

TRAFFIC IMPACT STUDY

PROPOSED WAREHOUSE BUILDING

Block 27, Lot 4
South Brunswick Township
Block 224, Lots 2, 5, 6, & 87
Township of North Brunswick
Middlesex County, New Jersey

Prepared For:
Edgewood Properties

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STONEFIELD

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Intersection of U.S. Route 130, Davidson's Mill Road, & Finnegan's Lane

INTRODUCTION

This Traffic Impact Study was prepared to investigate the potential impacts of the proposed warehouse building on the adjacent roadway network. The subject property is located along U.S. Route 130 northbound approximately 200 feet north of its intersection with Davidson's Mill Road and Finnegan's Lane in the Township of North Brunswick, Middlesex County, New Jersey. The site location is shown on appended **Figure I**.

The subject property is designated as Block 224, Lots 2, 5, 6, and 87 as depicted on the Township of North Brunswick Tax Map and Block 27, Lot 4 as depicted on the South Brunswick Township Tax Map. The site has approximately 920 feet of frontage along U.S. Route 130 and approximately 108 feet of frontage along Davidson's Mill Road. The existing site is occupied by an open-air self-storage warehouse tenanted by Treuman Storage. Access to the site is presently provided via three (3) gravel openings along U.S. Route 130. Under the proposed development program, the existing structures would be razed, and a 235,787-square-foot warehouse building would be constructed. Access is proposed via one (1) right-in/right-out driveway and one (1) right-in only driveway along U.S. Route 130 and one (1) full-movement driveway along Davidson's Mill Road.

METHODOLOGY

Stonefield Engineering & Design, LLC has prepared this Traffic Impact Study in accordance with the recommended guidelines and practices outlined by the Institute of Transportation Engineers (ITE) within Transportation Impact Analyses for Site Development. A detailed field investigation was performed to assess the existing conditions of the adjacent roadway network. A data collection effort was completed to identify the existing traffic volumes at the study intersections to serve as a base for the traffic analyses. Capacity analysis, a procedure used to estimate the traffic-carrying ability of roadway facilities over a range of defined operating conditions, was performed using the Highway Capacity Manual, 6th Edition (HCM) and Synchro 10 Software for all study conditions to assess the roadway operations.

For an unsignalized intersection, Level of Service (LOS) A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 80 seconds per vehicle. The Technical Appendix contains the Highway Capacity Analysis Detail Sheets for the study intersections analyzed in this assessment. The traffic signal timing utilized within the signalized analysis is based on timing directives provided by the New Jersey Department of Transportation (NJDOT).

2020 EXISTING CONDITION

2020 EXISTING ROADWAY CONDITIONS

The proposed warehouse building is located U.S. Route 130 northbound approximately 200 feet north of its intersection with Davidson's Mill Road and Finnegan's Lane in the Township of North Brunswick, Middlesex County, New Jersey. The subject property is designated as Block 224, Lots 2, 5, 6, and 87 as depicted on the Township of North Brunswick Tax Map and Block 27, Lot 4 as depicted on the South Brunswick Township Tax Map. The site has approximately 920 feet of frontage along U.S. Route 130 and approximately 108 feet of frontage along Davidson's Mill Road. Land uses in the area are a mix of residential, commercial, and industrial. It is noted the subject site completely surrounds the BP Gasoline convenience store with fuel sales on the northeasterly corner of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane.

U.S. Route 130 is classified as an Urban Principal Arterial roadway with a general north-south orientation and is under the jurisdiction of the NJDOT. Along the site frontage, the roadway provides two (2) lanes of travel in each direction divided by a grass median with additional lanes provided at key intersections to facilitate turning maneuvers. U.S. Route 130 has a posted speed limit of 55 mph. Curb and sidewalk are not provided, shoulders are provided along both sides of the roadway, and on-street parking is not permitted. U.S. Route 130 provides north-south mobility throughout Middlesex County and provides access to U.S. Route 1 to the north and NJSH Route 32 to the south with access to commercial and industrial uses along its length.

Davidson's Mill Road is classified as an Urban Major Collector roadway with a general east-west orientation and is under the jurisdiction of the Township of New Brunswick. Along the site frontage, the roadway provides one (1) lane of travel in each direction and has a posted speed limit of 35 mph. Curb is intermittently provided along both sides of the roadway, sidewalk and shoulders not provided, and on-street parking is not permitted. Davidson's Mill Road provides east-west mobility throughout North Brunswick and surrounding municipalities with its westerly terminus at U.S. Route 130 for access to a mix of uses along its length.

Finnegan's Lane is a local roadway with a general east-west orientation and is under the jurisdiction of Township of New Brunswick. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction divided by a grass median with additional lanes provided at its intersection with U.S. Route 130 to facilitate turning maneuvers. Curb, sidewalk, and shoulders are not provided, and on-street parking is not permitted. Finnegan's Lane terminates approximately 2,200 feet west of its intersection with U.S. Route 130 and provides access to Deer Brook Village residential community and industrial uses along its length.

U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane intersect to form a four (4)-leg intersection controlled by a three (3)-phase traffic signal operating on a 90-second background cycle. The eastbound

approach of Finnegan's Lane provides one (1) shared left-turn/through lane and one (1) exclusive right-turn lane and the westbound approach of Davidson's Mill Road provides one (1) shared left-turn/through/right-turn lane. The northbound and southbound approaches of U.S. Route 130 each provide one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) shared through/right-turn lane. It is noted the receiving lane and approach lanes of Finnegan's Lane are separated by an approximately 45-foot-wide grass median. Crosswalk and pedestrian signals are provided across all legs of the intersection.

2020 EXISTING TRAFFIC VOLUMES

Manual turning movement counts were collected during the typical weekday morning, weekday evening, and Saturday midday time periods to evaluate existing traffic conditions and identify the specific hours when traffic activity on the adjacent roadways is at a maximum and could be potentially impacted by the development of the site. Turning movement counts were collected at the intersection of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane. Specifically, manual turning movement counts were conducted on the following dates and during the following times:

- ◆ Tuesday, August 11, 2020 from 7:00 a.m. to 9:00a.m. and from 4:00 p.m. to 7:00 p.m.
- ◆ Saturday, August 8, 2020 from 11:00 a.m. to 2:00 p.m.

