



Traffic Impact Study

Transit Village at Princeton Junction

Block 6, Lots 8, 54, 55.01, & 76
Township of West Windsor, Mercer County, New Jersey

November 1, 2020

Prepared For

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TABLE OF CONTENTS

I. INTRODUCTION	1
II. EXISTING CONDITIONS.....	2
III. EXISTING TRAFFIC CONDITIONS	6
IV. TRIP GENERATION	8
V. TRIP DISTRIBUTION.....	12
VI. FUTURE TRAFFIC CONDITIONS	14
VII. WASHINGTON ROAD (CR 571) ACCESS ASSESSMENT	15
VIII. HCM CAPACITY ANALYSIS.....	16
IX. SUMMARY AND CONCLUSIONS	20

TABLES

Table 1 – Data Collection Efforts and Established Peak Hours.....	6
Table 2 – ITE Peak Hour Site Generated Trips	11
Table 3 – 2010 Census Tract Populations.....	12
Table 4 – Trip Distribution	13
Table 5 – Turn Lane Warrant Analysis Summary.....	15
Table 6 – HCM Signalized and Unsignalized LOS/Delay Criteria.....	16
Table 7 – 2023 No-Build and Build Level of Service Summary.....	17

APPENDICES

Appendix A.....	Traffic Figures
Appendix B.....	Existing Data
Appendix C.....	Trip Generation
Appendix D.....	Gravity Models
Appendix E.....	Turn Lane Warrant Analysis
Appendix F.....	Capacity Analysis

I. INTRODUCTION

This Traffic Impact Study has been prepared for AvalonBay Communities, Inc. (“Applicant”) in association with a proposal to redevelop a portion of the Transit Village Redevelopment Site at Princeton Junction Station with a mixed-use community (“Project”) within the Township of West Windsor, Mercer County, New Jersey. The subject site is situated within Block 6, Lots 8, 54, 55.01, & 76 and is approximately 24 acres. The subject site has frontage along Washington Road (CR 571) to the north and is bound by parking for the Princeton Junction Station along the NJ Transit Northeast Corridor to the east, the NJ Transit Princeton Shuttle (“Dinky Line”) to the south, and an office land use to the west. A site location map is provided as **Figure 1 in Appendix A**.

The Applicant proposes to redevelop the subject site with a mixed-use development containing:

- 135 Age-Restricted Residential Units;
- 142 Townhouse Residential Units;
- 523 Apartment Residential Units;
- 120 Hotel Rooms; and
- 17,500 SF of Retail.

Along with the development, the realignment of Princeton-Hightstown Road (NJSH Route 64) is proposed to extend into Washington Road (CR 571) and create a roundabout, rather than intersect the roadway at a 90-degree angle. Site access is proposed via one (1) full-movement roadway along Washington Road (CR 571), west of the roundabout, and one (1) full-movement roadway along Washington Road, east of the roundabout. Alternative access is provided via the existing cross-access with Vaughn Drive, which provides connectivity to Alexander Road. The proposed Dimension Plan is provided as **Figure 2 in Appendix A**.

This study presents an evaluation of the current and future traffic conditions in the vicinity of the site. Specific elements included in this study are:

- An inventory of the roadway facilities in the vicinity of the project, including the existing physical and traffic operating characteristics;
- Site Generated Trips described in the ITE Trip Generation Manual, 10th Edition;
- Determination of Trip Credits;
- Trip Distribution and Assignment;
- No-Build Traffic Volumes for the Build Year of 2023;
- Build Traffic Volumes for the Build Year of 2023;
- Access Assessment along Washington Road (CR 571);
- Peak Hour Capacity Analysis for the No-Build and Build Conditions; and
- Summary and Conclusions.

II. EXISTING CONDITIONS

A field investigation was conducted adjacent to the project site to obtain an inventory of existing roadway conditions, posted traffic controls, adjacent land uses, lane configurations, and existing vehicular/pedestrian traffic patterns.

Roadways

NJSH Route 64 is a north-south oriented urban principal arterial under jurisdiction of the New Jersey Department of Transportation (“NJDOT”). The roadway provides two (2) travel lanes in each direction divided by a gore and mountable curb median. The roadway is classified as NJDOT Access Level ‘3’ where right-turns are permitted with a provision for left-turn access via a jughandle. The posted speed limit is 40 MPH.

Princeton-Hightstown Road (CR 526) is a north-south oriented urban principal arterial under the jurisdiction of Mercer County. For the purposes of the study, the roadway is referred to as east-west oriented. Within the project vicinity, the roadway provides one (1) travel lane in each direction. The County jurisdiction terminates between NJSH Route 64 and Washington Road (CR 571). Within the project vicinity, the posted speed limit is 40 MPH.

Washington Road (CR 571) is an east-west oriented urban principal arterial under the jurisdiction of Mercer County. Within the project vicinity, the roadway provides one (1) travel lane in each direction. The County jurisdiction terminates between NJSH Route 64 and Hightstown Road (CR 526). Within the project vicinity, the posted speed limit is 40 MPH.

Alexander Road is an east-west oriented urban minor arterial under the jurisdiction of the Township of West Windsor. East of Vaughn Drive, the roadway provides one (1) travel lane in each direction with a posted speed limit of 30 MPH. West of Vaughn Drive, the roadway provides two (2) travel lanes in each direction with a posted speed limit of 40 MPH.

Cranbury Road is a north-south oriented urban major collector under the jurisdiction of Mercer County. Within the project vicinity, the roadway provides one (1) travel lane in each direction. The posted speed limit is 25 MPH.

Vaughn Drive is a north-south oriented urban major collector under the jurisdiction of The Township of West Windsor. Within the project vicinity, the roadway provides one (1) travel lane in each direction. The roadway provides access to the parking areas for the Princeton Junction Station west of the NJ Transit Northeast Corridor. The posted speed limit prior to the parking areas is 30 MPH. The posted speed limit within the parking areas is 15 MPH.

Wallace Road is a north-south oriented roadway. The roadway provides one (1) travel lane in each direction. The roadway provides access to the parking areas for the Princeton Junction Station east of the NJ Transit Northeast Corridor. The posted speed limit is 25 MPH.

Bear Brook Road is an east-west oriented urban minor arterial under the jurisdiction of the Township of West Windsor. The roadway provides one (1) travel lane in each direction and expands to two (2) travel lanes in each direction just south of Alexander Road. The posted speed limit is 35 MPH.

Study Intersections

Based on the Scope of Study submitted by Maser Consulting, dated January 15, 2018, the Traffic Impact Study Area was determined to include the following intersections:

- Washington Road (CR 571)/NJSH Route 64 & Washington Road;
- NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road;
and
- Alexander Road & Vaughn Drive/Bear Brook Road.

A brief description of the study intersections is provided below:

Washington Road (CR 571)/NJSH Route 64 & Washington Road is an unsignalized “T-intersection.” Washington Road (CR 571) represents the eastbound approach, Washington Road represents the westbound approach, and NJSH Route 64 represents the southbound approach. The eastbound approach provides one (1) shared left-turn/through lane. The westbound approach provides one (1) shared through/right-turn lane with stop control for the through movement and yield control for the channelized right-turn movement. The westbound approach is also under yield control west of the intersection at the southbound channelized right-turn. The southbound approach provides one (1) dedicated left-turn lane under stop control and one (1) channelized right-turn lane.

NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road is a four-leg intersection controlled by a semi-actuated signal with a variable cycle length. NJSH Route 64 represents the eastbound approach, Princeton-Hightstown Road (CR 526) represents the westbound approach, Cranbury Road represents the northbound approach, and Wallace Road represents the southbound approach. The eastbound approach provides one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) shared through/right-turn lane. The westbound approach provides one (1) dedicated left-turn lane and one (1) shared through/right-turn lane. The northbound and southbound approaches each provide one (1) dedicated left-turn lane and one (1) shared through/right-turn lane. The first phase is the NJSH Route 64 EB/Princeton-Hightstown Road (CR 526) WB ROW phase and the second phase is the Cranbury Road NB/Wallace Road SB ROW phase.

Alexander Road & Bear Brook Road/Vaughn Drive is a four-leg intersection controlled by a semi-actuated signal with a 90-second cycle length. Alexander Road represents the eastbound and westbound approaches, Vaughn Drive represents the southbound approach, and Bear Brook Road represents the northbound approach. The eastbound and westbound approaches each provide one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) shared through/right-turn lane. The northbound approach provides one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) dedicated right-turn lane. The southbound approach provides one (1) shared lane for all turning movements. The first phase is the Alexander Road EB/WB Lead Left-Turn phase, the second phase is the Alexander Road EB/WB ROW phase, the third phase is the Bear Brook Road NB Lead Left-Turn phase, and the fourth phase is the Bear Brook Road NB/Vaughn Drive SB ROW phase.

Proposed Improvements by Others

The Maneely Property Traffic Engineering Assessment, written by Shropshire Associates, LLC and dated September 9, 2014, proposes several improvements to the intersection of Alexander Road & Bear Brook Road/Vaughn Drive. The intersection improvements proposed by others include:

- Restriping the Vaughn Drive southbound approach to provide one (1) shared left-turn/through lane and one (1) dedicated right-turn lane; and
- Updating the traffic signal timing directive and traffic signal equipment to provide a dedicated right-turn arrow for the Vaughn Drive southbound right-turn lane and provide a permitted/over phase.

Mass Transit

NJ Transit Northeast Corridor

During a typical weekday, northbound trains heading to New York Penn Station make 54 stops and southbound trains heading to the Trenton Station make 59 stops at the Princeton Junction Station. As of 2015, the Princeton Junction Station has the 6th highest rail boarding level on the Northeast Corridor with 6,969 average weekday boardings. The only rail stations to have higher boarding levels are New York Penn Station, Newark Penn Station, Secaucus Junction, Hoboken Terminal, and Metropark Station. As such, the Princeton Junction Station has the highest average weekday rail boarding level south of Metropark Station.

During a typical week, there are 17 northbound express trains heading to New York Penn Station and 13 southbound express trains heading to the Trenton Station.

Due to the high ridership at the Princeton Junction Station, it is anticipated that a portion of the trips generated by the proposed development will chose rail transportation over a personal vehicle.

Princeton Shuttle (“Dinky Line”)

The Princeton Shuttle (“Dinky Line”) provides an important connection between the NJ Transit Northeast Corridor and downtown Princeton. During a typical weekday, there are 39 trains heading to downtown Princeton and 36 trains heading to Princeton Junction. The train headways are about 20 minutes apart during peak times and between 30 to 40 minutes apart during off-peak times. The Princeton Shuttle provides an efficient route for residents, hotel lodgers, and employees to access downtown Princeton from the proposed development.

National Rail Service

- Amtrak Northeast Regional Line; and
- Amtrak Keystone Line.

Bus Service

- Princeton Junction Shuttle Bus;
- NJ Transit Bus Route 600;
- NJ Transit Bus Route 612; and
- Middlesex County Bus M6.

Other Transit

- Limousine Service;
- Van Service; and
- Rideshare Services (Uber, Lyft, etc.).

III. EXISTING TRAFFIC CONDITIONS

Traffic data was collected within the area to gain an understanding of the existing roadway conditions and operations. The following subsections summarize the data collection efforts.

Turning Movement Counts

Turning movement count (TMC) data was collected on Thursday, May 3, 2018 from 7:00 AM to 9:00 AM and from 5:00 PM to 7:00 PM, and on Saturday, May 5, 2018 from 11:00 AM to 1:00 PM. Data was collected at the following intersections:

- Washington Road (CR 571)/NJSH Route 64 & Washington Road;
- NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road;
and
- Alexander Road & Vaughn Drive/Bear Brook Road.

The data collection efforts and the network peak hours are detailed in **Table 1**. The processed manual count data is provided in **Appendix B**.

Table 1 – Data Collection Efforts and Established Peak Hours

Peak Period	Date Collected	Traffic Count Time Frame	Established Peak Hour
Weekday Morning	Thursday, May 3, 2018	7:00 AM – 9:00 AM	8:00 AM – 9:00 AM
Weekday Evening		5:00 PM – 7:00 PM	6:00 PM – 7:00 PM
Saturday Midday	Saturday, May 5, 2018	11:00 AM – 1:00 PM	11:15 AM – 12:15 PM

Automatic Traffic Recorders

Automatic Traffic Recorders (ATR) were installed within the vicinity of the proposed development. The ATRs were installed from Wednesday, May 2, 2018, to Thursday, May 10, 2018, to capture a week of traffic data. The ATRs were installed in the following locations:

- Washington Road (CR 571), west of its intersection with NJSH Route 64;
- Washington Road, east of its intersection with NJSH Route 64;
- NJSH Route 64, west of its intersection with Cranbury Road;
- Alexander Road, west of its intersection with Vaughn Drive;
- Alexander Road, east of its intersection with Vaughn Drive; and
- Vaughn Drive, north of its intersection with Alexander Road.

The processed automatic count data is provided in **Appendix B**.

Existing Traffic Conditions

The count data was processed and validated. The TMC data was cross-referenced with the ATR data to validate the counts. The ATR counted traffic volumes are consistent with the TMC traffic volumes. The volumes were balanced in an upward fashion where appropriate to provide a conservative analysis. Along NJSH Route 64 westbound between Cranbury Road and Washington Road, a volume balance differential was recorded and expected due to an existing ingress access to a shopping center. Therefore, the volumes were not balanced along NJSH Route 64 WB as the volumes were recorded as expected. Additionally, the 2018 traffic volumes were adjusted by the appropriate background growth from the NJDOT Annual Background Growth Rate Table to represent the 2020 traffic volumes. A Volume Flow Diagram illustrating the 2020 Existing Conditions is provided as **Figure 3** in **Appendix A**.

IV. TRIP GENERATION

The trips generated by proposed development were estimated based upon the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition*. This publication establishes trip generation rates based on land use and traffic studies conducted throughout the country. The closest related land uses for the proposed development are:

- **ITE LUC 220 – Multifamily Housing (Low-Rise)**
“Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors).”
- **ITE LUC 221 – Multifamily Housing (Mid-Rise)**
“Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors).”
- **ITE LUC 252 – Senior Adult Housing – Attached**
“Senior adult housing consists of attached independent living developments, including retirement communities, age-restricted housing, and active adult communities. These developments may include limited social or recreational services.”
- **ITE LUC 310 – Hotel**
“A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops.”
- **ITE LUC 820 – Shopping Center**
“A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center’s composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands.”

The comprehensive ITE trip generation worksheets are provided in **Appendix C**.

Trip Credits

ITE tabulates the total site generated trips for individual land uses in *Trip Generation*. However, this over represents the actual number of vehicular trips anticipated to be encountered within the adjacent road network. This is due to various reductions in site generated traffic for mass transit availability, internal trip capture, and pass-by trip reductions. Each of these concepts is detailed further below.

Mass Transit

The trips generated by ITE represent the number of vehicle trips made to the developments within suburban areas. Generally, the studies on which these rates are based do not include mass transit availability. As detailed previously, the following mass transit opportunities are available for residents, hotel lodgers, and employees of the proposed development:

- NJ Transit Northeast Corridor Rail Line – Princeton Junction Station;
- NJ Transit Princeton Shuttle Rail Line (“Dinky Line”);
- Amtrak Northeast Regional Rail Line;
- Amtrak Keystone Rail Line;
- Princeton Junction Shuttle Bus;
- NJ Transit Bus Route 600;
- NJ Transit Bus Route 612;
- Middlesex County Bus M6;
- Limousine Service; and
- Van Service.

Based upon the standards found in the *Federal Transit Administration* (“FTA”) Planning for Transit-Friendly Land Use: A Handbook for New Jersey Communities, the proposed development is located within a “Transit Node,” which is described as:

“An area within a ¼ mile radius of a fixed guideway station... (light rail, commuter, or rapid transit).”

As the proposed development is located within a Transit Node, the following mass transit credits are applicable:

- Residential – 25% to 30% mass transit trip credit; and
- Hotel/Retail – 10% to 15% mass transit trip credit.

Due to the vast mass transit opportunities including regional commuter rail, national rail, local shuttle rail, state bus routes, county bus routes, and private limousine/van service, it is anticipated that a 30% mass transit credit can be applied to the residential land uses and that a 15% mass transit trip credit can be applied to the hotel/retail land uses during the weekday peak hours. During the weekend, NJ Transit ridership decreases to approximately 60% of the weekday ridership. As such, it is anticipated that an 18% mass transit credit can be applied to the residential land uses and that a 9% mass transit trip credit can be applied to the hotel/retail land uses during the Saturday peak hour.

Internal Trip Capture

Internal capture is identified by the ability to access multiple land uses by either pedestrian or vehicular means without the need to travel on the major street system. Internal Capture Rate is the percentage reduction applicable to the site generated trips which is provided by ITE within the *Trip Generation User's Guide and Handbook*.

The ITE provides internal capture rates describing trip origins and trip destinations to/from retail, office, and residential developments. The rates are an estimate of typical internal capture experienced at the multi-land-use sites studied. For this site, the ITE internal trip rates to/from retail and residential were applied to the residential, hotel, and ground floor retail land uses.

Pass-By Trips

A pass-by trip is defined by the ITE as a trip that is made as an intermediate stop while traveling to the primary trip destination without route diversion. The identification of pass-by trips is important to traffic analysis, as pass-by trips generated by sites are counted as part of the existing traffic volumes. As a result, this trip is not 'new' to the roadway network; it already existed prior to the development being constructed. However, pass-by trips do not reduce the trip generation at the site access.

Pass-by trip percentages are provided in the *ITE Trip Generation User's Guide and Handbook* under Land Use Code 820 – Shopping Center. Based on the ITE Trip Generation Handbook, pass-by percentages of 34% and 26% were applied to the PM and Saturday peak hours, respectively. A pass-by percentage was not applied to the AM peak hour as there is no published data available for the AM peak hour. The ITE peak hour site generated trips, inclusive of pass-by trips, are detailed in **Table 2**. The comprehensive trip generation worksheets are provided in **Appendix B**.



Table 2 – ITE Peak Hour Site Generated Trips

Description	Size	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
LUC 221 – Multifamily Housing (Mid-Rise)	523 Units	49	139	188	140	90	230	113	117	230
LUC 220 – Multifamily Housing (Low-Rise)	142 Units	15	52	67	51	30	81	60	60	120
LUC 252 – Senior Adult Housing – Attached	135 Units	9	18	27	19	16	35	29	17	46
Residential Subtotal	800 Units	73	209	282	210	136	346	202	194	396
<i>Transit Credit (30% AM, 30% PM, 18% SAT)</i>		22	63	85	63	41	104	36	35	71
<i>Internal Trip Capture</i>		0	0	0	9	6	15	5	4	9
Primary Trips		51	146	197	138	89	227	161	155	316
LUC 310 – Hotel	120 Rooms	33	23	56	37	35	72	48	38	86
<i>Transit Credit (15% AM, 15% PM, 9% SAT)</i>		5	3	8	6	5	11	4	3	7
<i>Internal Trip Capture</i>		0	0	0	9	6	15	5	4	9
Primary Trips		28	20	48	22	24	46	39	31	70
LUC 820 – Shopping Center	17,500 SF	100	61	161	72	78	150	81	75	156
<i>Transit Credit (15% AM, 15% PM, 9% SAT)</i>		15	9	24	11	12	23	7	7	14
<i>Internal Trip Capture</i>		0	0	0	12	18	30	8	10	18
<i>Pass-By Trips (34% PM, 26% SAT)</i>		0	0	0	17	16	33	16	15	31
Primary Trips		85	52	137	32	32	64	50	43	93
Net Total Trips (w/o credits)		206	293	499	319	249	568	331	307	638
<i>Total Transit Credit</i>		42	75	117	80	58	138	47	45	92
<i>Total Internal Trip Capture</i>		0	0	0	30	30	60	18	18	36
<i>Total Pass-By Trips</i>		0	0	0	17	16	33	16	15	31
Total Primary New Vehicular Trips		164	218	382	192	145	337	250	229	479

V. TRIP DISTRIBUTION

Retail developments generate two types of trips: pass-by trips and primary trips. As new primary vehicle trips will be generated from the surrounding area, a three (3) mile market area was defined for the retail land uses. A Journey-to-Work model was established with the Township of West Windsor as the residence for the residential and hotel land uses. The pass-by trips were also distributed along Washington Road (CR 571), Princeton-Hightstown Road (NJSH Route 64), and Alexander Road at the proposed site access roadways. The following subsections detail the trip distribution methodology and gravity model.

Commercial Distribution Model

The three (3) mile gravity model methodology for the retail land uses was based on the *National Cooperative Highway Research Program* (“NCHRP”) Report 187: Quick Urban Response Travel Estimation Techniques and Transferable Parameters. Based upon NCHRP Report 187, the trip distribution is proportional to population densities and distances within a given radius from the site. The primary retail market area for the development is defined using a three (3) mile radius, which is applicable to the characteristics of the ground floor retail. A map that graphically identifies the census tracts within the market area is provided in **Appendix D**.

Population estimates for each census tract in the defined market area were obtained from the 2010 New Jersey State Census. The trip distributions at the site access roadways and within the surrounding roadway network were established based on the census tract population data. The census tracts and populations identified in the market area are detailed in **Table 3** and the comprehensive gravity model and trip distribution calculations are provided in **Appendix D**.

Table 3 – 2010 Census Tract Populations

Attractor/Generator		Tract	2010 Population	Trip Percentage
County	Township			
Mercer	West Windsor	43.01	7,813	35.46%
Mercer	Princeton	45.01	6,324	11.38%
Mercer	West Windsor	43.07	5,684	33.14%
Middlesex	Plainsboro	86.04	5,021	4.12%
Middlesex	Plainsboro	86.01	4,462	2.89%
Mercer	West Windsor	43.04	3,576	3.43%
Mercer	Princeton	42.04	3,232	2.52%
Mercer	Princeton	40	3,003	3.62%
Middlesex	Plainsboro	86.05	1,992	1.13%
Mercer	West Windsor	43.06	1,556	1.05%
Middlesex	Plainsboro	86.02	1,257	0.78%
Mercer	Princeton	45.02	302	0.27%
Mercer	Princeton	42.01	195	0.16%
Middlesex	Plainsboro	86.06	147	0.05%

Residential Distribution Model

The trips generated by the residential and hotel land uses were distributed based on a Journey-to-Work Gravity Model. Journey-to-Work data is existing commuter information based upon municipality of residence. This information is obtained, processed, and provided by the North Jersey Transportation Planning Authority (“NJTPA”) and the U.S. Census Bureau. Journey-to-Work data was obtained for the Township of West Windsor as a residence. Population estimates for each municipality were made based on 2010 Census data. The data was then correlated to the location of the development to determine arrival and departure distributions for the site generated trips.

Distribution Summary

The residential and hotel trip distributions are detailed in **Table 4**, along with the commercial trip distribution. The comprehensive gravity model and trip distribution calculations are provided in **Appendix D**.

Table 4 – Trip Distribution

To/From	Trip Distribution	
	Commercial Gravity Model	Residential/Hotel Journey-to-Work
Alexander Road (West of Site)	20%	25%
Alexander Road (East of Site)	5%	5%
Washington Road (West of Site)	25%	30%
Bear Brook Road (West of Site)	10%	5%
Princeton-Hightstown Road (East of Site)	25%	30%
Wallace Road (East of Site)	5%	-
Cranbury Road (East of Site)	10%	5%
Total	100%	100%

A Volume Flow Diagram illustrating the Residential and Hotel Trip Distribution is provided as **Figure 5** in **Appendix A**. A Volume Flow Diagram illustrating the Residential Site Generated Trips is provided as **Figure 6** in **Appendix A**. A Volume Flow Diagram illustrating the Hotel Site Generated Trips is provided as **Figure 7** in **Appendix A**. A Volume Flow Diagram illustrating the Primary Retail Trip Distribution is provided as **Figure 8** in **Appendix A**. A Volume Flow Diagram illustrating the Primary Retail Site Generated Trips is provided as **Figure 9** in **Appendix A**. A Volume Flow Diagram illustrating the Pass-By Trip Distribution is provided as **Figure 10** in **Appendix A**. A Volume Flow Diagram illustrating the Pass-By Site Generated Trips is provided as **Figure 11** in **Appendix A**. A Volume Flow Diagram illustrating the Total Site Generated Trips is provided as **Figure 12** in **Appendix A**.

VI. FUTURE TRAFFIC CONDITIONS

2023 No-Build Traffic Volumes

An estimation of the operational traffic characteristics at the build date, *without* the construction of the Project (or “No-Build” condition) is made to determine the traffic impact of the development. The existing volumes are forecasted to the build year of 2023.

Background Growth

A general background growth rate was applied to the transient traffic volumes within the study area to account for general increases in traffic due to regional population and employment growth by the build year. The 2023 No-Build traffic volumes were forecasted by applying a background growth rate from the NJDOT Annual Background Growth Rate Table. The background growth rate is 1.00% for urban principal arterials within Mercer County. A Volume Flow Diagram illustrating the 2023 Base Conditions is provided as **Figure 13** in **Appendix A**.

Adjacent Developments

The Township of West Windsor was contacted to determine if any developments in the vicinity of the Project would increase adjacent street traffic volumes within the study area by the 2023 build year. The following adjacent development information was obtained:

- Block 10, Lot 8.01 – Maneely Property (Planned Mixed-Use Neighborhood); and
- Block 12.04, Lot 25 – Princeton Ascend (Proposed Mixed-Use Development).

The Traffic Impact Studies for these projects were obtained from the Township. The traffic volumes for the adjacent developments were determined and distributed into the roadway network. Volume Flow Diagrams illustrating the Adjacent Development Trips are provided as **Figures 14** and **15** in **Appendix A**.

2023 No-Build Traffic Volumes

The adjacent development trips were added to the 2023 Base traffic volumes to establish the 2023 No-Build traffic volumes. A Volume Flow Diagram illustrating the 2023 No-Build Conditions is provided as **Figure 16** in **Appendix A**.

2023 Build Traffic Volumes

2023 Build Traffic Volumes

The site generated trips and rerouted trips, due to the proposed development connecting to Alexander Road, were added to the 2023 No-Build traffic volumes to simulate the 2023 Build traffic volumes with the realignment of the intersection of Washington Road (CR 571) & NJSH Route 64. A Volume Flow Diagram illustrating the anticipated rerouted trips is provided as **Figure 17** in **Appendix A**. A Volume Flow Diagram illustrating the 2023 Build Conditions is provided as **Figure 18** in **Appendix A**.

VII. WASHINGTON ROAD (CR 571) ACCESS ASSESSMENT

Washington Road (CR 571)/NJSH Route 64 & Washington Road

In association with the proposed development, the intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road will be realigned to create a roundabout. The existing intersection alignment features unconventional stop and yield controls. The existing stop control geometry can be confusing and unexpected to motorists, which can decrease safety. The intersection realignment will benefit the motoring public as the Washington Road (CR 571) EB left-turn and NJSH Route 64 SB right-turn are the existing major movements at the intersection. The intersection will be significantly improved by establishing Washington Road (CR 571) EB and NJSH Route 64 WB as the mainlines. Intersection realignment will improve the major through movement traffic flow and create a roundabout, which will enhance safety. Additionally, a channelized Washington Road NB right-turn lane is proposed, utilizing the existing intersection geometry.

The proposed improvements include construction at the realigned intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road. Due to the existing grade and physical constraints along NJSH Route 64, a roundabout is the most efficient and safest acceptable control for the intersection. The high traffic volumes, especially due to existing commuters during the PM peak hour, warrant the construction of a roundabout at the intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road.

Washington Road (CR 571) & West Site Access

A left-turn lane warrant analysis was performed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Green Book to determine if a left-turn lane would be warranted at the proposed west site access. Based on the AASHTO Green Book standards for left-turn lanes, a left-turn lane would be warranted along the westbound approach of Washington Road (CR 571) at its intersection with the proposed west site access. The following analyses reflect the warranted left-turn lane. A summary of the turn lane warrant analysis is provided in the table below and the calculation worksheet is provided in **Appendix E**.

Table 5 – Turn Lane Warrant Analysis Summary

Approach	Peak Hour	Movement	Volume	% Left-Turn of Advancing	Turn Lane Warranted?	
Washington Road (CR 571) Westbound	AM	WB	L	93	11%	Yes
			T	762	-	
		EB	TR	400	-	
	PM	WB	L	99	13%	Yes
			T	677	-	
		EB	TR	657	-	
	SAT	WB	L	86	15%	Yes
			T	507	-	
		EB	TR	554	-	

VIII. HCM CAPACITY ANALYSIS

The peak hour traffic operations within the project vicinity were evaluated at the study intersections. The analyses were performed using *Synchro Trafficware*, a traffic analysis and simulation program. The results of these analyses provide Levels of Service (LOS), volume/capacity descriptions, and average seconds of delay for the intersection movements.

The efficiency with which an intersection operates is a function of volume and capacity. The capacity of an intersection is the volume of vehicles it can accommodate during a given time period. LOS is a qualitative measure describing operational conditions within a traffic stream in terms of traffic characteristics such as freedom to maneuver, traffic interruption, comfort, and convenience. Six LOS are defined for each type of facility with analysis procedures available. Levels of Service range from "A" through "F," with Level "A" representing excellent conditions with no delays, and failure and deficient operations denoted by Level "F." The HCM LOS criteria for signalized and unsignalized intersections are summarized in the following table.

Table 6 – HCM Signalized and Unsignalized LOS/Delay Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized Intersection	Unsignalized Intersection
A	< 10	< 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

The following table details the Levels of Service for the 2023 No-Build and 2023 Build Conditions.

Table 7 – 2023 No-Build and Build Level of Service Summary

Intersection	Movement		2023 No-Build						2023 Build					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Alexander Road (EB/WB) & Bear Brook Road (NB)/ Vaughn Drive (SB)	EB	L	C	21.2	A	9.8	A	9.6	C	26.3	C	24.2	B	12.5
		T	B	10.5	B	14.2	B	12.1	B	13.9	C	30.5	B	14.1
		TR	B	10.5	B	14.2	B	12.1	B	13.9	C	30.6	B	14.2
	WB	L	A	8.3	C	24.2	B	10.4	B	13.0	D	38.5	B	11.6
		T	B	15.1	B	12.7	B	12.1	C	23.7	C	27.6	B	14.2
		TR	B	15.1	B	12.7	B	12.1	C	23.7	C	27.6	B	14.2
	NB	L	D	53.6	D	39.1	D	40.0	C	33.6	C	27.9	C	24.7
		T	D	38.2	D	35.1	D	35.3	C	25.0	B	19.3	C	21.8
		R	D	41.1	D	40.8	D	39.1	C	26.6	C	21.7	C	23.9
	SB	LT	D	47.1	F	340.8	D	53.8	C	31.2	D	52.1	C	33.4
		R	D	46.1	F	105.7	D	42.8	C	27.0	C	24.9	C	28.6
	Overall		C	23.2	E	73.7	C	22.6	C	24.0	C	31.4	B	18.8
NJSH Route 64 (EB)/ Princeton-Hightstown Road (CR 526) (WB) & Cranbury Road (NB)/Wallace Road (SB)	EB	L	C	23.2	B	15.3	A	9.0	C	34.9	B	15.5	B	11.1
		T	A	6.9	B	11.7	A	5.0	A	7.6	B	10.0	A	5.1
		TR	A	6.9	B	11.7	A	5.0	A	7.6	B	10.0	A	5.1
	WB	L	A	9.2	C	23.1	A	6.2	A	9.2	B	15.2	A	5.9
		TR	C	23.6	B	10.5	A	7.4	D	42.2	A	9.6	A	8.6
	NB	L	C	23.3	B	19.7	C	20.8	C	25.5	C	22.0	C	21.6
		TR	B	17.3	B	19.4	B	18.9	B	17.7	B	19.2	B	18.5
	SB	L	B	19.4	C	25.2	C	21.3	B	19.4	C	23.1	C	20.5
		TR	B	18.6	B	16.5	B	18.9	B	20.0	B	18.2	B	19.4
	Overall		B	18.5	B	14.6	A	9.4	C	28.4	B	12.7	A	9.6
Washington Road (CR 571) (EB)/NJSH Route 64 (WB) & Washington Road (NB)	EB	T(R)	a	9.9	f	104.3	b	11.9	a	8.0	a	9.4	a	7.6
	WB	LT	a	8.9	b	11.4	a	7.9	c	18.4	b	10.6	a	8.0
	NB	L	a	8.1	f	124.5	a	8.1	a	4.1	b	10.5	a	4.9
	Overall		a	9.5	f	113.2	b	11.4	c	15.2	b	10.0	a	7.7
Washington Road (CR 571) (EB/WB) & West Site Access (NB)	WB	L	-	-	-	-	-	-	a	8.5	a	9.6	a	9.1
	NB	L	-	-	-	-	-	-	f	52.5	f	67.2	e	41.4
		R	-	-	-	-	-	-	-	b	11.5	c	16.5	b
Washington Road (EB/WB) & East Site Access (NB)	WB	L	-	-	-	-	-	-	a	7.9	a	7.5	a	7.5
	NB	LR	-	-	-	-	-	-	b	11.3	c	17.1	a	9.8

Note: An uppercase letter indicates a signalized intersection; a lowercase letter indicates an unsignalized intersection.

All capacity analysis calculation worksheets are provided in **Appendix F**. The following is a summary of the findings for each location.

Alexander Road & Bear Brook Road/Vaughn Drive

Proposed Improvements by Others

The Maneely Property Traffic Engineering Assessment, written by Shropshire Associates, LLC and dated September 9, 2014, proposes several improvements to the intersection of Alexander Road & Bear Brook Road/Vaughn Drive. The intersection improvements proposed by others include:

- Restriping the Vaughn Drive southbound approach to provide one (1) shared left-turn/through lane and one (1) dedicated right-turn lane; and
- Updating the traffic signal timing directive and traffic signal equipment to provide a dedicated right-turn arrow for the Vaughn Drive southbound right-turn lane and provide a permitted/over phase.

2023 No-Build Analysis

Under the No-Build condition with the proposed improvements by others, all intersection movements will operate at Levels of Service “D” or better during all peak hours studied, with the exception of the southbound right and left turning movements, which will operate at failing Levels of Service during the PM peak hour. The intersection will operate at overall Levels of Service “C,” “F,” and “C” during the AM, PM, and Saturday peak hours, respectively.

Proposed Improvements

Under the Build condition, it is recommended to optimize the signal timing directive. The proposed phasing recommended by others was maintained, but the allotted green times were adjusted to optimize delay.

2023 Build Analysis

Under the Build condition with the proposed improvements, all movements at the intersection of Alexander Road & Bear Brook Road/Vaughn Drive will operate at or near No-Build Levels of Service during all peak hours studied. The intersection will operate at overall Levels of Service “C,” “C,” and “B” during the AM, PM, and Saturday peak hours, respectively.

NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road

2023 No-Build Analysis

Under the No-Build condition, all intersection movements will operate at Levels of Service “C” or better during all peak hours studied. The intersection will operate at overall Levels of Service “B,” “B,” and “A” during the AM, PM, and Saturday peak hours, respectively.

2023 Build Analysis

Under the Build condition, it is recommended to adjust the allotted green times to minimize delay. All movements at the intersection of NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road will operate at or near No-Build Levels of Service during all peak hours studied.

Washington Road (CR 571)/NJSH Route 64 & Washington Road

2023 No-Build Analysis

Under the No-Build condition, all intersection movements will operate at Levels of Service “B” or better during all peak hours studied, with the exception of the eastbound and northbound approaches operating at a failing Level of Service during the PM peak hour. The intersection will operate at overall Levels of Service “A,” “F,” and “B” during the AM, PM, and Saturday peak hours, respectively.

Proposed Improvements

In association with the proposed development, the intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road will be realigned to create a roundabout. The intersection will be significantly improved by establishing Washington Road (CR 571) EB and NJSH Route 64 WB as the mainlines. Each approach will provide one (1) lane entering the roundabout under yield control. Additionally, a channelized right-turn lane is proposed for the northbound approach of Washington Road, utilizing the existing intersection geometry of NJSH Route 64. A Dimension Plan detailing the proposed roadway improvements is included as **Figure 3** in **Appendix A**.

2023 Build Analysis

Under the Build condition with the proposed improvements, all movements at the intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road will operate at Levels of Service “C” or better during all peak hours studied.

Washington Road (CR 571) & West Site Access

2023 Build Analysis

In association with the proposed development, a site access roadway will be constructed along Washington Road (CR 571) to create a “T-intersection.” The northbound approach of the site access will provide one (1) dedicated left-turn lane and one (1) dedicated right-turn lane, both under stop control. In addition, a left-turn lane is proposed along the westbound approach of Washington Road (CR 571). Under the Build condition, all intersection approaches will operate at acceptable Levels of Service during all peak hours studied.

Washington Road & East Site Access

2023 Build Analysis

Under the Build condition, all movements at the East Site Access along Washington Road will operate at Levels of Service “B” or better during all peak hours studied. The 95th percentile queue length at the proposed access will be less than one (1) vehicle during all peak hours studied, which can be accommodated within the layout of the site.

IX. SUMMARY AND CONCLUSIONS

This Traffic Impact Study evaluated a proposal to develop a mixed-use development within the Township of West Windsor, Mercer County, New Jersey. The findings of the Traffic Impact Study are summarized as follows:

1. The Applicant proposes to redevelop the subject site with a mixed-use development containing:
 - 135 Age-Restricted Residential Units;
 - 142 Townhouse Residential Units;
 - 523 Apartment Residential Units;
 - 120 Hotel Rooms; and
 - 17,500 SF of Retail.
2. Site access is proposed via one (1) full-movement roadway along Washington Road (CR 571), west of its intersection with NJSH Route 64, and one (1) full-movement roadway along Washington Road, east of its intersection with NJSH Route 64. Alternative access is provided via the existing cross-access to Vaughn Drive, which provides connectivity to Alexander Road.
3. Under the Build conditions with the recommended signal timing directive optimization, all movements at the intersection of Alexander Road & Bear Brook Road/Vaughn Drive will operate at acceptable Levels of Service during all peak hours studied.
4. Under the Build conditions, all movements at the intersection of NJSH Route 64/Princeton-Hightstown Road (CR 526) & Cranbury Road/Wallace Road will operate at acceptable Levels of Service during all peak hours studied.
5. In association with the proposed development, the intersection of Washington Road (CR 571)/NJSH Route 64 & Washington Road will be realigned to create a roundabout. The intersection will be significantly improved by establishing Washington Road (CR 571) EB and NJSH Route 64 WB as the mainlines. Under the Build conditions with the proposed improvements, all intersection movements will operate at acceptable Levels of Service during all peak hours studied.
6. In association with the proposed development, a site access roadway will be constructed along Washington Road (CR 571) to create a “T-intersection.” Under the Build conditions, all movements at the West Site Access along Washington Road (CR 571) will operate at acceptable Levels of Service during all peak hours studied.



7. In association with the proposed development, a site access roadway will be constructed along Washington Road east of the roundabout. Under the Build conditions, all movements at the East Site Access along Washington Road (CR 571) will operate at acceptable Levels of Service during all peak hours studied.



