

Ashville Fischer Homes Development Traffic Impact Study

Prepared for: Fischer Homes
June 13, 2022



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I. Purpose of Report & Study Objectives

The purpose of this traffic analysis and report is to document the potential traffic impacts of a proposed residential development located in Ashville, Ohio. This traffic impact study (TIS) is required by the Village of Ashville as part of the development approval process.

II. Proposed Development

A. Off-Site Developments

The study area includes the proposed site access points and the intersections of Viking Way with E. Main Street and SR-752. The surrounding area includes residential developments to the west, a church to the south, Teays Valley High School to the northwest, and undeveloped agricultural land on all other sides.

B. On-Site Development

Location

The site is located on the east side of Viking Way. **Figure 1** shows the location of the proposed site in central Ohio and **Figure 2** shows the study area.

Figure 1 – Location in Central Ohio

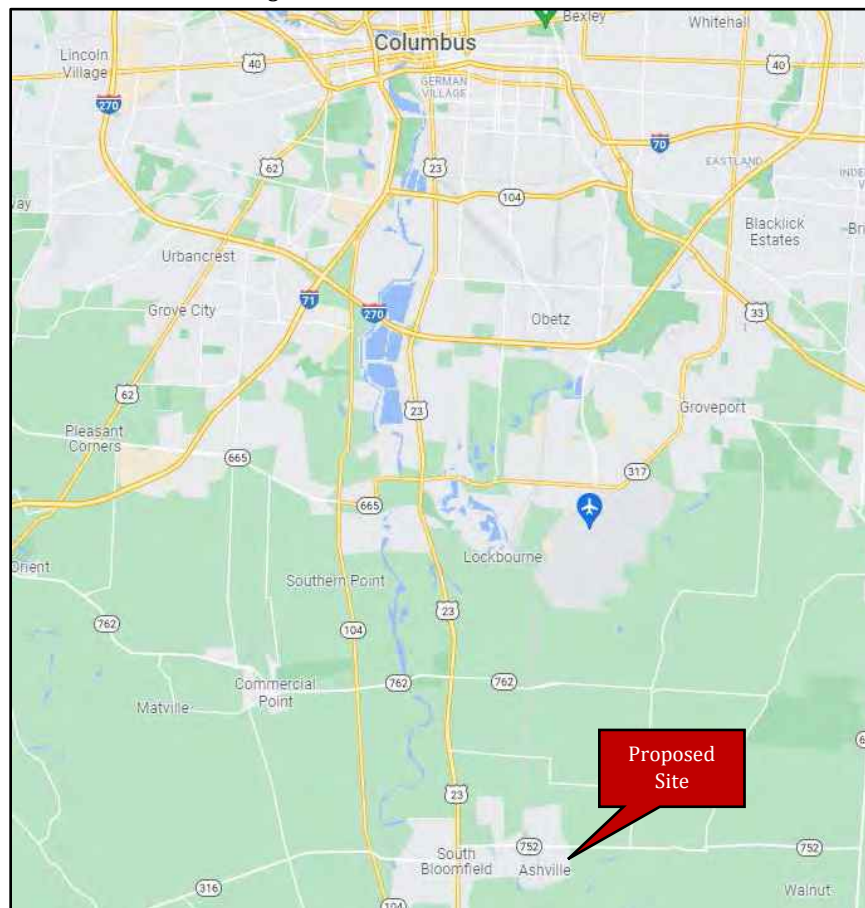


Figure 2 – Location of the Proposed Development (Yellow), Site Drives, and Study Intersections



Land Use & Intensity

The site currently includes a single-family home and undeveloped farmland. The site is proposed to be developed into 160 single-family detached homes and 54 single-family attached patio homes. Two full access points are proposed that align with the existing Viking Way intersections with Glenn Road and Station Street E.

The concept plan for the proposed development is provided in **Appendix A**.

III. Area Conditions

A. Area of Influence

The study intersections for the proposed development are listed below. Numbers correspond to **Figure 2**.

1. Viking Way & SR-752 (off-site intersection)
2. Viking Way & Site Access 1/Glenn Road
3. Viking way & Site Access 2/Station Street E.
4. Viking Way & E. Main Street (off-site intersection)

B. Jurisdictions

The proposed site is located in Ashville, Ohio. All intersections fall under Village of Ashville jurisdiction.

C. Traffic Volumes & Conditions

Peak hour count data was collected by Carpenter Marty Transportation on April 19, 2022 at all study intersections while school was in session. Count data can be found in **Appendix B**.

IV. Projected Traffic

A. Background Traffic

For analysis, the Opening Year of the development is 2022 and the Design, or Horizon Year, is 2032. A growth rate of 2% was obtained from the Maronda Homes/DR Horton Homes TIS. This growth rate was applied to all count data to produce Background volumes for the Opening and Horizon Years. Trips generated by the Maronda Homes/DR Horton Homes sites located in north Ashville were added to the Background volumes to produce No Build volumes for the Opening and Horizon Years. Relevant excerpts from the Maronda Homes/DR Horton TIS can be found in **Appendix C**.

B. Site Traffic

Trip Generation

Trips for the proposed development were generated using standard Institute of Transportation Engineers (ITE) practices and the Trip Generation Manual, 11th edition, data via the OTISS program¹. Land Use Codes (LUC) 210 – *Single-Family Detached Housing* and 215 – *Single-Family Attached Housing* were used to generate trips for the proposed development. Pass-by and internal capture trip reductions do not apply to this development. **Table 1** shows the trip generation of the proposed development. The full trip generation analysis can be found in **Appendix C**.

¹ Online Traffic Impact Study Software developed by ITE and Transoft Solutions.

Table 1 – Proposed Site Trip Generation Summary

Land Use	Size	AM Peak		PM Peak	
		Entry	Exit	Entry	Exit
210 – Single-Family Detached Housing	160 Units	30	85	97	57
215 – Single-Family Attached Housing	54 Units	7	15	16	12
TOTAL		37	100	113	69

Site traffic was distributed to/from the site based on count data, knowledge of the surrounding area, and engineering judgement. Site traffic was added to the No Build traffic to produce Build traffic for the Opening and Horizon Years. The full volume calculations can be found in **Appendix D**.

V. Traffic Analysis

A. Turn Lane Warrant Analysis

Turn lane warrant analysis was conducted using standard ODOT turn lane warrant graphs for the two-way stop-controlled study intersections. If a turn lane was warranted in any particular scenario, the length was calculated using methodologies in the ODOT Location and Design (L&D) Manual. Viking Way has a posted speed limit of 35 MPH at all study intersections. A design speed of 40 MPH was utilized for all turn lane length calculations.

B. Capacity Analysis

Highway Capacity Software (HCS) version 7.8.5 was used for capacity analysis. A minimum LOS of D for the overall intersection, approaches, and each individual movement during peak traffic hours was considered acceptable at the study intersections. If an intersection fell below these criteria, mitigation strategies were developed to bring each movement or intersection back to an acceptable LOS.

C. Sight Distance

Sight distance triangle exhibits were developed for each proposed access point based on criteria outlined in the ODOT L&D Manual. All exhibits were created with design speeds 5 MPH over the posted speed limits.

VI. Results

A. Turn Lane Warrant Analysis

Results of the turn lane warrant analysis show that turn lanes are not warranted for any study intersection. The full turn lane warrant and length analysis can be found in **Appendix E**.

B. Capacity Analysis

Results of the capacity analysis for the study intersections can be seen in **Table 2**. The full capacity analysis can be found in **Appendix F**.

Table 2 – Capacity Analysis Summary (LOS/delay)

Intersection (Control Type, Intersection # ¹)	Approach / Movement	Opening Year (2022)				Horizon Year (2032)			
		AM No Build	AM Build	PM No Build	PM Build	AM No Build	AM Build	PM No Build	PM Build
Viking Way & SR-752 (AWSC, 1)	EB	B/11.7	B/12.7	B/10.6	B/11.9	B/14.5	C/16.5	B/12.2	B/14.1
	WB	B/11.9	B/13.0	A/9.8	B/10.9	C/15.1	C/17.3	B/11.0	B/12.5
	NB	B/10.9	B/12.6	A/9.6	B/10.8	B/13.0	C/16.1	B/10.6	B/12.1
	SB	B/12.2	B/13.2	B/10.2	B/11.2	C/15.3	C/17.3	B/11.5	B/12.8
	Total	B/11.7	B/12.9	B/10.1	B/11.3	B/14.6	C/16.8	B/11.5	B/13.0
Viking Way & Site Access 1/ Glenn Road (TWSC, 2)	EB	B/10.5	B/11.8	B/10.1	B/11.7	B/11.0	B/12.6	B/10.5	B/12.2
	WB	---	B/10.2	---	A/9.7	---	B/10.5	---	A/10.0
	NB Left	A/7.6	A/7.6	A/7.7	A/7.7	A/7.6	A/7.6	A/7.8	A/7.8
	SB Left	---	A/7.7	---	A/7.6	---	A/7.8	---	A/7.6
Viking Way & Site Access 2/ Station Street E. (TWSC, 3)	EB	B/10.4	B/11.1	A/10.0	B/10.6	B/10.9	B/11.8	B/10.3	B/11.1
	WB	---	B/10.6	---	B/10.6	---	B/11.0	---	B/11.1
	NB Left	A/7.6	A/7.6	A/7.7	A/7.7	A/7.6	A/7.6	A/7.8	A/7.8
	SB Left	---	A/7.6	---	A/7.5	---	A/7.6	---	A/7.6
Viking Way & E. Main Street (TWSC, 4)	EB	B/10.1	B/10.6	B/10.1	B/11.0	B/10.6	B/11.1	B/10.6	B/11.6
	WB	B/10.8	B/11.2	B/10.5	B/10.8	B/11.2	B/11.6	B/10.8	B/11.2
	NB Left	A/7.5	A/7.6	A/7.6	A/7.7	A/7.5	A/7.6	A/7.7	A/7.8
	SB Left	A/7.4	A/7.4	A/7.3	A/7.4	A/7.5	A/7.5	A/7.4	A/7.4

TWSC = two-way stop-control

AWSC = all-way stop-control

¹Intersection numbers correspond to Figure 2

As seen above in **Table 2**, all intersections operate with acceptable LOS in all scenarios.

C. Sight Distance

Sight distance exhibits for the proposed site drives can be seen in **Appendix G**. No sight distance issues were noted. Sight lines should be maintained through the design and construction process.

VII. Recommendations and Conclusions

Based on the results of the analysis herein, no improvements are required for any study intersection. Thus, no improvements are recommended.

VIII. Appendices

- Appendix A – Site Plan
- Appendix B – Count Data
- Appendix C – Background Traffic & Trip Generation
- Appendix D – Volume Calculations
- Appendix E – Turn Lane Warrant & Length Analysis
- Appendix F – Capacity Analysis
- Appendix G – Sight Distance Analysis

Appendix A

Site Plan





Homesite Types	Total Homesites	Legend
Maple Street (52' min)	93 homesites	44%
Maple Street (42' min)	67 homesites	31%
Paired Patio (34' min)	54 homesites	25%
Total Homesites	214 homesites	3.7 homes/acre

Land Use	Acres	Legend
Open Space	17.65 acres	31%
Rights-of-Ways	9.48 acres	16%
Residential Lots	30.32 acres	53%
Total Site Acreeage	57.45 acres	100%

Grand Communities, LLC

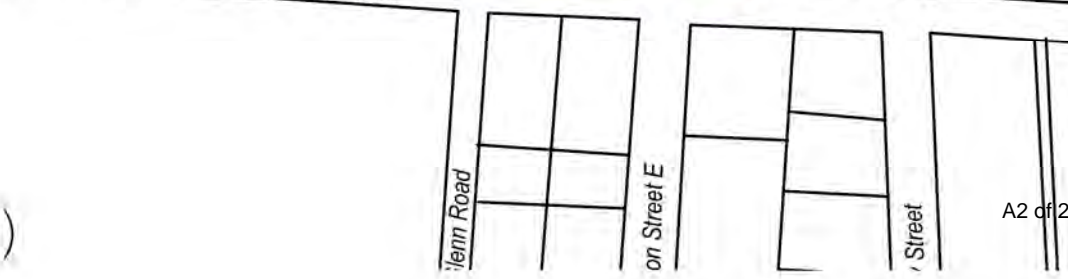
Hedges Property

Village of Ashville, Pickaway County, Ohio

Concpetual Plan



December 21, 2021



Appendix B

Count Data



Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940739, Location: 39.714183, -82.94399

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Main Street Eastbound					Church Drive Westbound					Circleville Avenue Northbound					Circleville Avenue Southbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2022-04-19 7:00AM	9	0	5	0	14	0	0	0	0	0	5	31	0	0	36	0	10	5	0	15	65
7:15AM	26	0	10	0	36	0	0	0	0	0	9	42	0	0	51	2	16	15	0	33	120
7:30AM	8	0	9	0	17	0	1	0	0	1	5	5	0	0	10	0	12	23	0	35	63
7:45AM	2	0	7	0	9	0	0	0	0	0	9	7	0	0	16	0	5	5	0	10	35
Hourly Total	45	0	31	0	76	0	1	0	0	1	28	85	0	0	113	2	43	48	0	93	283
8:00AM	3	0	3	0	6	1	0	0	0	1	7	15	0	0	22	0	4	4	0	8	37
8:15AM	0	0	6	0	6	0	0	0	0	0	14	5	0	0	19	0	7	6	0	13	38
8:30AM	3	0	4	0	7	0	1	0	0	1	5	7	0	0	12	0	5	3	0	8	28
8:45AM	11	0	10	0	21	2	1	0	0	3	15	12	0	0	27	0	12	8	0	20	71
Hourly Total	17	0	23	0	40	3	2	0	0	5	41	39	0	0	80	0	28	21	0	49	174
2:00PM	6	0	9	0	15	1	0	0	0	1	9	11	0	0	20	0	10	1	0	11	47
2:15PM	11	0	7	0	18	0	0	0	0	0	9	16	0	0	25	0	10	6	0	16	59
2:30PM	8	0	8	0	16	0	1	0	0	1	8	9	0	0	17	0	26	39	0	65	99
2:45PM	9	0	17	0	26	0	0	0	0	0	9	8	0	0	17	0	18	17	0	35	78
Hourly Total	34	0	41	0	75	1	1	0	0	2	35	44	0	0	79	0	64	63	0	127	283
3:00PM	12	0	10	0	22	1	8	3	0	12	10	17	0	0	27	0	9	8	0	17	78
3:15PM	8	0	18	0	26	0	0	0	0	0	8	8	0	0	16	0	19	3	0	22	64
3:30PM	11	1	20	0	32	0	1	0	0	1	11	11	0	0	22	0	26	11	0	37	92
3:45PM	3	1	16	0	20	1	0	0	0	1	8	11	0	0	19	0	17	8	0	25	65
Hourly Total	34	2	64	0	100	2	9	3	0	14	37	47	0	0	84	0	71	30	0	101	299
4:00PM	6	0	18	0	24	0	0	0	0	0	10	11	0	0	21	0	12	11	0	23	68
4:15PM	3	1	14	0	18	0	0	0	0	0	13	13	0	0	26	0	18	6	0	24	68
4:30PM	3	0	22	0	25	0	0	0	0	0	10	12	0	0	22	0	15	6	0	21	68
4:45PM	6	0	21	0	27	0	1	0	0	1	11	14	0	0	25	0	25	6	0	31	84
Hourly Total	18	1	75	0	94	0	1	0	0	1	44	50	0	0	94	0	70	29	0	99	288
5:00PM	10	0	17	0	27	0	0	0	0	0	11	13	0	0	24	0	17	5	0	22	73
5:15PM	2	0	14	0	16	0	0	0	0	0	6	9	0	0	15	0	11	7	0	18	49
5:30PM	8	0	13	0	21	0	0	0	0	0	17	10	0	0	27	0	21	4	0	25	73
5:45PM	3	0	13	0	16	0	0	3	0	3	11	11	0	0	22	0	11	3	0	14	55
Hourly Total	23	0	57	0	80	0	0	3	0	3	45	43	0	0	88	0	60	19	0	79	250
Total	171	3	291	0	465	6	14	6	0	26	230	308	0	0	538	2	336	210	0	548	1577
% Approach	36.8%	0.6%	62.6%	0%	-	23.1%	53.8%	23.1%	0%	-	42.8%	57.2%	0%	0%	-	0.4%	61.3%	38.3%	0%	-	-
% Total	10.8%	0.2%	18.5%	0%	29.5%	0.4%	0.9%	0.4%	0%	1.6%	14.6%	19.5%	0%	0%	34.1%	0.1%	21.3%	13.3%	0%	34.7%	-
Lights	161	3	286	0	450	6	14	6	0	26	225	302	0	0	527	2	325	207	0	534	1537
% Lights	94.2%	100%	98.3%	0%	96.8%	100%	100%	100%	0%	100%	97.8%	98.1%	0%	0%	98.0%	100%	96.7%	98.6%	0%	97.4%	97.5%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	3
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.9%	0%	0%	0%	0.4%	0%	0.3%	0%	0%	0.2%	0.2%
Buses and Single-Unit Trucks	10	0	5	0	15	0	0	0	0	0	3	6	0	0	9	0	10	3	0	13	37
% Buses and Single-Unit Trucks	5.8%	0%	1.7%	0%	3.2%	0%	0%	0%	0%	0%	1.3%	1.9%	0%	0%	1.7%	0%	3.0%	1.4%	0%	2.4%	2.3%

* L: Left, R: Right, T: Thru, U: U-Turn

Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

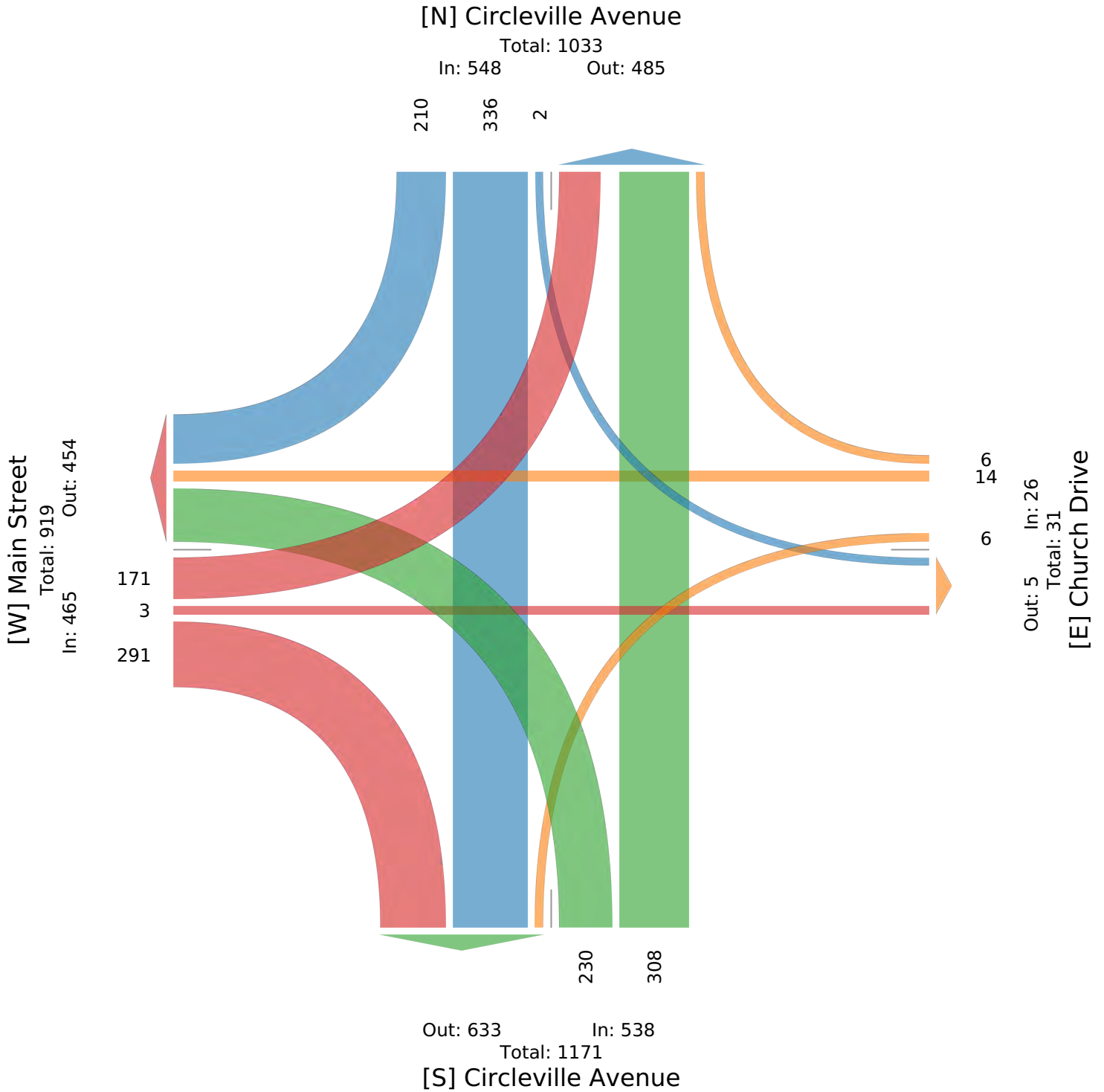
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940739, Location: 39.714183, -82.94399

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US



Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

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Leg Direction	Main Street Eastbound					Church Drive Westbound					Circleville Avenue Northbound					Circleville Avenue Southbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2022-04-19 7:00AM	9	0	5	0	14	0	0	0	0	0	5	31	0	0	36	0	10	5	0	15	65
7:15AM	26	0	10	0	36	0	0	0	0	0	9	42	0	0	51	2	16	15	0	33	120
7:30AM	8	0	9	0	17	0	1	0	0	1	5	5	0	0	10	0	12	23	0	35	63
7:45AM	2	0	7	0	9	0	0	0	0	0	9	7	0	0	16	0	5	5	0	10	35
Total	45	0	31	0	76	0	1	0	0	1	28	85	0	0	113	2	43	48	0	93	283
% Approach	59.2%	0%	40.8%	0%	-	0%	100%	0%	0%	-	24.8%	75.2%	0%	0%	-	2.2%	46.2%	51.6%	0%	-	-
% Total	15.9%	0%	11.0%	0%	26.9%	0%	0.4%	0%	0%	0.4%	9.9%	30.0%	0%	0%	39.9%	0.7%	15.2%	17.0%	0%	32.9%	-
PHF	0.433	-	0.775	-	0.528	-	0.250	-	-	0.250	0.778	0.506	-	-	0.554	0.250	0.672	0.522	-	0.664	0.590
Lights	45	0	31	0	76	0	1	0	0	1	28	84	0	0	112	2	39	48	0	89	278
% Lights	100%	0%	100%	0%	100%	0%	100%	0%	0%	100%	100%	98.8%	0%	0%	99.1%	100%	90.7%	100%	0%	95.7%	98.2%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	4	0	0	4	5
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.2%	0%	0%	0.9%	0%	9.3%	0%	0%	4.3%	1.8%

* L: Left, R: Right, T: Thru, U: U-Turn

Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM)

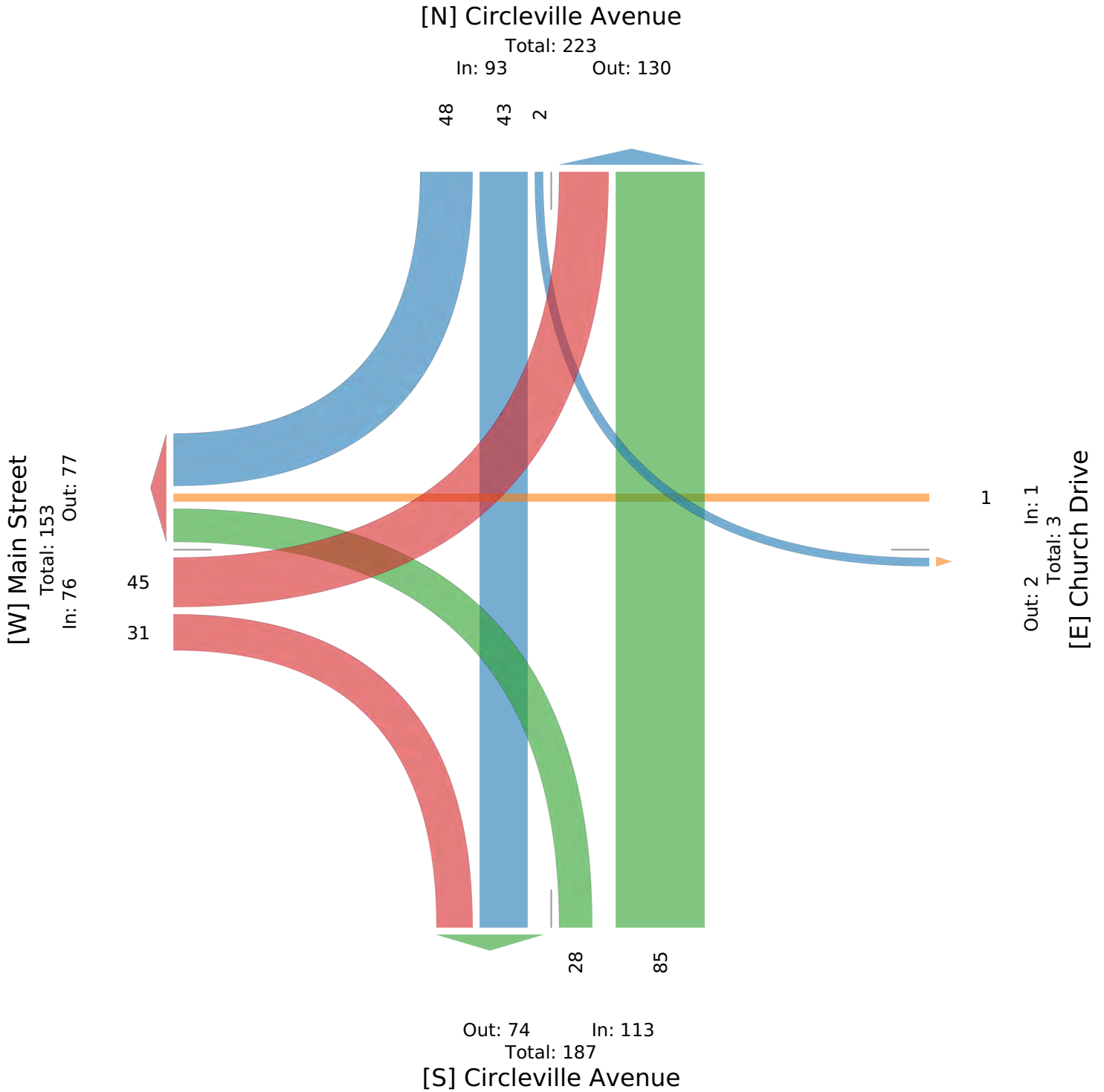
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Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940739, Location: 39.714183, -82.94399

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6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Main Street Eastbound					Church Drive Westbound					Circleville Avenue Northbound					Circleville Avenue Southbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2022-04-19 2:30PM	8	0	8	0	16	0	1	0	0	1	8	9	0	0	17	0	26	39	0	65	99
2:45PM	9	0	17	0	26	0	0	0	0	0	9	8	0	0	17	0	18	17	0	35	78
3:00PM	12	0	10	0	22	1	8	3	0	12	10	17	0	0	27	0	9	8	0	17	78
3:15PM	8	0	18	0	26	0	0	0	0	0	8	8	0	0	16	0	19	3	0	22	64
Total	37	0	53	0	90	1	9	3	0	13	35	42	0	0	77	0	72	67	0	139	319
% Approach	41.1%	0%	58.9%	0%	-	7.7%	69.2%	23.1%	0%	-	45.5%	54.5%	0%	0%	-	0%	51.8%	48.2%	0%	-	-
% Total	11.6%	0%	16.6%	0%	28.2%	0.3%	2.8%	0.9%	0%	4.1%	11.0%	13.2%	0%	0%	24.1%	0%	22.6%	21.0%	0%	43.6%	-
PHF	0.771	-	0.736	-	0.865	0.250	0.281	0.250	-	0.271	0.875	0.618	-	-	0.713	-	0.692	0.429	-	0.535	0.806
Lights	37	0	53	0	90	1	9	3	0	13	35	40	0	0	75	0	68	65	0	133	311
% Lights	100%	0%	100%	0%	100%	100%	100%	100%	0%	100%	100%	95.2%	0%	0%	97.4%	0%	94.4%	97.0%	0%	95.7%	97.5%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	2	0	6	8
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4.8%	0%	0%	2.6%	0%	5.6%	3.0%	0%	4.3%	2.5%

* L: Left, R: Right, T: Thru, U: U-Turn

Circleville Avenue & Main Street - TMC

Tue Apr 19, 2022

PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour

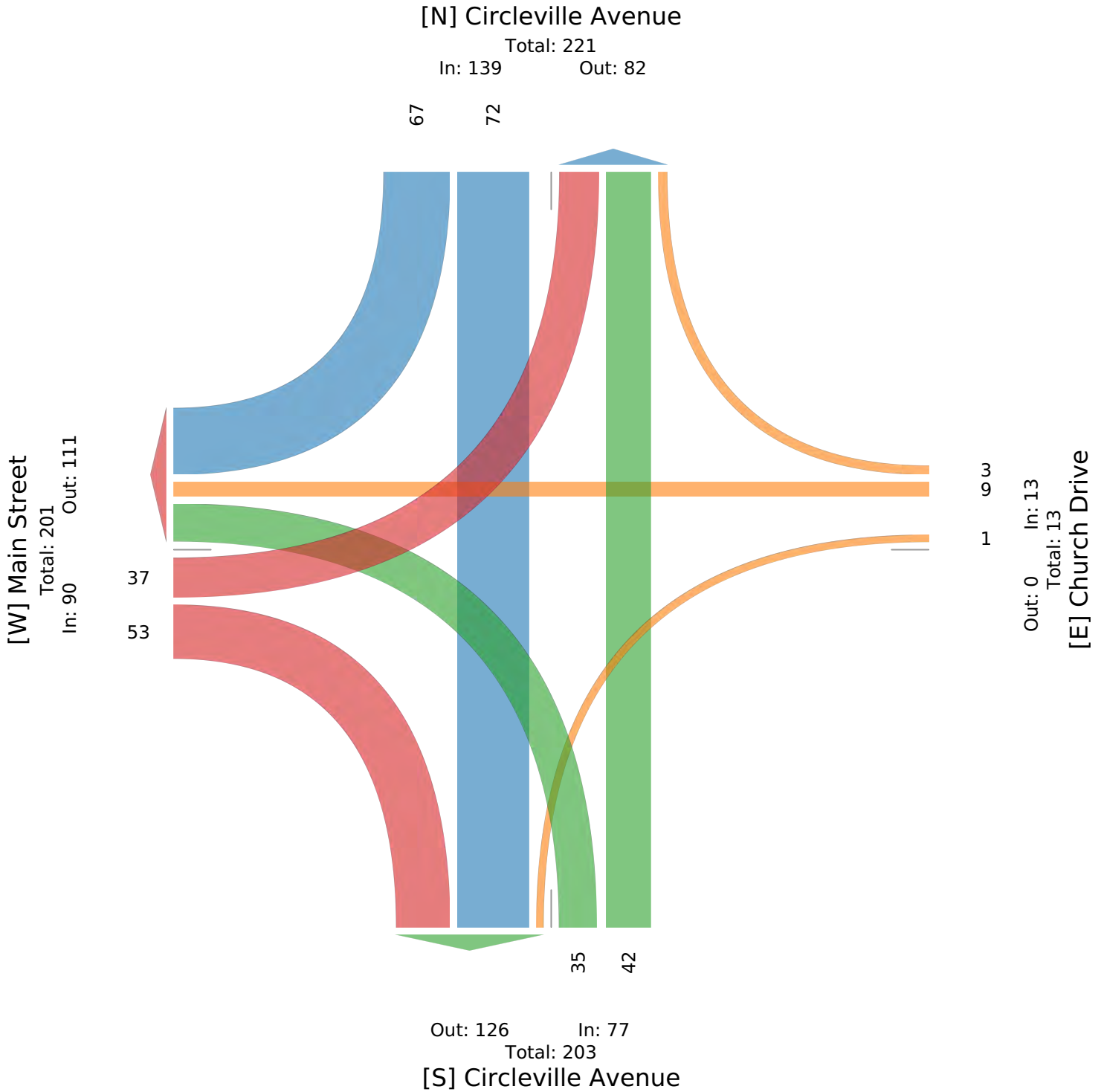
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6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Glenn Road Eastbound				Viking Way Northbound				Viking Way Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-04-19 7:00AM	1	0	0	1	0	55	0	55	19	2	0	21	77
7:15AM	4	0	0	4	0	90	0	90	65	2	0	67	161
7:30AM	0	0	0	0	1	18	0	19	47	1	0	48	67
7:45AM	2	1	0	3	0	8	0	8	9	0	0	9	20
Hourly Total	7	1	0	8	1	171	0	172	140	5	0	145	325
8:00AM	0	2	0	2	1	16	0	17	9	1	0	10	29
8:15AM	3	1	0	4	1	5	0	6	16	0	0	16	26
8:30AM	0	2	0	2	0	10	0	10	18	2	0	20	32
8:45AM	1	1	0	2	1	24	0	25	23	0	0	23	50
Hourly Total	4	6	0	10	3	55	0	58	66	3	0	69	137
2:00PM	2	1	0	3	1	20	0	21	17	1	0	18	40
2:15PM	2	1	0	3	1	15	0	16	31	0	0	31	50
2:30PM	0	0	0	0	1	28	0	29	28	2	0	30	62
2:45PM	1	1	0	2	1	17	0	18	32	1	0	33	53
Hourly Total	5	3	0	8	4	80	0	84	108	4	0	112	205
3:00PM	0	1	0	1	0	21	0	21	10	1	0	11	33
3:15PM	1	2	0	3	0	32	0	32	28	3	0	31	66
3:30PM	0	3	0	3	0	16	0	16	94	2	0	96	115
3:45PM	1	1	0	2	0	17	0	17	40	1	0	41	60
Hourly Total	2	7	0	9	0	80	0	80	172	7	0	179	268
4:00PM	1	0	0	1	2	18	0	20	27	3	0	30	51
4:15PM	1	0	0	1	2	13	0	15	28	0	0	28	44
4:30PM	1	4	0	5	0	15	0	15	19	3	0	22	42
4:45PM	1	1	0	2	3	20	0	23	34	0	0	34	59
Hourly Total	4	5	0	9	7	66	0	73	108			114	196
5:00PM	2	1	0	3	3	26	0	29	26	2	0	28	60
5:15PM	1	2	0	3	1	13	0	14	19	1	0	20	37
5:30PM	0	0	0	0	0	18	0	18	24	2	0	26	44
5:45PM	1	1	0	2	0	19	0	19	16	3	0	19	40
Hourly Total	4	4	0	8	4	76	0	80	85	8	0	93	181
Total	21	26	0	47	24	354	0	378	464	27	0	491	916
% Approach	44.7%	55.3%	0%	-	6.3%	93.7%	0%	-	94.5%	5.5%	0%	-	-
% Total	2.3%	2.8%	0%	5.1%	2.6%	38.6%	0%	41.3%	50.7%	2.9%	0%	53.6%	-
Lights	21	26	0	47	24	336	0	360	457	27	0	484	891
% Lights	100%	100%	0%	100%	100%	94.9%	0%	95.2%	98.5%	100%	0%	98.6%	97.3%
Articulated Trucks	0	0	0	0	0	1	0	1	1	0	0	1	2
% Articulated Trucks	0%	0%	0%	0%	0%	0.3%	0%	0.3%	0.2%	0%	0%	0.2%	0.2%
Buses and Single-Unit Trucks	0	0	0	0	0	17	0	17	6	0	0	6	23
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	4.8%	0%	4.5%	1.3%	0%	0%	1.2%	2.5%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