The study time periods were chosen as they are representative of the peak periods of both the adjacent roadway network and the proposed development. The traffic volume data was collected and analyzed to identify the design peak hour in accordance with HCM and ITE guidelines. Based on the review of the count data, the weekday morning peak hour occurred from 7:00 a.m. to 8:00 a.m.; the weekday evening peak hour occurred from 4:00 p.m. to 5:00 p.m.; and the Saturday midday peak hour occurred from 1:00 p.m. to 2:00 p.m. The 2020 As-Counted Traffic Volumes are summarized on appended **Figure 2**.

Due to the current CoVID-19 health crisis, and the mandates issued by the Governor of the State of New Jersey, vehicular volumes along the roadway network are atypical and as such, the collected turning movement counts were adjusted to account for this irregularity. An additional data collection effort included a 48-hour automated traffic recorder (ATR) count conducted by the NJDOT and a 7-day ATR count conducted under existing conditions. Both of the ATR counts were collected along U.S. Route 130 between Renaissance Boulevard and Apple Orchard Lane and Old Georges Road. Specifically, the 48-hour NJDOT ATR count was conducted on Wednesday, September 12, 2018 to Friday, September 13, 2018 beginning at 10:00 a.m. and the ATR count under existing conditions was conducted on Friday, August 7, 2020 to Sunday, August 16, 2020 beginning at 12:00 p.m.

The 2018 NJDOT ATR count data was grown to the current year to generate traffic volumes representative of the roadway under typical conditions. In accordance with industry guidelines, the 2018 NJDOT ATR traffic volumes along the roadway were increased by 1.00% annually for two (2) years. The 1.00%

background growth rate was obtained from the NJDOT Annual Background Growth Rate Table. The 2020 NJDOT ATR count was compared to the 2020 ATR count to develop a ratio between the counts for the weekday morning and weekday evening peak hours. **Table I** summarizes the count comparison between the 2020 NJDOT ATR count data and 2020 ATR count data for the weekday morning and weekday evening peak hours.

TABLE I – ATR COUNT COMPARISON

Time Period	2020 NJDOT ATR Volumes	2020 ATR Volumes	Percent Difference
Weekday Morning (7:00 a.m.)	1,824	1,129	-38%
Weekday Evening (4:00 p.m.)	1,872	1,790	-4%

As shown in Table I, the existing traffic volumes along the roadway are approximately 38% lower during the weekday morning peak hour and 4% lower during the weekday evening peak hour than expected under typical conditions. Based on observations conducted by our office, this is consistent with overarching CoVID-19 traffic volume trends as traffic volumes have been significantly lower during the weekday morning peak hour due to a significant reduction of the number of people commuting to work and schools not being in session. The weekday evening and Saturday midday peak hour volumes have been found to be generally consistent with typical traffic volumes as people are still traveling to and from retail and restaurant uses after work. As such, the turning movement counts were grown by 38% during the weekday morning peak hour and 4% during the weekday evening peak hour. It is noted there are no NJDOT ATR counts with Saturday data provided along U.S. Route 130 in the vicinity of the site. To maintain a conservative analysis, the Saturday midday peak hour turning movements counts were grown by 10%.

The Technical Appendix contains a summary of the turning movement counts, the 2018 NJDOT ATR count summary, and the 2020 ATR count summary. The 2020 Existing weekday morning, weekday evening, and Saturday midday peak-hour volumes are summarized on appended **Figure 3**.

2020 EXISTING LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2020 Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection. Under the existing condition, the signalized intersection of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane is calculated to operate at overall Level of Service C during the weekday morning and weekday evening peak hours and at overall Level of Service B during the Saturday midday peak hour.

2022 NO-BUILD CONDITION

BACKGROUND GROWTH

The 2020 Existing Condition traffic volume data was grown to a future horizon year of 2022, which is a conservative estimate for when the proposed warehouse building is expected to be fully constructed. In accordance with industry guidelines, the existing traffic volumes at the study intersections were increased by 1.00% annually for two (2) years to generate the 2020 Base Traffic Volumes. These volumes are summarized on appended **Figure 4**. The 1.00% background growth rate was obtained from the NJDOT Annual Background Growth Rate Table.

OTHER PLANNED DEVELOPMENT PROJECTS

To evaluate the future traffic conditions, it is important to consider the potential site-generated traffic of other projects that could influence the traffic volume at the study intersections. Other planned development projects include those that are either in the entitlement process or have recently been approved for building permits in proximity to the proposed development. Based on documents provided by South Brunswick's Planning Board's and Zoning Board's Secretary, Tammy Scimone, and by North Brunswick's Clerk I, Nellie Sowell, the following developments are anticipated to impact traffic volumes within the study area:

- ◆ Mixed-Use Development – 152,200-square-foot warehouse, 9,100 square feet of retail space, and 14,400-square-foot office addition to existing site located along Distribution Way to the south of the study area,
- ◆ Religious Center – 14,000-square-foot religious center located along U.S. Route 130 to the north of the study area,
- ◆ Warehouse Facility – 245,232-square-foot warehouse facility located along Blackhorse Lane to the south of the study area, and
- ◆ Warehouse Addition – Warehouse addition located along Finnegan's Lane to the west of the study area.

Appended **Figure 5** illustrates the site-generated traffic associated with the mixed-use development, religious center, and warehouse projects assigned to the study area network.

2022 NO-BUILD TRAFFIC VOLUMES

The site-generated trips associated with the mixed-use development, religious center, and warehouse projects were added to the 2020 Base Traffic Volumes to calculate the 2022 No-Build Traffic Volumes for the weekday morning, weekday evening, and Saturday midday peak hours. These volumes are summarized on appended **Figure 6**.

2022 NO-BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2022 No-Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection. The signalized intersection of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane is calculated to operate generally consistent with the findings of the Existing Condition during each of the peak hours studied.