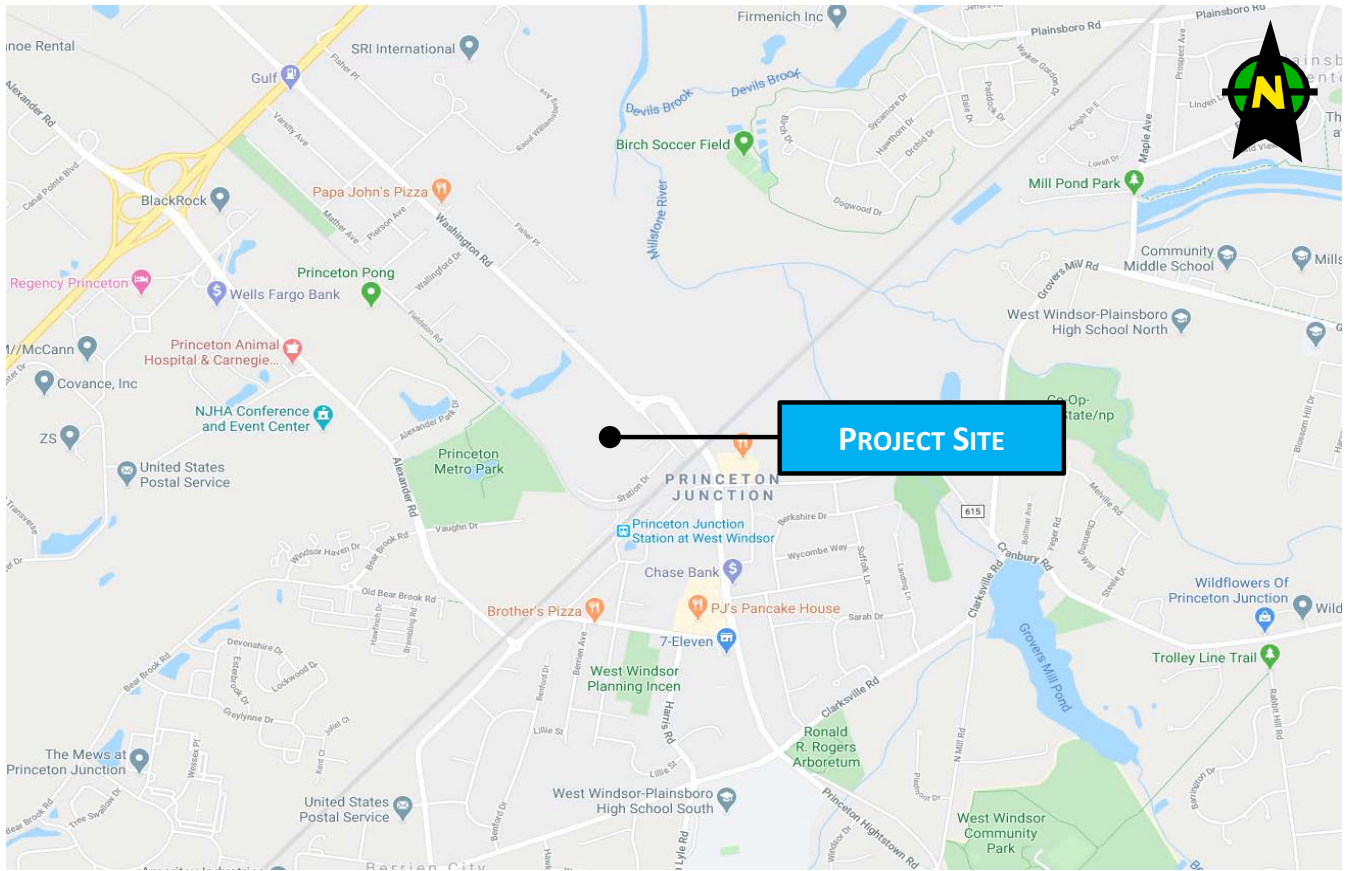
Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX A

TRAFFIC FIGURES

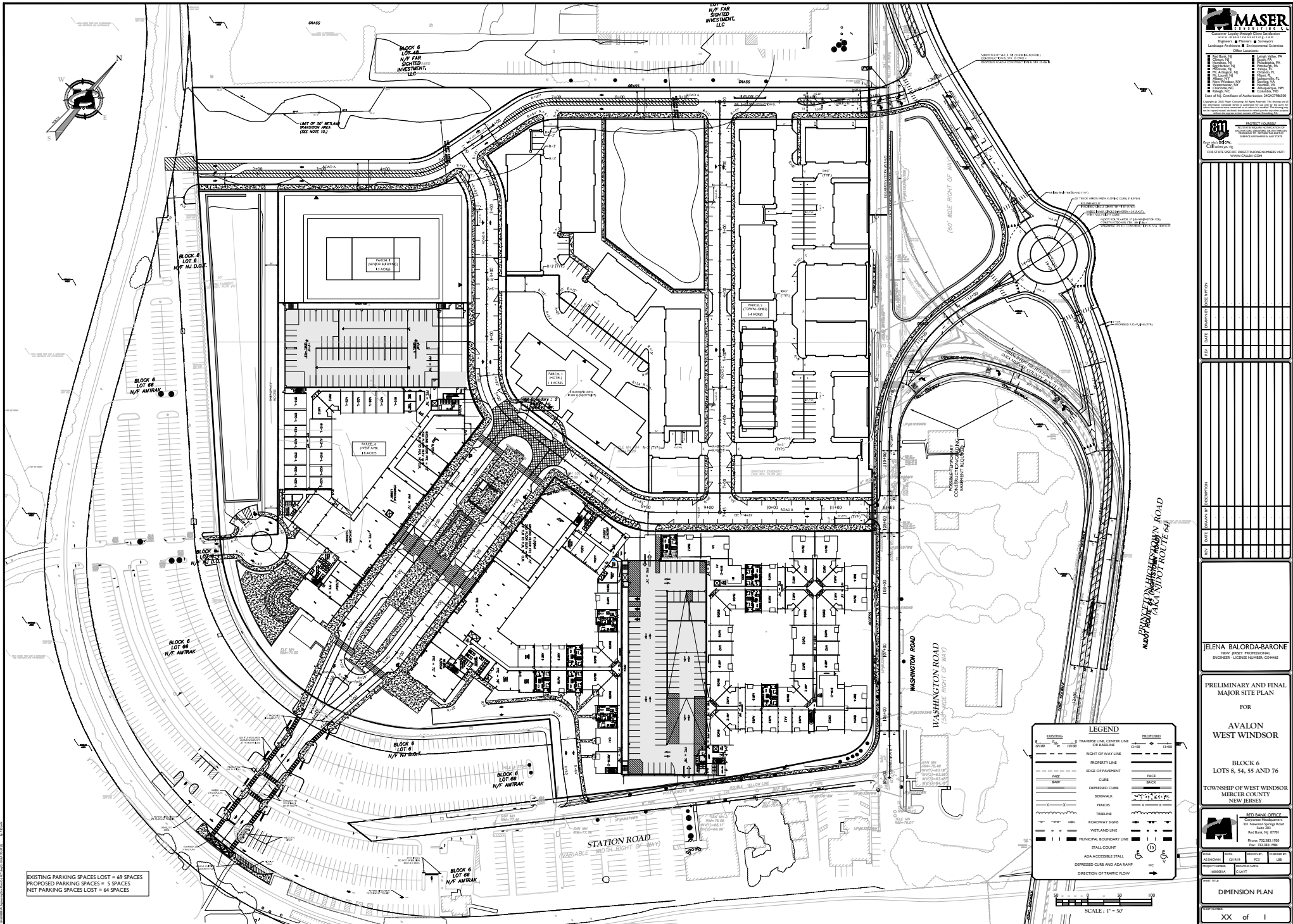


Transit Village at Princeton Junction
 Township of West Windsor, Mercer County, New Jersey

Figure 1
 Site Location Map

1600081A

FIGURE 2



MASER
 Professional Engineers & Surveyors
 License No. 12171-1
 1000 North 10th Street, Suite 200
 Edison, NJ 08816
 Tel: 732-329-1000
 Fax: 732-329-1001
 www.maser.com

811
 Call Before You Dig
 1-800-4-A- Dig
 www.callbeforeyoudig.com

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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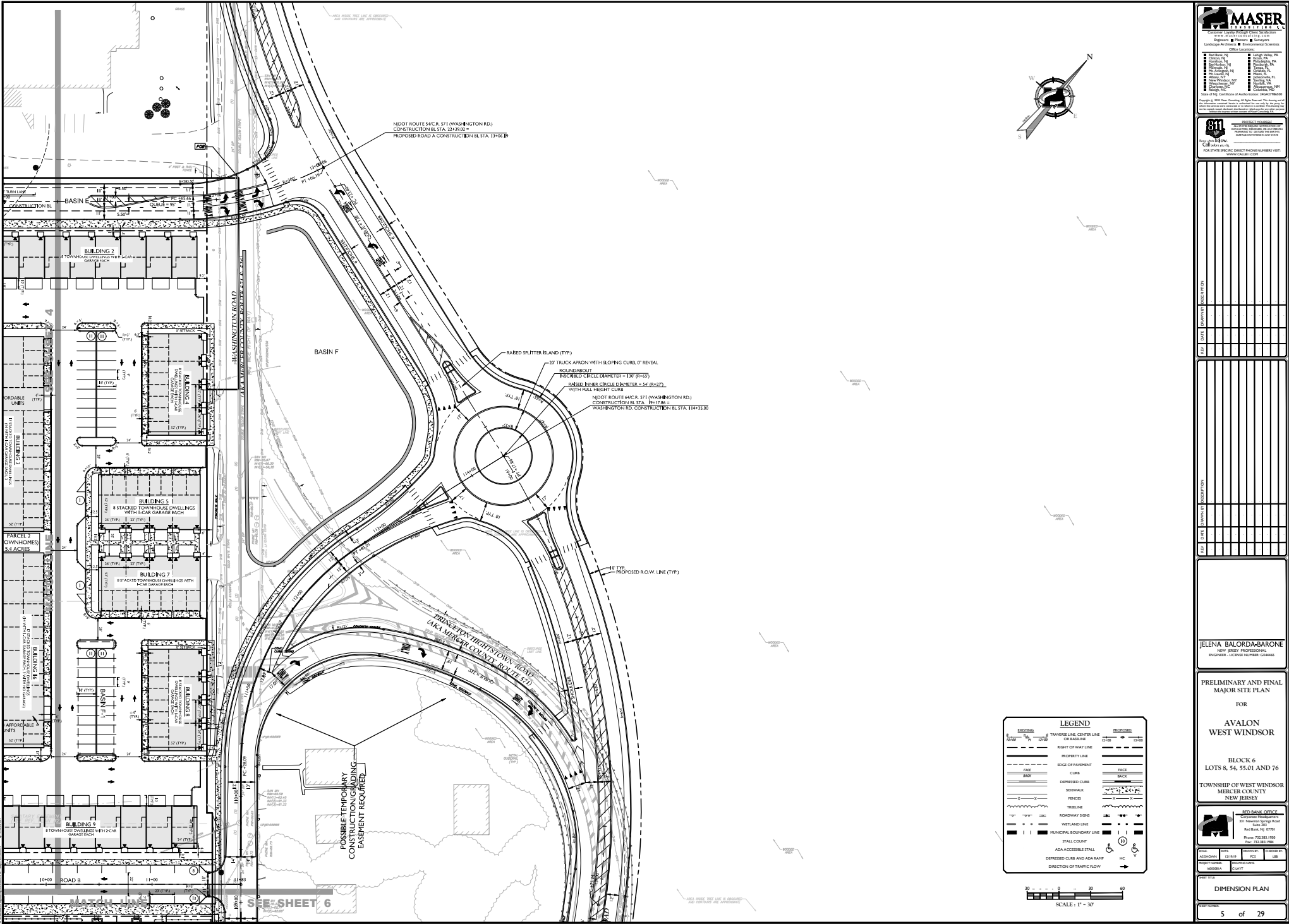
JELENA BALORDA-BARONE
 NEW JERSEY PROFESSIONAL
 ENGINEER - LICENSE NUMBER: 624848

**PRELIMINARY AND FINAL
 MAJOR SITE PLAN**
 FOR
**AVALON
 WEST WINDSOR**
 BLOCK 6
 LOTS 8, 54, 55 AND 76
 TOWNSHIP OF WEST WINDSOR
 MERCER COUNTY
 NEW JERSEY

RED BANK OFFICE
 331 Newnam Springs Road
 Red Bank, NJ 07870
 Tel: 732-383-1886

DATE: 08/11/2011
SCALE: 1" = 50'
FIGURE: 2
OF: 1

FIGURE 3



MASER
Municipal Engineers & Surveyors, Inc.
 1700 Route 100, Suite 200, Marlton, NJ 08053
 Phone: 609-261-8800
 Fax: 609-261-8801
 Website: www.maser.com

811
One Call
 1-800-4-A- Dig
 www.1-800-4-a-dig.com

PROFESSIONAL ENGINEER
NEW JERSEY PROFESSIONAL ENGINEERING LICENSE NUMBER: G34445

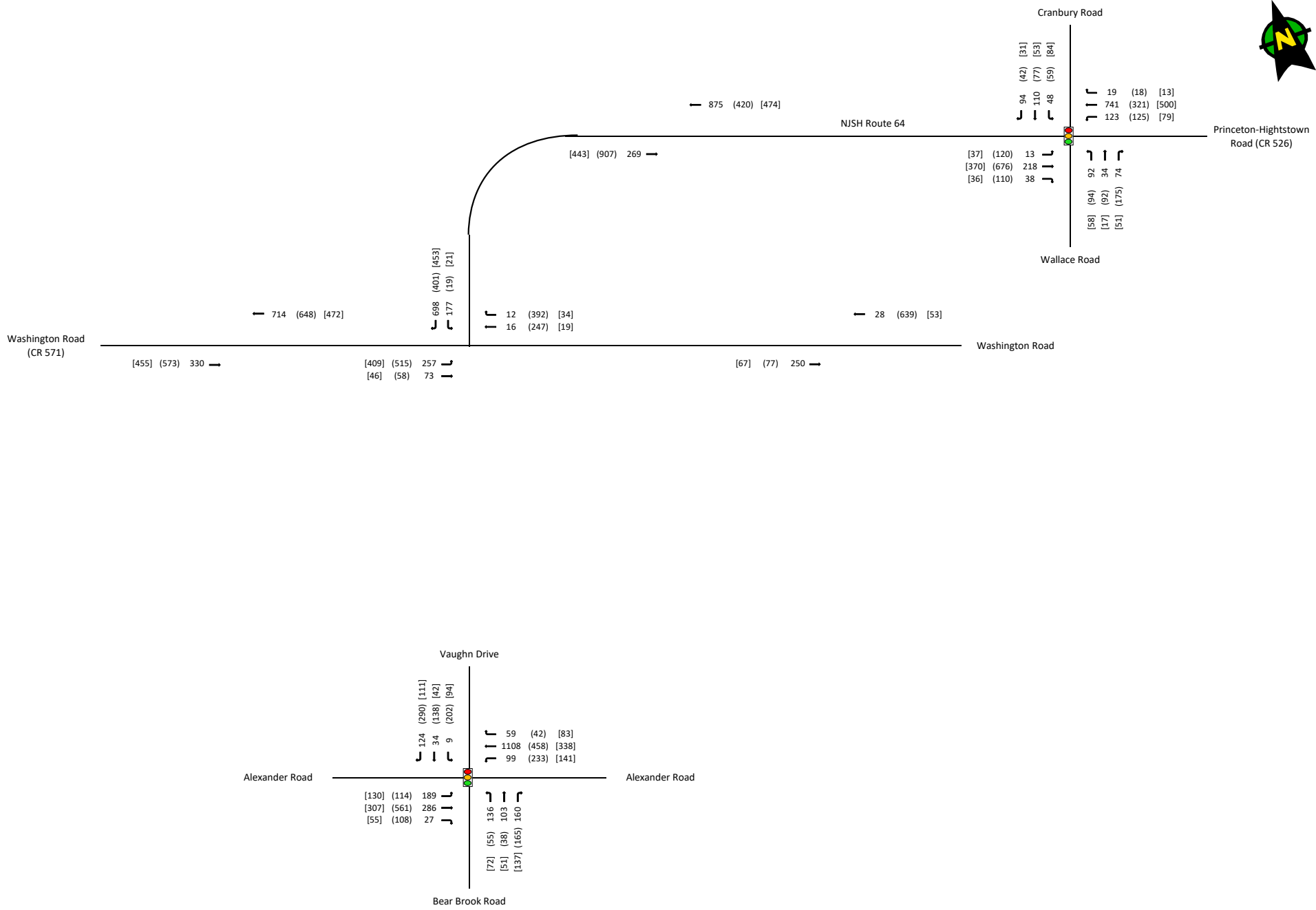
PRELIMINARY AND FINAL MAJOR SITE PLAN
 FOR
AVALON WEST WINDSOR
 BLOCK 6
 LOTS 8, 54, 55.01 AND 76
 TOWNSHIP OF WEST WINDSOR
 MERCER COUNTY
 NEW JERSEY

RED BANK OFFICE
Corporate Headquarters
 331 Newman Springs Road
 Red Bank, NJ 07751
 Phone: 848-278-8800
 Fax: 848-278-1985

DATE: 11/20/18
 PROJECT NO.: 180825
 SHEET NO.: 20/25

DIMENSION PLAN

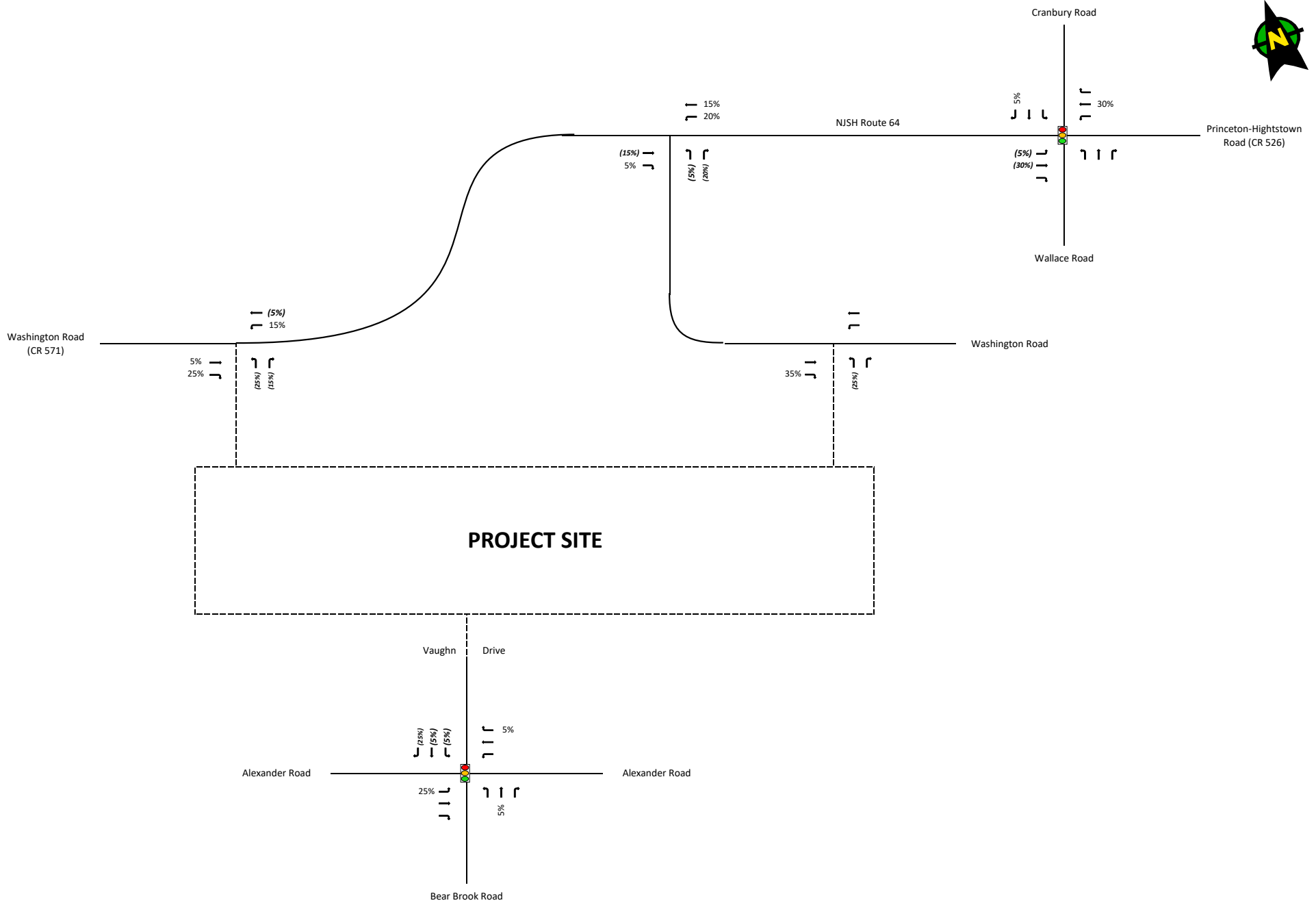
5 of 29



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↵
SAT Peak Hour: [###]	Signalized Intersection: 🚦

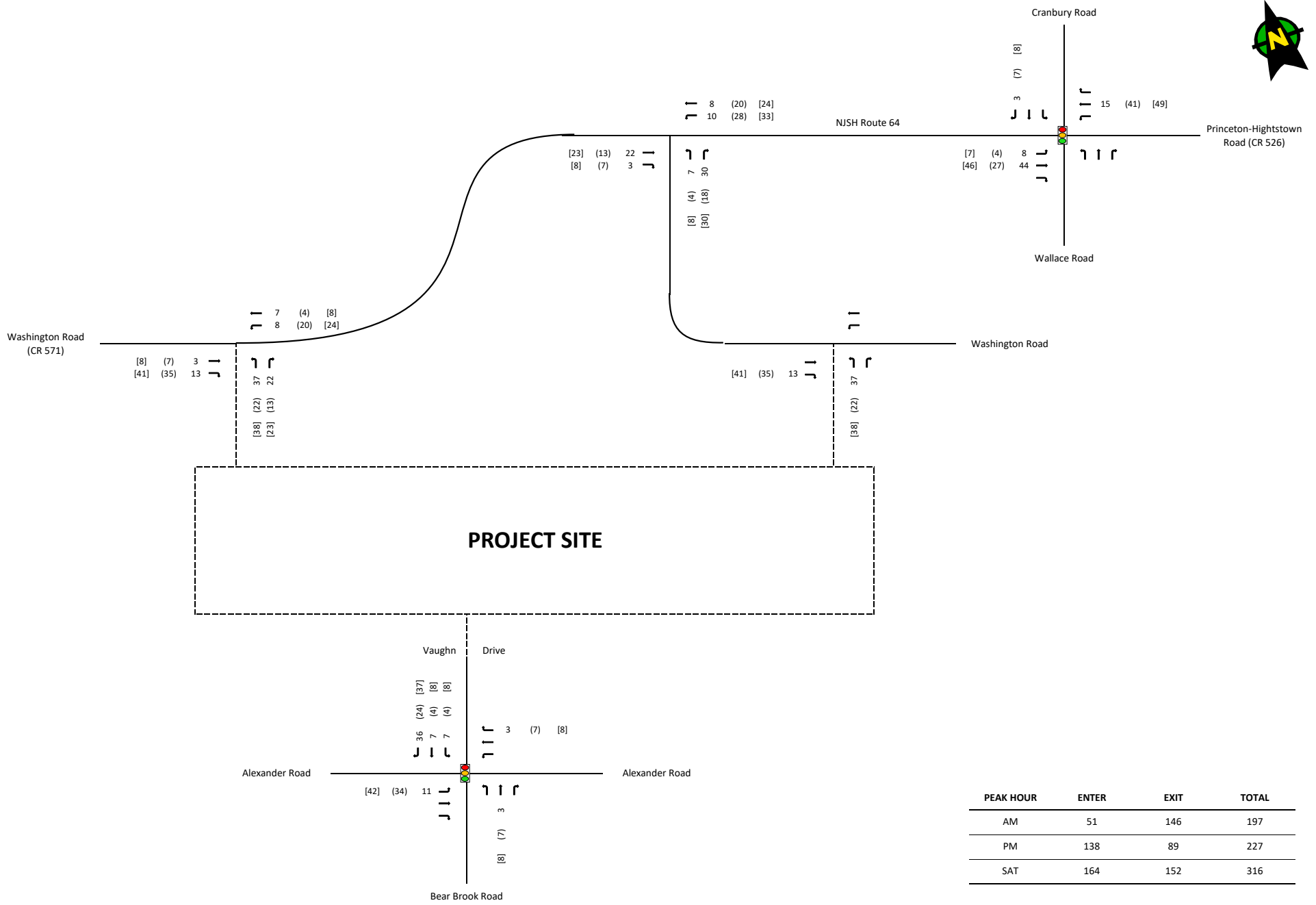
Figure 4
 2020 Existing Conditions
 AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
Entering: XX%	Thru Movement: —
Exiting: (XX%)	Turning Movement: ↗
	Signalized Intersection: 🚦

Figure 5
Residential & Hotel Trip Distribution
 AM, PM, & SAT Peak Hours



PEAK HOUR	ENTER	EXIT	TOTAL
AM	51	146	197
PM	138	89	227
SAT	164	152	316

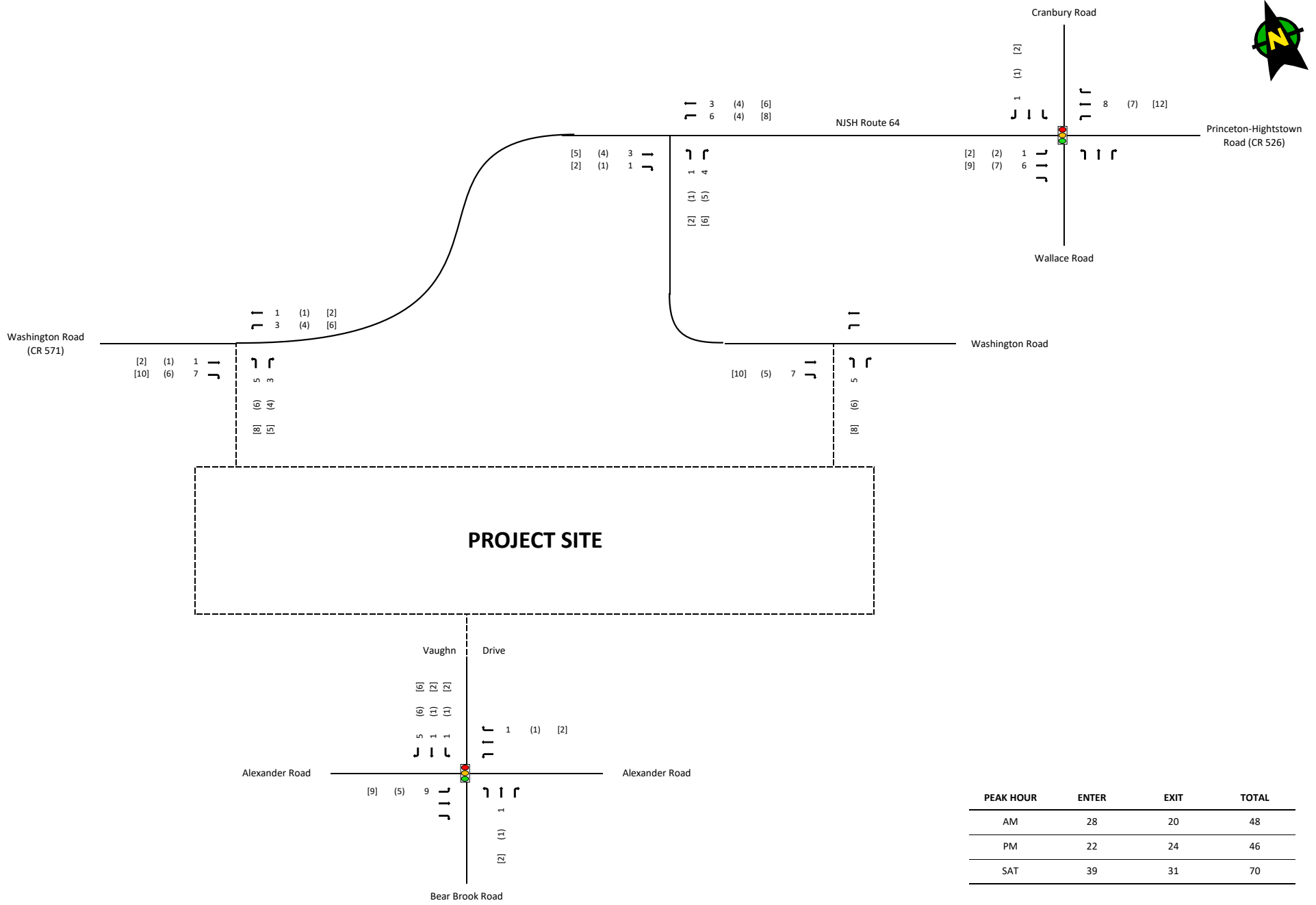


Transit Village at Princeton Junction
 MC Project No. 1600081A
 Township of West Windsor, Mercer County, New Jersey

Legend

AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↵
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 6
Residential Site Generated Trips
AM, PM, & SAT Peak Hours



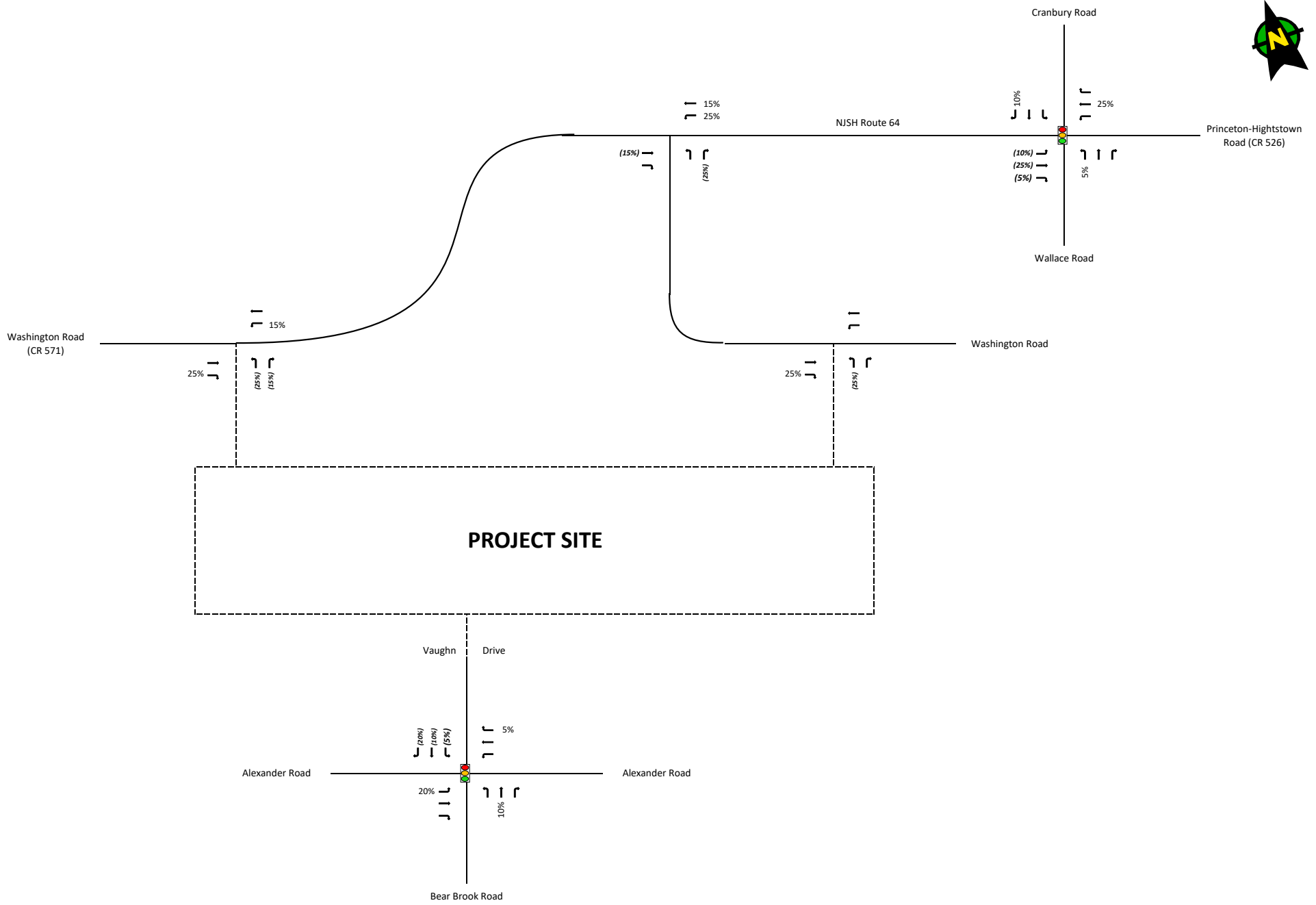
PEAK HOUR	ENTER	EXIT	TOTAL
AM	28	20	48
PM	22	24	46
SAT	39	31	70



Transit Village at Princeton Junction
 MC Project No. 1600081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↗
SAT Peak Hour: [###]	Signalized Intersection: 🚦

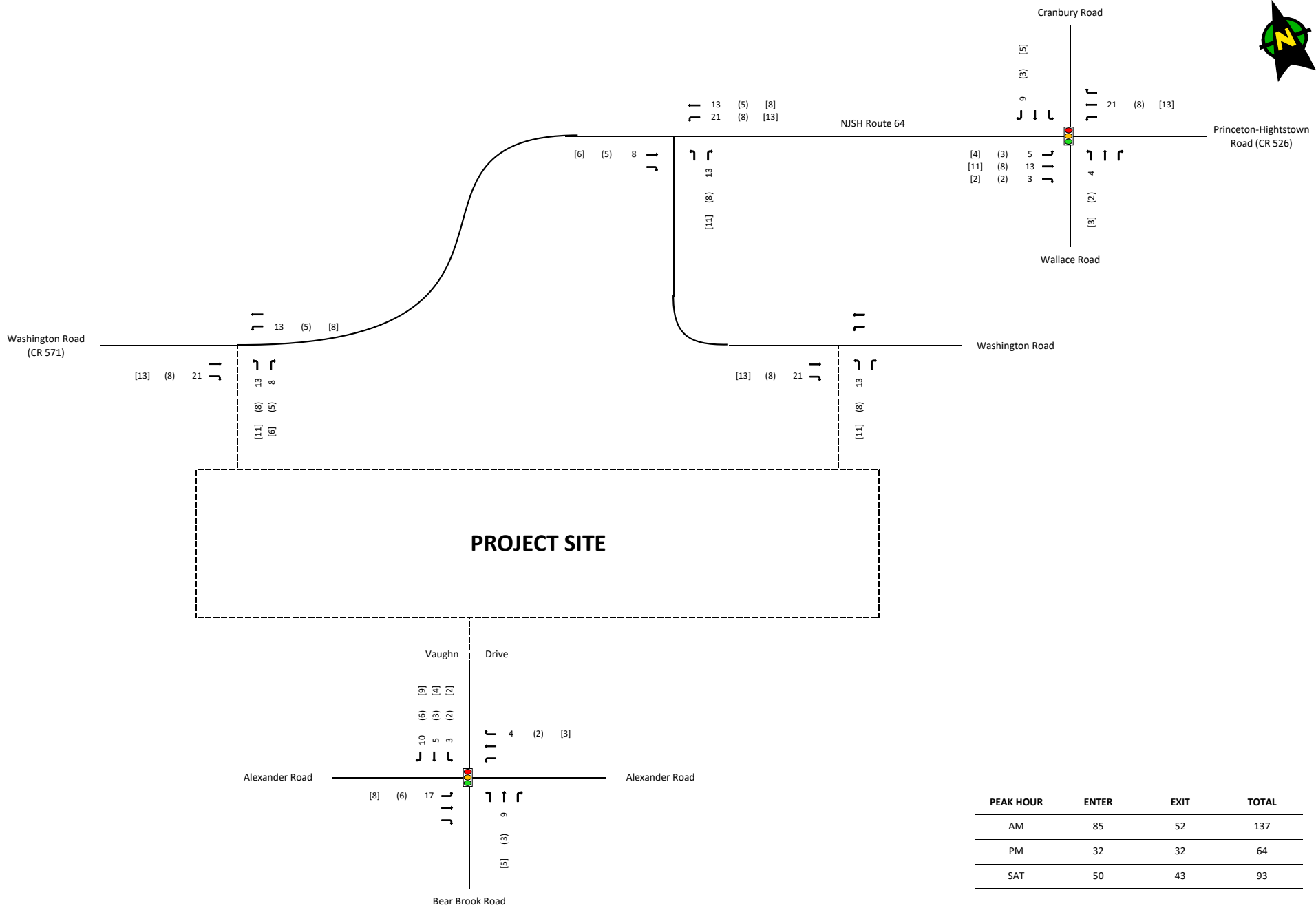
Figure 7
Hotel Site Generated Trips
AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
Entering: XX%	Thru Movement: —
Exiting: (XX%)	Turning Movement: ↗
	Signalized Intersection: 🚦

Figure 8
 Retail Primary Trip Distribution
 AM, PM, & SAT Peak Hours



PEAK HOUR	ENTER	EXIT	TOTAL
AM	85	52	137
PM	32	32	64
SAT	50	43	93

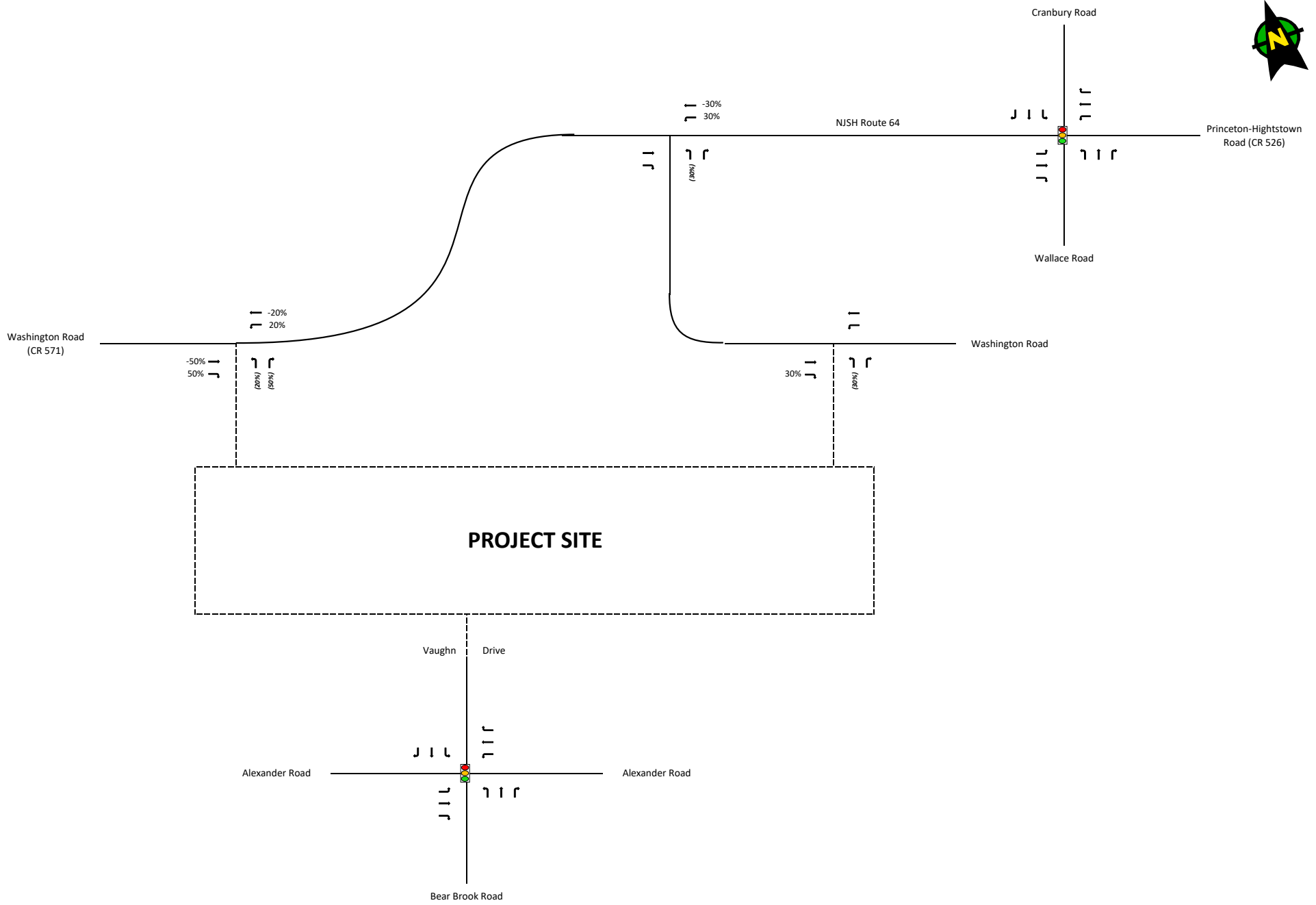


Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend

AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↗
SAT Peak Hour: [###]	Signalized Intersection: 🚦

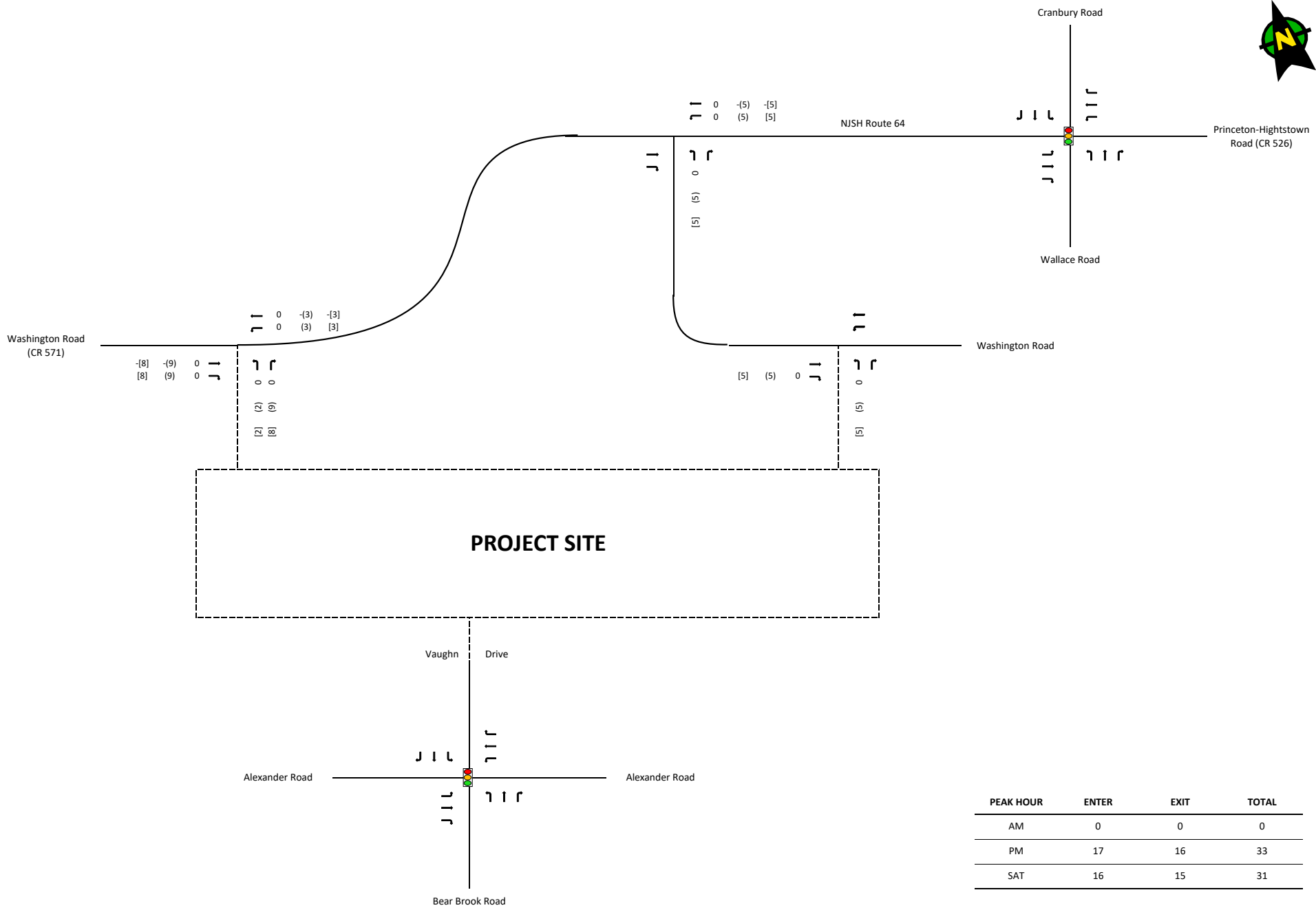
Figure 9
 Retail Primary Site Generated Trips
 AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
Entering: XX%	Thru Movement: —
Exiting: (XX%)	Turning Movement: ↵
	Signalized Intersection: 🚦

Figure 10
Retail Pass-By Trip Distribution
 AM, PM, & SAT Peak Hours



PEAK HOUR	ENTER	EXIT	TOTAL
AM	0	0	0
PM	17	16	33
SAT	16	15	31

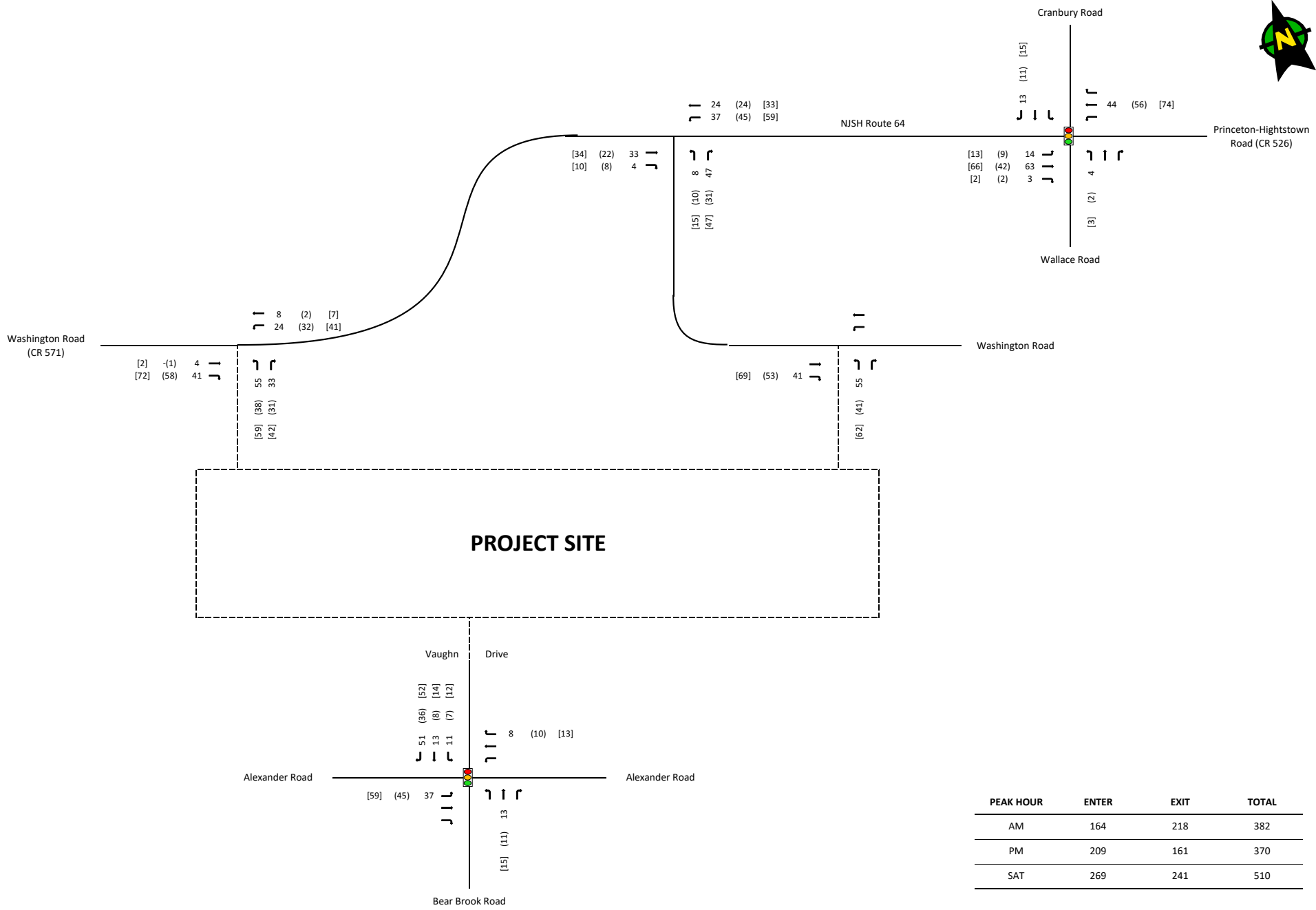


Transit Village at Princeton Junction
 MC Project No. 1600081A
 Township of West Windsor, Mercer County, New Jersey