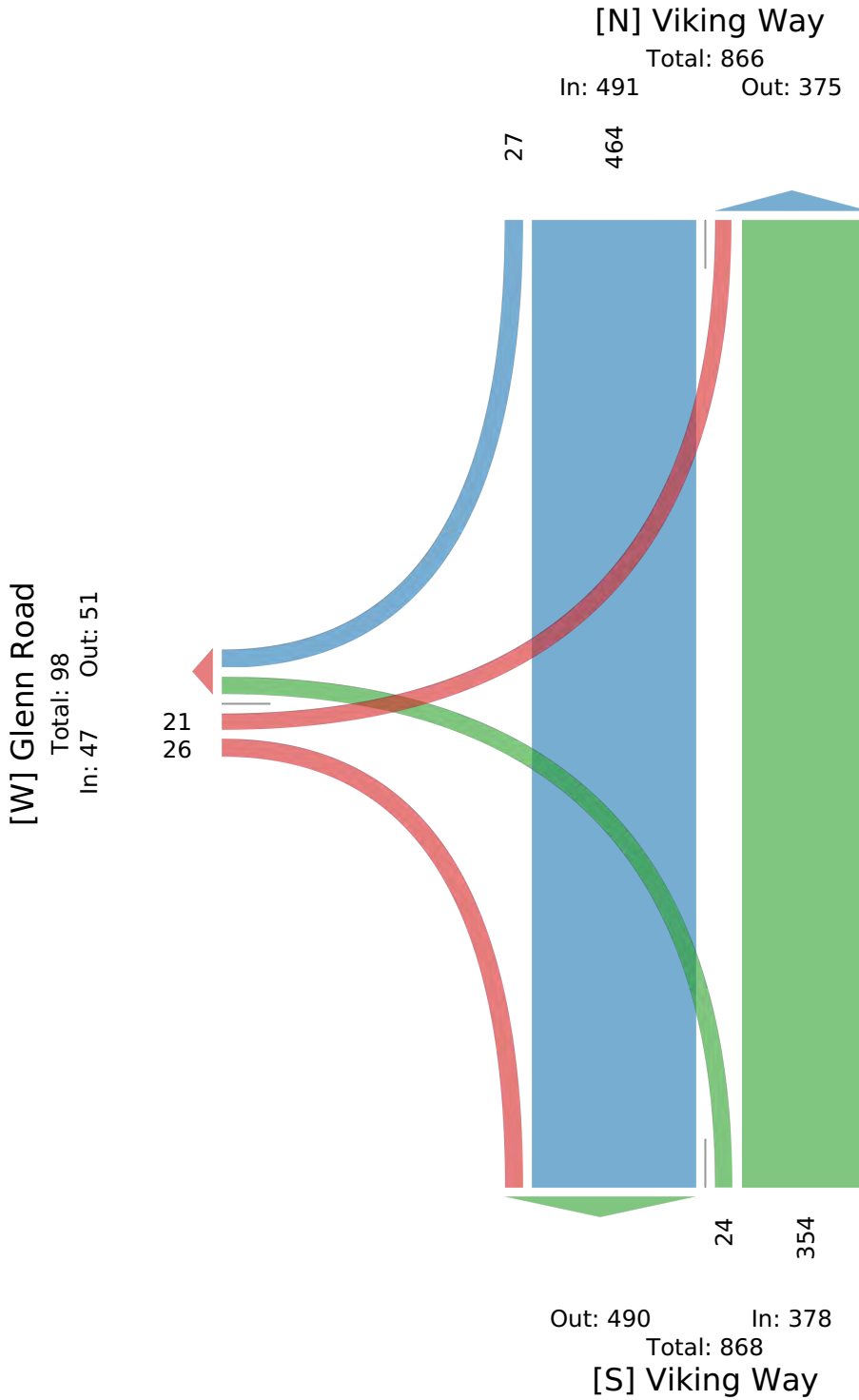
Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Glenn Road Eastbound				Viking Way Northbound				Viking Way Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-04-19 7:00AM	1	0	0	1	0	55	0	55	19	2	0	21	77
7:15AM	4	0	0	4	0	90	0	90	65	2	0	67	161
7:30AM	0	0	0	0	1	18	0	19	47	1	0	48	67
7:45AM	2	1	0	3	0	8	0	8	9	0	0	9	20
Total	7	1	0	8	1	171	0	172	140	5	0	145	325
% Approach	40.0%	60.0%	0%	-	5.2%	94.8%	0%	-	95.7%	4.3%	0%	-	-
% Total	2.9%	4.4%	0%	7.3%	2.2%	40.1%	0%	42.3%	48.2%	2.2%	0%	50.4%	-
PHF	0.333	0.750	-	0.625	0.750	0.573	-	0.580	0.717	0.375	-	0.750	0.685
Lights	7	1	0	8	1	152	0	153	136	5	0	141	302
% Lights	100%	100%	0%	100%	100%	89.1%	0%	89.7%	97.0%	100%	0%	97.1%	94.2%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	0	0	0	0	0	19	0	19	4	0	0	4	23
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	10.9%	0%	10.3%	3.0%	0%	0%	2.9%	5.8%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

[N] Viking Way

Total: 323

In: 145

Out: 178



[W] Glenn Road

Total: 14

In: 8 Out: 6

Out: 141

In: 172

Total: 313

[S] Viking Way

Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

PM Peak (2:15 PM - 3:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Glenn Road Eastbound				Viking Way Northbound				Viking Way Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-04-19 3:15PM	1	2	0	3	0	32	0	32	28	3	0	31	66
3:30PM	0	3	0	3	0	16	0	16	94	2	0	96	115
3:45PM	1	1	0	2	0	17	0	17	40	1	0	41	60
4:00PM	1	0	0	1	2	18	0	20	27	3	0	30	51
Total	3	6	0	9	2	83	0	85	189	9	0	198	292
% Approach	33.3%	66.7%	0%	-	6.0%	94.0%	0%	-	95.2%	4.8%	0%	-	-
% Total	1.4%	2.8%	0%	4.2%	2.3%	36.1%	0%	38.4%	54.6%	2.8%	0%	57.4%	-
PHF	0.750	0.500	-	0.750	0.625	0.696	-	0.716	0.922	0.500	-	0.939	0.871
Lights	3	6	0	9	2	78	0	80	187	9	0	197	285
% Lights	100%	100%	0%	100%	100%	93.6%	0%	94.0%	99.2%	100%	0%	99.2%	97.2%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	0	0	0	0	0	5	0	5	2	0	0	2	7
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	6.4%	0%	6.0%	0.8%	0%	0%	0.8%	2.8%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Glenn Road - TMC

Tue Apr 19, 2022

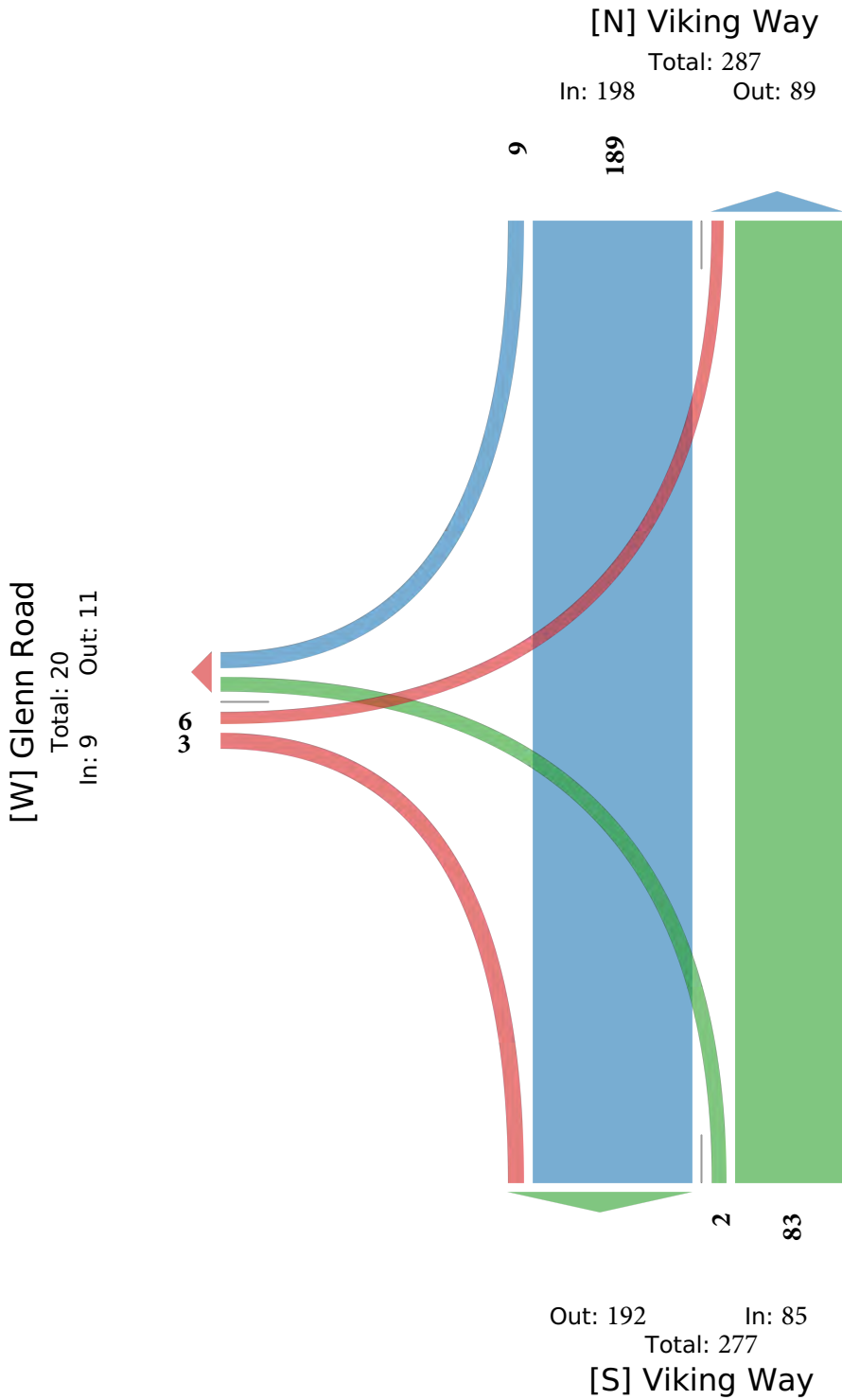
PM Peak (3:15 PM - 4:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940732, Location: 39.718265, -82.943662

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & SR-752 - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	SR-752 Eastbound					SR-752 Westbound					Viking Way Northbound					Viking Way Southbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2022-04-19 7:00AM	29	13	12	0	54	5	29	32	0	66	6	32	3	0	41	3	25	23	1	52	213
7:15AM	20	15	21	0	56	11	52	22	0	85	14	38	11	1	64	13	45	26	0	84	289
7:30AM	18	23	16	0	57	10	24	8	0	42	13	21	11	0	45	5	19	12	1	37	181
7:45AM	6	23	4	0	33	4	27	2	0	33	1	5	1	0	7	1	3	6	0	10	83
Hourly Total	73	74	53	0	200	30	132	64	0	226	34	96	26	1	157	22	92	67	2	183	766
8:00AM	3	14	5	0	22	3	11	5	0	19	6	5	3	0	14	2	1	2	0	5	60
8:15AM	4	8	4	0	16	10	21	4	0	35	6	2	1	0	9	4	4	1	1	10	70
8:30AM	2	20	8	0	30	2	15	2	0	19	7	2	3	0	12	7	8	2	1	18	79
8:45AM	1	9	17	0	27	2	15	2	0	19	13	7	2	0	22	1	5	0	0	6	74
Hourly Total	10	51	34	0	95	17	62	13	0	92	32	16	9	0	57	14	18	5	2	39	283
2:00PM	13	19	6	0	38	2	12	5	0	19	4	9	2	0	15	1	5	3	3	12	84
2:15PM	11	8	14	0	33	8	30	3	0	41	10	11	5	0	26	3	31	18	0	52	152
2:30PM	14	30	22	0	66	11	18	5	0	34	13	16	9	0	38	9	30	16	1	56	194
2:45PM	3	36	16	0	55	5	28	1	0	34	10	5	12	0	27	1	13	7	0	21	137
Hourly Total	41	93	58	0	192	26	88	14	0	128	37	41	28	0	106	14	79	44	4	141	567
3:00PM	1	23	7	0	31	1	23	0	0	24	19	4	5	0	28	9	7	5	0	21	104
3:15PM	7	17	15	0	39	4	18	1	0	23	6	9	4	0	19	5	7	6	0	18	99
3:30PM	6	28	10	0	44	4	18	7	0	29	15	7	9	0	31	4	11	3	0	18	122
3:45PM	4	28	18	0	50	7	17	2	0	26	7	7	2	0	16	4	8	6	1	19	111
Hourly Total	18	96	50	0	164	16	76	10	0	102	47	27	20	0	94	22	33	20	1	76	436
4:00PM	6	46	12	0	64	9	16	4	0	29	9	8	10	0	27	8	5	4	0	17	137
4:15PM	6	23	6	0	35	6	36	4	0	46	7	2	8	0	17	5	10	10	0	25	123
4:30PM	7	51	11	0	69	4	29	2	0	35	6	4	4	0	14	6	8	6	1	21	139
4:45PM	6	41	16	0	63	2	25	1	0	28	9	8	5	0	22	3	16	17	1	37	150
Hourly Total	25	161	45	0	231	21	106	11	0	138	31	22	27	0	80	22	39	37	2	100	549
5:00PM	7	48	12	0	67	6	26	3	0	35	7	7	7	0	21	3	9	6	0	18	141
5:15PM	2	34	7	0	43	5	27	2	0	34	11	6	3	0	20	4	9	4	0	17	114
5:30PM	7	37	12	0	56	4	26	1	0	31	10	3	5	0	18	6	11	3	0	20	125
5:45PM	6	32	10	0	48	4	34	1	0	39	9	7	4	0	20	5	4	4	0	13	120
Hourly Total	22	151	41	0	214	19	113	7	0	139	37	23	19	0	79	18	33	17	0	68	500
Total	189	626	281	0	1096	129	577	119	0	825	218	225	129	1	573	112	294	190	11	607	3101
% Approach	17.2%	57.1%	25.6%	0%	-	15.6%	69.9%	14.4%	0%	-	38.0%	39.3%	22.5%	0.2%	-	18.5%	48.4%	31.3%	1.8%	-	-
% Total	6.1%	20.2%	9.1%	0%	35.3%	4.2%	18.6%	3.8%	0%	26.6%	7.0%	7.3%	4.2%	0%	18.5%	3.6%	9.5%	6.1%	0.4%	19.6%	-
Lights	174	604	268	0	1046	124	558	114	0	796	199	213	116	1	529	107	263	180	4	554	2925
% Lights	92.1%	96.5%	95.4%	0%	95.4%	96.1%	96.7%	95.8%	0%	96.5%	91.3%	94.7%	89.9%	100%	92.3%	95.5%	89.5%	94.7%	36.4%	91.3%	94.3%
Articulated Trucks	0	7	0	0	7	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	11
% Articulated Trucks	0%	1.1%	0%	0%	0.6%	0%	0.7%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.4%
Buses and Single-Unit Trucks	15	15	13	0	43	5	15	5	0	25	19	12	13	0	44	5	31	10	7	53	165
% Buses and Single-Unit Trucks	7.9%	2.4%	4.6%	0%	3.9%	3.9%	2.6%	4.2%	0%	3.0%	8.7%	5.3%	10.1%	0%	7.7%	4.5%	10.5%	5.3%	63.6%	8.7%	5.3%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & SR-752 - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

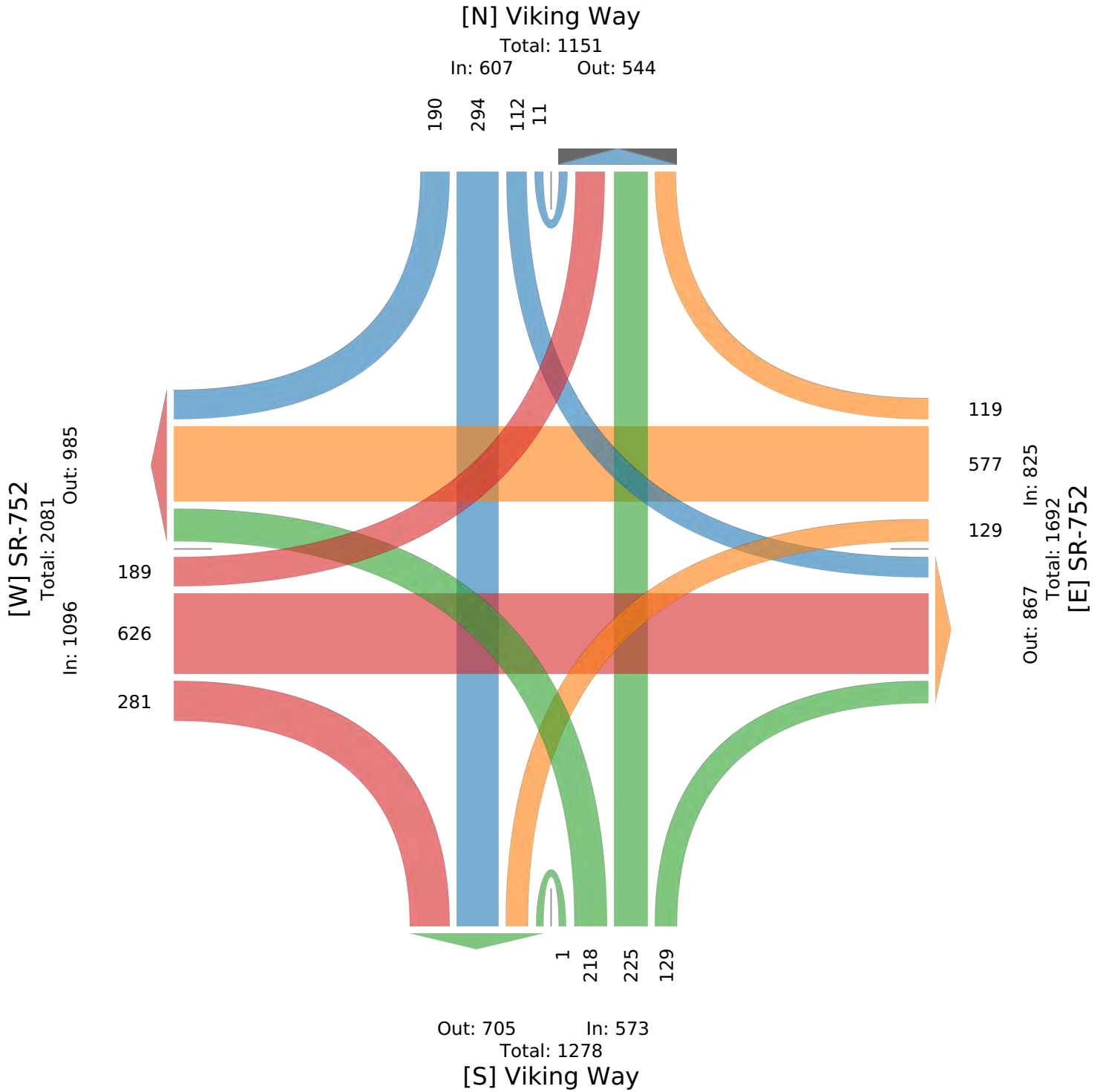
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & SR-752 - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	SR-752 Eastbound					SR-752 Westbound					Viking Way Northbound					Viking Way Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2022-04-19 7:00AM	29	13	12	0	54	5	29	32	0	66	6	32	3	0	41	3	25	23	1	52	213
7:15AM	20	15	21	0	56	11	52	22	0	85	14	38	11	1	64	13	45	26	0	84	289
7:30AM	18	23	16	0	57	10	24	8	0	42	13	21	11	0	45	5	19	12	1	37	181
7:45AM	6	23	4	0	33	4	27	2	0	33	1	5	1	0	7	1	3	6	0	10	83
Total	73	74	53	0	200	30	132	64	0	226	34	96	26	1	157	22	92	67	2	183	766
% Approach	36.5%	37.0%	26.5%	0%	-	13.3%	58.4%	28.3%	0%	-	21.7%	61.1%	16.6%	0.6%	-	12.0%	50.3%	36.6%	1.1%	-	-
% Total	9.5%	9.7%	6.9%	0%	26.1%	3.9%	17.2%	8.4%	0%	29.5%	4.4%	12.5%	3.4%	0.1%	20.5%	2.9%	12.0%	8.7%	0.3%	23.9%	-
PHF	0.629	0.804	0.631	-	0.877	0.682	0.635	0.500	-	0.665	0.607	0.632	0.591	0.250	0.613	0.423	0.511	0.644	0.500	0.545	0.663
Lights	68	70	48	0	186	28	129	64	0	221	25	93	22	1	141	22	78	64	1	165	713
% Lights	93.2%	94.6%	90.6%	0%	93.0%	93.3%	97.7%	100%	0%	97.8%	73.5%	96.9%	84.6%	100%	89.8%	100%	84.8%	95.5%	50.0%	90.2%	93.1%
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0.8%	0%	0%	0.4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.1%
Buses and Single-Unit Trucks	5	4	5	0	14	2	2	0	0	4	9	3	4	0	16	0	14	3	1	18	52
% Buses and Single-Unit Trucks	6.8%	5.4%	9.4%	0%	7.0%	6.7%	1.5%	0%	0%	1.8%	26.5%	3.1%	15.4%	0%	10.2%	0%	15.2%	4.5%	50.0%	9.8%	6.8%

*L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & SR-752 - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM) - Overall Peak Hour

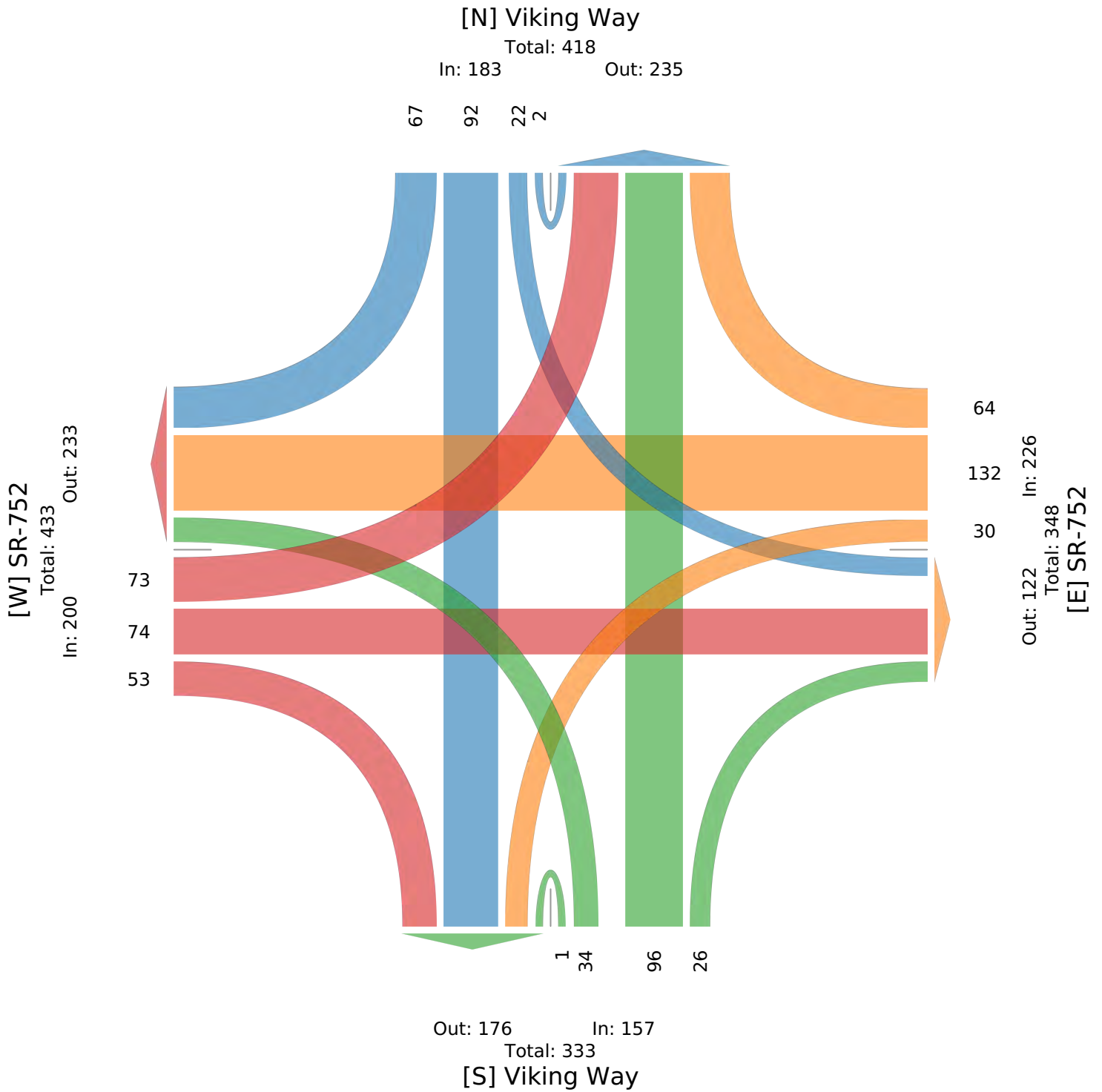
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & SR-752 - TMC

Tue Apr 19, 2022

PM Peak (2:15 PM - 3:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	SR-752 Eastbound					SR-752 Westbound					Viking Way Northbound					Viking Way Southbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2022-04-19 2:15PM	11	8	14	0	33	8	30	3	0	41	10	11	5	0	26	3	31	18	0	52	152
2:30PM	14	30	22	0	66	11	18	5	0	34	13	16	9	0	38	9	30	16	1	56	194
2:45PM	3	36	16	0	55	5	28	1	0	34	10	5	12	0	27	1	13	7	0	21	137
3:00PM	1	23	7	0	31	1	23	0	0	24	19	4	5	0	28	9	7	5	0	21	104
Total	29	97	59	0	185	25	99	9	0	133	52	36	31	0	119	22	81	46	1	150	587
% Approach	15.7%	52.4%	31.9%	0%	-	18.8%	74.4%	6.8%	0%	-	43.7%	30.3%	26.1%	0%	-	14.7%	54.0%	30.7%	0.7%	-	-
% Total	4.9%	16.5%	10.1%	0%	31.5%	4.3%	16.9%	1.5%	0%	22.7%	8.9%	6.1%	5.3%	0%	20.3%	3.7%	13.8%	7.8%	0.2%	25.6%	-
PHF	0.518	0.674	0.670	-	0.701	0.568	0.825	0.450	-	0.811	0.684	0.563	0.646	-	0.783	0.611	0.653	0.639	0.250	0.670	0.756
Lights	27	95	55	0	177	22	94	8	0	124	51	30	25	0	106	20	64	45	1	130	537
% Lights	93.1%	97.9%	93.2%	0%	95.7%	88.0%	94.9%	88.9%	0%	93.2%	98.1%	83.3%	80.6%	0%	89.1%	90.9%	79.0%	97.8%	100%	86.7%	91.5%
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Articulated Trucks	0%	1.0%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.2%
Buses and Single-Unit Trucks	2	1	4	0	7	3	5	1	0	9	1	6	6	0	13	2	17	1	0	20	49
% Buses and Single-Unit Trucks	6.9%	1.0%	6.8%	0%	3.8%	12.0%	5.1%	11.1%	0%	6.8%	1.9%	16.7%	19.4%	0%	10.9%	9.1%	21.0%	2.2%	0%	13.3%	8.3%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & SR-752 - TMC

Tue Apr 19, 2022

PM Peak (2:15 PM - 3:15 PM)

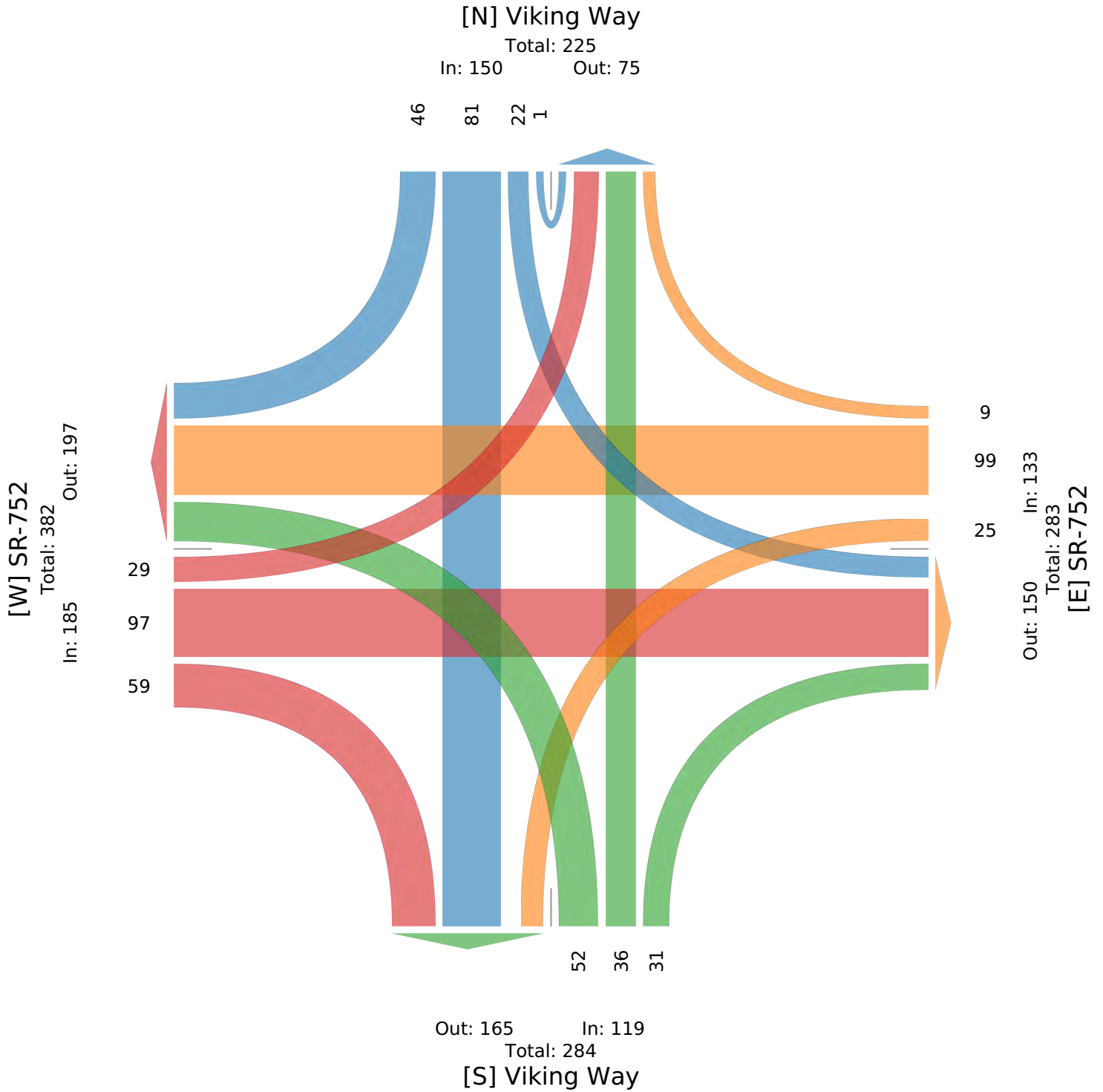
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940734, Location: 39.723348, -82.943261

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & Station Street - TMC

Tue Apr 19, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Station Street Eastbound				Viking Way Northbound				Viking Way Southbound				Int
	L	R	U	App	L	T	U	App	T	R	U	App	
Time													
2022-04-19 7:00AM	14	2	0	16	3	41	0	44	13	6	0	19	79
7:15AM	11	0	0	11	0	76	0	76	41	18	0	59	146
7:30AM	6	1	0	7	0	15	0	15	37	16	0	53	75
7:45AM	0	0	0	0	1	7	0	8	10	1	0	11	19
Hourly Total	31	3	0	34	4	139	0	143	101	41	0	142	319
8:00AM	1	0	0	1	1	16	0	17	8	2	0	10	28
8:15AM	2	3	0	5	0	5	0	5	13	5	0	18	28
8:30AM	2	2	0	4	0	8	0	8	14	3	0	17	29
8:45AM	5	0	0	5	4	20	0	24	24	2	0	26	55
Hourly Total	10	5	0	15	5	49	0	54	59	12	0	71	140
2:00PM	3	4	0	7	2	13	0	15	9	1	0	10	32
2:15PM	7	0	0	7	1	28	0	29	17	12	0	29	65
2:30PM	4	2	0	6	0	12	0	12	73	20	0	93	111
2:45PM	3	3	0	6	4	11	0	15	37	3	0	40	61
Hourly Total	17	9	0	26	7	64	0	71	136	36	0	172	269
3:00PM	0	3	0	3	3	23	0	26	16	4	0	20	49
3:15PM	0	0	0	0	3	16	0	19	26	4	0	30	49
3:30PM	7	4	0	11	2	22	0	24	32	2	0	34	69
3:45PM	3	2	0	5	2	15	0	17	27	3	0	30	52
Hourly Total	10	9	0	19	10	76	0	86	101	13	0	114	219
4:00PM	4	0	0	4	2	15	0	17	22	4	0	26	47
4:15PM	2	3	0	5	2	14	0	16	22	5	0	27	48
4:30PM	2	4	0	6	3	11	0	14	20	3	0	23	43
4:45PM	3	2	0	5	2	21	0	23	32	4	0	36	64
Hourly Total	11	9	0	20	9	61	0	70	96	16	0	112	202
5:00PM	3	3	0	6	1	25	0	26	24	3	0	27	59
5:15PM	3	2	0	5	1	13	0	14	19	3	0	22	41
5:30PM	1	2	0	3	5	17	0	22	25	0	0	25	50
5:45PM	1	2	0	3	3	17	0	20	15	1	0	16	39
Hourly Total	8	9	0	17	10	72	0	82	83	7	0	90	189
Total	87	44	0	131	45	461	0	506	576	125	0	701	1338
% Approach	66.4%	33.6%	0%	-	8.9%	91.1%	0%	-	82.2%	17.8%	0%	-	-
% Total	6.5%	3.3%	0%	9.8%	3.4%	34.5%	0%	37.8%	43.0%	9.3%	0%	52.4%	-
Lights	82	43	0	125	44	444	0	488	561	119	0	680	1293
% Lights	94.3%	97.7%	0%	95.4%	97.8%	96.3%	0%	96.4%	97.4%	95.2%	0%	97.0%	96.6%
Articulated Trucks	0	1	0	1	0	0	0	0	0	0	0	0	1
% Articulated Trucks	0%	2.3%	0%	0.8%	0%	0%	0%	0%	0%	0%	0%	0%	0.1%
Buses and Single-Unit Trucks	5	0	0	5	1	17	0	18	15	6	0	21	44
% Buses and Single-Unit Trucks	5.7%	0%	0%	3.8%	2.2%	3.7%	0%	3.6%	2.6%	4.8%	0%	3.0%	3.3%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Station Street - TMC