2022 BUILD CONDITION

The site-generated traffic volume of the proposed warehouse building was estimated to identify the potential impacts of the project. For the purpose of this analysis, a complete project “build out” is assumed within two (2) years of the preparation of this study.

TRIP GENERATION

Trip generation projections for the proposed warehouse building were prepared utilizing NJDOT’s Highway Access Permit System (HAPS) and ITE’s Trip Generation Manual, 10th Edition. It is noted that the HAPS does not contain data for the enter/exit trip distribution for its land uses. Therefore, the enter/exit trip distribution for each land use was obtained from the ITE’s Trip Generation Manual, 10th Edition. Trip generation rates associated with Land Use 150 “Warehousing” were cited for the 235,787-square-foot warehouse building. It should be noted that the description for Land Use 150 “Warehousing” indicates that warehouse uses “may also include office and maintenance areas.” As such, the land use is applicable to model the entire facility that includes warehousing and associated office components. To maintain a conservative analysis, no trip reduction for the existing use was applied. **Table 2** provides the weekday morning, weekday evening, and Saturday midday peak hour trip generation volumes associated with the proposed development.

TABLE 2 – PROPOSED TRIP GENERATION

Land Use	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
235,787 SF Warehousing <i>HAPS Land Use 150</i>	43	13	56	16	42	58	8	4	12

The proposed development is expected to generate 58 new trips during the critical weekday evening peak hour. Based on Transportation Impact Analysis for Site Development published by ITE, a trip increase of less than 100 vehicle trips would likely not change the level of service of the adjacent roadway system or appreciably increase the volume-to-capacity ratio of an intersection approach. As such, the proposed development is not anticipated to significantly impact the operations of the adjacent roadway network.

As shown in Table 2, the proposed warehouse building is expected to generate 56 trips during the weekday morning peak hour, 58 trips during the weekday evening peak hour, and 12 trips during the Saturday midday peak hour. The calculated traffic volumes were separated to account for the amount of passenger vehicle traffic and truck traffic at the proposed development. The truck trip generation was evaluated with respect to data published within the ITE's Trip Generation Manual, 10th Edition Supplement, for Land Use 150 "Warehousing." According to Appendix C, 13% of site generated traffic during the weekday morning peak hour and 15% of site generated traffic during the weekday evening peak hour is comprised of trucks. It is noted the ITE Trip Generation Manual, 10th Edition Supplement, does not contain data for the Saturday midday peak hour and as such, the analysis only considers passenger vehicles during the Saturday midday peak hour. **Table 3** provides the weekday morning, weekday evening, and Saturday midday peak-hour trip generation volumes associated with the proposed development in terms of anticipated vehicle type.

TABLE 3 – PROPOSED TRIP GENERATION BY VEHICLE TYPE

Vehicle Type	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Passenger Vehicle Trips	37	11	48	14	36	50	8	4	12
Truck Trips	6	2	8	2	6	8	--	--	--
Total	43	13	56	16	42	58	8	4	12

TRIP ASSIGNMENT/DISTRIBUTION

The passenger vehicle trips generated by the proposed development were distributed according to a Journey-To-Work Model prepared for the site using 2010 census data with Township of North Brunswick as a place of work and the access management plan of the site. The methodology used in the preparation of the Journey-To-Work Model utilizes the location of workers' residences identified through 2010 Census Data published by the US Census Bureau, divided by municipality, in the surrounding area to determine the trip distribution. The Journey-To-Work Model, restricted to the top 25 surrounding municipalities, is in the Appendix. The results of the Journey-To-Work Model were used to distribute the passenger vehicle site-generated traffic along the adjacent roadway network. The truck trips generated by the proposed development were distributed according to existing travel patterns along adjacent roadways, location of major arterial roadways, and the access management plan of the site. It is noted U-turns can only be performed by passenger vehicles at the intersection of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane and as such, trucks originating from the north must access the site via Davidson's Mill Road. The Passenger Vehicle Traffic Volumes are illustrated on **Figure 7** and the Truck Traffic Volumes are illustrated on **Figure 8**. The Total Site-Generated Traffic Volumes expected to access the site are illustrated on **Figure 9**.

2022 BUILD TRAFFIC VOLUMES

The site-generated trips were added to the 2022 No-Build Traffic Volumes to calculate the 2022 Build Traffic Volumes and are shown on appended **Figure 10**.

2022 BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2022 Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and proposed site driveways. **Tables 4 through 8** compare the Existing, No-Build, and Build Conditions Level of Service and delay values.

The signalized intersection of U.S. Route 130, Davidson's Mill Road, and Finnegan's Lane is calculated to operate generally consistent with the findings of the No-Build Condition during each of the peak hours studied at acceptable overall Level of Service C during the weekday morning and weekday evening peak hours and at overall Level of Service B during the Saturday midday peak hour. The 95th percentile queue at the southbound U-turn/left-turn approach of U.S. Route 9 is calculated to be approximately three (3) vehicles during the critical weekday evening peak hour and can be accommodated within the existing provided queuing supply.

The turning movement at the right-in/right-out driveway along U.S. Route 130 is calculated to operate at acceptable Level of Service B during the weekday morning and Saturday midday peak hours and at acceptable Level of Service C during the weekday evening peak hour. The calculated 95th percentile queue for the westbound approach of the site driveway is approximately one (!) vehicle during the critical weekday evening peak hour and can be accommodated on site without impacting drive aisles or parking spaces. The turning movements at the full-movement driveway along Davidson's Mill Road are calculated to operate at acceptable Level of Service A during each of the peak hours studied.