Legend

AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↗
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 11
Retail Pass-By Site Generated Trips
AM, PM, & SAT Peak Hours



PEAK HOUR	ENTER	EXIT	TOTAL
AM	164	218	382
PM	209	161	370
SAT	269	241	510

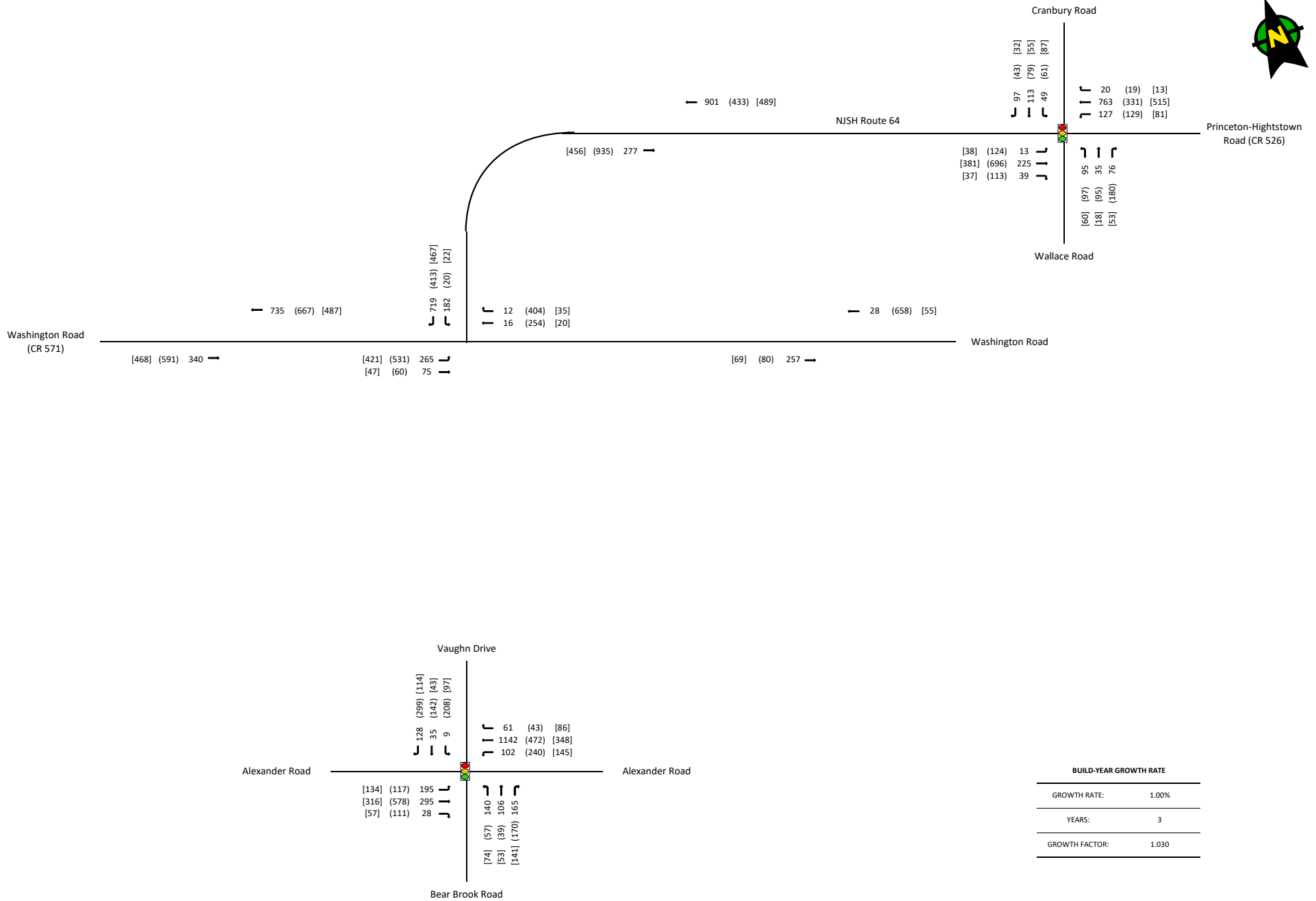


Transit Village at Princeton Junction
 MC Project No. 1600081A
 Township of West Windsor, Mercer County, New Jersey

Legend

AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↗
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 12
 Total Site Generated Trips
 AM, PM, & SAT Peak Hours



BUILD-YEAR GROWTH RATE	
GROWTH RATE:	1.00%
YEARS:	3
GROWTH FACTOR:	1.030



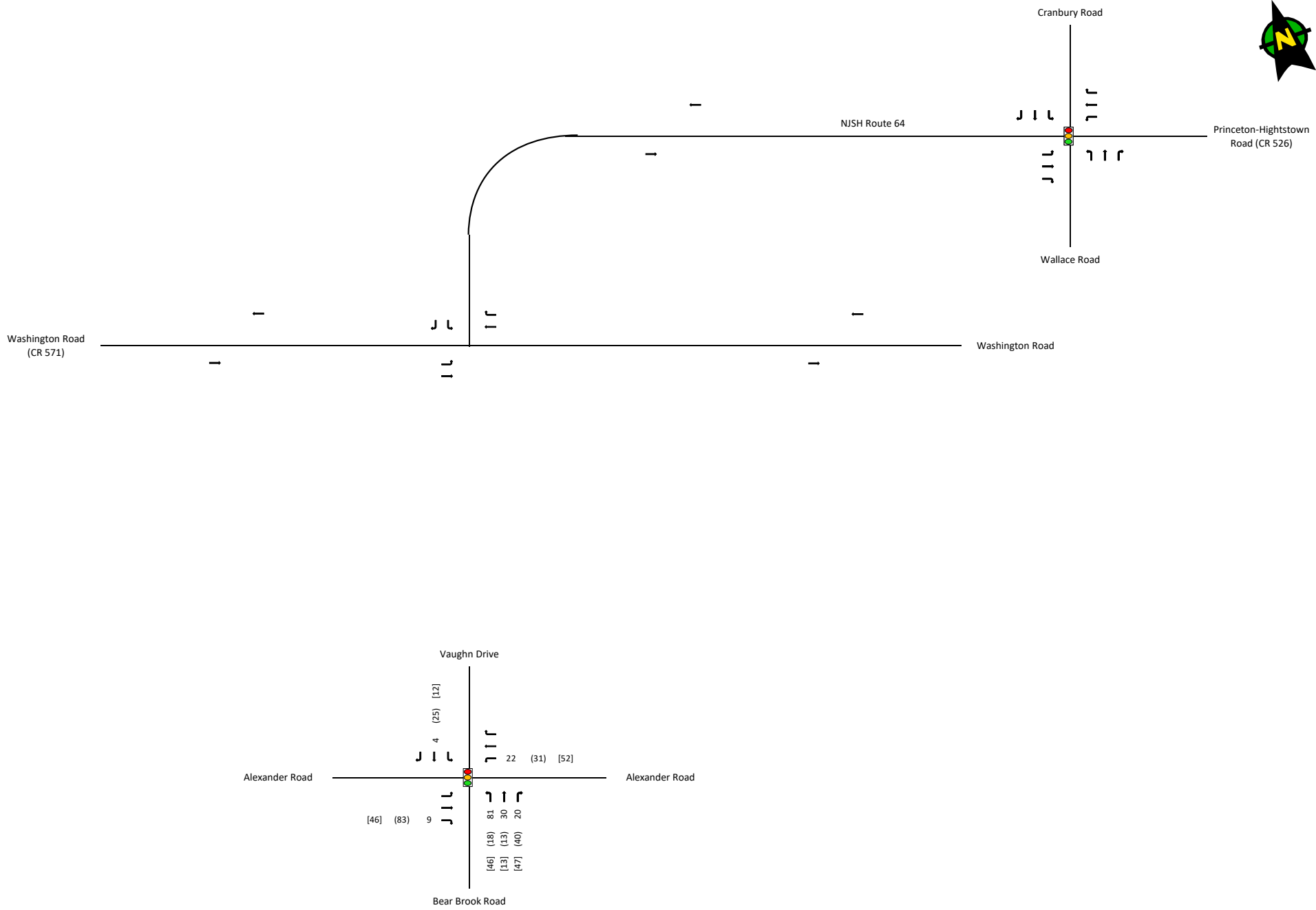
Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend

- AM Peak Hour: ###
- PM Peak Hour: (###)
- SAT Peak Hour: [###]
- Thru Movement: —
- Turning Movement: ↵
- Signalized Intersection: 🚦

Figure 13

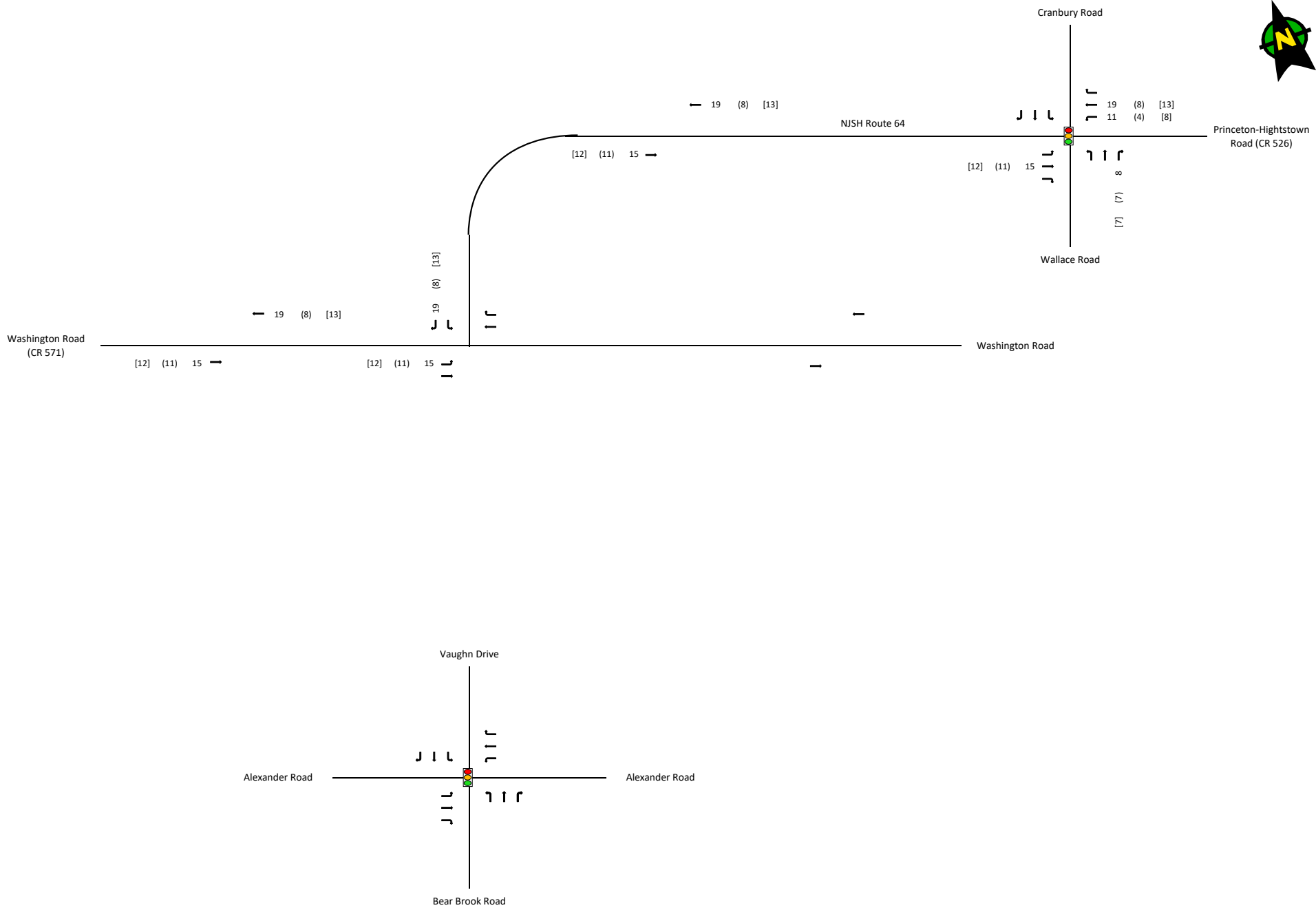
2023 Base Conditions
AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: -
PM Peak Hour: (###)	Turning Movement: J
SAT Peak Hour: [###]	Signalized Intersection: [Traffic Light Icon]

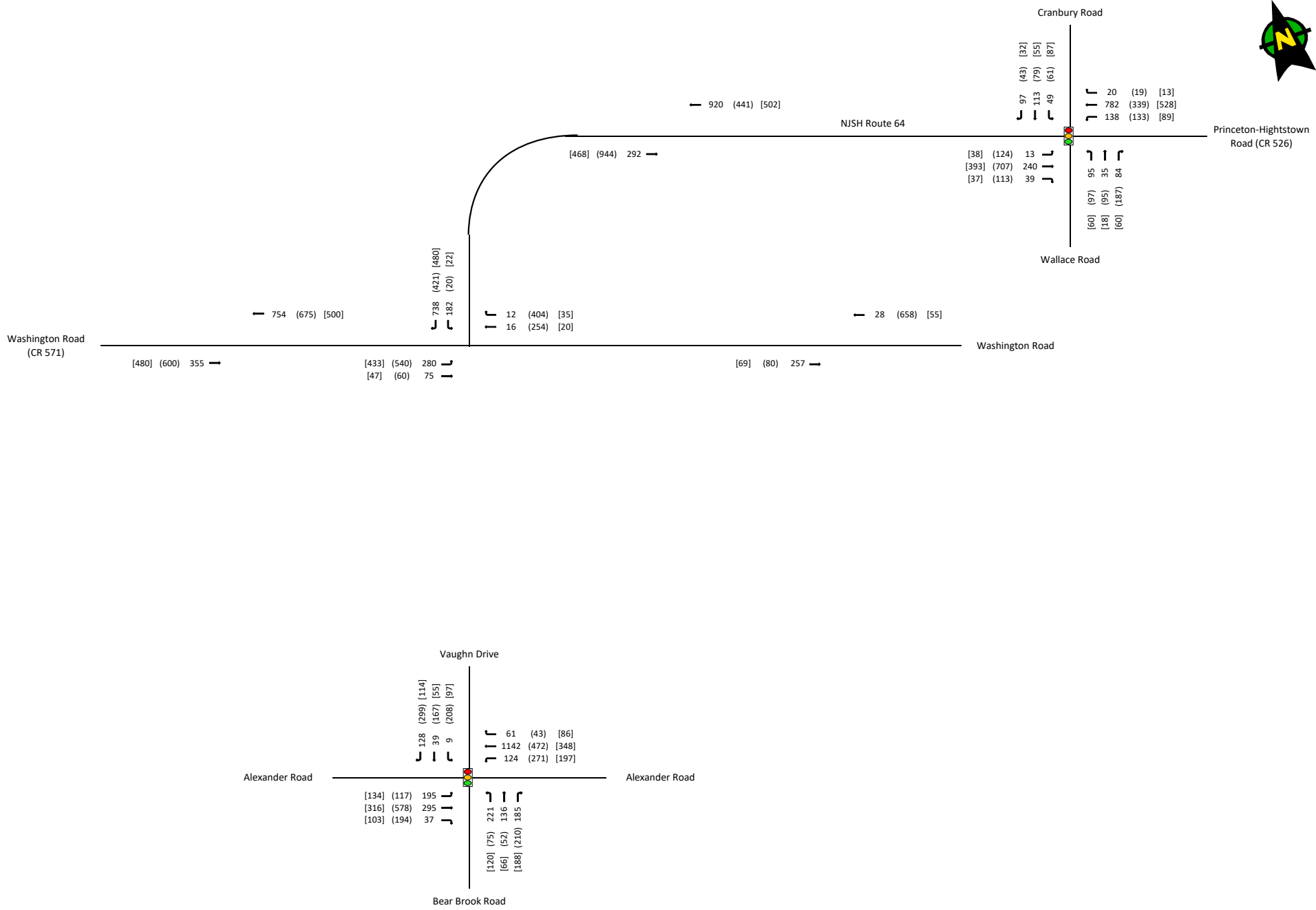
Figure 14
 Adjacent Development Trips - Maneely Properties
 AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: J
SAT Peak Hour: [###]	Signalized Intersection: [Traffic Light Icon]

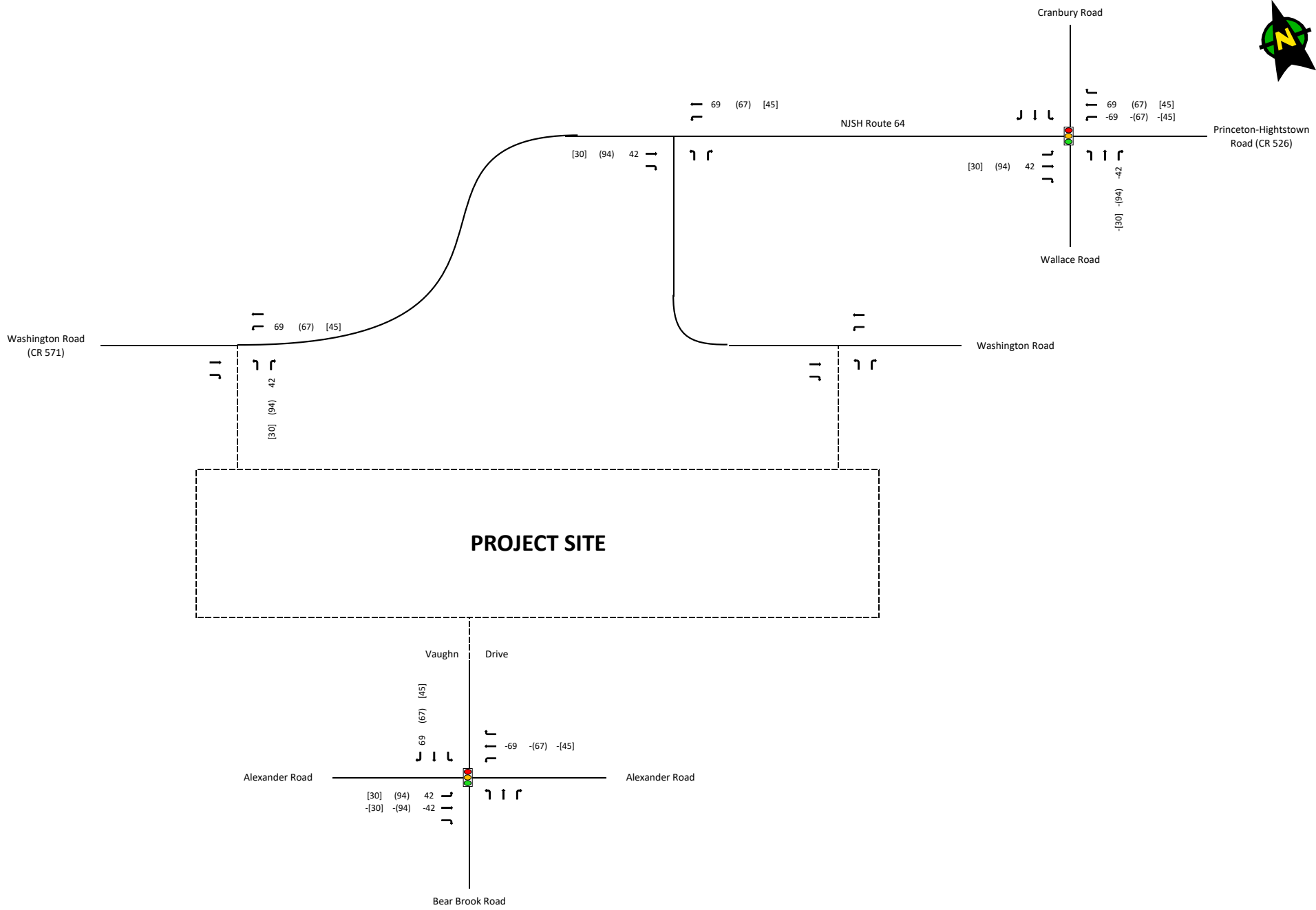
Figure 15
 Adjacent Development Trips - Princeton Ascend
 AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↵
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 16
 2023 No-Build Conditions
 AM, PM, & SAT Peak Hours



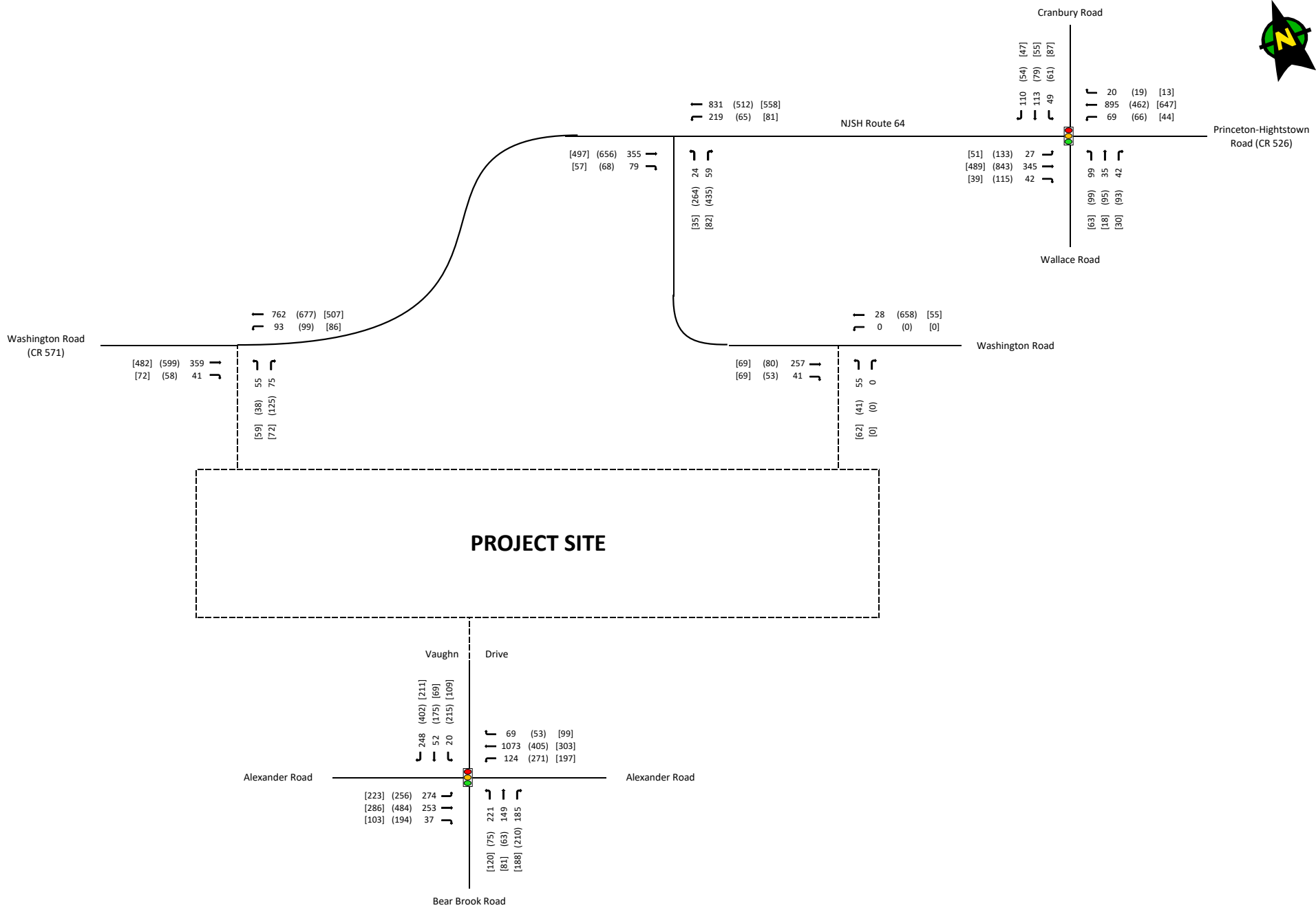
PROJECT SITE



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: ↗
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 17
Rerouted Trips
AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
 MC Project No. 16000081A
 Township of West Windsor, Mercer County, New Jersey

Legend	
AM Peak Hour: ###	Thru Movement: —
PM Peak Hour: (###)	Turning Movement: —
SAT Peak Hour: [###]	Signalized Intersection: 🚦

Figure 18
 2023 Build Conditions
 AM, PM, & SAT Peak Hours



Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX B

EXISTING DATA

Princeton-Hightstown Rd/Washington Rd Thurs - TMC

Thu May 3, 2018

Full Length (7AM-9AM, 5PM-7PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520232, Location: 40.320251, -74.623514



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road, Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Westbound					Washington Rd Northbound					Washington Rd Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2018-05-03 7:00AM	71	97	0	168	0	6	6	0	12	0	52	57	0	109	0	289
7:15AM	74	124	0	198	0	11	1	0	12	0	73	57	0	130	0	340
7:30AM	62	149	0	211	0	10	2	0	12	0	82	43	0	125	0	348
7:45AM	40	168	0	208	0	7	0	0	7	1	52	23	0	75	0	290
Hourly Total	247	538	0	785	0	34	9	0	43	1	259	180	0	439	0	1267
8:00AM	41	157	0	198	0	5	6	0	11	0	67	25	0	92	0	301
8:15AM	43	166	0	209	0	7	4	0	11	0	54	25	0	79	0	299
8:30AM	53	175	0	228	0	4	0	0	4	1	62	13	0	75	0	307
8:45AM	37	186	0	223	0	0	2	0	2	0	69	9	0	78	0	303
Hourly Total	174	684	0	858	0	16	12	0	28	1	252	72	0	324	0	1210
9:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00PM	5	94	0	99	0	36	69	0	105	0	161	8	0	169	0	373
5:15PM	3	90	0	93	0	4	34	0	38	0	172	8	0	180	0	311
5:30PM	3	102	0	105	0	37	56	0	93	0	152	5	0	157	0	355
5:45PM	5	124	0	129	0	7	22	0	29	0	153	16	0	169	0	327
Hourly Total	16	410	0	426	0	84	181	0	265	0	638	37	0	675	0	1366
6:00PM	4	118	0	122	0	67	111	0	178	0	139	13	0	152	0	452
6:15PM	1	94	0	95	0	36	50	0	86	1	134	12	0	146	0	327
6:30PM	4	92	0	96	0	47	74	0	121	1	120	14	0	134	0	351
6:45PM	10	89	0	99	0	92	149	0	241	0	112	18	0	130	0	470
Hourly Total	19	393	0	412	0	242	384	0	626	2	505	57	0	562	0	1600
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	456	2025	0	2481	0	376	586	0	962	4	1654	346	0	2000	0	5443
% Approach	18.4%	81.6%	0%	-	-	39.1%	60.9%	0%	-	-	82.7%	17.3%	0%	-	-	-
% Total	8.4%	37.2%	0%	45.6%	-	6.9%	10.8%	0%	17.7%	-	30.4%	6.4%	0%	36.7%	-	-
Lights	456	1944	0	2400	-	374	586	0	960	-	1604	345	0	1949	-	5309
% Lights	100%	96.0%	0%	96.7%	-	99.5%	100%	0%	99.8%	-	97.0%	99.7%	0%	97.5%	-	97.5%
Articulated Trucks and Single-Unit Trucks	0	71	0	71	-	1	0	0	1	-	38	1	0	39	-	111
% Articulated Trucks and Single-Unit Trucks	0%	3.5%	0%	2.9%	-	0.3%	0%	0%	0.1%	-	2.3%	0.3%	0%	2.0%	-	2.0%
Buses	0	10	0	10	-	1	0	0	1	-	12	0	0	12	-	23
% Buses	0%	0.5%	0%	0.4%	-	0.3%	0%	0%	0.1%	-	0.7%	0%	0%	0.6%	-	0.4%
Pedestrians	-	-	-	-	0	-	-	-	-	2	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-50.0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	2	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-50.0%	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Washington Rd Thurs - TMC

Thu May 3, 2018

Forced Peak (8AM - 9AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520232, Location: 40.320251, -74.623514



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Westbound					Washington Rd Northbound					Washington Rd Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2018-05-03 8:00AM	41	157	0	198	0	5	6	0	11	0	67	25	0	92	0	301
8:15AM	43	166	0	209	0	7	4	0	11	0	54	25	0	79	0	299
8:30AM	53	175	0	228	0	4	0	0	4	1	62	13	0	75	0	307
8:45AM	37	186	0	223	0	0	2	0	2	0	69	9	0	78	0	303
Total	174	684	0	858	0	16	12	0	28	1	252	72	0	324	0	1210
% Approach	20.3%	79.7%	0%	-	-	57.1%	42.9%	0%	-	-	77.8%	22.2%	0%	-	-	-
% Total	14.4%	56.5%	0%	70.9%	-	1.3%	1.0%	0%	2.3%	-	20.8%	6.0%	0%	26.8%	-	-
PHF	0.821	0.919	-	0.941	-	0.571	0.500	-	0.636	-	0.913	0.720	-	0.880	-	0.985
Lights	174	644	0	818	-	16	12	0	28	-	238	71	0	309	-	1155
% Lights	100%	94.2%	0%	95.3%	-	100%	100%	0%	100%	-	94.4%	98.6%	0%	95.4%	-	95.5%
Articulated Trucks and Single-Unit Trucks	0	38	0	38	-	0	0	0	0	-	12	1	0	13	-	51
% Articulated Trucks and Single-Unit Trucks	0%	5.6%	0%	4.4%	-	0%	0%	0%	0%	-	4.8%	1.4%	0%	4.0%	-	4.2%
Buses	0	2	0	2	-	0	0	0	0	-	2	0	0	2	-	4
% Buses	0%	0.3%	0%	0.2%	-	0%	0%	0%	0%	-	0.8%	0%	0%	0.6%	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Washington Rd Thurs - TMC

Thu May 3, 2018

PM Peak (6PM - 7PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520232, Location: 40.320251, -74.623514



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Westbound					Washington Rd Northbound					Washington Rd Southbound					
Time	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	Int
2018-05-03 6:00PM	4	118	0	122	0	67	111	0	178	0	139	13	0	152	0	452
6:15PM	1	94	0	95	0	36	50	0	86	1	134	12	0	146	0	327
6:30PM	4	92	0	96	0	47	74	0	121	1	120	14	0	134	0	351
6:45PM	10	89	0	99	0	92	149	0	241	0	112	18	0	130	0	470
Total	19	393	0	412	0	242	384	0	626	2	505	57	0	562	0	1600
% Approach	4.6%	95.4%	0%	-	-	38.7%	61.3%	0%	-	-	89.9%	10.1%	0%	-	-	-
% Total	1.2%	24.6%	0%	25.8%	-	15.1%	24.0%	0%	39.1%	-	31.6%	3.6%	0%	35.1%	-	-
PHF	0.475	0.833	-	0.844	-	0.658	0.644	-	0.649	-	0.908	0.792	-	0.924	-	0.851
Lights	19	388	0	407	-	240	384	0	624	-	498	57	0	555	-	1586
% Lights	100%	98.7%	0%	98.8%	-	99.2%	100%	0%	99.7%	-	98.6%	100%	0%	98.8%	-	99.1%
Articulated Trucks and Single-Unit Trucks	0	3	0	3	-	1	0	0	1	-	6	0	0	6	-	10
% Articulated Trucks and Single-Unit Trucks	0%	0.8%	0%	0.7%	-	0.4%	0%	0%	0.2%	-	1.2%	0%	0%	1.1%	-	0.6%
Buses	0	2	0	2	-	1	0	0	1	-	1	0	0	1	-	4
% Buses	0%	0.5%	0%	0.5%	-	0.4%	0%	0%	0.2%	-	0.2%	0%	0%	0.2%	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Washington Rd Sat - TMC

Sat May 5, 2018

Full Length (11AM-1PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520233, Location: 40.320251, -74.623514



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Westbound					Washington Rd Northbound					Washington Rd Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2018-05-05 11:00AM	1	113	0	114	0	6	5	0	11	0	108	4	0	112	0	237
11:15AM	5	104	0	109	0	1	8	0	9	0	118	16	0	134	0	252
11:30AM	8	99	0	107	0	10	12	0	22	0	90	7	0	97	0	226
11:45AM	7	114	0	121	0	4	10	0	14	0	98	11	0	109	0	244
Hourly Total	21	430	0	451	0	21	35	0	56	0	414	38	0	452	0	959
12:00PM	1	127	0	128	0	4	3	0	7	0	95	11	0	106	0	241
12:15PM	9	122	0	131	0	2	11	0	13	0	89	19	0	108	0	252
12:30PM	9	116	0	125	0	10	10	0	20	0	96	5	0	101	0	246
12:45PM	5	114	0	119	0	6	8	0	14	0	89	3	0	92	0	225
Hourly Total	24	479	0	503	0	22	32	0	54	0	369	38	0	407	0	964
Total	45	909	0	954	0	43	67	0	110	0	783	76	0	859	0	1923
% Approach	4.7%	95.3%	0%	-	-	39.1%	60.9%	0%	-	-	91.2%	8.8%	0%	-	-	-
% Total	2.3%	47.3%	0%	49.6%	-	2.2%	3.5%	0%	5.7%	-	40.7%	4.0%	0%	44.7%	-	-
Lights	44	899	0	943	-	43	67	0	110	-	770	76	0	846	-	1899
% Lights	97.8%	98.9%	0%	98.8%	-	100%	100%	0%	100%	-	98.3%	100%	0%	98.5%	-	98.8%
Articulated Trucks and Single-Unit Trucks	1	8	0	9	-	0	0	0	0	-	10	0	0	10	-	19
% Articulated Trucks and Single-Unit Trucks	2.2%	0.9%	0%	0.9%	-	0%	0%	0%	0%	-	1.3%	0%	0%	1.2%	-	1.0%
Buses	0	2	0	2	-	0	0	0	0	-	3	0	0	3	-	5
% Buses	0%	0.2%	0%	0.2%	-	0%	0%	0%	0%	-	0.4%	0%	0%	0.3%	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Washington Rd Sat - TMC

Sat May 5, 2018

Forced Peak (11:15AM - 12:15PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520233, Location: 40.320251, -74.623514



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Westbound					Washington Rd Northbound					Washington Rd Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2018-05-05 11:15AM	5	104	0	109	0	1	8	0	9	0	118	16	0	134	0	252
11:30AM	8	99	0	107	0	10	12	0	22	0	90	7	0	97	0	226
11:45AM	7	114	0	121	0	4	10	0	14	0	98	11	0	109	0	244
12:00PM	1	127	0	128	0	4	3	0	7	0	95	11	0	106	0	241
Total	21	444	0	465	0	19	33	0	52	0	401	45	0	446	0	963
% Approach	4.5%	95.5%	0%	-	-	36.5%	63.5%	0%	-	-	89.9%	10.1%	0%	-	-	-
% Total	2.2%	46.1%	0%	48.3%	-	2.0%	3.4%	0%	5.4%	-	41.6%	4.7%	0%	46.3%	-	-
PHF	0.656	0.874	-	0.908	-	0.475	0.688	-	0.591	-	0.850	0.703	-	0.832	-	0.955
Lights	21	439	0	460	-	19	33	0	52	-	395	45	0	440	-	952
% Lights	100%	98.9%	0%	98.9%	-	100%	100%	0%	100%	-	98.5%	100%	0%	98.7%	-	98.9%
Articulated Trucks and Single-Unit Trucks	0	3	0	3	-	0	0	0	0	-	5	0	0	5	-	8
% Articulated Trucks and Single-Unit Trucks	0%	0.7%	0%	0.6%	-	0%	0%	0%	0%	-	1.2%	0%	0%	1.1%	-	0.8%
Buses	0	2	0	2	-	0	0	0	0	-	1	0	0	1	-	3
% Buses	0%	0.5%	0%	0.4%	-	0%	0%	0%	0%	-	0.2%	0%	0%	0.2%	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

Full Length (7AM-9AM, 5PM-7PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Wallace Rd Eastbound							Cranbury Rd Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-03 7:00AM	26	8	32	0	0	66	0	4	26	25	0	6	61	1
7:15AM	27	8	26	0	0	61	0	9	22	35	0	4	70	1
7:30AM	25	5	29	0	2	61	0	9	30	28	0	3	70	0
7:45AM	16	11	21	0	0	48	1	12	27	28	0	5	72	1
Hourly Total	94	32	108	0	2	236	1	34	105	116	0	18	273	3
8:00AM	24	4	23	0	1	52	0	16	15	19	0	1	51	0
8:15AM	23	8	13	0	1	45	0	5	31	29	0	0	65	0
8:30AM	24	14	26	0	0	64	0	10	39	21	0	1	71	1
8:45AM	19	7	9	0	0	35	0	16	23	20	0	1	60	1
Hourly Total	90	33	71	0	2	196	0	47	108	89	0	3	247	2
5:00PM	19	10	37	0	2	68	0	19	15	4	0	1	39	2
5:15PM	12	9	7	0	2	30	0	9	16	5	0	1	31	0
5:30PM	16	11	27	0	0	54	0	29	17	5	0	3	54	0
5:45PM	10	6	15	0	0	31	0	13	12	14	0	3	42	0
Hourly Total	57	36	86	0	4	183	0	70	60	28	0	8	166	2
6:00PM	31	25	48	0	0	104	0	14	25	8	0	4	51	0
6:15PM	12	15	21	0	2	50	1	14	8	6	0	2	30	0
6:30PM	22	25	37	0	0	84	0	14	22	6	0	1	43	2
6:45PM	27	25	64	0	0	116	1	16	20	14	0	0	50	2
Hourly Total	92	90	170	0	2	354	2	58	75	34	0	7	174	4
Total	333	191	435	0	10	969	3	209	348	267	0	36	860	11
% Approach	34.4%	19.7%	44.9%	0%	1.0%	-	-	24.3%	40.5%	31.0%	0%	4.2%	-	-
% Total	5.1%	2.9%	6.6%	0%	0.2%	14.7%	-	3.2%	5.3%	4.1%	0%	0.5%	13.0%	-
Lights	330	191	432	0	10	963	-	205	344	264	0	36	849	-
% Lights	99.1%	100%	99.3%	0%	100%	99.4%	-	98.1%	98.9%	98.9%	0%	100%	98.7%	-
Articulated Trucks and Single-Unit Trucks	3	0	1	0	0	4	-	3	2	2	0	0	7	-
% Articulated Trucks and Single-Unit Trucks	0.9%	0%	0.2%	0%	0%	0.4%	-	1.4%	0.6%	0.7%	0%	0%	0.8%	-
Buses	0	0	2	0	0	2	-	1	2	1	0	0	4	-
% Buses	0%	0%	0.5%	0%	0%	0.2%	-	0.5%	0.6%	0.4%	0%	0%	0.5%	-
Pedestrians	-	-	-	-	-	-	3	-	-	-	-	-	-	9
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	81.8%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	2
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	18.2%

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

Full Length (7AM-9AM, 5PM-7PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Northbound								Princeton-Hightstown Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-03 7:00AM	26	115	3	0	1	145	1	1	36	15	0	3	55	5	327		
7:15AM	31	144	2	0	3	180	2	5	46	13	0	4	68	5	379		
7:30AM	40	166	2	0	0	208	0	6	63	12	0	3	84	8	423		
7:45AM	32	183	5	0	0	220	2	1	40	5	0	0	46	9	386		
Hourly Total	129	608	12	0	4	753	5	13	185	45	0	10	253	27	1515		
8:00AM	32	167	3	0	1	203	2	5	60	8	0	1	74	0	380		
8:15AM	34	176	5	0	0	215	0	2	46	6	0	0	54	2	379		
8:30AM	35	193	1	0	1	230	2	3	48	11	0	0	62	3	427		
8:45AM	20	190	8	0	0	218	0	3	56	11	0	0	70	4	383		
Hourly Total	121	726	17	0	2	866	4	13	210	36	0	1	260	9	1569		
5:00PM	20	84	4	0	1	109	0	22	180	20	0	5	227	1	443		
5:15PM	20	93	1	0	2	116	0	20	158	20	0	1	199	0	376		
5:30PM	8	89	6	0	3	106	0	19	179	14	0	8	220	2	434		
5:45PM	28	111	6	0	0	145	0	10	150	15	0	3	178	1	396		
Hourly Total	76	377	17	0	6	476	0	71	667	69	0	17	824	4	1649		
6:00PM	26	87	4	0	0	117	4	35	176	21	0	0	232	7	504		
6:15PM	25	79	3	0	0	107	1	29	130	21	0	4	184	3	371		
6:30PM	37	84	2	0	0	123	6	11	143	31	0	2	187	7	437		
6:45PM	35	65	6	0	3	109	5	43	199	25	0	4	271	9	546		
Hourly Total	123	315	15	0	3	456	16	118	648	98	0	10	874	26	1858		
Total	449	2026	61	0	15	2551	25	215	1710	248	0	38	2211	66	6591		
% Approach	17.6%	79.4%	2.4%	0%	0.6%	-	-	9.7%	77.3%	11.2%	0%	1.7%	-	-	-		
% Total	6.8%	30.7%	0.9%	0%	0.2%	38.7%	-	3.3%	25.9%	3.8%	0%	0.6%	33.5%	-	-		
Lights	443	1952	55	0	14	2464	-	213	1662	245	0	38	2158	-	6434		
% Lights	98.7%	96.3%	90.2%	0%	93.3%	96.6%	-	99.1%	97.2%	98.8%	0%	100%	97.6%	-	97.6%		
Articulated Trucks and Single-Unit Trucks	1	62	3	0	0	66	-	2	36	2	0	0	40	-	117		
% Articulated Trucks and Single-Unit Trucks	0.2%	3.1%	4.9%	0%	0%	2.6%	-	0.9%	2.1%	0.8%	0%	0%	1.8%	-	1.8%		
Buses	5	12	3	0	1	21	-	0	12	1	0	0	13	-	40		
% Buses	1.1%	0.6%	4.9%	0%	6.7%	0.8%	-	0%	0.7%	0.4%	0%	0%	0.6%	-	0.6%		
Pedestrians	-	-	-	-	-	-	25	-	-	-	-	-	-	65	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	98.5%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	1.5%	-		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

