)	30			35	35	
Link Distance (ft)	555			310	370	
Travel Time (s)	12.6			6.0	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	392	0	289	737	789	134
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		1	6	2	4
Permitted Phases			6			2
Detector Phase	4		1	6	2	4
Switch Phase						
Minimum Initial (s)	8.0		6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	16.6	40.0	37.0
Total Split (s)	24.0		20.0	66.0	46.0	24.0
Total Split (%)	26.7%		22.2%	73.3%	51.1%	26.7%
Maximum Green (s)	17.4		15.5	59.4	39.4	17.4
Yellow Time (s)	3.6		3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		4.5	6.6	6.6	6.6
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	1.5		1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	16.0	12.0	0.0
Recall Mode	None		None	C-Max	C-Max	None
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	23.4				26.4	23.4
Pedestrian Calls (#/hr)	0				0	0
v/c Ratio	0.74		0.56	0.30	0.40	0.11
Control Delay	45.1		15.6	6.8	13.6	3.0

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
Page 1

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp

SAT Peak Hour

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.1		15.6	6.8	13.6	3.0
Queue Length 50th (ft)	110		56	61	128	14
Queue Length 95th (ft)	152		165	148	205	33
Internal Link Dist (ft)	475			230	290	
Turn Bay Length (ft)						100
Base Capacity (vph)	655		604	2492	1951	1299
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.60		0.48	0.30	0.40	0.10

Intersection Summary

Area Type: Other

Cycle Length: 90

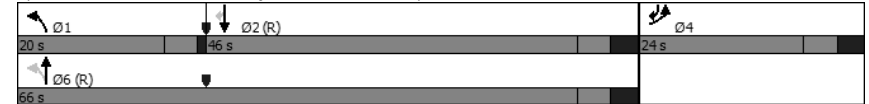
Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
TADI - TSCSynchro 10 Report
Page 2

HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptA (No UTurns) w/Imp
SAT Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	290	90	280	715	765	210
Future Volume (veh/h)	290	90	280	715	765	210
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1885	1885
Adj Flow Rate, veh/h	196	203	289	737	789	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	1	1	1	1
Cap, veh/h	265	238	508	2528	2041	1146
Arrive On Green	0.15	0.15	0.09	0.71	0.57	0.57
Sat Flow, veh/h	1795	1610	1795	3676	3676	1598
Grp Volume(v), veh/h	196	203	289	737	789	134
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1791	1598
Q Serve(g_s), s	9.4	11.1	5.6	6.9	10.9	2.3
Cycle Q Clear(g_c), s	9.4	11.1	5.6	6.9	10.9	2.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	265	238	508	2528	2041	1146
V/C Ratio(X)	0.74	0.85	0.57	0.29	0.39	0.12
Avail Cap(c_a), veh/h	347	311	663	2528	2041	1146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	37.4	7.3	4.9	10.7	3.9
Incr Delay (d2), s/veh	3.7	13.3	0.4	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	10.3	1.7	2.1	4.0	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	50.7	7.7	5.2	11.2	4.1
LnGrp LOS	D	D	A	A	B	A
Approach Vol, veh/h	399			1026	923	
Approach Delay, s/veh	45.7			5.9	10.2	
Approach LOS	D			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.2	57.9		19.9		70.1
Change Period (Y+Rc), s	4.5	6.6		6.6		6.6
Max Green Setting (Gmax), s	15.5	39.4		17.4		59.4
Max Q Clear Time (g_c+I1), s	7.6	12.9		13.1		8.9
Green Ext Time (p_c), s	0.2	13.4		0.2		11.6

Intersection Summary						
HCM 6th Ctrl Delay			14.3			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta Dwy/Richter Place

2019 Build: OptA (No UTurns) w/Imp
SAT Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	145	1	75	20	830	55	205	625	1
Future Volume (vph)	1	1	1	145	1	75	20	830	55	205	625	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		0	0		100	0		0	120		0
Storage Lanes	0		0	0		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	152	48	0	943	0	214	652	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8		8	6			2		
Detector Phase	4	4		8	8	8	6	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	15.0	15.0		6.0	15.0	
Minimum Split (s)	16.7	16.7		16.7	16.7	16.7	20.7	20.7		10.5	20.7	
Total Split (s)	26.0	26.0		26.0	26.0	26.0	46.0	46.0		18.0	64.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%	28.9%	51.1%	51.1%		20.0%	71.1%	
Maximum Green (s)	19.3	19.3		19.3	19.3	19.3	40.3	40.3		13.5	58.3	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.6	3.6		3.5	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		1.0	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		6.7			6.7	6.7		5.7		4.5	5.7	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.01			0.67	0.18		0.53			0.49	0.26	
Control Delay	28.7			49.0	32.2		6.9			15.9	2.5	

Lanes, Volumes, Timings 2019 Build: OptA (No UTurns) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place SAT Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.7			49.0	32.2		6.9			15.9	2.5	
Queue Length 50th (ft)	1			82	24		45			21	27	
Queue Length 95th (ft)	9			139	52		54			84	35	
Internal Link Dist (ft)	204			280			310			210		
Turn Bay Length (ft)					100					120		
Base Capacity (vph)	354			295	346		1794			501	2489	
Starvation Cap Reductn	0			0	0		29			0	0	
Spillback Cap Reductn	0			0	0		0			0	0	
Storage Cap Reductn	0			0	0		0			0	0	
Reduced v/c Ratio	0.01			0.52	0.14		0.53			0.43	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 90

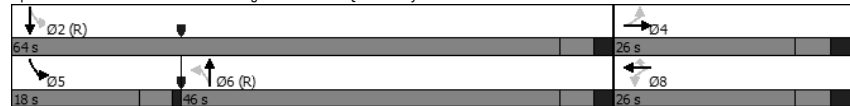
Actuated Cycle Length: 90

Offset: 87 (97%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 200: Port Washington Road & LaQuinta Dwy/Richter Place



HCM 6th Signalized Intersection Summary 2019 Build: OptA (No UTurns) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place SAT Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔		↔	↔	
Traffic Volume (veh/h)	1	1	1	145	1	75	20	830	55	205	625	1
Future Volume (veh/h)	1	1	1	145	1	75	20	830	55	205	625	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	1	1	1	151	1	48	21	865	57	214	651	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	58	56	30	240	1	345	60	1701	111	458	2377	4
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.08	0.65	0.65
Sat Flow, veh/h	20	263	142	749	5	1610	36	3265	213	1795	3669	6
Grp Volume(v), veh/h	3	0	0	152	0	48	493	0	450	214	318	334
Grp Sat Flow(s),veh/h/ln	425	0	0	754	0	1610	1836	0	1677	1795	1791	1884
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	2.2	0.0	0.0	11.5	4.6	6.8	6.8
Cycle Q Clear(g_c), s	18.6	0.0	0.0	18.6	0.0	2.2	11.1	0.0	11.5	4.6	6.8	6.8
Prop In Lane	0.33		0.33	0.99		1.00	0.04		0.13	1.00		0.00
Lane Grp Cap(c), veh/h	144	0	0	241	0	345	998	0	874	458	1160	1221
V/C Ratio(X)	0.02	0.00	0.00	0.63	0.00	0.14	0.49	0.00	0.51	0.47	0.27	0.27
Avail Cap(c_a), veh/h	144	0	0	241	0	345	998	0	874	589	1160	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.91	0.00	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	0.0	0.0	35.1	0.0	28.6	8.3	0.0	8.4	8.9	6.8	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	5.2	0.0	0.2	1.6	0.0	2.0	0.7	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	3.6	0.0	0.9	3.8	0.0	3.6	1.6	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	0.0	0.0	40.3	0.0	28.8	9.9	0.0	10.4	9.7	7.4	7.3
LnGrp LOS	C	A	A	D	A	C	A	A	B	A	A	A
Approach Vol, veh/h	3			200			943				866	
Approach Delay, s/veh	29.1			37.5			10.1				7.9	
Approach LOS	C			D			B				A	
Timer - Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	64.0			26.0	11.4	52.6	26.0					
Change Period (Y+Rc), s	5.7			* 6.7	4.5	5.7	* 6.7					
Max Green Setting (Gmax), s	58.3			* 19	13.5	40.3	* 19					
Max Q Clear Time (g_c+I1), s	8.8			20.6	6.6	13.5	20.6					
Green Ext Time (p_c), s	4.3			0.0	0.3	6.6	0.0					

Intersection Summary

HCM 6th Ctrl Delay 11.9

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX E

Traffic Signal Warrant Study

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Port Washington Road & Richter Place

County: Milwaukee County

City: Glendale

Major Street: Port Washington Road

Critical Approach Speed: 35 mph

Lanes: 2 or more lanes

Minor Street: Richter Place

Critical Approach Speed: 25 mph

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 0%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%?

Manually set volume level?

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
Jan-19		7:00	AM	6:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	No
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: TSC

Agency: TADI

Date: 3/25/2019

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	0	0	0
2	7:00	8:00	1357	17	1374
3	8:00	9:00	1699	25	1724
4	9:00	10:00	1186	24	1210
5	10:00	11:00	1183	24	1207
6	11:00	12:00	1471	32	1503
7	12:00	13:00	810	34	844
8	13:00	14:00	1466	33	1499
9	14:00	15:00	1580	32	1612
10	15:00	16:00	1759	30	1789
11	16:00	17:00	1990	41	2031
12	17:00	18:00	1974	39	2013
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume

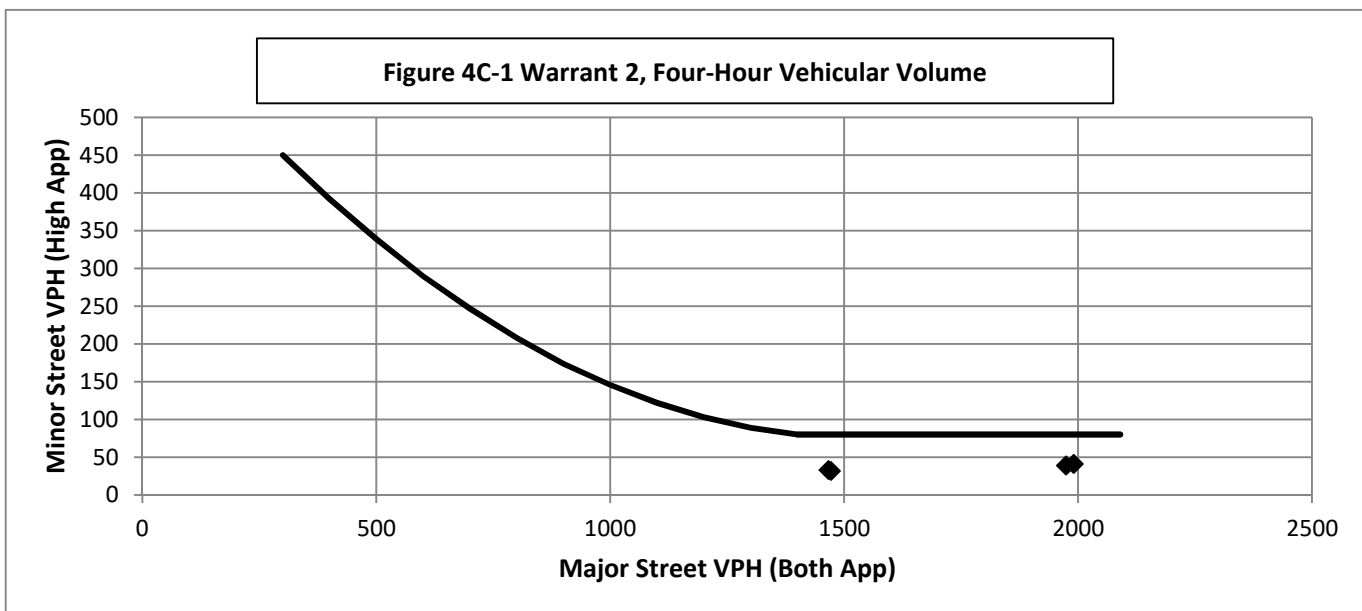
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	16:00	17:00	13:00	11:00
Major Road Vol.	1990	1974	1466	1471
Minor Road Vol.	41	39	33	32



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Condition justifying use of warrant:

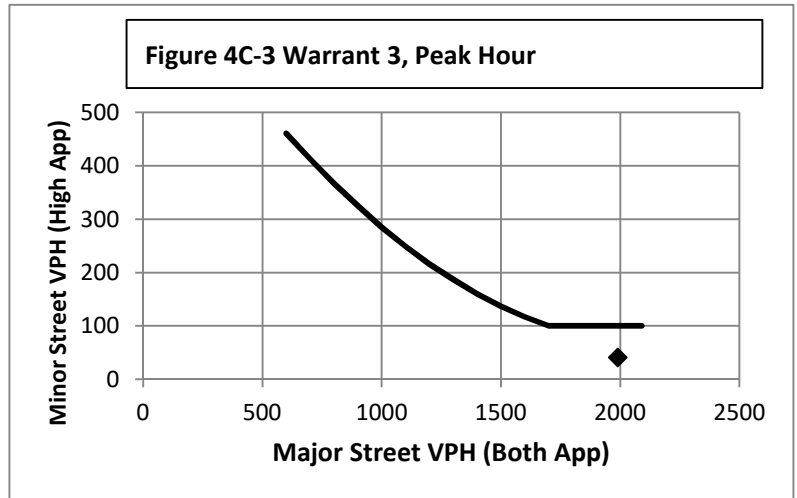
Criteria		Met?
Delay on Minor Approach	4	No
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1990	41

Warrant Satisfied? No

Manually Set To:



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

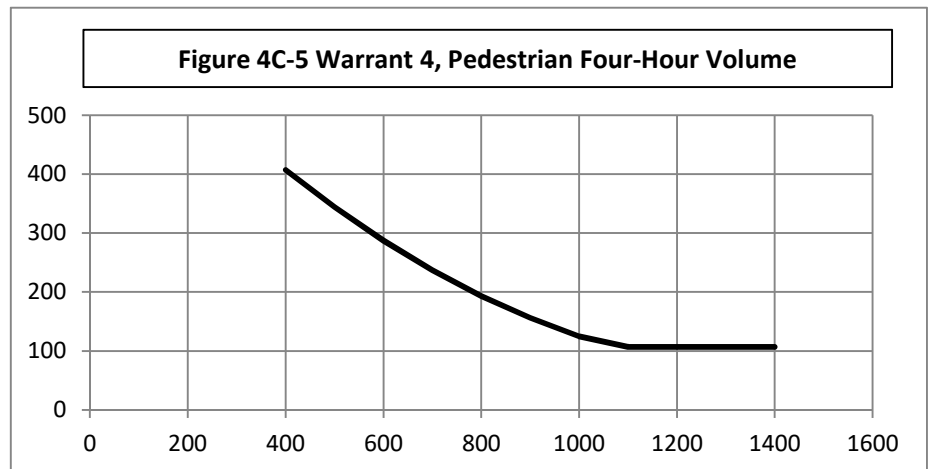
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

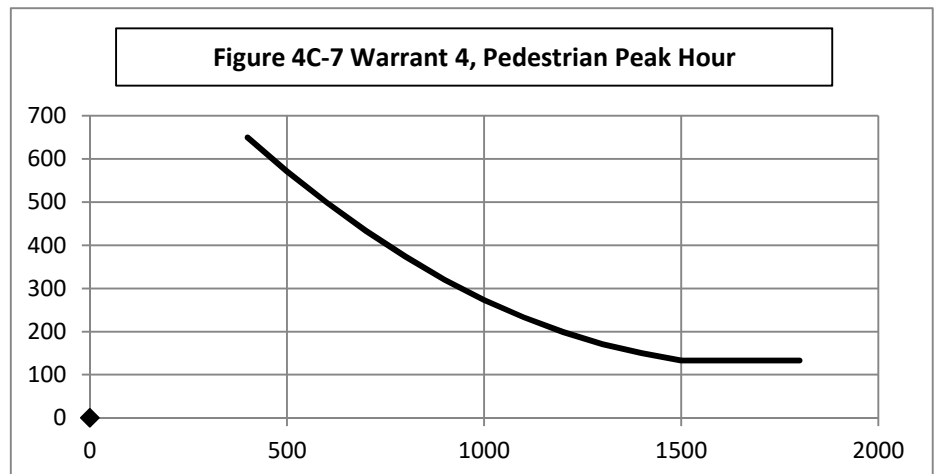
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Warrant 5: School Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Criteria

Met?

Fulfilled?

1	Adequate trial of other remedial measures has failed to reduce crash frequency.	
	Measures Tried:	
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months 4
3	Warrant 1, Condition A (80%)	No
	Warrant 1, Condition B (80%)	No
	Warrant 4, Criterion A (80%)	No
	Warrant 4, Criterion B (80%)	Yes

Warrant 8: Roadway Network

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Met?

Fulfilled?

1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour	2031	Yes	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		No	
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)			
	Hour			
	Volume			

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic

Fulfilled?

1	Part of the road or highway system that serves as the principal roadway network for through traffic flow	
2	Rural or suburban highway outside of, entering, or traversing a city	
3	Appears as a major route on an official plan	

Warrant 9: Intersection Near a Grade Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	16:00	1990	41	13.735

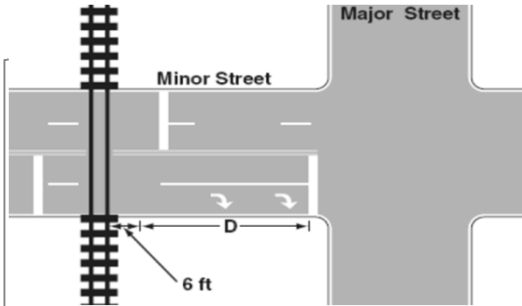
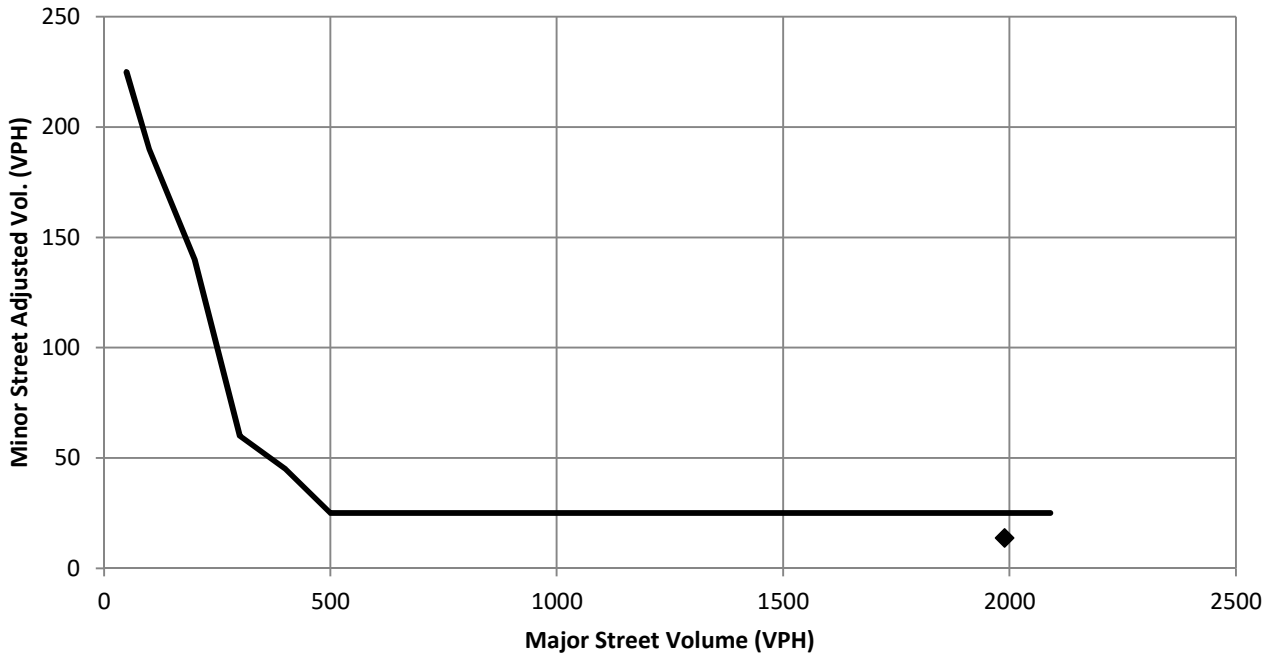


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)



Conclusions/Comments:

No warrants are met with existing traffic volumes. Traffic signals not recommended.

Updated: 12/6/2017

Hourly Volume Data																						
One Hour Time Period Start Time		↓ From North (SB)					← From East (WB)					↑ From South (NB)					→ From West (EB)					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00	2	711	33	4	750	51	0	17	0	68	14	587	2	4	607	4	1	7	0	12	1437
	8:00	0	944	63	8	1015	63	0	25	0	88	25	651	1	7	684	5	1	8	0	14	1801
	9:00	3	533	59	10	605	57	0	24	0	81	28	552	1	0	581	5	0	2	0	7	1274
MD	10:00	2	472	67	8	549	48	1	23	0	72	43	584	2	5	634	2	1	0	0	3	1258
	11:00	0	589	78	14	681	62	0	32	0	94	40	744	3	3	790	7	0	1	0	8	1573
	12:00	16	332	50	4	402	55	2	32	0	89	20	384	3	1	408	6	0	0	2	8	907
	13:00	33	608	92	27	760	54	3	30	0	87	43	654	7	2	706	6	0	0	0	6	1559
PM	14:00	34	597	100	19	750	60	2	30	0	92	47	771	10	2	830	9	0	0	0	9	1681
	15:00	36	619	93	22	770	60	4	26	0	90	56	913	15	5	989	6	0	2	0	8	1857
	16:00	49	734	103	10	896	107	3	38	0	148	58	1018	16	2	1094	14	0	0	0	14	2152
	17:00	76	778	114	15	983	67	6	31	2	106	66	910	15	0	991	11	1	3	0	15	2095
	18:00																					0
	19:00																					0
	20:00																					0
	21:00																					0
Totals		251	6917	852	141	8161	684	21	308	2	1015	440	7768	75	31	8314	75	4	23	2	104	17594

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

N/S

Major Road Left Turn as Minor Approach?