COMPARATIVE LEVEL OF SERVICE (DELAY) TABLES**U.S. ROUTE 130, DAVIDSON'S MILL ROAD, & FINNEGAN'S LANE**

EB (Eastbound) approach is the Finnegan's Lane approach

WB (Westbound) approach is the Davidson's Mill Road approach

NB (Northbound) and SB (Southbound) approaches are the U.S. Route 130 approaches

X (n) = Level of Service (seconds of delay)

TABLE 4 – WEEKDAY MORNING PEAK HOUR

Lane Group	2020 Existing	2022 No-Build	2022 Build
EB Left/Through	D (35.2)	D (35.2)	D (35.1)
EB Right	C (32.4)	C (32.2)	C (32.1)
WB Left/Through/Right	D (43.9)	D (45.1)	D (45.3)
NB Left	D (46.3)	D (48.1)	D (48.1)
NB Through/Right	B (17.7)	B (18.6)	C (20.7)
SB Left	D (41.5)	D (41.9)	D (44.8)
SB Through/Right	B (19.3)	C (22.3)	C (22.5)
Intersection	C (20.9)	C (22.9)	C (24.0)

TABLE 5 – WEEKDAY EVENING PEAK HOUR

Lane Group	2020 Existing	2022 No-Build	2022 Build
EB Left/Through	C (34.9)	D (35.1)	C (34.8)
EB Right	C (31.9)	C (31.6)	C (31.4)
WB Left/Through/Right	D (47.1)	D (47.6)	D (48.2)
NB Left	D (44.1)	D (44.3)	D (44.3)
NB Through/Right	C (25.8)	C (33.5)	D (37.4)
SB Left	D (42.3)	D (42.5)	D (43.9)
SB Through/Right	B (10.5)	B (11.2)	B (11.3)
Intersection	C (22.9)	C (27.2)	C (29.5)

TABLE 6 – SATURDAY MIDDAY PEAK HOUR

Lane Group	2020 Existing	2022 No-Build	2022 Build
EB Left/Through	D (38.9)	D (38.8)	D (37.3)
EB Right	D (36.6)	D (36.5)	D (35.2)
WB Left/Through/Right	D (44.0)	D (44.1)	D (39.2)
NB Left	--	D (43.8)	D (43.8)
NB Through/Right	A (9.0)	A (9.5)	B (10.4)
SB Left	D (42.4)	D (42.3)	D (42.6)
SB Through/Right	A (4.5)	A (7.5)	A (8.2)
Intersection	B (10.0)	B (11.5)	B (12.0)

U.S. ROUTE 130 & RIGHT-IN/RIGHT-OUT DRIVEWAY

WB (Westbound) approach is the site driveway approach
X (n) = Level of Service (seconds of delay)

TABLE 7 – 2022 BUILD CONDITION

Lane Group	Weekday Morning Peak Hour	Weekday Evening Peak Hour	Saturday Midday Peak Hour
WB Right	B (13.2)	C (17.2)	B (11.6)

DAVIDSON'S MILL ROAD & SITE DRIVEWAY

EB (Eastbound) approach is the Davidson's Mill Road approach
SB (Southbound) approach is the site driveway approach
X (n) = Level of Service (seconds of delay)

TABLE 8 – 2022 BUILD CONDITION

Lane Group	Weekday Morning Peak Hour	Weekday Evening Peak Hour	Saturday Midday Peak Hour
EB Left	A (7.9)	A (7.9)	A (0.0)
SB Left/Right	A (9.3)	A (9.9)	A (8.8)

SITE CIRCULATION/PARKING SUPPLY

A review was conducted of the proposed warehouse building using the Site Plan prepared by EP Design Services LLC, dated September 18, 2020. In completing this review, particular attention was focused on the site access, circulation, and parking supply.

Access is proposed via one (1) right-in/right-out driveway and one (1) right-in only driveway along U.S. Route 130 and one (1) full-movement driveway along Davidson's Mill Road. It is noted the driveway along Davidson's Mill Road provides a striped area along the westerly corner to provide sufficient space for trucks to access the site. The warehouse building would be centrally located with standard parking spaces located along the westerly and southerly sides of the building and loading spaces located along the easterly side of the building. Two-way vehicular circulation throughout the site would be provided via a minimum of 25-foot-wide drive aisles where a large portion of the traffic would be passenger vehicles and a minimum of 36-foot-wide drive aisles where trucks are anticipated to travel.

Regarding the parking requirements for the proposed development, the North Brunswick Ordinance requires one (1) parking space per 2,500 square feet of gross floor area for warehousing uses, one (1) visitor parking space for every five (5) executive office workers for warehouse uses, and one (1) parking space per 250 square feet of gross floor area for office uses. For the proposed warehouse building consisting of 228,713 square-feet of warehousing space, 48 warehouse executive office employees, and 7,074 square-feet of office space, this equates to 131 required spaces. The site would provide 278 total parking spaces, inclusive of six

(6) ADA accessible parking spaces and 106 loading spaces, which meets the parking requirement and would be sufficient to support this project's parking demand. The standard parking spaces would be nine (9) feet wide by 18 feet deep and the loading spaces would be 14 feet wide by 60 feet deep in accordance with the North Brunswick Ordinance and industry standards.

The parking supply for the proposed warehouse building was evaluated with respect to data published within the ITE's Parking Generation, 5th Edition, for Land Use 150 "Warehousing." The 85th percentile parking demand rate during the peak midday period for Land Use 150 "Warehousing" is 1.11 vehicles per 1,000 square feet. For the 235,787-square-foot warehouse, this equates to 262 parking spaces. As such, the proposed parking supply of 278 spaces would be sufficient to support the parking demand of the site.

CONCLUSIONS

This report was prepared to examine the potential traffic impact of the proposed warehouse building. The analysis findings, which have been based on industry-standard guidelines, indicate that the proposed development would not have a significant impact on the traffic operations of the adjacent roadway network. The collected turning movement counts were adjusted to account for atypical roadway volumes due to the current CoVID-19 health crisis and the mandates issued by the Governor of the State of New Jersey. The trip generation projections of the site considered both passenger vehicles and trucks as a significant portion of the site-generated traffic is anticipated to be trucks. The site driveways and on-site layout have been designed to provide for effective access to and from the subject property. Based on the North Brunswick Ordinance and ITE parking demand rates, the parking supply would be sufficient to support this project.