Tue Apr 19, 2022

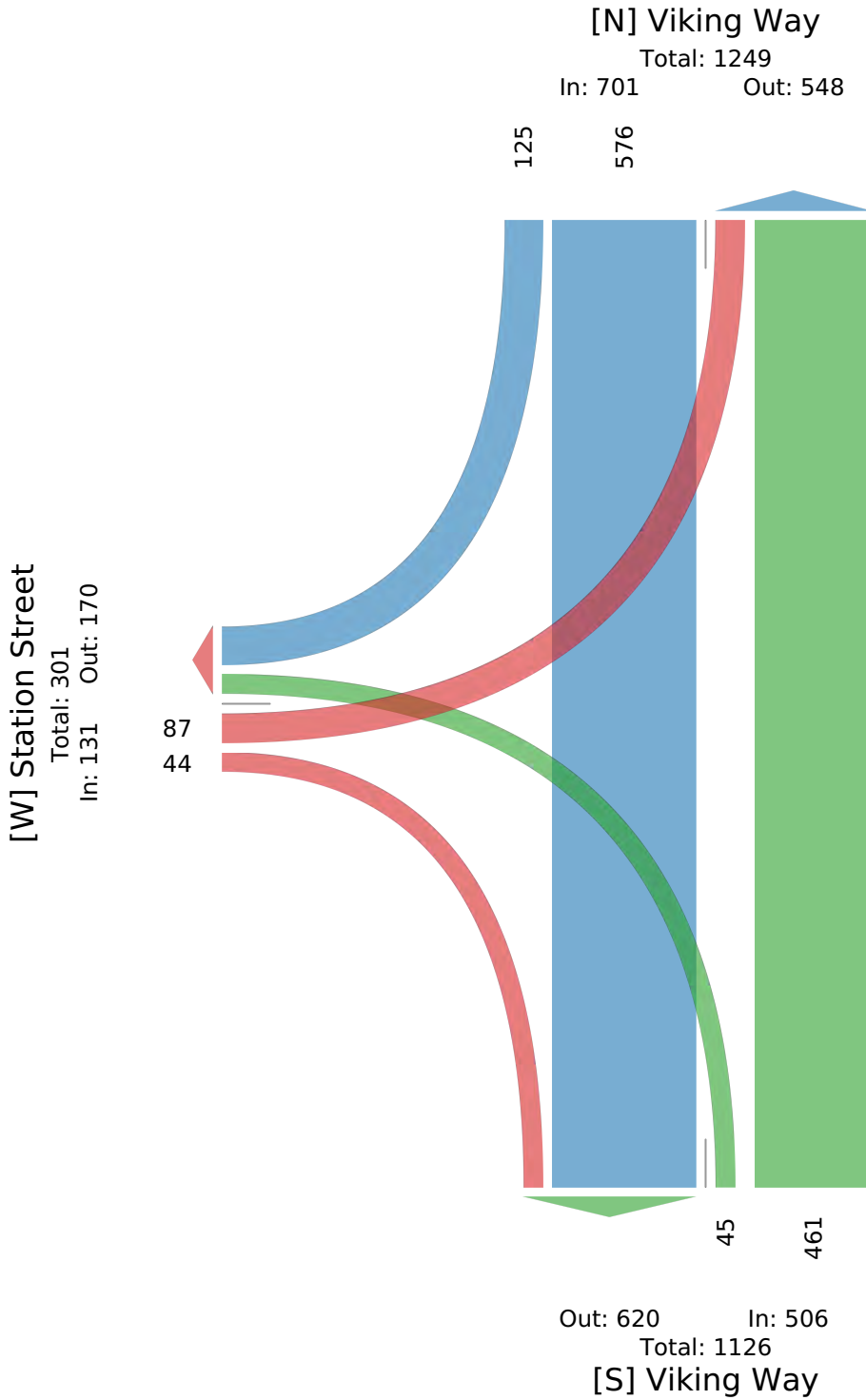
Full Length (7 AM-9 AM, 2 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & Station Street - TMC

Tue Apr 19, 2022

AM Peak (7 AM - 8 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.

6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Station Street Eastbound				Viking Way Northbound				Viking Way Southbound				Int
	L	R	U	App	L	T	U	App	T	R	U	App	
2022-04-19 7:00AM	14	2	0	16	3	41	0	44	13	6	0	19	79
7:15AM	11	0	0	11	0	76	0	76	41	18	0	59	146
7:30AM	6	1	0	7	0	15	0	15	37	16	0	53	75
7:45AM	0	0	0	0	1	7	0	8	10	1	0	11	19
Total	31	3	0	34	4	139	0	143	101	41	0	142	319
% Approach	91.2%	8.8%	0%	-	2.8%	97.2%	0%	-	71.1%	28.9%	0%	-	-
% Total	9.7%	0.9%	0%	10.7%	1.3%	43.6%	0%	44.8%	31.7%	12.9%	0%	44.5%	-
PHF	0.554	0.375	-	0.531	0.333	0.457	-	0.470	0.616	0.569	-	0.602	0.546
Lights	31	3	0	34	4	136	0	140	96	37	0	133	307
% Lights	100%	100%	0%	100%	100%	97.8%	0%	97.9%	95.0%	90.2%	0%	93.7%	96.2%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	0	0	0	0	0	3	0	3	5	4	0	9	12
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	2.2%	0%	2.1%	5.0%	9.8%	0%	6.3%	3.8%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Station Street - TMC

Tue Apr 19, 2022

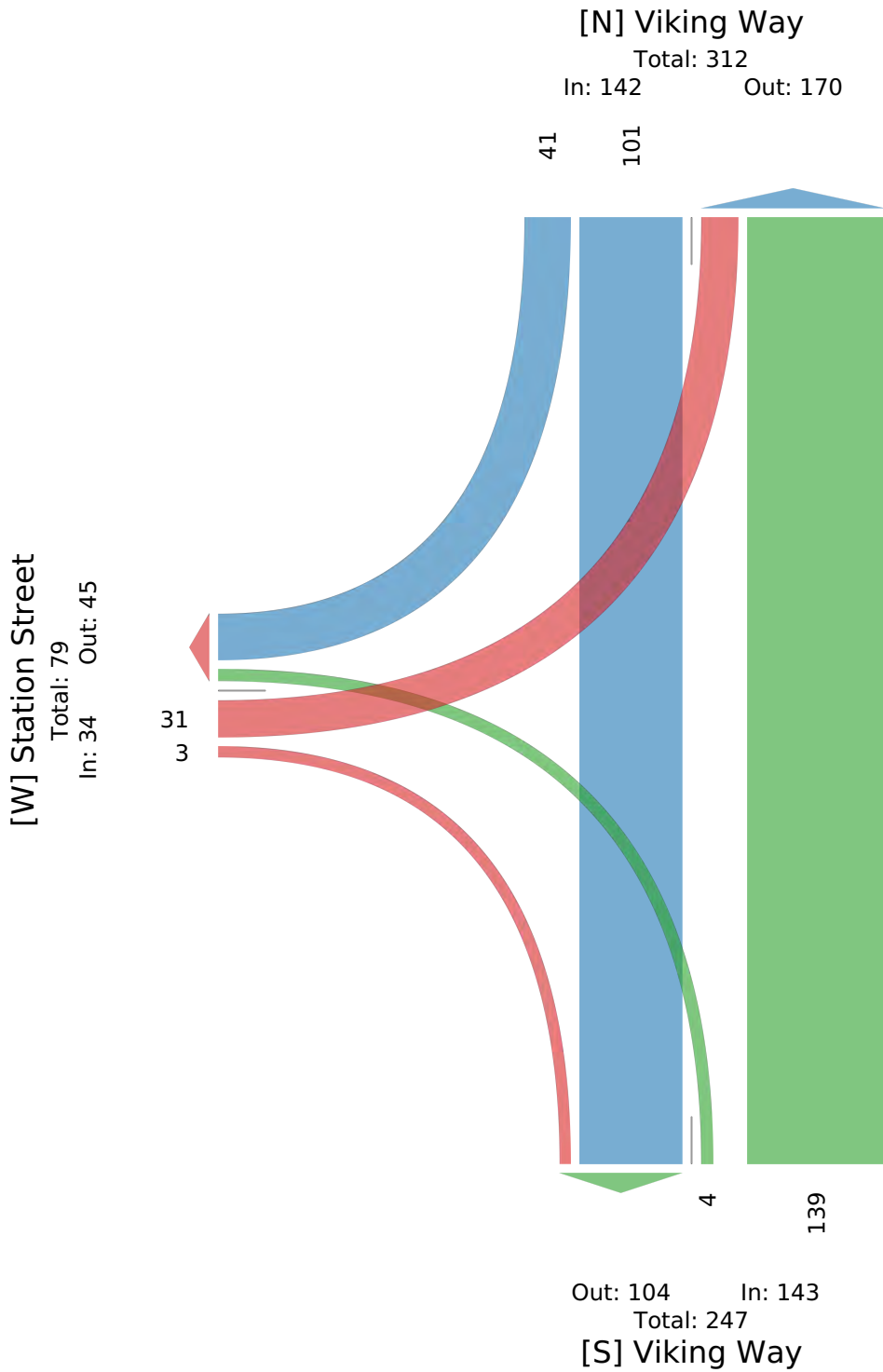
AM Peak (7 AM - 8 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Viking Way & Station Street - TMC

Tue Apr 19, 2022

PM Peak (2:15 PM - 3:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	Station Street Eastbound				Viking Way Northbound				Viking Way Southbound				Int
	L	R	U	App	L	T	U	App	T	R	U	App	
2022-04-19 2:15PM	7	0	0	7	1	28	0	29	17	12	0	29	65
2:30PM	4	2	0	6	0	12	0	12	73	20	0	93	111
2:45PM	3	3	0	6	4	11	0	15	37	3	0	40	61
3:00PM	0	3	0	3	3	23	0	26	16	4	0	20	49
Total	14	8	0	22	8	74	0	82	143	39	0	182	286
% Approach	63.6%	36.4%	0%	-	9.8%	90.2%	0%	-	78.6%	21.4%	0%	-	-
% Total	4.9%	2.8%	0%	7.7%	2.8%	25.9%	0%	28.7%	50.0%	13.6%	0%	63.6%	-
PHF	0.500	0.667	-	0.786	0.500	0.661	-	0.707	0.490	0.488	-	0.489	0.644
Lights	11	8	0	19	7	72	0	79	137	37	0	174	272
% Lights	78.6%	100%	0%	86.4%	87.5%	97.3%	0%	96.3%	95.8%	94.9%	0%	95.6%	95.1%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses and Single-Unit Trucks	3	0	0	3	1	2	0	3	6	2	0	8	14
% Buses and Single-Unit Trucks	21.4%	0%	0%	13.6%	12.5%	2.7%	0%	3.7%	4.2%	5.1%	0%	4.4%	4.9%

* L: Left, R: Right, T: Thru, U: U-Turn

Viking Way & Station Street - TMC

Tue Apr 19, 2022

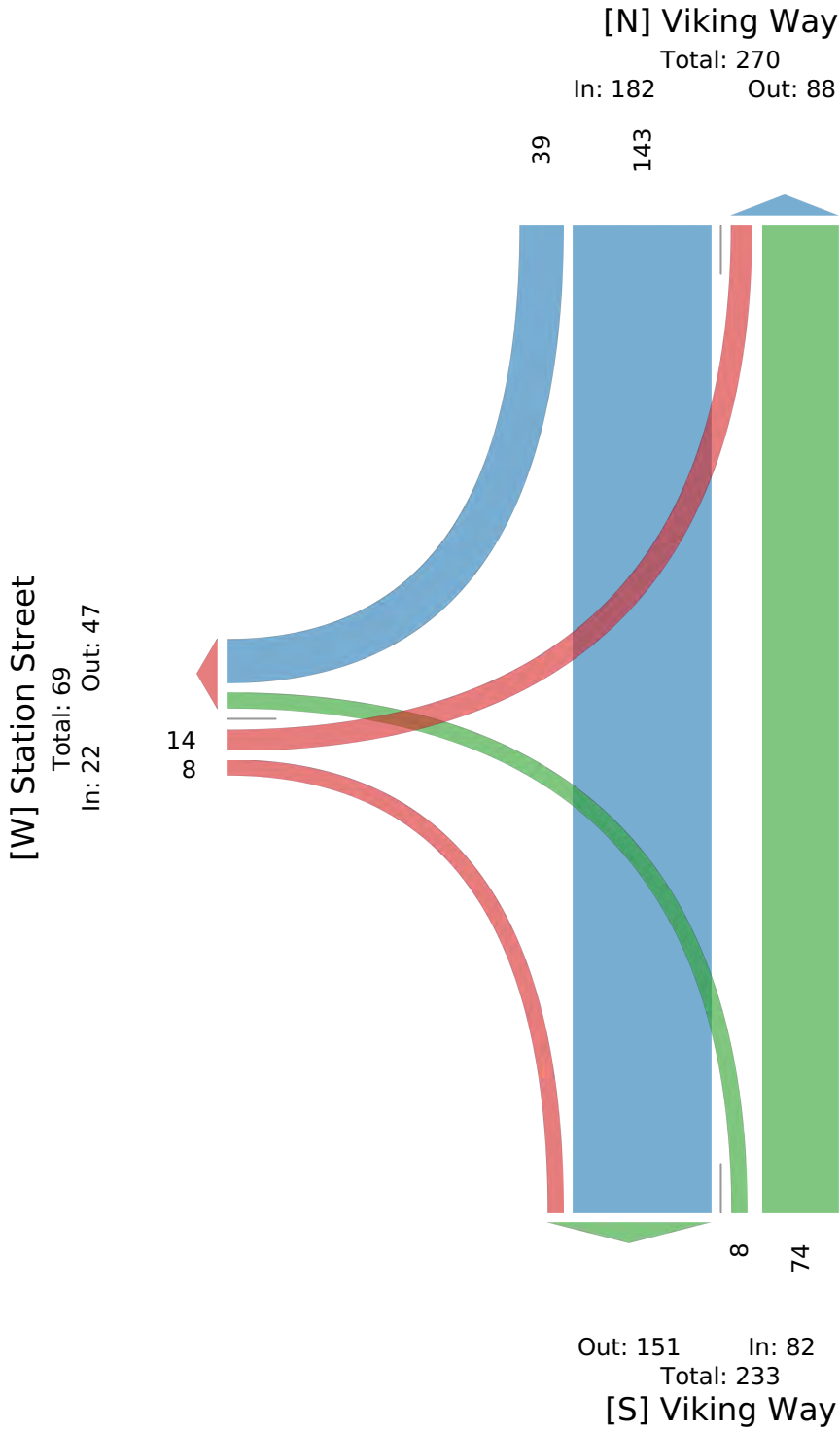
PM Peak (2:15 PM - 3:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940740, Location: 39.7177, -82.943709

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Appendix C

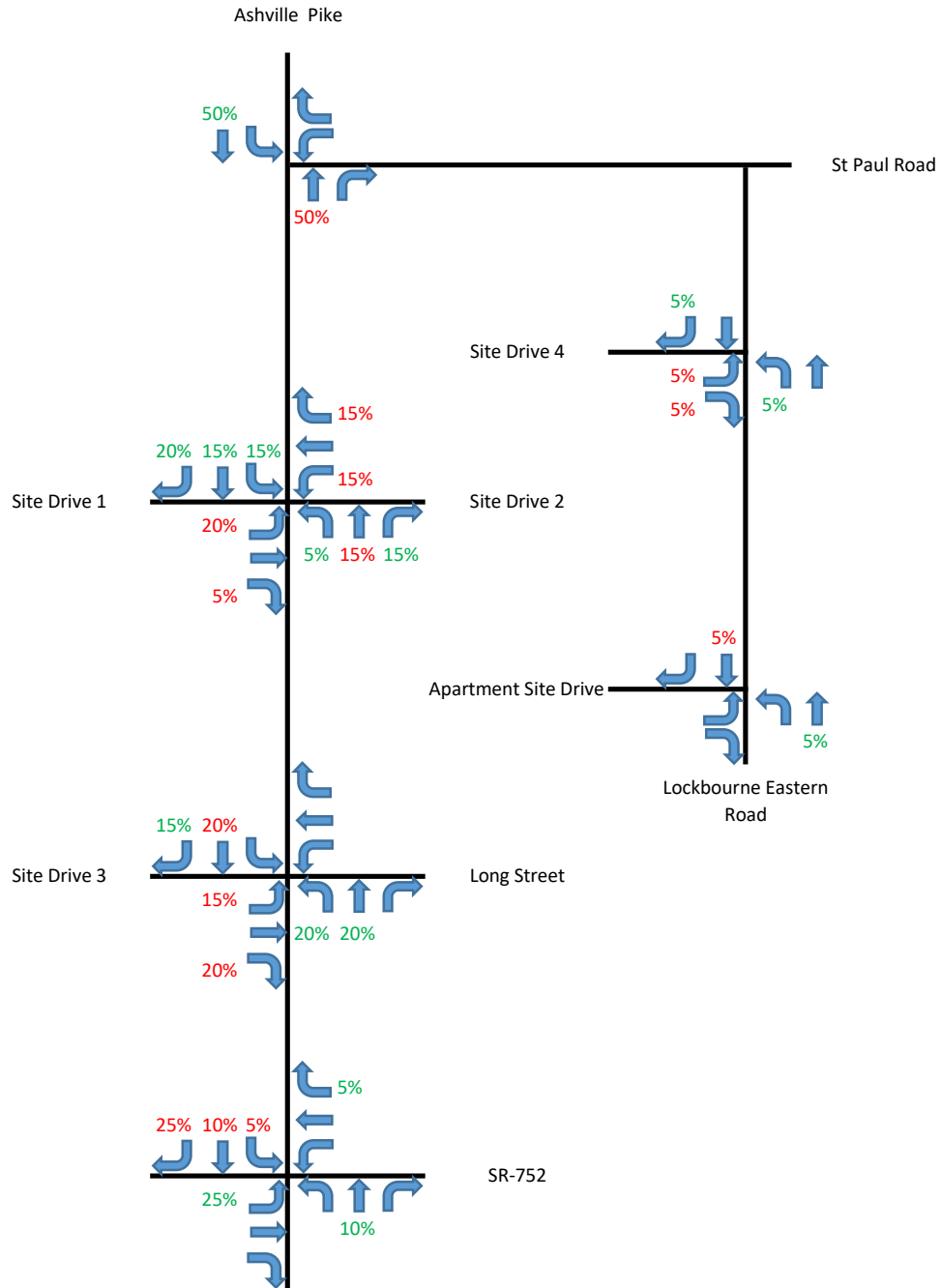
Background Traffic & Trip Generation





Year	Period	Scenario	Plate
		Site Distribution	

^
N

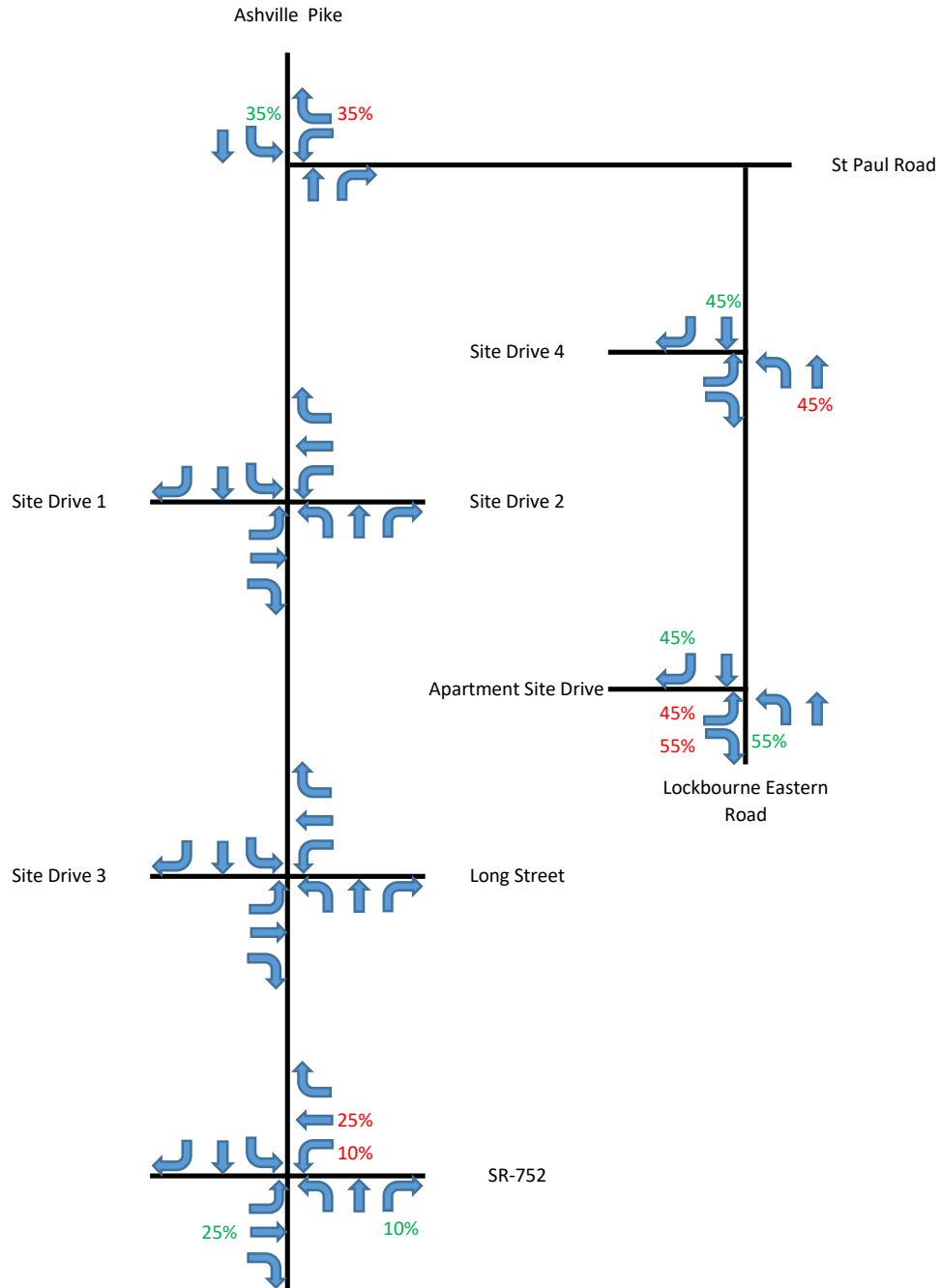


Ashville Residential TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
		Apartment Distribution	

^
N

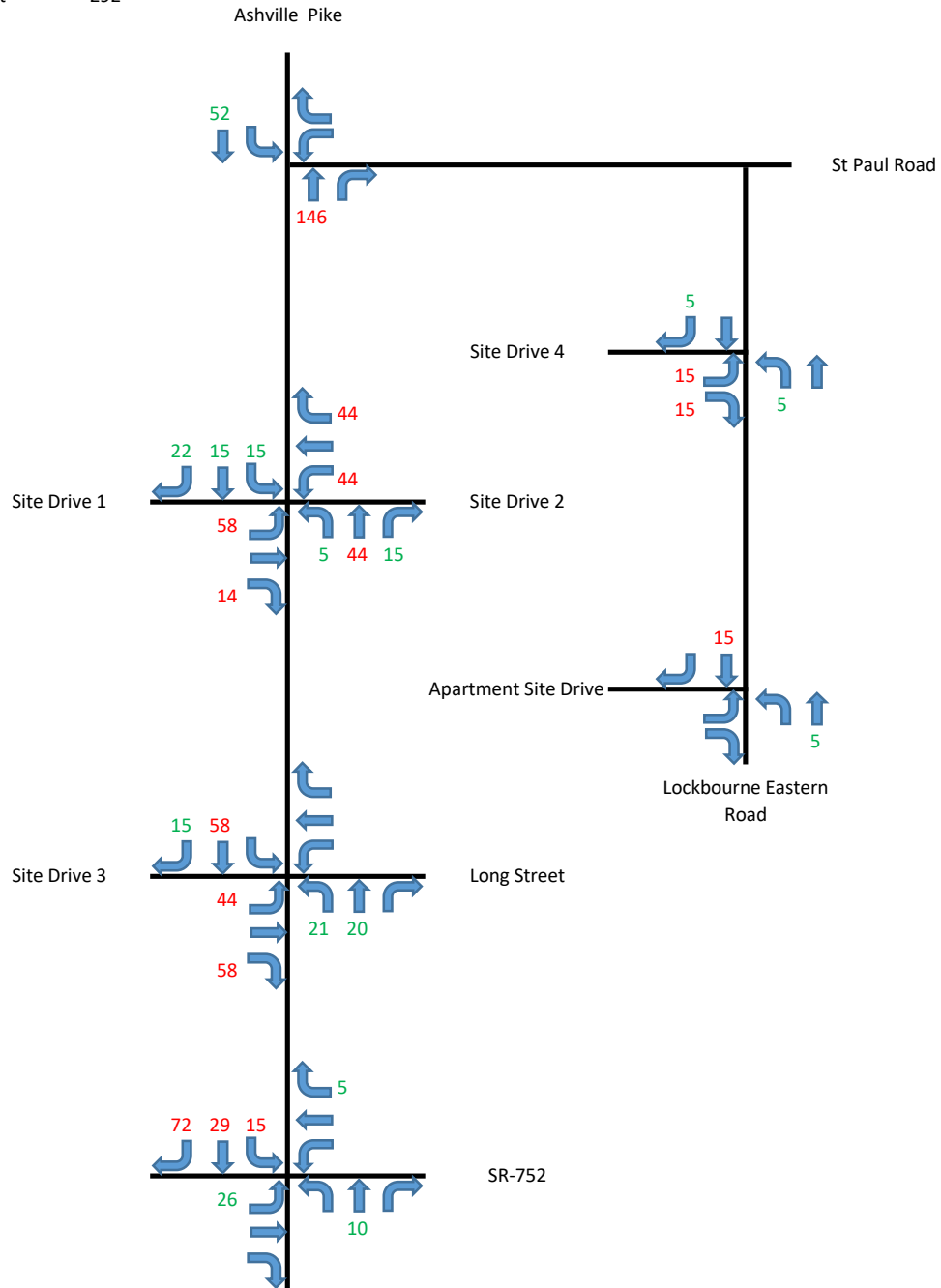


Ashville Residential TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Site Non-Pass-By Traffic	B1

^
N
Enter 103
Exit 292

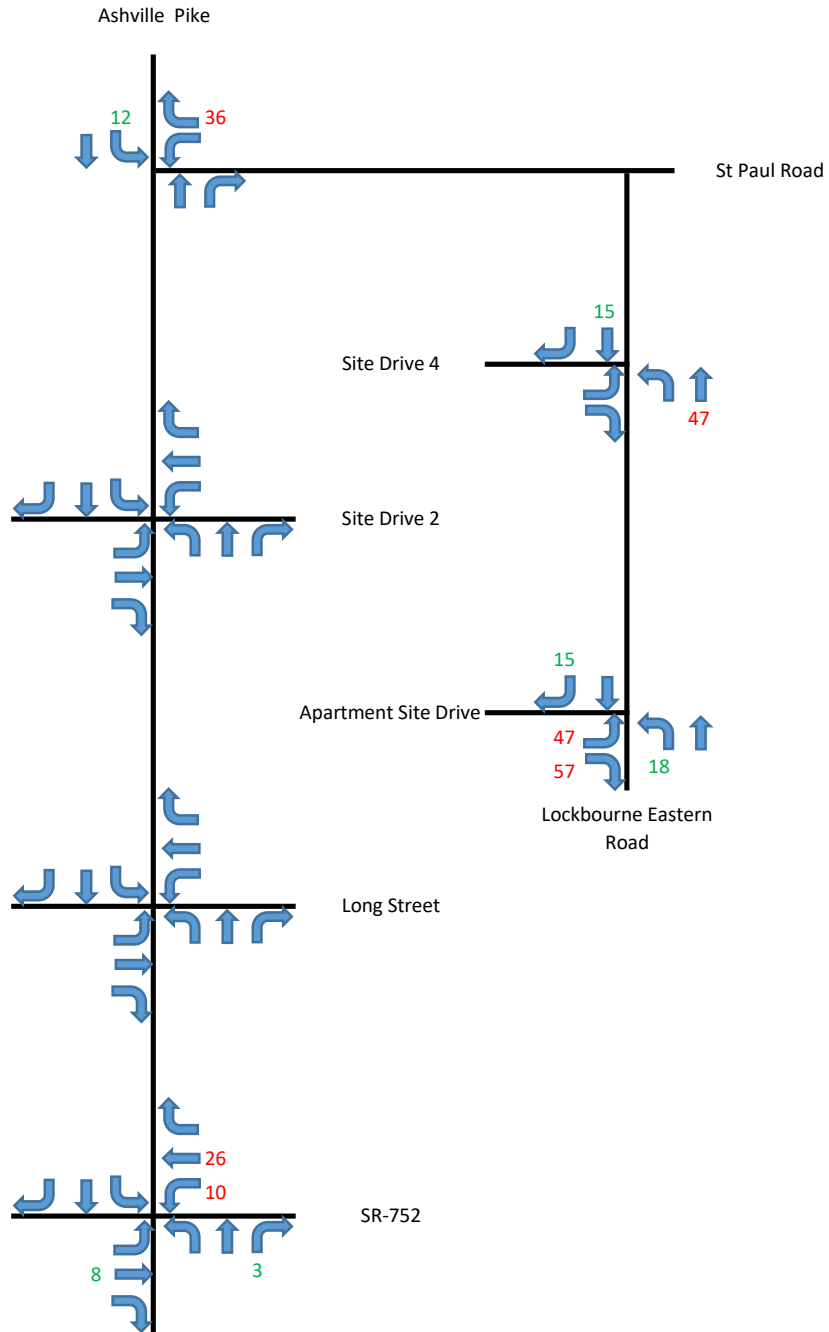


Ashville Residential TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Apartment Site Non-Pass-By Traffic	C1

^
N
Enter 33
Exit 104

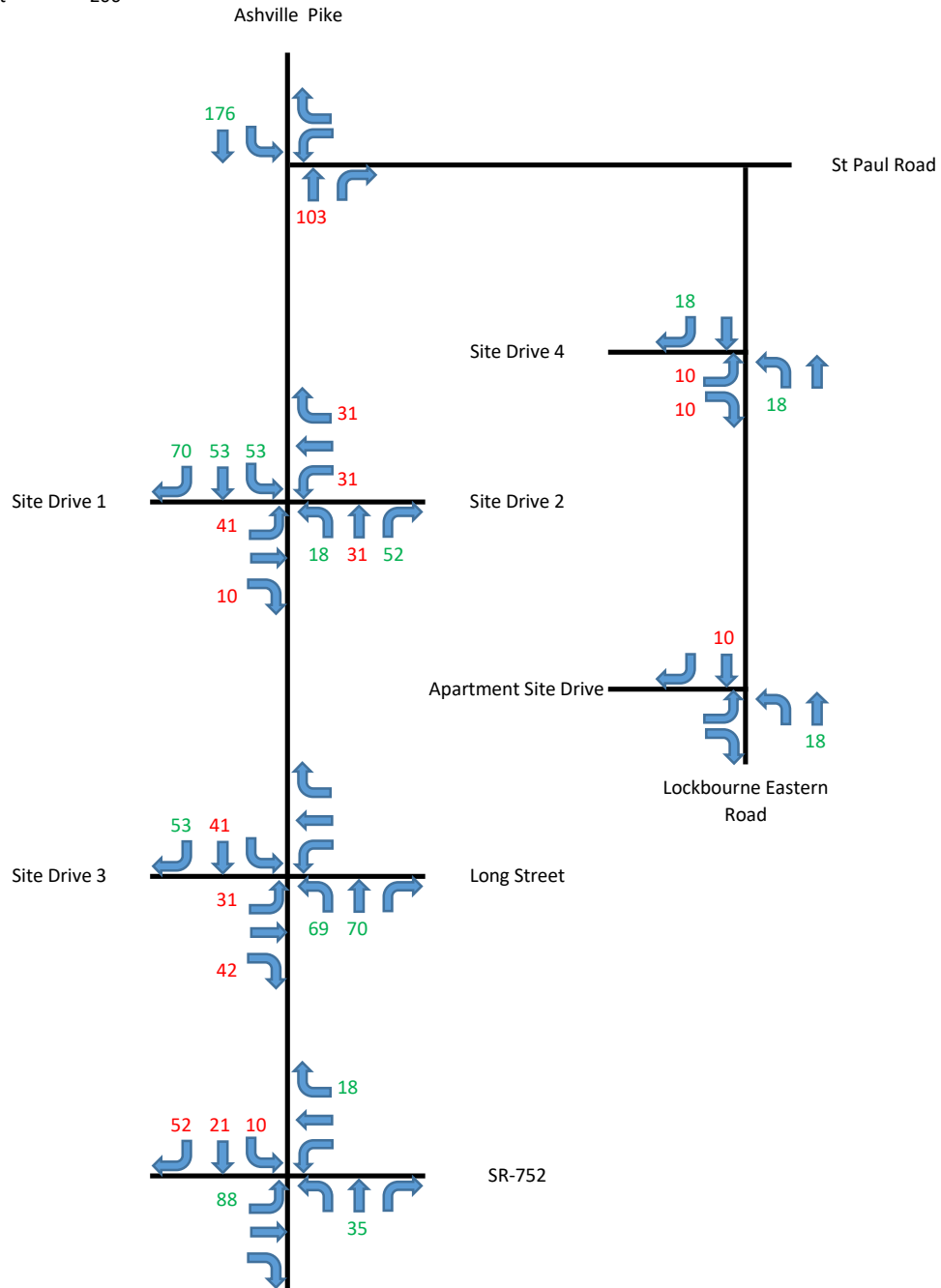


Ashville Residential TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Site Non-Pass-By Traffic	B2