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	100%

Major Road Volume Totals: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
16	1298	43	1341	1357
25	1595	79	1674	1699
31	1085	70	1155	1186
45	1056	82	1138	1183
40	1333	98	1431	1471
36	716	58	774	810
76	1262	128	1390	1466
81	1368	131	1499	1580
92	1532	135	1667	1759
107	1752	131	1883	1990
142	1688	144	1832	1974
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
691	14685	1099	15784	16475

Minor Road Highest Volume: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	17	17	17
0	0	25	25	25
0	0	24	24	24
0	1	23	24	24
0	0	32	32	32
0	2	32	34	34
0	3	30	33	33
0	2	30	32	32
0	4	26	30	30
0	3	38	41	41
0	6	33	39	39
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	21	310	331	331

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Port Washington Road & Richter Place

County: Milwaukee County

City: Glendale

Major Street: Port Washington Road

Critical Approach Speed: 35 mph

Lanes: 2 or more lanes

Minor Street: Richter Place

Critical Approach Speed: 25 mph

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 0%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%?

Manually set volume level?

Analysis based on **PROJECTED** volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2019 Build Option A	Yes	7:00	AM	6:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	No
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: TSC

Agency: TADI

Date: 3/25/2019

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	1

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	7	7

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	0	0	0
2	7:00	8:00	1425	45	1470
3	8:00	9:00	1771	56	1827
4	9:00	10:00	1256	54	1310
5	10:00	11:00	1269	59	1328
6	11:00	12:00	1665	103	1768
7	12:00	13:00	1059	145	1204
8	13:00	14:00	1634	115	1749
9	14:00	15:00	1704	92	1796
10	15:00	16:00	1878	82	1960
11	16:00	17:00	2111	92	2203
12	17:00	18:00	2119	99	2218
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume

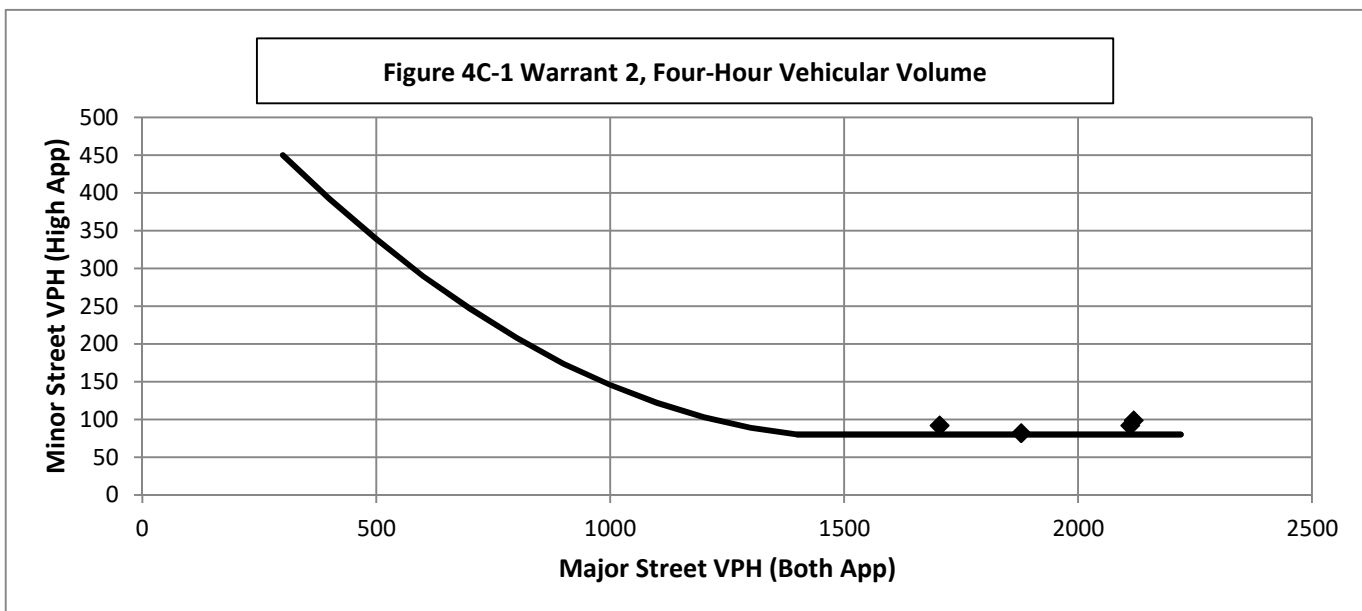
100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	17:00	16:00	15:00	14:00
Major Road Vol.	2119	2111	1878	1704
Minor Road Vol.	99	92	82	92



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

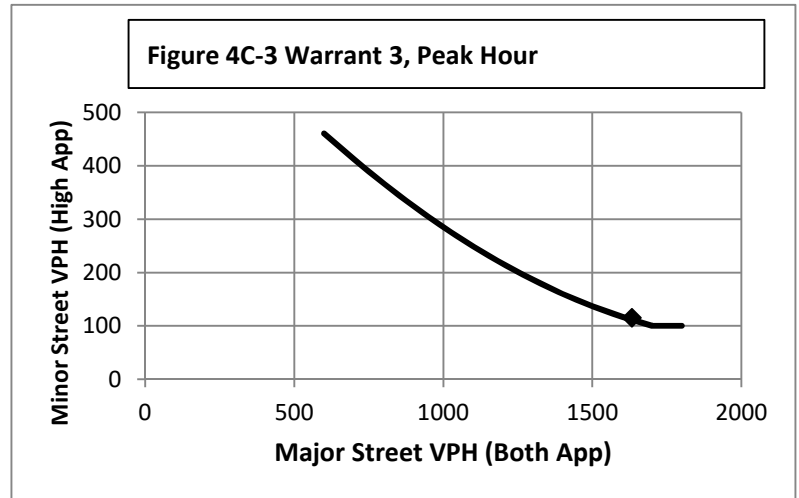
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? Yes

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
14:00	1633	115
14:00	1633	115



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

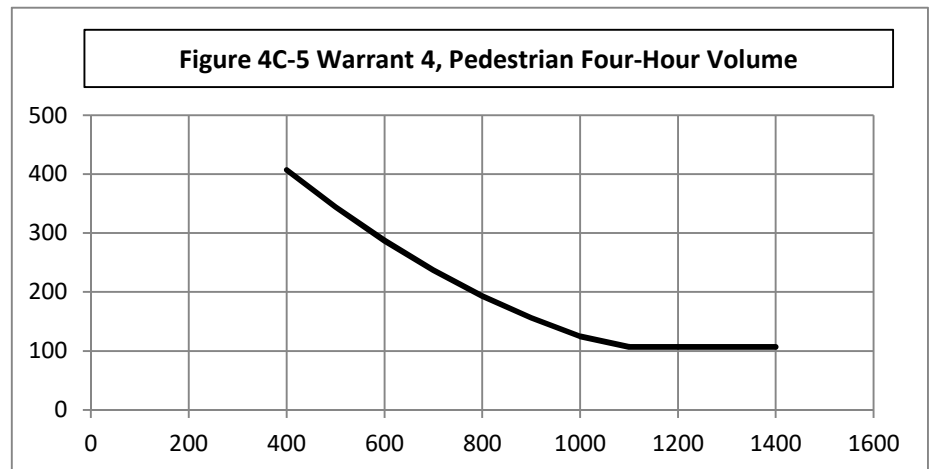
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

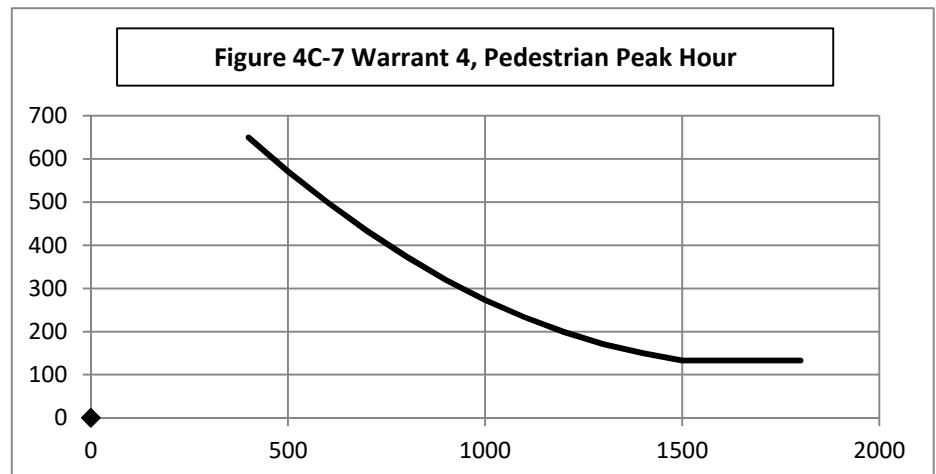
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Warrant 5: School Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Criteria

Met?

Fulfilled?

1	Adequate trial of other remedial measures has failed to reduce crash frequency.			
	Measures Tried:			
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months		No
		4		
3	Warrant 1, Condition A (80%)	No		Yes
	Warrant 1, Condition B (80%)	No		
	Warrant 4, Criterion A (80%)	No		
	Warrant 4, Criterion B (80%)	Yes		

Warrant 8: Roadway Network

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Met?

Fulfilled?

1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour		1748	Yes	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			No	
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				
	Hour				
	Volume				

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic

Fulfilled?

1	Part of the road or highway system that serves as the principal roadway network for through traffic flow	
2	Rural or suburban highway outside of, entering, or traversing a city	
3	Appears as a major route on an official plan	

Warrant 9: Intersection Near a Grade Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	14:00	1633	115	38.525

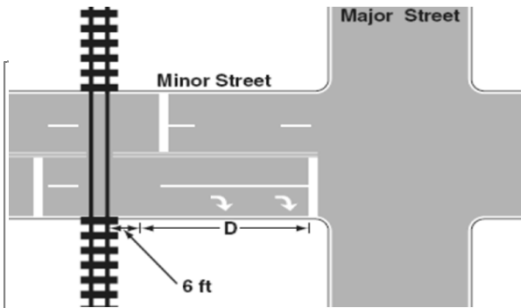
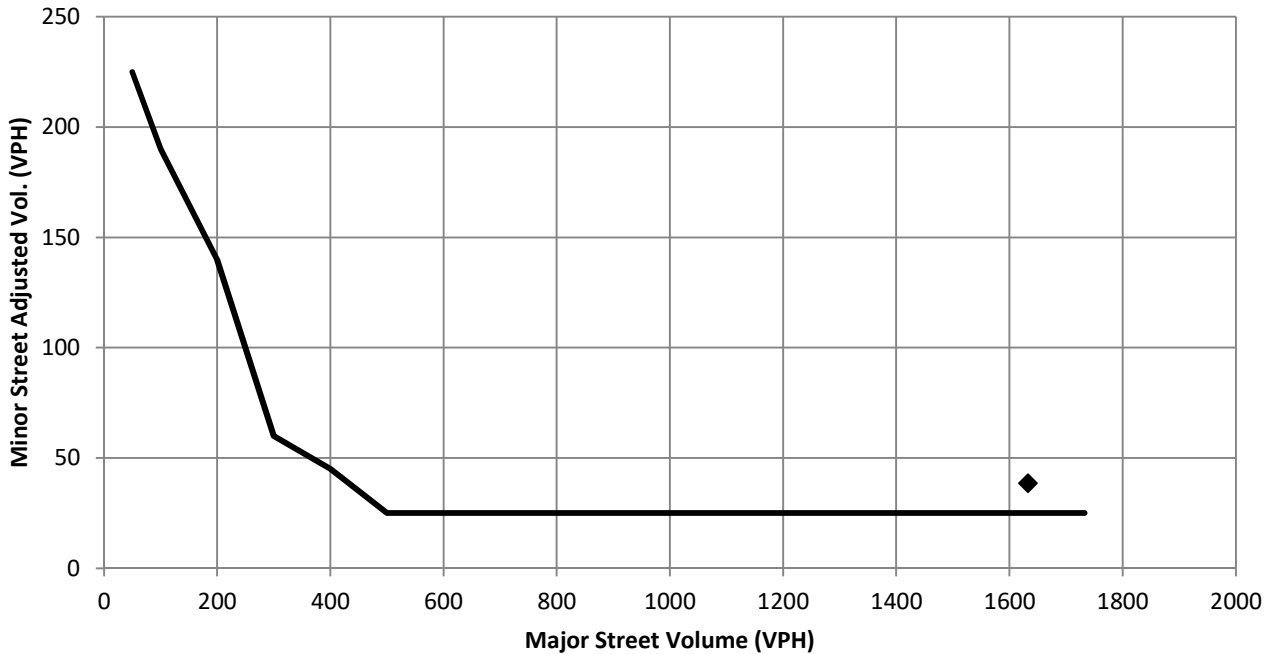


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)



Conclusions/Comments:

Average of only 4 crashes per year at intersection. Field observations indicated that there are many near-misses during the peak hours. Field staff indicated that operations at the intersection seemed unsafe. Queues from the Lexington Avenue signal (to the south) periodically back up through Richter Place during the peak hours, adding to the delays and operational problems. Despite "No U-Turn" signs being posted on Port Washington Road, many vehicles make U-turns in both directions at Richter Place.

-Four-Hour Warrants are met. Eight Hour Volume warrants nearly met (7 of 8 hours met). With high traffic volumes recorded in 6-7 hour time period, it can be assumed that volumes would still be high enough to meet Warrant 1 volume thresholds in 7-8 hour time period.

-Recommendation: install traffic signals at the intersection.

Updated: 12/6/2017

Hourly Volume Data																						
One Hour Time Period Start Time		↓ From North (SB)					← From East (WB)					↑ From South (NB)					→ From West (EB)					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00	2	711	68	4	785	51	0	45	0	96	14	620	2	4	640	4	1	7	0	12	1533
	8:00	0	944	100	8	1052	63	0	56	0	119	25	686	1	7	719	5	1	8	0	14	1904
	9:00	3	533	96	10	642	57	0	54	0	111	28	585	1	0	614	5	0	2	0	7	1374
MD	10:00	2	472	111	8	593	48	1	58	0	107	43	626	2	5	676	2	1	0	0	3	1379
	11:00	0	589	178	14	781	62	0	103	0	165	40	838	3	3	884	7	0	1	0	8	1838
	12:00	16	332	179	4	531	55	2	143	0	200	20	504	3	1	528	6	0	0	2	8	1267
	13:00	33	608	179	27	847	54	3	112	0	169	43	735	7	2	787	6	0	0	0	6	1809
PM	14:00	34	597	164	19	814	60	2	90	0	152	47	831	10	2	890	9	0	0	0	9	1865
	15:00	36	619	155	22	832	60	4	78	0	142	56	970	15	5	1046	6	0	2	0	8	2028
	16:00	49	734	166	10	959	107	3	89	0	199	58	1076	16	2	1152	14	0	0	0	14	2324
	17:00	76	778	189	15	1058	67	6	91	2	166	66	980	15	0	1061	11	1	3	0	15	2300
	18:00																					
	19:00																					
	20:00																					
	21:00																					0
Totals		251	6917	1585	141	8894	684	21	919	2	1626	440	8451	75	31	8997	75	4	23	2	104	19621

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

N/S

Major Road Left Turn as Minor Approach?

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	100%

Major Road Volume Totals: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
16	1331	78	1409	1425
25	1630	116	1746	1771
31	1118	107	1225	1256
45	1098	126	1224	1269
40	1427	198	1625	1665
36	836	187	1023	1059
76	1343	215	1558	1634
81	1428	195	1623	1704
92	1589	197	1786	1878
107	1810	194	2004	2111
142	1758	219	1977	2119
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
691	15368	1832	17200	17891

Minor Road Highest Volume: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	45	45	45
0	0	56	56	56
0	0	54	54	54
0	1	58	59	59
0	0	103	103	103
0	2	143	145	145
0	3	112	115	115
0	2	90	92	92
0	4	78	82	82
0	3	89	92	92
0	6	93	99	99
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	21	921	942	942

By: TSC
Date: 3/25/19

[illegible][illegible][illegible]

Growth Rates from WisDOT Forecasts. Average between AM and PM growth rates used in above Year 2028 calculations.

Chick-Fil-A Net New Trips																							
	↓				←				↑				→				Intersection						
	Port Washington				Richter				Port Washington				Kopp's/La Quinta										
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Totals	IN	OUT	AADT IN	AADT OUT	Notes	
6-7am	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7-8am	0	0	19	0	0	0	13	0	0	14	0	0	0	0	0	0	46	35	32	3.2%	2.9%	← I/E Fast Food Rest/Drive-Through	
8-9am	0	0	20	0	0	0	14	0	0	15	0	0	0	0	0	0	49	37	36	3.4%	3.3%	← I/E Fast Food Rest/Drive-Through	
9-10am	0	0	20	0	0	14	0	0	0	14	0	0	0	0	0	0	48	36	35	3.3%	3.2%	← I/E Fast Food Rest/Drive-Through	
10-11am	0	0	24	0	0	0	16	0	0	18	0	0	0	0	0	0	58	44	40	4.0%	3.7%	← I/E Fast Food Rest/Drive-Through	
11am-12pm	0	0	54	0	0	0	33	0	0	40	0	0	0	0	0	0	127	99	83	9.1%	7.6%	← I/E Fast Food Rest/Drive-Through	
12-1pm	0	0	70	0	0	0	52	0	0	51	0	0	0	0	0	0	173	128	129	11.7%	11.8%	← I/E Fast Food Rest/Drive-Through	
1-2pm	0	0	47	0	0	0	38	0	0	34	0	0	0	0	0	0	119	86	95	7.9%	8.7%	← I/E Fast Food Rest/Drive-Through	
2-3pm	0	0	35	0	0	0	28	0	0	25	0	0	0	0	0	0	88	63	70	5.8%	6.4%	← I/E Fast Food Rest/Drive-Through	
3-4pm	0	0	34	0	0	0	24	0	0	24	0	0	0	0	0	0	82	61	61	5.6%	5.6%	← I/E Fast Food Rest/Drive-Through	
4-5pm	0	0	34	0	0	0	24	0	0	25	0	0	0	0	0	0	83	62	59	5.7%	5.4%	← I/E Fast Food Rest/Drive-Through	
5-6pm	0	0	41	0	0	0	28	0	0	30	0	0	0	0	0	0	99	74	70	6.8%	6.4%	← I/E Fast Food Rest/Drive-Through	
6-7pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7-8pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

IN %

OUT %

55%

40%

40%

IN %

OUT %

Note: Chick-Fil-A daily AADT based on PM-to-Daily trip ratios for ITE Fast-Food Restaurants compared to actual weighted average PM trips counted at existing Chick-Fil-As in Brookfield, WI.

[illegible]

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Port Washington Road & Richter Place

County: Milwaukee County

City: Glendale

Major Street: Port Washington Road

Critical Approach Speed: 35 mph

Lanes: 2 or more lanes

Minor Street: Richter Place

Critical Approach Speed: 25 mph

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 0%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%?

Manually set volume level?