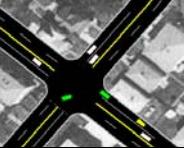
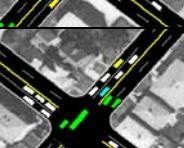
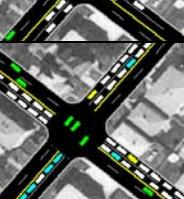
TECHNICAL APPENDIX

LEVEL OF SERVICE/AVERAGE CONTROL DELAY CRITERIA

LEVEL OF SERVICE /AVERAGE CONTROL DELAY CRITERIA

The ability of a roadway to effectively accommodate traffic demand is determined through an assessment of the volume-to-capacity ratio, delay and Level of Service of the lane group and/or intersection. The volume-to-capacity ratio is the ratio of traffic flow rate to capacity for a given transportation facility. As defined within the Highway Capacity Manual, 6th Edition (HCM), intersection delay is the total additional travel time experienced by drivers, passengers, or pedestrians as a result of control measures and interaction with other users of the facility, divided by the volume departing from the corresponding cross section of the facility. Level of service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

For an unsignalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle and LOS F denotes operations with delay in excess of 80 seconds per vehicle.

	Level Of Service (LOS)	Signalized Delay Range (average control delay in sec/veh)	Unsignalized Delay Range (average control delay in sec/veh)
	A	<=10	<=10
	B	>10 and <=20	>10 and <=15
	C	>20 and <=35	>15 and <=25
	D	>35 and <=55	>25 and <=35
	E	>55 and <=80	>35 and <=50
	F	>80	>50

Source: Highway Capacity Manual, 6th Edition

TURNING MOVEMENT COUNT DATA



Project: Route 130
 Municipality: South Brunswick Township,
 Middlesex Co., NJ
 Setup: NR
 Location: 40.419697, -74.49903

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

Count Name: 1_Route 130 & Davidson Mill Road/Finnegan's Lane
 Site Code: 1
 Start Date: 08/08/2020
 Page No: 1

Turning Movement Data

Start Time	Finnegan's Lane						Route 130						Route 130						Route 130										
	Eastbound			Westbound			Northbound			Southbound			Left			Right			Left			Right							
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	Int. Total							
11:00 AM	0	13	3	0	0	0	16	0	6	1	4	6	0	17	0	0	185	8	0	197	2	9	170	7	2	0	190	420	
11:15 AM	0	15	6	0	0	0	21	0	6	5	5	3	0	19	0	0	178	10	4	0	192	0	12	149	5	1	0	167	399
11:30 AM	0	14	3	1	4	0	22	0	13	1	4	5	0	23	0	2	174	4	2	0	182	0	3	194	7	0	0	204	431
11:45 AM	0	10	4	0	0	0	14	0	9	1	7	5	0	22	0	0	211	8	5	0	224	2	8	207	9	1	0	227	487
Hourly Total	0	52	16	1	4	0	73	0	34	8	20	19	0	81	0	2	748	30	15	0	795	4	32	720	28	4	0	788	1737
12:00 PM	0	6	6	2	0	0	14	0	10	2	6	8	0	26	0	1	218	8	2	0	229	3	6	198	9	4	0	220	489
12:15 PM	0	17	6	0	0	0	23	0	10	3	5	2	0	20	0	0	224	7	6	0	237	1	11	171	14	0	0	197	477
12:30 PM	0	6	3	0	2	1	11	0	9	5	6	5	0	25	0	1	220	6	2	0	229	2	11	222	5	4	0	244	509
12:45 PM	0	16	6	1	3	0	26	0	13	5	7	6	0	31	0	0	204	6	3	0	213	1	11	194	7	3	0	216	486
Hourly Total	0	45	21	3	5	1	74	0	42	15	24	21	0	102	0	2	866	27	13	0	908	7	39	785	35	11	0	877	1961
1:00 PM	0	9	6	0	1	0	16	0	12	4	5	5	0	26	0	0	215	5	7	0	227	0	8	192	9	2	0	211	480
1:15 PM	0	9	3	1	0	0	13	0	8	4	3	3	0	18	0	0	210	5	2	0	217	1	5	217	3	0	0	226	474
1:30 PM	0	10	3	0	0	2	13	0	13	0	9	6	0	28	0	0	218	11	4	2	233	0	5	186	6	3	0	200	474
1:45 PM	0	4	5	0	0	0	9	0	16	3	2	6	1	27	0	0	233	14	5	1	252	0	11	252	8	2	0	273	561
Hourly Total	0	32	17	1	1	2	51	0	49	11	19	20	1	99	0	0	876	35	18	3	929	1	29	847	26	7	0	910	1989
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7:00 AM	0	9	5	0	1	2	15	0	14	4	9	2	1	29	0	2	192	8	4	0	206	0	6	292	5	3	1	306	556
7:15 AM	0	6	3	1	1	2	11	0	20	3	7	2	0	32	0	3	215	7	0	0	225	0	7	315	7	5	1	334	602
7:30 AM	0	12	5	0	0	0	17	0	14	1	6	5	0	26	0	0	202	7	6	0	215	2	18	348	3	1	0	372	630
7:45 AM	0	11	7	1	0	0	19	0	17	1	9	3	0	30	0	0	230	13	7	1	250	2	18	258	6	1	0	285	584
Hourly Total	0	38	20	2	2	4	62	0	65	9	31	12	1	117	0	5	839	35	17	1	896	4	49	1213	21	10	2	1297	2372
8:00 AM	0	12	4	0	1	0	17	0	20	1	17	4	0	42	0	1	193	7	6	1	207	0	15	263	4	2	0	284	550
8:15 AM	0	13	3	1	1	0	18	0	17	1	10	1	0	29	1	0	220	14	10	0	245	0	11	238	5	0	0	254	546
8:30 AM	0	8	4	0	0	1	12	0	23	0	18	5	0	46	0	1	244	17	11	0	273	0	28	264	4	1	0	297	628
8:45 AM	0	13	2	0	0	0	15	0	26	3	24	6	0	59	0	1	235	10	4	0	250	1	20	197	3	2	0	223	547
Hourly Total	0	46	13	1	2	1	62	0	86	5	69	16	0	176	1	3	892	48	31	1	975	1	74	962	16	5	0	1058	2271
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4:00 PM	0	17	4	3	1	4	0	28	0	18	4	12	12	0	46	1	341	24	4	0	370	4	24	232	12	2	0	274	718
4:15 PM	0	14	3	1	1	0	19	0	27	1	22	3	0	53	0	0	338	17	11	0	366	3	18	232	8	3	0	264	702
4:30 PM	0	17	4	0	0	1	21	0	24	5	24	4	0	57	0	0	357	18	10	1	385	4	13	218	13	2	1	250	713
4:45 PM	0	6	3	1	0	0	10	0	18	2	16	2	0	38	0	1	408	10	4	0	423	5	8	221	5	2	0	241	712
Hourly Total	0	54	14	5	5	1	78	0	87	12	74	21	0	194	0	2	1444	69	29	1	1544	16	63	903	38	9	1	1029	2845
5:00 PM	0	23	4	2	2	0	31	0	18	2	8	2	0	30	0	2	312	10	14	0	338	2	16	266	8	5	0	297	696
5:15 PM	0	6	5	0	0	0	11	0	13	4	11	6	0	34	1	0	354	8	9	0	372	1	11	268	11	0	0	291	708
5:30 PM	0	8	8	0	0	0	16	0	12	5	8	4	0	29	0	0	318	11	7	1	336	3	15	252	11	7	0	288	669