^
N
Enter 351
Exit 206

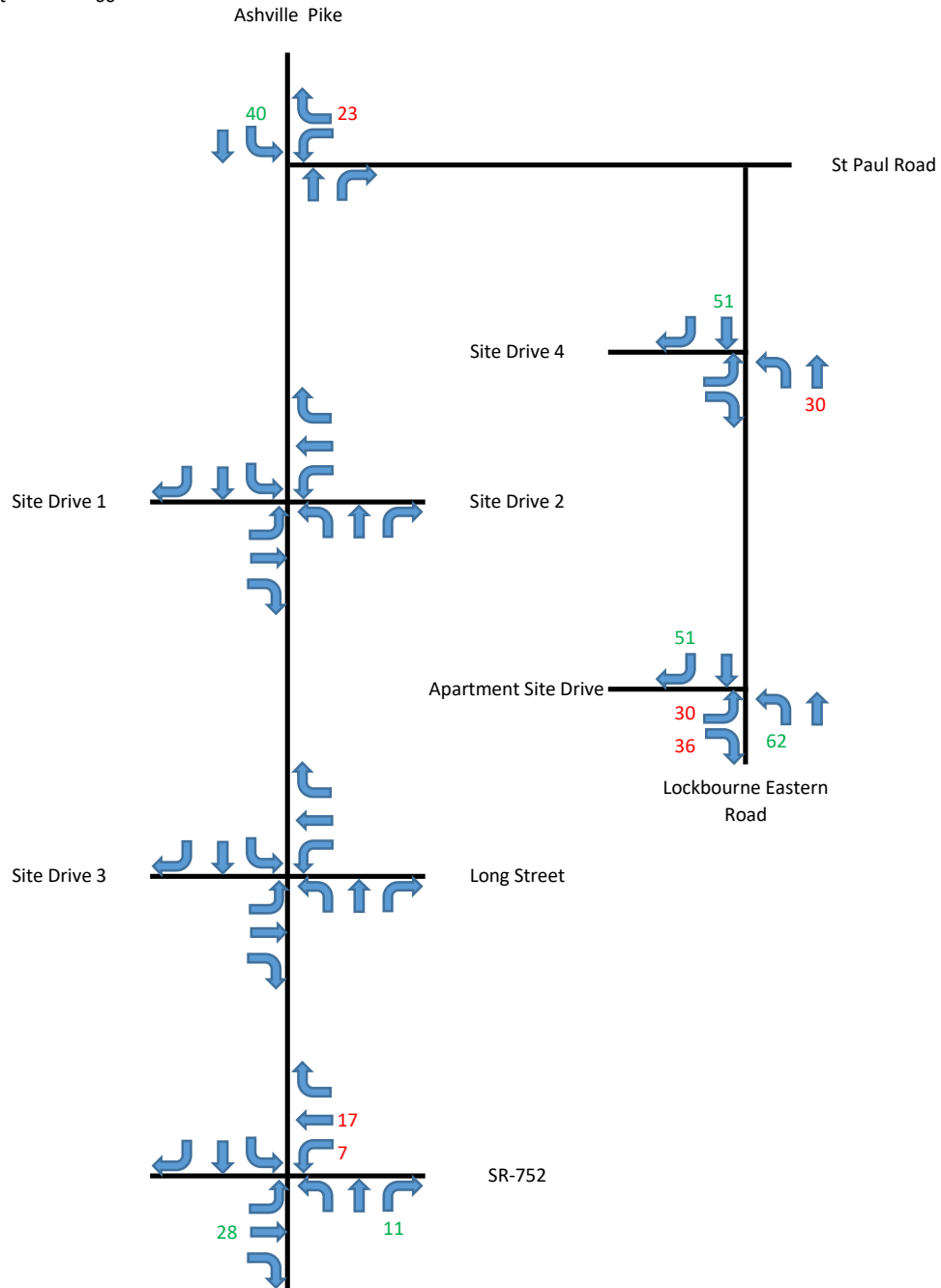


Ashville Residential TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Apartment Site Non-Pass-By Traffic	C2

^
N
Enter 113
Exit 66



Scenario - 1

Scenario Name: AM Peak

Dev. phase: 1

Analyst Note:

User Group:

No. of Years to Project 0

Traffic: 0

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method		Entry		Exit		Total
					Rate/Equation	Best Fit (LOG) $\ln(T) = 0.9 \ln(X) + 0.12$	Split%	Split%	Split%		
210 - Single-Family Detached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	100	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.		$\ln(T) = 0.9 \ln(X) + 0.12$	30	26%	85	85	115
215 - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	54	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.		$T = 0.52(X) - 5.70$	7	31%	15	69%	22

VEHICLE TO PERSON TRIP CONVERSION

BASILINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	26	74
215 - Single-Family Attached Housing	100	100	1	1	31	69

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	30	85	0	0	30	85
215 - Single-Family Attached Housing	7	15	0	0	7	15

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		Total
	Entry	Exit	
210 - Single-Family Detached Housing	30	85	115
215 - Single-Family Attached Housing	7	15	22

RESULTS

Site Totals		Entry	Exit	Total
Vehicle Trips Before Reduction		37	100	137
External Vehicle Trips		37	100	137
New Vehicle Trips		37	100	137

Appendix D

Volume Calculations

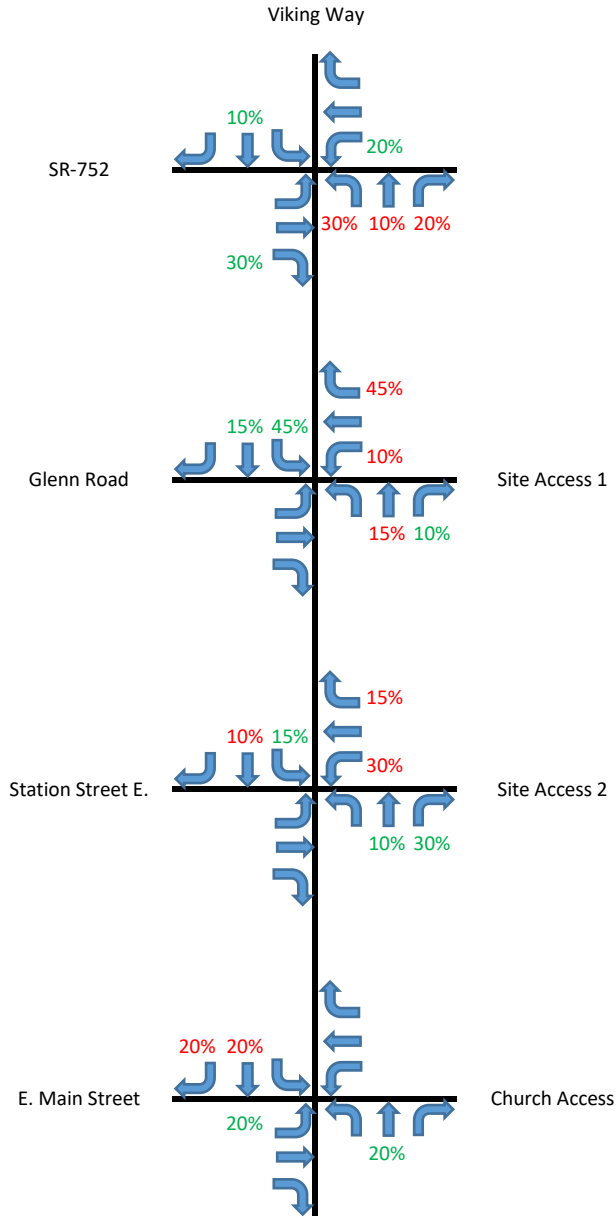


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
		Non-Pass-By Distribution	

^
N

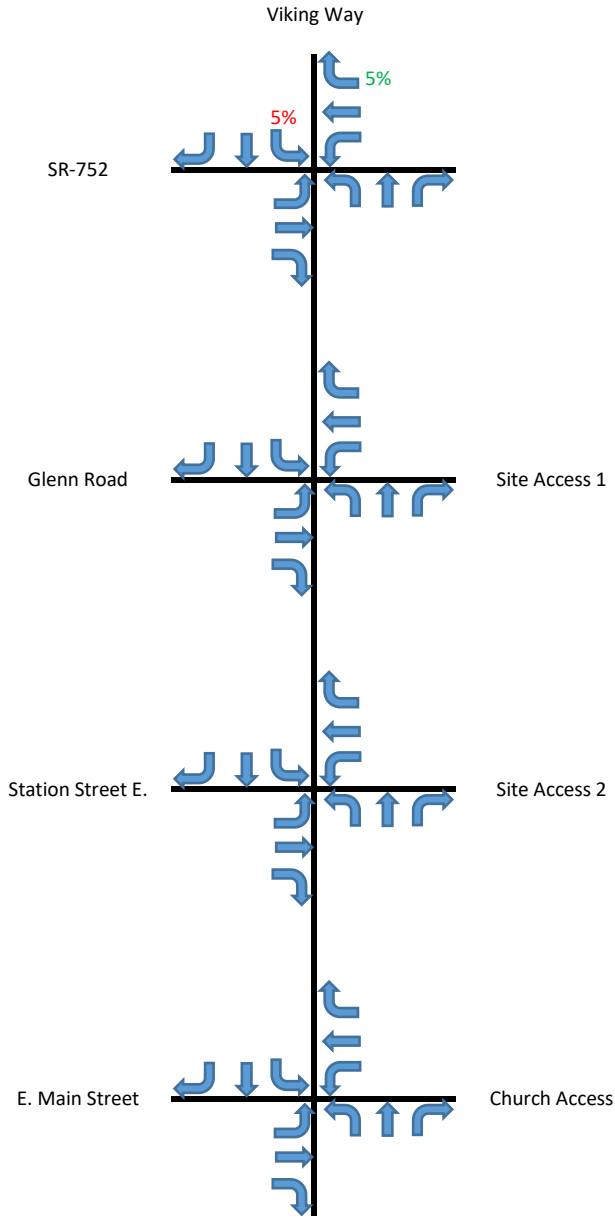


Ashville Fischer Homes TIS
 Traffic Volume Calculations



Year	Period	Scenario	Plate
		Maronda Homes/DR Horton Single Family Development Distribution	

^
N



Ashville Fischer Homes TIS
 Traffic Volume Calculations



Year	Period	Scenario	Plate
		Maronda Homes Multifamily Development Distribution	

^
N

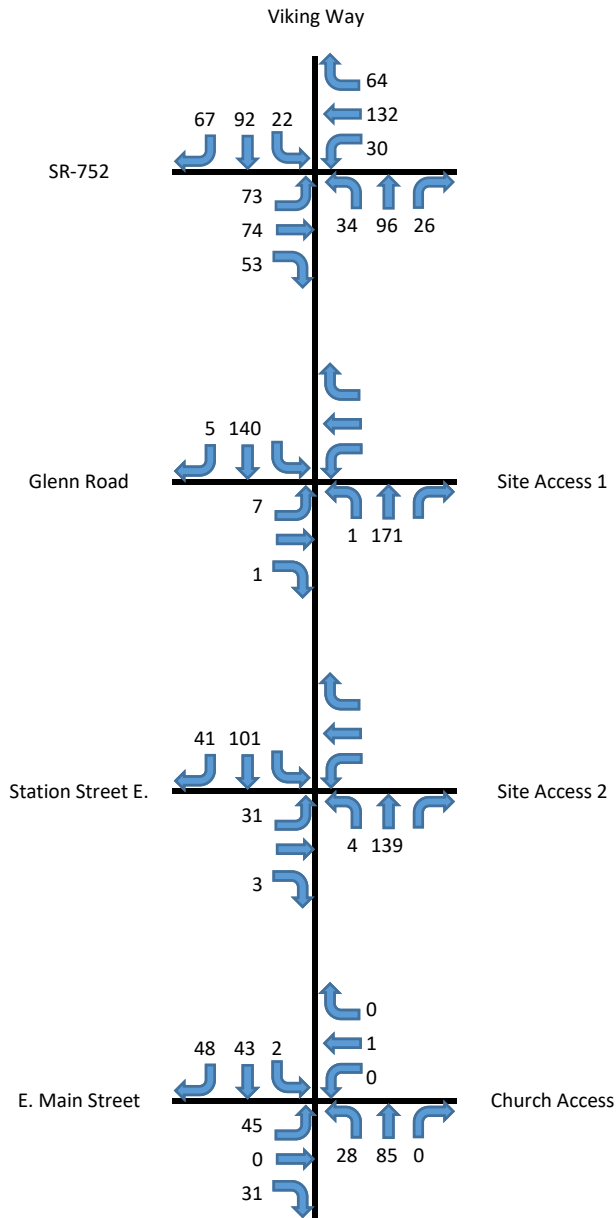


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	AM	Count	

^
N



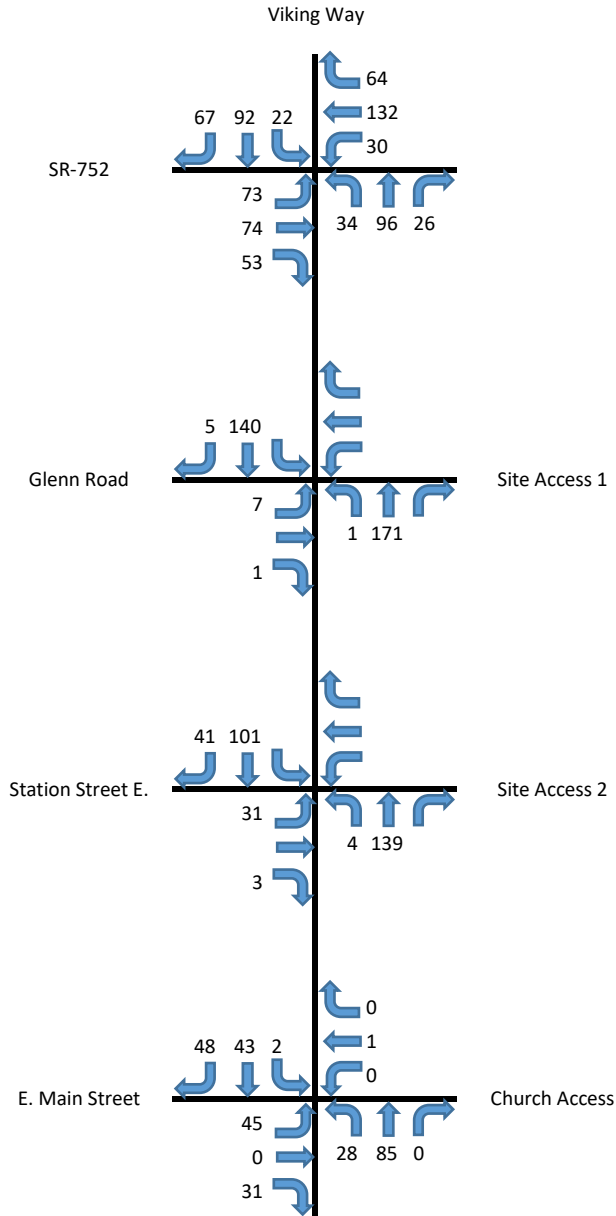
Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	AM	No Build	A1

^
N

Growth Rate 2%

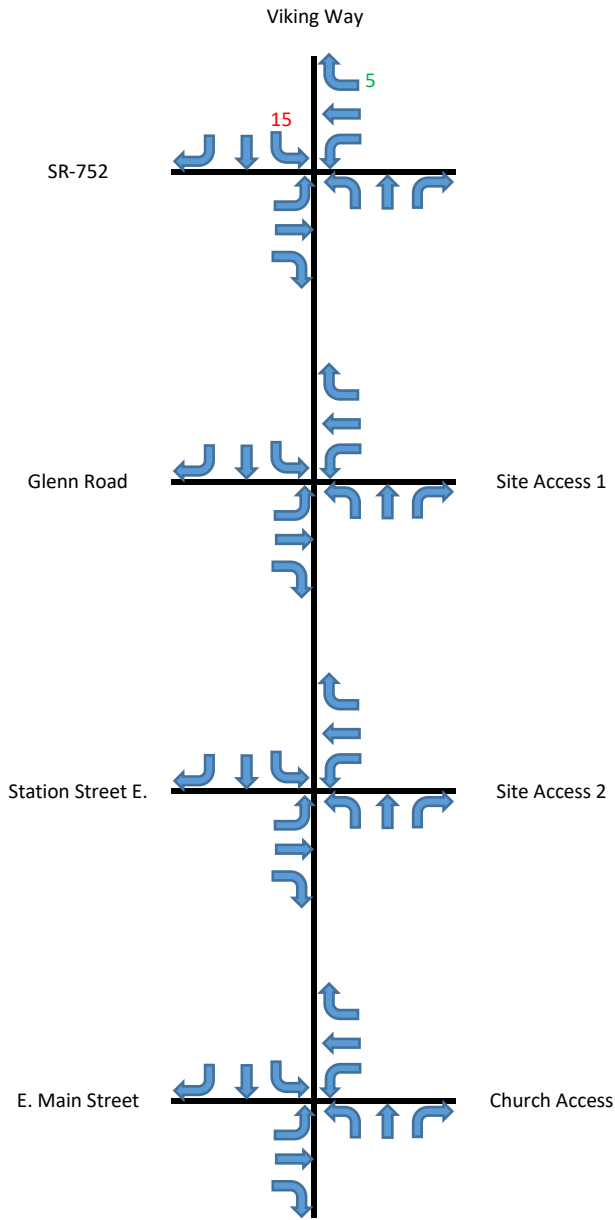


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Maronda Homes/DR Horton Single Family Development Traffic	B1

^
N
Enter 103
Exit 292

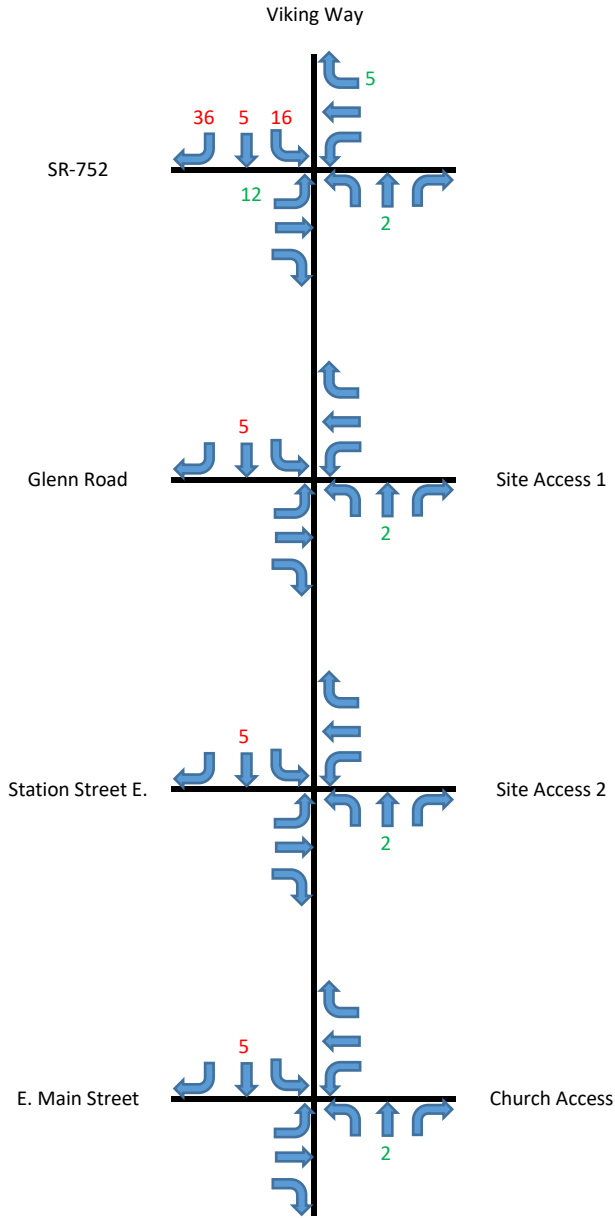


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Maronda Homes Multifamily Development Traffic	C1

^
N
Enter 33
Exit 104

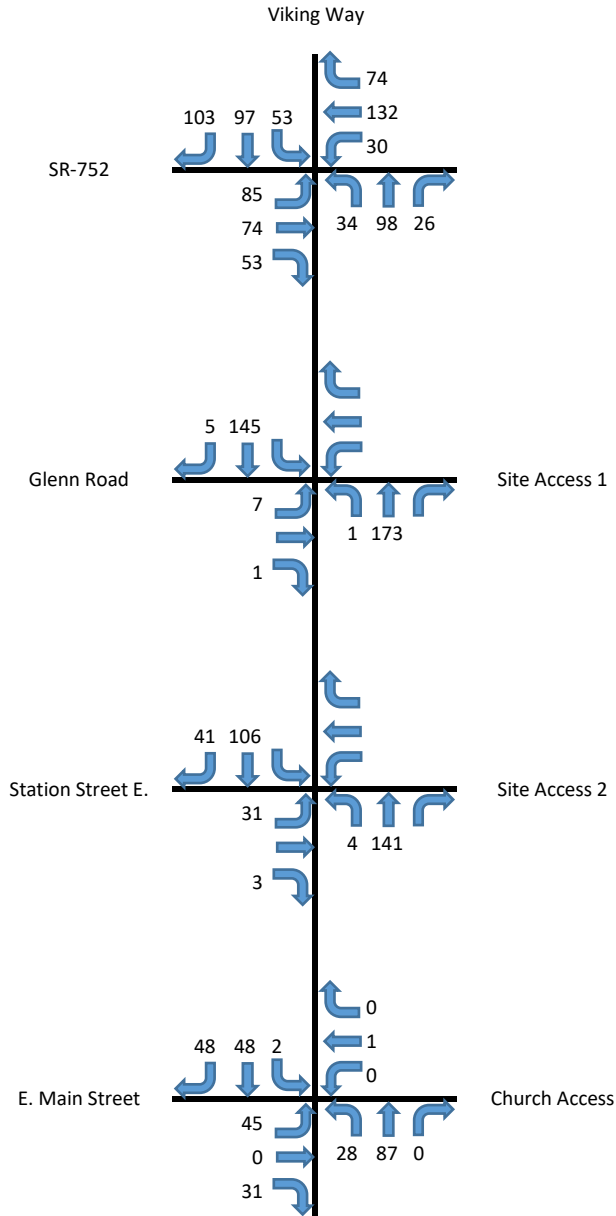


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	AM	No Build	D1 = A1 + B1 + C1

^
N

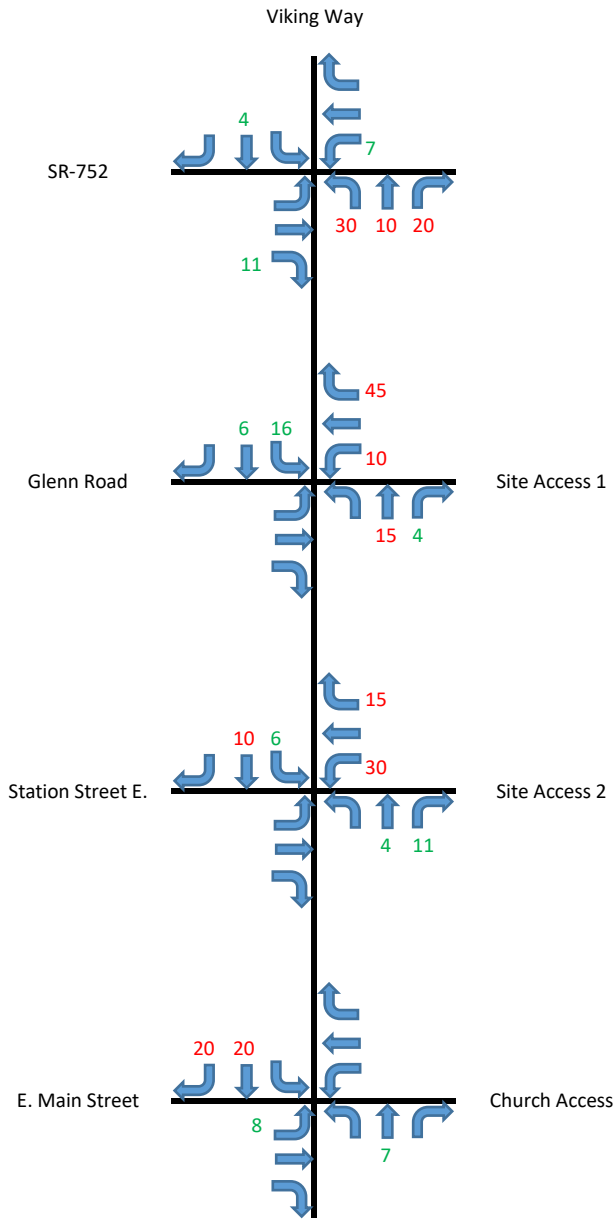


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Non-Pass-By Traffic	E1

^
N
Enter 37
Exit 100

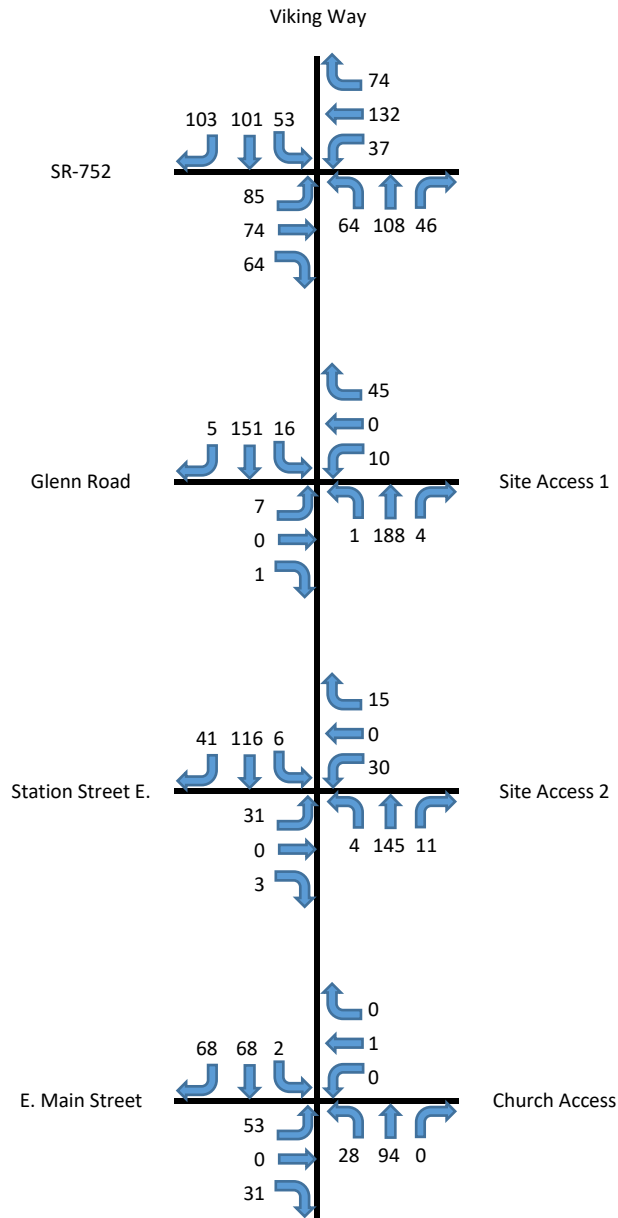


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	AM	Build	F1 = D1 + E1

^
N



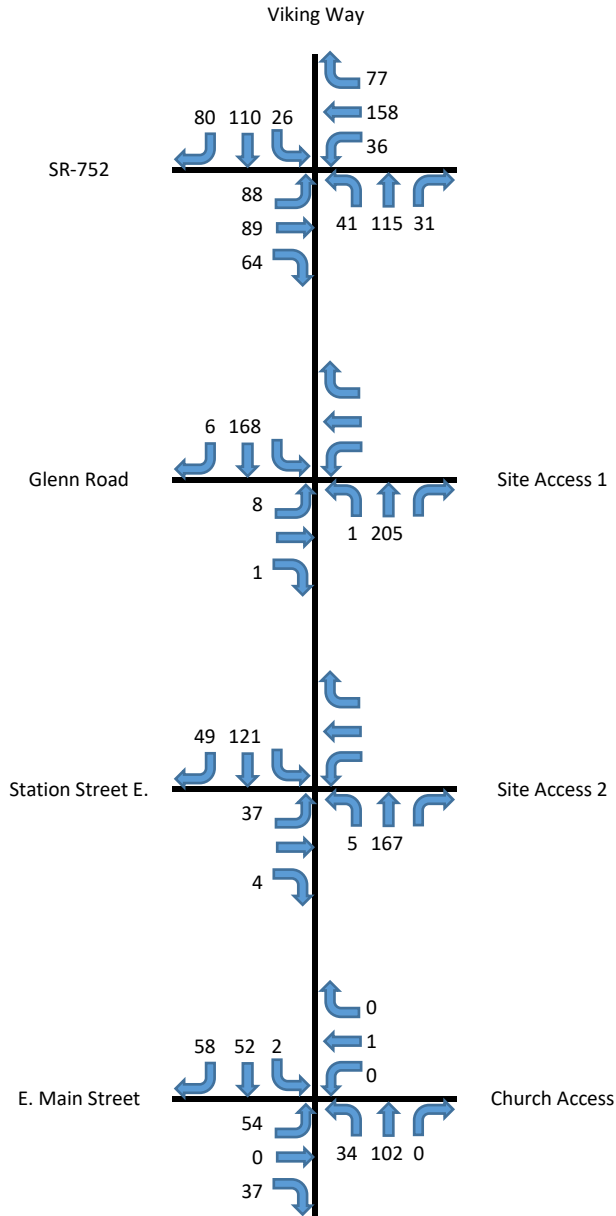
Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	AM	No Build	G1

^
N

Growth Rate 2%

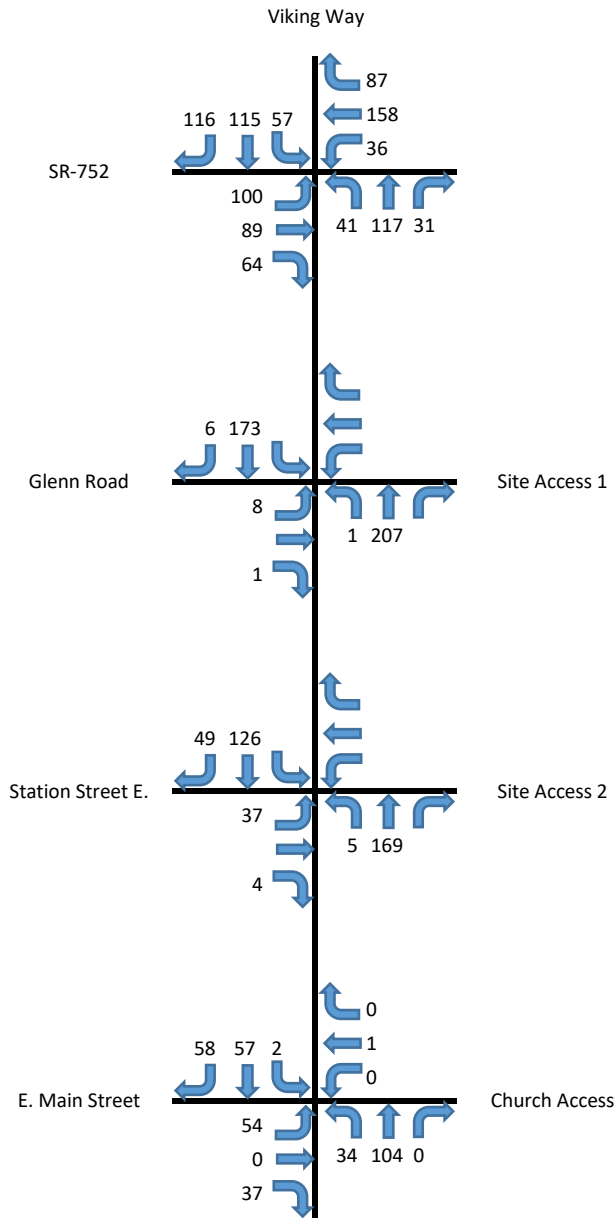


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	AM	No Build	H1 = G1 + B1 + C1