Analysis based on **PROJECTED** volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2019 Build-Option B	Yes	7:00	AM	6:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	No
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: TSC

Agency: TADI

Date: 3/25/2019

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	6	6

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	3	6

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Warrant Satisfied? No

Manually Set To:

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	0	0	0
2	7:00	8:00	615	72	687
3	8:00	9:00	691	108	799
4	9:00	10:00	594	106	700
5	10:00	11:00	645	119	764
6	11:00	12:00	824	192	1016
7	12:00	13:00	455	183	638
8	13:00	14:00	731	206	937
9	14:00	15:00	843	183	1026
10	15:00	16:00	993	177	1170
11	16:00	17:00	1101	176	1277
12	17:00	18:00	1006	204	1210
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume

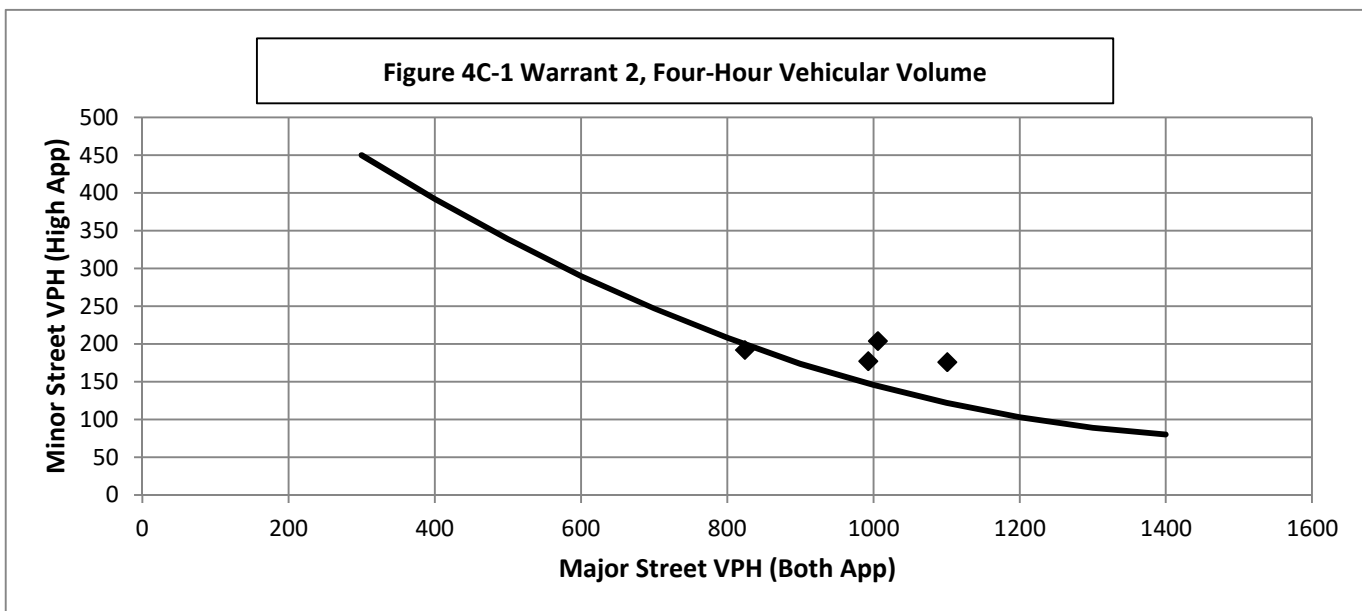
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	16:00	17:00	15:00	11:00
Major Road Vol.	1101	1006	993	824
Minor Road Vol.	176	204	177	192



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

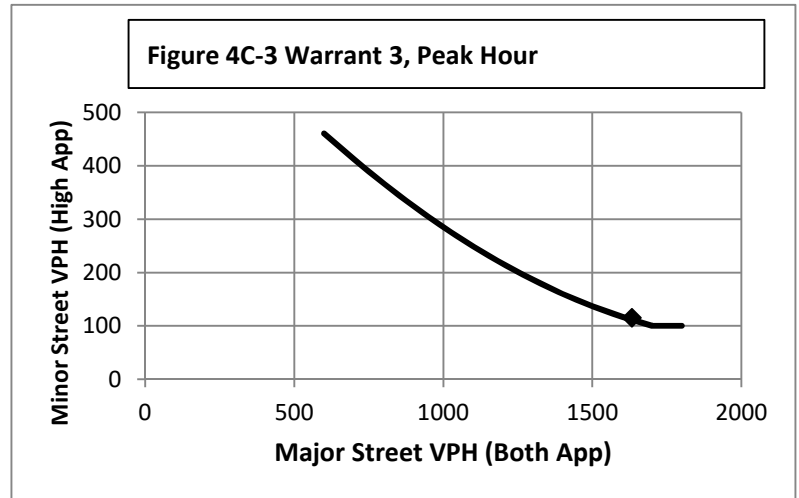
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? Yes

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
14:00	1633	115
14:00	1633	115



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

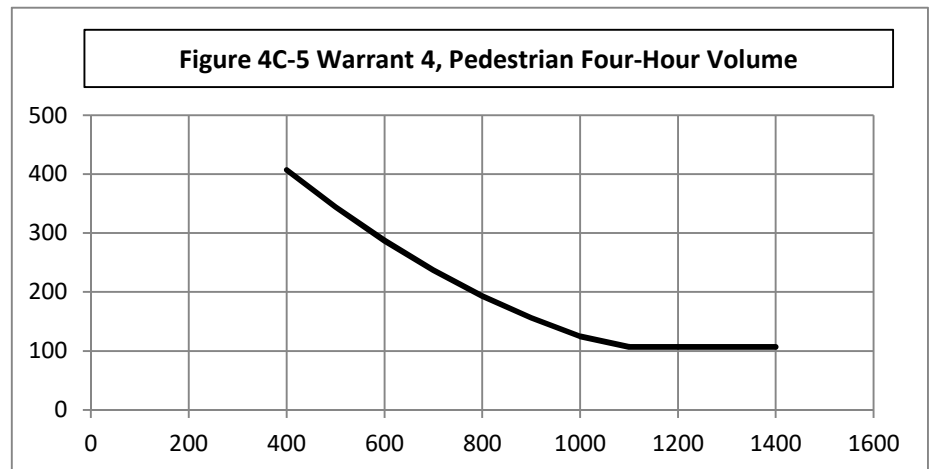
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

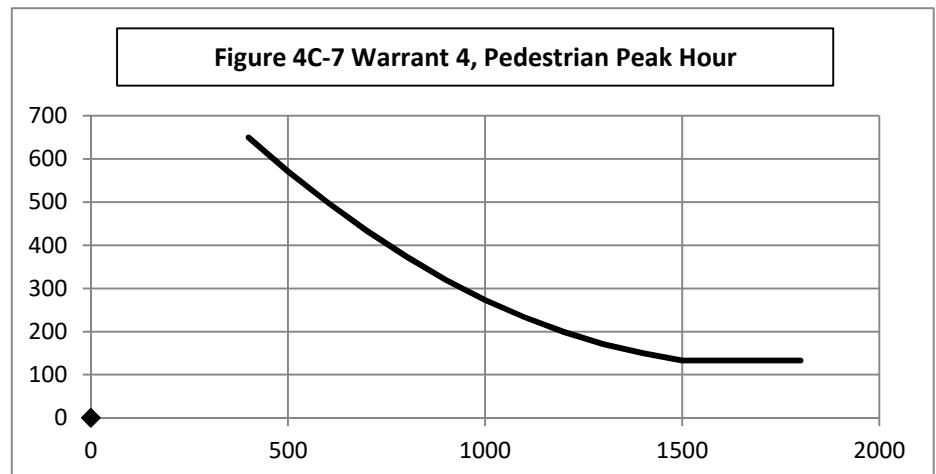
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Warrant 5: School Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Fulfilled?

1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Criteria

Met?

Fulfilled?

1	Adequate trial of other remedial measures has failed to reduce crash frequency.	
	Measures Tried:	
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months 4
3	Warrant 1, Condition A (80%)	No
	Warrant 1, Condition B (80%)	No
	Warrant 4, Criterion A (80%)	No
	Warrant 4, Criterion B (80%)	Yes

Warrant 8: Roadway Network

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Criteria

Met?

Fulfilled?

1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour		1748	Yes	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			No	
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				
	Hour				
	Volume				

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic

Fulfilled?

1	Part of the road or highway system that serves as the principal roadway network for through traffic flow	
2	Rural or suburban highway outside of, entering, or traversing a city	
3	Appears as a major route on an official plan	

Warrant 9: Intersection Near a Grade Crossing

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	14:00	1633	115	38.525

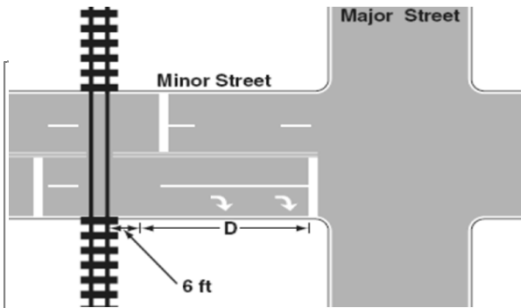
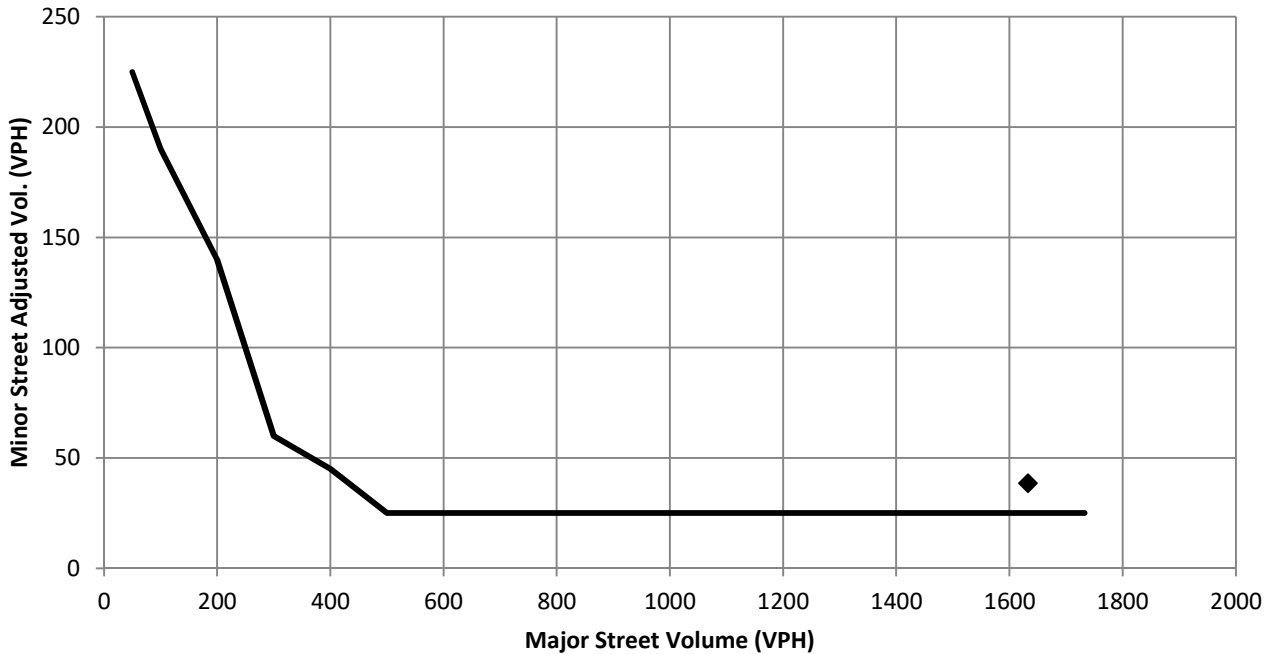


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)



Conclusions/Comments:

Average of only 4 crashes per year at intersection. Field observations indicated that there are many near-misses during the peak hours. Field staff indicated that operations at the intersection seemed unsafe. Queues from the Lexington Avenue signal (to the south) periodically back up through Richter Place during the peak hours, adding to the delays and operational problems. Despite "No U-Turn" signs being posted on Port Washington Road, many vehicles make U-turns in both directions at Richter Place.

-Four-Hour Warrants are nearly met (3 of 4 hours met). Eight Hour Volume warrants nearly met (6 of 8 hours met). With high traffic volumes recorded in 6-7 hour time period, it can be assumed that volumes would still be high enough to meet Warrant 2 volume thresholds in 7-8 hour time period.

-Recommendation: install traffic signals at the intersection.

Updated: 12/6/2017

Hourly Volume Data																						
One Hour Time Period Start Time		↓ From North (SB)					← From East (WB)					↑ From South (NB)					→ From West (EB)					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					
	7:00	2	724	33	39	798	51	0	17	0	68	14	601	2	4	621	4	1	7	0	12	1499
	8:00	0	958	63	45	1066	63	0	25	0	88	25	666	1	7	699	5	1	8	0	14	1867
	9:00	3	547	59	47	656	57	0	24	0	81	28	566	1	0	595	5	0	2	0	7	1339
MD	10:00	2	488	67	52	609	48	1	23	0	72	43	602	2	5	652	2	1	0	0	3	1336
	11:00	0	622	78	114	814	62	0	32	0	94	40	784	3	3	830	7	0	1	0	8	1746
	12:00	16	384	50	133	583	55	2	32	0	89	20	435	3	1	459	6	0	0	2	8	1139
	13:00	33	646	92	114	885	54	3	30	0	87	43	688	7	2	740	6	0	0	0	6	1718
PM	14:00	34	625	100	83	842	60	2	30	0	92	47	796	10	2	855	9	0	0	0	9	1798
	15:00	36	643	93	84	856	60	4	26	0	90	56	937	15	5	1013	6	0	2	0	8	1967
	16:00	49	758	103	73	983	107	3	38	0	148	58	1043	16	2	1119	14	0	0	0	14	2264
	17:00	76	806	114	90	1086	67	6	31	2	106	66	940	15	0	1021	11	1	3	0	15	2228
	18:00																					
	19:00																					
	20:00																					
	21:00																					
Totals		251	7201	852	874	9178	684	21	308	2	1015	440	8058	75	31	8604	75	4	23	2	104	18901

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

N/S

Major Road Left Turn as Minor Approach?

SB LT

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	100%

Major Road Volume Totals: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
14	601	0	601	615
25	666	0	666	691
28	566	0	566	594
43	602	0	602	645
40	784	0	784	824
20	435	0	435	455
43	688	0	688	731
47	796	0	796	843
56	937	0	937	993
58	1043	0	1043	1101
66	940	0	940	1006
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
440	8058	0	8058	8498

Minor Road Highest Volume: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	72	0	72	72
0	108	0	108	108
0	106	0	106	106
0	119	0	119	119
0	192	0	192	192
0	183	0	183	183
0	206	0	206	206
0	183	0	183	183
0	177	0	177	177
0	176	0	176	176
0	204	0	204	204
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1726	0	1726	1726

Port Washington & Richter

By: TSC
Date: 3/25/19

Year 2019 Existing Traffic																	
Start Time																	Intersection Totals
	Port Washington				Richter				Port Washington				Kopp's/La Quinta				
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
6-7am	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7-8am	2	711	33	4	51	0	17	0	14	587	2	4	4	1	7	0	
8-9am	0	944	63	8	63	0	25	0	25	651	1	7	5	1	8	0	
9-10am	3	533	59	10	57	0	24	0	28	552	1	0	5	0	2	0	
10-11am	2	472	67	8	48	1	23	0	43	584	2	5	2	1	0	0	
11am-12pm	0	589	78	14	62	0	32	0	40	744	3	3	7	0	1	0	
12-1pm	16	332	50	4	55	2	32	0	20	384	3	1	6	0	0	2	
1-2pm	33	608	92	27	54	3	30	0	43	654	7	2	6	0	0	0	
2-3pm	34	597	100	19	60	2	30	0	47	771	10	2	9	0	0	0	
3-4pm	38	610	93	22	60	4	26	0	56	913	15	5	6	2	0	0	
4-5pm	49	734	103	10	107	1	38	0	58	1018	16	2	14	0	0	0	
5-6pm	76	778	114	15	67	6	31	2	66	910	15	0	11	1	3	0	
6-7pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7-8pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

[illegible][illegible][illegible][illegible]

Growth Rates from WisDOT Forecasts. Average between AM and PM growth rates used in above Year 2028 calculations.

[illegible]

		AADT IN	AADT OUT	
		1090	1090	
		0%	0%	
		1090	1090	
		% AADT IN	% AADT OUT	
		Notes		
IN	OUT			
0	0			
35	32	3.2%	2.9%	<-- ITE Fast Food Rest/Drive-Through
37	36	3.4%	3.3%	<-- ITE Fast Food Rest/Drive-Through
36	35	3.3%	3.2%	<-- ITE Fast Food Rest/Drive-Through
44	40	3.9%	3.7%	<-- ITE Fast Food Rest/Drive-Through
99	83	9.1%	7.6%	<-- ITE Fast Food Rest/Drive-Through
128	129	11.7%	11.8%	<-- ITE Fast Food Rest/Drive-Through
86	95	7.9%	8.7%	<-- ITE Fast Food Rest/Drive-Through
63	70	5.8%	6.4%	<-- ITE Fast Food Rest/Drive-Through
61	61	5.6%	5.6%	<-- ITE Fast Food Rest/Drive-Through
62	59	5.7%	5.4%	<-- ITE Fast Food Rest/Drive-Through
74	70	6.8%	6.4%	<-- ITE Fast Food Rest/Drive-Through
0	0			

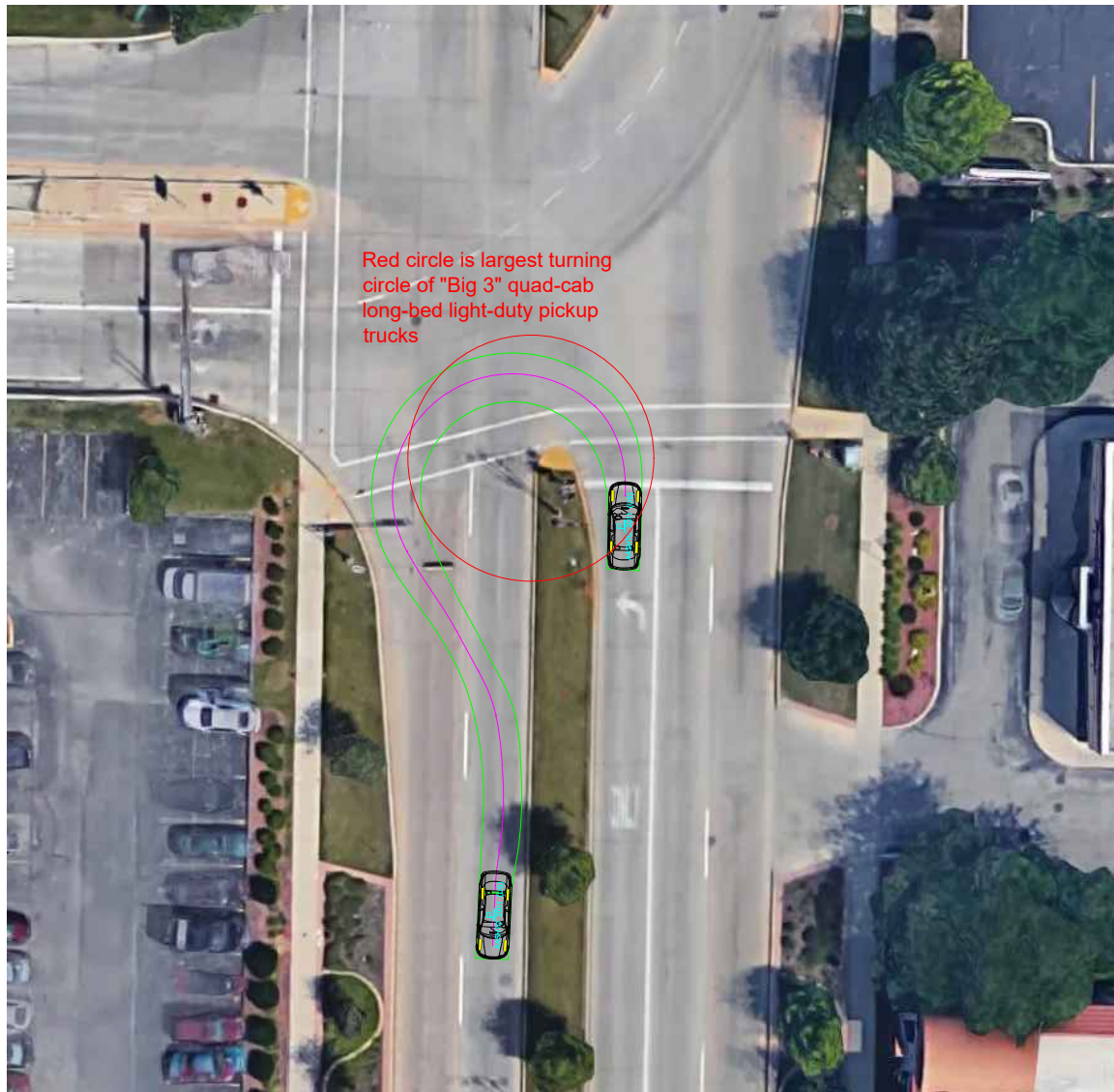
[illegible]

Note: Chick-Fil-A daily AADT based on PM-to-Daily trip ratios for ITE Fast-Food Restaurants compared to actual weighted average PM trips counted at existing Chick-Fil-As in Brookfield, WI.

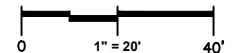
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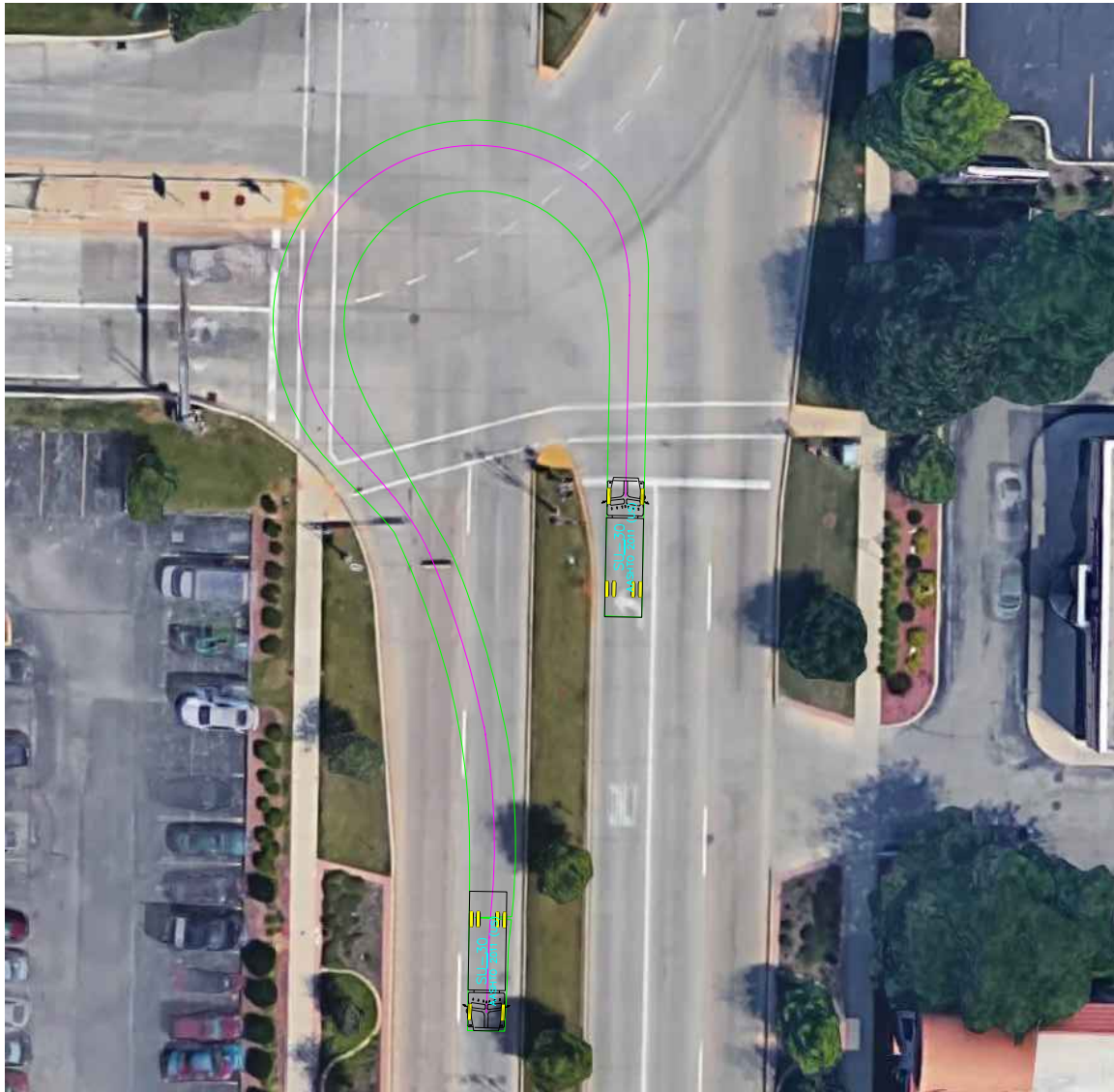
APPENDIX F