Forced Peak (8AM - 9AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Wallace Rd Eastbound							Cranbury Rd Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-03 8:00AM	24	4	23	0	1	52	0	16	15	19	0	1	51	0
8:15AM	23	8	13	0	1	45	0	5	31	29	0	0	65	0
8:30AM	24	14	26	0	0	64	0	10	39	21	0	1	71	1
8:45AM	19	7	9	0	0	35	0	16	23	20	0	1	60	1
Total	90	33	71	0	2	196	0	47	108	89	0	3	247	2
% Approach	45.9%	16.8%	36.2%	0%	1.0%	-	-	19.0%	43.7%	36.0%	0%	1.2%	-	-
% Total	5.7%	2.1%	4.5%	0%	0.1%	12.5%	-	3.0%	6.9%	5.7%	0%	0.2%	15.7%	-
PHF	0.938	0.589	0.683	-	0.500	0.766	-	0.734	0.692	0.767	-	0.750	0.870	-
Lights	88	33	70	0	2	193	-	44	106	88	0	3	241	-
% Lights	97.8%	100%	98.6%	0%	100%	98.5%	-	93.6%	98.1%	98.9%	0%	100%	97.6%	-
Articulated Trucks and Single-Unit Trucks	2	0	0	0	0	2	-	2	1	1	0	0	4	-
% Articulated Trucks and Single-Unit Trucks	2.2%	0%	0%	0%	0%	1.0%	-	4.3%	0.9%	1.1%	0%	0%	1.6%	-
Buses	0	0	1	0	0	1	-	1	1	0	0	0	2	-
% Buses	0%	0%	1.4%	0%	0%	0.5%	-	2.1%	0.9%	0%	0%	0%	0.8%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	2
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

Forced Peak (8AM - 9AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Northbound								Princeton-Hightstown Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-03 8:00AM	32	167	3	0	1	203	2	5	60	8	0	1	74	0	380		
8:15AM	34	176	5	0	0	215	0	2	46	6	0	0	54	2	379		
8:30AM	35	193	1	0	1	230	2	3	48	11	0	0	62	3	427		
8:45AM	20	190	8	0	0	218	0	3	56	11	0	0	70	4	383		
Total	121	726	17	0	2	866	4	13	210	36	0	1	260	9	1569		
% Approach	14.0%	83.8%	2.0%	0%	0.2%	-	-	5.0%	80.8%	13.8%	0%	0.4%	-	-	-		
% Total	7.7%	46.3%	1.1%	0%	0.1%	55.2%	-	0.8%	13.4%	2.3%	0%	0.1%	16.6%	-	-		
PHF	0.864	0.940	0.531	-0.500	0.941	-	-	0.650	0.875	0.818	-0.250	0.878	-	0.919	-		
Lights	117	692	16	0	2	827	-	12	195	36	0	1	244	-	1505		
% Lights	96.7%	95.3%	94.1%	0%	100%	95.5%	-	92.3%	92.9%	100%	0%	100%	93.8%	-	95.9%		
Articulated Trucks and Single-Unit Trucks	1	32	0	0	0	33	-	1	13	0	0	0	14	-	53		
% Articulated Trucks and Single-Unit Trucks	0.8%	4.4%	0%	0%	0%	3.8%	-	7.7%	6.2%	0%	0%	0%	5.4%	-	3.4%		
Buses	3	2	1	0	0	6	-	0	2	0	0	0	2	-	11		
% Buses	2.5%	0.3%	5.9%	0%	0%	0.7%	-	0%	1.0%	0%	0%	0%	0.8%	-	0.7%		
Pedestrians	-	-	-	-	-	-	4	-	-	-	-	-	-	9	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

PM Peak (6PM - 7PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Wallace Rd Eastbound							Cranbury Rd Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-03 6:00PM	31	25	48	0	0	104	0	14	25	8	0	4	51	0
6:15PM	12	15	21	0	2	50	1	14	8	6	0	2	30	0
6:30PM	22	25	37	0	0	84	0	14	22	6	0	1	43	2
6:45PM	27	25	64	0	0	116	1	16	20	14	0	0	50	2
Total	92	90	170	0	2	354	2	58	75	34	0	7	174	4
% Approach	26.0%	25.4%	48.0%	0%	0.6%	-	-	33.3%	43.1%	19.5%	0%	4.0%	-	-
% Total	5.0%	4.8%	9.1%	0%	0.1%	19.1%	-	3.1%	4.0%	1.8%	0%	0.4%	9.4%	-
PHF	0.742	0.900	0.664	-	0.250	0.763	-	0.906	0.750	0.607	-	0.438	0.853	-
Lights	92	90	170	0	2	354	-	58	75	34	0	7	174	-
% Lights	100%	100%	100%	0%	100%	100%	-	100%	100%	100%	0%	100%	100%	-
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Buses	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Buses	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	4
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Thurs - TMC

Thu May 3, 2018

PM Peak (6PM - 7PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520226, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Northbound								Princeton-Hightstown Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-03 6:00PM	26	87	4	0	0	117	4	35	176	21	0	0	232	7	504		
6:15PM	25	79	3	0	0	107	1	29	130	21	0	4	184	3	371		
6:30PM	37	84	2	0	0	123	6	11	143	31	0	2	187	7	437		
6:45PM	35	65	6	0	3	109	5	43	199	25	0	4	271	9	546		
Total	123	315	15	0	3	456	16	118	648	98	0	10	874	26	1858		
% Approach	27.0%	69.1%	3.3%	0%	0.7%	-	-	13.5%	74.1%	11.2%	0%	1.1%	-	-	-		
% Total	6.6%	17.0%	0.8%	0%	0.2%	24.5%	-	6.4%	34.9%	5.3%	0%	0.5%	47.0%	-	-		
PHF	0.831	0.905	0.625	-	0.250	0.927	-	0.686	0.814	0.790	-	0.625	0.806	-	0.851		
Lights	122	311	15	0	3	451	-	118	641	97	0	10	866	-	1845		
% Lights	99.2%	98.7%	100%	0%	100%	98.9%	-	100%	98.9%	99.0%	0%	100%	99.1%	-	99.3%		
Articulated Trucks and Single-Unit Trucks	0	1	0	0	0	1	-	0	6	1	0	0	7	-	8		
% Articulated Trucks and Single-Unit Trucks	0%	0.3%	0%	0%	0%	0.2%	-	0%	0.9%	1.0%	0%	0%	0.8%	-	0.4%		
Buses	1	3	0	0	0	4	-	0	1	0	0	0	1	-	5		
% Buses	0.8%	1.0%	0%	0%	0%	0.9%	-	0%	0.2%	0%	0%	0%	0.1%	-	0.3%		
Pedestrians	-	-	-	-	-	-	16	-	-	-	-	-	-	26	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Sat - TMC

Sat May 5, 2018

Full Length (11AM-1PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520230, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Wallace Rd Eastbound							Cranbury Rd Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-05 11:00AM	8	5	8	0	4	25	0	29	5	7	0	1	42	0
11:15AM	12	2	8	0	1	23	0	17	9	0	0	4	30	0
11:30AM	17	8	18	0	2	45	3	25	10	8	0	5	48	0
11:45AM	15	1	9	0	1	26	0	20	16	3	0	0	39	0
Hourly Total	52	16	43	0	8	119	3	91	40	18	0	10	159	0
12:00PM	13	6	8	0	3	30	0	20	17	9	0	1	47	0
12:15PM	12	4	7	0	3	26	0	19	17	10	0	3	49	0
12:30PM	7	3	4	0	1	15	2	29	6	4	0	7	46	0
12:45PM	10	4	10	0	2	26	0	28	12	6	0	5	51	0
Hourly Total	42	17	29	0	9	97	2	96	52	29	0	16	193	0
Total	94	33	72	0	17	216	5	187	92	47	0	26	352	0
% Approach	43.5%	15.3%	33.3%	0%	7.9%	-	-	53.1%	26.1%	13.4%	0%	7.4%	-	-
% Total	3.7%	1.3%	2.8%	0%	0.7%	8.4%	-	7.3%	3.6%	1.8%	0%	1.0%	13.7%	-
Lights	93	33	72	0	17	215	-	185	90	47	0	26	348	-
% Lights	98.9%	100%	100%	0%	100%	99.5%	-	98.9%	97.8%	100%	0%	100%	98.9%	-
Articulated Trucks and Single-Unit Trucks	1	0	0	0	0	1	-	2	2	0	0	0	4	-
% Articulated Trucks and Single-Unit Trucks	1.1%	0%	0%	0%	0%	0.5%	-	1.1%	2.2%	0%	0%	0%	1.1%	-
Buses	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Buses	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	40.0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	3	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	60.0%	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Sat - TMC

Sat May 5, 2018

Full Length (11AM-1PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520230, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Northbound								Princeton-Hightstown Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-05 11:00AM	24	118	2	0	1	145	1	8	94	7	0	2	111	3	323		
11:15AM	19	111	5	0	1	136	1	12	98	7	0	3	120	0	309		
11:30AM	26	102	3	0	0	131	3	10	84	7	0	2	103	0	327		
11:45AM	16	129	1	0	0	146	0	2	95	7	0	2	106	0	317		
Hourly Total	85	460	11	0	2	558	5	32	371	28	0	9	440	3	1276		
12:00PM	16	148	3	0	0	167	1	12	84	5	0	2	103	1	347		
12:15PM	16	128	4	0	0	148	2	14	72	8	0	2	96	0	319		
12:30PM	17	121	1	0	1	140	0	13	85	9	0	0	107	0	308		
12:45PM	12	121	3	0	0	136	1	9	82	8	0	0	99	4	312		
Hourly Total	61	518	11	0	1	591	4	48	323	30	0	4	405	5	1286		
Total	146	978	22	0	3	1149	9	80	694	58	0	13	845	8	2562		
% Approach	12.7%	85.1%	1.9%	0%	0.3%	-	-	9.5%	82.1%	6.9%	0%	1.5%	-	-	-		
% Total	5.7%	38.2%	0.9%	0%	0.1%	44.8%	-	3.1%	27.1%	2.3%	0%	0.5%	33.0%	-	-		
Lights	146	969	22	0	3	1140	-	80	683	58	0	13	834	-	2537		
% Lights	100%	99.1%	100%	0%	100%	99.2%	-	100%	98.4%	100%	0%	100%	98.7%	-	99.0%		
Articulate d Trucks and Single-Unit Trucks	0	7	0	0	0	7	-	0	8	0	0	0	8	-	20		
% Articulate d Trucks and Single-Unit Trucks	0%	0.7%	0%	0%	0%	0.6%	-	0%	1.2%	0%	0%	0%	0.9%	-	0.8%		
Buses	0	2	0	0	0	2	-	0	3	0	0	0	3	-	5		
% Buses	0%	0.2%	0%	0%	0%	0.2%	-	0%	0.4%	0%	0%	0%	0.4%	-	0.2%		
Pedestrians	-	-	-	-	-	-	5	-	-	-	-	-	-	8	-		
% Pedestrians	-	-	-	-	-	-	55.6%	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	4	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	44.4%	-	-	-	-	-	-	0%	-		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Sat - TMC

Sat May 5, 2018

Forced Peak (11:15AM - 12:15PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520230, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Wallace Rd Eastbound							Cranbury Rd Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-05 11:15AM	12	2	8	0	1	23	0	17	9	0	0	4	30	0
11:30AM	17	8	18	0	2	45	3	25	10	8	0	5	48	0
11:45AM	15	1	9	0	1	26	0	20	16	3	0	0	39	0
12:00PM	13	6	8	0	3	30	0	20	17	9	0	1	47	0
Total	57	17	43	0	7	124	3	82	52	20	0	10	164	0
% Approach	46.0%	13.7%	34.7%	0%	5.6%	-	-	50.0%	31.7%	12.2%	0%	6.1%	-	-
% Total	4.4%	1.3%	3.3%	0%	0.5%	9.5%	-	6.3%	4.0%	1.5%	0%	0.8%	12.6%	-
PHF	0.838	0.531	0.597	-	0.583	0.689	-	0.820	0.765	0.556	-	0.500	0.854	-
Lights	57	17	43	0	7	124	-	81	52	20	0	10	163	-
% Lights	100%	100%	100%	0%	100%	100%	-	98.8%	100%	100%	0%	100%	99.4%	-
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	0	-	1	0	0	0	0	1	-
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	1.2%	0%	0%	0%	0%	0.6%	-
Buses	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Buses	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	3	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Princeton-Hightstown Rd/Cranbury Rd Sat - TMC

Sat May 5, 2018

Forced Peak (11:15AM - 12:15PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520230, Location: 40.317428, -74.620066



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Princeton-Hightstown Rd Northbound								Princeton-Hightstown Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-05 11:15AM	19	111	5	0	1	136	1	12	98	7	0	3	120	0	309		
11:30AM	26	102	3	0	0	131	3	10	84	7	0	2	103	0	327		
11:45AM	16	129	1	0	0	146	0	2	95	7	0	2	106	0	317		
12:00PM	16	148	3	0	0	167	1	12	84	5	0	2	103	1	347		
Total	77	490	12	0	1	580	5	36	361	26	0	9	432	1	1300		
% Approach	13.3%	84.5%	2.1%	0%	0.2%	-	-	8.3%	83.6%	6.0%	0%	2.1%	-	-	-		
% Total	5.9%	37.7%	0.9%	0%	0.1%	44.6%	-	2.8%	27.8%	2.0%	0%	0.7%	33.2%	-	-		
PHF	0.740	0.828	0.600	-	0.250	0.868	-	0.750	0.921	0.929	-	0.750	0.900	-	0.937		
Lights	77	486	12	0	1	576	-	36	356	26	0	9	427	-	1290		
% Lights	100%	99.2%	100%	0%	100%	99.3%	-	100%	98.6%	100%	0%	100%	98.8%	-	99.2%		
Articulate d Trucks and Single-Unit Trucks	0	2	0	0	0	2	-	0	4	0	0	0	4	-	7		
% Articulate d Trucks and Single-Unit Trucks	0%	0.4%	0%	0%	0%	0.3%	-	0%	1.1%	0%	0%	0%	0.9%	-	0.5%		
Buses	0	2	0	0	0	2	-	0	1	0	0	0	1	-	3		
% Buses	0%	0.4%	0%	0%	0%	0.3%	-	0%	0.3%	0%	0%	0%	0.2%	-	0.2%		
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-		
% Pedestrians	-	-	-	-	-	-	40.0%	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	3	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	60.0%	-	-	-	-	-	-	0%	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

Full Length (7AM-9AM, 5PM-7PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Bear Brook Rd Eastbound							Vaughn Dr Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-03 7:00AM	20	41	41	0	6	108	0	2	17	11	0	8	38	0
7:15AM	18	40	40	0	5	103	0	6	11	14	0	6	37	0
7:30AM	32	47	25	0	4	108	1	1	16	8	0	7	32	3
7:45AM	57	34	20	0	1	112	0	0	8	5	0	16	29	0
Hourly Total	127	162	126	0	16	431	1	9	52	38	0	37	136	3
8:00AM	29	25	27	0	4	85	0	2	9	17	0	11	39	0
8:15AM	35	35	52	0	2	124	1	3	7	23	0	10	43	0
8:30AM	31	21	41	0	3	96	0	2	8	25	0	15	50	1
8:45AM	38	20	21	0	7	86	0	2	9	12	0	9	32	1
Hourly Total	133	101	141	0	16	391	1	9	33	77	0	45	164	2
9:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00PM	8	2	37	0	11	58	0	36	28	23	0	25	112	2
5:15PM	13	12	37	0	0	62	1	8	14	13	0	12	47	0
5:30PM	19	13	46	0	3	81	0	29	20	25	0	22	96	2
5:45PM	21	9	43	0	0	73	0	8	12	5	0	12	37	1
Hourly Total	61	36	163	0	14	274	1	81	74	66	0	71	292	5
6:00PM	25	7	40	0	5	77	1	57	39	72	0	11	179	0
6:15PM	15	10	37	0	4	66	0	29	16	30	0	9	84	0
6:30PM	7	8	27	0	5	47	0	41	31	46	0	8	126	0
6:45PM	7	12	42	0	2	63	0	71	49	90	0	18	228	0
Hourly Total	54	37	146	0	16	253	1	198	135	238	0	46	617	0
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	375	336	576	0	62	1349	4	297	294	419	0	199	1209	10
% Approach	27.8%	24.9%	42.7%	0%	4.6%	-	-	24.6%	24.3%	34.7%	0%	16.5%	-	-
% Total	4.2%	3.8%	6.5%	0%	0.7%	15.3%	-	3.4%	3.3%	4.7%	0%	2.3%	13.7%	-
Lights	370	322	549	0	60	1301	-	294	281	396	0	193	1164	-
% Lights	98.7%	95.8%	95.3%	0%	96.8%	96.4%	-	99.0%	95.6%	94.5%	0%	97.0%	96.3%	-
Articulated Trucks and Single-Unit Trucks	2	0	3	0	0	5	-	2	1	1	0	1	5	-
% Articulated Trucks and Single-Unit Trucks	0.5%	0%	0.5%	0%	0%	0.4%	-	0.7%	0.3%	0.2%	0%	0.5%	0.4%	-
Buses	3	14	24	0	2	43	-	1	12	22	0	5	40	-
% Buses	0.8%	4.2%	4.2%	0%	3.2%	3.2%	-	0.3%	4.1%	5.3%	0%	2.5%	3.3%	-
Pedestrians	-	-	-	-	-	-	4	-	-	-	-	-	-	9
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	90.0%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	10.0%

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

Full Length (7AM-9AM, 5PM-7PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Alexander Rd Northbound							Alexander Rd Southbound							Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	
2018-05-03 7:00AM	10	120	43	0	1	174	6	79	52	5	0	2	138	0	458
7:15AM	17	171	37	0	0	225	0	97	75	4	0	1	177	2	542
7:30AM	17	220	28	0	1	266	2	73	56	4	0	0	133	4	539
7:45AM	23	234	12	0	0	269	2	41	54	5	0	0	100	0	510
Hourly Total	67	745	120	0	2	934	10	290	237	18	0	3	548	6	2049
8:00AM	23	269	21	0	0	313	0	43	79	3	0	3	128	0	565
8:15AM	20	271	13	0	1	305	2	62	61	7	0	4	134	2	606
8:30AM	19	290	13	0	0	322	2	47	76	3	0	1	127	2	595
8:45AM	35	256	10	0	0	301	0	33	64	3	0	2	102	0	521
Hourly Total	97	1086	57	0	1	1241	4	185	280	16	0	10	491	4	2287
9:00AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
Hourly Total	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
5:00PM	53	64	9	0	0	126	0	30	199	24	0	0	253	3	549
5:15PM	34	53	5	0	0	92	1	43	251	30	0	1	325	2	526
5:30PM	62	85	6	0	0	153	0	33	175	20	0	0	228	1	558
5:45PM	36	78	2	0	0	116	0	32	223	29	0	1	285	2	511
Hourly Total	185	280	22	0	0	487	1	138	848	103	0	2	1091	8	2144
6:00PM	71	95	13	0	0	179	0	31	164	23	0	3	221	3	656
6:15PM	43	113	10	0	0	166	0	27	147	37	0	2	213	1	529
6:30PM	60	127	5	0	0	192	2	37	131	18	0	1	187	2	552
6:45PM	54	114	13	0	0	181	2	17	108	19	0	3	147	4	619
Hourly Total	228	449	41	0	0	718	4	112	550	97	0	9	768	10	2356
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	577	2560	240	0	3	3380	19	725	1916	234	0	24	2899	28	8837
% Approach	17.1%	75.7%	7.1%	0%	0.1%	-	-	25.0%	66.1%	8.1%	0%	0.8%	-	-	-
% Total	6.5%	29.0%	2.7%	0%	0%	38.2%	-	8.2%	21.7%	2.6%	0%	0.3%	32.8%	-	-
Lights	563	2537	239	0	3	3342	-	695	1886	227	0	23	2831	-	8638
% Lights	97.6%	99.1%	99.6%	0%	100%	98.9%	-	95.9%	98.4%	97.0%	0%	95.8%	97.7%	-	97.7%
Articulated Trucks and Single-Unit Trucks	1	16	0	0	0	17	-	8	15	6	0	1	30	-	57
% Articulated Trucks and Single-Unit Trucks	0.2%	0.6%	0%	0%	0%	0.5%	-	1.1%	0.8%	2.6%	0%	4.2%	1.0%	-	0.6%
Buses	13	7	1	0	0	21	-	22	15	1	0	0	38	-	142
% Buses	2.3%	0.3%	0.4%	0%	0%	0.6%	-	3.0%	0.8%	0.4%	0%	0%	1.3%	-	1.6%
Pedestrians	-	-	-	-	-	-	17	-	-	-	-	-	-	27	-
% Pedestrians	-	-	-	-	-	-	89.5%	-	-	-	-	-	-	96.4%	-
Bicycles on Crosswalk	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	-	-	10.5%	-	-	-	-	-	-	3.6%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

AM Peak (8AM - 9AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Bear Brook Rd Eastbound								Vaughn Dr Westbound							
	L	T	R	U	RR	App	Ped*		L	T	R	U	RR	App	Ped*	
2018-05-03 8:00AM	29	25	27	0	4	85	0		2	9	17	0	11	39	0	
8:15AM	35	35	52	0	2	124	1		3	7	23	0	10	43	0	
8:30AM	31	21	41	0	3	96	0		2	8	25	0	15	50	1	
8:45AM	38	20	21	0	7	86	0		2	9	12	0	9	32	1	
Total	133	101	141	0	16	391	1		9	33	77	0	45	164	2	
% Approach	34.0%	25.8%	36.1%	0%	4.1%	-	-		5.5%	20.1%	47.0%	0%	27.4%	-	-	
% Total	5.8%	4.4%	6.2%	0%	0.7%	17.1%	-		0.4%	1.4%	3.4%	0%	2.0%	7.2%	-	
PHF	0.875	0.721	0.678	-	0.571	0.788	-		0.750	0.917	0.770	-	0.750	0.820	-	
Lights	131	97	126	0	15	369	-		8	30	70	0	45	153	-	
% Lights	98.5%	96.0%	89.4%	0%	93.8%	94.4%	-		88.9%	90.9%	90.9%	0%	100%	93.3%	-	
Articulated Trucks and Single-Unit Trucks	1	0	2	0	0	3	-		0	0	0	0	0	0	-	
% Articulated Trucks and Single-Unit Trucks	0.8%	0%	1.4%	0%	0%	0.8%	-		0%	0%	0%	0%	0%	0%	-	
Buses	1	4	13	0	1	19	-		1	3	7	0	0	11	-	
% Buses	0.8%	4.0%	9.2%	0%	6.3%	4.9%	-		11.1%	9.1%	9.1%	0%	0%	6.7%	-	
Pedestrians	-	-	-	-	-	-	1		-	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	100%		-	-	-	-	-	-	50.0%	
Bicycles on Crosswalk	-	-	-	-	-	-	0		-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%		-	-	-	-	-	-	50.0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

AM Peak (8AM - 9AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Alexander Rd Northbound								Alexander Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-03 8:00AM	23	269	21	0	0	313	0	43	79	3	0	3	128	0	565		
8:15AM	20	271	13	0	1	305	2	62	61	7	0	4	134	2	606		
8:30AM	19	290	13	0	0	322	2	47	76	3	0	1	127	2	595		
8:45AM	35	256	10	0	0	301	0	33	64	3	0	2	102	0	521		
Total	97	1086	57	0	1	1241	4	185	280	16	0	10	491	4	2287		
% Approach	7.8%	87.5%	4.6%	0%	0.1%	-	-	37.7%	57.0%	3.3%	0%	2.0%	-	-	-		
% Total	4.2%	47.5%	2.5%	0%	0%	54.3%	-	8.1%	12.2%	0.7%	0%	0.4%	21.5%	-	-		
PHF	0.693	0.936	0.679	-	0.250	0.964	-	0.746	0.886	0.571	-	0.625	0.916	-	0.943		
Lights	87	1073	57	0	1	1218	-	178	273	13	0	9	473	-	2213		
% Lights	89.7%	98.8%	100%	0%	100%	98.1%	-	96.2%	97.5%	81.3%	0%	90.0%	96.3%	-	96.8%		
Articulated Trucks and Single-Unit Trucks	0	11	0	0	0	11	-	0	4	3	0	1	8	-	22		
% Articulated Trucks and Single-Unit Trucks	0%	1.0%	0%	0%	0%	0.9%	-	0%	1.4%	18.8%	0%	10.0%	1.6%	-	1.0%		
Buses	10	2	0	0	0	12	-	7	3	0	0	0	10	-	52		
% Buses	10.3%	0.2%	0%	0%	0%	1.0%	-	3.8%	1.1%	0%	0%	0%	2.0%	-	2.3%		
Pedestrians	-	-	-	-	-	-	3	-	-	-	-	-	-	4	-		
% Pedestrians	-	-	-	-	-	-	75.0%	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	25.0%	-	-	-	-	-	-	0%	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

PM Peak (6PM - 7PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Bear Brook Rd Eastbound							Vaughn Dr Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-03 6:00PM	25	7	40	0	5	77	1	57	39	72	0	11	179	0
6:15PM	15	10	37	0	4	66	0	29	16	30	0	9	84	0
6:30PM	7	8	27	0	5	47	0	41	31	46	0	8	126	0
6:45PM	7	12	42	0	2	63	0	71	49	90	0	18	228	0
Total	54	37	146	0	16	253	1	198	135	238	0	46	617	0
% Approach	21.3%	14.6%	57.7%	0%	6.3%	-	-	32.1%	21.9%	38.6%	0%	7.5%	-	-
% Total	2.3%	1.6%	6.2%	0%	0.7%	10.7%	-	8.4%	5.7%	10.1%	0%	2.0%	26.2%	-
PHF	0.540	0.771	0.869	-	0.800	0.821	-	0.697	0.689	0.661	-	0.639	0.677	-
Lights	54	34	146	0	16	250	-	198	132	235	0	45	610	-
% Lights	100%	91.9%	100%	0%	100%	98.8%	-	100%	97.8%	98.7%	0%	97.8%	98.9%	-
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	0	-	0	0	1	0	1	2	-
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	0%	0%	0.4%	0%	2.2%	0.3%	-
Buses	0	3	0	0	0	3	-	0	3	2	0	0	5	-
% Buses	0%	8.1%	0%	0%	0%	1.2%	-	0%	2.2%	0.8%	0%	0%	0.8%	-
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Thurs - TMC

Thu May 3, 2018

PM Peak (6PM - 7PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520234, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.
184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Alexander Rd Northbound							Alexander Rd Southbound							Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	
2018-05-03 6:00PM	71	95	13	0	0	179	0	31	164	23	0	3	221	3	656
6:15PM	43	113	10	0	0	166	0	27	147	37	0	2	213	1	529
6:30PM	60	127	5	0	0	192	2	37	131	18	0	1	187	2	552
6:45PM	54	114	13	0	0	181	2	17	108	19	0	3	147	4	619
Total	228	449	41	0	0	718	4	112	550	97	0	9	768	10	2356
% Approach	31.8%	62.5%	5.7%	0%	0%	-	-	14.6%	71.6%	12.6%	0%	1.2%	-	-	-
% Total	9.7%	19.1%	1.7%	0%	0%	30.5%	-	4.8%	23.3%	4.1%	0%	0.4%	32.6%	-	-
PHF	0.803	0.884	0.788	-	-	0.935	-	0.757	0.838	0.655	-	0.750	0.869	-	0.898
Lights	228	447	41	0	0	716	-	105	547	97	0	9	758	-	2334
% Lights	100%	99.6%	100%	0%	0%	99.7%	-	93.8%	99.5%	100%	0%	100%	98.7%	-	99.1%
Articulated Trucks and Single-Unit Trucks	0	1	0	0	0	1	-	3	1	0	0	0	4	-	7
% Articulated Trucks and Single-Unit Trucks	0%	0.2%	0%	0%	0%	0.1%	-	2.7%	0.2%	0%	0%	0%	0.5%	-	0.3%
Buses	0	1	0	0	0	1	-	4	2	0	0	0	6	-	15
% Buses	0%	0.2%	0%	0%	0%	0.1%	-	3.6%	0.4%	0%	0%	0%	0.8%	-	0.6%
Pedestrians	-	-	-	-	-	-	3	-	-	-	-	-	-	10	-
% Pedestrians	-	-	-	-	-	-	75.0%	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	25.0%	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Sat - TMC

Sat May 5, 2018

Full Length (11AM-1PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520235, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Bear Brook Rd Eastbound							Vaughn Dr Westbound						
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*
2018-05-05 11:00AM	17	8	14	0	12	51	0	25	13	16	0	10	64	0
11:15AM	17	14	13	0	17	61	1	26	12	17	0	10	65	0
11:30AM	20	9	15	0	14	58	1	22	10	19	0	24	75	1
11:45AM	17	15	29	0	11	72	1	23	12	7	0	16	58	4
Hourly Total	71	46	71	0	54	242	3	96	47	59	0	60	262	5
12:00PM	17	12	20	0	15	64	0	21	7	9	0	7	44	0
12:15PM	10	8	11	0	24	53	0	20	11	5	0	6	42	0
12:30PM	16	8	16	0	11	51	0	17	11	18	0	12	58	0
12:45PM	29	3	8	0	18	58	0	12	2	21	0	10	45	0
Hourly Total	72	31	55	0	68	226	0	70	31	53	0	35	189	0
Total	143	77	126	0	122	468	3	166	78	112	0	95	451	5
% Approach	30.6%	16.5%	26.9%	0%	26.1%	-	-	36.8%	17.3%	24.8%	0%	21.1%	-	-
% Total	4.9%	2.6%	4.3%	0%	4.2%	16.0%	-	5.7%	2.7%	3.8%	0%	3.2%	15.4%	-
Lights	142	77	126	0	122	467	-	165	78	106	0	95	444	-
% Lights	99.3%	100%	100%	0%	100%	99.8%	-	99.4%	100%	94.6%	0%	100%	98.4%	-
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	0	-	1	0	0	0	0	1	-
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	0.6%	0%	0%	0%	0%	0.2%	-
Buses	1	0	0	0	0	1	-	0	0	6	0	0	6	-
% Buses	0.7%	0%	0%	0%	0%	0.2%	-	0%	0%	5.4%	0%	0%	1.3%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%
Bicycles on Crosswalk	-	-	-	-	-	-	3	-	-	-	-	-	-	5
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Sat - TMC

Sat May 5, 2018

Full Length (11AM-1PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520235, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Alexander Rd Northbound								Alexander Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-05 11:00AM	33	82	24	0	0	139	1	38	57	15	0	2	112	2	366		
11:15AM	31	71	28	0	1	131	0	42	85	13	0	1	141	2	398		
11:30AM	29	83	18	0	0	130	0	23	67	8	0	2	100	0	363		
11:45AM	32	93	12	0	0	137	3	27	72	15	0	4	118	4	385		
Hourly Total	125	329	82	0	1	537	4	130	281	51	0	9	471	8	1512		
12:00PM	46	84	22	0	0	152	5	35	77	7	0	4	123	0	383		
12:15PM	41	106	15	0	0	162	1	26	80	16	0	1	123	0	380		
12:30PM	31	72	6	0	1	110	0	20	77	15	0	5	117	2	336		
12:45PM	30	86	9	0	0	125	0	16	54	13	0	2	85	0	313		
Hourly Total	148	348	52	0	1	549	6	97	288	51	0	12	448	2	1412		
Total	273	677	134	0	2	1086	10	227	569	102	0	21	919	10	2924		
% Approach	25.1%	62.3%	12.3%	0%	0.2%	-	-	24.7%	61.9%	11.1%	0%	2.3%	-	-	-		
% Total	9.3%	23.2%	4.6%	0%	0.1%	37.1%	-	7.8%	19.5%	3.5%	0%	0.7%	31.4%	-	-		
Lights	272	671	134	0	2	1079	-	220	562	102	0	21	905	-	2895		
% Lights	99.6%	99.1%	100%	0%	100%	99.4%	-	96.9%	98.8%	100%	0%	100%	98.5%	-	99.0%		
Articulated Trucks and Single-Unit Trucks	0	4	0	0	0	4	-	1	5	0	0	0	6	-	11		
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	0%	0.4%	-	0.4%	0.9%	0%	0%	0%	0.7%	-	0.4%		
Buses	1	2	0	0	0	3	-	6	2	0	0	0	8	-	18		
% Buses	0.4%	0.3%	0%	0%	0%	0.3%	-	2.6%	0.4%	0%	0%	0%	0.9%	-	0.6%		
Pedestrians	-	-	-	-	-	-	10	-	-	-	-	-	-	-	6		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	60.0%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	4		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	40.0%		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Sat - TMC

Sat May 5, 2018

Midday Peak (WKND) (11:15AM - 12:15PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520235, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Bear Brook Rd Eastbound								Vaughn Dr Westbound							
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*		
2018-05-05 11:15AM	17	14	13	0	17	61	1	26	12	17	0	10	65	0		
11:30AM	20	9	15	0	14	58	1	22	10	19	0	24	75	1		
11:45AM	17	15	29	0	11	72	1	23	12	7	0	16	58	4		
12:00PM	17	12	20	0	15	64	0	21	7	9	0	7	44	0		
Total	71	50	77	0	57	255	3	92	41	52	0	57	242	5		
% Approach	27.8%	19.6%	30.2%	0%	22.4%	-	-	38.0%	16.9%	21.5%	0%	23.6%	-	-		
% Total	4.6%	3.3%	5.0%	0%	3.7%	16.7%	-	6.0%	2.7%	3.4%	0%	3.7%	15.8%	-		
PHF	0.888	0.833	0.664	-	0.838	0.885	-	0.885	0.854	0.684	-	0.594	0.807	-		
Lights	71	50	77	0	57	255	-	92	41	50	0	57	240	-		
% Lights	100%	100%	100%	0%	100%	100%	-	100%	100%	96.2%	0%	100%	99.2%	-		
Articulate d Trucks and Single-Unit Trucks	0	0	0	0	0	0	-	0	0	0	0	0	0	-		
% Articulate d Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		
Buses	0	0	0	0	0	0	-	0	0	2	0	0	2	-		
% Buses	0%	0%	0%	0%	0%	0%	-	0%	0%	3.8%	0%	0%	0.8%	-		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%		
Bicycles on Crosswalk	-	-	-	-	-	-	3	-	-	-	-	-	-	5		
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Alexander Rd/Vaughn Dr Sat - TMC

Sat May 5, 2018

Midday Peak (WKND) (11:15AM - 12:15PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 520235, Location: 40.315824, -74.632524



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Alexander Rd Northbound								Alexander Rd Southbound								Int
	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*			
2018-05-05 11:15AM	31	71	28	0	1	131	0	42	85	13	0	1	141	2	398		
11:30AM	29	83	18	0	0	130	0	23	67	8	0	2	100	0	363		
11:45AM	32	93	12	0	0	137	3	27	72	15	0	4	118	4	385		
12:00PM	46	84	22	0	0	152	5	35	77	7	0	4	123	0	383		
Total	138	331	80	0	1	550	8	127	301	43	0	11	482	6	1529		
% Approach	25.1%	60.2%	14.5%	0%	0.2%	-	-	26.3%	62.4%	8.9%	0%	2.3%	-	-	-		
% Total	9.0%	21.6%	5.2%	0%	0.1%	36.0%	-	8.3%	19.7%	2.8%	0%	0.7%	31.5%	-	-		
PHF	0.750	0.890	0.714	-	0.250	0.905	-	0.756	0.885	0.717	-	0.688	0.855	-	0.960		
Lights	138	328	80	0	1	547	-	125	296	43	0	11	475	-	1517		
% Lights	100%	99.1%	100%	0%	100%	99.5%	-	98.4%	98.3%	100%	0%	100%	98.5%	-	99.2%		
Articulated Trucks and Single-Unit Trucks	0	2	0	0	0	2	-	0	4	0	0	0	4	-	6		
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	0%	0.4%	-	0%	1.3%	0%	0%	0%	0.8%	-	0.4%		
Buses	0	1	0	0	0	1	-	2	1	0	0	0	3	-	6		
% Buses	0%	0.3%	0%	0%	0%	0.2%	-	1.6%	0.3%	0%	0%	0%	0.6%	-	0.4%		
Pedestrians	-	-	-	-	-	-	8	-	-	-	-	-	-	2	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	33.3%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	4	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	66.7%	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Washington Rd
Location: 700 ft W of Princeton-Hightstown Rd
Counter: 29979

Site Code: 1
Station ID:
A to B EB

Latitude: 40' 32205.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	38	24	48	43	43	34	79	51	81	55
01:00	*	*	*	*	*	*	18	17	25	30	22	24	36	18	47	35
02:00	*	*	*	*	*	*	16	8	15	12	16	10	23	20	23	23
03:00	*	*	*	*	*	*	16	12	16	15	16	14	12	11	11	13
04:00	*	*	*	*	*	*	25	17	35	23	30	20	10	13	8	3
05:00	*	*	*	*	*	*	98	91	81	84	90	88	26	47	21	22
06:00	*	*	*	*	*	*	250	250	232	241	241	246	104	116	61	63
07:00	*	*	*	*	*	*	444	557	424	524	434	540	250	252	197	123
08:00	*	*	*	*	*	*	343	686	325	659	334	672	313	322	253	231
09:00	*	*	*	*	*	*	259	511	303	468	281	490	419	404	268	320
10:00	*	*	*	*	*	*	323	388	318	384	320	386	406	412	281	350
11:00	*	*	*	*	*	*	297	375	324	376	310	376	457	463	380	421
12:00 PM	*	*	*	*	*	*	317	377	397	380	357	378	417	505	361	423
01:00	*	*	*	*	*	*	353	360	394	400	374	380	465	452	386	445
02:00	*	*	*	*	*	*	385	387	451	414	418	400	394	455	388	385
03:00	*	*	*	*	*	*	476	406	515	454	496	430	418	468	374	459
04:00	*	*	*	*	*	*	583	389	577	411	580	400	428	466	388	406
05:00	*	*	*	*	*	*	682	510	573	592	628	551	371	502	374	432
06:00	*	*	*	*	*	*	549	630	524	649	536	640	360	428	358	371
07:00	*	*	*	*	*	*	389	395	408	397	398	396	256	366	290	255
08:00	*	*	*	*	308	312	344	358	331	353	328	341	257	292	233	237
09:00	*	*	*	*	254	192	284	191	270	216	269	200	235	228	181	148
10:00	*	*	*	*	156	116	144	141	213	149	171	135	210	156	92	71
11:00	*	*	*	*	59	57	82	68	124	109	88	78	167	122	50	42
Total Day	0	0	0	0	777	677	6715	7148	6923	7383	6780	7229	6113	6569	5106	5333
AM Peak	-	-	-	-	-	-	07:00	08:00	07:00	08:00	07:00	08:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	444	686	424	659	434	672	457	463	380	421
PM Peak	-	-	-	-	20:00	20:00	17:00	18:00	16:00	18:00	17:00	18:00	13:00	12:00	14:00	15:00
Vol.	-	-	-	-	308	312	682	630	577	649	628	640	465	505	388	459

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Washington Rd
Location: 700 ft W of Princeton-Hightstown Rd
Counter: 29979

Site Code: 1
Station ID:
A to B EB

Latitude: 40' 32205.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	41	20	47	19	36	18	45	22	*	*	42	20	*	*	*	*
01:00	17	9	17	15	21	18	16	9	*	*	18	13	*	*	*	*
02:00	7	6	13	8	8	8	17	23	*	*	11	11	*	*	*	*
03:00	16	14	12	16	15	17	10	10	*	*	13	14	*	*	*	*
04:00	40	29	44	26	33	25	37	21	*	*	38	25	*	*	*	*
05:00	103	87	90	93	91	101	106	96	*	*	98	94	*	*	*	*
06:00	275	238	256	233	289	237	257	233	*	*	269	235	*	*	*	*
07:00	438	540	434	554	414	553	447	549	*	*	433	549	*	*	*	*
08:00	335	673	362	668	355	633	*	*	*	*	351	658	*	*	*	*
09:00	299	436	296	511	304	487	*	*	*	*	300	478	*	*	*	*
10:00	298	352	311	340	268	406	*	*	*	*	292	366	*	*	*	*
11:00	276	323	357	346	328	348	*	*	*	*	320	339	*	*	*	*
12:00 PM	372	328	378	375	371	357	*	*	*	*	374	353	*	*	*	*
01:00	326	370	315	356	365	348	*	*	*	*	335	358	*	*	*	*
02:00	342	354	376	377	414	383	*	*	*	*	377	371	*	*	*	*
03:00	466	386	478	399	452	439	*	*	*	*	465	408	*	*	*	*
04:00	571	367	579	398	574	397	*	*	*	*	575	387	*	*	*	*
05:00	632	512	669	491	637	542	*	*	*	*	646	515	*	*	*	*
06:00	534	598	498	626	583	617	*	*	*	*	538	614	*	*	*	*
07:00	363	360	365	379	400	454	*	*	*	*	376	398	*	*	*	*
08:00	285	292	329	283	318	309	*	*	*	*	311	295	*	*	*	*
09:00	244	180	249	274	241	175	*	*	*	*	245	210	*	*	*	*
10:00	108	104	116	103	176	122	*	*	*	*	133	110	*	*	*	*
11:00	54	53	72	45	90	67	*	*	*	*	72	55	*	*	*	*
Total	6442	6631	6663	6935	6783	7061	935	963	0	0	6632	6876	0	0	0	0
Day	13073		13598		13844		1898		0		13508		0		0	
AM Peak	07:00	08:00	07:00	08:00	07:00	08:00	07:00	07:00	-	-	07:00	08:00	-	-	-	-
Vol.	438	673	434	668	414	633	447	549	-	-	433	658	-	-	-	-
PM Peak	17:00	18:00	17:00	18:00	17:00	18:00	-	-	-	-	17:00	18:00	-	-	-	-
Vol.	632	598	669	626	637	617	-	-	-	-	646	614	-	-	-	-

Comb. Total	13073	13598	15298	15761	14306	27517	12682	10439
ADT	ADT 13,150	AADT 13,150						

Tri-State Traffic Data

Road: Washington Rd
 Location: 175 ft W of Station Dr
 Counter: 22631

184 Baker Rd.
Coatesville, PA
tstdata.com

Site Code: 2
 Station ID:
 A to B EB

Latitude: 40' 31906.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	4	10	8	18	6	14	5	12	1	19
01:00	*	*	*	*	*	*	1	8	7	21	4	14	3	7	5	13
02:00	*	*	*	*	*	*	0	4	0	3	0	4	2	7	4	7
03:00	*	*	*	*	*	*	5	6	7	4	6	5	1	0	0	0
04:00	*	*	*	*	*	*	21	0	18	1	20	0	1	0	2	0
05:00	*	*	*	*	*	*	79	4	62	5	70	4	4	3	4	2
06:00	*	*	*	*	*	*	268	21	196	16	232	18	12	8	4	2
07:00	*	*	*	*	*	*	406	42	316	35	361	38	17	6	11	2
08:00	*	*	*	*	*	*	227	30	195	33	211	32	31	12	20	11
09:00	*	*	*	*	*	*	84	46	60	23	72	34	52	26	20	12
10:00	*	*	*	*	*	*	50	46	39	29	44	38	55	51	27	20
11:00	*	*	*	*	*	*	43	42	25	26	34	34	57	52	33	29
12:00 PM	*	*	*	*	*	*	57	47	52	51	54	49	50	50	35	25
01:00	*	*	*	*	*	*	36	55	52	41	44	48	46	38	35	38
02:00	*	*	*	*	*	*	25	75	33	56	29	66	34	35	32	35
03:00	*	*	*	*	*	*	42	82	46	91	44	86	31	34	29	35
04:00	*	*	*	*	*	*	42	58	50	70	46	64	37	29	25	34
05:00	*	*	*	*	*	*	51	245	60	301	56	273	30	40	46	37
06:00	*	*	*	*	*	*	82	596	68	397	75	496	42	49	44	60
07:00	*	*	*	*	63	353	44	124	52	144	53	207	27	46	35	47
08:00	*	*	*	*	28	145	42	276	33	115	34	179	20	29	20	44
09:00	*	*	*	*	17	64	19	70	23	50	20	61	12	37	17	34
10:00	*	*	*	*	14	39	17	53	11	38	14	43	14	29	4	21
11:00	*	*	*	*	5	24	12	26	9	29	9	26	4	24	6	12
Total Day	0	0	0	0	127	625	1657	1966	1422	1597	1538	1833	587	624	459	539
AM Peak	-	-	-	-	-	-	07:00	09:00	07:00	07:00	07:00	07:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	406	46	316	35	361	38	57	52	33	29
PM Peak	-	-	-	-	19:00	19:00	18:00	18:00	18:00	18:00	18:00	18:00	12:00	12:00	17:00	18:00
Vol.	-	-	-	-	63	353	82	596	68	397	75	496	50	50	46	60