^
N

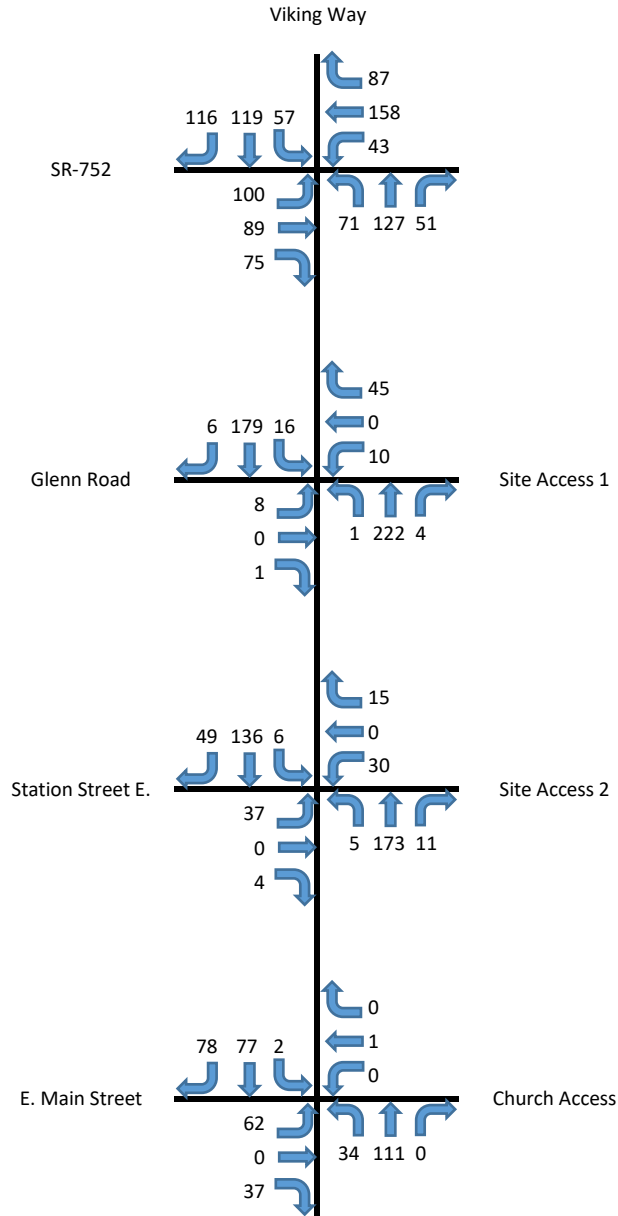


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	AM	Build	I1 = E1 + H1

^
N

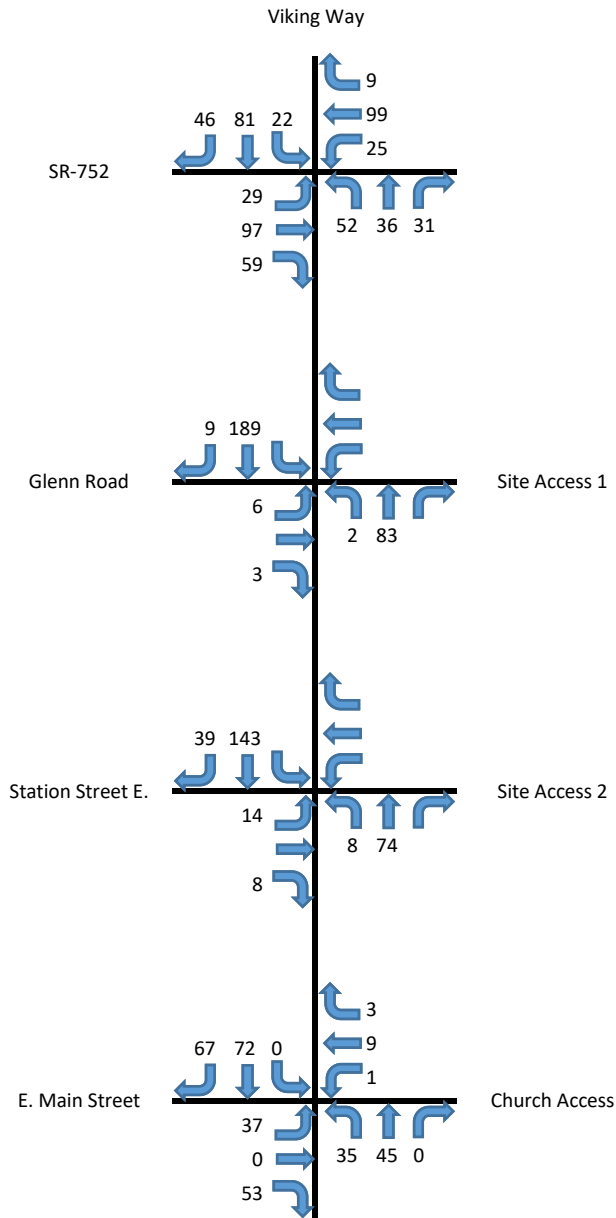


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	PM	Count	

^
N



Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	PM	No Build	A2

^
N

Growth Rate 2%

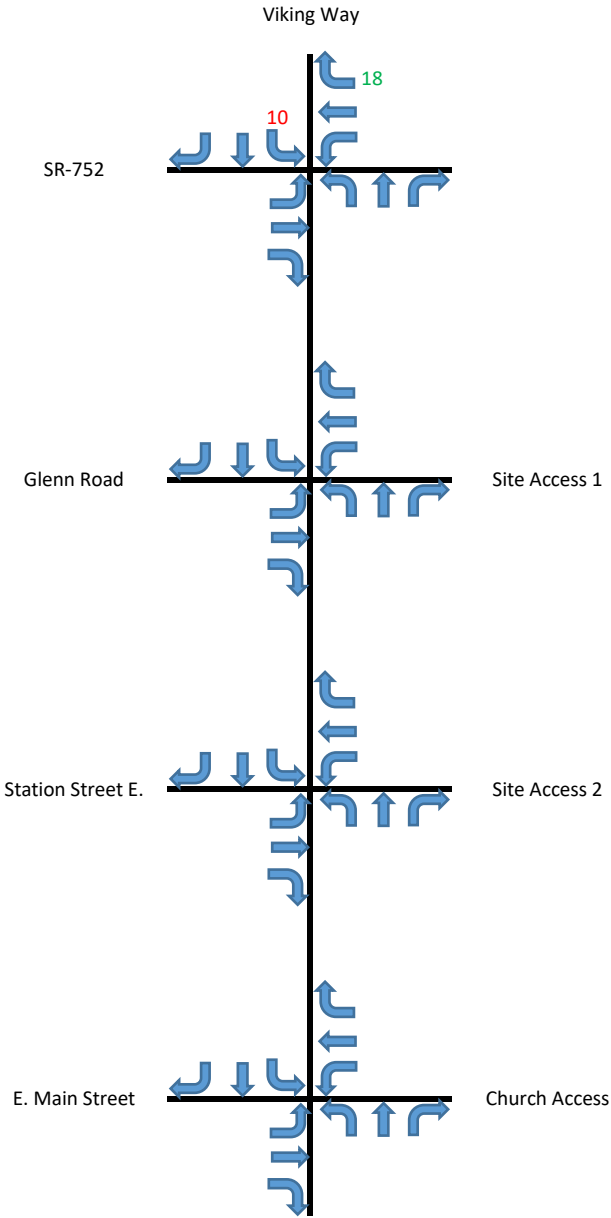


Ashville Fischer Homes TIS
 Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Maronda Homes/DR Horton Homes Single Family Development Traffic	B2

^
 N
 Enter 351
 Exit 206



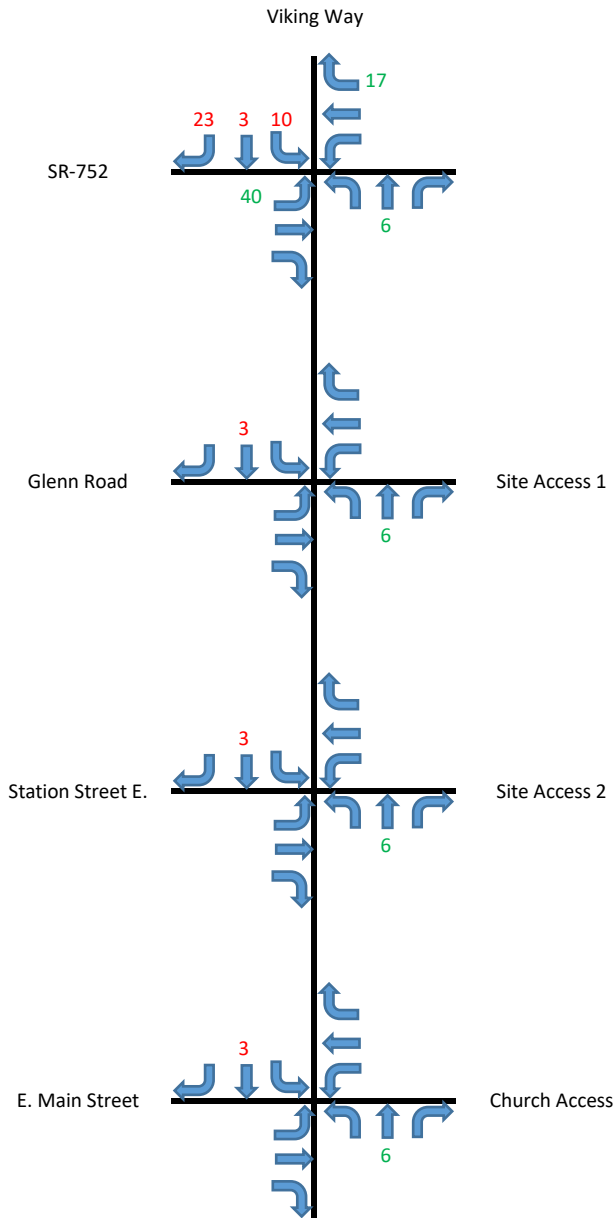
Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Maronda Homes Multifamily Development Traffic	C2

^
N

Enter 113
Exit 66

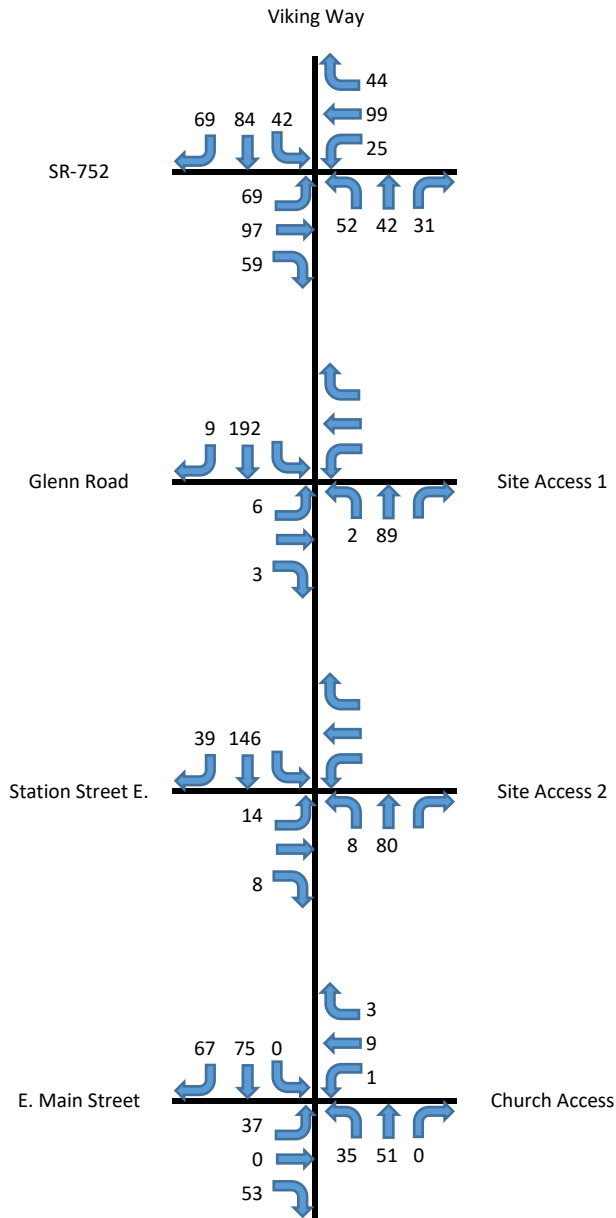


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	PM	No Build	D2 = A2 + B2 + C2

^
N



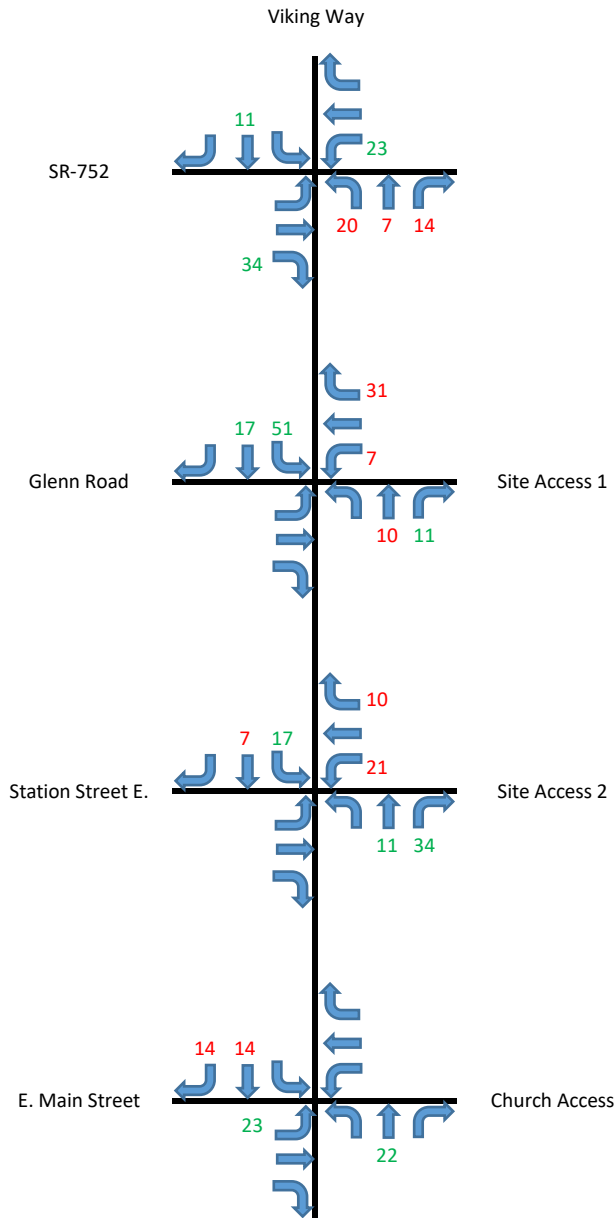
Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Non-Pass-By Traffic	E2

^
N

Enter 113
Exit 69

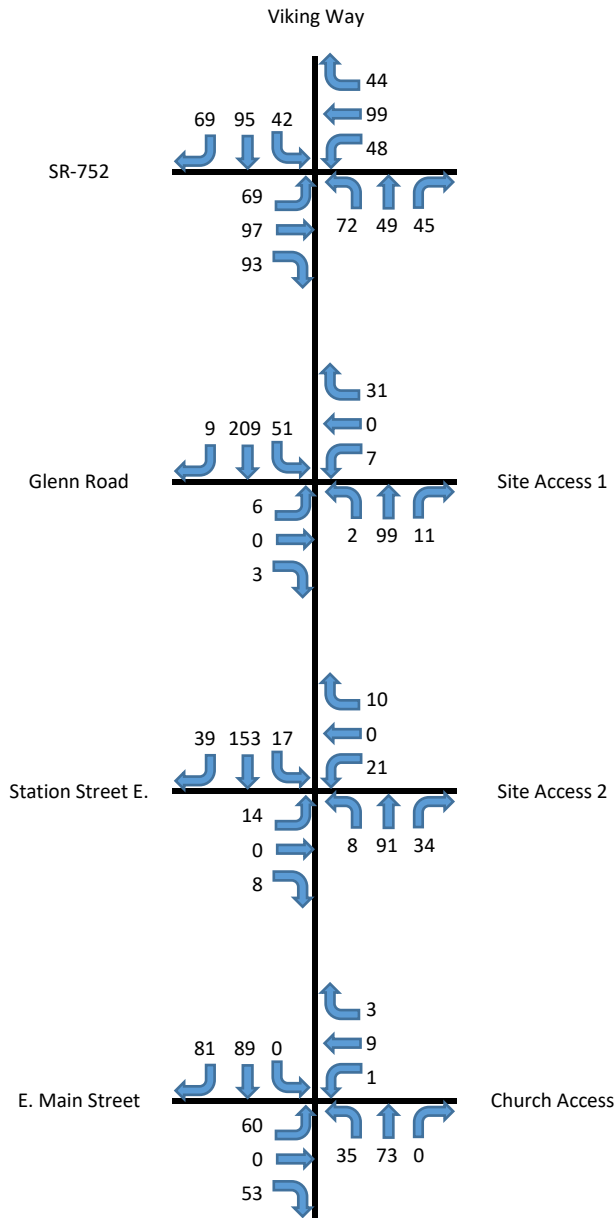


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2022	PM	Build	F2 = D2 + E2

^
N



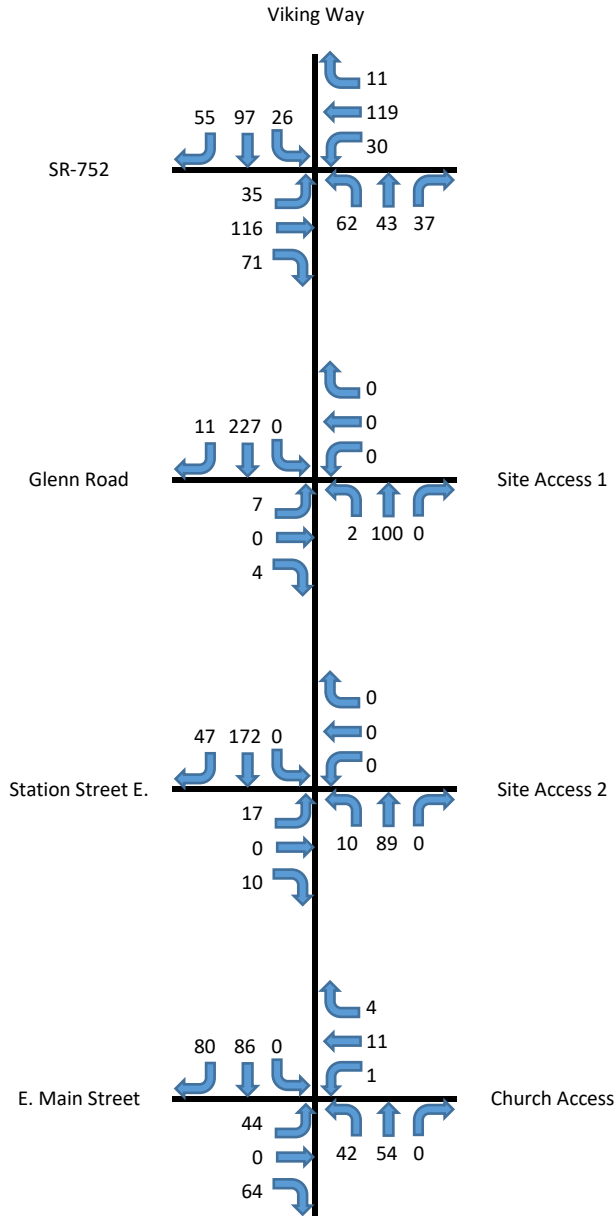
Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	PM	No Build	G2

^
N

Growth Rate 2%

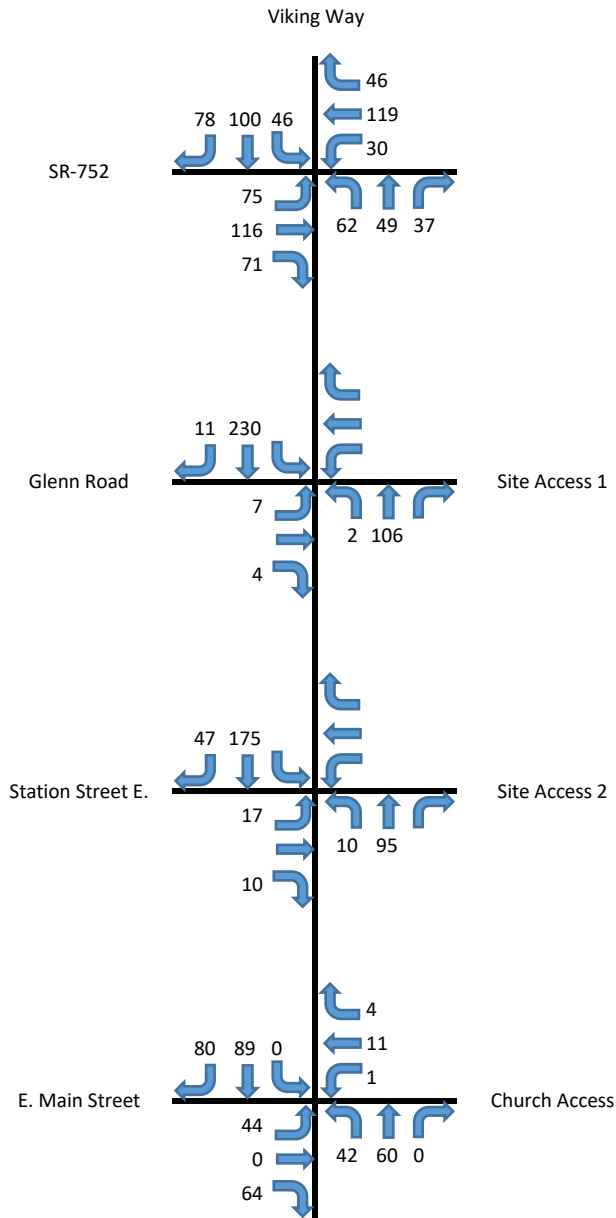


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	PM	No Build	H2 = G2 + B2 + C2

^
N

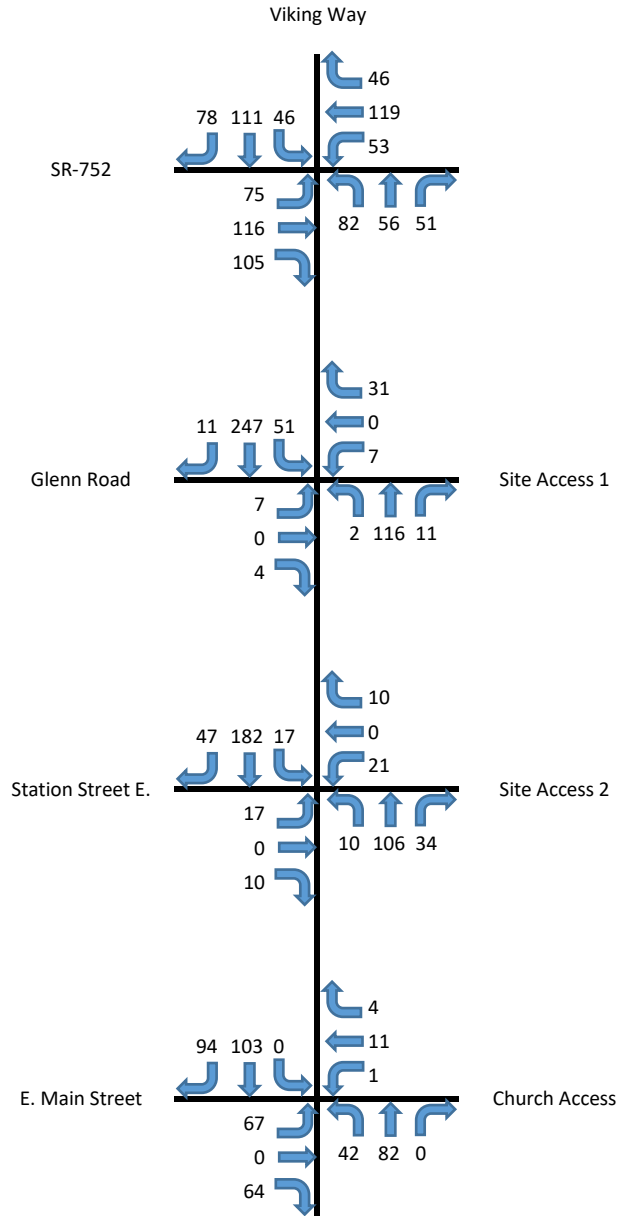


Ashville Fischer Homes TIS
Traffic Volume Calculations



Year	Period	Scenario	Plate
2032	PM	Build	I2 = E2 + H2

^
N

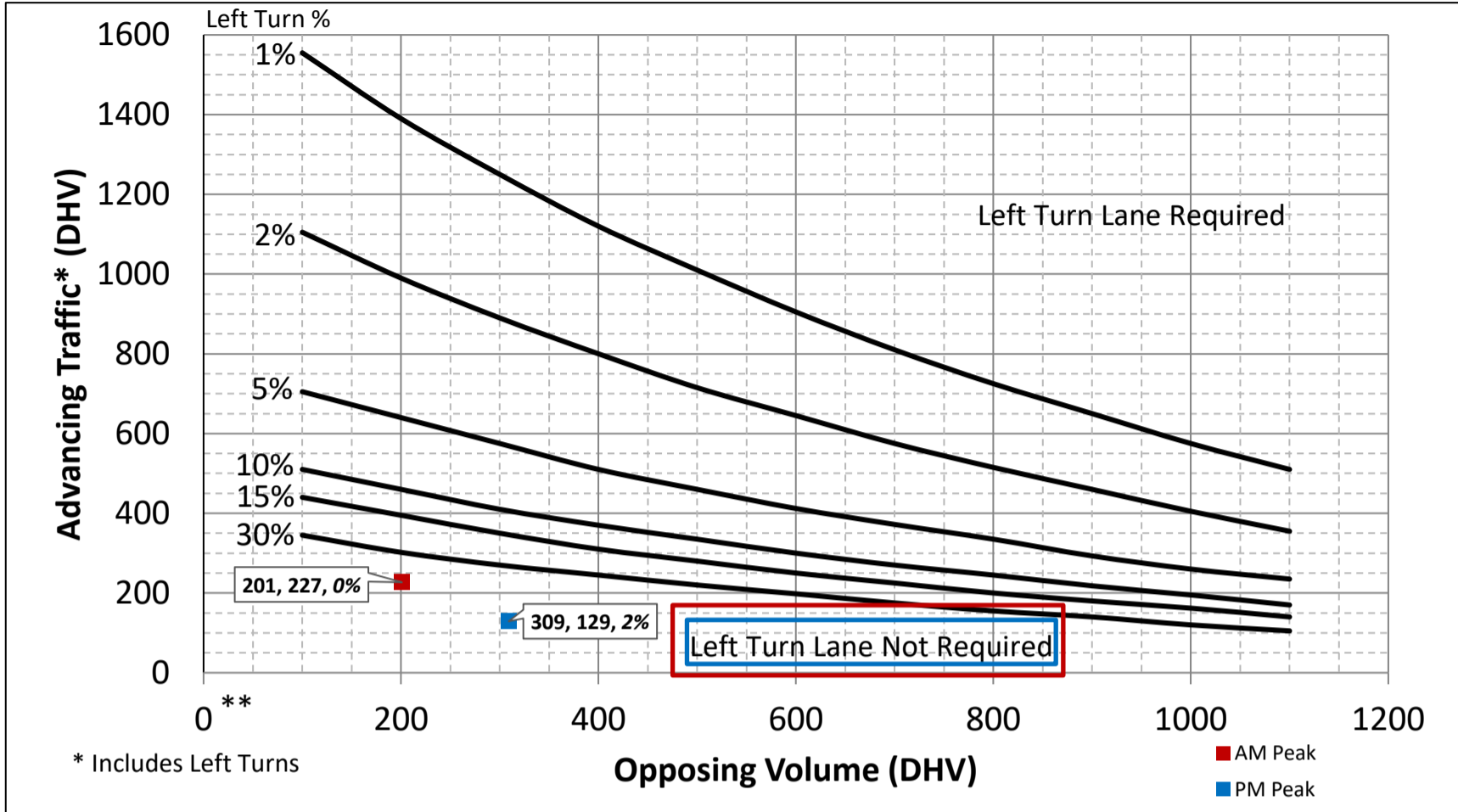


Appendix E

Turn Lane Warrant & Length Analysis



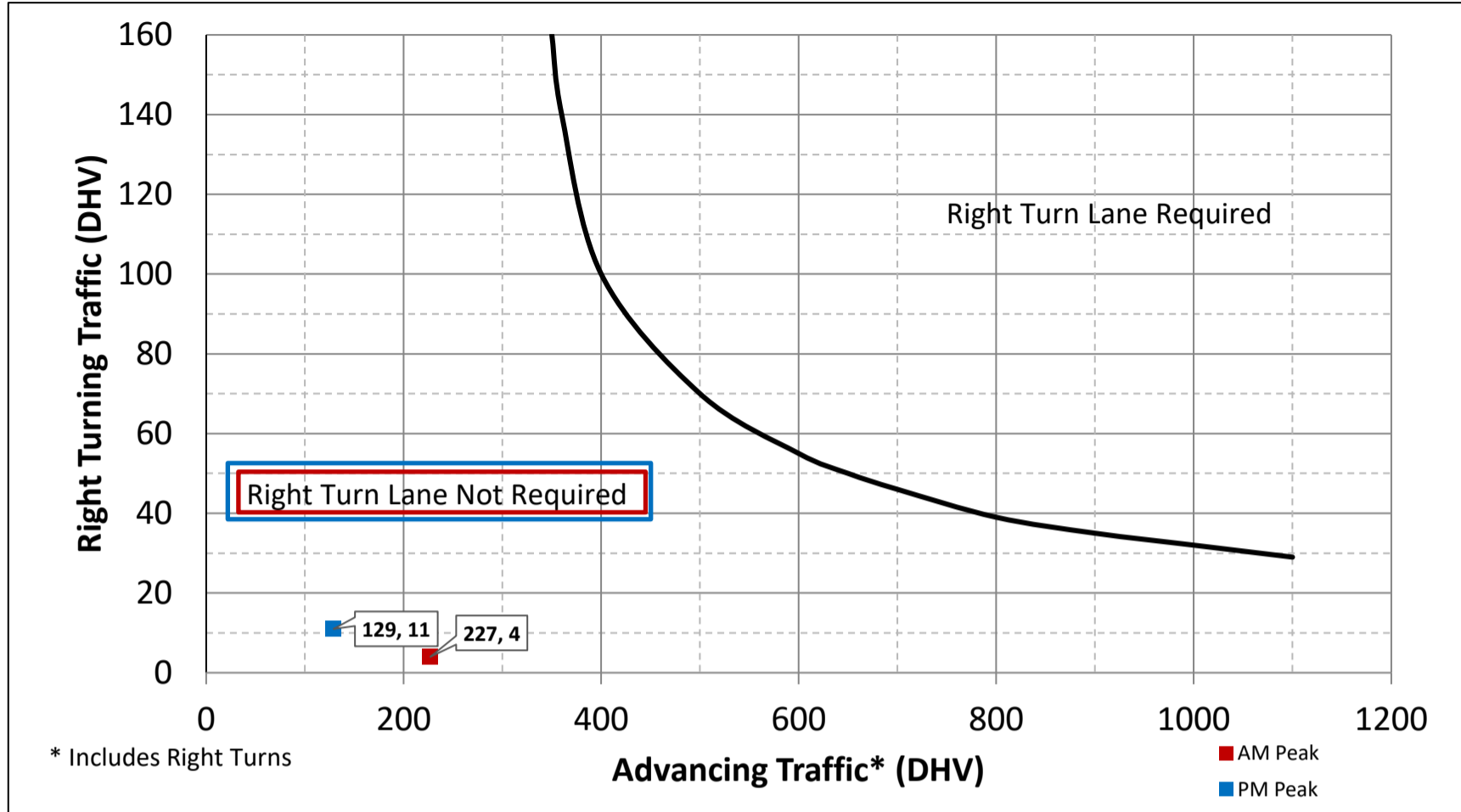
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	1		VPH
	Advancing Traffic	227		VPH
	Opposing Volume	201		VPH
	Left Turn Percentage	0%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	PM Peak	Design Speed	40	
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60		Assume 60
Turn Lane Volume		2		VPH
Advancing Traffic		129		VPH
Opposing Volume		309		VPH
Left Turn Percentage		2%		
Location Type		Through Road		
Condition		B		
Vehicles/Cycle		1		
Turn Lane Length		125		* Turn Lane Length includes 50 ft diverging taper
Offset Width		12		
Approach Taper		320		
Is Left Turn Warrant Met		No	No Left Turn Lane Required	

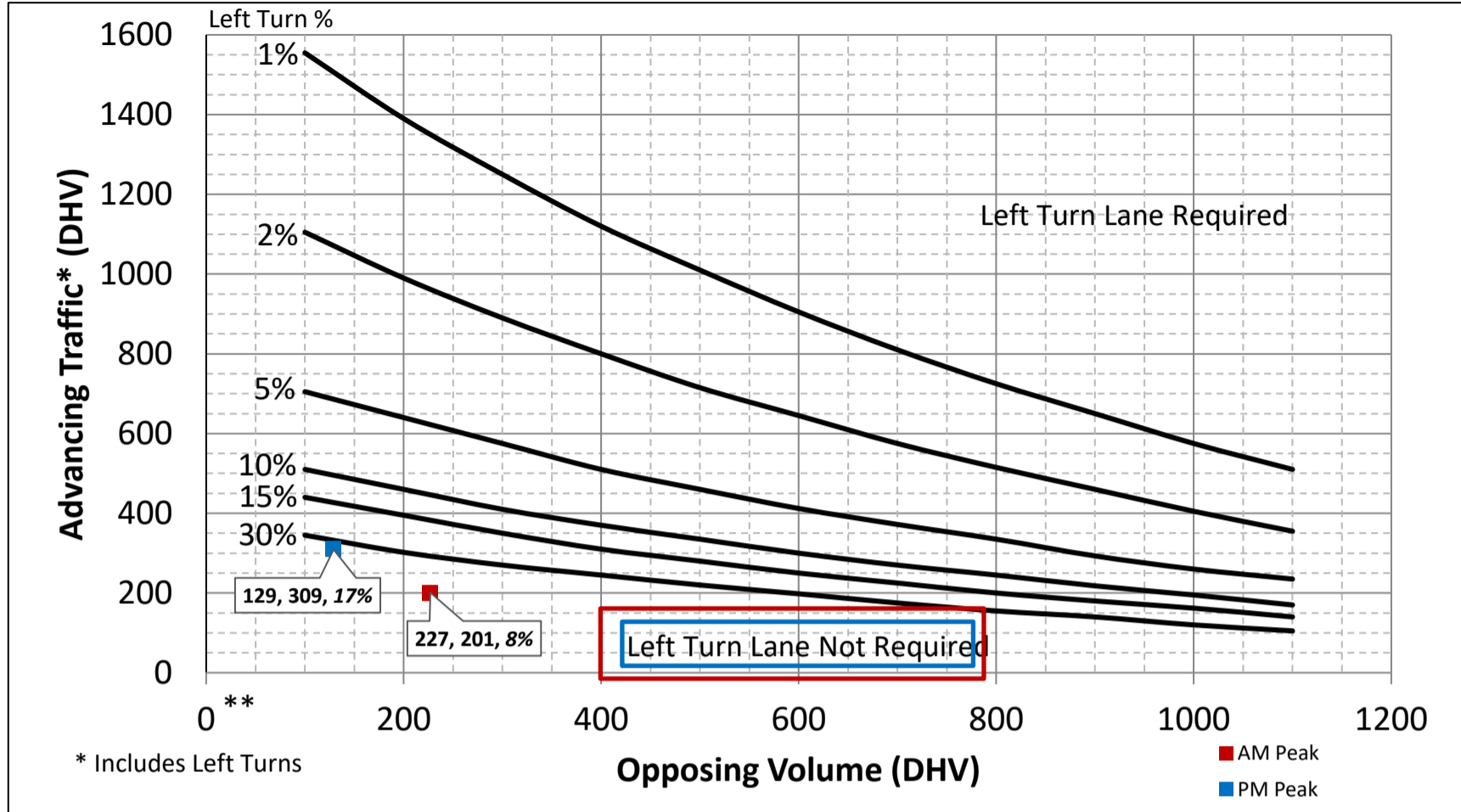
2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	4	VPH	
	Advancing Traffic	227	VPH	
	Right Turn Percentage	2%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
PM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	11	VPH	
	Advancing Traffic	129	VPH	
	Right Turn Percentage	9%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met		No	No Right Turn Lane Required	* Turn Lane Length includes 50 ft diverging taper