U-Turn Vehicle Turn Templates

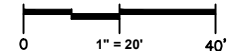


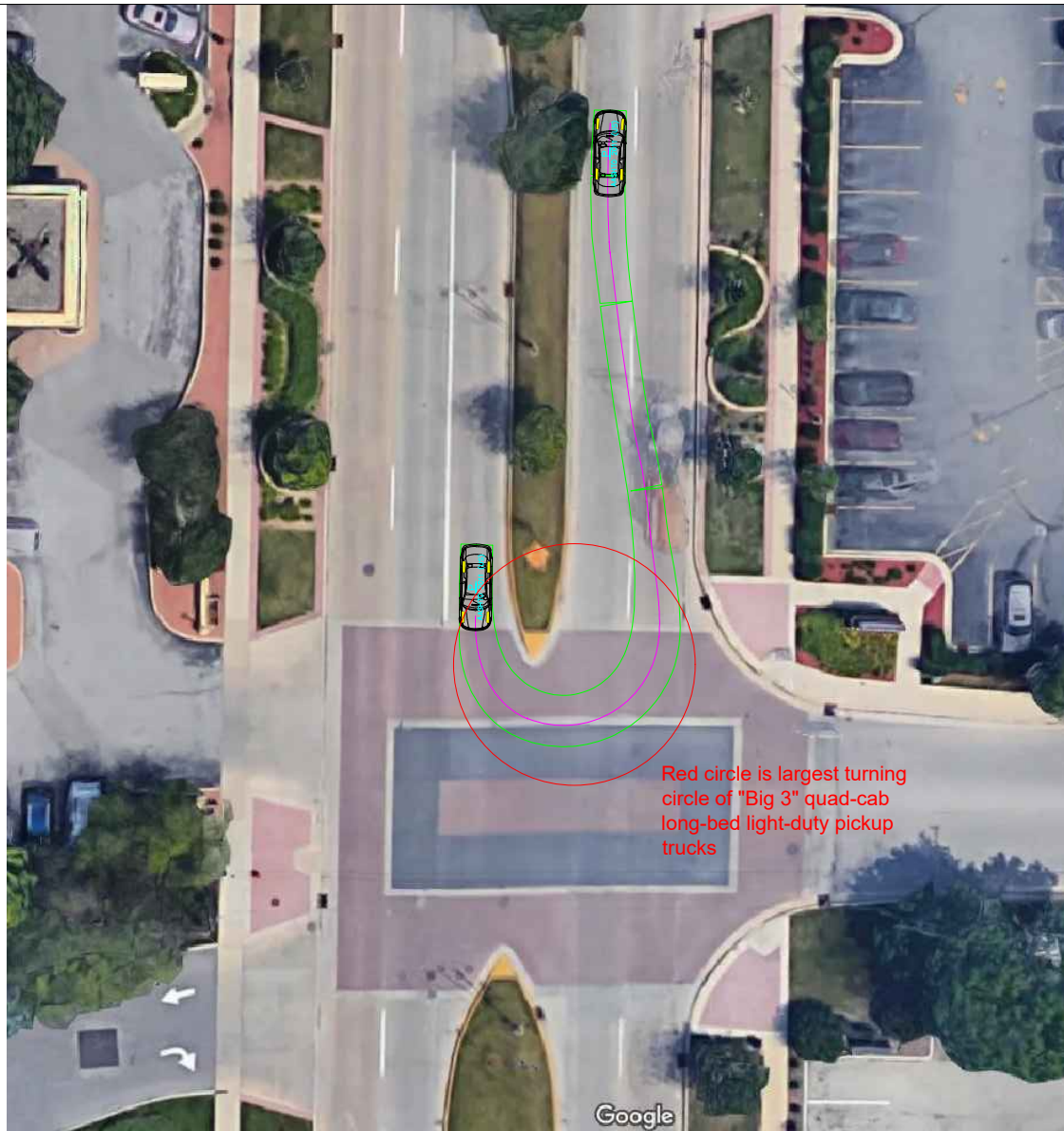
GRAPHICAL SCALE (FEET)





GRAPHICAL SCALE (FEET)

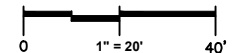




Red circle is largest turning
circle of "Big 3" quad-cab
long-bed light-duty pickup
trucks



GRAPHICAL SCALE (FEET)





GRAPHICAL SCALE (FEET)

0 1" = 20' 40'

APPENDIX G
Build Traffic – Option B
Synchro Model Peak Hour Analysis Output

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)

PM Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	265	55	55	325	785	905	170
Future Volume (vph)	265	55	55	325	785	905	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%				0%	0%	
Storage Length (ft)	0	110		0			100
Storage Lanes	2	1		1			1
Taper Length (ft)	100			100			
Right Turn on Red		No					No
Link Speed (mph)	30				35	35	
Link Distance (ft)	555				310	370	
Travel Time (s)	12.6				6.0	7.2	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.98	0.98	0.92	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	2%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%				0%	0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	326	0	0	392	801	923	108
Turn Type	Prot		pm+pt	pm+pt	NA	NA	pm+ov
Protected Phases	4		1	1	6	2	4
Permitted Phases			6	6			2
Detector Phase	4		1	1	6	2	4
Switch Phase							
Minimum Initial (s)	8.0		6.0	6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	10.5	16.6	40.0	37.0
Total Split (s)	28.0		23.0	23.0	72.0	49.0	28.0
Total Split (%)	28.0%		23.0%	23.0%	72.0%	49.0%	28.0%
Maximum Green (s)	21.4		18.5	18.5	65.4	42.4	21.4
Yellow Time (s)	3.6		3.5	3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6			4.5	6.6	6.6	6.6
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	1.5		1.5	1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	0.0	16.0	12.0	0.0
Recall Mode	None		None	None	C-Max	C-Max	None
Walk Time (s)	7.0					7.0	7.0
Flash Dont Walk (s)	23.4					26.4	23.4
Pedestrian Calls (#/hr)	0					0	0
v/c Ratio	0.71			0.75	0.31	0.48	0.09
Control Delay	50.0			15.8	5.2	16.8	4.7

Glendale Chick-Fil-A TIA
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Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)

PM Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0
Total Delay	50.0			15.8	5.2	16.8	4.7
Queue Length 50th (ft)	104			65	78	178	15
Queue Length 95th (ft)	143			162	120	301	41
Internal Link Dist (ft)	475				230	290	
Turn Bay Length (ft)							100
Base Capacity (vph)	730			589	2621	1921	1302
Starvation Cap Reductn	0			0	0	0	0
Spillback Cap Reductn	0			0	0	0	0
Storage Cap Reductn	0			0	0	0	0
Reduced v/c Ratio	0.45			0.67	0.31	0.48	0.08

Intersection Summary

Area Type: Other

Cycle Length: 100

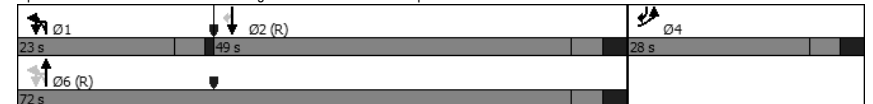
Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
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HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)
PM Peak Hour

							
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	265	55	55	325	785	905	170
Future Volume (veh/h)	265	55	55	325	785	905	170
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00			1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	
Work Zone On Approach	No			No	No		
Adj Sat Flow, veh/h/ln	1885	1900		1885	1885	1870	1870
Adj Flow Rate, veh/h	322	0		332	801	923	108
Peak Hour Factor	0.98	0.98		0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0		1	1	2	2
Cap, veh/h	398	178		496	2712	2236	1173
Arrive On Green	0.11	0.00		0.08	0.76	0.63	0.63
Sat Flow, veh/h	3591	1610		1795	3676	3647	1585
Grp Volume(v), veh/h	322	0		332	801	923	108
Grp Sat Flow(s),veh/h/ln	1795	1610		1795	1791	1777	1585
Q Serve(g_s), s	8.8	0.0		6.1	7.0	13.0	1.9
Cycle Q Clear(g_c), s	8.8	0.0		6.1	7.0	13.0	1.9
Prop In Lane	1.00	1.00		1.00			1.00
Lane Grp Cap(c), veh/h	398	178		496	2712	2236	1173
V/C Ratio(X)	0.81	0.00		0.67	0.30	0.41	0.09
Avail Cap(c_a), veh/h	768	345		679	2712	2236	1173
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0		7.2	3.8	9.3	3.6
Incr Delay (d2), s/veh	1.5	0.0		0.6	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0		1.8	2.0	4.6	0.9
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	44.9	0.0		7.8	4.1	9.9	3.8
LnGrp LOS	D	A		A	A	A	A
Approach Vol, veh/h	322			1133	1031		
Approach Delay, s/veh	44.9			5.2	9.2		
Approach LOS	D			A	A		
Timer - Assigned Phs	1	2		4	6		
Phs Duration (G+Y+Rc), s	12.8	69.5		17.7	82.3		
Change Period (Y+Rc), s	4.5	6.6		6.6	6.6		
Max Green Setting (Gmax), s	18.5	42.4		21.4	65.4		
Max Q Clear Time (g_c+I1), s	8.1	15.0		10.8	9.0		
Green Ext Time (p_c), s	0.2	15.6		0.3	13.3		

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Glendale Chick-Fil-A TIA
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Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Build: OptB (UTurns Allowed)
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	15	35	5	70	15	980	70	200	820	70
Future Volume (vph)	1	1	15	35	5	70	15	980	70	200	820	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%		0%			0%				0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	41	72	0	1097	0	206	917	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Description: SB lefts include Chick-Fil-A Uturns

Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
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HCM 6th TWSC
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place
2019 Build: OptB (UTurns Allowed)
PM Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔	↔		↔		↔	↔	
Traffic Vol, veh/h	1	1	15	35	5	70	15	980	70	200	820	70
Future Vol, veh/h	1	1	15	35	5	70	15	980	70	200	820	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	1	1	15	36	5	72	15	1010	72	206	845	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1831	2405	459	1911	2405	541	917	0	0	1082	0	0
Stage 1	1293	1293	-	1076	1076	-	-	-	-	-	-	-
Stage 2	538	1112	-	835	1329	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	49	34	554	42	34	491	746	-	-	640	-	-
Stage 1	175	235	-	238	298	-	-	-	-	-	-	-
Stage 2	500	287	-	333	226	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	29	22	554	~ 29	22	491	746	-	-	640	-	-
Mov Cap-2 Maneuver	94	50	-	111	93	-	-	-	-	-	-	-
Stage 1	166	159	-	226	283	-	-	-	-	-	-	-
Stage 2	397	272	-	218	153	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18		29.6		0.3		2.4	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	746	-	-	295	108	491	640	-	-
HCM Lane V/C Ratio	0.021	-	-	0.059	0.382	0.147	0.322	-	-
HCM Control Delay (s)	9.9	0.2	-	18	57.6	13.6	13.3	-	-
HCM Lane LOS	A	A	-	C	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.6	0.5	1.4	-	-

Notes									
~: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon									

Lanes, Volumes, Timings
300: Port Washington Road & W. Dwy.
2019 Build: OptB (UTurns Allowed)
PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔			↔
Traffic Volume (vph)	0	130	1035	150	0	1015
Future Volume (vph)	0	130	1035	150	0	1015
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	100				100	
Link Speed (mph)	30		35			35
Link Distance (ft)	133		100			310
Travel Time (s)	3.0		1.9			6.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	133	1209	0	0	1036
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC

300: Port Washington Road & W. Dwy.

2019 Build: OptB (UTurns Allowed)

PM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑				↑↑
Traffic Vol, veh/h	0	130	1035	150	0	1015
Future Vol, veh/h	0	130	1035	150	0	1015
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	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	0	133	1056	153	0	1036

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	605	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.91	-	-	-
Pot Cap-1 Maneuver	0	380	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	380	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	380
HCM Lane V/C Ratio	-	-	0.349
HCM Control Delay (s)	-	-	19.5
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.5

Lanes, Volumes, Timings

400: Iroquios Avenue & E. Dwy.

2019 Build: OptB (UTurns Allowed)

PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1	10	15	1	5	1
Future Volume (vph)	1	10	15	1	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			25	25	
Link Distance (ft)	134			390	435	
Travel Time (s)	3.7			10.6	11.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	17	6	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
400: Iroquios Avenue & E. Dwy.

2019 Build: OptB (UTurns Allowed)
PM Peak Hour

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	1	10	15	1	5	1
Future Vol, veh/h	1	10	15	1	5	1
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	11	16	1	5	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	39	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	973	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	963	1077	1615	-	-	-
Mov Cap-2 Maneuver	963	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1615	-	1066	-	-
HCM Lane V/C Ratio	0.01	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)

SAT Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	290	90	90	280	715	765	210
Future Volume (vph)	290	90	90	280	715	765	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%				0%	0%	
Storage Length (ft)	0	110		0			100
Storage Lanes	2	1		1			1
Taper Length (ft)	100			100			
Right Turn on Red		No					No
Link Speed (mph)	30				35	35	
Link Distance (ft)	555				310	370	
Travel Time (s)	12.6				6.0	7.2	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%				0%	0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	392	0	0	387	737	789	134
Turn Type	Prot		pm+pt	pm+pt	NA	NA	pm+ov
Protected Phases	4		1	1	6	2	4
Permitted Phases			6	6			2
Detector Phase	4		1	1	6	2	4
Switch Phase							
Minimum Initial (s)	8.0		6.0	6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	10.5	16.6	40.0	37.0
Total Split (s)	24.0		20.0	20.0	66.0	46.0	24.0
Total Split (%)	26.7%		22.2%	22.2%	73.3%	51.1%	26.7%
Maximum Green (s)	17.4		15.5	15.5	59.4	39.4	17.4
Yellow Time (s)	3.6		3.5	3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6			4.5	6.6	6.6	6.6
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	1.5		1.5	1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	0.0	16.0	12.0	0.0
Recall Mode	None		None	None	C-Max	C-Max	None
Walk Time (s)	7.0					7.0	7.0
Flash Dont Walk (s)	23.4					26.4	23.4
Pedestrian Calls (#/hr)	0					0	0
v/c Ratio	0.74			0.72	0.30	0.42	0.11
Control Delay	45.1			13.7	5.8	15.1	3.7

Glendale Chick-Fil-A TIA
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Lanes, Volumes, Timings

100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)

SAT Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0
Total Delay	45.1			13.7	5.8	15.1	3.7
Queue Length 50th (ft)	110			66	72	136	16
Queue Length 95th (ft)	152			123	111	218	38
Internal Link Dist (ft)	475				230	290	
Turn Bay Length (ft)							100
Base Capacity (vph)	655			594	2492	1869	1263
Starvation Cap Reductn	0			0	0	0	0
Spillback Cap Reductn	0			0	0	0	0
Storage Cap Reductn	0			0	0	0	0
Reduced v/c Ratio	0.60			0.65	0.30	0.42	0.11

Intersection Summary

Area Type: Other

Cycle Length: 90

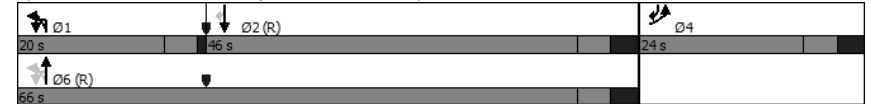
Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

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HCM 6th Signalized Intersection Summary
100: Port Washington Road & I-43 NB Ramps

2019 Build: OptB (UTurns Allowed)
SAT Peak Hour

							
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	290	90	90	280	715	765	210
Future Volume (veh/h)	290	90	90	280	715	765	210
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00			1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	
Work Zone On Approach	No			No	No		
Adj Sat Flow, veh/h/ln	1885	1900		1885	1885	1885	1885
Adj Flow Rate, veh/h	196	203		289	737	789	134
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0		1	1	1	1
Cap, veh/h	265	238		508	2528	2041	1146
Arrive On Green	0.15	0.15		0.09	0.71	0.57	0.57
Sat Flow, veh/h	1795	1610		1795	3676	3676	1598
Grp Volume(v), veh/h	196	203		289	737	789	134
Grp Sat Flow(s),veh/h/ln	1795	1610		1795	1791	1791	1598
Q Serve(g_s), s	9.4	11.1		5.6	6.9	10.9	2.3
Cycle Q Clear(g_c), s	9.4	11.1		5.6	6.9	10.9	2.3
Prop In Lane	1.00	1.00		1.00			1.00
Lane Grp Cap(c), veh/h	265	238		508	2528	2041	1146
V/C Ratio(X)	0.74	0.85		0.57	0.29	0.39	0.12
Avail Cap(c_a), veh/h	347	311		663	2528	2041	1146
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	37.4		7.3	4.9	10.7	3.9
Incr Delay (d2), s/veh	3.7	13.3		0.4	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	10.3		1.7	2.1	4.0	1.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	40.4	50.7		7.7	5.2	11.2	4.1
LnGrp LOS	D	D		A	A	B	A
Approach Vol, veh/h	399			1026	923		
Approach Delay, s/veh	45.7			5.9	10.2		
Approach LOS	D			A	B		
Timer - Assigned Phs	1	2		4	6		
Phs Duration (G+Y+Rc), s	12.2	57.9		19.9	70.1		
Change Period (Y+Rc), s	4.5	6.6		6.6	6.6		
Max Green Setting (Gmax), s	15.5	39.4		17.4	59.4		
Max Q Clear Time (g_c+I1), s	7.6	12.9		13.1	8.9		
Green Ext Time (p_c), s	0.2	13.4		0.2	11.6		

Intersection Summary

HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Lanes, Volumes, Timings

200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

2019 Build: OptB (UTurns Allowed)
SAT Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	50	5	75	20	830	55	205	645	70
Future Volume (vph)	5	1	5	50	5	75	20	830	55	205	645	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	120		0
Storage Lanes	0		0	1		1	0		0	1		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		284			360			390			290	
Travel Time (s)		6.5			9.8			7.6			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%		0%			0%				0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	57	78	0	943	0	214	745	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Description: U-turns are included in the SB LT volumes.

HCM 6th TWSC
 200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔				↔			↔			↔	
Traffic Vol, veh/h	5	1	5	50	5	75	20	830	55	205	645	70
Future Vol, veh/h	5	1	5	50	5	75	20	830	55	205	645	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	5	1	5	52	5	78	21	865	57	214	672	73

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1614	2101	373	1701	2109	461	745	0	0	922	0	0
Stage 1	1137	1137	-	936	936	-	-	-	-	-	-	-
Stage 2	477	964	-	765	1173	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	71	52	630	61	52	553	865	-	-	743	-	-
Stage 1	218	279	-	289	346	-	-	-	-	-	-	-
Stage 2	543	336	-	366	268	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	44	35	630	~ 45	35	553	865	-	-	743	-	-
Mov Cap-2 Maneuver	118	77	-	136	116	-	-	-	-	-	-	-
Stage 1	207	199	-	275	329	-	-	-	-	-	-	-
Stage 2	436	319	-	257	191	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	27.1			28.7			0.4			2.6		
HCM LOS	D			D								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	865	-	-	174	134	553	743	-	-
HCM Lane V/C Ratio	0.024	-	-	0.066	0.428	0.141	0.287	-	-
HCM Control Delay (s)	9.3	0.2	-	27.1	50.6	12.6	11.8	-	-
HCM Lane LOS	A	A	-	D	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.9	0.5	1.2	-	-

Notes									
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined			*: All major volume in platoon		

Lanes, Volumes, Timings

2019 Build: OptB (UTurns Allowed) w/Imp

100: Port Washington Road & I-43 NB Ramps

PM Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	265	55	55	325	785	905	170
Future Volume (vph)	265	55	55	325	785	905	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%				0%	0%	
Storage Length (ft)	0	110		0			100
Storage Lanes	2	1		1			1
Taper Length (ft)	100			100			
Right Turn on Red		No					No
Link Speed (mph)	30				35	35	
Link Distance (ft)	555				310	370	
Travel Time (s)	12.6				6.0	7.2	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.98	0.98	0.92	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	2%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%				0%	0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	326	0	0	392	801	923	108
Turn Type	Prot		pm+pt	pm+pt	NA	NA	pm+ov
Protected Phases	4		1	1	6	2	4
Permitted Phases			6	6			2
Detector Phase	4		1	1	6	2	4
Switch Phase							
Minimum Initial (s)	8.0		6.0	6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	10.5	16.6	40.0	37.0
Total Split (s)	28.0		23.0	23.0	72.0	49.0	28.0
Total Split (%)	28.0%		23.0%	23.0%	72.0%	49.0%	28.0%
Maximum Green (s)	21.4		18.5	18.5	65.4	42.4	21.4
Yellow Time (s)	3.6		3.5	3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6			4.5	6.6	6.6	6.6
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	1.5		1.5	1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	0.0	16.0	12.0	0.0
Recall Mode	None		None	None	C-Max	C-Max	None
Walk Time (s)	7.0					7.0	7.0
Flash Dont Walk (s)	23.4					26.4	23.4
Pedestrian Calls (#/hr)	0					0	0
v/c Ratio	0.71			0.75	0.31	0.48	0.09
Control Delay	50.0			12.0	2.9	16.8	4.7

Glendale Chick-Fil-A TIA
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Lanes, Volumes, Timings

2019 Build: OptB (UTurns Allowed) w/Imp

100: Port Washington Road & I-43 NB Ramps

PM Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0
Total Delay	50.0			12.0	2.9	16.8	4.7
Queue Length 50th (ft)	104			27	32	178	15
Queue Length 95th (ft)	143			48	45	301	41
Internal Link Dist (ft)	475				230	290	
Turn Bay Length (ft)							100
Base Capacity (vph)	730			589	2621	1921	1302
Starvation Cap Reductn	0			0	0	0	0
Spillback Cap Reductn	0			0	0	0	0
Storage Cap Reductn	0			0	0	0	0
Reduced v/c Ratio	0.45			0.67	0.31	0.48	0.08

Intersection Summary

Area Type: Other

Cycle Length: 100

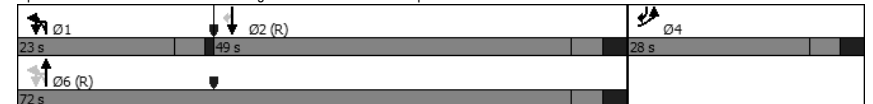
Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

Glendale Chick-Fil-A TIA
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HCM 6th Signalized Intersection Summary 2019 Build: OptB (UTurns Allowed) w/Imp
100: Port Washington Road & I-43 NB Ramps PM Peak Hour

							
Movement	EBL	EBR	NBL	NBR	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	265	55	55	325	785	905	170
Future Volume (veh/h)	265	55	55	325	785	905	170
Initial Q (Qb), veh	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	322	0	332	801	923	108	108
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	1	1	2	2	2
Cap, veh/h	398	178	496	2712	2236	1173	1173
Arrive On Green	0.11	0.00	0.08	0.76	0.63	0.63	0.63
Sat Flow, veh/h	3591	1610	1795	3676	3647	1585	1585
Grp Volume(v), veh/h	322	0	332	801	923	108	108
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1777	1585	1585
Q Serve(g_s), s	8.8	0.0	6.1	7.0	13.0	1.9	1.9
Cycle Q Clear(g_c), s	8.8	0.0	6.1	7.0	13.0	1.9	1.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	398	178	496	2712	2236	1173	1173
V/C Ratio(X)	0.81	0.00	0.67	0.30	0.41	0.09	0.09
Avail Cap(c_a), veh/h	768	345	679	2712	2236	1173	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	7.2	3.8	9.3	3.6	3.6
Incr Delay (d2), s/veh	1.5	0.0	0.6	0.3	0.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.8	2.0	4.6	0.9	0.9
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	44.9	0.0	7.8	4.1	9.9	3.8	3.8
LnGrp LOS	D	A	A	A	A	A	A
Approach Vol, veh/h	322		1133	1031			
Approach Delay, s/veh	44.9		5.2	9.2			
Approach LOS	D		A	A			
Timer - Assigned Phs	1	2	4	6			
Phs Duration (G+Y+Rc), s	12.8	69.5	17.7	82.3			
Change Period (Y+Rc), s	4.5	6.6	6.6	6.6			
Max Green Setting (Gmax), s	18.5	42.4	21.4	65.4			
Max Q Clear Time (g_c+I1), s	8.1	15.0	10.8	9.0			
Green Ext Time (p_c), s	0.2	15.6	0.3	13.3			

Intersection Summary							
HCM 6th Ctrl Delay	12.0						
HCM 6th LOS	B						

Notes							
User approved pedestrian interval to be less than phase max green.							
User approved volume balancing among the lanes for turning movement.							
User approved ignoring U-Turning movement.							