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Washington Rd
Location: 175 ft W of Station Dr
Counter: 22631

Site Code: 2
Station ID:
A to B EB

Latitude: 40' 31906.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	4	8	3	3	6	10	3	11	*	*	4	8	*	*	*	*
01:00	7	5	1	8	5	8	3	2	*	*	4	6	*	*	*	*
02:00	0	0	1	2	2	5	5	13	*	*	2	5	*	*	*	*
03:00	7	4	7	3	8	4	3	0	*	*	6	3	*	*	*	*
04:00	27	5	23	4	23	3	26	3	*	*	25	4	*	*	*	*
05:00	83	8	90	8	79	8	83	8	*	*	84	8	*	*	*	*
06:00	280	22	288	14	275	14	261	9	*	*	276	15	*	*	*	*
07:00	393	30	403	29	377	37	415	29	*	*	397	31	*	*	*	*
08:00	256	26	244	46	243	43	*	*	*	*	248	38	*	*	*	*
09:00	75	30	65	35	69	27	*	*	*	*	70	31	*	*	*	*
10:00	35	14	33	25	33	28	*	*	*	*	34	22	*	*	*	*
11:00	35	25	56	53	38	28	*	*	*	*	43	35	*	*	*	*
12:00 PM	44	45	65	63	51	54	*	*	*	*	53	54	*	*	*	*
01:00	50	49	36	53	31	28	*	*	*	*	39	43	*	*	*	*
02:00	30	38	27	40	34	45	*	*	*	*	30	41	*	*	*	*
03:00	26	65	35	59	29	67	*	*	*	*	30	64	*	*	*	*
04:00	41	68	34	83	44	78	*	*	*	*	40	76	*	*	*	*
05:00	45	330	48	336	48	332	*	*	*	*	47	333	*	*	*	*
06:00	54	543	55	528	58	531	*	*	*	*	56	534	*	*	*	*
07:00	38	196	57	183	53	199	*	*	*	*	49	193	*	*	*	*
08:00	39	150	52	92	26	122	*	*	*	*	39	121	*	*	*	*
09:00	17	64	24	207	16	70	*	*	*	*	19	114	*	*	*	*
10:00	18	40	15	43	21	48	*	*	*	*	18	44	*	*	*	*
11:00	6	21	16	20	14	25	*	*	*	*	12	22	*	*	*	*
Total	1610	1786	1678	1937	1583	1814	799	75	0	0	1625	1845	0	0	0	0
Day	3396		3615		3397		874		0		3470		0		0	
AM Peak	07:00	07:00	07:00	11:00	07:00	08:00	07:00	07:00	-	-	07:00	08:00	-	-	-	-
Vol.	393	30	403	53	377	43	415	29	-	-	397	38	-	-	-	-
PM Peak	18:00	18:00	12:00	18:00	18:00	18:00	-	-	-	-	18:00	18:00	-	-	-	-
Vol.	54	543	65	528	58	531	-	-	-	-	56	534	-	-	-	-

Comb. Total	3396	3615	4149	4497	3019	6841	1211	998
ADT	ADT 2,813	AADT 2,813						

Tri-State Traffic Data

Road: Princeton-Hightstown Rd
 Location: 650 ft N of Cranbury Rd
 Counter: 22704 & 22401

184 Baker Rd.
Coatesville, PA
tstdata.com

Site Code: 3
 Station ID:

Latitude: 40' 31957.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	21	41	34	49	28	45	36	69	44	85
01:00	*	*	*	*	*	*	9	20	16	26	12	23	20	42	27	47
02:00	*	*	*	*	*	*	7	21	10	16	8	18	18	23	21	25
03:00	*	*	*	*	*	*	9	13	19	16	14	14	9	12	13	11
04:00	*	*	*	*	*	*	29	18	29	26	29	22	15	9	3	6
05:00	*	*	*	*	*	*	132	54	113	48	122	51	47	26	21	19
06:00	*	*	*	*	*	*	399	161	347	154	373	158	115	100	60	63
07:00	*	*	*	*	*	*	802	273	718	304	760	288	250	238	124	192
08:00	*	*	*	*	*	*	877	282	792	262	834	272	317	298	226	239
09:00	*	*	*	*	*	*	557	250	506	256	532	253	395	368	317	247
10:00	*	*	*	*	*	*	385	318	385	290	385	304	396	386	339	275
11:00	*	*	*	*	*	*	388	314	362	318	375	316	458	464	404	362
12:00 PM	*	*	*	*	*	*	321	327	386	416	354	372	503	400	417	350
01:00	*	*	*	*	*	*	22	371	382	392	202	382	416	438	432	383
02:00	*	*	*	*	*	*	7	415	305	457	156	436	444	382	365	360
03:00	*	*	*	*	*	*	85	501	289	535	187	518	444	393	452	366
04:00	*	*	*	*	*	*	165	614	340	607	252	610	457	405	375	382
05:00	*	*	*	*	*	*	386	825	487	740	436	782	480	353	415	362
06:00	*	*	*	*	*	*	442	778	389	883	450	792	404	356	335	332
07:00	*	*	*	*	*	*	328	554	335	436	332	478	341	255	235	278
08:00	*	*	*	*	*	*	251	367	237	463	263	393	272	255	216	241
09:00	*	*	*	*	*	*	149	276	152	303	162	283	207	236	133	176
10:00	*	*	*	*	*	*	97	161	110	151	111	176	135	205	52	94
11:00	*	*	*	*	*	*	47	61	52	82	65	92	100	165	34	49
Total	0	0	0	0	1314	2197	5876	7136	7079	7042	6442	7078	6279	5878	5060	4944
Day	0	0	0	0	3511	-	13012	-	14121	-	13520	-	12157	-	10004	-
AM Peak	-	-	-	-	-	-	08:00	10:00	08:00	11:00	08:00	11:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	877	318	792	318	834	316	458	464	404	362
PM Peak	-	-	-	-	18:00	18:00	18:00	18:00	18:00	17:00	18:00	18:00	12:00	13:00	15:00	13:00
Vol.	-	-	-	-	442	778	389	883	518	740	450	792	503	438	452	383

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Princeton-Hightstown Rd
Location: 650 ft N of Cranbury Rd
Counter: 22704 & 22401

Site Code: 3
Station ID:

Latitude: 40' 31957.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	18	42	18	43	14	37	18	49	*	*	17	43	*	*	*	*
01:00	10	16	8	17	18	23	10	18	*	*	12	18	*	*	*	*
02:00	5	7	6	12	8	10	16	14	*	*	9	11	*	*	*	*
03:00	15	14	19	9	16	11	12	9	*	*	16	11	*	*	*	*
04:00	36	27	32	28	39	25	36	29	*	*	36	27	*	*	*	*
05:00	123	63	137	52	140	61	138	68	*	*	134	61	*	*	*	*
06:00	383	152	387	138	384	165	377	150	*	*	383	151	*	*	*	*
07:00	786	282	814	274	796	279	812	286	*	*	802	280	*	*	*	*
08:00	864	261	845	296	806	286	809	270	*	*	831	278	*	*	*	*
09:00	490	261	564	281	522	264	*	*	*	*	525	269	*	*	*	*
10:00	373	271	346	289	416	260	*	*	*	*	378	273	*	*	*	*
11:00	333	280	364	345	358	332	*	*	*	*	352	319	*	*	*	*
12:00 PM	328	363	378	382	369	397	*	*	*	*	358	381	*	*	*	*
01:00	331	318	329	310	358	366	*	*	*	*	339	331	*	*	*	*
02:00	271	336	188	374	361	420	*	*	*	*	273	377	*	*	*	*
03:00	183	481	220	490	398	479	*	*	*	*	267	483	*	*	*	*
04:00	313	582	366	626	365	602	*	*	*	*	348	603	*	*	*	*
05:00	405	842	404	894	448	845	*	*	*	*	419	860	*	*	*	*
06:00	384	855	424	777	426	885	*	*	*	*	411	839	*	*	*	*
07:00	281	456	316	455	351	478	*	*	*	*	316	463	*	*	*	*
08:00	222	334	245	323	259	358	*	*	*	*	242	338	*	*	*	*
09:00	139	255	157	323	139	270	*	*	*	*	145	283	*	*	*	*
10:00	90	116	84	136	97	173	*	*	*	*	90	142	*	*	*	*
11:00	38	56	46	77	57	93	*	*	*	*	47	75	*	*	*	*
Total	6421	6670	6697	6951	7145	7119	2228	893	0	0	6750	6916	0	0	0	0
Day	13091		13648		14264		3121		0		13666		0		0	
AM Peak	08:00	07:00	08:00	11:00	08:00	11:00	07:00	07:00	-	-	08:00	11:00	-	-	-	-
Vol.	864	282	845	345	806	332	812	286	-	-	831	319	-	-	-	-
PM Peak	17:00	18:00	18:00	17:00	17:00	18:00	-	-	-	-	17:00	17:00	-	-	-	-
Vol.	405	855	424	894	448	885	-	-	-	-	419	860	-	-	-	-

Comb. Total	13091	13648	17775	16133	14121	27186	12157	10004
ADT	ADT 13,001	AADT 13,001						

Tri-State Traffic Data

Road: Alexander Rd
 Location: 700 ft N of Vaughn Dr
 Counter: 22632

184 Baker Rd.
Coatesville, PA
 tstdata.com

Site Code: 4
 Station ID:
 NB

Latitude: 40' 31811.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	27	23	44	58	36	40	59	54	72	64
01:00	*	*	*	*	*	*	14	15	18	17	16	16	37	32	39	43
02:00	*	*	*	*	*	*	10	12	12	5	11	8	22	13	20	31
03:00	*	*	*	*	*	*	5	2	10	11	8	6	9	12	5	13
04:00	*	*	*	*	*	*	14	28	25	35	20	32	11	11	7	9
05:00	*	*	*	*	*	*	74	115	88	101	81	108	32	32	19	15
06:00	*	*	*	*	*	*	311	424	295	321	303	372	79	65	43	37
07:00	*	*	*	*	*	*	909	595	872	558	890	576	193	173	104	127
08:00	*	*	*	*	*	*	1314	569	1242	518	1278	544	340	263	207	138
09:00	*	*	*	*	*	*	904	394	780	407	842	400	430	402	364	201
10:00	*	*	*	*	*	*	396	294	400	315	398	304	457	523	316	252
11:00	*	*	*	*	*	*	369	379	374	391	372	385	516	473	352	345
12:00 PM	*	*	*	*	*	*	425	478	433	477	429	478	520	434	359	380
01:00	*	*	*	*	*	*	450	431	396	412	423	422	438	435	380	374
02:00	*	*	*	*	*	*	306	410	409	454	358	432	373	372	344	317
03:00	*	*	*	*	*	*	397	600	506	657	452	628	307	404	372	338
04:00	*	*	*	*	*	*	430	894	442	966	436	930	358	369	321	311
05:00	*	*	*	*	*	*	499	1033	630	928	564	980	381	332	305	355
06:00	*	*	*	*	*	*	846	730	708	612	777	671	347	333	290	400
07:00	*	*	*	*	*	*	373	411	425	393	399	402	297	251	205	236
08:00	*	*	*	*	*	*	417	357	318	334	368	346	201	209	169	194
09:00	*	*	*	*	*	*	183	254	178	264	180	259	173	224	112	120
10:00	*	*	*	*	111	168	121	145	129	202	120	172	143	203	77	79
11:00	*	*	*	*	69	68	87	77	73	99	76	81	107	114	47	46
Total Day	0	0	0	0	180	236	8881	8670	8807	8535	8837	8592	5830	5733	4529	4425
AM Peak Vol.	-	-	-	-	-	-	08:00	07:00	08:00	07:00	08:00	07:00	11:00	10:00	09:00	11:00
PM Peak Vol.	-	-	-	-	22:00	22:00	18:00	17:00	18:00	16:00	18:00	17:00	12:00	13:00	13:00	18:00
	-	-	-	-	111	168	846	1033	708	966	777	980	520	435	380	400

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Alexander Rd
Location: 700 ft N of Vaughn Dr
Counter: 22632

Site Code: 4
Station ID:
NB

Latitude: 40' 31811.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	22	19	29	28	31	38	24	34	*	*	26	30	*	*	*	*
01:00	15	15	8	14	10	15	12	16	*	*	11	15	*	*	*	*
02:00	9	8	4	4	6	4	40	14	*	*	15	8	*	*	*	*
03:00	4	8	4	5	7	6	9	6	*	*	6	6	*	*	*	*
04:00	29	32	30	33	16	29	17	35	*	*	23	32	*	*	*	*
05:00	77	134	78	132	89	130	79	110	*	*	81	126	*	*	*	*
06:00	315	459	300	429	307	397	275	397	*	*	299	420	*	*	*	*
07:00	923	614	907	601	906	608	878	596	*	*	904	605	*	*	*	*
08:00	1320	502	1316	530	1317	522	1006	355	*	*	1240	477	*	*	*	*
09:00	824	384	905	400	860	405	*	*	*	*	863	396	*	*	*	*
10:00	411	307	389	315	408	297	*	*	*	*	403	306	*	*	*	*
11:00	343	369	331	361	393	387	*	*	*	*	356	372	*	*	*	*
12:00 PM	427	467	447	471	460	454	*	*	*	*	445	464	*	*	*	*
01:00	388	400	461	406	414	402	*	*	*	*	421	403	*	*	*	*
02:00	389	405	358	413	379	450	*	*	*	*	375	423	*	*	*	*
03:00	426	556	387	598	441	595	*	*	*	*	418	583	*	*	*	*
04:00	388	889	481	938	434	966	*	*	*	*	434	931	*	*	*	*
05:00	514	1035	505	918	535	937	*	*	*	*	518	963	*	*	*	*
06:00	754	745	745	676	808	779	*	*	*	*	769	733	*	*	*	*
07:00	471	572	432	413	490	423	*	*	*	*	464	469	*	*	*	*
08:00	299	382	230	328	288	316	*	*	*	*	272	342	*	*	*	*
09:00	154	208	398	287	184	235	*	*	*	*	245	243	*	*	*	*
10:00	96	107	122	111	109	113	*	*	*	*	109	110	*	*	*	*
11:00	43	52	56	67	62	62	*	*	*	*	54	60	*	*	*	*
Total	8641	8669	8923	8478	8954	8570	2340	1563	0	0	8751	8517	0	0	0	0
Day	17310		17401		17524		3903		0		17268		0		0	
AM Peak	08:00	07:00	08:00	07:00	08:00	07:00	08:00	07:00	-	-	08:00	07:00	-	-	-	-
Vol.	1320	614	1316	601	1317	608	1006	596	-	-	1240	605	-	-	-	-
PM Peak	18:00	17:00	18:00	16:00	18:00	16:00	-	-	-	-	18:00	17:00	-	-	-	-
Vol.	754	1035	745	938	808	966	-	-	-	-	769	963	-	-	-	-

Comb. Total	17310	17401	17940	21454	17342	34697	11563	8954
ADT	ADT 15,437	AADT 15,437						

Tri-State Traffic Data

Road: Alexander Rd
 Location: 550 ft S of Vaughn Dr
 Counter: 22638 & 22577

184 Baker Rd.
Coatesville, PA
tstdata.com

Site Code: 5
 Station ID:

Latitude: 40' 31384.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	23	24	32	45	28	34	44	49	40	57
01:00	*	*	*	*	*	*	12	12	10	16	11	14	25	25	31	37
02:00	*	*	*	*	*	*	4	6	9	11	6	8	11	14	15	26
03:00	*	*	*	*	*	*	5	3	10	5	8	4	4	9	4	10
04:00	*	*	*	*	*	*	13	11	19	18	16	14	8	7	6	4
05:00	*	*	*	*	*	*	111	42	114	46	112	44	30	19	20	7
06:00	*	*	*	*	*	*	433	152	355	129	394	140	70	49	35	30
07:00	*	*	*	*	*	*	965	412	894	395	930	404	176	147	86	128
08:00	*	*	*	*	*	*	1236	442	1152	422	1194	432	322	259	201	152
09:00	*	*	*	*	*	*	857	281	732	303	794	292	436	373	359	206
10:00	*	*	*	*	*	*	393	276	385	287	389	282	523	542	303	261
11:00	*	*	*	*	*	*	364	405	380	392	372	398	543	514	347	367
12:00 PM	*	*	*	*	*	*	396	474	412	498	404	486	555	499	396	407
01:00	*	*	*	*	*	*	428	391	429	431	428	411	453	472	383	424
02:00	*	*	*	*	*	*	345	416	416	456	380	436	378	395	354	348
03:00	*	*	*	*	*	*	446	639	535	683	490	661	335	393	403	358
04:00	*	*	*	*	*	*	405	950	421	1002	413	976	387	389	346	356
05:00	*	*	*	*	*	*	500	1090	595	986	548	1038	380	350	360	368
06:00	*	*	*	*	*	*	714	893	642	766	678	830	358	320	288	402
07:00	*	*	*	*	*	*	387	516	405	471	396	494	306	259	207	228
08:00	*	*	*	*	*	*	313	428	321	346	317	387	190	227	169	191
09:00	*	*	*	*	*	*	149	258	180	263	173	260	162	206	120	122
10:00	*	*	*	*	*	*	80	152	76	145	93	158	125	189	64	67
11:00	*	*	*	*	*	*	47	62	60	77	57	78	81	117	36	34
Total Day	0	0	0	0	276	472	8666	8348	8645	8238	8631	8281	5902	5823	4573	4590
AM Peak Vol.	-	-	-	-	-	-	1236	442	1152	422	1194	432	543	542	359	367
PM Peak Vol.	-	-	-	-	21:00	21:00	18:00	17:00	18:00	16:00	18:00	17:00	12:00	12:00	15:00	13:00
	-	-	-	-	149	258	714	1090	642	1002	678	1038	555	499	403	424

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Alexander Rd
Location: 550 ft S of Vaughn Dr
Counter: 22638 & 22577

Site Code: 5
Station ID:

Latitude: 40' 31384.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	13	15	16	29	23	24	15	32	*	*	17	25	*	*	*	*
01:00	10	14	9	11	4	21	12	10	*	*	9	14	*	*	*	*
02:00	7	7	4	4	3	4	14	15	*	*	7	8	*	*	*	*
03:00	4	7	5	7	3	6	9	4	*	*	5	6	*	*	*	*
04:00	26	11	29	16	18	9	14	13	*	*	22	12	*	*	*	*
05:00	108	51	108	57	114	50	107	47	*	*	109	51	*	*	*	*
06:00	432	169	435	158	416	154	418	156	*	*	425	159	*	*	*	*
07:00	982	402	982	403	965	405	936	369	*	*	966	395	*	*	*	*
08:00	1251	394	1260	430	1231	404	1228	404	*	*	1242	408	*	*	*	*
09:00	762	281	854	289	825	317	*	*	*	*	814	296	*	*	*	*
10:00	433	310	371	281	401	281	*	*	*	*	402	291	*	*	*	*
11:00	337	370	346	352	403	376	*	*	*	*	362	366	*	*	*	*
12:00 PM	406	482	403	455	429	488	*	*	*	*	413	475	*	*	*	*
01:00	405	359	472	391	419	344	*	*	*	*	432	365	*	*	*	*
02:00	370	414	319	414	363	477	*	*	*	*	351	435	*	*	*	*
03:00	413	615	430	609	450	604	*	*	*	*	431	609	*	*	*	*
04:00	378	922	439	957	432	981	*	*	*	*	416	953	*	*	*	*
05:00	504	1054	493	1063	527	1033	*	*	*	*	508	1050	*	*	*	*
06:00	679	847	641	860	694	871	*	*	*	*	671	859	*	*	*	*
07:00	431	631	408	520	444	549	*	*	*	*	428	567	*	*	*	*
08:00	276	393	251	306	296	367	*	*	*	*	274	355	*	*	*	*
09:00	149	203	242	347	178	243	*	*	*	*	190	264	*	*	*	*
10:00	74	107	87	130	86	107	*	*	*	*	82	115	*	*	*	*
11:00	26	37	39	68	36	49	*	*	*	*	34	51	*	*	*	*
Total	8476	8095	8643	8157	8760	8164	2753	1050	0	0	8610	8129	0	0	0	0
Day	16571		16800		16924		3803		0		16739		0		0	
AM Peak	08:00	07:00	08:00	08:00	08:00	07:00	08:00	08:00	-	-	08:00	08:00	-	-	-	-
Vol.	1251	402	1260	430	1231	405	1228	404	-	-	1242	408	-	-	-	-
PM Peak	18:00	17:00	18:00	17:00	18:00	17:00	-	-	-	-	18:00	17:00	-	-	-	-
Vol.	679	1054	641	1063	694	1033	-	-	-	-	671	1050	-	-	-	-

Comb. Total	16571	16800	17672	20817	16883	33651	11725	9163
ADT	ADT 15,099	AADT 15,099						

Tri-State Traffic Data

Road: Vaughn Dr
 Location: 375 ft E of Alexander Rd
 Counter: 22494

184 Baker Rd.
Coatesville, PA
tstdata.com

Site Code: 6
 Station ID:
 A to B EB

Latitude: 40' 31600.0000 North

Start Time	4/30/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	11	17	22	40	16	28	17	32	8	33
01:00	*	*	*	*	*	*	4	7	12	15	8	11	7	28	10	16
02:00	*	*	*	*	*	*	4	6	2	7	3	6	6	13	12	18
03:00	*	*	*	*	*	*	2	4	2	2	2	3	0	1	6	6
04:00	*	*	*	*	*	*	22	1	21	6	22	4	3	1	5	2
05:00	*	*	*	*	*	*	112	8	83	8	98	8	12	3	3	0
06:00	*	*	*	*	*	*	503	61	345	51	424	56	19	9	11	8
07:00	*	*	*	*	*	*	580	140	446	107	513	124	51	17	28	20
08:00	*	*	*	*	*	*	281	169	209	166	245	168	86	43	29	17
09:00	*	*	*	*	*	*	133	103	109	79	121	91	252	132	55	34
10:00	*	*	*	*	*	*	76	57	75	64	76	60	283	216	55	39
11:00	*	*	*	*	*	*	59	51	65	58	62	54	260	261	59	47
12:00 PM	*	*	*	*	*	*	67	73	81	81	74	77	175	187	78	58
01:00	*	*	*	*	*	*	60	49	70	73	65	61	94	118	50	55
02:00	*	*	*	*	*	*	72	48	84	65	78	56	79	79	61	62
03:00	*	*	*	*	*	*	86	101	97	165	92	133	74	68	69	67
04:00	*	*	*	*	*	*	105	130	141	124	123	127	73	60	49	68
05:00	*	*	*	*	*	*	200	272	228	351	214	312	60	74	63	57
06:00	*	*	*	*	*	*	204	610	171	492	188	551	69	85	63	79
07:00	*	*	*	*	*	*	90	170	110	218	100	194	45	71	43	72
08:00	*	*	*	*	*	*	96	377	76	158	86	268	29	53	40	59
09:00	*	*	*	*	*	*	47	109	59	88	53	98	25	46	23	35
10:00	*	*	*	*	35	72	32	89	39	60	35	74	16	33	19	33
11:00	*	*	*	*	25	49	26	51	33	64	28	55	22	50	14	28
Total	0	0	0	0	60	121	2872	2703	2580	2542	2726	2619	1757	1680	853	913
Day	0	0	0	0	181	121	5575	2703	5122	2542	5345	2619	3437	1680	1766	913
AM Peak	-	-	-	-	-	-	07:00	08:00	07:00	08:00	07:00	08:00	10:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	580	169	446	166	513	168	283	261	59	47
PM Peak	-	-	-	-	22:00	22:00	18:00	18:00	17:00	18:00	17:00	18:00	12:00	12:00	12:00	18:00
Vol.	-	-	-	-	35	72	204	610	228	492	214	551	175	187	78	79

Tri-State Traffic Data

184 Baker Rd.
Coatesville, PA
tstdata.com

Road: Vaughn Dr
Location: 375 ft E of Alexander Rd
Counter: 22494

Site Code: 6
Station ID:
A to B EB

Latitude: 40' 31600.0000 North

Start Time	5/7/2018		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	9	10	9	18	10	23	14	18	*	*	10	17	*	*	*	*
01:00	4	8	4	4	3	4	3	2	*	*	4	4	*	*	*	*
02:00	2	3	1	1	1	5	9	32	*	*	3	10	*	*	*	*
03:00	3	0	2	3	0	3	3	1	*	*	2	2	*	*	*	*
04:00	23	5	24	6	30	6	29	5	*	*	26	6	*	*	*	*
05:00	123	9	121	10	109	12	95	7	*	*	112	10	*	*	*	*
06:00	502	69	501	59	466	53	482	45	*	*	488	56	*	*	*	*
07:00	581	129	579	133	585	130	570	133	*	*	579	131	*	*	*	*
08:00	279	193	279	180	287	189	*	*	*	*	282	187	*	*	*	*
09:00	122	116	132	104	136	104	*	*	*	*	130	108	*	*	*	*
10:00	64	51	76	59	61	54	*	*	*	*	67	55	*	*	*	*
11:00	42	43	55	50	63	51	*	*	*	*	53	48	*	*	*	*
12:00 PM	57	76	64	64	67	81	*	*	*	*	63	74	*	*	*	*
01:00	67	44	70	66	62	62	*	*	*	*	66	57	*	*	*	*
02:00	48	71	59	60	52	51	*	*	*	*	53	61	*	*	*	*
03:00	74	94	85	91	81	114	*	*	*	*	80	100	*	*	*	*
04:00	96	104	112	155	118	122	*	*	*	*	109	127	*	*	*	*
05:00	226	323	250	334	195	345	*	*	*	*	224	334	*	*	*	*
06:00	197	554	195	537	204	556	*	*	*	*	199	549	*	*	*	*
07:00	101	300	111	200	116	324	*	*	*	*	109	275	*	*	*	*
08:00	77	212	105	154	81	213	*	*	*	*	88	193	*	*	*	*
09:00	34	81	77	357	49	108	*	*	*	*	53	182	*	*	*	*
10:00	19	42	36	101	32	64	*	*	*	*	29	69	*	*	*	*
11:00	22	33	16	43	24	53	*	*	*	*	21	43	*	*	*	*
Total	2772	2570	2963	2789	2832	2727	1205	243	0	0	2850	2698	0	0	0	0
Day	5342		5752		5559		1448		0		5548		0		0	
AM Peak	07:00	08:00	07:00	08:00	07:00	08:00	07:00	07:00	-	-	07:00	08:00	-	-	-	-
Vol.	581	193	579	180	585	189	570	133	-	-	579	187	-	-	-	-
PM Peak	17:00	18:00	17:00	18:00	18:00	18:00	-	-	-	-	17:00	18:00	-	-	-	-
Vol.	226	554	250	537	204	556	-	-	-	-	224	549	-	-	-	-

Comb. Total	5342	5752	5740	7023	5122	10893	3437	1766
ADT	ADT 4,704	AADT 4,704						



Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX C

TRIP GENERATION

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

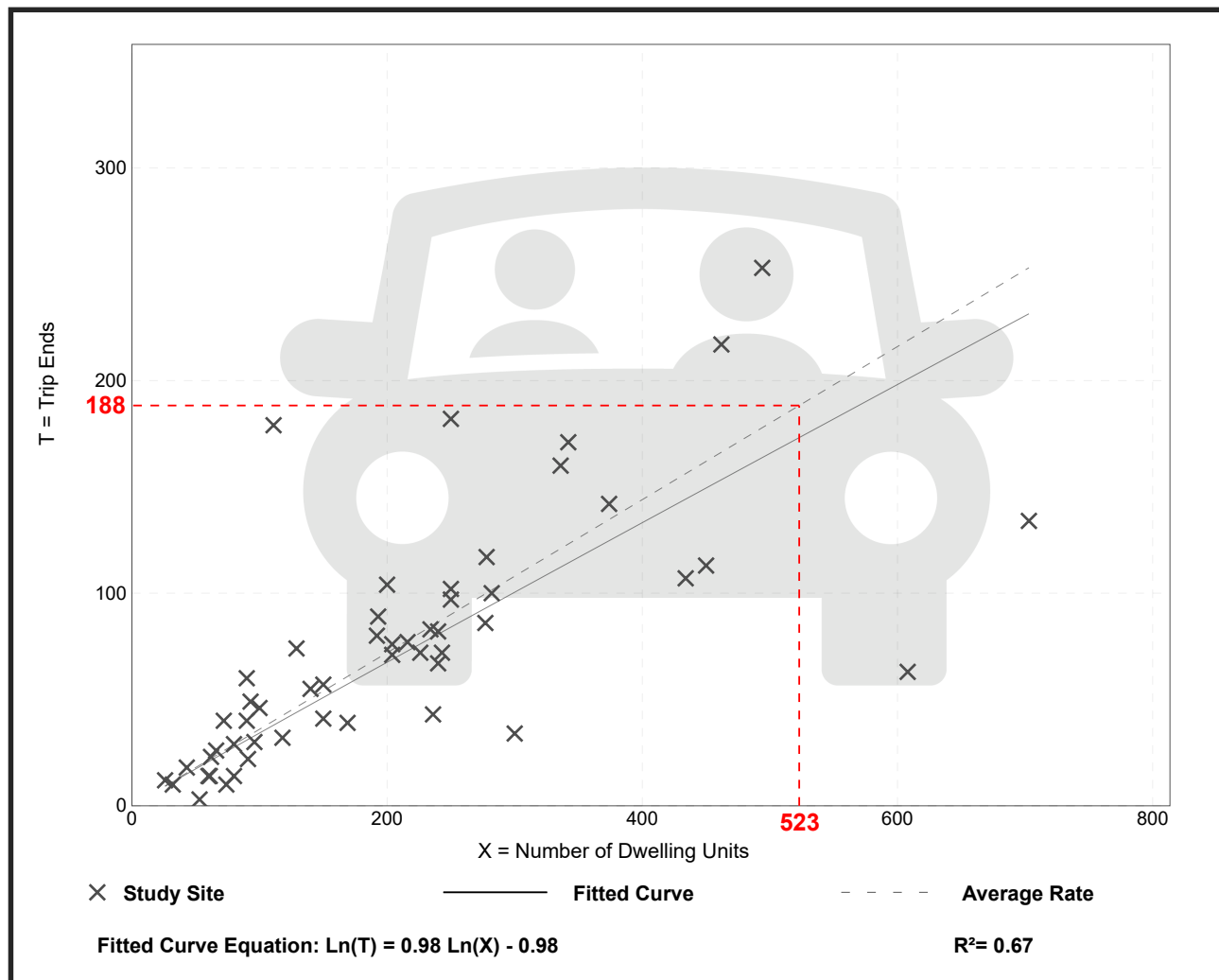
Setting/Location: General Urban/Suburban

Number of Studies: 53
 Avg. Num. of Dwelling Units: 207
 Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



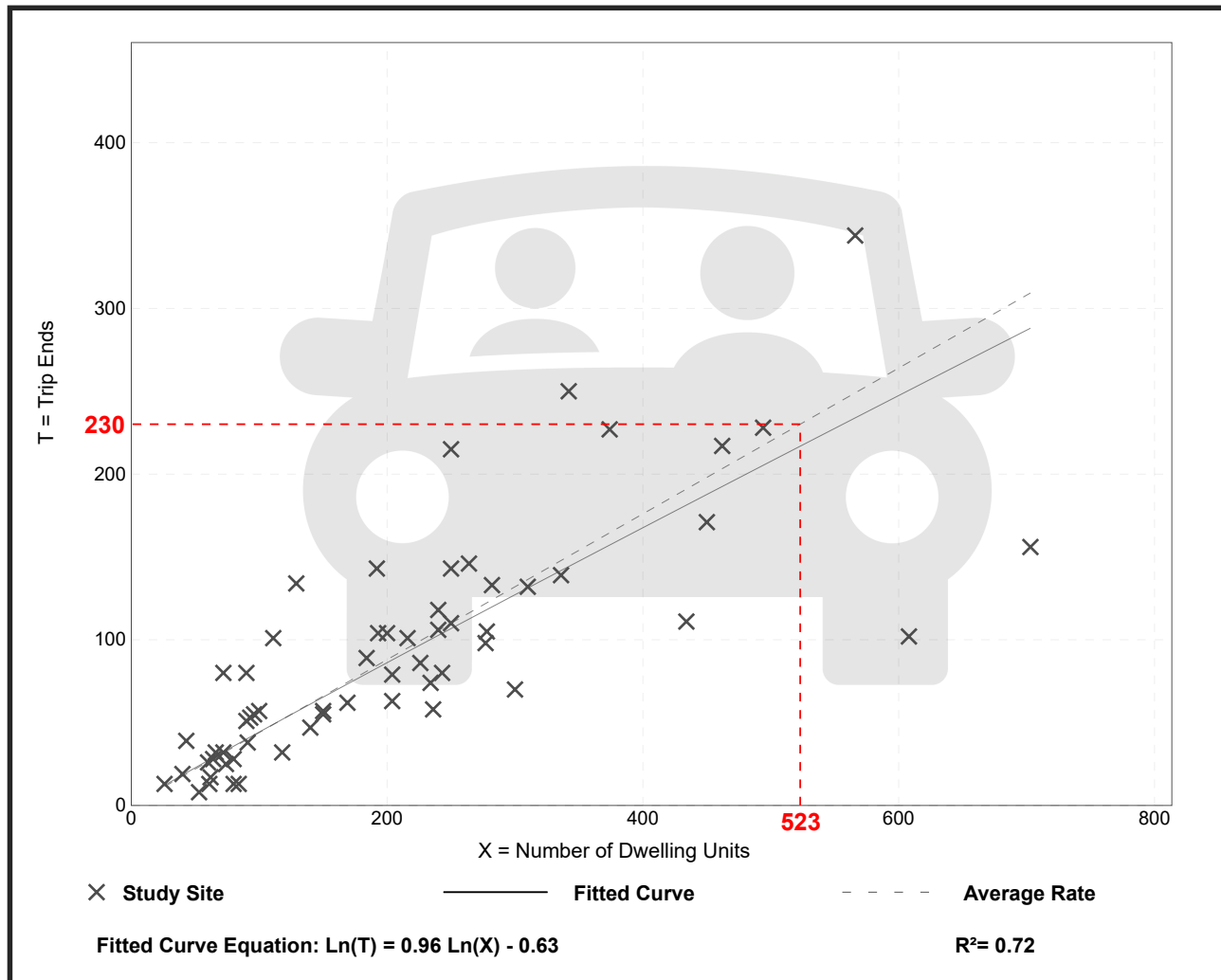
Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 60
 Avg. Num. of Dwelling Units: 208
 Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

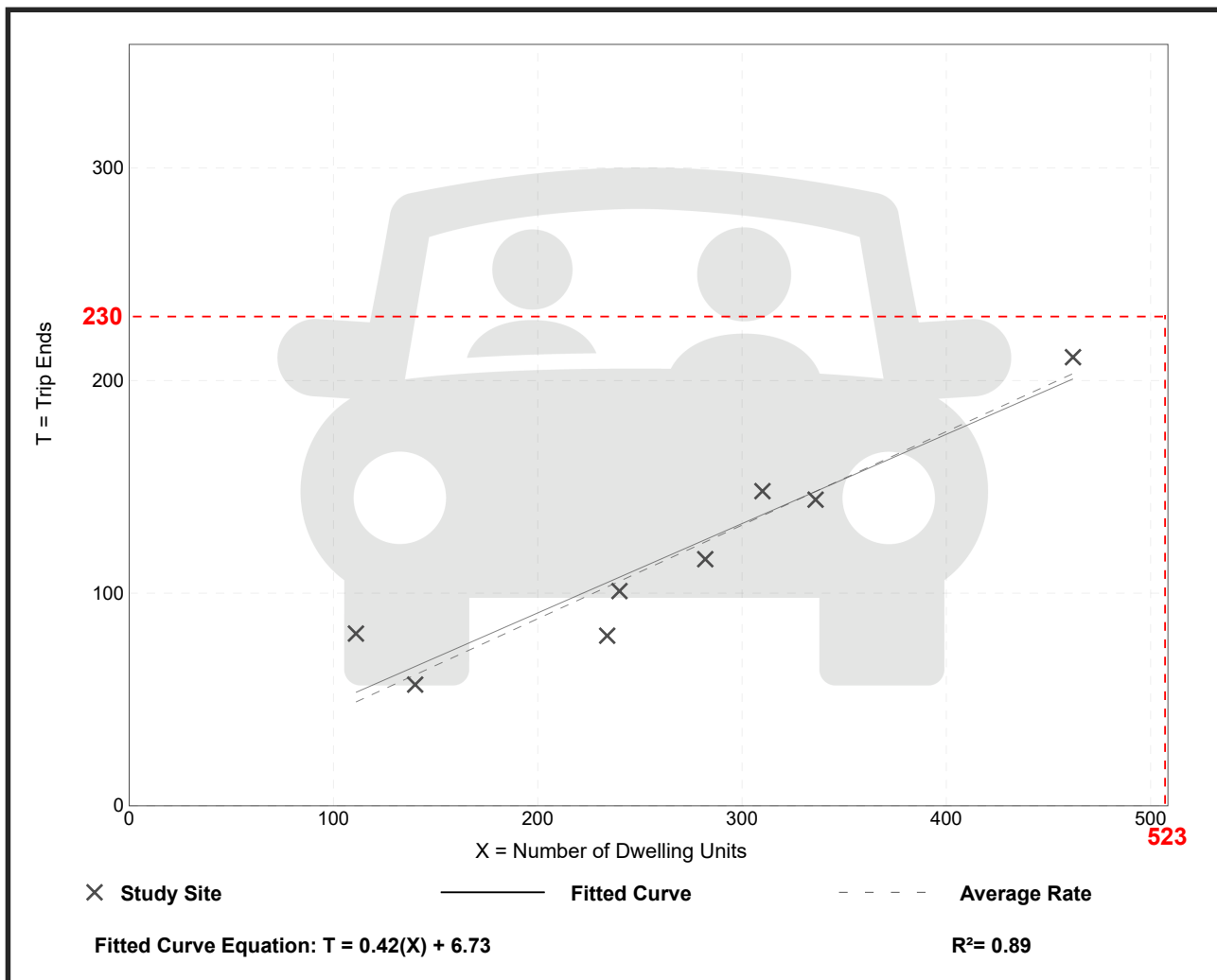
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 8
Avg. Num. of Dwelling Units: 264
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.34 - 0.73	0.08

Data Plot and Equation



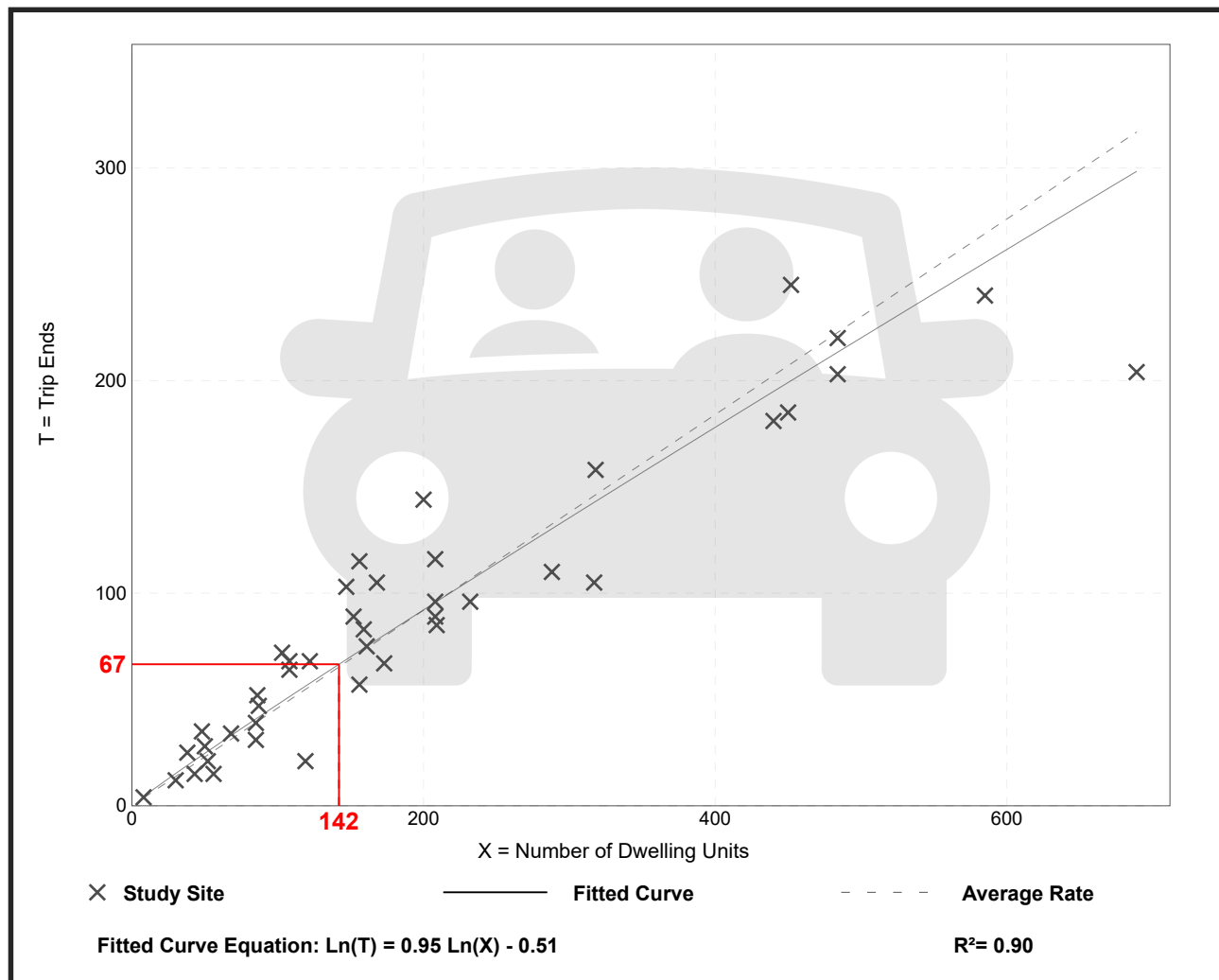
Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 42
 Avg. Num. of Dwelling Units: 199
 Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