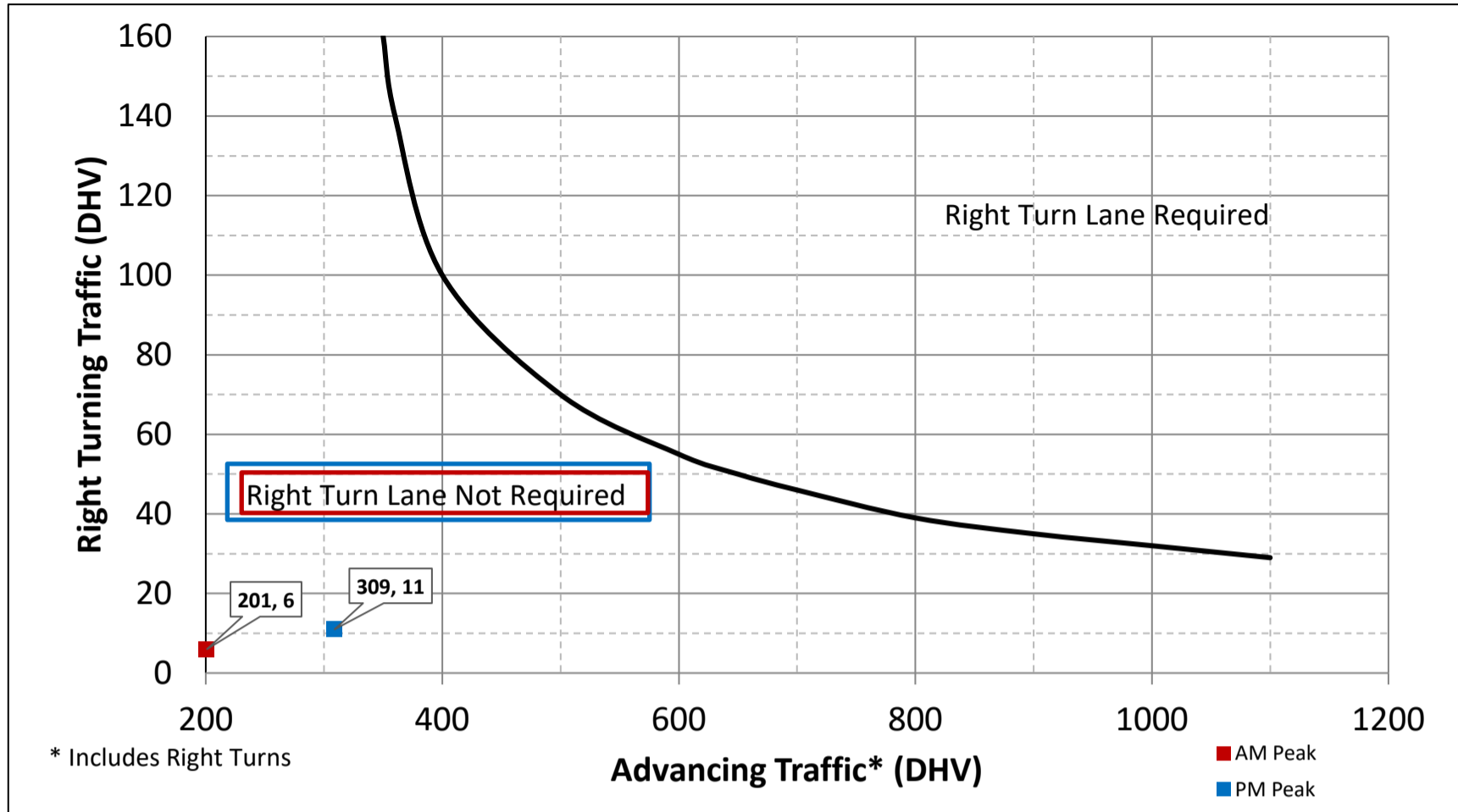
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	16		VPH
	Advancing Traffic	201		VPH
	Opposing Volume	227		VPH
	Left Turn Percentage	8%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
			Design Speed	40
PM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	51		VPH
	Advancing Traffic	309		VPH
	Opposing Volume	129		VPH
	Left Turn Percentage	17%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	1		
	Turn Lane Length	165		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	Is Left Turn Warrant Met		No	

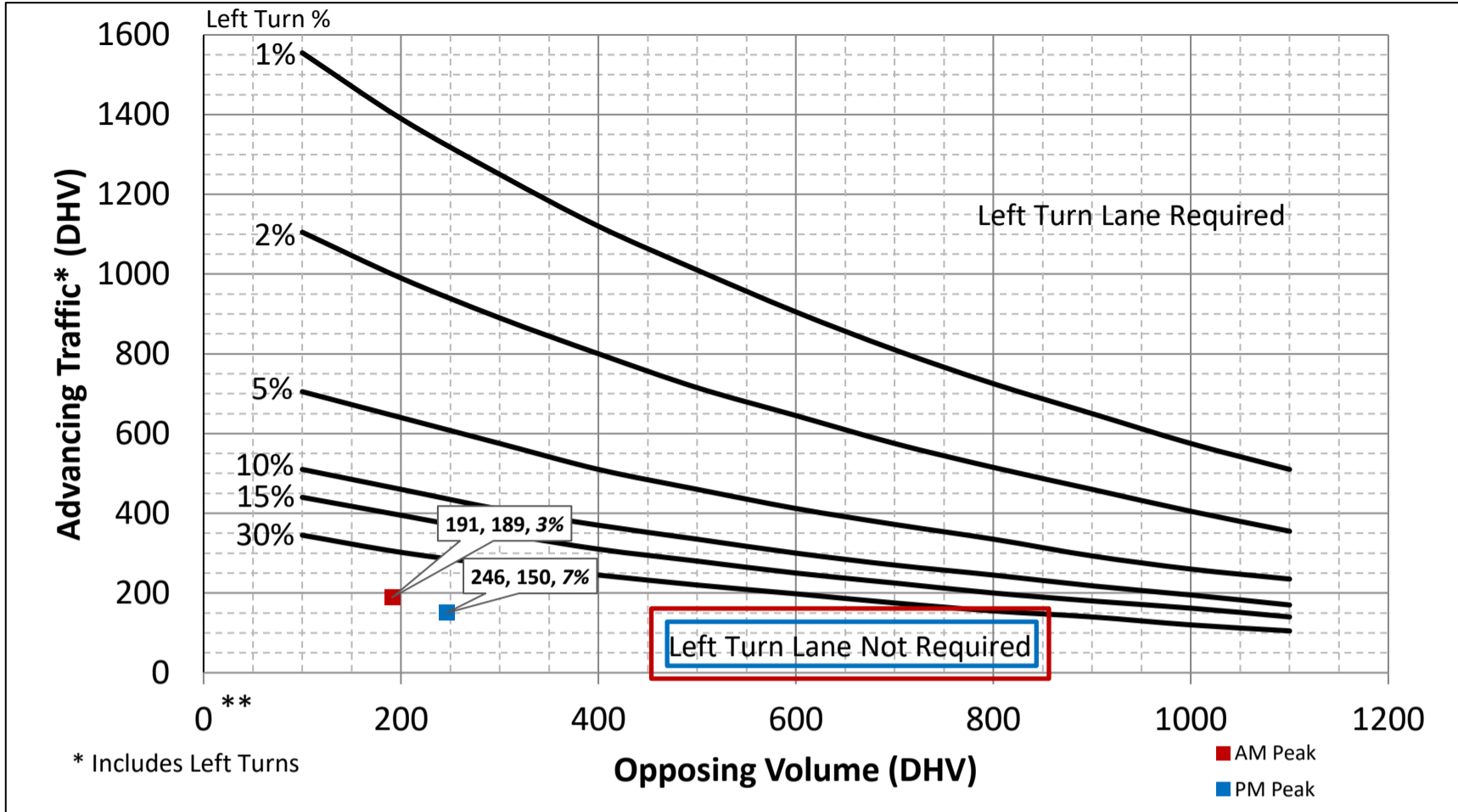
2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	6	VPH	
	Advancing Traffic	201	VPH	
	Right Turn Percentage	3%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
PM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	11	VPH	
	Advancing Traffic	309	VPH	
	Right Turn Percentage	4%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met		No	No Right Turn Lane Required	* Turn Lane Length includes 50 ft diverging taper

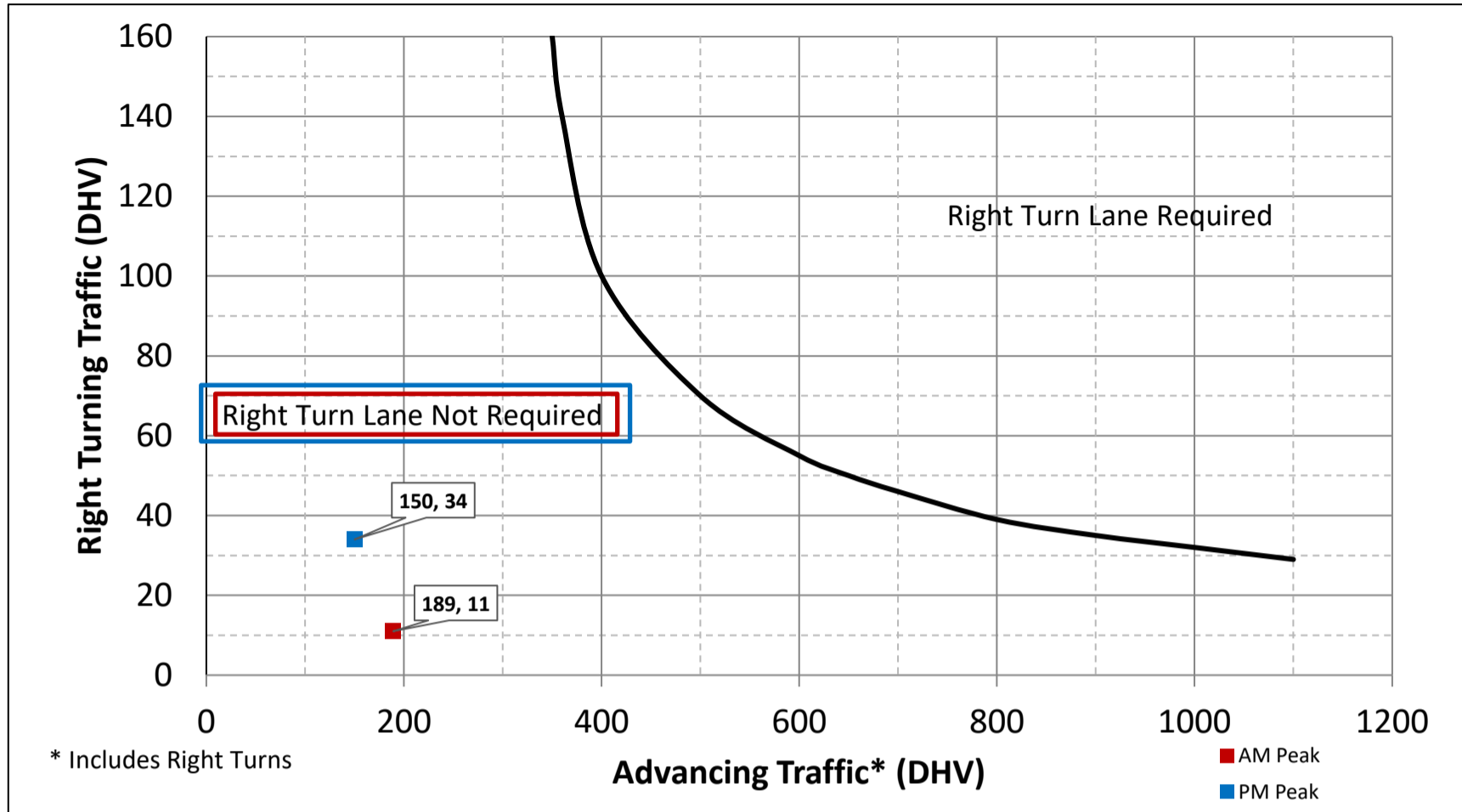
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	5		VPH
	Advancing Traffic	189		VPH
	Opposing Volume	191		VPH
	Left Turn Percentage	3%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	PM Peak	Design Speed	40	
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60		Assume 60
Turn Lane Volume		10		VPH
Advancing Traffic		150		VPH
Opposing Volume		246		VPH
Left Turn Percentage		7%		
Location Type		Through Road		
Condition		B		
Vehicles/Cycle		1		
Turn Lane Length		125		* Turn Lane Length includes 50 ft diverging taper
Offset Width		12		
Approach Taper		320		
Is Left Turn Warrant Met		No	No Left Turn Lane Required	

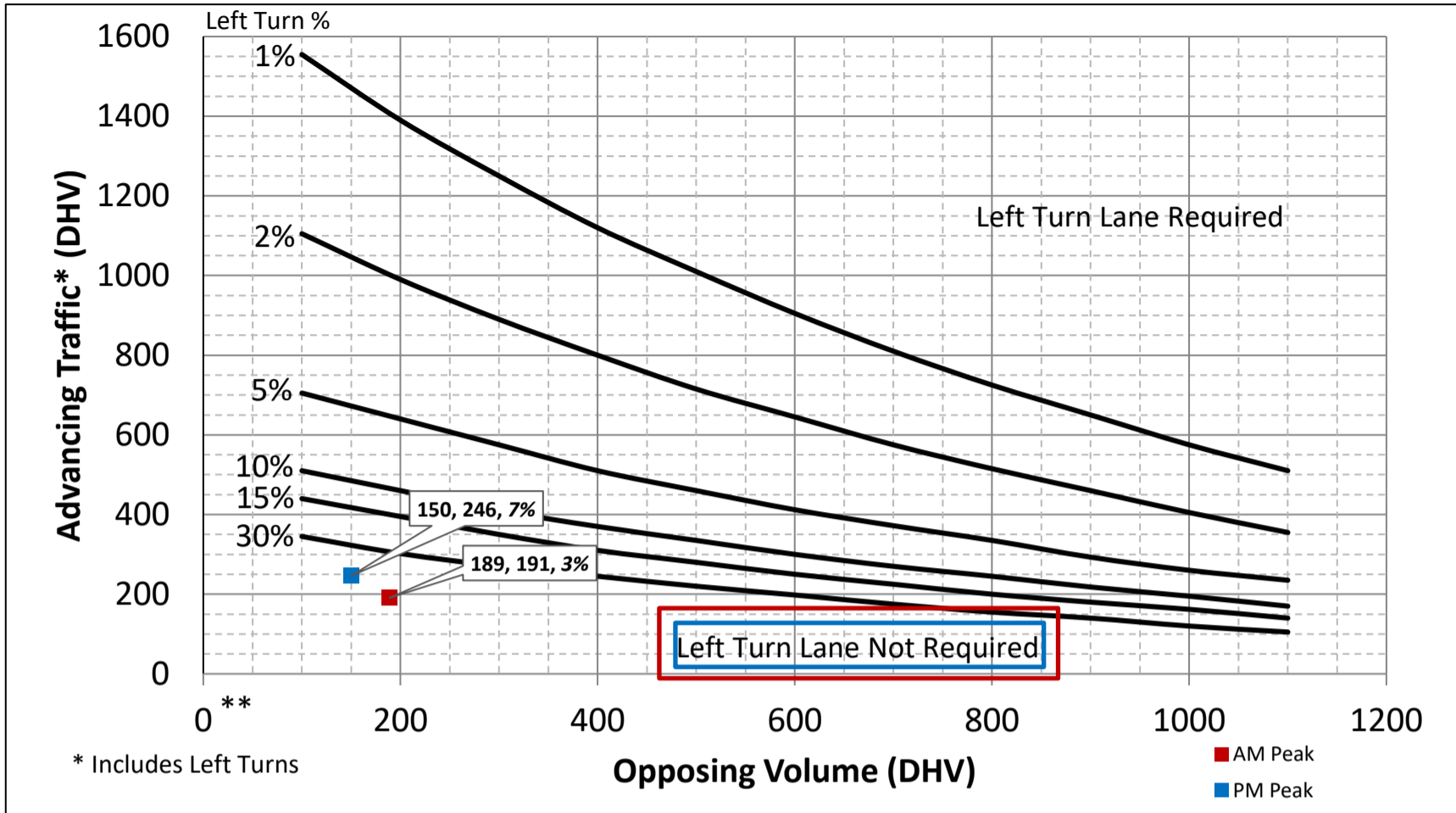
2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	11	VPH	
	Advancing Traffic	189	VPH	
	Right Turn Percentage	6%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
PM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	34	VPH	
	Advancing Traffic	150	VPH	
	Right Turn Percentage	23%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	1		
	Turn Lane Length	165		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met		No	No Right Turn Lane Required	* Turn Lane Length includes 50 ft diverging taper

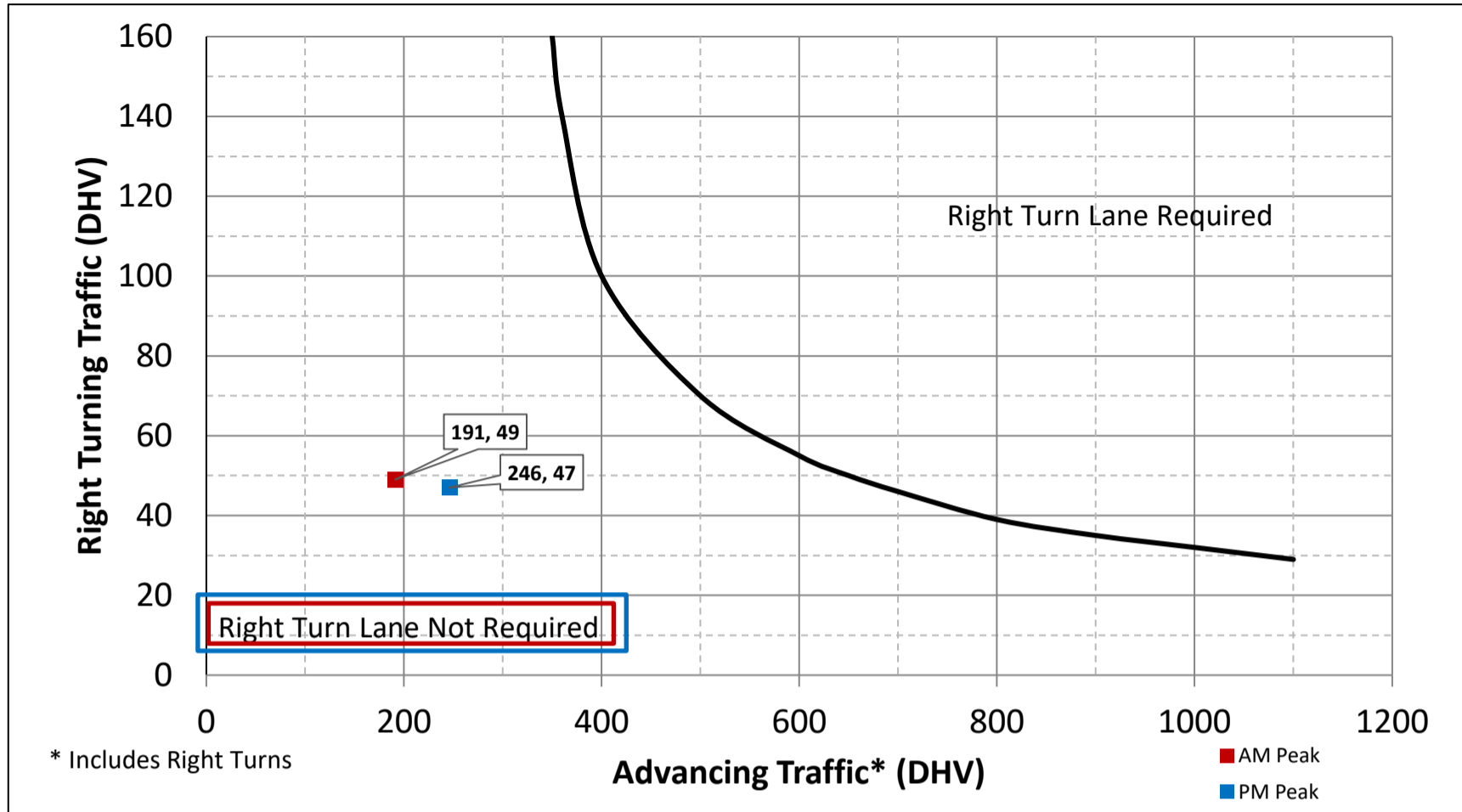
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	6		VPH
	Advancing Traffic	191		VPH
	Opposing Volume	189		VPH
	Left Turn Percentage	3%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	PM Peak	Design Speed	40	
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60		Assume 60
Turn Lane Volume		17		VPH
Advancing Traffic		246		VPH
Opposing Volume		150		VPH
Left Turn Percentage		7%		
Location Type		Through Road		
Condition		B		
Vehicles/Cycle		1		
Turn Lane Length		125		* Turn Lane Length includes 50 ft diverging taper
Offset Width		12		
Approach Taper		320		
Is Left Turn Warrant Met		No	No Left Turn Lane Required	

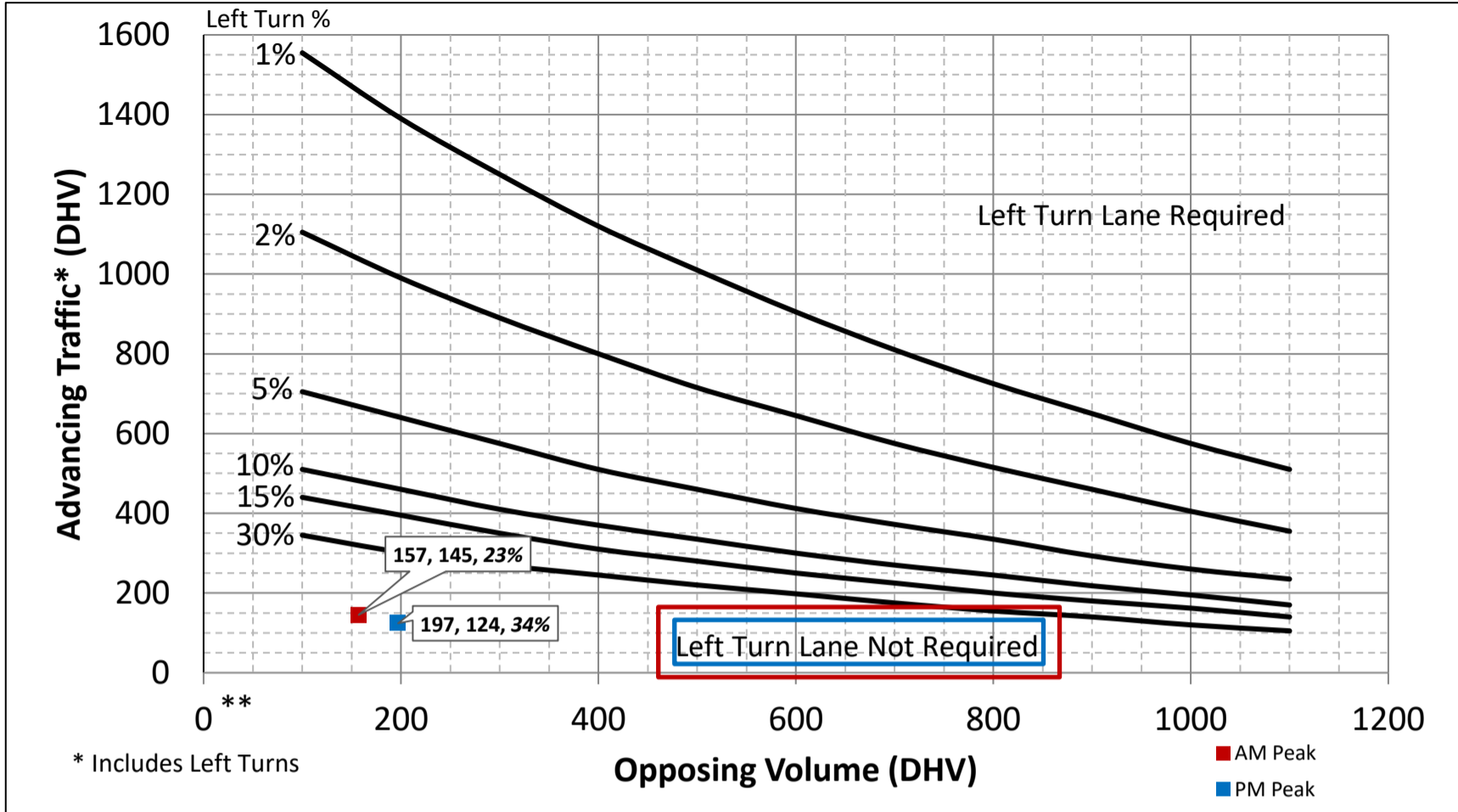
2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	49	VPH	
	Advancing Traffic	191	VPH	
	Right Turn Percentage	26%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	1		
	Turn Lane Length	165		* Turn Lane Length includes 50 ft diverging taper
PM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	47	VPH	
	Advancing Traffic	246	VPH	
	Right Turn Percentage	19%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	1		
	Turn Lane Length	165		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met	No	No Right Turn Lane Required		

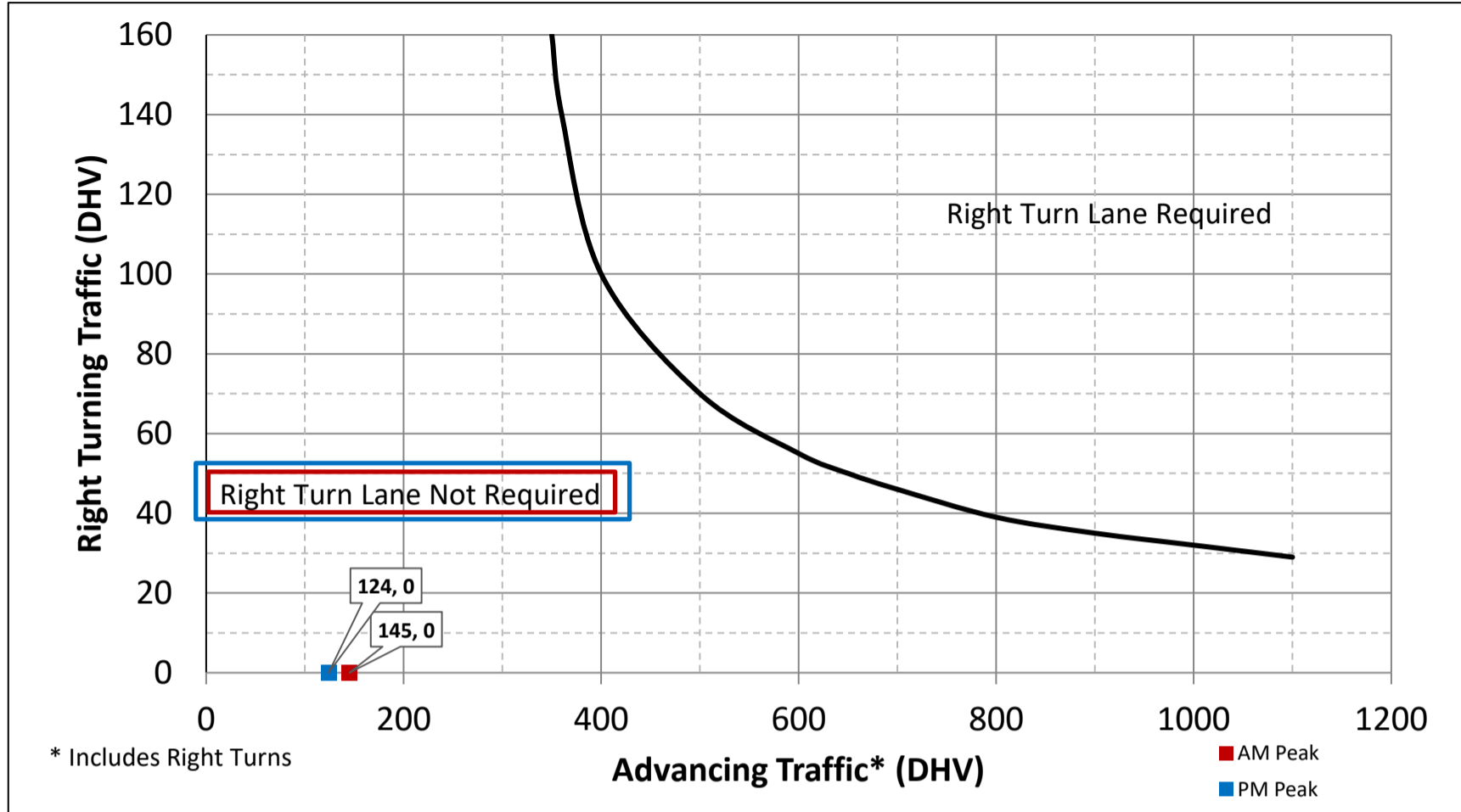
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	34		VPH
	Advancing Traffic	145		VPH
	Opposing Volume	157		VPH
	Left Turn Percentage	23%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	1		
	Turn Lane Length	165		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	PM Peak	Design Speed	40	
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60		Assume 60
Turn Lane Volume		42		VPH
Advancing Traffic		124		VPH
Opposing Volume		197		VPH
Left Turn Percentage		34%		
Location Type		Through Road		
Condition		C		
Vehicles/Cycle		1		
Turn Lane Length		165		* Turn Lane Length includes 50 ft diverging taper
Offset Width		12		
Approach Taper		320		
Is Left Turn Warrant Met		No	No Left Turn Lane Required	

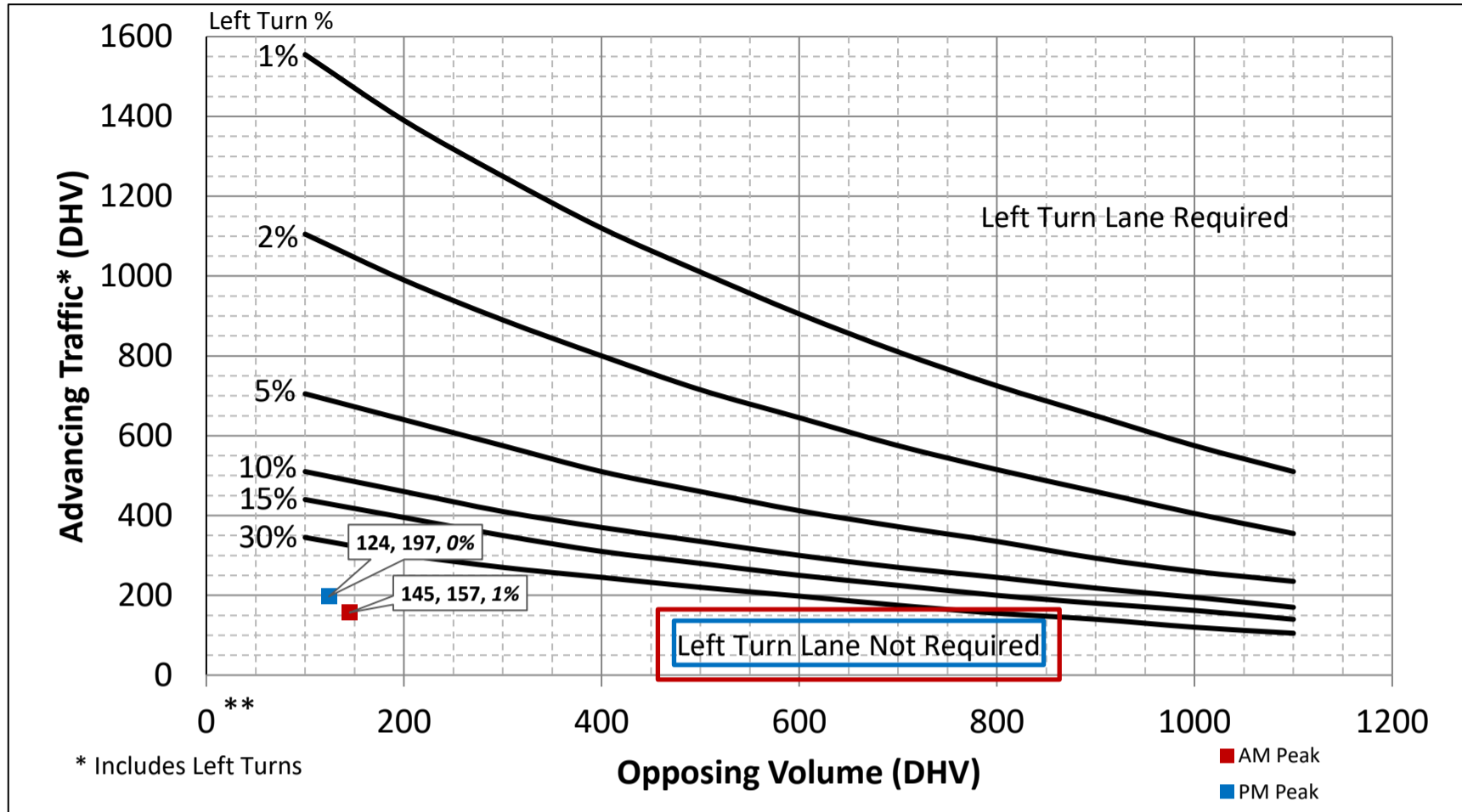
2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	0	VPH	
	Advancing Traffic	145	VPH	
	Right Turn Percentage	0%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
PM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	0	VPH	
	Advancing Traffic	124	VPH	
	Right Turn Percentage	0%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met	No	No Right Turn Lane Required		