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	1	5	40	1	70	15	980	70	75	125	885
Future Volume (vph)	1	1	5	40	1	70	15	980	70	75	125	885
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	50		0	50		0	0		0		120	
Storage Lanes	0		0	1		1	0		0		1	
Taper Length (ft)	100			100			100				100	
Right Turn on Red			No			No			No			
Link Speed (mph)		30			25			35				35
Link Distance (ft)		284			360			390				290
Travel Time (s)		6.5			9.8			7.6				5.6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	42	45	0	1097	0	0	211	917
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA
Protected Phases		4			8			6		5	5	2
Permitted Phases	4			8		8	6			2	2	
Detector Phase	4	4		8	8	8	6	6		5	5	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	15.0	15.0		6.0	6.0	15.0
Minimum Split (s)	16.7	16.7		16.7	16.7	16.7	20.7	20.7		10.5	10.5	20.7
Total Split (s)	23.0	23.0		23.0	23.0	23.0	60.0	60.0		17.0	17.0	77.0
Total Split (%)	23.0%	23.0%		23.0%	23.0%	23.0%	60.0%	60.0%		17.0%	17.0%	77.0%
Maximum Green (s)	16.3	16.3		16.3	16.3	16.3	54.3	54.3		12.5	12.5	71.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.6	3.6		3.5	3.5	3.6
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		1.0	1.0	2.1
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)		6.7			6.7	6.7		5.7			4.5	5.7
Lead/Lag												
Lead-Lag Optimize?							Lag	Lag		Lead	Lead	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	None	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.04			0.29	0.27		0.49			0.49	0.32
Control Delay		40.4			46.9	45.5		3.9			14.0	8.4

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Right Turn on Red	No
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.97
Growth Factor	100%
Heavy Vehicles (%)	2%
Bus Blockages (#/hr)	0
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Minimum Gap (s)	
Time Before Reduce (s)	
Time To Reduce (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	

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Synchro 10 Report
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Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Queue Delay	0.0				0.0	0.0		0.1			0.0	0.0
Total Delay	40.4				46.9	45.5		4.0			14.0	8.4
Queue Length 50th (ft)	4				25	27		11			62	84
Queue Length 95th (ft)	17				58	61		26			m166	329
Internal Link Dist (ft)	204				280			310				210
Turn Bay Length (ft)											120	
Base Capacity (vph)	265				225	263		2244			486	2888
Starvation Cap Reductn	0				0	0		295			0	0
Spillback Cap Reductn	0				0	0		0			0	0
Storage Cap Reductn	0				0	0		0			0	0
Reduced v/c Ratio	0.03				0.19	0.17		0.56			0.43	0.32

Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	25 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 200: Port Washington Road & LaQuinta Dwy/Richter Place

77 s	23 s
17 s	60 s
	23 s

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Synchro 10 Report
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2019 Build: OptB (UTurns Allowed) w/Imp
r Place PM Peak Hour

Lane Group	SBR
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↔			↔			↕↕			↕↕		
Traffic Volume (veh/h)	1	1	5	40	1	70	15	980	70	75	125	885
Future Volume (veh/h)	1	1	5	40	1	70	15	980	70	75	125	885
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885		1870	1870
Adj Flow Rate, veh/h	1	1	5	41	1	45	15	1010	72		129	912
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97		0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1		2	2
Cap, veh/h	48	37	110	202	4	149	50	2224	157		530	2839
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00		0.06	0.78
Sat Flow, veh/h	78	396	1184	1412	44	1610	19	3270	231		1781	3624
Grp Volume(v), veh/h	7	0	0	42	0	45	576	0	521		129	447
Grp Sat Flow(s),veh/h/ln	1658	0	0	1456	0	1610	1846	0	1674		1781	1777
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	2.6	0.0	0.0	0.0		1.9	7.3
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.6	0.0	2.6	0.0	0.0	0.0		1.9	7.3
Prop In Lane	0.14		0.71	0.98		1.00	0.03		0.14		1.00	
Lane Grp Cap(c), veh/h	195	0	0	206	0	149	1292	0	1138		530	1392
V/C Ratio(X)	0.04	0.00	0.00	0.20	0.00	0.30	0.45	0.00	0.46		0.24	0.32
Avail Cap(c_a), veh/h	308	0	0	307	0	262	1292	0	1138		649	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00		1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.85	0.00	0.85		1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	0.0	42.3	0.0	42.3	0.0	0.0	0.0		3.2	3.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	1.1	0.9	0.0	1.1		0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.0	0.0	1.1	0.3	0.0	0.4		0.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	0.0	42.8	0.0	43.5	0.9	0.0	1.1		3.4	3.7
LnGrp LOS	D	A	A	D	A	D	A	A	A		A	A
Approach Vol, veh/h	7				87				1097			
Approach Delay, s/veh	41.4				43.1				1.0			
Approach LOS	D				D				A			
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	84.0			16.0		10.3		73.7		16.0		
Change Period (Y+Rc), s	5.7			* 6.7		4.5		5.7		* 6.7		
Max Green Setting (Gmax), s	71.3			* 16		12.5		54.3		* 16		
Max Q Clear Time (g_c+I1), s	9.3			2.4		3.9		2.0		4.6		
Green Ext Time (p_c), s	6.9			0.0		0.2		9.3		0.2		
Intersection Summary												
HCM 6th Ctrl Delay				4.0								
HCM 6th LOS				A								

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta Dwy/Richter Place PM Peak Hour

Movement	SBR
Lane Configurations	←
Traffic Volume (veh/h)	5
Future Volume (veh/h)	5
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	5
Peak Hour Factor	0.97
Percent Heavy Veh, %	2
Cap, veh/h	16
Arrive On Green	0.78
Sat Flow, veh/h	20
Grp Volume(v), veh/h	470
Grp Sat Flow(s),veh/h/ln	1867
Q Serve(g_s), s	7.3
Cycle Q Clear(g_c), s	7.3
Prop In Lane	0.01
Lane Grp Cap(c), veh/h	1462
V/C Ratio(X)	0.32
Avail Cap(c_a), veh/h	1462
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	3.1
Incr Delay (d2), s/veh	0.6
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	3.7
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
300: Port Washington Road & W. Dwy. PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	←	←	←	←
Traffic Volume (vph)	0	130	1035	150	0	1015
Future Volume (vph)	0	130	1035	150	0	1015
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	100			100		
Link Speed (mph)	30		35			35
Link Distance (ft)	133		100			310
Travel Time (s)	3.0		1.9			6.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	133	1209	0	0	1036
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
300: Port Washington Road & W. Dwy.

2019 Build: OptB (UTurns Allowed) w/Imp
PM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑↑↑↑				↑↑
Traffic Vol, veh/h	0	130	1035	150	0	1015
Future Vol, veh/h	0	130	1035	150	0	1015
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	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	0	133	1056	153	0	1036

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	605	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.91	-	-	-
Pot Cap-1 Maneuver	0	380	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	380	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	380
HCM Lane V/C Ratio	-	-	0.349
HCM Control Delay (s)	-	-	19.5
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.5

Lanes, Volumes, Timings
400: Iroquios Avenue & E. Dwy.

2019 Build: OptB (UTurns Allowed) w/Imp
PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1	10	15	1	5	1
Future Volume (vph)	1	10	15	1	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			25	25	
Link Distance (ft)	134			390	435	
Travel Time (s)	3.7			10.6	11.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	17	6	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

HCM 6th TWSC
400: Iroquios Avenue & E. Dwy.

2019 Build: OptB (UTurns Allowed) w/Imp
PM Peak Hour

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	1	10	15	1	5	1
Future Vol, veh/h	1	10	15	1	5	1
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	11	16	1	5	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	39	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	973	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	963	1077	1615	-	-	-
Mov Cap-2 Maneuver	963	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1615	-	1066	-	-
HCM Lane V/C Ratio	0.01	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings

2019 Build: OptB (UTurns Allowed) w/Imp

100: Port Washington Road & I-43 NB Ramps

SAT Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	290	90	90	280	715	765	210
Future Volume (vph)	290	90	90	280	715	765	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%				0%	0%	
Storage Length (ft)	0	110		0			100
Storage Lanes	2	1		1			1
Taper Length (ft)	100			100			
Right Turn on Red		No					No
Link Speed (mph)	30				35	35	
Link Distance (ft)	555				310	370	
Travel Time (s)	12.6				6.0	7.2	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%				0%	0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	392	0	0	387	737	789	134
Turn Type	Prot		pm+pt	pm+pt	NA	NA	pm+ov
Protected Phases	4		1	1	6	2	4
Permitted Phases			6	6			2
Detector Phase	4		1	1	6	2	4
Switch Phase							
Minimum Initial (s)	8.0		6.0	6.0	10.0	10.0	8.0
Minimum Split (s)	37.0		10.5	10.5	16.6	40.0	37.0
Total Split (s)	24.0		20.0	20.0	66.0	46.0	24.0
Total Split (%)	26.7%		22.2%	22.2%	73.3%	51.1%	26.7%
Maximum Green (s)	17.4		15.5	15.5	59.4	39.4	17.4
Yellow Time (s)	3.6		3.5	3.5	3.6	3.6	3.6
All-Red Time (s)	3.0		1.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6			4.5	6.6	6.6	6.6
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	1.5		1.5	1.5	4.9	5.7	1.5
Minimum Gap (s)	1.5		1.5	1.5	2.0	2.0	1.5
Time Before Reduce (s)	35.0		20.0	20.0	24.0	28.0	35.0
Time To Reduce (s)	0.0		0.0	0.0	16.0	12.0	0.0
Recall Mode	None		None	None	C-Max	C-Max	None
Walk Time (s)	7.0					7.0	7.0
Flash Dont Walk (s)	23.4					26.4	23.4
Pedestrian Calls (#/hr)	0					0	0
v/c Ratio	0.74			0.72	0.30	0.42	0.11
Control Delay	45.1			21.6	5.9	15.1	3.7

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Lanes, Volumes, Timings

2019 Build: OptB (UTurns Allowed) w/Imp

100: Port Washington Road & I-43 NB Ramps

SAT Peak Hour

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0
Total Delay	45.1			21.6	5.9	15.1	3.7
Queue Length 50th (ft)	110			100	67	136	16
Queue Length 95th (ft)	152			201	111	218	38
Internal Link Dist (ft)	475				230	290	
Turn Bay Length (ft)						100	
Base Capacity (vph)	655			594	2492	1869	1263
Starvation Cap Reductn	0			0	0	0	0
Spillback Cap Reductn	0			0	0	0	0
Storage Cap Reductn	0			0	0	0	0
Reduced v/c Ratio	0.60			0.65	0.30	0.42	0.11

Intersection Summary

Area Type: Other

Cycle Length: 90

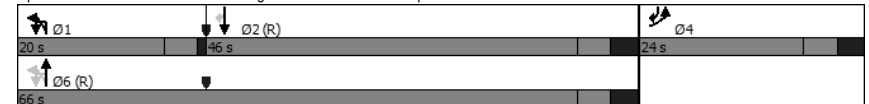
Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 100: Port Washington Road & I-43 NB Ramps

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HCM 6th Signalized Intersection Summary 2019 Build: OptB (UTurns Allowed) w/Imp
100: Port Washington Road & I-43 NB Ramps SAT Peak Hour

							
Movement	EBL	EBR	NBL	NBR	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	290	90	90	280	715	765	210
Future Volume (veh/h)	290	90	90	280	715	765	210
Initial Q (Qb), veh	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1885	1900	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	196	203	289	737	789	134	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	1	1	1	1	1
Cap, veh/h	265	238	508	2528	2041	1146	
Arrive On Green	0.15	0.15	0.09	0.71	0.57	0.57	
Sat Flow, veh/h	1795	1610	1795	3676	3676	1598	
Grp Volume(v), veh/h	196	203	289	737	789	134	
Grp Sat Flow(s),veh/h/ln	1795	1610	1795	1791	1791	1598	
Q Serve(g_s), s	9.4	11.1	5.6	6.9	10.9	2.3	
Cycle Q Clear(g_c), s	9.4	11.1	5.6	6.9	10.9	2.3	
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	265	238	508	2528	2041	1146	
V/C Ratio(X)	0.74	0.85	0.57	0.29	0.39	0.12	
Avail Cap(c_a), veh/h	347	311	663	2528	2041	1146	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	36.7	37.4	7.3	4.9	10.7	3.9	
Incr Delay (d2), s/veh	3.7	13.3	0.4	0.3	0.6	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	4.3	10.3	1.7	2.1	4.0	1.2	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	40.4	50.7	7.7	5.2	11.2	4.1	
LnGrp LOS	D	D	A	A	B	A	
Approach Vol, veh/h	399		1026	923			
Approach Delay, s/veh	45.7		5.9	10.2			
Approach LOS	D		A	B			
Timer - Assigned Phs	1	2	4	6			
Phs Duration (G+Y+Rc), s	12.2	57.9	19.9	70.1			
Change Period (Y+Rc), s	4.5	6.6	6.6	6.6			
Max Green Setting (Gmax), s	15.5	39.4	17.4	59.4			
Max Q Clear Time (g_c+I1), s	7.6	12.9	13.1	8.9			
Green Ext Time (p_c), s	0.2	13.4	0.2	11.6			

Intersection Summary						
HCM 6th Ctrl Delay		14.3				
HCM 6th LOS		B				

Notes						
User approved pedestrian interval to be less than phase max green.						
User approved volume balancing among the lanes for turning movement.						
User approved ignoring U-Turning movement.						

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	1	1	55	1	75	20	830	55	105	100	715
Future Volume (vph)	1	1	1	55	1	75	20	830	55	105	100	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	50	0	0	0	0	0	120	120	120
Storage Lanes	0	0	0	1	1	0	0	0	0	1	1	1
Taper Length (ft)	100	100	100	100	100	100	100	100	100	100	100	100
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Link Speed (mph)	30	30	30	25	35	35	35	35	35	35	35	35
Link Distance (ft)	284	284	284	360	390	390	390	390	390	390	390	390
Travel Time (s)	6.5	6.5	6.5	9.8	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	58	48	0	943	0	0	218	746
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	pm+pt	NA	NA
Protected Phases	4	4	4	8	8	6	6	5	5	5	2	2
Permitted Phases	4	4	4	8	8	6	6	5	5	5	2	2
Detector Phase	4	4	4	8	8	6	6	5	5	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	15.0	15.0	6.0	6.0	6.0	15.0	15.0
Minimum Split (s)	16.7	16.7	16.7	16.7	16.7	20.7	20.7	10.5	10.5	10.5	20.7	20.7
Total Split (s)	26.0	26.0	26.0	26.0	26.0	46.0	46.0	18.0	18.0	18.0	64.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	28.9%	28.9%	51.1%	51.1%	20.0%	20.0%	20.0%	71.1%	71.1%
Maximum Green (s)	19.3	19.3	19.3	19.3	19.3	40.3	40.3	13.5	13.5	13.5	58.3	58.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.5	3.5	3.5	3.6	3.6
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.1	2.1	1.0	1.0	1.0	2.1	2.1
Lost Time Adjust (s)	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 Lost Time (s)	6.7	6.7	6.7	6.7	6.7	5.7	5.7	4.5	4.5	4.5	5.7	5.7
Lead/Lag						Lag	Lag	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	None	None	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.02	0.02	0.02	0.35	0.18	0.45	0.45	0.45	0.45	0.45	0.26	0.26
Control Delay	30.7	30.7	30.7	42.4	3.7	3.6	3.6	10.6	10.6	10.6	1.4	1.4

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Right Turn on Red	Yes
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.96
Growth Factor	100%
Heavy Vehicles (%)	1%
Bus Blockages (#/hr)	0
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Minimum Gap (s)	
Time Before Reduce (s)	
Time To Reduce (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	

Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
Page 5

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Queue Delay	0.0				0.0	0.0		0.0			0.0	0.0
Total Delay	30.7				42.4	3.7		3.6			10.6	1.4
Queue Length 50th (ft)	1				31	0		32			17	26
Queue Length 95th (ft)	9				67	10		39			67	32
Internal Link Dist (ft)	204				280			310				210
Turn Bay Length (ft)											120	
Base Capacity (vph)	345				296	414		2093			560	2832
Starvation Cap Reductn	0				0	0		50			0	0
Spillback Cap Reductn	0				0	0		0			0	0
Storage Cap Reductn	0				0	0		0			0	0
Reduced v/c Ratio	0.01				0.20	0.12		0.46			0.39	0.26

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 88 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

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Glendale Chick-Fil-A TIA
TADI - TSC

Synchro 10 Report
Page 6

Lanes, Volumes, Timings 2019 Build: OptB (UTurns Allowed) w/Imp
 200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

	↙
Lane Group	SBR
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 6th Signalized Intersection Summary 2019 Build: OptB (UTurns Allowed) w/Imp
 200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place SAT Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	1	1	55	1	75	20	830	55	105	100	715
Future Volume (veh/h)	1	1	1	55	1	75	20	830	55	105	100	715
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885		1885	1885
Adj Flow Rate, veh/h	1	1	1	57	1	48	21	865	57		104	745
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1		1	1
Cap, veh/h	89	80	58	226	3	167	64	2108	137		586	2784
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00		0.06	0.76
Sat Flow, veh/h	340	774	557	1417	32	1610	35	3260	212		1795	3670
Grp Volume(v), veh/h	3	0	0	58	0	48	492	0	451		104	364
Grp Sat Flow(s),veh/h/ln	1671	0	0	1449	0	1610	1829	0	1677		1795	1791
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	2.5	0.0	0.0	0.0		1.5	5.5
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.3	0.0	2.5	0.0	0.0	0.0		1.5	5.5
Prop In Lane	0.33		0.33	0.98		1.00	0.04		0.13		1.00	
Lane Grp Cap(c), veh/h	227	0	0	230	0	167	1225	0	1085		586	1358
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.29	0.40	0.00	0.42		0.18	0.27
Avail Cap(c_a), veh/h	404	0	0	389	0	345	1225	0	1085		744	1358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00		1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.91	0.00	0.91		1.00	1.00
Uniform Delay (d), s/veh	36.2	0.0	0.0	37.6	0.0	37.3	0.0	0.0	0.0		3.5	3.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.9	0.9	0.0	1.1		0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.2	0.0	1.0	0.3	0.0	0.3		0.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.0	0.0	38.2	0.0	38.2	0.9	0.0	1.1		3.6	3.8
LnGrp LOS	D	A	A	D	A	D	A	A	A		A	A
Approach Vol, veh/h		3			106			943				850
Approach Delay, s/veh		36.2			38.2			1.0				3.8
Approach LOS		D			D			A				A
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		74.0		16.0	10.1	63.9		16.0				
Change Period (Y+Rc), s		5.7		* 6.7	4.5	5.7		* 6.7				
Max Green Setting (Gmax), s		58.3		* 19	13.5	40.3		* 19				
Max Q Clear Time (g_c+I1), s		7.5		2.1	3.5	2.0		5.3				
Green Ext Time (p_c), s		5.1		0.0	0.1	7.2		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				4.3								
HCM 6th LOS				A								

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2019 Build: OptB (UTurns Allowed) w/Imp