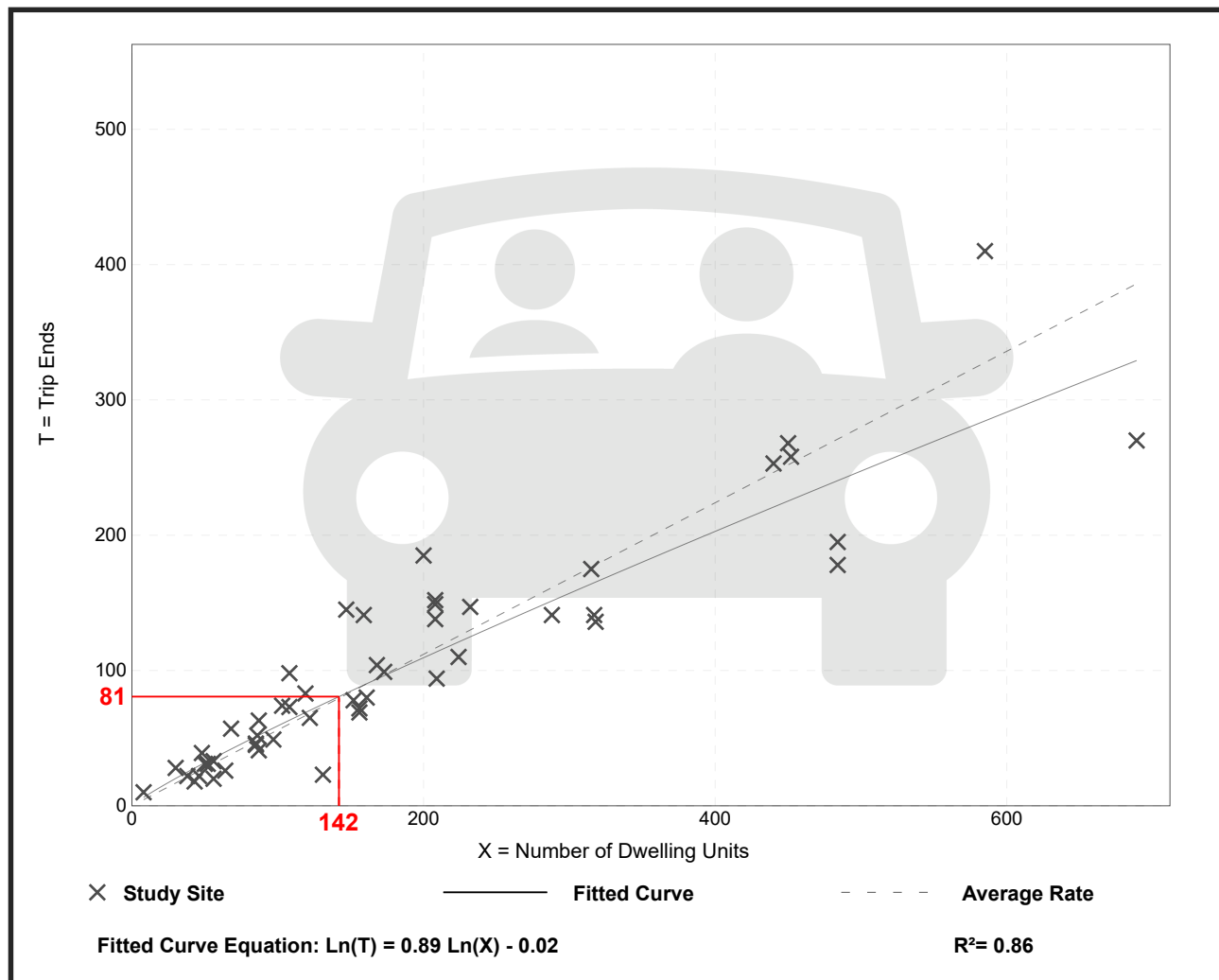
Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 50
 Avg. Num. of Dwelling Units: 187
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

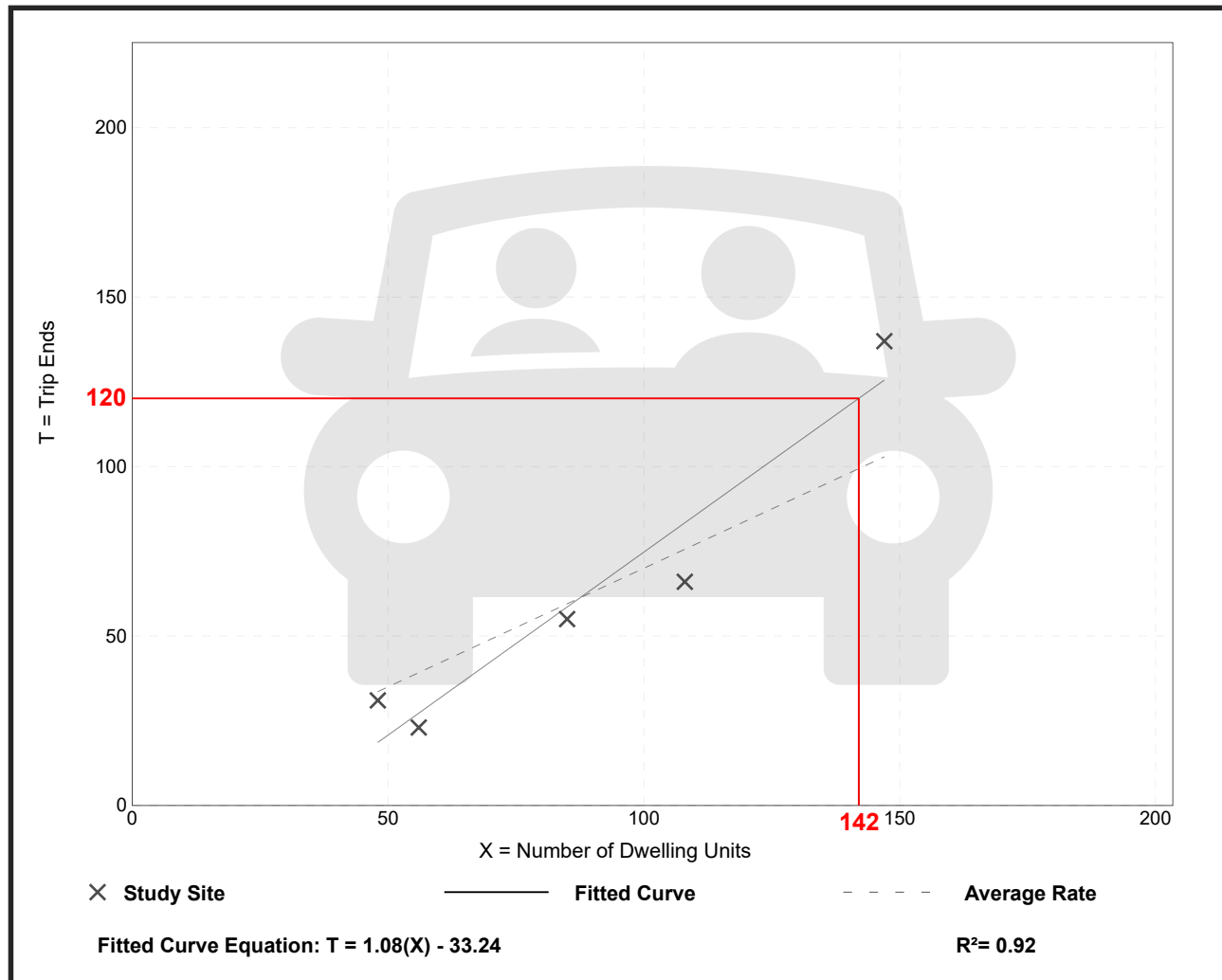
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. Num. of Dwelling Units: 89
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.41 - 0.93	0.20

Data Plot and Equation

Caution – Small Sample Size



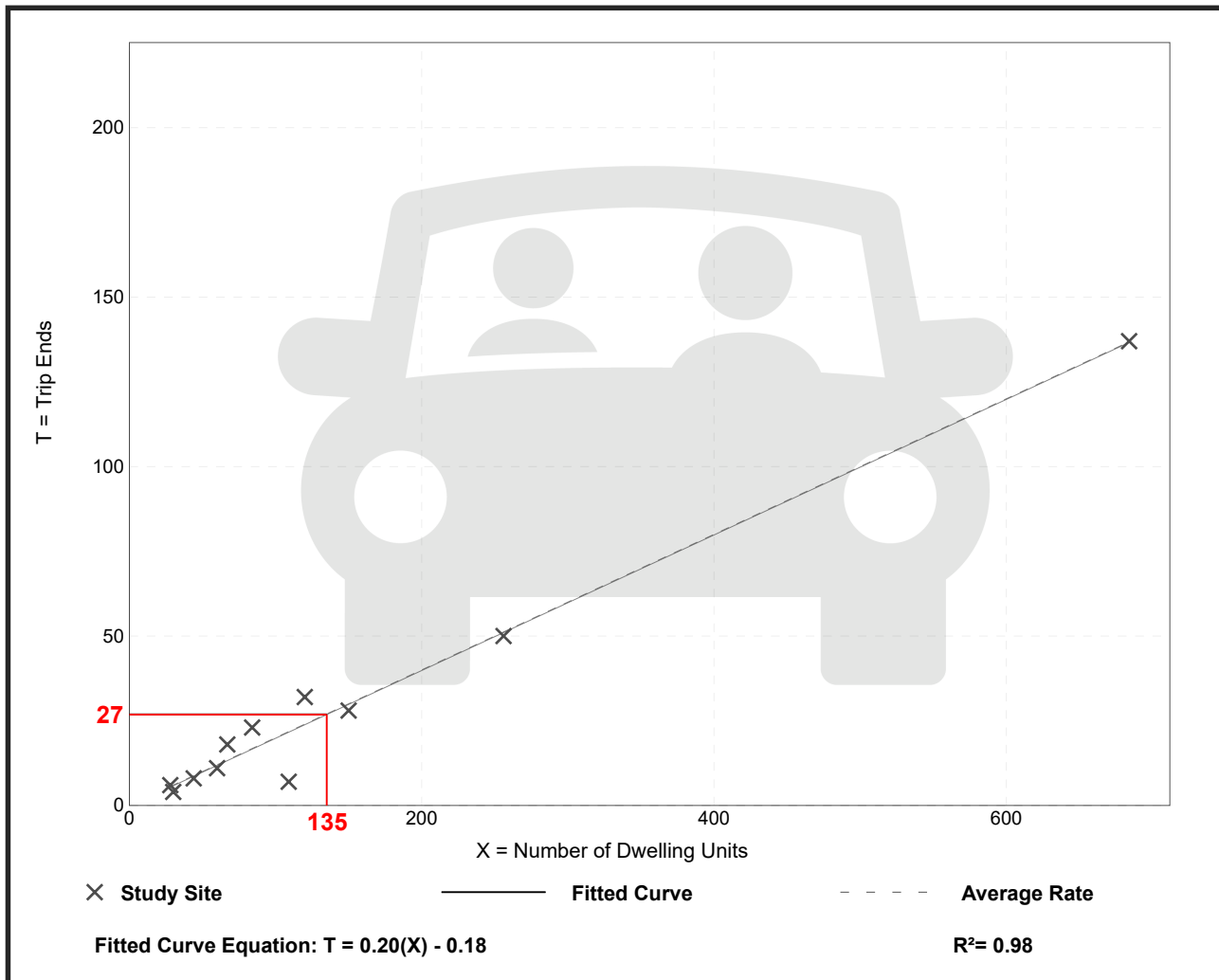
Senior Adult Housing - Attached (252)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 11
 Avg. Num. of Dwelling Units: 148
 Directional Distribution: 35% entering, 65% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.06 - 0.27	0.05

Data Plot and Equation



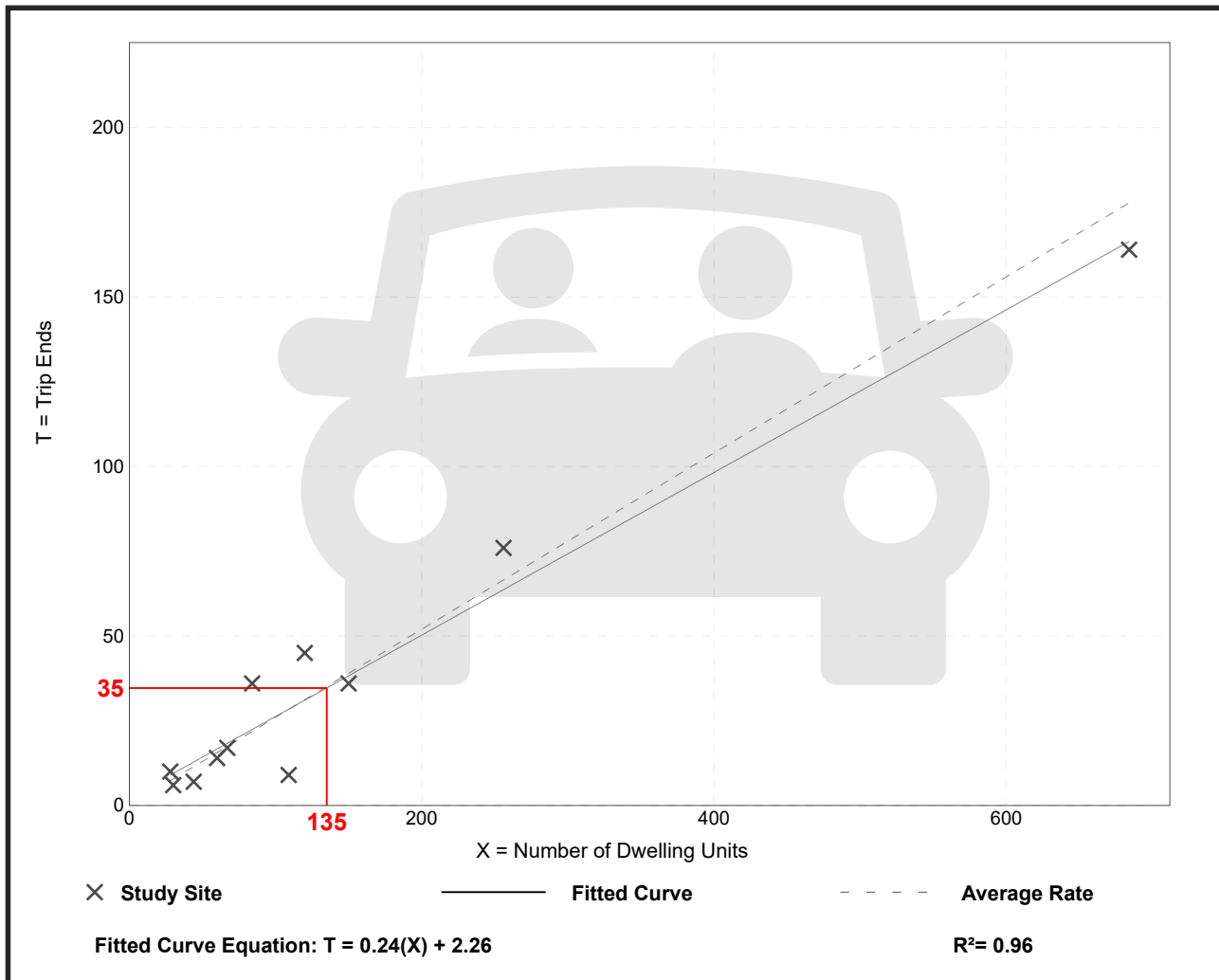
Senior Adult Housing - Attached (252)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 11
 Avg. Num. of Dwelling Units: 148
 Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.26	0.08 - 0.43	0.08

Data Plot and Equation



Senior Adult Housing - Attached (252)

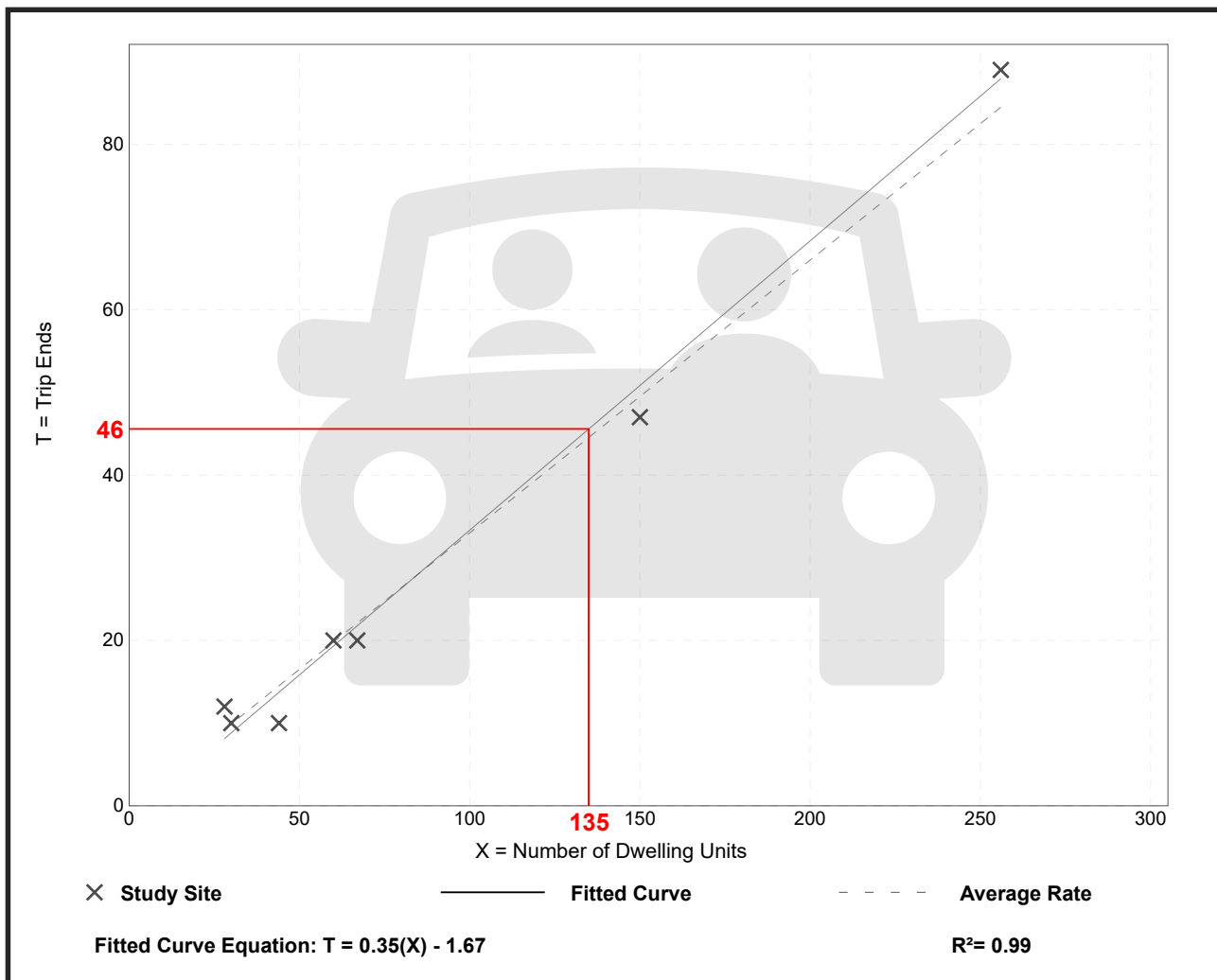
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 7
 Avg. Num. of Dwelling Units: 91
 Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.33	0.23 - 0.43	0.04

Data Plot and Equation



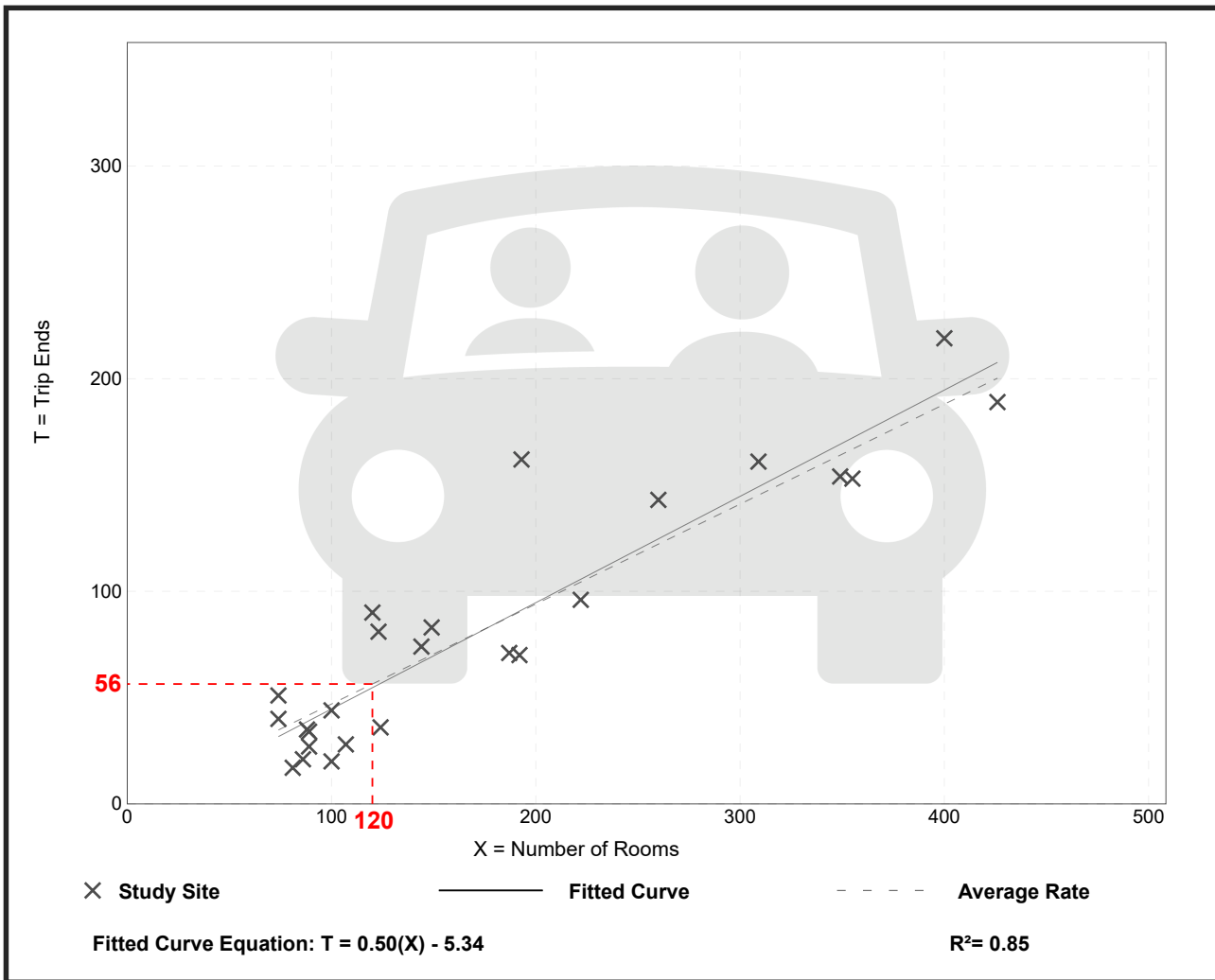
Hotel (310)

Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. Num. of Rooms: 178
 Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.47	0.20 - 0.84	0.14

Data Plot and Equation



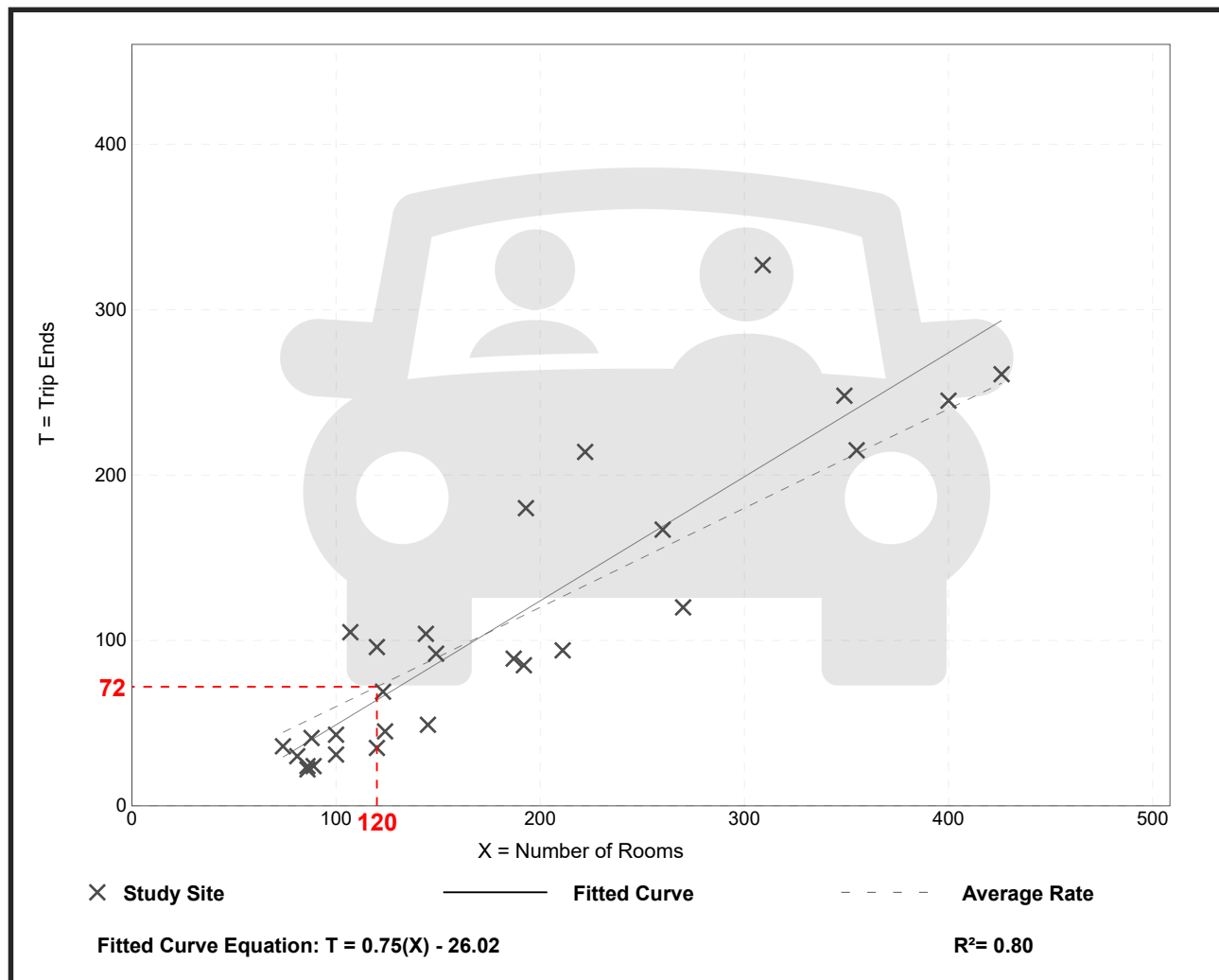
Hotel (310)

Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 28
 Avg. Num. of Rooms: 183
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.26 - 1.06	0.22

Data Plot and Equation



Hotel (310)

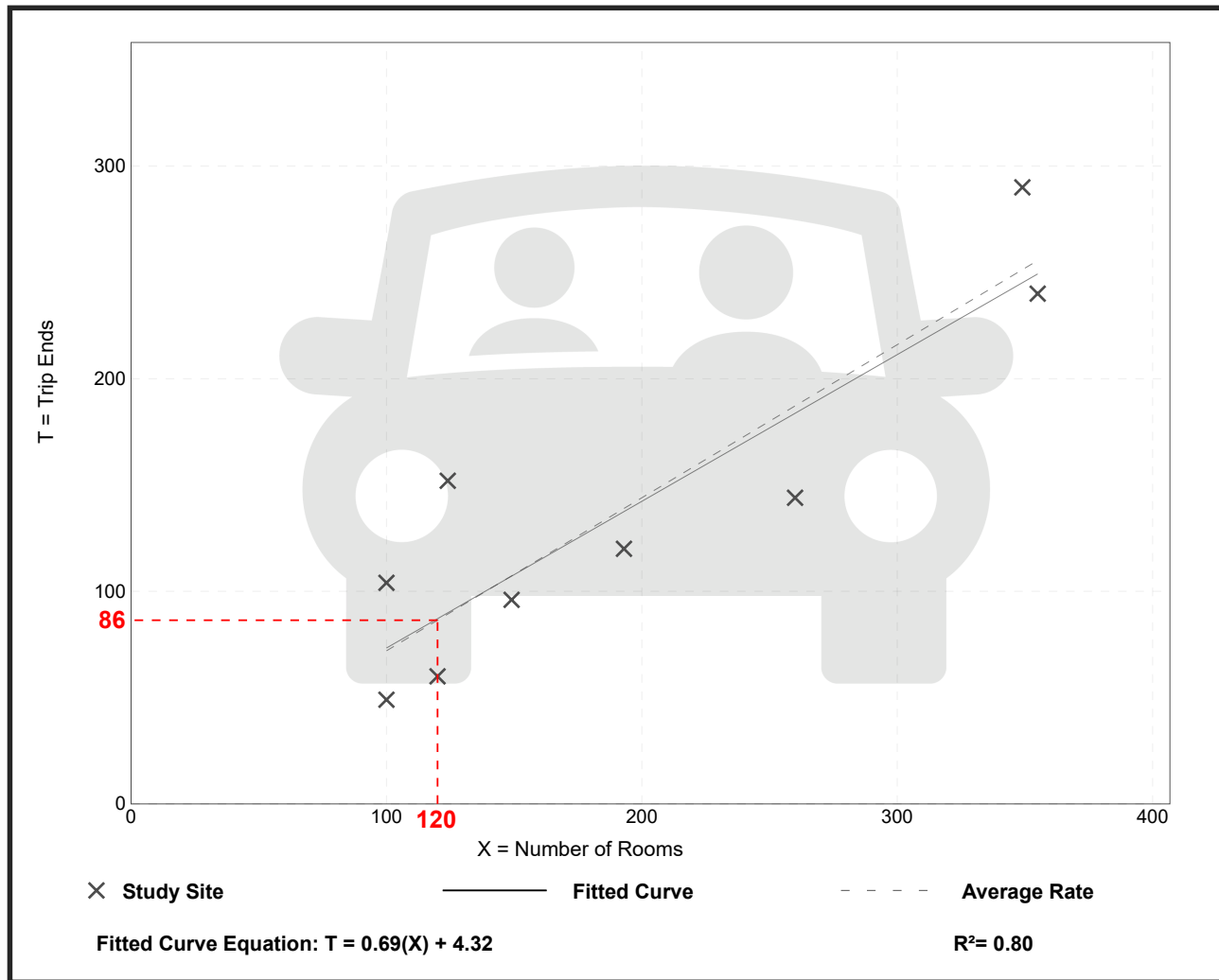
Vehicle Trip Ends vs: Rooms
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 9
Avg. Num. of Rooms: 194
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.72	0.49 - 1.23	0.21

Data Plot and Equation



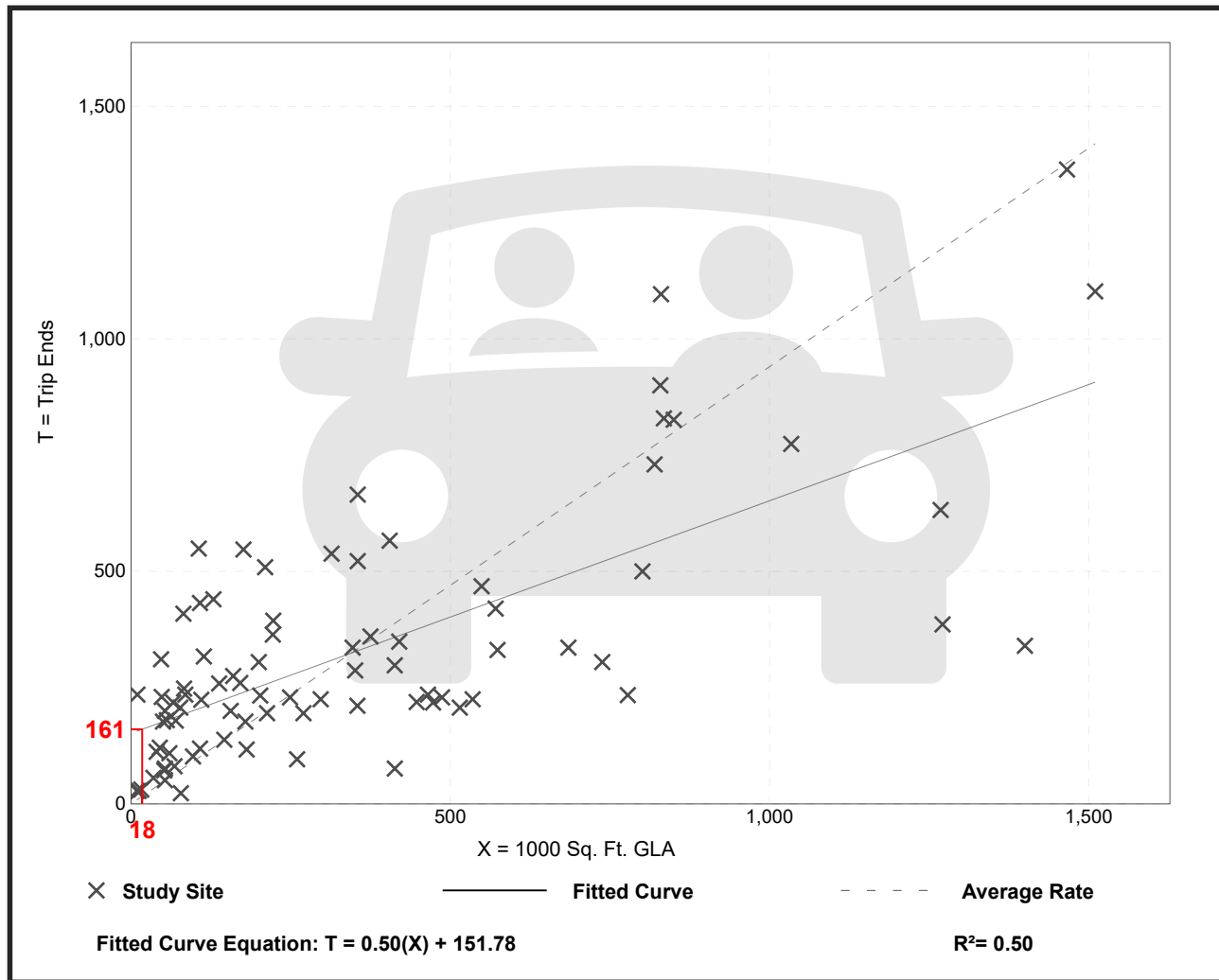
Shopping Center (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 84
 Avg. 1000 Sq. Ft. GLA: 351
 Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



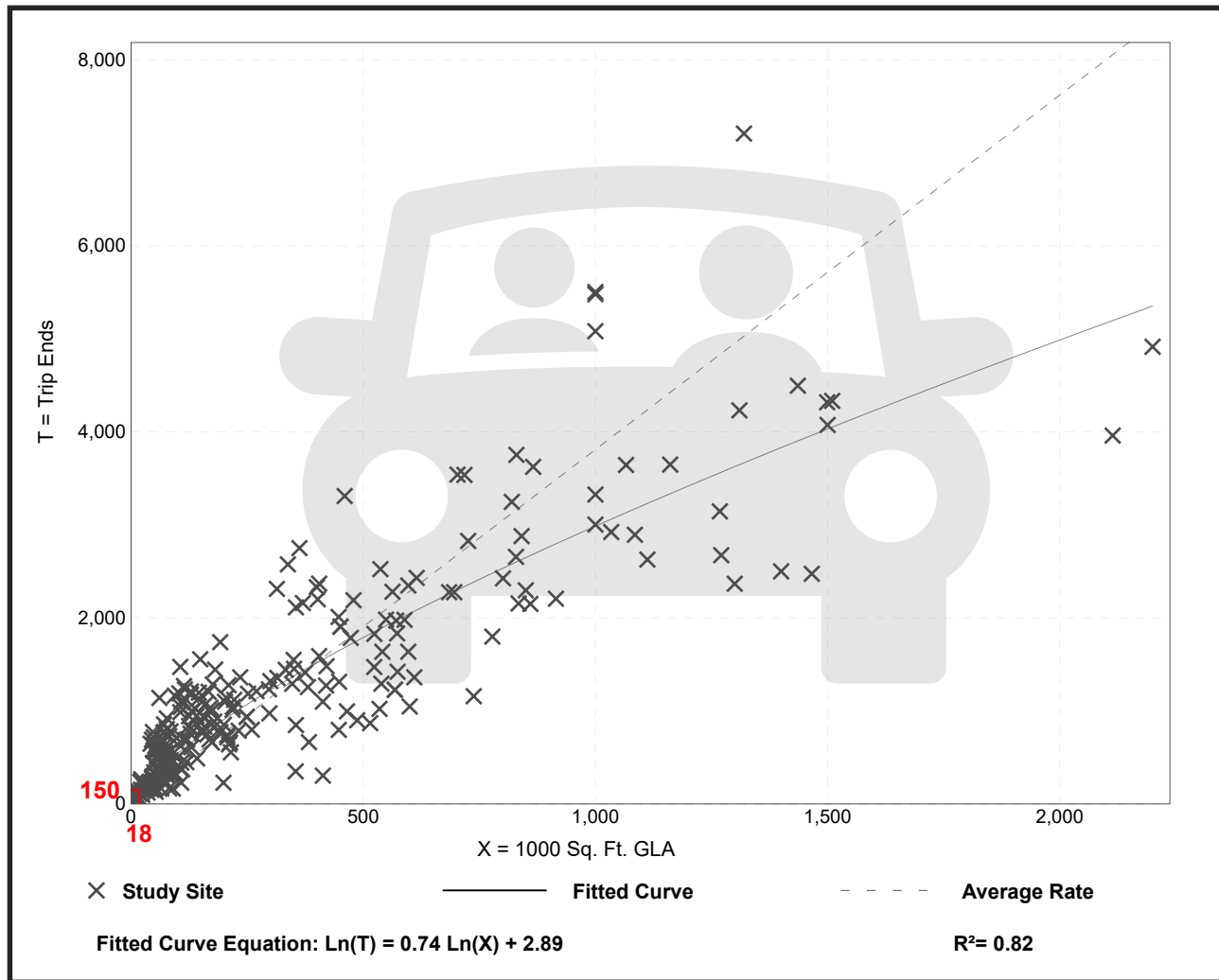
Shopping Center (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 261
 Avg. 1000 Sq. Ft. GLA: 327
 Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



Shopping Center (820)

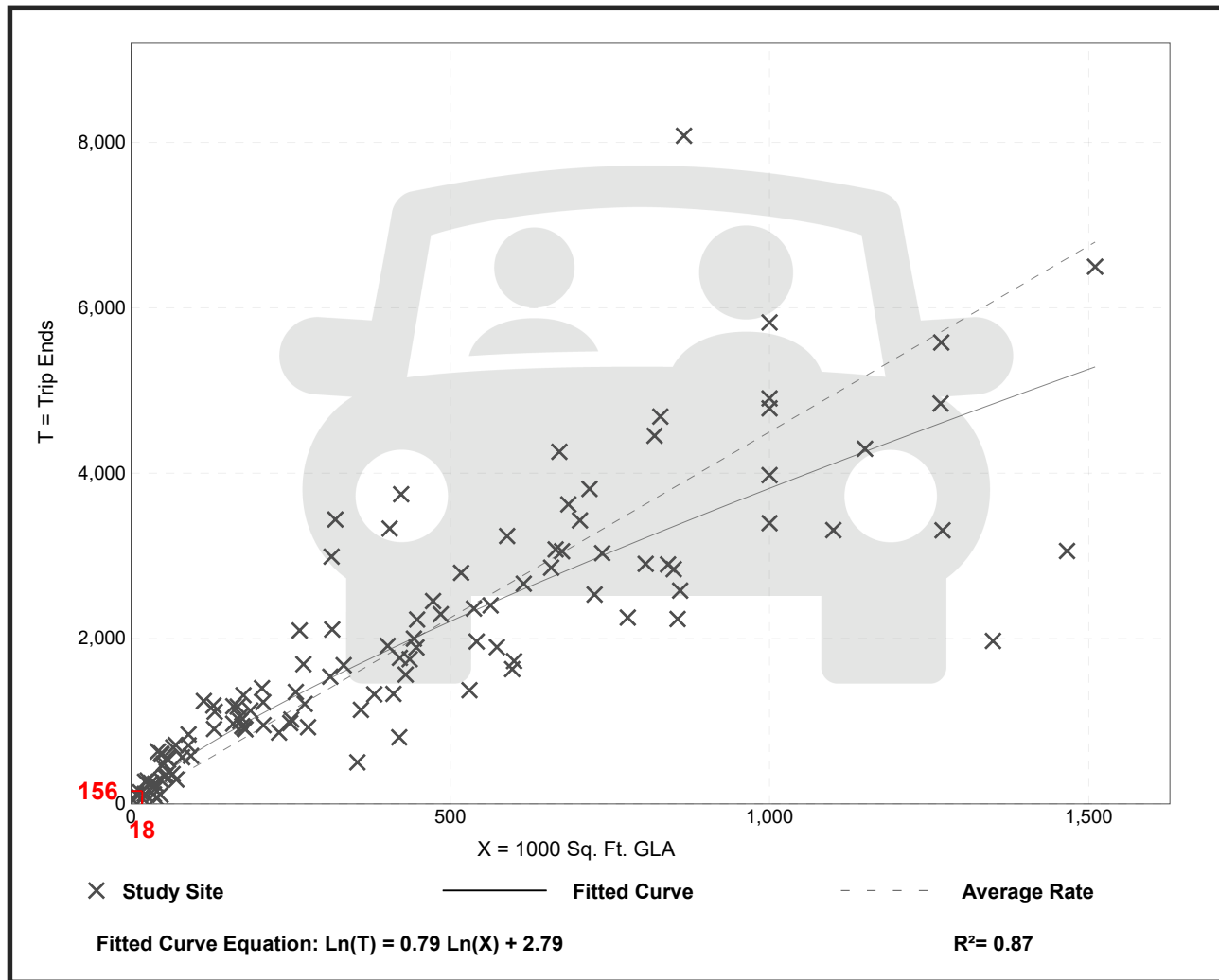
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 119
 Avg. 1000 Sq. Ft. GLA: 416
 Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.50	1.42 - 15.10	1.88

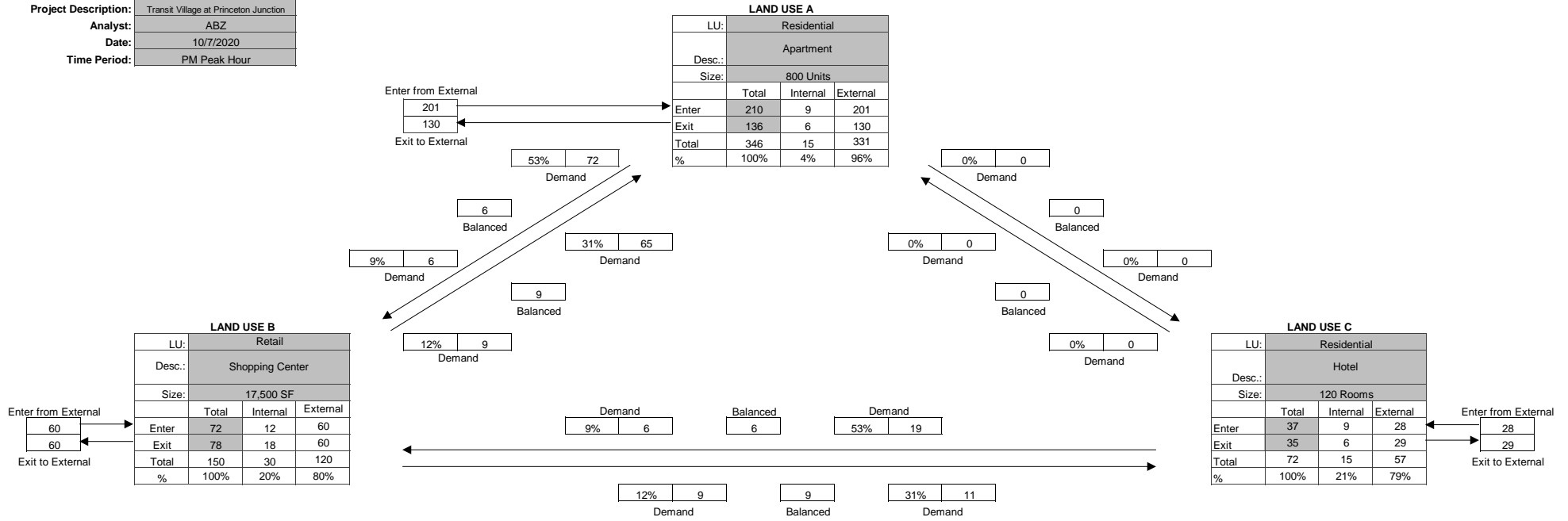
Data Plot and Equation





Internal Trip Capture Worksheet - Final Build - PM

Project Number: 16000081A
Project Description: Transit Village at Princeton Junction
Analyst: ABZ
Date: 10/7/2020
Time Period: PM Peak Hour