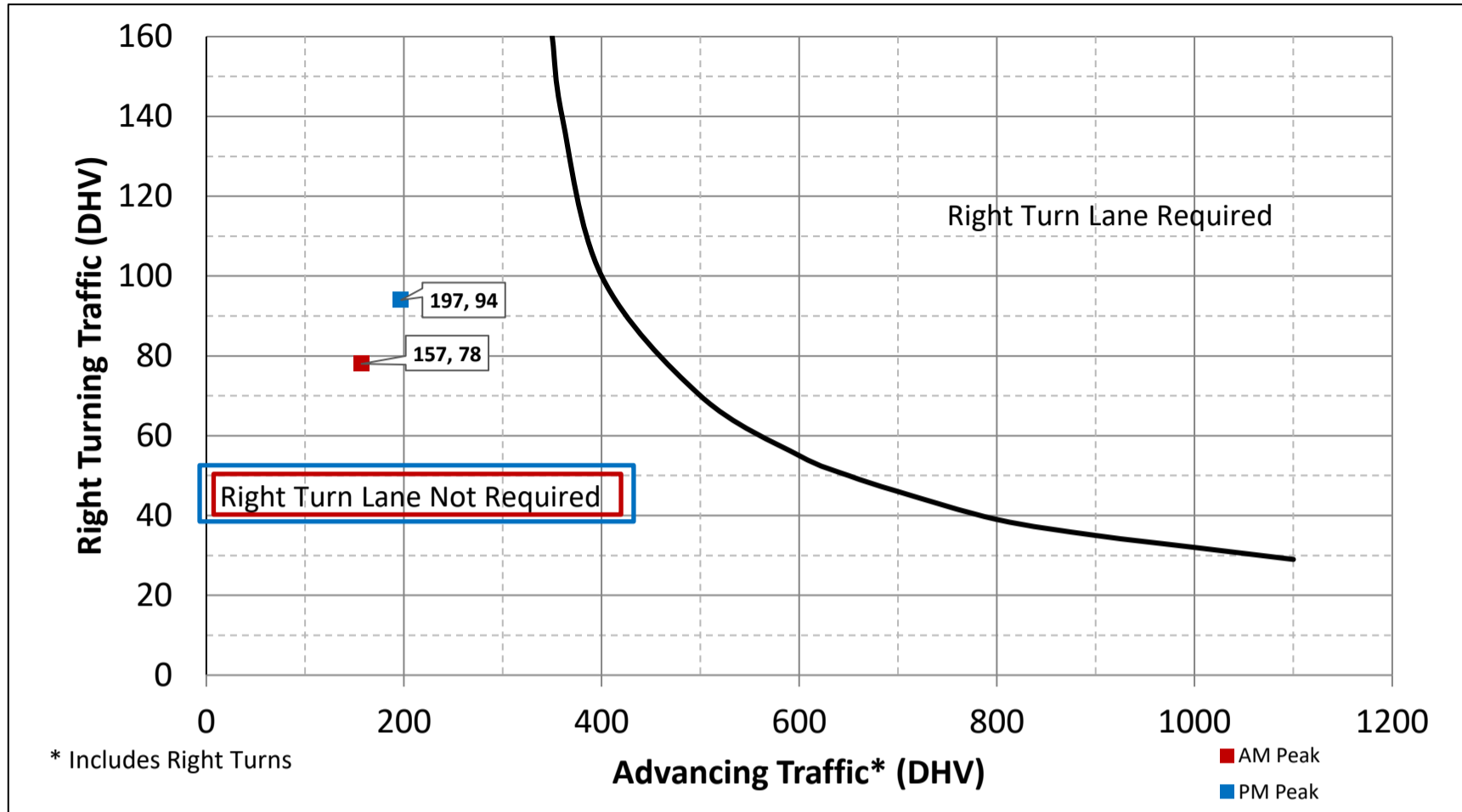
2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

		Design Speed	40	mph
AM Peak	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60		Assume 60
	Turn Lane Volume	2		VPH
	Advancing Traffic	157		VPH
	Opposing Volume	145		VPH
	Left Turn Percentage	1%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	125		* Turn Lane Length includes 50 ft diverging taper
	Offset Width	12		
	Approach Taper	320		
	PM Peak	Design Speed	40	
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60		Assume 60
Turn Lane Volume		0		VPH
Advancing Traffic		197		VPH
Opposing Volume		124		VPH
Left Turn Percentage		0%		
Location Type		Through Road		
Condition		B		
Vehicles/Cycle		1		
Turn Lane Length		125		* Turn Lane Length includes 50 ft diverging taper
Offset Width		12		
Approach Taper		320		
Is Left Turn Warrant Met		No	No Left Turn Lane Required	

2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	40	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	Assume 60	
	Turn Lane Volume	78	VPH	
	Advancing Traffic	157	VPH	
	Right Turn Percentage	50%		
	Location Type	Through Road		
	Condition	C		
	Vehicles/Cycle	2		
	Turn Lane Length	215		* Turn Lane Length includes 50 ft diverging taper
	PM Peak	Design Speed	40	mph
Traffic Control		Unsignalized		
Cycle Length		Unsignalized		
Cycles Per Hour		60	Assume 60	
Turn Lane Volume		94	VPH	
Advancing Traffic		197	VPH	
Right Turn Percentage		48%		
Location Type		Through Road		
Condition		C		
Vehicles/Cycle		2		
Turn Lane Length		215		* Turn Lane Length includes 50 ft diverging taper
Is Right Turn Warrant Met		No	No Right Turn Lane Required	

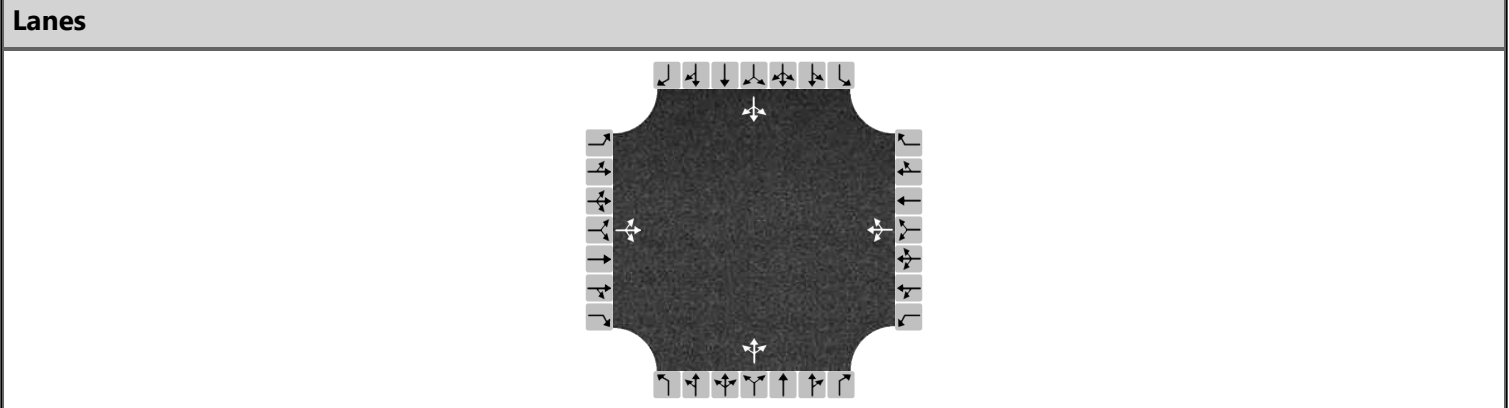
Appendix F

Capacity Analysis



HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2022	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM No Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	85	74	53	30	132	74	34	98	26	53	97	103
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	230			257			172			275		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

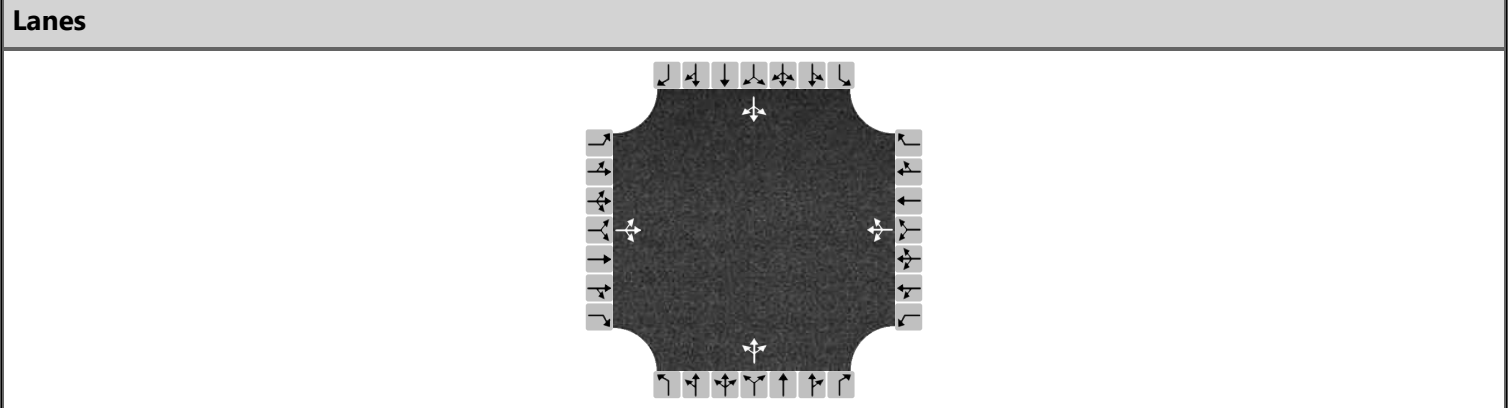
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.205			0.228			0.153			0.244		
Final Departure Headway, hd (s)	5.59			5.46			5.75			5.42		
Final Degree of Utilization, x	0.358			0.389			0.274			0.414		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.59			3.46			3.75			3.42		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	230			257			172			275		
Capacity	644			660			626			664		
95% Queue Length, Q ₉₅ (veh)	1.6			1.8			1.1			2.0		
Control Delay (s/veh)	11.7			11.9			10.9			12.2		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	11.7			11.9			10.9			12.2		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	11.7						B					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2022	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	85	74	64	37	132	74	64	108	46	53	101	103
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	242			264			237			279		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.215			0.235			0.211			0.248		
Final Departure Headway, hd (s)	5.88			5.79			5.91			5.71		
Final Degree of Utilization, x	0.396			0.425			0.389			0.443		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.88			3.79			3.91			3.71		

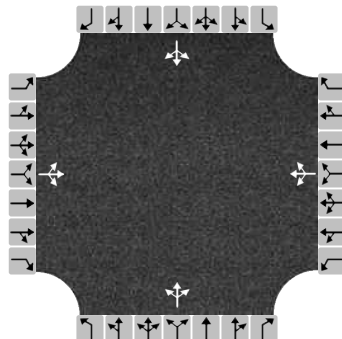
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	242			264			237			279		
Capacity	612			622			609			631		
95% Queue Length, Q ₉₅ (veh)	1.9			2.1			1.8			2.3		
Control Delay (s/veh)	12.7			13.0			12.6			13.2		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	12.7			13.0			12.6			13.2		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	12.9						B					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2022	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM No Build		
Project Description	Ashville Fischer Homes TIS		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	69	97	59	25	99	44	52	42	31	42	84	69
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	245			183			136			212		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

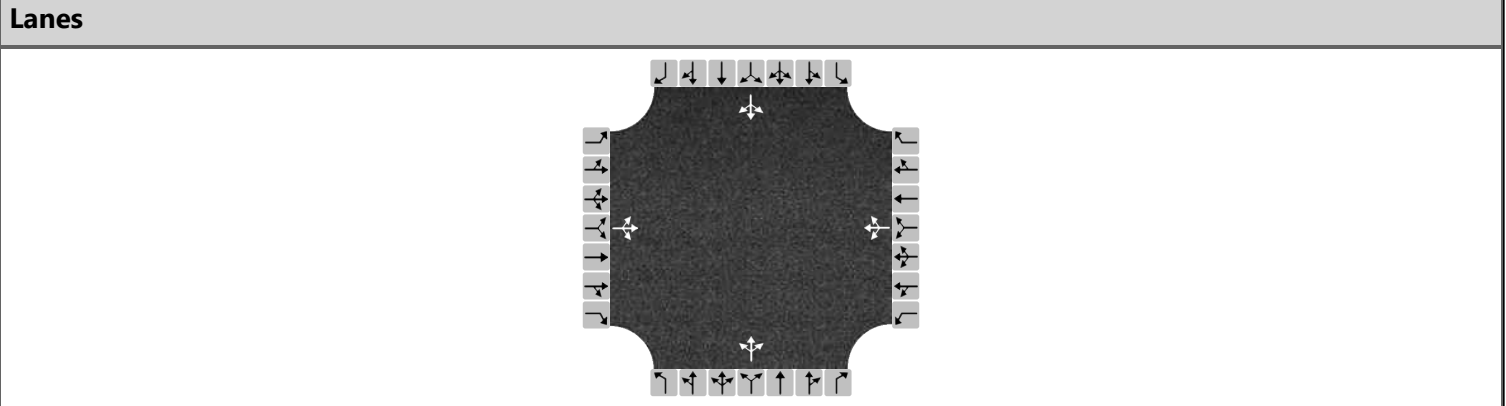
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.217			0.162			0.121			0.188		
Final Departure Headway, hd (s)	5.02			5.08			5.29			5.08		
Final Degree of Utilization, x	0.341			0.258			0.200			0.299		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.02			3.08			3.29			3.08		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	245			183			136			212		
Capacity	716			708			680			709		
95% Queue Length, Q ₉₅ (veh)	1.5			1.0			0.7			1.3		
Control Delay (s/veh)	10.6			9.8			9.6			10.2		
Level of Service, LOS	B			A			A			B		
Approach Delay (s/veh)	10.6			9.8			9.6			10.2		
Approach LOS	B			A			A			B		
Intersection Delay, s/veh LOS	10.1						B					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2022	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments												
Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	69	97	93	48	99	44	72	49	45	42	95	69
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	282			208			180			224		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time												
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.250			0.185			0.160			0.199		
Final Departure Headway, hd (s)	5.27			5.46			5.60			5.44		
Final Degree of Utilization, x	0.412			0.315			0.281			0.338		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.27			3.46			3.60			3.44		

Capacity, Delay and Level of Service												
Flow Rate, v (veh/h)	282			208			180			224		
Capacity	683			659			643			662		
95% Queue Length, Q ₉₅ (veh)	2.0			1.3			1.1			1.5		
Control Delay (s/veh)	11.9			10.9			10.8			11.2		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	11.9			10.9			10.8			11.2		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	11.3						B					

HCS All-Way Stop Control Report

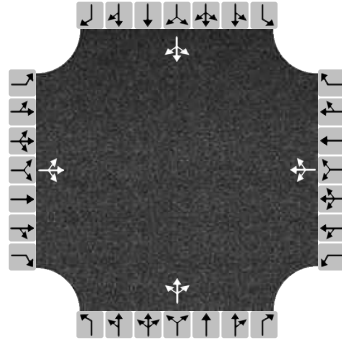
General Information

Analyst	LRV
Agency/Co.	CMTran
Date Performed	
Analysis Year	2032
Analysis Time Period (hrs)	0.25
Time Analyzed	AM No Build
Project Description	Ashville Fischer Homes TIS

Site Information

Intersection	Viking Way & SR-752
Jurisdiction	Village of Ashville
East/West Street	SR-752
North/South Street	Viking Way
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	100	89	64	36	158	87	41	117	31	57	115	116
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	275			305			205			313		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

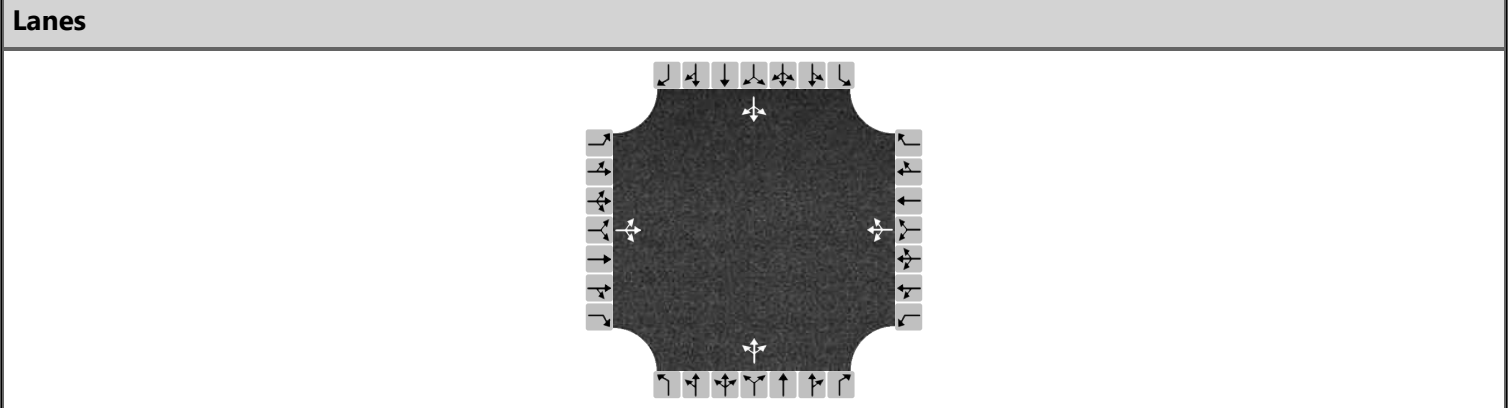
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.244			0.271			0.183			0.278		
Final Departure Headway, hd (s)	6.15			6.00			6.38			6.00		
Final Degree of Utilization, x	0.470			0.509			0.364			0.521		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.15			4.00			4.38			4.00		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	275			305			205			313		
Capacity	585			600			564			600		
95% Queue Length, Q ₉₅ (veh)	2.5			2.9			1.7			3.0		
Control Delay (s/veh)	14.5			15.1			13.0			15.3		
Level of Service, LOS	B			C			B			C		
Approach Delay (s/veh)	14.5			15.1			13.0			15.3		
Approach LOS	B			C			B			C		
Intersection Delay, s/veh LOS	14.6						B					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2032	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	100	89	75	43	158	87	71	127	51	57	119	116
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	287			313			271			317		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

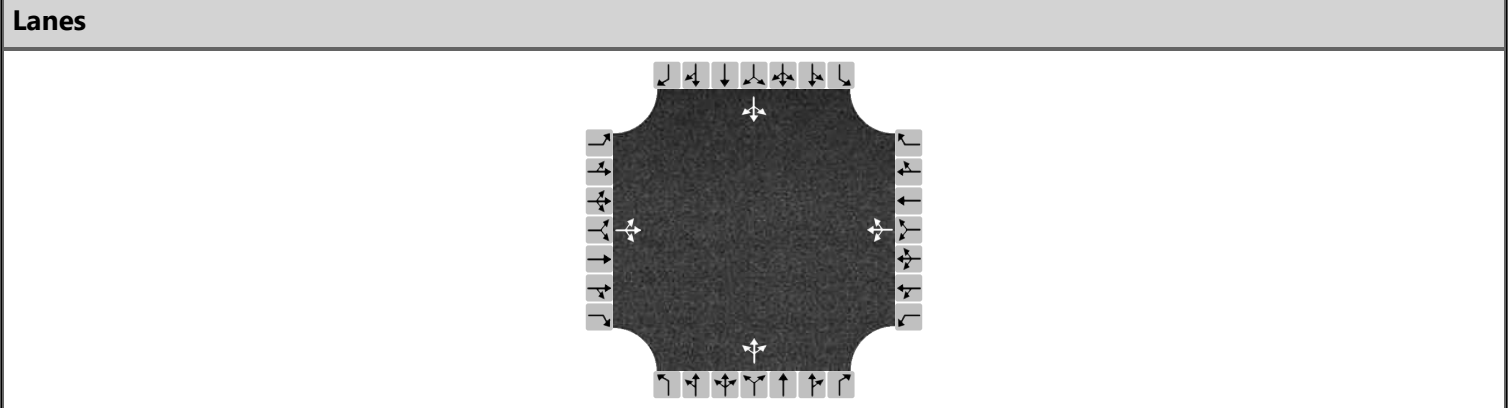
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.255			0.278			0.241			0.282		
Final Departure Headway, hd (s)	6.56			6.44			6.64			6.40		
Final Degree of Utilization, x	0.523			0.560			0.499			0.564		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.56			4.44			4.64			4.40		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	287			313			271			317		
Capacity	549			559			543			563		
95% Queue Length, Q ₉₅ (veh)	3.0			3.4			2.8			3.5		
Control Delay (s/veh)	16.5			17.3			16.1			17.3		
Level of Service, LOS	C			C			C			C		
Approach Delay (s/veh)	16.5			17.3			16.1			17.3		
Approach LOS	C			C			C			C		
Intersection Delay, s/veh LOS	16.8						C					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2032	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM No Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	75	116	71	30	119	46	62	49	37	46	100	78
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	285			212			161			243		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

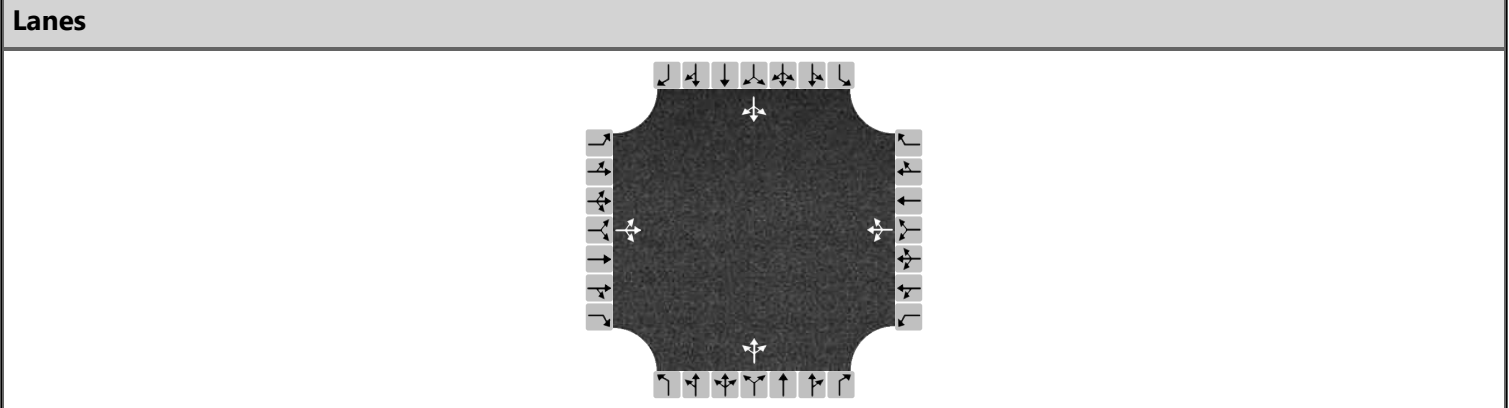
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.253			0.188			0.143			0.216		
Final Departure Headway, hd (s)	5.34			5.45			5.68			5.43		
Final Degree of Utilization, x	0.422			0.321			0.254			0.367		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.34			3.45			3.68			3.43		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	285			212			161			243		
Capacity	674			660			634			663		
95% Queue Length, Q ₉₅ (veh)	2.1			1.4			1.0			1.7		
Control Delay (s/veh)	12.2			11.0			10.6			11.5		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	12.2			11.0			10.6			11.5		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	11.5						B					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	LRV	Intersection	Viking Way & SR-752
Agency/Co.	CMTran	Jurisdiction	Village of Ashville
Date Performed		East/West Street	SR-752
Analysis Year	2032	North/South Street	Viking Way
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM Build		
Project Description	Ashville Fischer Homes TIS		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	75	116	105	53	119	46	82	56	51	46	111	78
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	322			237			205			255		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.286			0.211			0.183			0.227		
Final Departure Headway, hd (s)	5.61			5.85			6.00			5.81		
Final Degree of Utilization, x	0.502			0.385			0.342			0.413		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.61			3.85			4.00			3.81		

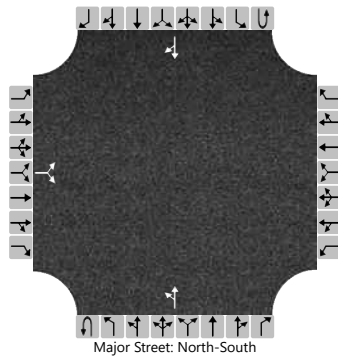
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	322			237			205			255		
Capacity	641			616			600			619		
95% Queue Length, Q ₉₅ (veh)	2.8			1.8			1.5			2.0		
Control Delay (s/veh)	14.1			12.5			12.1			12.8		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	14.1			12.5			12.1			12.8		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	13.0						B					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & Glenn Road		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	Glenn Road		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	AM No Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		7		1						1	173				145	5
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

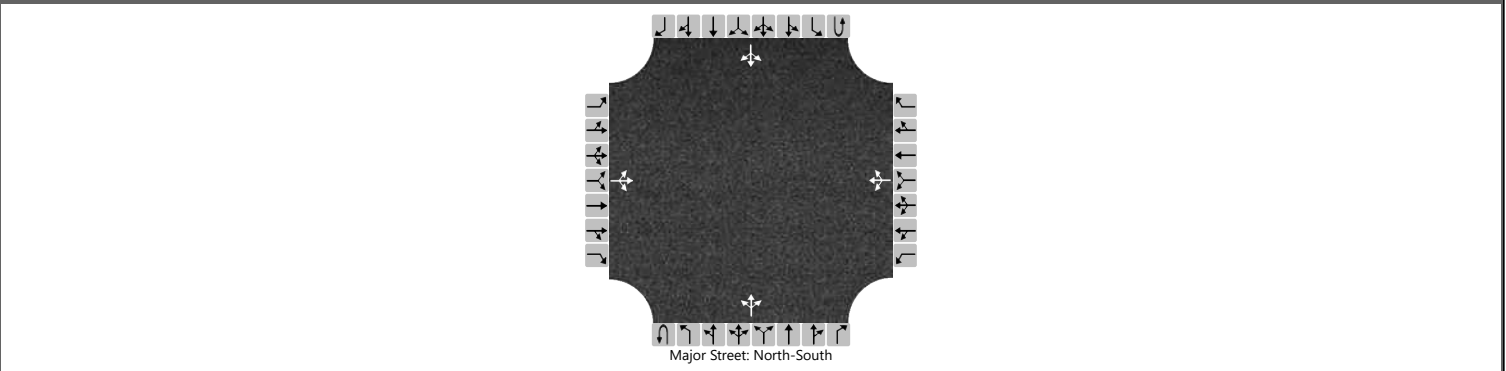
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9							1						
Capacity, c (veh/h)			667							1410						
v/c Ratio			0.01							0.00						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			10.5							7.6	0.0					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.5								0.0						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY	Intersection	Viking Way & Site Access 1/Glenn Road				
Agency/Co.	CMTran	Jurisdiction	Village of Ashville				
Date Performed		East/West Street	Site Access 1/Glenn Road				
Analysis Year	2022	North/South Street	Viking Way				
Time Analyzed	AM Build	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Ashville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		7	0	1		10	0	45		1	188	4		16	151	5	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

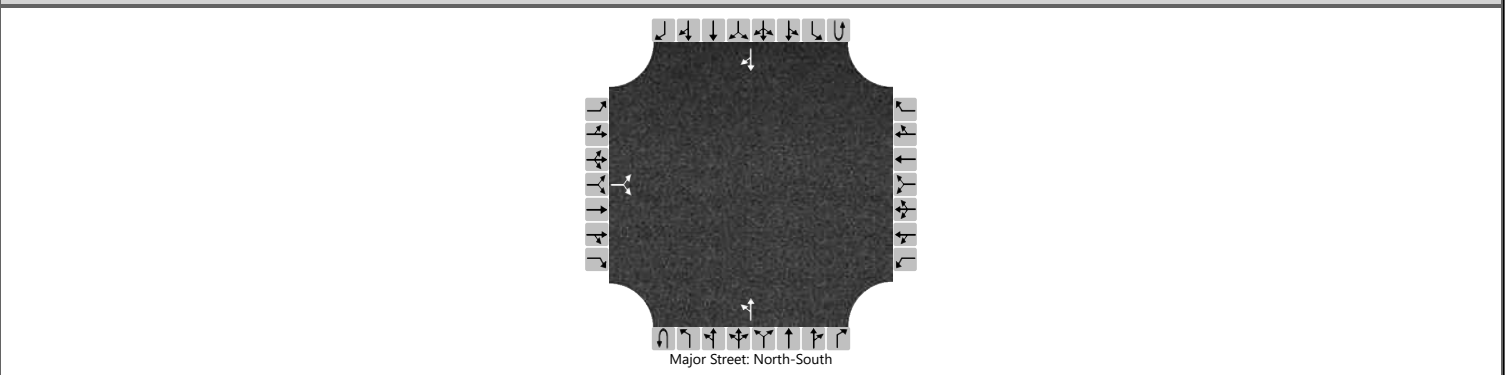
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9				60			1				17			
Capacity, c (veh/h)			540				758			1402				1356			
v/c Ratio			0.02				0.08			0.00				0.01			
95% Queue Length, Q ₉₅ (veh)			0.0				0.3			0.0				0.0			
Control Delay (s/veh)			11.8				10.2			7.6	0.0	0.0		7.7	0.1	0.1	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.8				10.2				0.0				0.8			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & Glenn Road		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	Glenn Road		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	PM No Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR								LT					TR
Volume (veh/h)		6		3						2	89					192
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

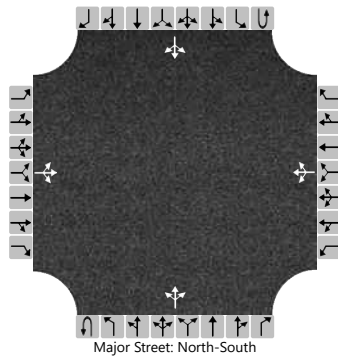
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							2						
Capacity, c (veh/h)			718							1345						
v/c Ratio			0.01							0.00						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			10.1							7.7	0.0					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.1								0.2						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & Site Access 1/Glenn Road
Agency/Co.	CMTran	Jurisdiction	Village of Asheville
Date Performed		East/West Street	Site Access 1/Glenn Road
Analysis Year	2022	North/South Street	Viking Way
Time Analyzed	PM Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Asheville Fischer Homes TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		6	0	3		7	0	31		2	99	11		51	209	9	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

	Eastbound	Westbound	Northbound	Southbound
Base Critical Headway (sec)	7.1	6.5	6.2	4.1
Critical Headway (sec)	7.13	6.53	6.23	4.13
Base Follow-Up Headway (sec)	3.5	4.0	3.3	2.2
Follow-Up Headway (sec)	3.53	4.03	3.33	2.23

Delay, Queue Length, and Level of Service

	Eastbound	Westbound	Northbound	Southbound
Flow Rate, v (veh/h)	10	41	2	55
Capacity, c (veh/h)	548	801	1324	1462
v/c Ratio	0.02	0.05	0.00	0.04
95% Queue Length, Q ₉₅ (veh)	0.1	0.2	0.0	0.1
Control Delay (s/veh)	11.7	9.7	7.7	7.6
Level of Service (LOS)	B	A	A	A
Approach Delay (s/veh)	11.7	9.7	0.2	1.7
Approach LOS	B	A	A	A

HCS Two-Way Stop-Control Report

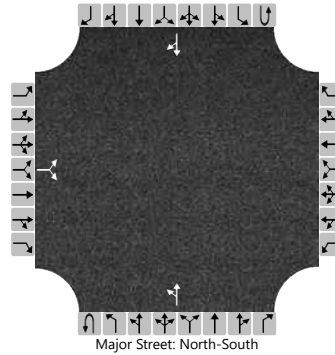
General Information

Analyst	LRY
Agency/Co.	CMTran
Date Performed	
Analysis Year	2032
Time Analyzed	AM No Build
Intersection Orientation	North-South
Project Description	Ashville Fischer Homes TIS

Site Information

Intersection	Viking Way & Glenn Road
Jurisdiction	Village of Ashville
East/West Street	Glenn Road
North/South Street	Viking Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LR							LT						TR	
Volume (veh/h)		8		1						1	207				173	6	
Percent Heavy Vehicles (%)		3		3						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

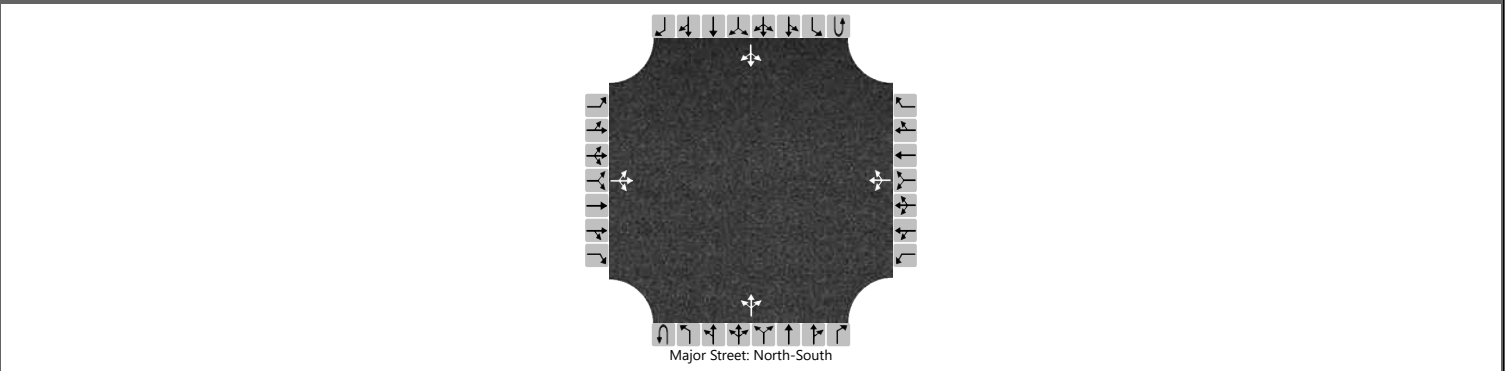
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							1						
Capacity, c (veh/h)			609							1373						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			11.0							7.6	0.0					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		11.0								0.0						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & Site Access 1/Glenn Road		
Agency/Co.	CMTran			Jurisdiction	Village of Ashville		
Date Performed				East/West Street	Site Access 1/Glenn Road		
Analysis Year	2032			North/South Street	Viking Way		
Time Analyzed	AM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Ashville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	0	1		10	0	45		1	222	4		16	179	6
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

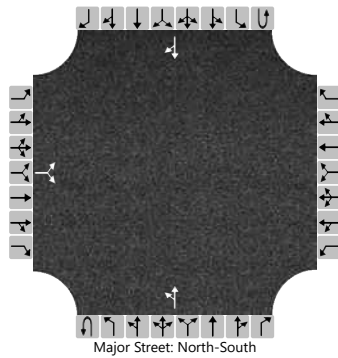
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				60			1				17			
Capacity, c (veh/h)			484				713			1365				1315			
v/c Ratio			0.02				0.08			0.00				0.01			
95% Queue Length, Q ₉₅ (veh)			0.1				0.3			0.0				0.0			
Control Delay (s/veh)			12.6				10.5			7.6	0.0	0.0		7.8	0.1	0.1	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		12.6				10.5				0.0				0.7			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & Glenn Road		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	Glenn Road		
Analysis Year	2032			North/South Street	Viking Way		
Time Analyzed	PM No Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		7		4						2	106				230	11
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