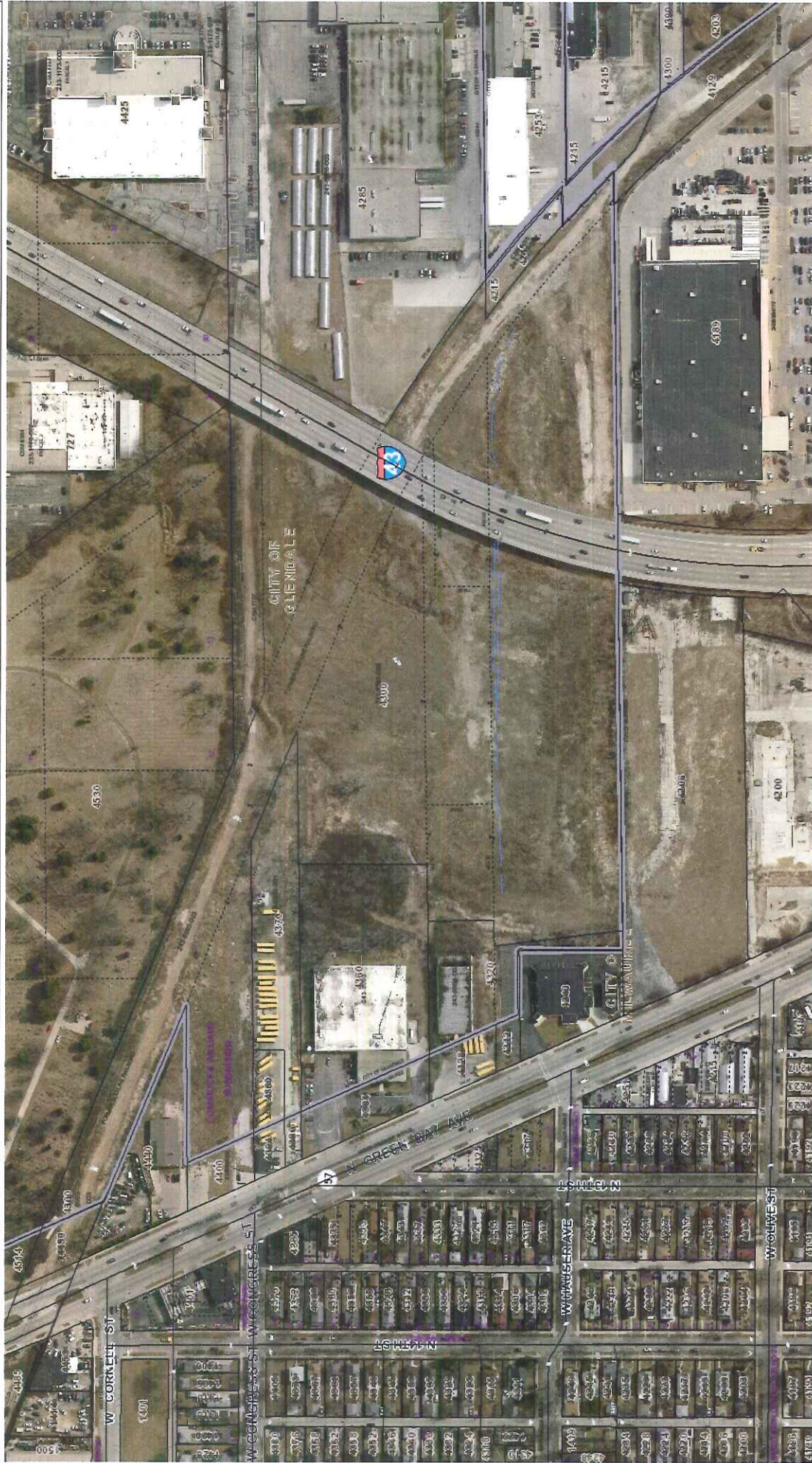
200: Port Washington Road & LaQuinta/Kopps Dwy/Richter Place

SAT Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	1
Future Volume (veh/h)	1
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1885
Adj Flow Rate, veh/h	1
Peak Hour Factor	0.96
Percent Heavy Veh, %	1
Cap, veh/h	4
Arrive On Green	0.76
Sat Flow, veh/h	5
Grp Volume(v), veh/h	382
Grp Sat Flow(s),veh/h/ln	1884
Q Serve(g_s), s	5.5
Cycle Q Clear(g_c), s	5.5
Prop In Lane	0.00
Lane Grp Cap(c), veh/h	1429
V/C Ratio(X)	0.27
Avail Cap(c_a), veh/h	1429
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	3.3
Incr Delay (d2), s/veh	0.5
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	1.6
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	3.8
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Monroe and Bielinski Certified Survey Map (CSM)



376 0 188 376 Feet 1:2,257

NAD 1983 2011 StatePlane_Wisconsin_South_EPS_4803_FLUS
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THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

DISCLAIMER: This map is a user generated static output from the Milwaukee County Geographic Information System (GIS) and is not intended for use as a legal document or for reference purposes only and may not be accurate, current or otherwise reliable. No liability is assumed for the data delineated herein either expressed or implied by Milwaukee County or its employees.

3b.

EXHIBIT B

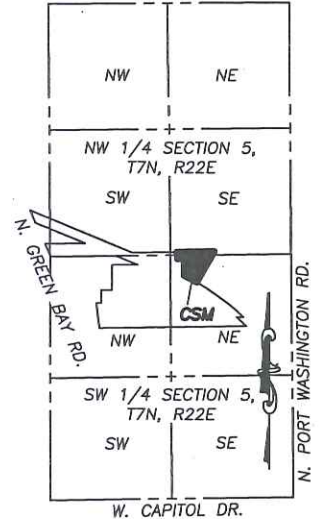
CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 7757 RECORDED IN THE MILWAUKEE COUNTY REGISTER OF DEEDS AS DOCUMENT NO. 9243114 AND LANDS IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND THE SOUTHEAST 1/4 OF NORTHWEST 1/4 OF SECTION 5, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF GLENDALE, MILWAUKEE COUNTY, WISCONSIN

ALL BEARINGS ARE REFER TO THE NORTH LINE OF THE SOUTHWEST 1/4 OF SECTION 5, WHICH HAS A WISCONSIN STATE PLANE COORDINATE SYSTEM (SOUTH ZONE)(NAD27) BEARING OF N89°11'35"E. (FEB. 2018 REVISION)

ALL MEASUREMENTS HAVE BEEN MADE TO THE NEAREST ONE-HUNDREDTH OF A FOOT.

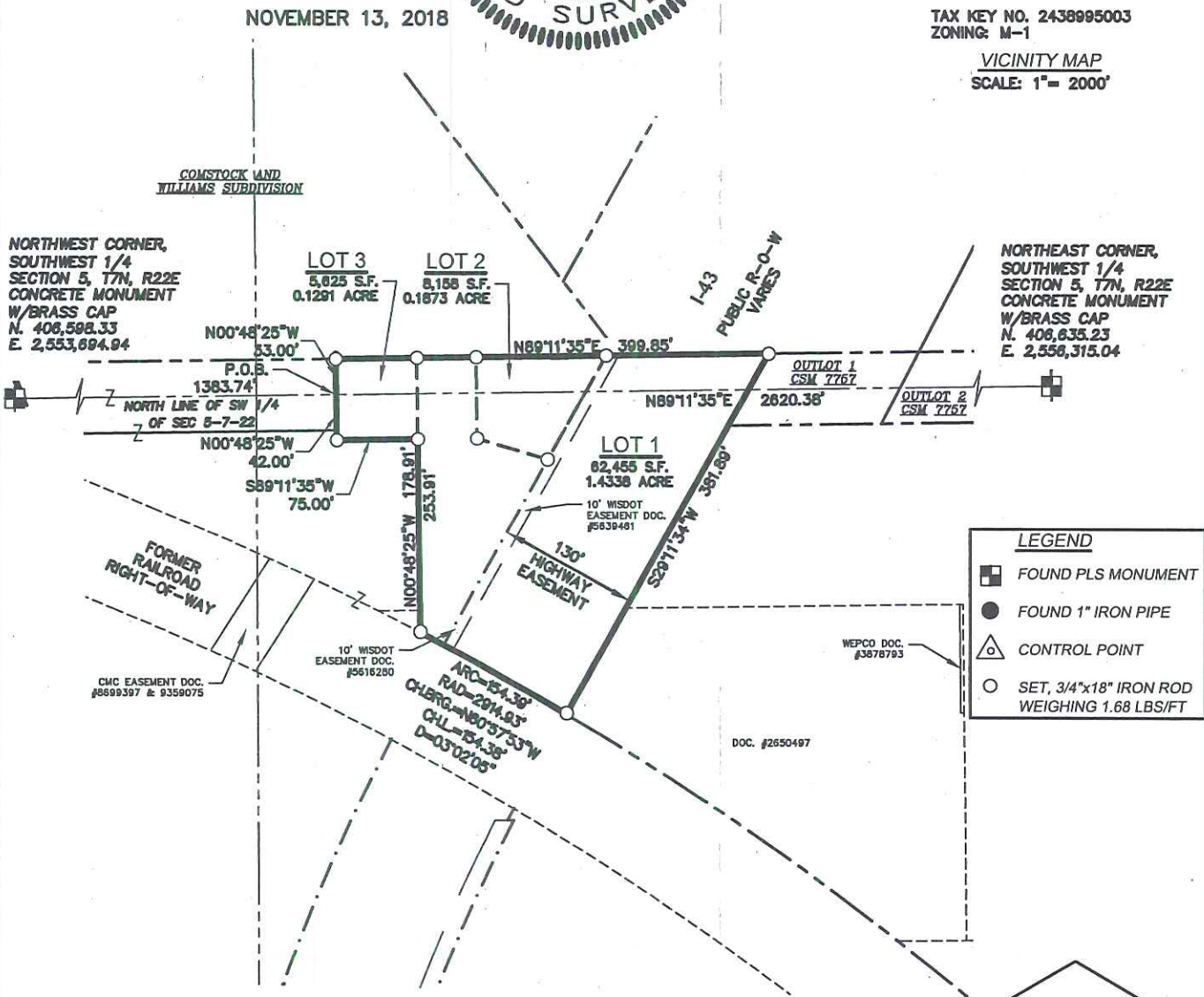
ALL ANGULAR MEASUREMENTS HAVE BEEN MADE TO THE NEAREST ONE SECOND.



TAX KEY NO. 2438995003
ZONING: M-1

VICINITY MAP
SCALE: 1"= 2000'

File: R:\2018\18-8335 Red Outdoor Media\Draw\3 Lot CSM.dwg Layout: CSM 1 of 4 User: mpiering Plotted: Nov 30, 2018 - 8:57am



LEGEND

- FOUND PLS MONUMENT
- FOUND 1" IRON PIPE
- CONTROL POINT
- SET, 3/4"x18" IRON ROD WEIGHING 1.68 LBS/FT

THIS INSTRUMENT WAS DRAFTED BY MICHAEL J. PIERING, S-2521.

North arrow pointing up.

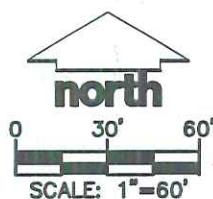
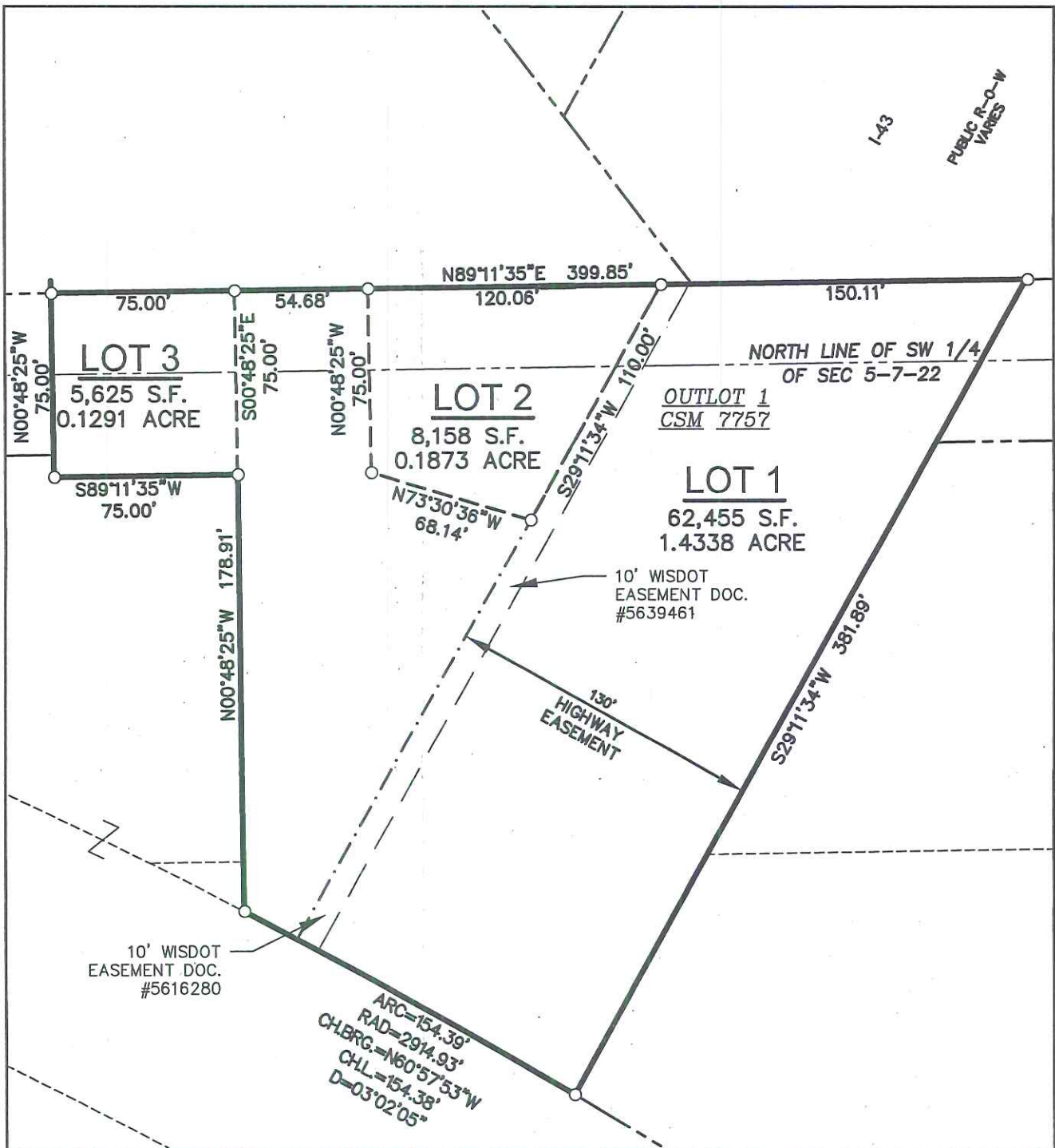
0 75 150

SCALE: 1"=150'

SURVEYED BY: JSD Professional Services, Inc. Engineers • Surveyors • Planners N238 W1610 BUSSE ROAD SUITE 100 WALKESHA, WISCONSIN 53188 PHONE: (262)513-0888	SUBDIVIDER/OWNER: GLENDALE PARTNERS, LLC. SOMEWHERE, MILWAUKEE, WI 53202	PROJECT NO: 18-8335 FILE NO: B- FIELDBOOK/Pg: - SHEET NO: 1 OF 4	SURVEYED BY: NA DRAWN BY: MJP CHECKED BY: CWR APPROVED BY: JB
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100

A REDIVISION OF PART OF OUILOT 1 OF CERTIFIED SURVEY MAP NO. 7757 RECORDED IN THE MILWAUKEE COUNTY REGISTER OF DEEDS AS DOCUMENT NO. 9243114 AND LANDS IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND THE SOUTHEAST 1/4 OF NORTHWEST 1/4 OF SECTION 5, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF GLENDALE, MILWAUKEE COUNTY, WISCONSIN



NOVEMBER 13, 2018

PREPARED BY:

JSD Professional Services, Inc.
• Engineers • Surveyors • Planners
N238 W1610 BUSSE ROAD
SUITE 100
WALKESHA, WISCONSIN 53188
PHONE: (262) 513-0666

THIS INSTRUMENT WAS DRAFTED BY MICHAEL J. PIERING, S-2521.

SHEET 2 OF 4

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 7757 RECORDED IN THE MILWAUKEE COUNTY REGISTER OF DEEDS AS DOCUMENT NO. 9243114 AND LANDS IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND THE SOUTHEAST 1/4 OF NORTHWEST 1/4 OF SECTION 5, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF GLENDALE, MILWAUKEE COUNTY, WISCONSIN

STATE OF WISCONSIN}
MILWAUKEE COUNTY} :SS

I, MICHAEL J. PIERING, PROFESSIONAL LAND SURVEYOR, CERTIFY:

THAT I HAVE SURVEYED, DIVIDED AND MAPPED A REDIVISION OF OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 7757 RECORDED IN THE MILWAUKEE COUNTY REGISTER OF DEEDS AS DOCUMENT NO. 9243114 AND THAT PORTION OF THE SOUTHWEST 1/4 AND THE NORTHWEST 1/4 OF SECTION 5, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF GLENDALE, MILWAUKEE COUNTY, WISCONSIN, WHICH IS BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 5; THENCE NORTH 89°11'35" EAST ALONG THE NORTH LINE OF SAID SOUTHWEST 1/4, 1383.74 FEET TO THE POINT OF BEGINNING; THENCE NORTH 00°48'25" WEST, 33.00 FEET TO THE NORTH LINE OF THE AFORESAID OUTLOT 1; THENCE NORTH 89°11'35" EAST ALONG SAID NORTH LINE, 399.85 FEET; THENCE SOUTH 29°14'39" WEST, 381.89 FEET TO THE NORTHEAST LINE OF A FORMER RAILROAD RIGHT-OF-WAY AND A POINT ON A CURVE TO THE LEFT; THENCE NORTHWESTERLY 154.39 FEET ALONG SAID NORTHEAST LINE AND THE ARC OF THE CURVE TO THE LEFT, WITH A RADIUS OF 2914.93 FEET AND A DEGREE OF CURVE OF 03°02'05" AND A CHORD THAT BEARS NORTH 60°57'53" WEST, 154.38 FEET; THENCE NORTH 00°48'25" WEST, 178.91 FEET; THENCE SOUTH 89°11'35" WEST, 75.00 FEET; THENCE NORTH 00°48'25" WEST, 42.00 FEET TO THE AFORESAID NORTH LINE OF THE SOUTHWEST 1/4 AND THE POINT OF BEGINNING.

LANDS CONTAINS 76,238 SQUARE FEET OR 1.7502 ACRES.

THAT I HAVE MADE THE SURVEY, LAND DIVISION, AND MAP BY THE DIRECTION OF GLENDALE PARTNERS, LLC.

THAT THE MAP IS A CORRECT REPRESENTATION OF ALL EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND THE LAND DIVISION THEREOF MADE.

THAT I HAVE FULLY COMPLIED WITH CHAPTER 236.34 OF THE WISCONSIN STATUTES AND CHAPTER 14 OF THE GLENDALE CODE OF ORDINANCES IN SURVEYING, DIVIDING AND MAPPING THE SAME.

MICHAEL J. PIERING
PROFESSIONAL WISCONSIN LAND SURVEYOR S-2521

NOVEMBER 13, 2018
DATE



PREPARED BY:

JSD Professional Services, Inc.
• Engineers • Surveyors • Planners
N238 W1610 BUSSE ROAD
SUITE 100
WALKESHA, WISCONSIN 53188
PHONE: (262)513-0066

THIS INSTRUMENT WAS DRAFTED BY MICHAEL J. PIERING, S-2521.

SHEET 3 OF 4

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 7757 RECORDED IN THE MILWAUKEE COUNTY REGISTER OF DEEDS AS DOCUMENT NO. 9243114 AND LANDS IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND THE SOUTHEAST 1/4 OF NORTHWEST 1/4 OF SECTION 5, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF GLENDALE, MILWAUKEE COUNTY, WISCONSIN

CORPORATE OWNER'S CERTIFICATE

GLENDALE PARTNERS, LLC, A CORPORATION DULY ORGANIZED AND EXISTING UNDER AND BY VIRTUE OF THE LAWS OF THE STATE OF WISCONSIN, AS OWNER, DOES HEREBY CERTIFY THAT SAID CORPORATION HAS CAUSED THE LAND DESCRIBED ON THIS CERTIFIED SURVEY MAP TO BE SURVEYED, DIVIDED AND MAPPED AS REPRESENTED HEREON. SAID CORPORATION FURTHER CERTIFIES THAT THIS CERTIFIED SURVEY MAP IS REQUIRED BY S.236.34, WISCONSIN STATUTES TO BE SUBMITTED TO THE CITY OF GLENDALE FOR APPROVAL.

IN WITNESS WHEREOF, THE SAID GLENDALE PARTNERS, LLC HAS CAUSED THESE PRESENTS TO BE SIGNED BY ITS REPRESENTATIVES THIS _____ DAY OF _____, 20____.

GLENDALE PARTNERS, LLC

BY: _____

STATE OF WISCONSIN) SS
MILWAUKEE COUNTY) SS

_____, PERSONALLY CAME BEFORE ME THIS _____ DAY OF _____, 20____, THE ABOVE NAMED _____ OF THE ABOVE NAMED GLENDALE PARTNERS, LLC, TO ME KNOWN TO BE THE PERSON WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THE SAME.

NOTARY PUBLIC, MILWAUKEE COUNTY, WISCONSIN

MY COMMISSION EXPIRES _____

COMMON COUNCIL CERTIFICATE OF APPROVAL

THIS CERTIFIED SURVEY MAP APPROVED BY THE COMMON COUNCIL OF THE CITY OF GLENDALE ON THIS _____ DAY OF _____, 20____.