5:45 PM	0	10	5	1	0	0	16	0	13	1	10	6	0	30	1	0	328	6	5	0	340	1	5	241	3	1	0	251	637
Hourly Total	0	47	22	3	2	0	74	0	56	12	37	18	0	123	2	2	1312	35	35	1	1386	7	47	1027	33	13	0	1127	2710
6:00 PM	0	8	0	1	1	0	10	0	13	3	6	12	0	34	0	0	268	4	8	0	280	1	7	215	2	1	0	226	550
6:15 PM	0	5	3	0	0	0	8	0	18	2	6	3	0	29	0	0	258	10	6	0	274	2	9	204	4	0	1	219	530
6:30 PM	0	5	3	1	0	0	9	0	5	4	0	4	0	13	0	0	225	9	0	0	234	0	7	201	11	1	0	220	476
6:45 PM	0	12	3	0	0	0	15	0	11	2	10	3	0	26	1	0	191	8	7	0	207	3	7	175	4	3	0	192	440
Hourly Total	0	30	9	2	1	0	42	0	47	11	22	22	0	102	1	0	942	31	21	0	985	6	30	795	21	5	1	857	1996
Grand Total	0	344	132	18	22	9	516	0	466	83	296	149	2	994	4	16	7919	310	179	7	8428	46	363	7252	218	64	4	7943	17881
Approach %	0.0	66.7	25.6	3.5	4.3	-	-	0.0	46.9	8.4	29.8	15.0	-	-	0.0	0.2	94.0	3.7	2.1	-	-	0.6	4.6	91.3	2.7	0.8	-	-	-
Total %	0.0	1.9	0.7	0.1	0.1	-	2.9	0.0	2.6	0.5	1.7	0.8	-	5.6	0.0	0.1	44.3	1.7	1.0	-	47.1	0.3	2.0	40.6	1.2	0.4	-	44.4	-
Lights	0	319	129	14	20	-	482	0	447	80	282	144	-	953	4	11	7330	299	176	-	7820	46	348	6712	195	64	-	7365	16620
% Lights	-	92.7	97.7	77.8	90.9	-	93.4	-	95.9	96.4	95.3	96.6	-	95.9	100.0	68.8	92.6	96.5	98.3	-	92.8	100.0	95.6	92.6	89.4	100.0	-	92.7	92.9
Buses	0	0	0	0	0	-	0	0	0	2	0	0	-	2	0	0	17	0	0	-	17	0	3	10	0	0	-	13	32
% Buses	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.7	0.0	0.0	-	0.2	0.0	0.0	0.2	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	-	0.2	0.2	
Trucks	0	25	3	4	2	-	34	0	19	3	12	5	-	39	0	5	572	11	3	-	591	0	12	530	23	0	-	565	1229
% Trucks	-	7.3	2.3	22.2	9.1	-	6.6	-	4.1	3.6	4.1	3.4	-	3.9	0.0	31.3	7.2	3.5	1.7	-	7.0	0.0	3.3	7.3	10.6	0.0	-	7.1	6.9
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.0	-	-	
Pedestrians	-	-	-	-	6	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	
% Pedestrians	-	-	-	-	66.7	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75.0	-	-	



Project: Route 130
 Municipality: South Brunswick Township,
 Middlesex Co., NJ
 Setup: NR
 Location: 40.419697, -74.49903

TRAFFIC & DATA COLLECTION
 Imperial Traffic & Data Collection
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 Cherry Hill, New Jersey, United States 08034
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Count Name: 1_Route 130 & Davidson Mill
 Road/Finnegan's Lane
 Site Code: 1
 Start Date: 08/08/2020
 Page No: 6