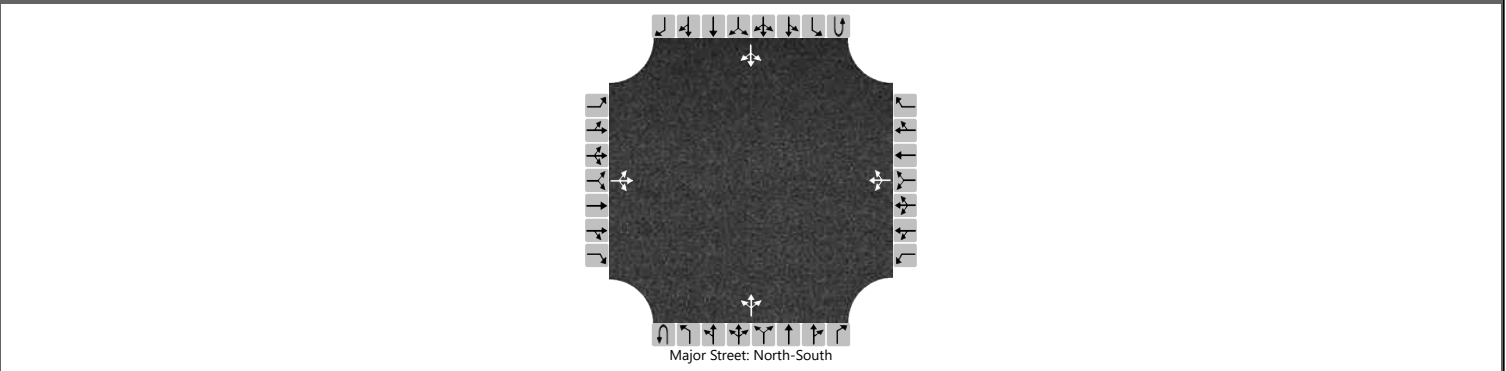
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			12							2						
Capacity, c (veh/h)			672							1297						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			10.5							7.8	0.0					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.5								0.2						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY	Intersection	Viking Way & Site Access 1/Glenn Road				
Agency/Co.	CMTran	Jurisdiction	Village of Ashville				
Date Performed		East/West Street	Site Access 1/Glenn Road				
Analysis Year	2032	North/South Street	Viking Way				
Time Analyzed	PM Build	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Ashville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		7	0	4		7	0	31		2	116	11		51	247	11
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

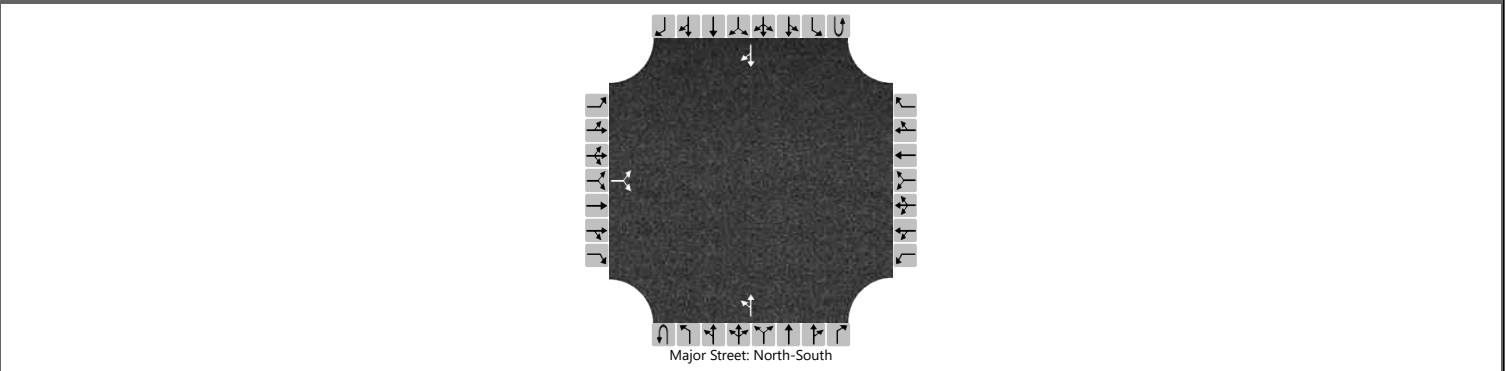
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			12				41			2				55		
Capacity, c (veh/h)			510				765			1276				1440		
v/c Ratio			0.02				0.05			0.00				0.04		
95% Queue Length, Q ₉₅ (veh)			0.1				0.2			0.0				0.1		
Control Delay (s/veh)			12.2				10.0			7.8	0.0	0.0		7.6	0.3	0.3
Level of Service (LOS)			B				A			A	A	A		A	A	A
Approach Delay (s/veh)	12.2				10.0				0.1				1.5			
Approach LOS	B				A				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY	Intersection	Viking Way & Station Street E.				
Agency/Co.	CMTran	Jurisdiction	Village of Asheville				
Date Performed		East/West Street	Station Street E.				
Analysis Year	2022	North/South Street	Viking Way				
Time Analyzed	AM No Build	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LR								LT					TR	
Volume (veh/h)		31		3						4	141					106	41
Percent Heavy Vehicles (%)		3		3						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

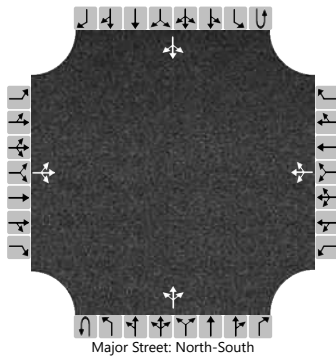
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			37							4							
Capacity, c (veh/h)			703							1413							
v/c Ratio			0.05							0.00							
95% Queue Length, Q ₉₅ (veh)			0.2							0.0							
Control Delay (s/veh)			10.4							7.6	0.0						
Level of Service (LOS)			B							A	A						
Approach Delay (s/veh)		10.4								0.2							
Approach LOS		B								A							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & Site Access 2/Station Street E.
Agency/Co.	CMTran	Jurisdiction	Village of Asheville
Date Performed		East/West Street	Site Access 2/Station Street E.
Analysis Year	2022	North/South Street	Viking Way
Time Analyzed	AM Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Asheville Fischer Homes TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		31	0	3		30	0	15		4	145	11		6	116	41	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			37				49				4				7		
Capacity, c (veh/h)			624				697				1400				1402		
v/c Ratio			0.06				0.07				0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.2				0.2				0.0				0.0		
Control Delay (s/veh)			11.1				10.6			7.6	0.0	0.0		7.6	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.1				10.6				0.2				0.3			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

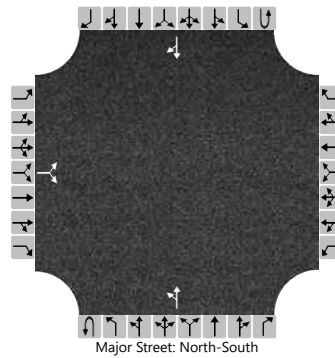
General Information

Analyst	LRY
Agency/Co.	CMTran
Date Performed	
Analysis Year	2022
Time Analyzed	PM No Build
Intersection Orientation	North-South
Project Description	Ashville Fischer Homes TIS

Site Information

Intersection	Viking Way & Station Street E.
Jurisdiction	Village of Ashville
East/West Street	Station Street E.
North/South Street	Viking Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0	
Configuration			LR							LT						TR	
Volume (veh/h)		14		8						8	80				146	39	
Percent Heavy Vehicles (%)		3		3						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

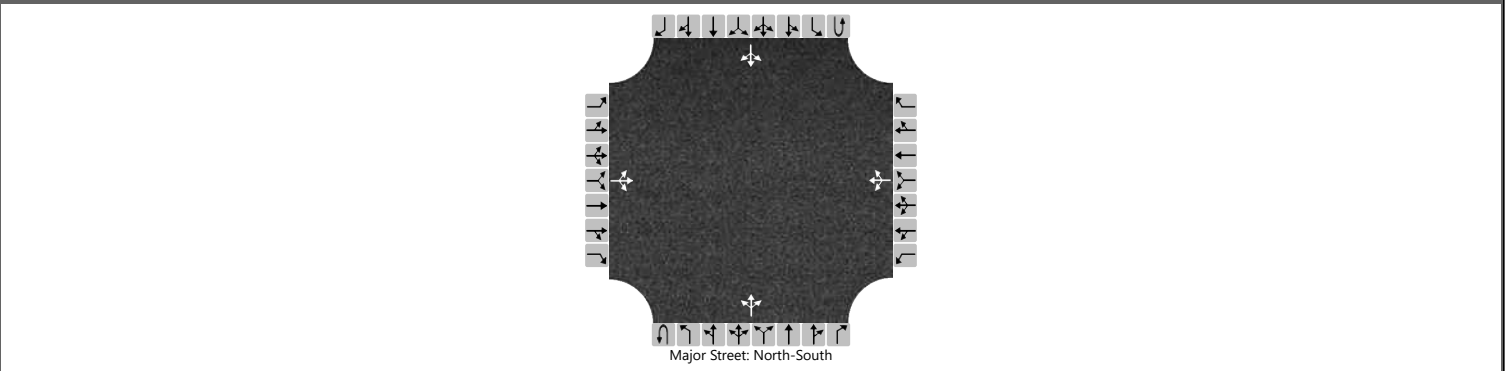
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			24							9								
Capacity, c (veh/h)			750							1365								
v/c Ratio			0.03							0.01								
95% Queue Length, Q ₉₅ (veh)			0.1							0.0								
Control Delay (s/veh)			10.0							7.7	0.1							
Level of Service (LOS)			A							A	A							
Approach Delay (s/veh)		10.0									0.7							
Approach LOS		A									A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & Site Access 2/Station Street E.		
Agency/Co.	CMTran			Jurisdiction	Village of Ashville		
Date Performed				East/West Street	Site Access 2/Station Street E.		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	PM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Ashville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		14	0	8		21	0	10		8	91	34		17	153	39	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

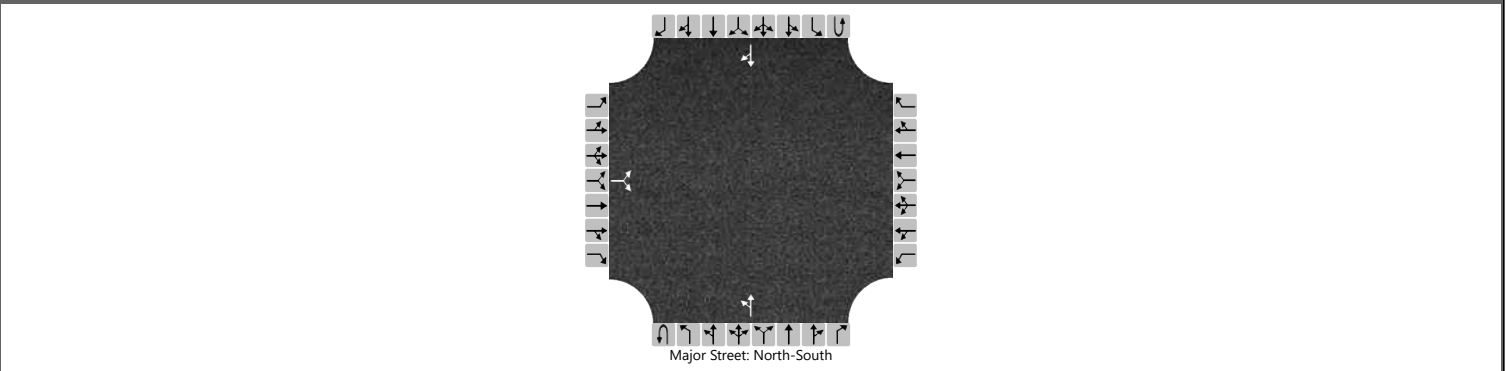
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			24				34			9				18			
Capacity, c (veh/h)			665				673			1356				1442			
v/c Ratio			0.04				0.05			0.01				0.01			
95% Queue Length, Q ₉₅ (veh)			0.1				0.2			0.0				0.0			
Control Delay (s/veh)			10.6				10.6			7.7	0.1	0.1		7.5	0.1	0.1	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.6				10.6				0.5				0.7			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY	Intersection	Viking Way & Station Street E.				
Agency/Co.	CMTran	Jurisdiction	Village of Asheville				
Date Performed		East/West Street	Station Street E.				
Analysis Year	2032	North/South Street	Viking Way				
Time Analyzed	AM No Build	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		37		4						5	169				126	49
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

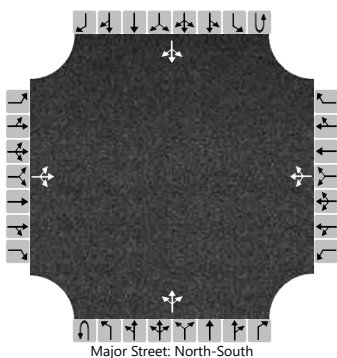
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			45							5							
Capacity, c (veh/h)			653							1378							
v/c Ratio			0.07							0.00							
95% Queue Length, Q ₉₅ (veh)			0.2							0.0							
Control Delay (s/veh)			10.9							7.6	0.0						
Level of Service (LOS)			B							A	A						
Approach Delay (s/veh)		10.9								0.3							
Approach LOS		B								A							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & Site Access 2/Station Street E.
Agency/Co.	CMTran	Jurisdiction	Village of Asheville
Date Performed		East/West Street	Site Access 2/Station Street E.
Analysis Year	2032	North/South Street	Viking Way
Time Analyzed	AM Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Asheville Fischer Homes TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		37	0	4		30	0	15		5	173	11		6	136	49	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1			
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13			
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2			
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23			

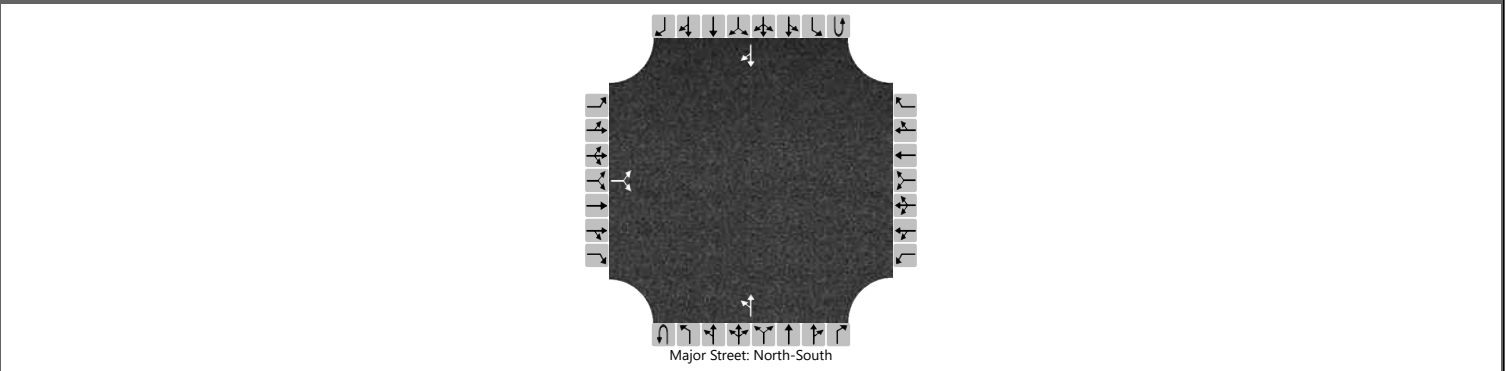
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45				49				5				7			
Capacity, c (veh/h)		574				648				1365				1366			
v/c Ratio		0.08				0.08				0.00				0.00			
95% Queue Length, Q ₉₅ (veh)		0.3				0.2				0.0				0.0			
Control Delay (s/veh)		11.8				11.0				7.6	0.0	0.0		7.6	0.0	0.0	
Level of Service (LOS)		B				B				A	A	A		A	A	A	
Approach Delay (s/veh)		11.8				11.0				0.2				0.3			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY	Intersection	Viking Way & Station Street E.				
Agency/Co.	CMTran	Jurisdiction	Village of Asheville				
Date Performed		East/West Street	Station Street E.				
Analysis Year	2032	North/South Street	Viking Way				
Time Analyzed	PM No Build	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		17		10						10	95				175	47
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

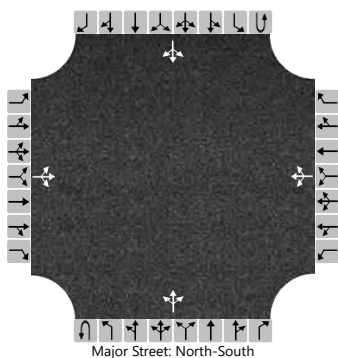
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			29							11						
Capacity, c (veh/h)			703							1319						
v/c Ratio			0.04							0.01						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			10.3							7.8	0.1					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.3								0.8						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & Site Access 2/Station Street E.
Agency/Co.	CMTran	Jurisdiction	Village of Asheville
Date Performed		East/West Street	Site Access 2/Station Street E.
Analysis Year	2032	North/South Street	Viking Way
Time Analyzed	PM Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Asheville Fischer Homes TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		17	0	10		21	0	10		10	106	34		17	182	47	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

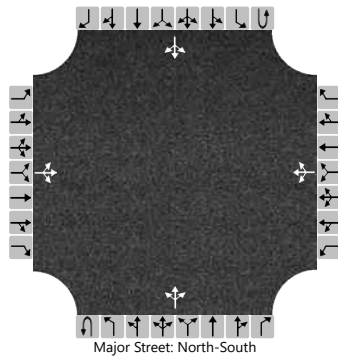
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			29				34				11				18		
Capacity, c (veh/h)			618				627				1311				1422		
v/c Ratio			0.05				0.05				0.01				0.01		
95% Queue Length, Q ₉₅ (veh)			0.1				0.2				0.0				0.0		
Control Delay (s/veh)			11.1				11.1			7.8	0.1	0.1		7.6	0.1	0.1	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.1				11.1				0.6				0.6			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	AM No Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		45	0	31		0	1	0		28	87	0		2	48	48
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

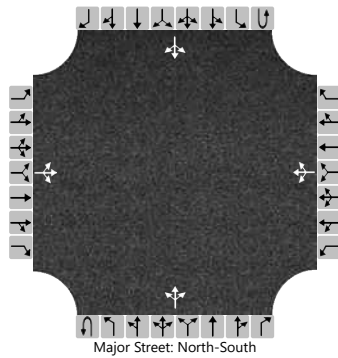
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			83				1			30				2			
Capacity, c (veh/h)			789				625			1481				1493			
v/c Ratio			0.10				0.00			0.02				0.00			
95% Queue Length, Q ₉₅ (veh)			0.3				0.0			0.1				0.0			
Control Delay (s/veh)			10.1				10.8			7.5	0.2	0.2		7.4	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.1				10.8				1.9				0.2			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	AM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		53	0	31		0	1	0		28	94	0		2	68	68	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

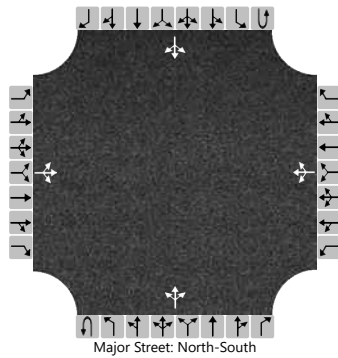
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			91				1				30				2		
Capacity, c (veh/h)			737				584				1428				1484		
v/c Ratio			0.12				0.00				0.02				0.00		
95% Queue Length, Q ₉₅ (veh)			0.4				0.0				0.1				0.0		
Control Delay (s/veh)			10.6				11.2			7.6	0.2	0.2		7.4	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.6				11.2				1.9				0.1			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	PM No Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		37	0	53		1	9	3		35	51	0		0	75	67	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

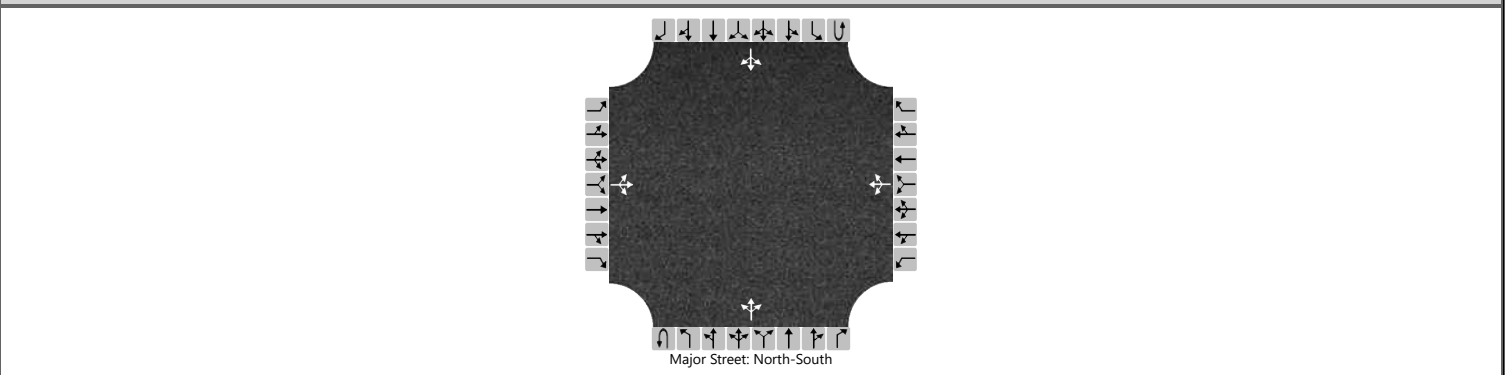
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			98				14			38				0			
Capacity, c (veh/h)			799				672			1420				1543			
v/c Ratio			0.12				0.02			0.03				0.00			
95% Queue Length, Q ₉₅ (veh)			0.4				0.1			0.1				0.0			
Control Delay (s/veh)			10.1				10.5			7.6	0.2	0.2		7.3	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.1				10.5				3.2				0.0			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2022			North/South Street	Viking Way		
Time Analyzed	PM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		60	0	53		1	9	3		35	73	0		0	89	81	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

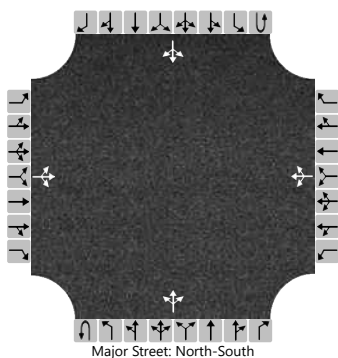
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			123				14			38				0			
Capacity, c (veh/h)			726				630			1384				1512			
v/c Ratio			0.17				0.02			0.03				0.00			
95% Queue Length, Q ₉₅ (veh)			0.6				0.1			0.1				0.0			
Control Delay (s/veh)			11.0				10.8			7.7	0.2	0.2		7.4	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.0				10.8				2.6				0.0			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LRY	Intersection	Viking Way & E. Main Street
Agency/Co.	CMTran	Jurisdiction	Village of Asheville
Date Performed		East/West Street	E. Main Street
Analysis Year	2032	North/South Street	Viking Way
Time Analyzed	AM No Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Asheville Fischer Homes TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		54	0	37		0	1	0		34	104	0		2	57	58	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

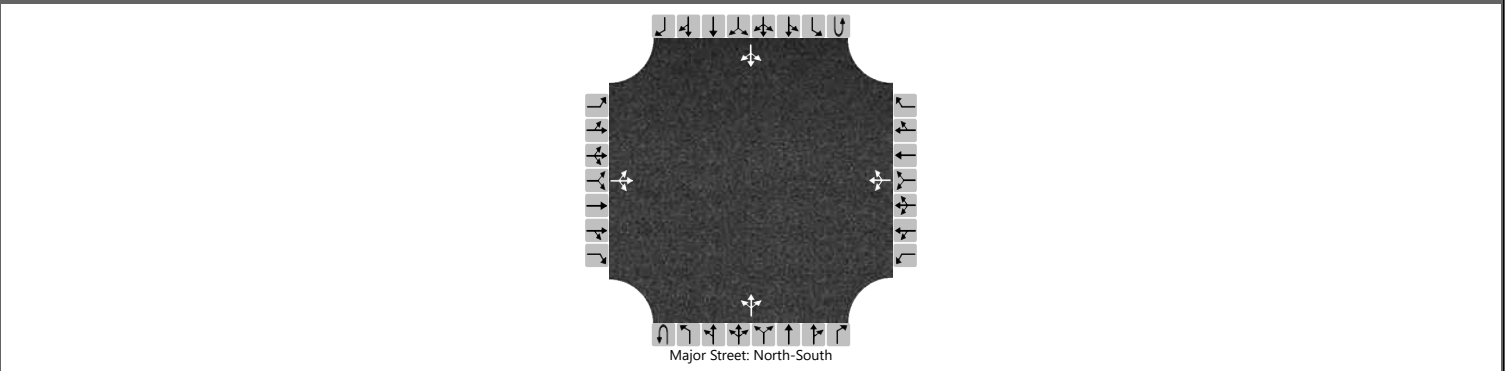
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			99				1				37				2		
Capacity, c (veh/h)			744				581				1455				1470		
v/c Ratio			0.13				0.00				0.03				0.00		
95% Queue Length, Q ₉₅ (veh)			0.5				0.0				0.1				0.0		
Control Delay (s/veh)			10.6				11.2			7.5	0.2	0.2		7.5	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.6				11.2				2.0				0.1			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2032			North/South Street	Viking Way		
Time Analyzed	AM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		62	0	37		0	1	0		34	111	0		2	77	78	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			108				1			37				2			
Capacity, c (veh/h)			695				543			1403				1461			
v/c Ratio			0.15				0.00			0.03				0.00			
95% Queue Length, Q ₉₅ (veh)			0.5				0.0			0.1				0.0			
Control Delay (s/veh)			11.1				11.6			7.6	0.2	0.2		7.5	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.1				11.6				2.0				0.1			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

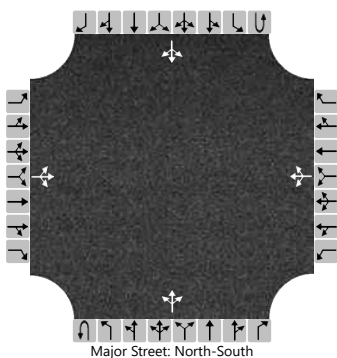
General Information

Analyst	LRY
Agency/Co.	CMTran
Date Performed	
Analysis Year	2032
Time Analyzed	PM No Build
Intersection Orientation	North-South
Project Description	Ashville Fischer Homes TIS

Site Information

Intersection	Viking Way & E. Main Street
Jurisdiction	Village of Ashville
East/West Street	E. Main Street
North/South Street	Viking Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		44	0	64		1	11	4		42	60	0		0	89	80	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

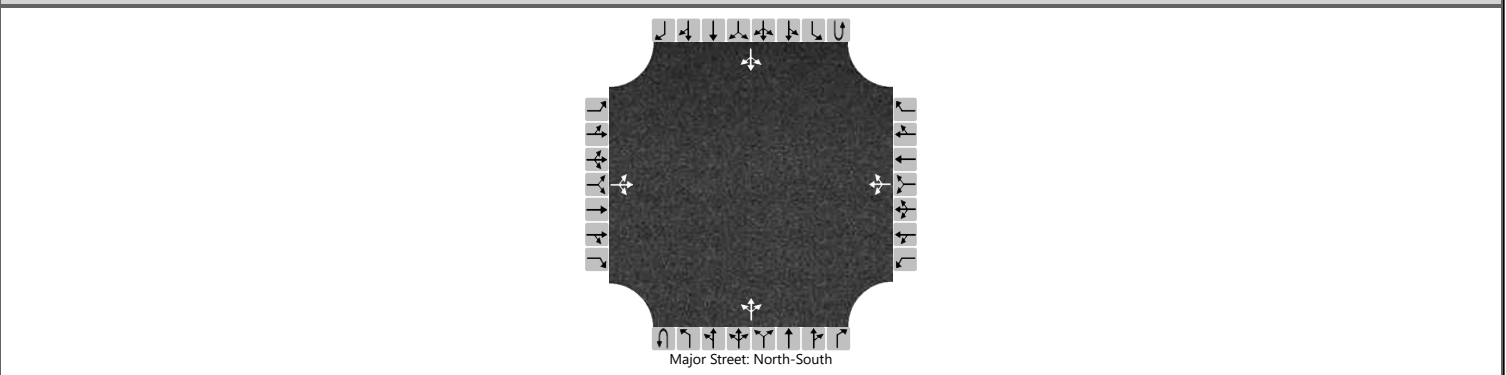
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			117				17			46				0			
Capacity, c (veh/h)			756				633			1385				1530			
v/c Ratio			0.16				0.03			0.03				0.00			
95% Queue Length, Q ₉₅ (veh)			0.5				0.1			0.1				0.0			
Control Delay (s/veh)			10.6				10.8			7.7	0.3	0.3		7.4	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		10.6				10.8				3.3				0.0			
Approach LOS		B				B				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	LRY			Intersection	Viking Way & E. Main Street		
Agency/Co.	CMTran			Jurisdiction	Village of Asheville		
Date Performed				East/West Street	E. Main Street		
Analysis Year	2032			North/South Street	Viking Way		
Time Analyzed	PM Build			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Asheville Fischer Homes TIS						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		67	0	64		1	11	4		42	82	0		0	103	94	
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			142				17			46				0			
Capacity, c (veh/h)			686				594			1350				1500			
v/c Ratio			0.21				0.03			0.03				0.00			
95% Queue Length, Q ₉₅ (veh)			0.8				0.1			0.1				0.0			
Control Delay (s/veh)			11.6				11.2			7.8	0.3	0.3		7.4	0.0	0.0	
Level of Service (LOS)			B				B			A	A	A		A	A	A	
Approach Delay (s/veh)		11.6				11.2				2.8				0.0			
Approach LOS		B				B				A				A			

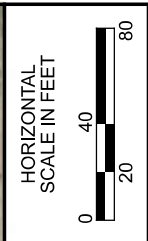
Appendix G

Sight Distance Analysis



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MODEL: Sheet | PAPER: ITRX1 (in.) DATE: 4/14/2022 TIME: 11:33:24 AM USER: lyates
P:\TRA\22\2203 - Ashville Fischer Homes TIS_Analyst\Site\Distance\Distance.dgn

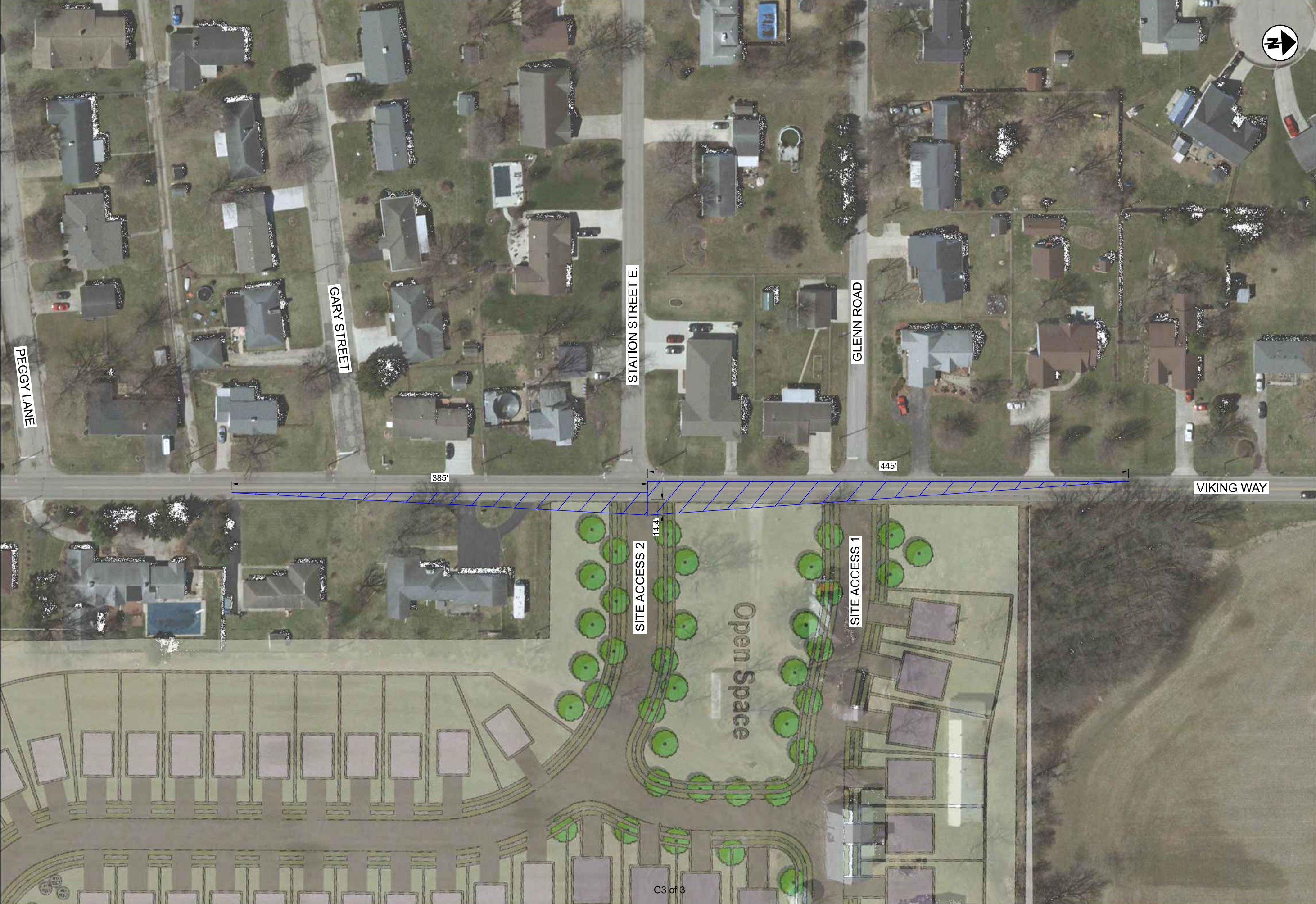


ASHVILLE FISCHER HOMES TIS
VIKING WAY & SITE ACCESS 1 SIGHT DISTANCE EXHIBIT

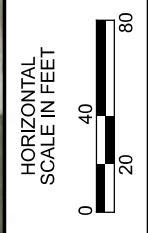
DESIGN AGENCY	
 CARPENTER MARTY	
DESIGNER	LRV
REVIEWER	CMC
PROJECT ID	04-13-22
SHEET	0
TOTAL	2
P.1	

####

MODEL: Sheet 2 PAPER: SIZE: T1x11 (in.) DATE: 4/14/2022 TIME: 11:33:27 AM USER: lyates
P:\TRA\22\2203 - Ashville Fischer Homes TIS_Analysis\Sight Distance\Basemap.dgn



G3 of 3



ASHVILLE FISCHER HOMES TIS
VIKING WAY & SITE ACCESS 2 SIGHT DISTANCE EXHIBIT

DESIGN AGENCY	
CARPENTER MARTY	
DESIGNER	
LRY	
REVIEWER	
CMC 04-13-22	
PROJECT ID	
0	
SHEET	TOTAL
P.2	2