RACHEL A. REISS, CITY ADMINISTRATOR



NOVEMBER 13, 2018

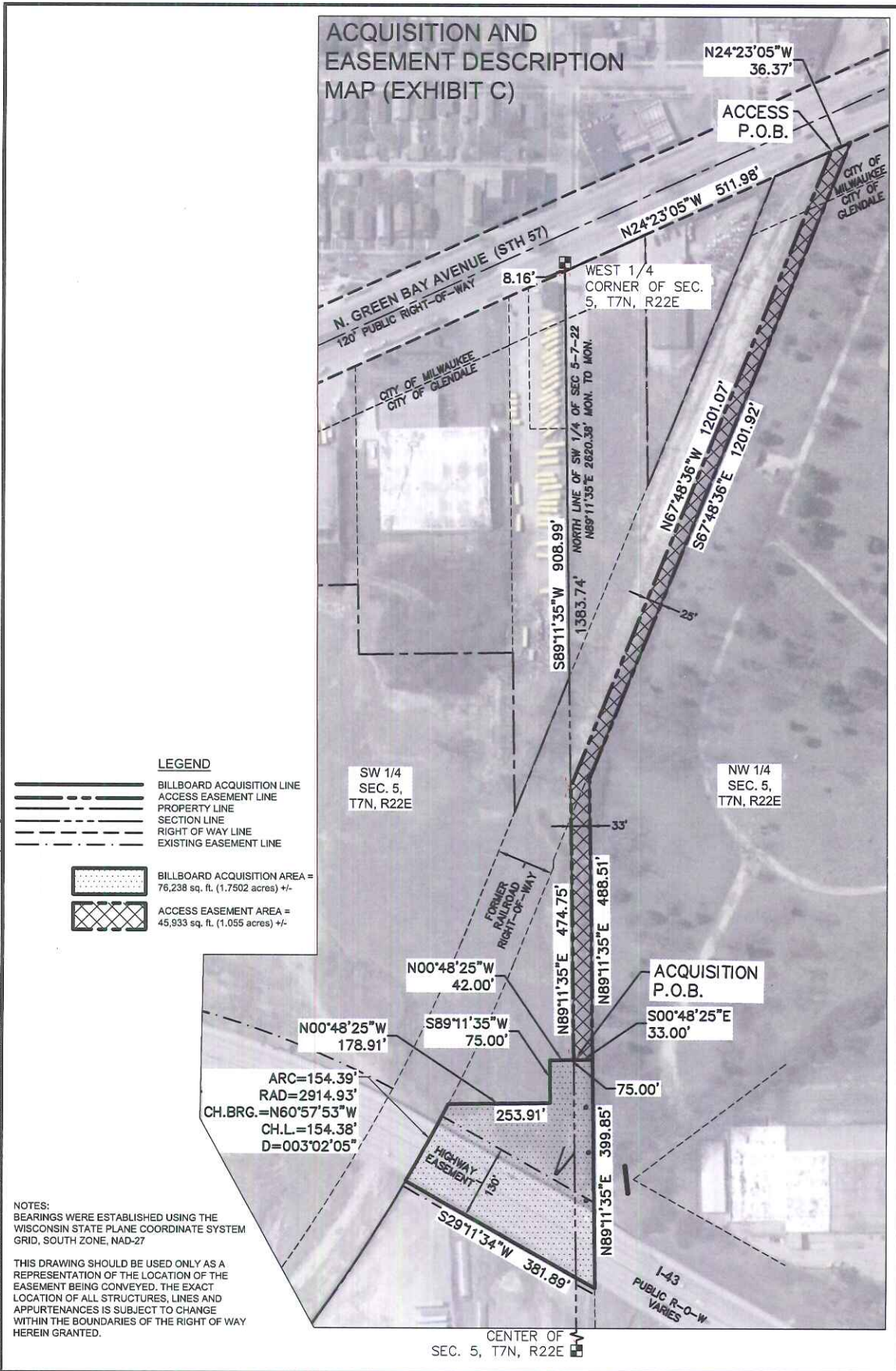
PREPARED BY:

JSD Professional Services, Inc.
• Engineers • Surveyors • Planners
N236 W1610 BUSSE ROAD
SUITE 100
WALKESHA, WISCONSIN 53188
PHONE: (262)613-0888

THIS INSTRUMENT WAS DRAFTED BY MICHAEL J. PIERING, S-2521.

SHEET 4 OF 4

File: R:\2018\18-8335 Red Outdoor Media\Draw\188335 Billboard Exhibit-Alt 1A.dwg Layout: EXHIBIT C MAP User: mplingr Plotted: Nov 30, 2018 - 9:45am



LEGAL DESCRIPTION (EXHIBIT C)

A variable width Parcel over, under and across a part of the grantor's premises, being a part of the Northeast Quarter of the Southwest Quarter and the Southwest of the Northwest Quarter of Section 5, in Township 7 North, Range 22 East, in the City of Glendale, Milwaukee County, Wisconsin, more fully described as follows:

Commencing at the West Quarter Corner of said Section 5; thence North 89°11'35" East along the north line of said Southwest Quarter, 1383.74 feet to the **Point of Beginning**; thence North 00°48'25" West, 33.00 feet to the north property line of the grantor; thence North 89°11'35" East along said north property line, said line being parallel to and 33' north of the aforesaid north line of the Southwest Quarter, 399.85 feet to the east property line and the east line of Interstate 43 highway easement; thence South 29°11'34" West along said east property line, 381.89 feet to the start of a non-tangent curve to the left; thence westerly 154.39 feet along the arc of said curve to the left, with a radius of 2914.93 feet, whose chord bears North 60°57'53" West, 154.38 feet; thence North 00°48'25" West, 178.91 feet; thence South 89°11'35" West, 75.00 feet; thence North 00°48'25" West, 42.00 feet to the **Point of Beginning**. Containing 76,238 square feet (1.7502 acres) more or less and subject to restrictions, reservations, rights of way and easements of record.

Also a variable width access easement over, under and across a part of the grantor's premises, being a part of the Northeast Quarter and the Northwest Quarter of the Southwest Quarter and the Southwest Quarter and the Southeast Quarter of the Northwest Quarter of Section 5, in Township 7 North, Range 22 East, in the City of Glendale, and the City of Milwaukee, all in Milwaukee County, Wisconsin, more fully described as follows:

Commencing at the West Quarter Corner of said Section 5; thence North 89°11'35" East along the north line of said Southwest Quarter, 8.16 feet to the east right-of-way line of N. Green Bay Avenue (STH 57); thence North 24°23'05" West along said east right-of-way line, 511.98 feet to the **Point of Beginning**; thence continuing North 24°23'05" West along the aforesaid east right-of-way line of N. Green Bay Avenue, 36.37 feet to the north line of a former railroad right of way; thence South 67°48'36" East along said north line, 1201.92 feet to a line parallel to and 33 feet north of said north line of the Southwest Quarter; thence North 89°11'35" East along said parallel line to the north, 488.51 feet; thence South 00°48'25" East, 33.00 feet to said north line of the Southwest Quarter; thence South 89°11'35" West along said north line, 474.75 feet; thence North 67°48'36" West, 1201.07 feet to the **Point of Beginning**. Containing 45,933 square feet (1.055 acres) more or less and subject to restrictions, reservations, rights of way and easements of record.

File: R: 2018\18-8335 Red Outdoor Media\Draw\188335 Billboard Exhibit_Alt 1A.dwg Layout: EXHIBIT C LEGAL User: mperier Plotted: Nov 30, 2018 - 9:36am

BILLBOARD LEGAL DESCRIPTION EXHIBIT C

PREPARED BY:
JSD Professional Services, Inc.
• Engineers • Surveyors • Planners

N238 W1610 BUSSE ROAD,
SUITE 100
WAUKESHA, WISCONSIN 53188
PHONE: (262)513-0666

PREPARED FOR:
ONE OUTDOOR LLC
GLENDALE YARDS

City of Glendale, Wisconsin
City of Milwaukee, Wisconsin

PROJECT NO: 18-8335

FILE NO: -

FIELDBOOK/PG: -

SHEET NO: 2 OF 2

SURVEYED BY: -

DRAWN BY: MJP

CHECKED BY: CWR

APPROVED BY: CWR

Stuebe, Todd

From: Brian Monroe <monroe.earthbound@gmail.com>
Sent: Wednesday, March 13, 2019 5:16 PM
To: Stuebe, Todd
Cc: John Bielinski
Subject: CSM Request for One Outdoor
Attachments: CSM Petition Letter.pdf; CSM 1_EX-B of 4.pdf; Billboard Exhibit C MAP.pdf

Hi Todd

Thanks for the call today to discuss the approval process for One Outdoor's CSM request.

Here is the letter that I put forward as the seller back in November 2018. From what I now understand the petitioner should be the buyer and the subject matter is a "Request for a formal review for a new CSM". Please let us know if you have any additional editing requests and the new letter will reflect those changes.

I see that the CSM requires signatures from both the surveyor and seller at time of submittal. I'm more than able to take care of the seller's portion. The buyer will get the surveyor's signature and that document will be provided two weeks (by 26 March) before the 9 April Plan Commission Meeting. The buyer will also provide 22 hard copies for you and the Plan Commission members.

I understand that with the Plan Commission's recommendation on 9 April that this will go to the Common Council for their approval at either their following meeting on 22 April or the meeting following on 13 May based on their agenda.

Please let me know if we've got it correct and if we need anything else.

Best, Brian

Managing Partner
Earthbound Development, LLC
Off: 414.881.6901
monroe.earthbound@gmail.com
www.rotary6270.org



RECLAIM • RECYCLE • REINVENT • REUSE

November 30, 2018

City of Glendale

Re: Request for a new CSM

To whom it may concern:

Please accept the following justification for a new certified survey map.

One Outdoor, LLC has entered into a purchase agreement with Glendale Partners, LLC to buy approximately 1.7 acres of a 27.0 acre parcel, also known as parcel # 2438995003, located in the City of Glendale. See Exhibit A. This property is unique as part of the property is underneath I-43.

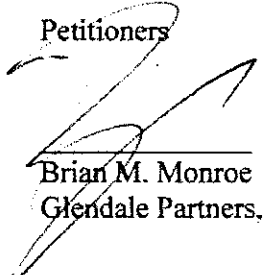
One Outdoor, LLC hereby requests to subdivide the 1.7 acres into three Lots as shown on Exhibit B. Each of the three Lots will have adequate access. Access to all of the Lots is shown on Exhibit C.

The reason for dividing part of the parcel into three Lots is that One Outdoor, LLC intends to build a digital display on Lot 2 per a previously approved cooperation agreement with the City of Glendale. However, if a WISDOT widening of I-43 occurs, to eliminate any future relocation or access issues, the parties will agree that One Outdoor, LLC may relocate the approved digital display to Lot 3. Additionally, after providing a new CSM, One Outdoor, LLC will deed remaining Lots 2 & 3 to the City of Glendale, as contemplated in the previously approved cooperative agreement.

The remaining Lot 1 would be temporarily retained by One Outdoor, LLC. One Outdoor, LLC is currently negotiating the future transfer of the property to WISDOT.

Providing a new CSM will be economically beneficial for the City of Glendale, WISDOT, as well as One Outdoor, LLC and Glendale Redevelopment, LLC.

Petitioners


Brian M. Monroe
Glendale Partners, LLC

3c.



When they had all had enough to eat, he said to his disciples, "Gather the pieces that are left over. Let nothing be wasted." John 6:12

March 12, 2019

City of Glendale Planning Commission
5909 N Milwaukee River Parkway
Glendale, WI 53209

RE: Purchase of building at 4180 N. Lydell Avenue

Dear Members of the Planning Commission,

Thank you for the opportunity to present our proposal for purchase of the building at 4180 N. Lydell Avenue. Just One More Ministry is a faith-based organization that specializes in rescuing food that would otherwise be wasted and distributing this food to organizations that help feed the poor and hungry in the lowest income communities in Milwaukee, Wisconsin.

The ministry was started by CEO Chris Capper in 2008 when he took one box of bread to an inner city church. The ministry became a 501(c)3 non-profit on June 8, 2013 and moved from an 800 square foot area to a site of 2,000 square feet and in 2016 to a 9,000 square foot facility. After two years at the current location the growth of the ministry necessitated a search for a larger building. (Please see the attached Growth Chart).

The goal of Just One More Ministry is to find "just one more" person to feed, "just one more" volunteer to assist in our mission, "just one more" vendor to provide food, and "just one more donor" who can help sustain the ministry through a charitable contribution.

We work with 75 partner organizations that pick-up the rescued food and distribute it to their community. Over 580,000 meals were provided for through Just One More Ministry in 2018. As an agent of Feeding America, we rescue food from over 40 vendors such as Walmart, Costco, Target, and other grocery stores and caterers. We are the only ministry in the area that receives and uses prepared foods. Considering that we have only 5 staff members (two of which are part-time) we must give credit to the 400 volunteers who help us and our partners make this ministry possible. We are truly blessed to have such caring and dedicated people who give of their time and talents to reach out in love to the families and children struggling in Milwaukee.

In addition to the food another key aspect for us is promoting racial equity by having suburban volunteers work alongside inner-city minorities to bridge the segregation gap which is so strong in Milwaukee. Opportunities for people coming out of the criminal justice system and being given an opportunity to rebuild their lives through employment at JOMM has been one of the hidden gemstones of this ministry. We also provide opportunities for youth groups, unemployed individuals and others who can volunteer and improve their work skills and be better equipped to find a job. A number of youth groups have used us as a means to teach young people how to give of their time in service to others.

The location on Lydell Avenue provides ample room to grow, and in the future have a food preparation area. We look forward to working with people in the Glendale community to join us in this exciting mission of rescuing food and bringing nutritious meals to those with hunger needs. We also enjoy collecting thousands of cream puffs from State Fair each year and giving those to inner-city children who may never have an opportunity to go to the Fair. Veterans, disabled people, battered women, runaway children, homeless men and women are benefitting from the mission of Just one More Ministry.

Thank you for your consideration. Please visit our website at JOMMinistry.org to see videos and learn more about what we do. You are all welcome to come visit us and see our operation in person and meet our wonderful staff and volunteers.

Sincerely,

Chris Capper, CEO



CITY OF GLENDALE
COMMUNITY DEVELOPMENT DEPARTMENT
5909 NORTH MILWAUKEE RIVER PARKWAY
GLENDALE, WISCONSIN 53209-3815
PHONE: (414) 228-1704 or (414) 228-1744
FAX: (414) 228-1725
WWW.GLENDALE-WI.ORG

PLAN COMMISSION REVIEW APPLICATION

APPLICANT INFORMATION

Name of Applicant: JUST ONE MORE MINISTRY, INC.
Legal Name of Business: JUST ONE MORE MINISTRY, INC.
Name of Business Owner (if different from Applicant): _____
Applicant Address (City, State, and Zip Code): 6442 ZUMA PARKWAY
WYAUWATON, WI 53213
Office Phone Number: 714-292-5112 Cell: 262-719-6886 Fax: _____
Applicant E-Mail: CHAISE@MINISTRY.ORG
Applicant Signature: Chris Capra Date: 3-5-2019

PROPERTY INFORMATION

Property Address: 4180 N. LYDELL Tax Key Number: 233113000 Zoning District: M-1
Property Owner (if different from Applicant): GS Hammill LLC / Gordon Hammill
Property Owner Address (City, State, and Zip Code): 4180 N. Lydell Avenue, Glendale, WI 53212
Property Owner Phone: 414-962-9606 Cell: 414-732-9658 Fax: _____
Property Owner E-Mail: ghammill@hoodleather.com & shammill12@yahoo.com
Property Owner Signature: Gordon Hammill Date: 3/12/2019

PROPOSAL INFORMATION

Name of Business and Type of Business/Use (Please be specific): JUST ONE MORE MINISTRY, INC.
SOLICIT 3 FOOD RESCUE MINISTRY
Total Building Area: 23,760 To Be Occupied Area: 23,760
Lot Size: Depth: _____ Width: _____ Area: _____
Previous Occupant in To Be Occupied Space: _____
Other Uses of This Site: _____
Total Number of Parking Spaces: _____ Parking Spaces Available to Tenancy: _____
Business Hours (Days and Hours of Operation): MON - THURS 7-3:30 FRIDAY 7-6:00 SAT 7-11:00
Total Number of Employees: 7 Maximum Number of Employees at Site at One Time: 7
Primary Contact Person for This Project: CHAISE CAPRA
Primary Contact Phone: 262-719-6886 Cell: 262-719-6886 Fax: _____
Primary Contact E-Mail: CHAISE@MINISTRY.ORG

CITY OF GLENDALE USE ONLY

Date of Application: _____ Time: _____ Received by with date: _____ Tentative Hearing Date: _____
G:\COUNCIL\Community Development Planning Department\Plan Commission Applications\2019\2019-03-05-Just One More Ministry, Inc. Application.doc

Plan of Operation Outline

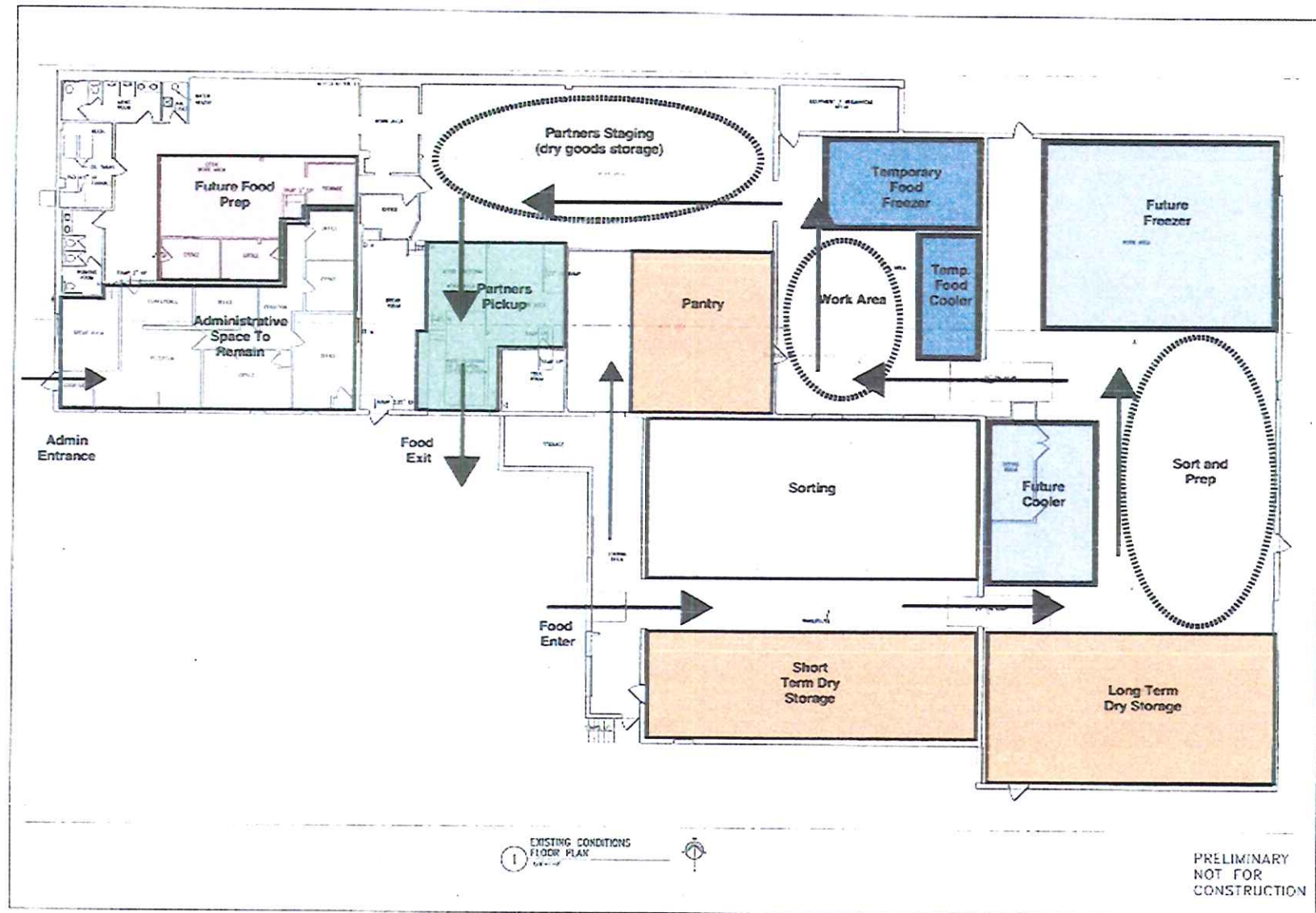
Just One More Ministry Inc.

March 11, 2019

1. Name of business, Address: Just One More Ministry Inc., 6442 River Parkway, Wauwatosa, WI 532123
2. Name of Owner, Address: Just One More Ministry Inc., 6442 River Parkway, Wauwatosa, WI 532123
3. Name of Applicant: Just One More Ministry Inc., 6442 River Parkway, Wauwatosa, WI 532123
4. Legal Description of Property: The south 50.5 of lot 79 and the north 100 feet of lot 82 of Comstock & Williams subdivision in the S.E. ¼ of Sec. 5, T7N, R22E, in the City of Glendale. Formerly the Town of Milwaukee excepting the west 30.00 feet thereof as conveyed to the City of Glendale for street purposes by deed 2990531 (#3094109) See Survey by Miller Engineers Scientists dated 3-5-2001.
5. Tax – Key: 233118300
6. Zoning of Property: M-1
7. Lot Size (depth, Width, Area): Approx. 1.348 acres. See Survey by Miller Engineers Scientists dated 3-5-2001.
8. Dimensions and all levels (floors) of buildings: See attached drawing dated 12-6-2000 by Quorum Architects.
9. Total Floor Area: Approximately 23,760 square feet
10. Specific uses of the entire property and buildings: The building will be used for the ministry of Just One More Ministry and will be used to receive, sort and store food rescued from grocery stores and caterers. The food will then be distributed and picked up by inner city organizations that feed the poor, hungry and homeless in their communities.
11. Minimum and maximum number of employees: 5 now, up to 10 in the future.
12. Days of Operation: Monday - Saturday
13. Hours of Operation: Monday – Friday 7:00AM – 3:30PM, Saturday 6:30AM – 12:00PM
14. Signage (Type, Lighted?, Wall, Free-Standing, Monuments, Size, Location, etc.): Reuse the existing sign framing that is wall mounted with new sign face.
15. What Conditions has the State of County imposed upon your use of the property: None
16. Security Fencing: Utilize existing fencing
17. Do you feel there will be any problems such as Noise, Odors, Glare, Potential Fire Hazards, or Smoke resulting from the proposed use? None
18. Are you proposing food services? No food is served in the operation.
19. Did the State of Wisconsin approve your interior building plans? Not sent to State
20. What provisions are you making for fire protection and human safety? We will work with the North Shore Fire Department and follow their guidelines.
21. What are your rules and regulations of the property? As a Christian ministry we will show His love to all people: There will be No discrimination, No sexual, physical or verbal harassment, No weapons, No fighting, No Alcohol, No smoking in the building and No foul language. Rules for treating others with respect and rules for proper food handling will be posted in the building for all to follow.