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Finnegan's Lane												Route 130																			
	Eastbound						Westbound						Northbound						Southbound													
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	Int. Total										
7:00 AM	0	9	5	0	1	2	15	0	14	4	9	2	29	0	2	192	8	4	0	206	0	6	292	5	3	1	306	556				
7:15 AM	0	6	3	1	1	2	11	0	20	3	7	2	0	3	215	7	0	0	225	0	7	315	7	5	1	334	602					
7:30 AM	0	12	5	0	0	0	17	0	14	1	6	5	0	26	0	0	202	7	6	0	215	2	18	348	3	1	0	372	630			
7:45 AM	0	11	7	1	0	0	19	0	17	1	9	3	0	30	0	0	230	13	7	1	250	2	18	258	6	1	0	285	584			
Total	0	38	20	2	2	4	62	0	65	9	34	12	1	117	0	5	839	35	17	1	896	4	49	1213	21	10	2	1297	2372			
Approach %	0.0	61.3	32.3	3.2	3.2	-	-	0.0	55.6	7.7	26.5	10.3	-	-	0.0	0.6	93.6	3.9	1.9	-	-	0.3	3.8	93.5	1.6	0.8	-	-	-			
Total %	0.0	1.6	0.8	0.1	0.1	-	-	0.0	2.7	0.4	1.3	0.5	-	-	4.9	0.0	0.2	35.4	1.5	0.7	-	-	37.8	0.2	2.1	51.1	0.9	0.4	-	54.7	-	
PHF	0.000	0.792	0.714	0.500	0.500	-	-	0.000	0.813	0.563	0.861	0.600	-	-	0.914	0.000	0.417	0.912	0.673	0.607	-	-	0.896	0.500	0.681	0.871	0.750	0.500	-	0.872	0.941	
Lights	0	34	20	2	2	-	-	58	0	62	9	30	11	-	112	0	4	714	35	16	-	-	769	4	47	1110	18	10	-	1189	2128	
% Lights	-	89.5	100.0	100.0	100.0	-	-	93.5	-	95.4	100.0	96.8	91.7	-	-	80.0	85.1	100.0	94.1	-	-	-	-	85.8	100.0	95.9	91.5	85.7	100.0	-	91.7	89.7
Buses	0	0	0	0	0	-	-	0	0	0	0	0	-	-	0	0	6	0	0	-	-	6	0	1	2	0	0	-	-	3	9	
% Buses	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.7	0.0	0.0	-	-	0.7	0.0	2.0	0.2	0.0	0.0	-	0.2	0.4		
Trucks	0	4	0	0	0	-	-	4	0	3	0	1	1	-	5	0	1	119	0	1	-	-	121	0	1	101	3	0	-	105	235	
% Trucks	-	10.5	0.0	0.0	0.0	-	-	6.5	-	4.6	0.0	3.2	8.3	-	-	4.3	-	20.0	14.2	0.0	5.9	-	-	13.5	0.0	2.0	8.3	14.3	0.0	-	8.1	9.9
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pedestrians	-	-	-	-	-	25.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
% Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-	-	-	-	-	75.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		



Project: Route 130
 Municipality: South Brunswick Township,
 Middlesex Co., NJ
 Setup: NR
 Location: 40.419697, -74.49903

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Count Name: 1_Route 130 & Davidson Mill Road/Finnegan's Lane
 Site Code: 1
 Start Date: 08/08/2020
 Page No: 8

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Finnegans Lane												Route 130																	
	Eastbound						Westbound						Northbound						Southbound											
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	Int. Total								
4:00 PM	0	17	4	3	4	0	28	0	18	4	12	0	46	0	1	341	24	4	0	370	4	24	232	12	2	0	274	718		
4:15 PM	0	14	3	1	1	0	19	0	27	1	22	3	0	53	0	0	338	17	11	0	366	3	18	232	8	3	0	264	702	
4:30 PM	0	17	4	0	0	1	21	0	24	5	24	4	0	57	0	0	357	18	10	1	385	4	13	218	13	2	1	250	713	
4:45 PM	0	6	3	1	0	0	10	0	18	2	16	2	0	38	0	1	408	10	4	0	423	5	8	221	5	2	0	241	712	
Total	0	54	14	5	5	1	78	0	87	12	74	21	0	194	0	2	1444	69	29	1	1544	16	63	903	38	9	1	1029	2845	
Approach %	0.0	69.2	17.9	6.4	6.4	-	-	0.0	44.8	6.2	38.1	10.8	-	-	0.0	0.1	93.5	4.5	1.9	-	-	1.6	6.1	87.8	3.7	0.9	-	-	-	
Total %	0.0	1.9	0.5	0.2	0.2	-	-	0.0	3.1	0.4	2.6	0.7	-	-	6.8	0.0	0.1	50.8	2.4	1.0	-	54.3	0.6	2.2	31.7	1.3	0.3	-	36.2	-
PHF	0.000	0.794	0.875	0.417	0.313	-	0.696	0.000	0.806	0.600	0.771	0.438	-	0.851	0.000	0.500	0.885	0.719	0.659	-	0.913	0.800	0.656	0.973	0.731	0.750	-	0.939	0.991	
Lights	0	48	14	4	3	-	69	0	84	11	71	21	-	187	0	2	1354	64	29	-	1449	16	60	826	30	9	-	941	2846	
% Lights	-	88.9	100.0	80.0	60.0	-	88.5	-	96.6	91.7	95.9	100.0	-	96.4	-	100.0	93.8	92.8	100.0	-	93.8	100.0	95.2	91.5	78.9	100.0	-	91.4	93.0	
Buses	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	3	0	0	-	3	0	2	3	0	0	-	5	9	
% Buses	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	1.4	0.0	-	0.5	-	0.0	0.2	0.0	0.0	-	0.2	0.0	3.2	0.3	0.0	0.0	-	0.5	0.3	
Trucks	0	6	0	1	2	-	9	0	3	1	2	0	-	6	0	0	87	5	0	-	92	0	1	74	8	0	-	83	190	
% Trucks	-	11.1	0.0	20.0	40.0	-	11.5	-	3.4	8.3	2.7	0.0	-	3.1	-	0.0	6.0	7.2	0.0	-	6.0	0.0	1.6	8.2	21.1	0.0	-	8.1	6.7	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-		
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-		
Pedestrians	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			



Project: Route 130
 Municipality: South Brunswick Township,
 Middlesex Co., NJ
 Setup: NR
 Location: 40.419697, -74.49903