Land Use	Description	Size	PM Peak Hour							
			External Trips			Internally Captured Trips				
			IN	OUT	Total	IN	OUT	Total	%	
A	Residential	Apartment	800	201	130	331	9	6	15	4%
B	Retail	Shopping Center	17,500	60	60	120	12	18	30	20%
C	Residential	Hotel	120	28	29	57	9	6	15	21%
Total:			289	219	508	30	30	60	11%	

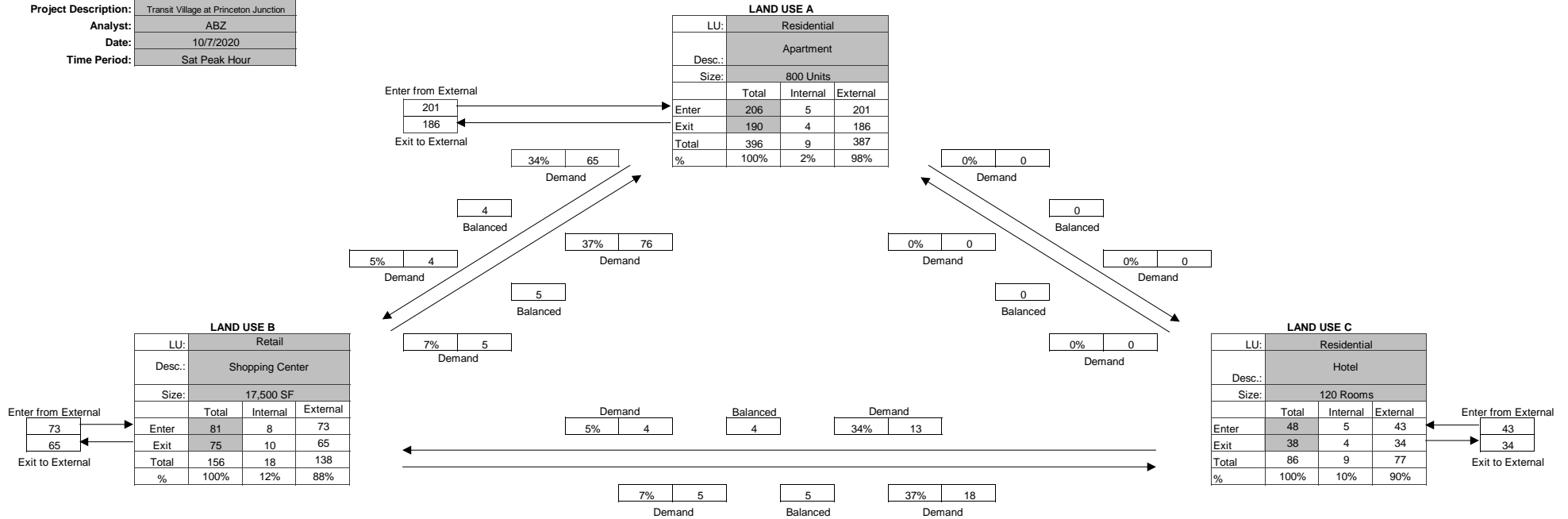
ITE Trip Generation Handbook (March 2001) Table 7.1					Utilized Rates	
From	To	MidDay	PM	DAILY	PM Peak Hour	
Office	Office	2%	1%	2%	1%	
	Retail	20%	23%	22%	23%	
	Residential	0%	2%	2%	2%	
Retail	Office	3%	3%	3%	3%	
	Retail	29%	20%	30%	20%	
	Residential	7%	12%	11%	12%	
Residential	Office	0%	0%	0%	0%	
	Retail	34%	53%	38%	53%	
	Residential	0%	0%	0%	0%	

ITE Trip Generation Handbook (March 2001) Table 7.2					Utilized Rates	
To	From	MidDay	PM	DAILY	PM Peak Hour	
Office	Office	6%	6%	2%	6%	
	Retail	38%	31%	15%	31%	
	Residential	0%	0%	0%	0%	
Retail	Office	4%	2%	4%	2%	
	Retail	31%	20%	28%	20%	
	Residential	5%	9%	9%	9%	
Residential	Office	0%	2%	3%	2%	
	Retail	37%	31%	33%	31%	
	Residential	0%	0%	0%	0%	



Internal Trip Capture Worksheet - Final Build - SAT

Project Number:	16000081A
Project Description:	Transit Village at Princeton Junction
Analyst:	ABZ
Date:	10/7/2020
Time Period:	Sat Peak Hour



Land Use	Description	Size	Sat Peak Hour							
			External Trips			Internally Captured Trips				
			IN	OUT	Total	IN	OUT	Total	%	
A	Residential	Apartment	800	201	186	387	5	4	9	2%
B	Retail	Shopping Center	17,500	73	65	138	8	10	18	12%
C	Residential	Hotel	120	43	34	77	5	4	9	10%
Total:			317	285	602	18	18	36	6%	

ITE Trip Generation Handbook (March 2001) Table 7.1					Utilized Rates	
From	To	MidDay	PM	DAILY	Sat Peak Hour	
Office	Office	2%	1%	2%	2%	
	Retail	20%	23%	22%	20%	
	Residential	0%	2%	2%	0%	
Retail	Office	3%	3%	3%	3%	
	Retail	29%	20%	30%	29%	
	Residential	7%	12%	11%	7%	
Residential	Office	0%	0%	0%	0%	
	Retail	34%	53%	38%	34%	
	Residential	0%	0%	0%	0%	

ITE Trip Generation Handbook (March 2001) Table 7.2						Utilized Rates	
To	From	MidDay	PM	DAILY	Sat Peak Hour		
Office	Office	6%	6%	2%	6%		
	Retail	38%	31%	15%	38%		
	Residential	0%	0%	0%	0%		
Retail	Office	4%	2%	4%	4%		
	Retail	31%	20%	28%	31%		
	Residential	5%	9%	9%	5%		
Residential	Office	0%	2%	3%	0%		
	Retail	37%	31%	33%	37%		
	Residential	0%	0%	0%	0%		



Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX D

GRAVITY MODELS

3-mile Radius Gravity Model



0 0.25 0.5 1 1.5 2



Miles

GRAVITY MODEL - 3 MILE RADIUS

Transit Village at Princeton Junction

West Windsor Township

Attractor/Generator Location	2010 Population	% Population Within Study Area	Study Area Population (Ai)	Travel Distance (d)	Ai / d ²	Trip Percent (Tij)
Census Tract 43.01 (West Windsor Township, Mercer County, New Jersey)	8,632	91%	7,813	1.7 mi	2703.46	35.46%
Census Tract 45.01 (Princeton Township, Mercer County, New Jersey)	6,324	100%	6,324	2.7 mi	867.49	11.38%
Census Tract 43.07 (West Windsor Township, Mercer County, New Jersey)	5,684	100%	5,684	1.5 mi	2526.22	33.14%
Census Tract 86.04 (Plainsboro Township, Middlesex County, New Jersey)	5,858	86%	5,021	4.0 mi	313.81	4.12%
Census Tract 86.01 (Plainsboro Township, Middlesex County, New Jersey)	5,407	83%	4,462	4.5 mi	220.35	2.89%
Census Tract 43.04 (West Windsor Township, Mercer County, New Jersey)	7,937	45%	3,576	3.7 mi	261.21	3.43%
Census Tract 42.04 (Princeton Township, Mercer County, New Jersey)	5,478	59%	3,232	4.1 mi	192.27	2.52%
Census Tract 40 (Princeton Township, Mercer County, New Jersey)	4,946	61%	3,003	3.3 mi	275.76	3.62%
Census Tract 86.05 (Plainsboro Township, Middlesex County, New Jersey)	2,486	80%	1,992	4.8 mi	86.46	1.13%
Census Tract 43.06 (West Windsor Township, Mercer County, New Jersey)	5,619	28%	1,556	4.4 mi	80.37	1.05%
Census Tract 86.02 (Plainsboro Township, Middlesex County, New Jersey)	5,493	23%	1,257	4.6 mi	59.40	0.78%
Census Tract 45.02 (Princeton Township, Mercer County, New Jersey)	1,116	27%	302	3.8 mi	20.91	0.27%
Census Tract 42.01 (Princeton Township, Mercer County, New Jersey)	6,978	3%	195	4.0 mi	12.19	0.16%
Census Tract 86.06 (Plainsboro Township, Middlesex County, New Jersey)	4,176	4%	147	6.3 mi	3.70	0.05%

Sum of Ai / d² = 7623.61 100.00%

Alexander Road (West of Rt 1)	Alexander Road (East of Train Track)	Washington Road (West of Site)	Bear Brook Road (West of Site)	Princeton-Hightstown Road (East of Site)	Wallace Road (South of Site)	Cranbury Road (East of Site)
30%		30%	40%			
30%		70%				
	20%			45%	15%	20%
				60%		40%
		60%		20%		20%
40%		60%				
		100%				
		10%		50%		40%
	20%			65%	15%	
		50%		30%		20%
40%		60%				
		100%				
				60%		40%

To/From	Calculated	Distribution
Alexander Road (West of Rt 1)	18.72%	20%
Alexander Road (East of Train Track)	6.84%	5%
Washington Road (West of Site)	24.52%	25%
Bear Brook Road (West of Site)	12.41%	10%
Princeton-Hightstown Road East of Site)	22.22%	25%
Wallace Road (South of Site)	5.13%	5%
Cranbury Road (East of Site)	10.17%	10%
Total	100.00%	100%

Workplace	#	%	Princeton-Hightstown Road - East of Site	Washington Road - West of Site	Alexander Street - West of Site	Alexander Street - East of Site	Cranbury Road - North of Site	Bear Brook Road - South of Site	Roszel Road - South of Site
New Castle Co. DE	8	0.07%			100%				
Portland city Cumberland Co. ME	10	0.09%	100%		0%				
Anne Arundel Co. MD	6	0.06%			100%				
Baltimore city MD	6	0.06%			100%				
Egg Harbor Twp. Atlantic Co. NJ	8	0.07%	40%		60%				
Hamilton Twp. Atlantic Co. NJ	10	0.09%			100%				
Lyndhurst Twp. Bergen Co. NJ	5	0.05%	50%	50%					
Midland Park bor. Bergen Co. NJ	6	0.06%		100%					
Montvale bor. Bergen Co. NJ	6	0.06%	50%	50%					
Paramus bor. Bergen Co. NJ	6	0.06%		100%					
Rochelle Park Twp. Bergen Co. NJ	5	0.05%	50%	50%					
Rutherford bor. Bergen Co. NJ	5	0.05%	50%	50%					
Upper Saddle River bor. Bergen Co. NJ	10	0.09%		100%					
Bordentown city Burlington Co. NJ	5	0.05%	50%		50%				
Bordentown Twp. Burlington Co. NJ	15	0.14%	50%		50%				
Burlington Twp. Burlington Co. NJ	6	0.06%	30%		70%				
Delran Twp. Burlington Co. NJ	6	0.06%	50%		50%				
Fieldsboro bor. Burlington Co. NJ	4	0.04%			100%				
Florence Twp. Burlington Co. NJ	18	0.17%	40%		60%				
Lumberton Twp. Burlington Co. NJ	7	0.07%	50%		50%				
Mansfield Twp. Burlington Co. NJ	10	0.09%	40%		60%				
Medford Twp. Burlington Co. NJ	18	0.17%			100%				
Moorestown Twp. Burlington Co. NJ	4	0.04%	40%		60%				
Mount Laurel Twp. Burlington Co. NJ	7	0.07%	40%		60%				
Springfield Twp. Burlington Co. NJ	10	0.09%	40%		60%				
Camden city Camden Co. NJ	8	0.07%			100%				
Cherry Hill Twp. Camden Co. NJ	7	0.07%			100%				
Haddon Twp. Camden Co. NJ	7	0.07%			100%				
Pennsauken Twp. Camden Co. NJ	6	0.06%			100%				
Winslow Twp. Camden Co. NJ	5	0.05%			100%				
Belleville Twp. Essex Co. NJ	5	0.05%	60%	40%					
Bloomfield Twp. Essex Co. NJ	16	0.15%	50%	50%					
Fairfield Twp. Essex Co. NJ	13	0.12%		100%					
Livingston Twp. Essex Co. NJ	12	0.11%		100%					
Montclair Twp. Essex Co. NJ	11	0.10%	60%	40%					
Newark city Essex Co. NJ	103	0.96%	50%	50%					
Nutley Twp. Essex Co. NJ	7	0.07%	60%	40%					
West Caldwell Twp. Essex Co. NJ	7	0.07%	50%	50%					
Hoboken city Hudson Co. NJ	15	0.14%	50%	50%					
Jersey City city Hudson Co. NJ	52	0.49%	50%	50%					
Kearny town Hudson Co. NJ	6	0.06%	50%	50%					
Secaucus town Hudson Co. NJ	17	0.16%	50%	50%					
East Amwell Twp. Hunterdon Co. NJ	16	0.15%			100%				
Lambertville city Hunterdon Co. NJ	14	0.13%			100%				
Readington Twp. Hunterdon Co. NJ	6	0.06%		70%	30%				
Union Twp. Hunterdon Co. NJ	5	0.05%		50%	50%				
East Windsor Twp. Mercer Co. NJ	124	1.16%	100%						
Ewing Twp. Mercer Co. NJ	160	1.50%	30%		70%				
Hamilton Twp. Mercer Co. NJ	240	2.25%	50%		50%				
Hightstown bor. Mercer Co. NJ	33	0.31%	100%						
Hopewell bor. Mercer Co. NJ	10	0.09%			100%				
Hopewell Twp. Mercer Co. NJ	65	0.61%			100%				
Lawrence Twp. Mercer Co. NJ	445	4.16%	30%		70%				
Pennington bor. Mercer Co. NJ	22	0.21%			100%				
Princeton bor. Mercer Co. NJ	735	6.88%		50%	50%				
Princeton Twp. Mercer Co. NJ	274	2.56%		50%	50%				
Trenton city Mercer Co. NJ	467	4.37%	40%		60%				
Washington Twp. Mercer Co. NJ	50	0.47%	100%						
West Windsor Twp. Mercer Co. NJ	2078	19.45%	20%	10%	20%	10%	20%	10%	10%
Carteret bor. Middlesex Co. NJ	13	0.12%	50%	50%					
Cranbury Twp. Middlesex Co. NJ	81	0.76%	50%	20%			30%		
East Brunswick Twp. Middlesex Co. NJ	55	0.51%		100%					
Edison Twp. Middlesex Co. NJ	107	1.00%	40%	60%					
Highland Park bor. Middlesex Co. NJ	24	0.22%	40%	60%					
Jamesburg bor. Middlesex Co. NJ	27	0.25%	40%	30%			30%		
Monroe Twp. Middlesex Co. NJ	61	0.57%	40%	30%			30%		
New Brunswick city Middlesex Co. NJ	192	1.80%		100%					
North Brunswick Twp. Middlesex Co. NJ	25	0.23%		100%					
Old Bridge Twp. Middlesex Co. NJ	66	0.62%		100%					
Perth Amboy city Middlesex Co. NJ	16	0.15%		100%					
Piscataway Twp. Middlesex Co. NJ	124	1.16%		100%					
Plainsboro Twp. Middlesex Co. NJ	621	5.81%	30%	30%			40%		
Sayreville bor. Middlesex Co. NJ	9	0.08%		100%					
South Amboy city Middlesex Co. NJ	5	0.05%	50%	50%					
South Brunswick Twp. Middlesex Co. NJ	269	2.52%	30%	40%			30%		
South Plainfield bor. Middlesex Co. NJ	20	0.19%	40%	60%					
South River bor. Middlesex Co. NJ	9	0.08%		100%					

Workplace	#	%	Princeton-Hightstown Road - East of Site	Washington Road - West of Site	Alexander Street - West of Site	Alexander Street - East of Site	Cranbury Road - North of Site	Bear Brook Road - South of Site	Roszel Road - South of Site
Spotswood bor. Middlesex Co. NJ	6	0.06%		100%					
Woodbridge Twp. Middlesex Co. NJ	95	0.89%	50%	50%					
Freehold bor. Monmouth Co. NJ	5	0.05%	100%						
Holmdel Twp. Monmouth Co. NJ	15	0.14%	50%				50%		
Howell Twp. Monmouth Co. NJ	6	0.06%	100%						
Manalapan Twp. Monmouth Co. NJ	27	0.25%	50%				50%		
Marlboro Twp. Monmouth Co. NJ	11	0.10%	100%						
Middletown Twp. Monmouth Co. NJ	31	0.29%	60%	40%					
Neptune Twp. Monmouth Co. NJ	9	0.08%	60%		40%				
Ocean Twp. Monmouth Co. NJ	6	0.06%	100%						
Red Bank bor. Monmouth Co. NJ	19	0.18%	60%	40%					
Union Beach bor. Monmouth Co. NJ	14	0.13%	60%	40%					
Wall Twp. Monmouth Co. NJ	16	0.15%	100%	0%					
West Long Branch bor. Monmouth Co. NJ	12	0.11%	60%	40%					
Florham Park bor. Morris Co. NJ	8	0.07%	50%	50%					
Hanover Twp. Morris Co. NJ	10	0.09%		100%					
Harding Twp. Morris Co. NJ	13	0.12%		100%					
Long Hill Twp. Morris Co. NJ	1	0.01%		100%					
Madison bor. Morris Co. NJ	22	0.21%	40%	60%					
Montville Twp. Morris Co. NJ	6	0.06%		100%					
Morris Plains bor. Morris Co. NJ	6	0.06%		100%					
Parsippany-Troy Hills Twp. Morris Co. NJ	50	0.47%		100%					
Clifton city Passaic Co. NJ	5	0.05%	50%	50%					
Little Falls Twp. Passaic Co. NJ	6	0.06%	40%	60%					
Bernards Twp. Somerset Co. NJ	46	0.43%		100%					
Bernardsville bor. Somerset Co. NJ	7	0.07%		70%	30%				
Bound Brook bor. Somerset Co. NJ	7	0.07%		100%					
Branchburg Twp. Somerset Co. NJ	8	0.07%		60%	40%				
Bridgewater Twp. Somerset Co. NJ	68	0.64%		100%					
Franklin Twp. Somerset Co. NJ	184	1.72%		100%					
Hillsbor. Twp. Somerset Co. NJ	30	0.28%		100%					
Montgomery Twp. Somerset Co. NJ	125	1.17%		70%	30%				
Peapack and Gladstone bor. Somerset Co. NJ	7	0.07%		80%	20%				
Raritan bor. Somerset Co. NJ	11	0.10%		100%					
Somerville bor. Somerset Co. NJ	15	0.14%		100%					
Warren Twp. Somerset Co. NJ	8	0.07%		100%					
Berkeley Heights Twp. Union Co. NJ	9	0.08%		100%					
Clark Twp. Union Co. NJ	12	0.11%	50%	50%					
Kenilworth bor. Union Co. NJ	13	0.12%	50%	50%					
Linden city Union Co. NJ	7	0.07%	50%	50%					
Mountainside bor. Union Co. NJ	7	0.07%	50%	50%					
New Providence bor. Union Co. NJ	7	0.07%		100%					
Plainfield city Union Co. NJ	13	0.12%		100%					
Rahway city Union Co. NJ	33	0.31%	50%	50%					
Summit city Union Co. NJ	21	0.20%	50%	50%					
Union Twp. Union Co. NJ	35	0.33%	50%	50%					
Phillipsburg town Warren Co. NJ	8	0.07%		50%	50%				
Bronx bor. Bronx Co. NY	25	0.23%	50%	50%					
Brooklyn bor. Kings Co. NY	106	0.99%	50%	50%					
Hempstead town Nassau Co. NY	15	0.14%	50%	50%					
North Hempstead town Nassau Co. NY	6	0.06%	50%	50%					
Manhattan bor. New York Co. NY	2073	19.40%	60%	40%					
New Windsor town Orange Co. NY	13	0.12%	50%	50%					
Queens bor. Queens Co. NY	63	0.59%	40%	60%					
Staten Island bor. Richmond Co. NY	14	0.13%	50%	50%					
Pittsburgh city Allegheny Co. PA	7	0.07%			100%				
Bensalem Twp. Bucks Co. PA	14	0.13%	30%	70%					
Middletown Twp. Bucks Co. PA	7	0.07%	40%	60%					
Morrisville bor. Bucks Co. PA	15	0.14%	20%	80%					
Newtown bor. Bucks Co. PA	16	0.15%		100%					
Newtown Twp. Bucks Co. PA	6	0.06%		100%					
Warmünster Twp. Bucks Co. PA	20	0.19%		100%					
East Whiteland Twp. Chester Co. PA	10	0.09%		100%					
Radnor Twp. Delaware Co. PA	8	0.07%		100%					
Conshohocken bor. Montgomery Co. PA	6	0.06%		100%					
Horsham Twp. Montgomery Co. PA	13	0.12%		100%					
Lower Gwynedd Twp. Montgomery Co. PA	6	0.06%		100%					
Lower Merion Twp. Montgomery Co. PA	10	0.09%		100%					
Upper Gwynedd Twp. Montgomery Co. PA	23	0.22%		100%					
Upper Merion Twp. Montgomery Co. PA	8	0.07%		100%					
Whitpain Twp. Montgomery Co. PA	13	0.12%		100%					
Philadelphia city Philadelphia Co. PA	123	1.15%		100%					
Henrico Co. VA	19	0.18%		100%					
TOTAL	10685	100.00%							

SUMMARY	Actual %	Rounded %
Princeton-Hightstown Road - East of Site	31.07%	30%
Washington Road - West of Site	33.17%	30%
Alexander Street - West of Site	24.22%	25%
Alexander Street - East of Site	1.94%	5%
Cranbury Road - North of Site	7.64%	5%
Bear Brook Road - South of Site	1.94%	5%
	100.00%	100%



Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

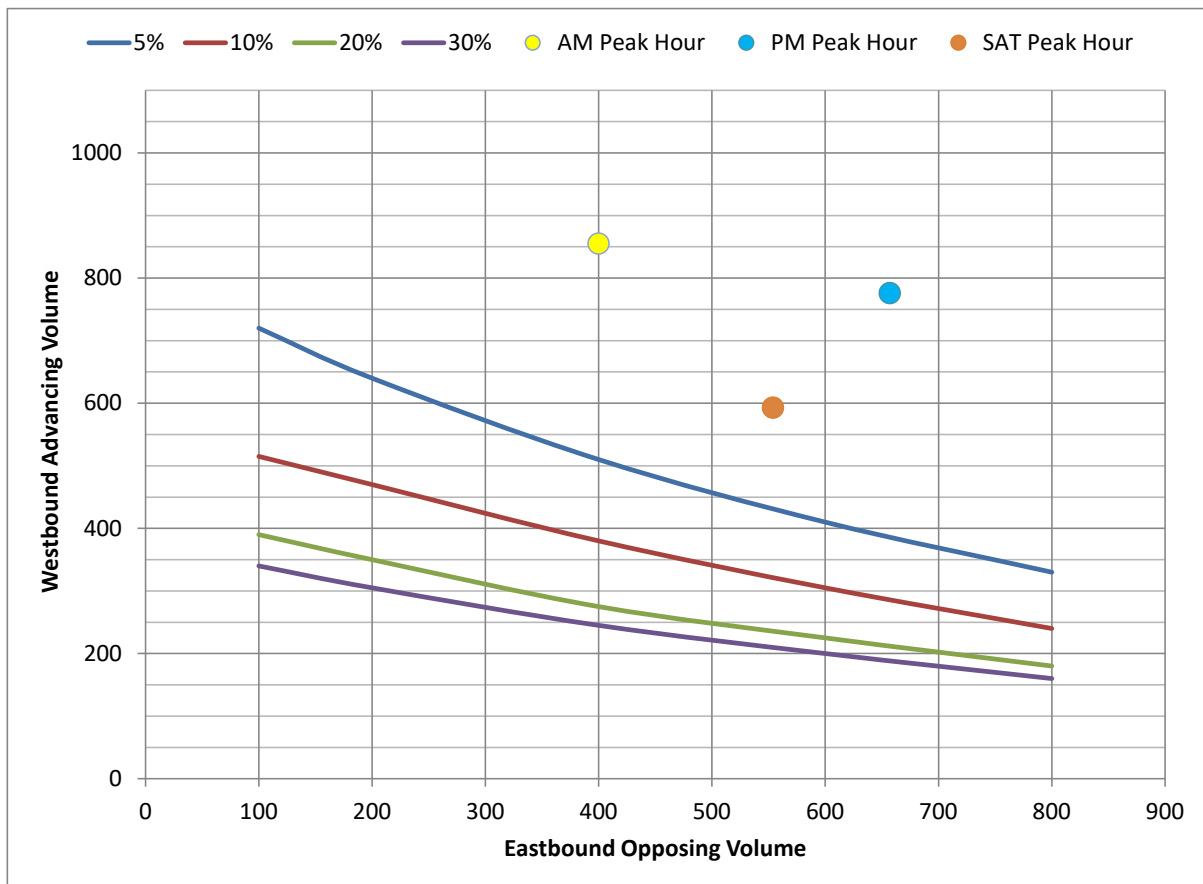
TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX E

TURN LANE WARRANT ANALYSIS

AASHTO Left Turn Warrants 40 MPH				
Opposing Volumes (veh/hour)	Advancing Volumes (veh/hour)			
	5%	10%	20%	30%
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340



2023 Build Conditions - Washington Road (CR 571) & West Site Access - AM Peak Hour

	Through	Left-Turn/Right-Turn	Total	% Left-Turns
Westbound	762	93	855	11%
Eastbound	359	41	400	-

2023 Build Conditions - Washington Road (CR 571) & West Site Access - PM Peak Hour

	Through	Left-Turn/Right-Turn	Total	% Left-Turns
Westbound	677	99	776	13%
Eastbound	599	58	657	-

2023 Build Conditions - Washington Road (CR 571) & West Site Access - SAT Peak Hour

	Through	Left-Turn/Right-Turn	Total	% Left-Turns
Westbound	507	86	593	15%
Eastbound	482	72	554	-



Transit Village at Princeton Junction
Township of West Windsor, Mercer County, New Jersey
MC Project No. 16000081A
Appendix

TRANSIT VILLAGE AT PRINCETON JUNCTION

TRAFFIC IMPACT STUDY

APPENDIX F

CAPACITY ANALYSIS

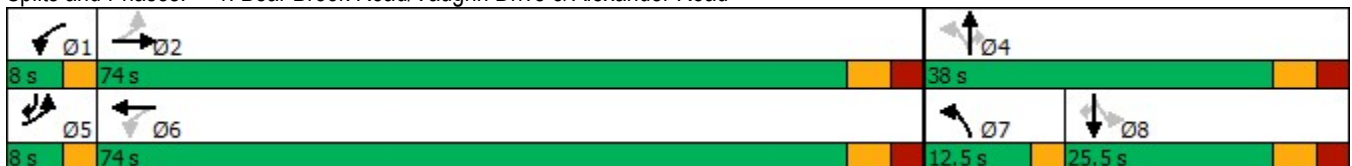


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	195	295	124	1142	221	136	185	9	39	128
Future Volume (vph)	195	295	124	1142	221	136	185	9	39	128
Lane Group Flow (vph)	207	353	132	1280	235	145	197	0	51	136
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	67.0	5.0	67.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	74.0	8.0	74.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	8.0	74.0	8.0	74.0	12.5	38.0	38.0	25.5	25.5	8.0
Total Split (%)	6.7%	61.7%	6.7%	61.7%	10.4%	31.7%	31.7%	21.3%	21.3%	6.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.76	0.17	0.19	0.58	0.86	0.47	0.48		0.42	0.44
Control Delay	26.8	8.9	5.6	13.8	68.9	44.7	9.5		58.9	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	26.8	8.9	5.6	13.8	68.9	44.7	9.5		58.9	22.3
Queue Length 50th (ft)	40	49	24	265	149	91	0		35	34
Queue Length 95th (ft)	#110	76	48	356	#263	153	60		75	92
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	272	2130	693	2217	272	527	564		267	312
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.76	0.17	0.19	0.58	0.86	0.28	0.35		0.19	0.44

Intersection Summary

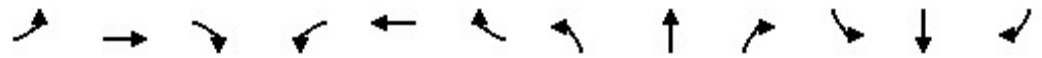
Cycle Length: 120
 Actuated Cycle Length: 107.6
 Natural Cycle: 105
 Control Type: Semi Act-Uncoord
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road



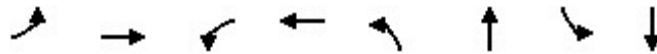
16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 No-Build Conditions
 AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	295	37	124	1142	61	221	136	185	9	39	128
Future Volume (veh/h)	195	295	37	124	1142	61	221	136	185	9	39	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1856	1856	1752	1885	1885	1870	1841	1752	1767	1767	1811
Adj Flow Rate, veh/h	207	314	39	132	1215	65	235	145	197	10	41	136
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	3	3	10	1	1	2	4	10	9	9	6
Cap, veh/h	299	1871	230	664	2048	109	305	392	317	53	154	225
Arrive On Green	0.04	0.59	0.59	0.04	0.59	0.59	0.08	0.21	0.21	0.10	0.10	0.10
Sat Flow, veh/h	1753	3159	389	1668	3458	185	1781	1841	1485	148	1501	1535
Grp Volume(v), veh/h	207	174	179	132	629	651	235	145	197	51	0	136
Grp Sat Flow(s),veh/h/ln	1753	1763	1786	1668	1791	1852	1781	1841	1485	1648	0	1535
Q Serve(g_s), s	5.0	5.1	5.1	3.5	24.9	25.0	9.5	7.6	13.6	0.0	0.0	9.4
Cycle Q Clear(g_c), s	5.0	5.1	5.1	3.5	24.9	25.0	9.5	7.6	13.6	3.0	0.0	9.4
Prop In Lane	1.00		0.22	1.00		0.10	1.00		1.00	0.20		1.00
Lane Grp Cap(c), veh/h	299	1044	1058	664	1061	1097	305	392	317	207	0	225
V/C Ratio(X)	0.69	0.17	0.17	0.20	0.59	0.59	0.77	0.37	0.62	0.25	0.00	0.60
Avail Cap(c_a), veh/h	299	1044	1058	664	1061	1097	305	504	407	300	0	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	10.4	10.4	8.2	14.5	14.5	43.2	38.0	40.4	46.9	0.0	45.2
Incr Delay (d2), s/veh	5.7	0.0	0.0	0.1	0.6	0.6	10.4	0.2	0.7	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	3.3	3.4	2.1	14.4	14.8	4.7	6.2	8.8	2.4	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	10.5	10.5	8.3	15.1	15.1	53.6	38.2	41.1	47.1	0.0	46.1
LnGrp LOS	C	B	B	A	B	B	D	D	D	D	A	D
Approach Vol, veh/h		560			1412			577				187
Approach Delay, s/veh		14.4			14.5			45.5				46.4
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	74.0		31.1	8.0	74.0	12.5	18.6				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	5.0	67.0		31.0	5.0	67.0	9.5	18.5				
Max Q Clear Time (g_c+I1), s	5.5	7.1		15.6	7.0	27.0	11.5	11.4				
Green Ext Time (p_c), s	0.0	1.2		0.7	0.0	6.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				23.2								
HCM 6th LOS				C								

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	13	240	138	782	95	35	49	113
Future Volume (vph)	13	240	138	782	95	35	49	113
Lane Group Flow (vph)	14	303	150	872	103	129	53	228
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.08	0.16	0.25	0.83	0.49	0.34	0.24	0.60
Control Delay	7.1	5.1	7.3	19.4	27.3	10.1	20.3	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	5.1	7.3	19.4	27.3	10.1	20.3	20.1
Queue Length 50th (ft)	2	16	18	176	28	10	14	43
Queue Length 95th (ft)	10	37	53	#475	66	44	38	96
Internal Link Dist (ft)		559		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	183	1954	609	1050	660	1020	703	1045
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.16	0.25	0.83	0.16	0.13	0.08	0.22

Intersection Summary

Cycle Length: 72

Actuated Cycle Length: 51.6

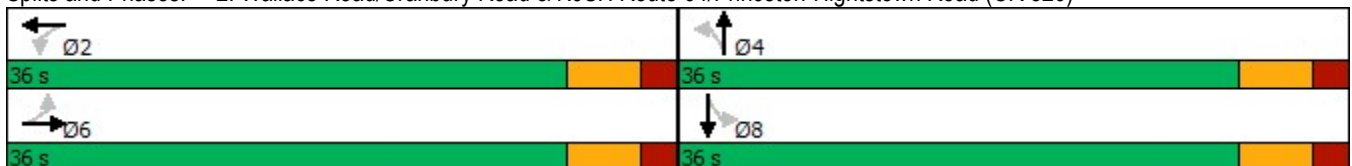
Natural Cycle: 60

Control Type: Semi Act-Uncoord

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	240	39	138	782	20	95	35	84	49	113	97
Future Volume (veh/h)	13	240	39	138	782	20	95	35	84	49	113	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1796	1796	1856	1826	1826	1870	1900	1900	1811	1870	1870
Adj Flow Rate, veh/h	14	261	42	150	850	22	103	38	91	53	123	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	7	7	3	5	5	2	0	0	6	2	2
Cap, veh/h	196	1586	252	655	953	25	282	123	294	355	230	197
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	605	2950	469	1068	1772	46	1153	497	1189	1221	932	795
Grp Volume(v), veh/h	14	150	153	150	0	872	103	0	129	53	0	228
Grp Sat Flow(s),veh/h/ln	605	1706	1712	1068	0	1818	1153	0	1686	1221	0	1727
Q Serve(g_s), s	1.2	2.5	2.5	4.6	0.0	23.8	4.7	0.0	3.5	2.1	0.0	6.4
Cycle Q Clear(g_c), s	25.0	2.5	2.5	7.2	0.0	23.8	11.1	0.0	3.5	5.5	0.0	6.4
Prop In Lane	1.00		0.27	1.00		0.03	1.00		0.71	1.00		0.46
Lane Grp Cap(c), veh/h	196	918	921	655	0	977	282	0	417	355	0	427
V/C Ratio(X)	0.07	0.16	0.17	0.23	0.00	0.89	0.37	0.00	0.31	0.15	0.00	0.53
Avail Cap(c_a), veh/h	196	918	921	655	0	977	617	0	907	710	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	6.5	6.5	8.4	0.0	11.5	23.0	0.0	17.1	19.4	0.0	18.2
Incr Delay (d2), s/veh	0.7	0.4	0.4	0.8	0.0	12.2	0.3	0.0	0.2	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.3	1.3	1.7	0.0	14.8	2.2	0.0	2.3	1.0	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	6.9	6.9	9.2	0.0	23.6	23.3	0.0	17.3	19.4	0.0	18.6
LnGrp LOS	C	A	A	A	A	C	C	A	B	B	A	B
Approach Vol, veh/h		317			1022			232				281
Approach Delay, s/veh		7.6			21.5			20.0				18.8
Approach LOS		A			C			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		19.8		36.0		19.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		30.0		30.0		30.0		30.0				
Max Q Clear Time (g_c+I1), s		25.8		13.1		27.0		8.4				
Green Ext Time (p_c), s		1.8		0.7		0.3		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				18.5								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	280	75	182	0	16	12
Future Vol, veh/h	280	75	182	0	16	12
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	6	1	0	6	0	0
Mvmt Flow	283	76	184	0	16	12
Number of Lanes	1	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.9	8.9	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	57%	0%	100%
Vol Thru, %	0%	79%	0%
Vol Right, %	43%	21%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	355	182
LT Vol	16	0	182
Through Vol	0	280	0
RT Vol	12	75	0
Lane Flow Rate	28	359	184
Geometry Grp	1	1	1
Degree of Util (X)	0.039	0.405	0.231
Departure Headway (Hd)	4.926	4.062	4.522
Convergence, Y/N	Yes	Yes	Yes
Cap	730	875	800
Service Time	2.934	2.148	2.522
HCM Lane V/C Ratio	0.038	0.41	0.23
HCM Control Delay	8.1	9.9	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	2	0.9



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	117	578	271	472	75	52	210	208	167	299
Future Volume (vph)	117	578	271	472	75	52	210	208	167	299
Lane Group Flow (vph)	130	858	301	572	83	58	233	0	417	332
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	67.0	5.0	67.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	74.0	8.0	74.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	8.0	74.0	8.0	74.0	12.5	38.0	38.0	25.5	25.5	8.0
Total Split (%)	6.7%	61.7%	6.7%	61.7%	10.4%	31.7%	31.7%	21.3%	21.3%	6.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.24	0.43	0.77	0.29	0.42	0.14	0.41		1.76	0.50
Control Delay	8.5	14.3	26.5	13.4	38.5	35.4	6.8		389.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	8.5	14.3	26.5	13.4	38.5	35.4	6.8		389.8	6.7
Queue Length 50th (ft)	34	181	88	114	48	35	0		~486	0
Queue Length 95th (ft)	58	229	#156	149	89	70	62		#686	73
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	546	1976	393	2006	214	466	599		237	662
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.24	0.43	0.77	0.29	0.39	0.12	0.39		1.76	0.50

Intersection Summary

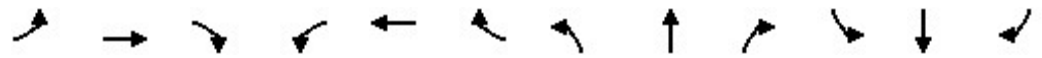
Cycle Length: 120
 Actuated Cycle Length: 117.2
 Natural Cycle: 125
 Control Type: Semi Act-Uncoord
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road



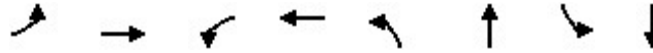
16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 No-Build Conditions
 PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	578	194	271	472	43	75	52	210	208	167	299
Future Volume (veh/h)	117	578	194	271	472	43	75	52	210	208	167	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1781	1900	1870	1870	1885
Adj Flow Rate, veh/h	130	642	216	301	524	48	83	58	233	231	186	332
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	0	8	0	2	2	1
Cap, veh/h	552	1497	503	417	1888	172	160	425	384	165	94	321
Arrive On Green	0.04	0.57	0.57	0.04	0.57	0.57	0.05	0.24	0.24	0.16	0.16	0.16
Sat Flow, veh/h	1781	2611	878	1781	3292	301	1810	1781	1610	741	597	1598
Grp Volume(v), veh/h	130	437	421	301	282	290	83	58	233	417	0	332
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1777	1816	1810	1781	1610	1338	0	1598
Q Serve(g_s), s	3.5	16.2	16.3	5.0	9.4	9.5	4.3	3.0	15.1	18.5	0.0	18.5
Cycle Q Clear(g_c), s	3.5	16.2	16.3	5.0	9.4	9.5	4.3	3.0	15.1	18.5	0.0	18.5
Prop In Lane	1.00		0.51	1.00		0.17	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	552	1019	982	417	1019	1041	160	425	384	260	0	321
V/C Ratio(X)	0.24	0.43	0.43	0.72	0.28	0.28	0.52	0.14	0.61	1.61	0.00	1.03
Avail Cap(c_a), veh/h	552	1019	982	417	1019	1041	209	473	427	260	0	321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	14.1	14.1	19.0	12.6	12.7	38.1	35.0	39.6	50.9	0.0	46.7
Incr Delay (d2), s/veh	0.1	0.1	0.1	5.2	0.1	0.1	1.0	0.1	1.2	289.9	0.0	59.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	10.2	9.9	7.9	6.4	6.5	3.5	2.3	10.2	44.8	0.0	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.8	14.2	14.2	24.2	12.7	12.7	39.1	35.1	40.8	340.8	0.0	105.7
LnGrp LOS	A	B	B	C	B	B	D	D	D	F	A	F
Approach Vol, veh/h		988			873			374			749	
Approach Delay, s/veh		13.6			16.7			39.5			236.6	
Approach LOS		B			B			D			F	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	74.0		34.8	8.0	74.0	9.3	25.5				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	5.0	67.0		31.0	5.0	67.0	9.5	18.5				
Max Q Clear Time (g_c+I1), s	7.0	18.3		17.1	5.5	11.5	6.3	20.5				
Green Ext Time (p_c), s	0.0	3.5		0.5	0.0	2.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				73.7								
HCM 6th LOS				E								

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)^{PM Peak}



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	124	707	133	339	97	95	61	79
Future Volume (vph)	124	707	133	339	97	95	61	79
Lane Group Flow (vph)	146	965	156	421	114	332	72	144
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.29	0.50	0.59	0.41	0.38	0.72	0.39	0.31
Control Delay	10.4	9.7	23.6	10.0	21.0	23.7	23.7	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	9.7	23.6	10.0	21.0	23.7	23.7	13.5
Queue Length 50th (ft)	23	87	30	70	31	76	20	26
Queue Length 95th (ft)	65	163	#121	154	63	134	47	57
Internal Link Dist (ft)		559		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	505	1920	265	1019	688	967	423	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.50	0.59	0.41	0.17	0.34	0.17	0.14

Intersection Summary

Cycle Length: 72

Actuated Cycle Length: 55.5

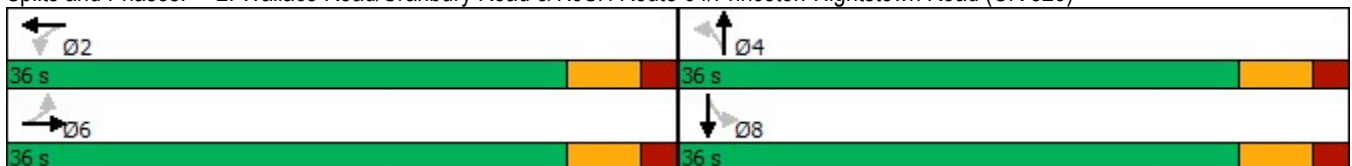
Natural Cycle: 55

Control Type: Semi Act-Uncoord

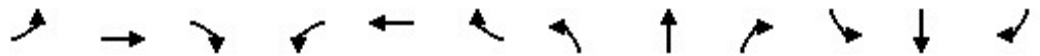
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	124	707	113	133	339	19	97	95	187	61	79	43
Future Volume (veh/h)	124	707	113	133	339	19	97	95	187	61	79	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	146	832	133	156	399	22	114	112	220	72	93	51
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	486	1583	253	318	906	50	401	162	319	239	327	179
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	981	3093	494	587	1770	98	1264	573	1125	1065	1154	633
Grp Volume(v), veh/h	146	482	483	156	0	421	114	0	332	72	0	144
Grp Sat Flow(s),veh/h/ln	981	1791	1796	587	0	1868	1264	0	1698	1065	0	1786
Q Serve(g_s), s	6.5	10.5	10.5	14.2	0.0	8.3	4.5	0.0	10.2	3.8	0.0	3.7
Cycle Q Clear(g_c), s	14.8	10.5	10.5	24.7	0.0	8.3	8.2	0.0	10.2	14.0	0.0	3.7
Prop In Lane	1.00		0.28	1.00		0.05	1.00		0.66	1.00		0.35
Lane Grp Cap(c), veh/h	486	917	920	318	0	956	401	0	481	239	0	506
V/C Ratio(X)	0.30	0.53	0.53	0.49	0.00	0.44	0.28	0.00	0.69	0.30	0.00	0.28
Avail Cap(c_a), veh/h	486	917	920	318	0	956	690	0	869	482	0	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	9.5	9.5	17.8	0.0	9.0	19.6	0.0	18.7	24.9	0.0	16.4
Incr Delay (d2), s/veh	1.6	2.2	2.1	5.3	0.0	1.5	0.1	0.0	0.7	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	6.5	6.5	3.7	0.0	5.2	2.3	0.0	6.8	1.7	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	11.7	11.7	23.1	0.0	10.5	19.7	0.0	19.4	25.2	0.0	16.5
LnGrp LOS	B	B	B	C	A	B	B	A	B	C	A	B
Approach Vol, veh/h		1111			577			446				216
Approach Delay, s/veh		12.2			13.9			19.5				19.4
Approach LOS		B			B			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		22.6		36.0		22.6				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		30.0		30.0		30.0		30.0				
Max Q Clear Time (g_c+I1), s		26.7		12.2		16.8		16.0				
Green Ext Time (p_c), s		0.9		1.6		3.7		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				14.6								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	113.2
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	540	60	20	0	254	404
Future Vol, veh/h	540	60	20	0	254	404
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	1	0	0	1	1	0
Mvmt Flow	635	71	24	0	299	475
Number of Lanes	1	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	104.3	11.4	124.5
HCM LOS	F	B	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	39%	0%	100%
Vol Thru, %	0%	90%	0%
Vol Right, %	61%	10%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	658	600	20
LT Vol	254	0	20
Through Vol	0	540	0
RT Vol	404	60	0
Lane Flow Rate	774	706	24
Geometry Grp	1	1	1
Degree of Util (X)	1.196	1.136	0.047
Departure Headway (Hd)	5.895	6.278	7.993
Convergence, Y/N	Yes	Yes	Yes
Cap	619	586	451
Service Time	3.895	4.278	5.993
HCM Lane V/C Ratio	1.25	1.205	0.053
HCM Control Delay	124.5	104.3	11.4
HCM Lane LOS	F	F	B
HCM 95th-tile Q	25.6	21.2	0.1