22. List the Timetable for completion of building construction and anticipated grand opening date: No construction activities anticipated. Move in is anticipated for
23. Proposed on site security measures: Interior and exterior security cameras and adequate lighting for interior and exterior.
24. Anticipated maximum number of facility users and viewers at one time (including special events) 30 people. Will contact City of Glendale if we plan a special event.
25. Any other information you or the Plan Commission feels is pertinent: No
26. Business Plan: See Attachment
27. Entire Grant Application and County Issued Request for Proposal: None

28. Name: Chris Cappel
Signature: CHRIS CAPPEL
Date: 3-15-19



ACCOMMODATIONS
FOR VOLUNTEERS
MARKED IN RED

TEMPORARY
FLOOR PLAN

12' x 12' 6"
12' x 12' 6"
12' x 12' 6"
12' x 12' 6"

EX1.1



When they had all had enough to eat, he said to his disciples, "Gather the pieces that are left over. Let nothing be wasted." John 6:12

ANNUAL GROWTH

Year	Lbs. Food rescued	Meals Served	Volunteers	Volunteer Hours	Food donors	# of Partners	# of Staff
2010	70,000	10,000	12	2,500	5	5	0
2011	115,000	25,000	30	4,500	7	8	0
2012	150,000	62,800	55	8,000	11	13	0
2013	200,000	87,500	90	18,000	13	15	2
2014	278,000	105,000	105	21,000	15	20	3
2015	265,000	109,200	150	30,000	33	35	4
2016	484,083	182,000	200	41,600	40	50	5
2017	772,315	260,000	240	49,920	45	60	6
2018	1,178,157	580,000	400	83,200	45	75	7



In addition to the 580,000 meals we distributed in 2018, we also distributed other food items such as:

282,758 pounds of meat
 106,034 pounds of produce
 70,689 pounds of pantry
 65,977 pounds of bakery
 58,908 pounds of dairy
 5,891 pounds of deli items
 11,781 non-food items
 5,891 pounds of pet food

Just One More seeks to be the hands and feet of Jesus Christ by caring for Milwaukee's poor in spirit & providing regular nutritious meals for the hungry.



When they had all had enough to eat, he said to his disciples, "Gather the pieces that are left over. Let nothing be wasted." John 6:12

CURRENT FOOD DONOR LIST

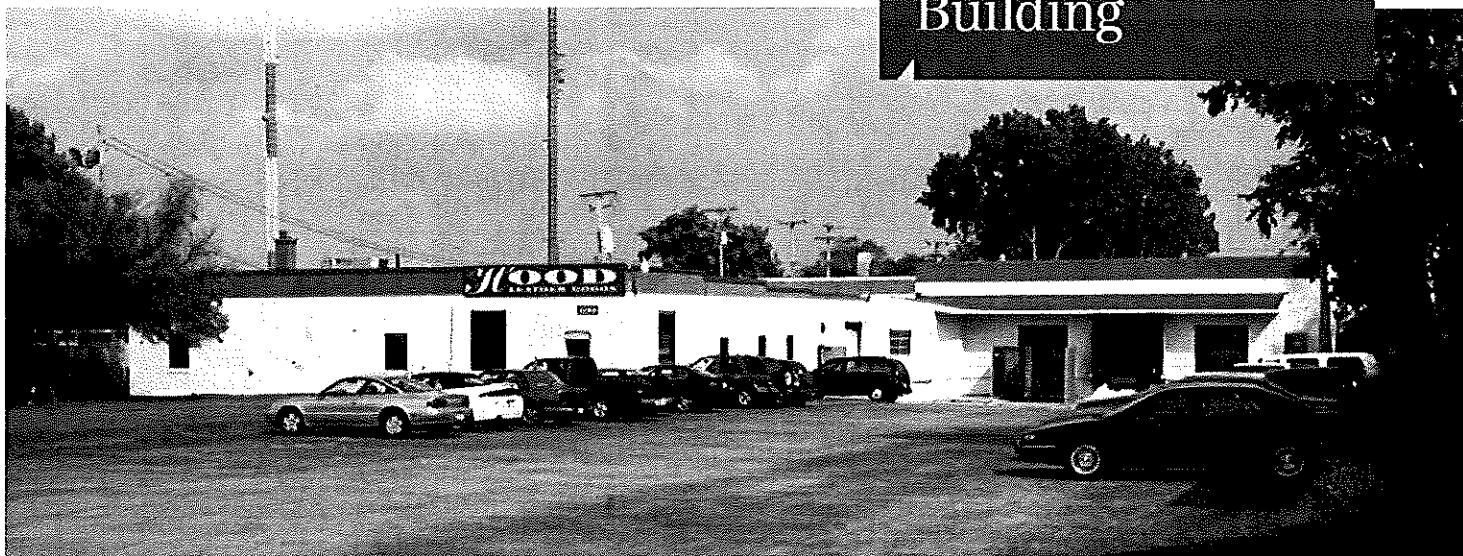
- | | |
|------------------------------|-------------------------------|
| 1. ACOSTA SALES | 23. METCALF'S SENTRY |
| 2. BAKERS SQUARE | 24. NATIONAL GUARD AIR WING |
| 3. BARTOLOTTA RESTAURANTS | 25. NATURE'S PATH |
| 4. C. ADAMS BAKERY | 26. NORTH BROOK CHURCH |
| 5. CORE/SUPREME | 27. PENZEYS SPICES |
| 6. COSTCO | 28. REINHART |
| 7. DIERK'S FOODS WAUKESHA | 29. ROUTE 76 DINER |
| 8. DOWNTOWN KITCHENS | 30. ROUNDY'S |
| 9. FEED MY SHEEP | 31. SCHULTZ DELI |
| 10. FEEDING AMERICA EAST WI | 32. SAZ'S CATERING |
| 11. GALST FOODS | 33. ST. MATTHEWS LUTHERAN |
| 12. GORDON'S FOOD SERVICE | 34. TALL GUY WITH A GRILL |
| 13. GERMANFEST | 35. TARGET, MULTIPLE STORES |
| 14. GREEK FEST | 36. US FOODS |
| 15. HARLEY-DAVIDSON MUSEUM | 37. UWM |
| 16. HAWG CITY CATERING | 38. VARIOUS LOCAL CHURCHES |
| 17. ITALIAN COMMUNITY CENTER | 39. VARIOUS LOCAL SCHOOLS |
| 18. JEN'S SWEET TREATS | 40. WALMART, MULTIPLE STORES |
| 19. JOHNSONVILLE SAUSAGES | 41. WHOLE FOODS |
| 20. KOHL'S KITCHENS | 42. WISCONSIN CENTER |
| 21. KURT SCHULZ DELI | 43. WISCONSIN STATE FAIR PARK |
| 22. LINDNERS LOGISTICS | 44. WORLD WIDE HUNGER RELIEF |
| | 45. ZILLI'S CATERING |



When they had all had enough to eat, he said to his disciples, "Gather the pieces that are left over. Let nothing be wasted." John 6:12

2019 COMMUNITY PARTNER LIST

- | | | |
|----------------------------------|------------------------------------|----------------------------------|
| 1. ARCW | 32. Humble Reflections | 62. St. Vincent DePaul |
| 2. Autumn West Side Haven | 33. Inner Beauty Center | 63. Street Life Outreach |
| 3. Bethesda Baptist Church | 34. Jacarrie Carr's Kicks for Kids | 64. Summerfield Church |
| 4. Bethel Temple | 35. Jackie's House | 65. Sussex Outreach Services |
| 5. Bridge of Hope Center | 36. Lake Park Lutheran | 66. The Vineyard |
| 6. Capitol Drive Lutheran Church | 37. Lenders 2 Yahweh | 67. Tosa Cares |
| 7. Captive Project | 38. MADACC | 68. Transformation City |
| 8. Cathedral Center | 39. Marjani House | 69. Unity Lutheran Church |
| 9. Casa Maria | 40. Marquette Students | 70. UWM Campus Ministries |
| 10. Chris Cross Ministries | 41. Milwaukee Homeless Vets | 71. Village Works |
| 11. City on a Hill | 42. Milwaukee Rescue Mission | 72. White Stone Warriors |
| 12. Comm. Projects for Seniors | 43. Milwaukee Women's Center | 73. World Wide Hunger Relief |
| 13. Community Warehouse | 44. Milwaukee Working | 74. Zion United Church of Christ |
| 14. Christ's Mission | 45. Mineral Street Ministry | |
| 15. Cross Lutheran Church | 46. Mr. Bob's Under the Bridge | |
| 16. Despensa de La Paz | 47. New Generation Church | |
| 17. Dry Hootch | 48. New Hope Youth & Family | |
| 18. Faithworks Food Pantry | 49. Northcott House | |
| 19. Feeding His Flock | 50. Out the Gate | |
| 20. Feed My Sheep | 51. Pathfinders | |
| 21. First Lutheran West Allis | 52. Pepp Nation | |
| 22. God Touch Milwaukee | 53. Program the Park | |
| 23. God's Hands | 54. Project Bridge – Comm. Adv. | |
| 24. Grand Avenue Club | 55. Project Return | |
| 25. Greater New Bethel Ministry | 56. Providers Help | |
| 26. Guiding Light | 57. Redeemer Lutheran Church | |
| 27. Havenswoods | 58. Reformation Lutheran Church | |
| 28. Hephatha Lutheran Church | 59. Sherman Park Food Pantry | |
| 29. His Banquet | 60. St. John's Lutheran Church | |
| 30. Hopewell Pantry | 61. St. Josephs | |
| 31. Honey Creek Church | | |



4180 N. Lydell Avenue Glendale, WI

Property Details

Building Size: ±23,760 SF

Parcel Size: ±1.348 Acres

Tax Key #: 2331183000

2018 Taxes: \$13,466.62

Sale Price: \$625,000

Property Features

- Trench drains in the warehouse
- Air lines throughout the building
- Flexible floor plan

For more information:

Adam Matson, SIOR

262 613 6096

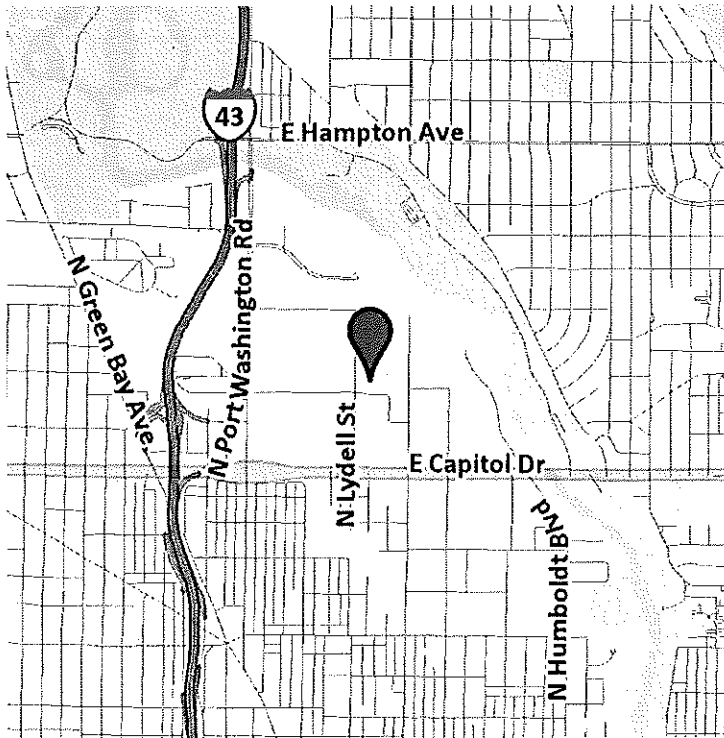
arm@mlgcommercial.com

Travis Tiede

414 395 4682

tat@mlgcommercial.com

4180 N. Lydell Avenue



Building Features

Construction:	Masonry Block
Year Built:	1937; additions in 1960 & 1972
Sprinkler:	No
Zoning:	M-1
Parking:	Ample
Utilities:	Municipal Sewer & Water

Warehouse Features

Size:	±20,160 SF
Ceiling Height:	±12' - 18' Clear
Dock Doors:	1 - 12'x12' Interior Dock 1 - 8'x8' with Leveler 2 - 8'x8' with Dock Pad
HVAC:	Gas Fired Unit Heaters
Lighting:	Metal Halide & Fluorescent
Power:	3-Phase, 240V, 400 Amp (TBV)

Office Features

Size:	±3,600 SF
Finishes:	Several Private Offices, Conference Room & Display Room
HVAC:	Forced Air



COMMERCIAL REAL ESTATE SERVICES WORLDWIDE

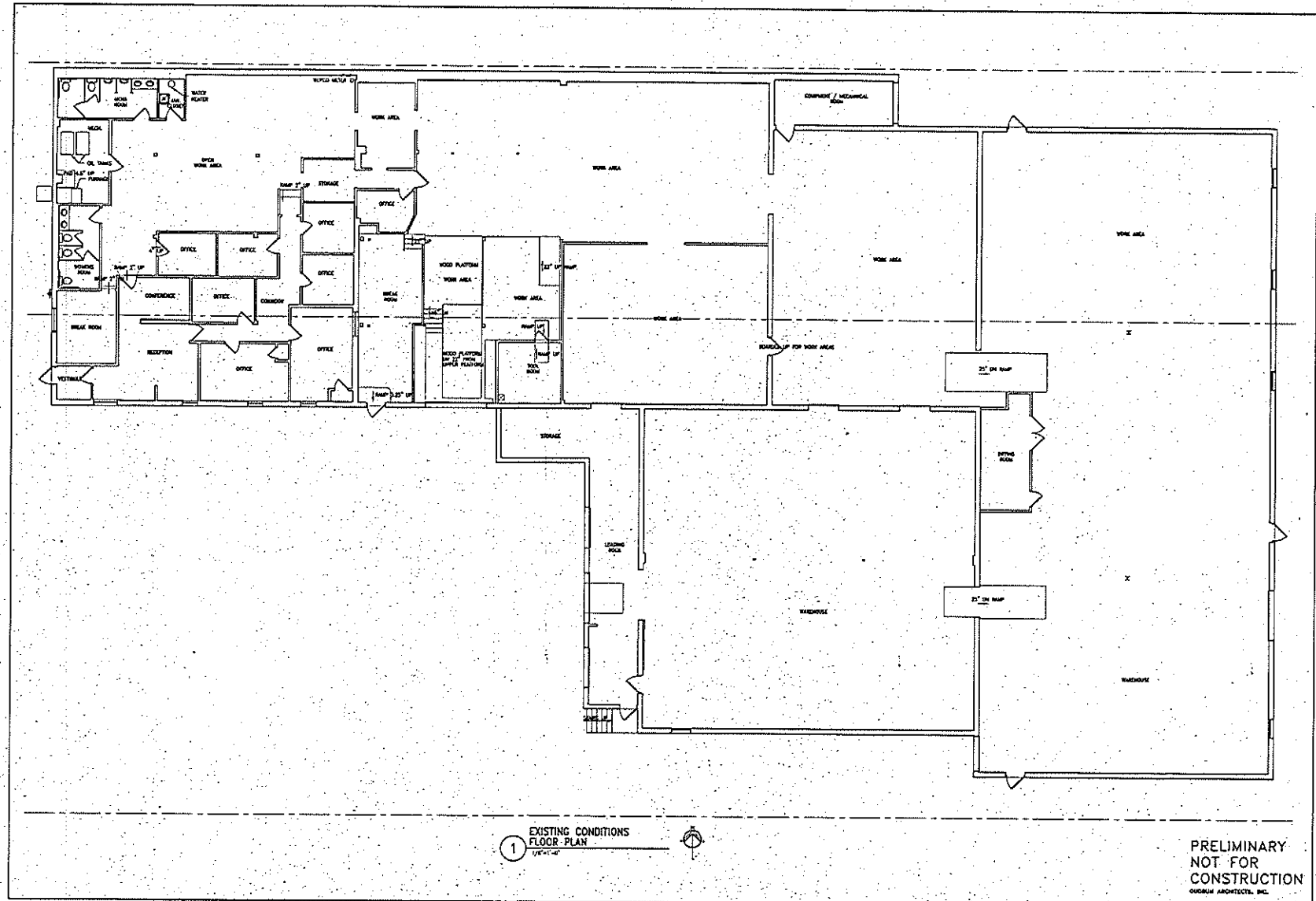
Information shown herein was provided by the Seller/Lessor and/or other third parties and has not been verified by the broker unless otherwise indicated.

757 N Broadway, Suite 700
Milwaukee, WI 53202
414 347 9400
mlgcommercial.com

Offices in Milwaukee and Madison, WI



QUORUM
ARCHITECTS
114 E. Wisconsin Ave.
Milwaukee, WI 53202
Phone 414.347.9400
Fax 414.347.9400



Project Name
HOLD LEATHER GOODS
430 N. VESSEL AVENUE
MILWAUKEE, WI 53212

Client
HOLD LEATHER GOODS

Date
12-10-00
Scale
1/8"=1'-0"
Drawn by
CML
Checked by
SOPHIE

PRELIMINARY
NOT FOR
CONSTRUCTION
QUORUM ARCHITECTS, INC.

EX1.1

Copyright 2000, Quorum Architects, Inc.

NAI MLG Commercial

COMMERCIAL REAL ESTATE SERVICES WORLDWIDE

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757 N Broadway, Suite 700
Milwaukee, WI 53202
414 347 9400
mlgcommercial.com

Offices in Milwaukee and Madison, WI



NAI MLG Commercial

COMMERCIAL REAL ESTATE SERVICES WORLDWIDE

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757 N Broadway, Suite 700
 Milwaukee, WI 53202
 414 347 9400
mlgcommercial.com

Offices in Milwaukee and Madison, WI



NAI MLG Commercial

COMMERCIAL REAL ESTATE SERVICES WORLDWIDE

Information shown herein was provided by the Seller/Lessor and/or other third parties and has not been verified by the broker unless otherwise indicated.

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Offices in Milwaukee and Madison, WI

State of Wisconsin Broker Disclosure to Non-Residential Customers

Prior to negotiating on your behalf the brokerage firm, or an agent associated with the firm, must provide you the following disclosure statement.

BROKER DISCLOSURE TO CUSTOMERS

You are the customer of the brokerage firm (hereinafter Firm). The Firm is either an agent of another party in the transaction or a subagent of another firm that is the agent of another party in the transaction. A broker or a salesperson acting on behalf of the Firm, may provide brokerage services to you. Whenever the Firm is providing brokerage services to you, the Firm and its brokers and salespersons (hereinafter Agents) owe you, the customer, the following duties:

- The duty to provide brokerage services to you fairly and honestly.
- The duty to exercise reasonable skill and care in providing brokerage services to you.
- The duty to provide you with accurate information about market conditions within a reasonable time if you request it, unless disclosure of the information is prohibited by law.
- The duty to disclose to you in writing certain Material Adverse Facts about a property, unless disclosure of the information is prohibited by law (see "Definition of Material Adverse Facts" below).
- The duty to protect your confidentiality. Unless the law requires it, the Firm and its Agents will not disclose your confidential information or the confidential information of other parties (see "Confidentiality Notice To Customers" below).
- The duty to safeguard trust funds and other property held by the Firm or its Agents.
- The duty, when negotiating, to present contract proposals in an objective and unbiased manner and disclose the advantages and disadvantages of the proposals.

Please review this information carefully. An agent of the Firm can answer your questions about brokerage services, but if you need legal advice, tax advice, or a professional property inspection, contact an attorney, tax advisor, or property inspector. This disclosure is required by section 452.135 of the Wisconsin statutes and is for information only. It is a plain-language summary of a broker's duties to a customer under section 452.133 (1) of the Wisconsin statutes.

CONFIDENTIALITY NOTICE TO CUSTOMERS

The Firm and its Agents will keep confidential any information given to the Firm or its Agents in confidence, or any information obtained by the Firm or its Agents that a reasonable person would want to be kept confidential, unless the information must be disclosed by law or you authorize the Firm to disclose particular information. The Firm and its Agents shall continue to keep the information

Wisconsin law requires all real estate licensees to give the following information about brokerage services to prospective customers.

confidential after the Firm is no longer providing brokerage services to you.

The following information is required to be disclosed by law:

1. Material Adverse Facts, as defined in section 452.01 (5g) of the Wisconsin statutes (see "definition of material adverse facts" below).
2. Any facts known by the Firm or its Agents that contradict any information included in a written inspection report on the property or real estate that is the subject of the transaction.

To ensure that the Firm and its Agents is aware of what specific information you consider confidential, you may list that information below or provide that information to the Firm or its Agents by other means. At a later time, you may also provide the Firm or its Agents with other information that you consider to be confidential.

CONFIDENTIAL INFORMATION: _____

NON-CONFIDENTIAL INFORMATION (The following information may be disclosed by the Firm and its Agents): _____

(INSERT INFORMATION YOU AUTHORIZE TO BE DISCLOSED SUCH AS FINANCIAL QUALIFICATION INFORMATION)

SEX OFFENDER REGISTRY

Notice: You may obtain information about the sex offender registry and persons registered with the registry by contacting the Wisconsin Department of Corrections on the Internet at <http://www.doc.wi.gov/> or by phone at 608-240-5830.

DEFINITION OF MATERIAL ADVERSE FACTS

A "Material Adverse Fact" is defined in Wis. Stat. 452.01 (5g) as an adverse fact that a party indicates is of such significance, or that is generally recognized by a competent licensee as being of such significance to a reasonable party, that it affects or would affect the party's decision to enter into a contract or agreement concerning a transaction or affects or would affect the party's decision about the terms of such a contract or agreement.

An "Adverse Fact" is defined in Wis. Stat. 452.01 (1e) as a condition or occurrence that a competent licensee generally recognizes will significantly and adversely affect the value of the property, significantly reduce the structural integrity of improvements to real estate, or present a significant health risk to occupants of the property; or information that indicates that a party to a transaction is not able to or does not intend to meet his or her obligations under a contract or agreement made concerning the transaction.

No representation is made as to the legal validity of any provision or the adequacy of any provision on any specific transaction.