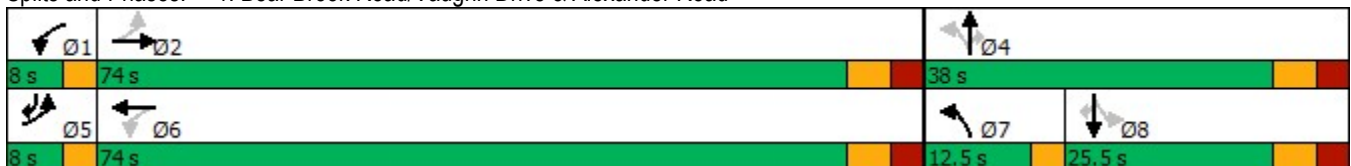


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	134	316	197	348	120	66	188	97	55	114
Future Volume (vph)	134	316	197	348	120	66	188	97	55	114
Lane Group Flow (vph)	140	436	205	453	125	69	196	0	158	119
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	67.0	5.0	67.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	74.0	8.0	74.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	8.0	74.0	8.0	74.0	12.5	38.0	38.0	25.5	25.5	8.0
Total Split (%)	6.7%	61.7%	6.7%	61.7%	10.4%	31.7%	31.7%	21.3%	21.3%	6.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.22	0.22	0.31	0.23	0.41	0.15	0.37		0.81	0.26
Control Delay	8.2	11.0	9.2	11.7	37.3	35.7	6.9		78.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	8.2	11.0	9.2	11.7	37.3	35.7	6.9		78.9	7.7
Queue Length 50th (ft)	36	71	55	78	74	41	0		118	0
Queue Length 95th (ft)	62	101	88	110	126	81	58		#213	46
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	626	1992	651	2012	311	504	573		230	466
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.22	0.22	0.31	0.23	0.40	0.14	0.34		0.69	0.26

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 116.8
 Natural Cycle: 105
 Control Type: Semi Act-Uncoord
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road

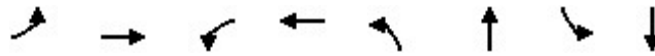


16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 No-Build Conditions
 SAT Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	316	103	197	348	86	120	66	188	97	55	114
Future Volume (veh/h)	134	316	103	197	348	86	120	66	188	97	55	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1885	1885	1900	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	140	329	107	205	362	90	125	69	196	101	57	119
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	0	1	1	0	0	0	0	0	2
Cap, veh/h	619	1522	487	636	1638	402	221	449	381	166	65	284
Arrive On Green	0.04	0.57	0.57	0.04	0.57	0.57	0.07	0.24	0.24	0.14	0.14	0.14
Sat Flow, veh/h	1781	2648	847	1810	2850	700	1810	1900	1610	846	480	1585
Grp Volume(v), veh/h	140	219	217	205	226	226	125	69	196	158	0	119
Grp Sat Flow(s),veh/h/ln	1781	1777	1718	1810	1791	1759	1810	1900	1610	1326	0	1585
Q Serve(g_s), s	3.8	7.0	7.2	5.0	7.2	7.3	6.7	3.4	12.3	13.6	0.0	7.8
Cycle Q Clear(g_c), s	3.8	7.0	7.2	5.0	7.2	7.3	6.7	3.4	12.3	13.6	0.0	7.8
Prop In Lane	1.00		0.49	1.00		0.40	1.00		1.00	0.64		1.00
Lane Grp Cap(c), veh/h	619	1021	987	636	1029	1011	221	449	381	231	0	284
V/C Ratio(X)	0.23	0.21	0.22	0.32	0.22	0.22	0.57	0.15	0.51	0.68	0.00	0.42
Avail Cap(c_a), veh/h	619	1021	987	636	1029	1011	233	505	428	261	0	320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	12.0	12.1	10.3	12.1	12.1	38.5	35.3	38.7	49.4	0.0	42.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	1.6	0.1	0.4	4.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	4.7	4.7	3.8	4.9	4.9	5.5	2.8	8.6	8.4	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	12.1	12.1	10.4	12.1	12.1	40.0	35.3	39.1	53.8	0.0	42.8
LnGrp LOS	A	B	B	B	B	B	D	D	D	D	A	D
Approach Vol, veh/h		576			657			390				277
Approach Delay, s/veh		11.5			11.6			38.7				49.1
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	74.0		34.6	8.0	74.0	11.7	22.9				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	5.0	67.0		31.0	5.0	67.0	9.5	18.5				
Max Q Clear Time (g_c+I1), s	7.0	9.2		14.3	5.8	9.3	8.7	15.6				
Green Ext Time (p_c), s	0.0	1.6		0.5	0.0	1.6	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				22.6								
HCM 6th LOS				C								

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AT Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	38	393	89	528	60	18	87	55
Future Volume (vph)	38	393	89	528	60	18	87	55
Lane Group Flow (vph)	40	457	95	576	64	83	93	93
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.08	0.19	0.15	0.46	0.29	0.25	0.42	0.29
Control Delay	5.4	4.7	5.9	7.4	22.0	9.8	24.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.4	4.7	5.9	7.4	22.0	9.8	24.9	15.2
Queue Length 50th (ft)	4	25	10	80	17	5	25	15
Queue Length 95th (ft)	16	51	32	172	44	33	59	46
Internal Link Dist (ft)		559		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	521	2380	624	1260	773	1017	788	1073
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.19	0.15	0.46	0.08	0.08	0.12	0.09

Intersection Summary

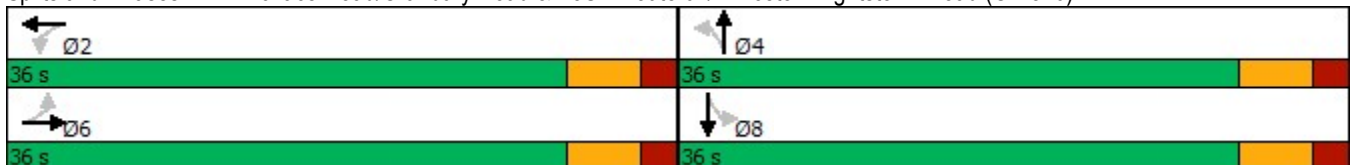
Cycle Length: 72

Actuated Cycle Length: 50.9

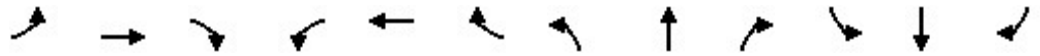
Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AT Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	38	393	37	89	528	13	60	18	60	87	55	32
Future Volume (veh/h)	38	393	37	89	528	13	60	18	60	87	55	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885	1900	1885	1885	1885	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	418	39	95	562	14	64	19	64	93	59	34
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	1	0	1	1	1	0	0	0	0	0
Cap, veh/h	506	1992	185	660	1101	27	291	60	203	297	179	103
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	850	3313	308	949	1831	46	1313	382	1287	1336	1131	652
Grp Volume(v), veh/h	40	225	232	95	0	576	64	0	83	93	0	93
Grp Sat Flow(s),veh/h/ln	850	1791	1830	949	0	1877	1313	0	1668	1336	0	1783
Q Serve(g_s), s	1.4	2.9	2.9	2.5	0.0	8.8	2.3	0.0	2.2	3.3	0.0	2.3
Cycle Q Clear(g_c), s	10.2	2.9	2.9	5.4	0.0	8.8	4.6	0.0	2.2	5.5	0.0	2.3
Prop In Lane	1.00		0.17	1.00		0.02	1.00		0.77	1.00		0.37
Lane Grp Cap(c), veh/h	506	1077	1100	660	0	1129	291	0	264	297	0	282
V/C Ratio(X)	0.08	0.21	0.21	0.14	0.00	0.51	0.22	0.00	0.31	0.31	0.00	0.33
Avail Cap(c_a), veh/h	506	1077	1100	660	0	1129	873	0	1003	889	0	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	4.5	4.5	5.8	0.0	5.7	20.7	0.0	18.6	21.0	0.0	18.7
Incr Delay (d2), s/veh	0.3	0.4	0.4	0.5	0.0	1.6	0.1	0.0	0.3	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	1.2	1.3	0.7	0.0	4.2	1.2	0.0	1.4	1.8	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	5.0	5.0	6.2	0.0	7.4	20.8	0.0	18.9	21.3	0.0	18.9
LnGrp LOS	A	A	A	A	A	A	C	A	B	C	A	B
Approach Vol, veh/h		497			671			147				186
Approach Delay, s/veh		5.3			7.2			19.7				20.1
Approach LOS		A			A			B				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		13.9		36.0		13.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		30.0		30.0		30.0		30.0				
Max Q Clear Time (g_c+I1), s		10.8		6.6		12.2		7.5				
Green Ext Time (p_c), s		2.4		0.4		1.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	433	47	22	0	20	35
Future Vol, veh/h	433	47	22	0	20	35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	451	49	23	0	21	36
Number of Lanes	1	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.9	7.9	8.1
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	36%	0%	100%
Vol Thru, %	0%	90%	0%
Vol Right, %	64%	10%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	55	480	22
LT Vol	20	0	22
Through Vol	0	433	0
RT Vol	35	47	0
Lane Flow Rate	57	500	23
Geometry Grp	1	1	1
Degree of Util (X)	0.075	0.552	0.03
Departure Headway (Hd)	4.712	3.976	4.717
Convergence, Y/N	Yes	Yes	Yes
Cap	765	900	762
Service Time	2.713	2.032	2.726
HCM Lane V/C Ratio	0.075	0.556	0.03
HCM Control Delay	8.1	11.9	7.9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.2	3.5	0.1

16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 Build Conditions
 AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	274	253	124	1073	221	149	185	20	52	248
Future Volume (vph)	274	253	124	1073	221	149	185	20	52	248
Lane Group Flow (vph)	291	308	132	1214	235	159	197	0	76	264
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	36.0	5.0	36.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	46.0	8.0	46.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	20.0	64.0	20.0	64.0	9.0	36.0	36.0	27.0	27.0	20.0
Total Split (%)	16.7%	53.3%	16.7%	53.3%	7.5%	30.0%	30.0%	22.5%	22.5%	16.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.77	0.17	0.21	0.75	0.81	0.46	0.45		0.47	0.52
Control Delay	31.6	10.8	6.7	24.3	54.2	37.7	8.7		50.3	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	31.6	10.8	6.7	24.3	54.2	37.7	8.7		50.3	21.8
Queue Length 50th (ft)	87	41	22	303	112	77	0		40	79
Queue Length 95th (ft)	#237	74	47	427	#268	158	59		96	180
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	441	2259	793	2354	291	616	626		344	570
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.66	0.14	0.17	0.52	0.81	0.26	0.31		0.22	0.46

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 87.9
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road



16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 Build Conditions
 AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	253	37	124	1073	69	221	149	185	20	52	248
Future Volume (veh/h)	274	253	37	124	1073	69	221	149	185	20	52	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1856	1856	1752	1885	1885	1870	1841	1752	1767	1767	1811
Adj Flow Rate, veh/h	291	269	39	132	1141	73	235	159	197	21	55	264
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	3	3	10	1	1	2	4	10	9	9	6
Cap, veh/h	338	1427	205	604	1409	90	351	512	413	100	222	445
Arrive On Green	0.12	0.46	0.46	0.07	0.41	0.41	0.07	0.28	0.28	0.17	0.17	0.17
Sat Flow, veh/h	1753	3095	444	1668	3418	219	1781	1841	1485	273	1269	1535
Grp Volume(v), veh/h	291	152	156	132	597	617	235	159	197	76	0	264
Grp Sat Flow(s),veh/h/ln	1753	1763	1776	1668	1791	1846	1781	1841	1485	1542	0	1535
Q Serve(g_s), s	7.8	4.4	4.5	3.9	25.7	25.8	6.0	6.0	9.6	0.0	0.0	12.9
Cycle Q Clear(g_c), s	7.8	4.4	4.5	3.9	25.7	25.8	6.0	6.0	9.6	3.2	0.0	12.9
Prop In Lane	1.00		0.25	1.00		0.12	1.00		1.00	0.28		1.00
Lane Grp Cap(c), veh/h	338	813	819	604	738	761	351	512	413	322	0	445
V/C Ratio(X)	0.86	0.19	0.19	0.22	0.81	0.81	0.67	0.31	0.48	0.24	0.00	0.59
Avail Cap(c_a), veh/h	477	1150	1159	818	1169	1204	351	611	493	400	0	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	13.9	13.9	12.9	22.7	22.7	29.6	24.9	26.3	31.1	0.0	26.6
Incr Delay (d2), s/veh	8.3	0.0	0.0	0.1	1.0	1.0	4.0	0.1	0.3	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	2.9	3.0	2.4	15.2	15.6	3.5	4.5	6.1	2.5	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	13.9	13.9	13.0	23.7	23.7	33.6	25.0	26.6	31.2	0.0	27.0
LnGrp LOS	C	B	B	B	C	C	C	C	C	C	A	C
Approach Vol, veh/h		599			1346			591				340
Approach Delay, s/veh		19.9			22.6			28.9				28.0
Approach LOS		B			C			C				C
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	47.3		31.3	13.1	43.0	9.0	22.3				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	17.0	57.0		29.0	17.0	57.0	6.0	20.0				
Max Q Clear Time (g_c+I1), s	5.9	6.5		11.6	9.8	27.8	8.0	14.9				
Green Ext Time (p_c), s	0.1	1.1		0.8	0.3	5.3	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				24.0								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	27	345	69	895	99	35	49	113
Future Volume (vph)	27	345	69	895	99	35	49	113
Lane Group Flow (vph)	29	421	75	995	108	84	53	243
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	39.0	39.0	39.0	39.0	33.0	33.0	33.0	33.0
Total Split (%)	54.2%	54.2%	54.2%	54.2%	45.8%	45.8%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.23	0.21	0.13	0.92	0.57	0.23	0.22	0.64
Control Delay	12.4	5.7	6.7	28.6	32.3	11.9	21.0	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	5.7	6.7	28.6	32.3	11.9	21.0	23.3
Queue Length 50th (ft)	4	26	9	249	33	11	15	54
Queue Length 95th (ft)	22	56	31	#610	74	39	40	113
Internal Link Dist (ft)		823		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	125	2005	556	1077	491	862	607	870
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.21	0.13	0.92	0.22	0.10	0.09	0.28

Intersection Summary

Cycle Length: 72

Actuated Cycle Length: 56

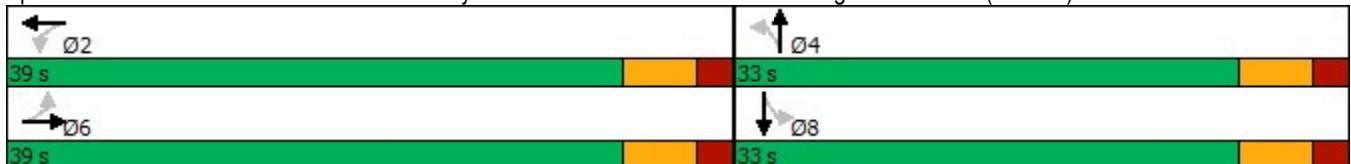
Natural Cycle: 60

Control Type: Semi Act-Uncoord

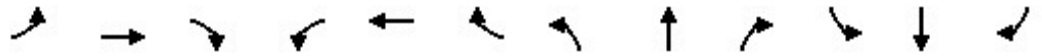
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	345	42	69	895	20	99	35	42	49	113	110
Future Volume (veh/h)	27	345	42	69	895	20	99	35	42	49	113	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1796	1796	1856	1826	1826	1870	1900	1900	1811	1870	1870
Adj Flow Rate, veh/h	29	375	46	75	973	22	108	38	46	53	123	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	7	7	3	5	5	2	0	0	6	2	2
Cap, veh/h	119	1675	204	582	973	22	268	199	241	394	221	216
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	539	3062	373	958	1778	40	1137	782	947	1272	869	848
Grp Volume(v), veh/h	29	208	213	75	0	995	108	0	84	53	0	243
Grp Sat Flow(s),veh/h/ln	539	1706	1729	958	0	1819	1137	0	1730	1272	0	1718
Q Serve(g_s), s	0.0	3.8	3.8	2.6	0.0	33.0	5.5	0.0	2.3	2.1	0.0	7.4
Cycle Q Clear(g_c), s	33.0	3.8	3.8	6.5	0.0	33.0	12.9	0.0	2.3	4.4	0.0	7.4
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.55	1.00		0.49
Lane Grp Cap(c), veh/h	119	933	946	582	0	995	268	0	439	394	0	436
V/C Ratio(X)	0.24	0.22	0.23	0.13	0.00	1.00	0.40	0.00	0.19	0.13	0.00	0.56
Avail Cap(c_a), veh/h	119	933	946	582	0	995	488	0	774	640	0	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	7.0	7.1	8.7	0.0	13.7	25.2	0.0	17.6	19.3	0.0	19.5
Incr Delay (d2), s/veh	4.8	0.6	0.6	0.5	0.0	28.6	0.4	0.0	0.1	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	2.1	2.1	0.9	0.0	24.0	2.6	0.0	1.6	1.1	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	7.6	7.6	9.2	0.0	42.2	25.5	0.0	17.7	19.4	0.0	20.0
LnGrp LOS	C	A	A	A	A	F	C	A	B	B	A	B
Approach Vol, veh/h		450			1070			192				296
Approach Delay, s/veh		9.4			39.9			22.1				19.9
Approach LOS		A			D			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		21.3		39.0		21.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		33.0		27.0		33.0		27.0				
Max Q Clear Time (g_c+I1), s		35.0		14.9		35.0		9.4				
Green Ext Time (p_c), s		0.0		0.4		0.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				28.4								
HCM 6th LOS				C								



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	355	79	219	831	24	1
Future Volume (vph)	355	79	219	831	24	1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	6%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	359	80	221	839	24	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	439	0	0	1060	25	0
Intersection Summary						

Intersection			
Intersection Delay, s/veh	15.2		
Intersection LOS	C		
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	439	1060	25
Demand Flow Rate, veh/h	461	1110	25
Vehicles Circulating, veh/h	221	24	381
Vehicles Exiting, veh/h	913	382	301
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.0	18.4	4.1
Approach LOS	A	C	A
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	461	1110	25
Cap Entry Lane, veh/h	1101	1346	936
Entry HV Adj Factor	0.953	0.955	1.000
Flow Entry, veh/h	439	1060	25
Cap Entry, veh/h	1050	1285	936
V/C Ratio	0.419	0.824	0.027
Control Delay, s/veh	8.0	18.4	4.1
LOS	A	C	A
95th %tile Queue, veh	2	10	0

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	359	41	93	762	55	75
Future Vol, veh/h	359	41	93	762	55	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	90	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	6	2	2
Mvmt Flow	390	45	101	828	60	82

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	435	0	1443
Stage 1	-	-	-	-	413
Stage 2	-	-	-	-	1030
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1125	-	146
Stage 1	-	-	-	-	668
Stage 2	-	-	-	-	344
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1125	-	133
Mov Cap-2 Maneuver	-	-	-	-	133
Stage 1	-	-	-	-	608
Stage 2	-	-	-	-	344

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	28.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	133	639	-	-	1125	-
HCM Lane V/C Ratio	0.449	0.128	-	-	0.09	-
HCM Control Delay (s)	52.5	11.5	-	-	8.5	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	2	0.4	-	-	0.3	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	257	41	1	28	55	1
Future Vol, veh/h	257	41	1	28	55	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	2	2	0	2	2
Mvmt Flow	279	45	1	30	60	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	324	0	334
Stage 1	-	-	-	-	302
Stage 2	-	-	-	-	32
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1236	-	661
Stage 1	-	-	-	-	750
Stage 2	-	-	-	-	991
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1236	-	660
Mov Cap-2 Maneuver	-	-	-	-	660
Stage 1	-	-	-	-	749
Stage 2	-	-	-	-	991

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	661	-	-	1236	-
HCM Lane V/C Ratio	0.092	-	-	0.001	-
HCM Control Delay (s)	11	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

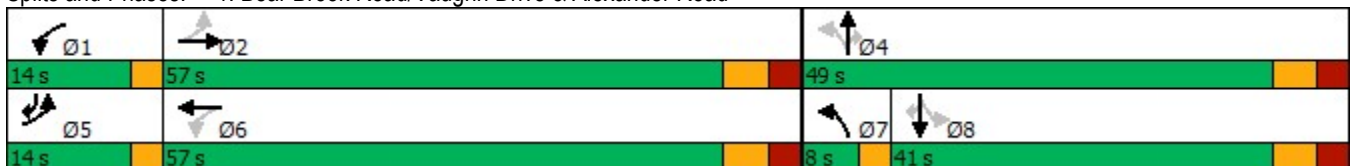


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	256	484	271	405	75	63	210	215	175	402
Future Volume (vph)	256	484	271	405	75	63	210	215	175	402
Lane Group Flow (vph)	284	754	301	509	83	70	233	0	433	447
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	34.0	5.0	34.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	46.0	8.0	46.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	14.0	57.0	14.0	57.0	8.0	49.0	49.0	41.0	41.0	14.0
Total Split (%)	11.7%	47.5%	11.7%	47.5%	6.7%	40.8%	40.8%	34.2%	34.2%	11.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.64	0.64	0.85	0.43	0.29	0.10	0.30		0.87	0.47
Control Delay	23.6	29.6	40.7	27.4	19.9	19.9	3.8		52.8	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	23.6	29.6	40.7	27.4	19.9	19.9	3.8		52.8	7.3
Queue Length 50th (ft)	109	206	116	134	31	28	0		271	56
Queue Length 95th (ft)	168	271	#225	183	61	57	46		#456	132
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	450	1711	358	1732	282	724	802		495	956
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.63	0.44	0.84	0.29	0.29	0.10	0.29		0.87	0.47

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.2
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road



16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 Build Conditions
 PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	484	194	271	405	53	75	63	210	215	175	402
Future Volume (veh/h)	256	484	194	271	405	53	75	63	210	215	175	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1885	1885	1900	1885	1885	1900	1781	1900	1870	1870	1885
Adj Flow Rate, veh/h	284	538	216	301	450	59	83	70	233	239	194	447
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	1	1	0	1	1	0	8	0	2	2	1
Cap, veh/h	438	816	327	362	1041	136	158	719	650	294	195	691
Arrive On Green	0.11	0.33	0.33	0.11	0.33	0.33	0.05	0.40	0.40	0.33	0.33	0.33
Sat Flow, veh/h	1725	2497	999	1810	3186	416	1810	1781	1610	734	595	1598
Grp Volume(v), veh/h	284	385	369	301	252	257	83	70	233	433	0	447
Grp Sat Flow(s),veh/h/ln	1725	1791	1705	1810	1791	1810	1810	1781	1610	1329	0	1598
Q Serve(g_s), s	11.0	19.2	19.3	11.0	11.5	11.6	3.0	2.5	10.5	33.8	0.0	22.9
Cycle Q Clear(g_c), s	11.0	19.2	19.3	11.0	11.5	11.6	3.0	2.5	10.5	33.8	0.0	22.9
Prop In Lane	1.00		0.59	1.00		0.23	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	438	585	558	362	585	592	158	719	650	488	0	691
V/C Ratio(X)	0.65	0.66	0.66	0.83	0.43	0.43	0.53	0.10	0.36	0.89	0.00	0.65
Avail Cap(c_a), veh/h	438	861	820	362	861	870	158	719	650	488	0	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	30.0	30.1	24.4	27.4	27.5	26.2	19.2	21.6	34.9	0.0	23.2
Incr Delay (d2), s/veh	2.7	0.5	0.5	14.1	0.2	0.2	1.6	0.0	0.1	17.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	12.6	12.2	10.2	8.3	8.5	2.4	1.9	7.2	19.0	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	30.5	30.6	38.5	27.6	27.6	27.9	19.3	21.7	52.1	0.0	24.9
LnGrp LOS	C	C	C	D	C	C	C	B	C	D	A	C
Approach Vol, veh/h		1038			810			386				880
Approach Delay, s/veh		28.8			31.7			22.6				38.3
Approach LOS		C			C			C				D
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	41.0		49.0	14.0	41.0	8.0	41.0				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	11.0	50.0		42.0	11.0	50.0	5.0	34.0				
Max Q Clear Time (g_c+I1), s	13.0	21.3		12.5	13.0	13.6	5.0	35.8				
Green Ext Time (p_c), s	0.0	2.9		0.6	0.0	1.8	0.0	0.0				

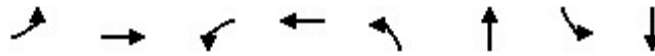
Intersection Summary

HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)^{PM Peak}



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↖↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	133	843	66	462	99	95	61	79
Future Volume (vph)	133	843	66	462	99	95	61	79
Lane Group Flow (vph)	156	1127	78	566	116	221	72	157
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.37	0.55	0.34	0.52	0.48	0.59	0.32	0.40
Control Delay	10.1	8.6	12.3	9.6	25.5	21.8	21.6	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	8.6	12.3	9.6	25.5	21.8	21.6	15.0
Queue Length 50th (ft)	21	91	11	87	32	49	19	26
Queue Length 95th (ft)	63	163	41	182	66	94	45	61
Internal Link Dist (ft)		823		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	426	2032	229	1079	719	1032	678	1052
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.55	0.34	0.52	0.16	0.21	0.11	0.15

Intersection Summary

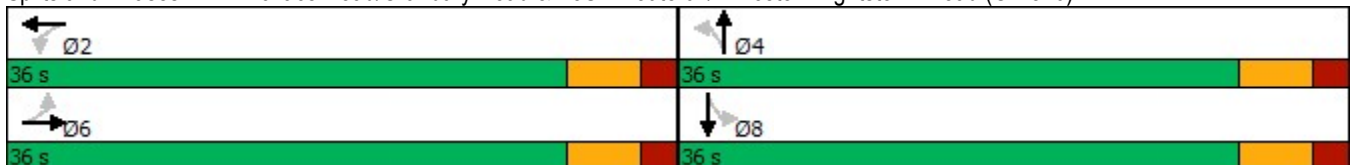
Cycle Length: 72

Actuated Cycle Length: 52.2

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)^{PM Peak}



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	843	115	66	462	19	99	95	93	61	79	54
Future Volume (veh/h)	133	843	115	66	462	19	99	95	93	61	79	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	156	992	135	78	544	22	116	112	109	72	93	64
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	446	1762	240	312	1001	40	315	196	190	261	232	160
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	858	3168	431	504	1799	73	1249	884	861	1178	1049	722
Grp Volume(v), veh/h	156	561	566	78	0	566	116	0	221	72	0	157
Grp Sat Flow(s),veh/h/ln	858	1791	1808	504	0	1872	1249	0	1745	1178	0	1770
Q Serve(g_s), s	7.6	10.9	10.9	6.4	0.0	10.4	4.7	0.0	6.1	3.1	0.0	4.1
Cycle Q Clear(g_c), s	18.0	10.9	10.9	17.3	0.0	10.4	8.8	0.0	6.1	9.2	0.0	4.1
Prop In Lane	1.00		0.24	1.00		0.04	1.00		0.49	1.00		0.41
Lane Grp Cap(c), veh/h	446	996	1006	312	0	1042	315	0	386	261	0	391
V/C Ratio(X)	0.35	0.56	0.56	0.25	0.00	0.54	0.37	0.00	0.57	0.28	0.00	0.40
Avail Cap(c_a), veh/h	446	996	1006	312	0	1042	734	0	971	656	0	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.3	7.7	7.7	13.3	0.0	7.6	21.7	0.0	18.7	22.8	0.0	17.9
Incr Delay (d2), s/veh	2.2	2.3	2.3	1.9	0.0	2.0	0.3	0.0	0.5	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	6.0	6.0	1.3	0.0	5.9	2.4	0.0	4.2	1.5	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	10.0	10.0	15.2	0.0	9.6	22.0	0.0	19.2	23.1	0.0	18.2
LnGrp LOS	B	B	B	B	A	A	C	A	B	C	A	B
Approach Vol, veh/h		1283			644			337			229	
Approach Delay, s/veh		10.7			10.3			20.2			19.7	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		17.9		36.0		17.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		30.0		30.0		30.0		30.0				
Max Q Clear Time (g_c+I1), s		19.3		10.8		20.0		11.2				
Green Ext Time (p_c), s		2.3		1.1		3.9		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				12.7								
HCM 6th LOS				B								



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	656	68	65	512	264	1
Future Volume (vph)	656	68	65	512	264	1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	663	69	66	517	267	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	732	0	0	583	268	0
Intersection Summary						

Intersection			
Intersection Delay, s/veh 10.0			
Intersection LOS B			
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	732	583	268
Demand Flow Rate, veh/h	739	588	271
Vehicles Circulating, veh/h	66	270	670
Vehicles Exiting, veh/h	792	671	135
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.4	10.6	10.5
Approach LOS	A	B	B
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	739	588	271
Cap Entry Lane, veh/h	1290	1048	697
Entry HV Adj Factor	0.991	0.991	0.989
Flow Entry, veh/h	732	583	268
Cap Entry, veh/h	1278	1038	689
V/C Ratio	0.573	0.561	0.389
Control Delay, s/veh	9.4	10.6	10.5
LOS	A	B	B
95th %tile Queue, veh	4	4	2

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	599	58	99	677	38	125
Future Vol, veh/h	599	58	99	677	38	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	90	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	2	2	1	2	2
Mvmt Flow	651	63	108	736	41	136

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	714	0	1635 683
Stage 1	-	-	-	-	683 -
Stage 2	-	-	-	-	952 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	886	-	111 449
Stage 1	-	-	-	-	502 -
Stage 2	-	-	-	-	375 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	97 449
Mov Cap-2 Maneuver	-	-	-	-	97 -
Stage 1	-	-	-	-	441 -
Stage 2	-	-	-	-	375 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	28.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	97	449	-	-	886	-
HCM Lane V/C Ratio	0.426	0.303	-	-	0.121	-
HCM Control Delay (s)	67.2	16.5	-	-	9.6	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	1.8	1.3	-	-	0.4	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	53	1	658	41	1
Future Vol, veh/h	80	53	1	658	41	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	1	2	2
Mvmt Flow	87	58	1	715	45	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	145	0	833 116
Stage 1	-	-	-	-	116 -
Stage 2	-	-	-	-	717 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1437	-	339 936
Stage 1	-	-	-	-	909 -
Stage 2	-	-	-	-	484 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1437	-	339 936
Mov Cap-2 Maneuver	-	-	-	-	339 -
Stage 1	-	-	-	-	908 -
Stage 2	-	-	-	-	484 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1437	-
HCM Lane V/C Ratio	0.133	-	-	0.001	-
HCM Control Delay (s)	17.1	-	-	7.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 Build Conditions
 SAT Peak

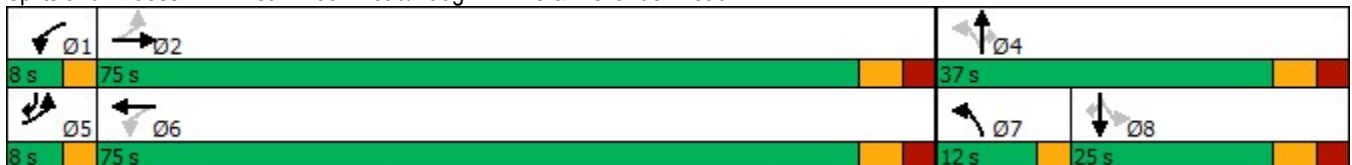


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	223	286	197	303	120	81	188	109	69	211
Future Volume (vph)	223	286	197	303	120	81	188	109	69	211
Lane Group Flow (vph)	232	405	205	419	125	84	196	0	186	220
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	1	6	7	4			8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	8	8	5
Switch Phase										
Minimum Initial (s)	5.0	36.0	5.0	36.0	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	8.0	46.0	8.0	46.0	8.0	14.0	14.0	14.0	14.0	8.0
Total Split (s)	8.0	75.0	8.0	75.0	12.0	37.0	37.0	25.0	25.0	8.0
Total Split (%)	6.7%	62.5%	6.7%	62.5%	10.0%	30.8%	30.8%	20.8%	20.8%	6.7%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	0.0	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	3.0	7.0	7.0		7.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
v/c Ratio	0.42	0.27	0.36	0.28	0.29	0.14	0.30		0.69	0.33
Control Delay	13.5	14.2	12.4	14.7	20.1	21.0	4.6		46.9	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	13.5	14.2	12.4	14.7	20.1	21.0	4.6		46.9	4.6
Queue Length 50th (ft)	62	61	54	66	45	32	0		95	0
Queue Length 95th (ft)	104	95	92	101	83	64	44		165	46
Internal Link Dist (ft)		447		579		743			463	
Turn Bay Length (ft)	275		225				150			
Base Capacity (vph)	547	2744	565	2770	439	670	696		307	664
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.42	0.15	0.36	0.15	0.28	0.13	0.28		0.61	0.33

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.2
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Bear Brook Road/Vaughn Drive & Alexander Road



16000081A - Avalon West Windsor
 1: Bear Brook Road/Vaughn Drive & Alexander Road

2023 Build Conditions
 SAT Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	286	103	197	303	99	120	81	188	109	69	211
Future Volume (veh/h)	223	286	103	197	303	99	120	81	188	109	69	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1885	1885	1900	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	232	298	107	205	316	103	125	84	196	114	72	220
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	0	1	1	0	0	0	0	0	2
Cap, veh/h	557	1148	404	571	1188	380	269	537	455	203	92	361
Arrive On Green	0.06	0.45	0.45	0.06	0.45	0.45	0.08	0.28	0.28	0.17	0.17	0.17
Sat Flow, veh/h	1781	2578	907	1810	2668	854	1810	1900	1610	791	553	1585
Grp Volume(v), veh/h	232	203	202	205	210	209	125	84	196	186	0	220
Grp Sat Flow(s),veh/h/ln	1781	1777	1707	1810	1791	1731	1810	1900	1610	1345	0	1585
Q Serve(g_s), s	5.0	5.8	6.0	5.0	6.0	6.1	4.4	2.7	8.0	10.4	0.0	10.1
Cycle Q Clear(g_c), s	5.0	5.8	6.0	5.0	6.0	6.1	4.4	2.7	8.0	10.8	0.0	10.1
Prop In Lane	1.00		0.53	1.00		0.49	1.00		1.00	0.61		1.00
Lane Grp Cap(c), veh/h	557	791	760	571	798	771	269	537	455	295	0	361
V/C Ratio(X)	0.42	0.26	0.27	0.36	0.26	0.27	0.47	0.16	0.43	0.63	0.00	0.61
Avail Cap(c_a), veh/h	557	1495	1436	571	1507	1456	327	705	598	370	0	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	14.0	14.1	11.4	14.1	14.1	24.3	21.8	23.7	32.5	0.0	28.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.5	0.0	0.2	0.9	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	3.8	3.8	3.2	3.9	3.9	3.3	2.1	5.5	6.4	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	14.1	14.2	11.6	14.2	14.2	24.7	21.8	23.9	33.4	0.0	28.6
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	A	C
Approach Vol, veh/h		637			624			405				406
Approach Delay, s/veh		13.5			13.3			23.7				30.8
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	43.0		29.8	8.0	43.0	9.4	20.4				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0	3.0	7.0				
Max Green Setting (Gmax), s	5.0	68.0		30.0	5.0	68.0	9.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	8.0		10.0	7.0	8.1	6.4	12.8				
Green Ext Time (p_c), s	0.0	1.5		0.6	0.0	1.5	0.0	0.6				

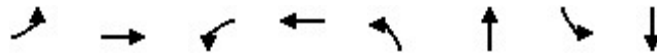
Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AT Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	51	489	44	647	63	18	87	55
Future Volume (vph)	51	489	44	647	63	18	87	55
Lane Group Flow (vph)	54	561	47	702	67	51	93	109
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6		2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	6	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	13.0	13.0	13.0	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
v/c Ratio	0.13	0.24	0.08	0.56	0.32	0.17	0.41	0.33
Control Delay	6.1	4.9	5.4	8.6	22.6	11.5	24.6	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	4.9	5.4	8.6	22.6	11.5	24.6	14.2
Queue Length 50th (ft)	6	32	5	107	18	5	25	15
Queue Length 95th (ft)	21	62	18	231	46	27	59	49
Internal Link Dist (ft)		823		590		405		573
Turn Bay Length (ft)	350		150		75		150	
Base Capacity (vph)	415	2387	566	1264	763	1030	813	1066
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.24	0.08	0.56	0.09	0.05	0.11	0.10

Intersection Summary

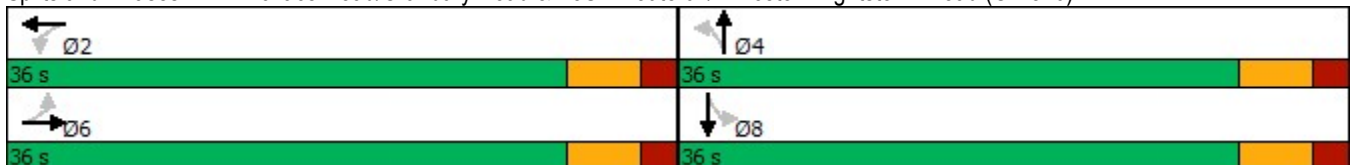
Cycle Length: 72

Actuated Cycle Length: 50.8

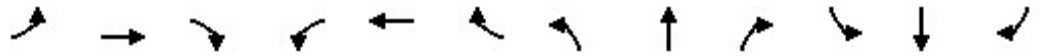
Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526)



2: Wallace Road/Cranbury Road & NJSH Route 64/Princeton-Hightstown Road (CR 526) AT Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	51	489	39	44	647	13	63	18	30	87	55	47
Future Volume (veh/h)	51	489	39	44	647	13	63	18	30	87	55	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885	1900	1885	1885	1885	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	54	520	41	47	688	14	67	19	32	93	59	50
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	1	0	1	1	1	0	0	0	0	0
Cap, veh/h	428	2043	161	607	1118	23	267	95	160	316	142	121
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	757	3364	265	862	1841	37	1295	636	1071	1375	950	805
Grp Volume(v), veh/h	54	276	285	47	0	702	67	0	51	93	0	109
Grp Sat Flow(s),veh/h/ln	757	1791	1838	862	0	1878	1295	0	1707	1375	0	1755
Q Serve(g_s), s	2.4	3.5	3.6	1.3	0.0	11.6	2.4	0.0	1.3	3.1	0.0	2.8
Cycle Q Clear(g_c), s	14.0	3.5	3.6	4.9	0.0	11.6	5.2	0.0	1.3	4.4	0.0	2.8
Prop In Lane	1.00		0.14	1.00		0.02	1.00		0.63	1.00		0.46
Lane Grp Cap(c), veh/h	428	1088	1116	607	0	1141	267	0	256	316	0	263
V/C Ratio(X)	0.13	0.25	0.26	0.08	0.00	0.62	0.25	0.00	0.20	0.29	0.00	0.41
Avail Cap(c_a), veh/h	428	1088	1116	607	0	1141	859	0	1037	945	0	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	4.5	4.5	5.6	0.0	6.1	21.4	0.0	18.4	20.3	0.0	19.0
Incr Delay (d2), s/veh	0.6	0.6	0.6	0.2	0.0	2.5	0.2	0.0	0.1	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	1.5	1.5	0.3	0.0	5.6	1.3	0.0	0.9	1.7	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	5.1	5.1	5.9	0.0	8.6	21.6	0.0	18.5	20.5	0.0	19.4
LnGrp LOS	B	A	A	A	A	A	C	A	B	C	A	B
Approach Vol, veh/h		615			749			118				202
Approach Delay, s/veh		5.6			8.4			20.3				19.9
Approach LOS		A			A			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		13.4		36.0		13.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		30.0		30.0		30.0		30.0				
Max Q Clear Time (g_c+I1), s		13.6		7.2		16.0		6.4				
Green Ext Time (p_c), s		2.8		0.3		2.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				9.6								
HCM 6th LOS				A								



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	497	57	81	558	35	1
Future Volume (vph)	497	57	81	558	35	1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	518	59	84	581	36	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	577	0	0	665	37	0
Intersection Summary						

Intersection			
Intersection Delay, s/veh	7.7		
Intersection LOS	A		
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	577	665	37
Demand Flow Rate, veh/h	582	671	37
Vehicles Circulating, veh/h	84	36	523
Vehicles Exiting, veh/h	623	524	143
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.6	8.0	4.9
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	582	671	37
Cap Entry Lane, veh/h	1267	1330	809
Entry HV Adj Factor	0.991	0.991	1.000
Flow Entry, veh/h	577	665	37
Cap Entry, veh/h	1255	1319	809
V/C Ratio	0.460	0.504	0.046
Control Delay, s/veh	7.6	8.0	4.9
LOS	A	A	A
95th %tile Queue, veh	2	3	0

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	482	72	86	507	59	72
Future Vol, veh/h	482	72	86	507	59	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	90	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	2	2	1	2	2
Mvmt Flow	524	78	93	551	64	78

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	602	0	1300
Stage 1	-	-	-	-	563
Stage 2	-	-	-	-	737
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	975	-	178
Stage 1	-	-	-	-	570
Stage 2	-	-	-	-	473
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	975	-	161
Mov Cap-2 Maneuver	-	-	-	-	161
Stage 1	-	-	-	-	516
Stage 2	-	-	-	-	473

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	25.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	161	526	-	-	975	-
HCM Lane V/C Ratio	0.398	0.149	-	-	0.096	-
HCM Control Delay (s)	41.4	13	-	-	9.1	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	1.7	0.5	-	-	0.3	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	69	1	55	62	1
Future Vol, veh/h	69	69	1	55	62	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	2	2
Mvmt Flow	75	75	1	60	67	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	150	0	175
Stage 1	-	-	-	-	113
Stage 2	-	-	-	-	62
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1431	-	815
Stage 1	-	-	-	-	912
Stage 2	-	-	-	-	961
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1431	-	814
Mov Cap-2 Maneuver	-	-	-	-	814
Stage 1	-	-	-	-	911
Stage 2	-	-	-	-	961

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	816	-	-	1431	-
HCM Lane V/C Ratio	0.084	-	-	0.001	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-