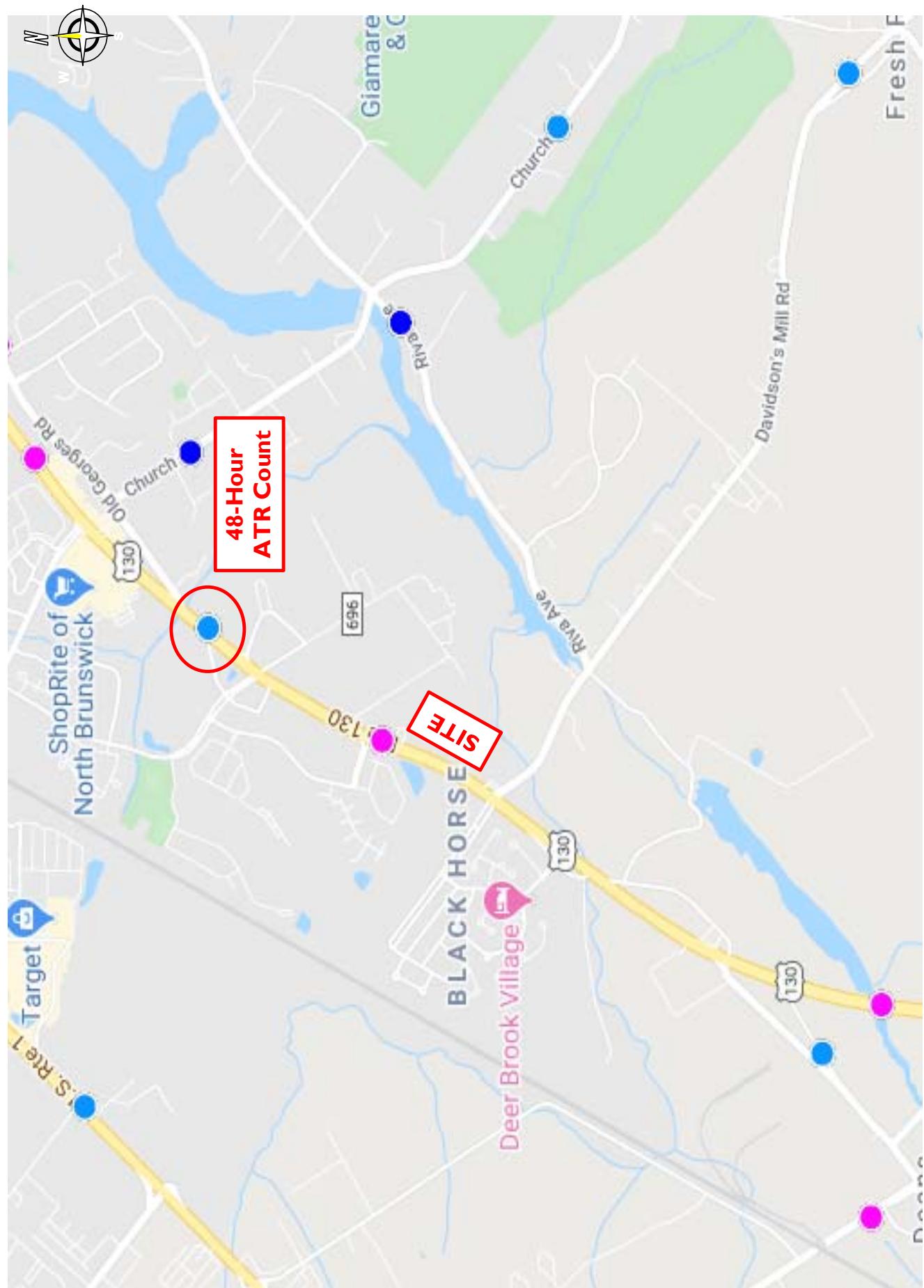
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Count Name: 1_Route 130 & Davidson Mill
 Road/Finnegan's Lane
 Site Code: 1
 Start Date: 08/08/2020
 Page No: 4

Turning Movement Peak Hour Data (1:00 PM)

Start Time	Finnegan's Lane												Route 130																	
	Eastbound						Westbound						Northbound						Southbound											
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	Int. Total								
1:00 PM	0	9	6	0	1	0	16	0	12	4	5	0	26	0	0	215	5	7	0	227	0	8	192	9	2	0	211	480		
1:15 PM	0	9	3	1	0	0	13	0	8	4	3	0	18	0	0	210	5	2	0	217	1	5	217	3	0	0	226	474		
1:30 PM	0	10	3	0	0	2	13	0	13	0	9	6	0	28	0	0	218	11	4	2	233	0	5	186	6	3	0	200	474	
1:45 PM	0	4	5	0	0	0	9	0	16	3	2	6	1	27	0	0	233	14	5	1	252	0	11	252	8	2	0	273	561	
Total	0	32	17	1	1	2	51	0	49	11	19	20	1	99	0	0	876	35	18	3	929	1	29	847	26	7	0	910	1989	
Approach %	0.0	62.7	33.3	2.0	2.0	-	-	0.0	49.5	11.1	19.2	20.2	-	-	0.0	0.0	94.3	3.8	1.9	-	-	0.1	3.2	93.1	2.9	0.8	-	-	-	
Total %	0.0	1.6	0.9	0.1	0.1	-	-	0.0	2.5	0.6	1.0	1.0	-	-	5.0	0.0	0.0	44.0	1.8	0.9	-	46.7	0.1	1.5	42.6	1.3	0.4	-	45.8	-
PHF	0.000	0.800	0.708	0.250	0.250	-	0.797	0.000	0.766	0.688	0.528	0.833	-	0.884	0.000	0.000	0.940	0.625	0.643	-	0.922	0.250	0.659	0.840	0.722	0.583	-	0.833	0.836	
Lights	0	29	17	1	1	-	48	0	48	11	15	20	-	94	0	0	845	35	18	-	888	1	28	821	24	7	-	881	1921	
% Lights	-	90.6	100.0	100.0	100.0	-	94.1	-	98.0	100.0	78.9	100.0	-	94.9	-	-	96.5	100.0	100.0	-	96.7	100.0	96.9	92.3	100.0	-	96.8	96.6		
Buses	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	2	0	0	-	0	0	0	0	0	0	0	2		
% Buses	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	-	0.2	0.0	0.0	-	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	
Trucks	0	3	0	0	0	-	3	0	1	0	4	0	-	5	0	0	29	0	0	-	29	0	1	26	2	0	-	29	66	
% Trucks	-	9.4	0.0	0.0	0.0	-	5.9	-	2.0	0.0	21.1	0.0	-	5.1	-	-	3.3	0.0	0.0	-	3.1	0.0	3.4	3.1	7.7	0.0	-	3.2	3.3	
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-		
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-	
Pedestrians	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-		
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-		

ATUOMATIC TRAFFIC RECORDER DATA



STONEFIELD	Proposed Warehouse Building U.S. Route 130 & Davidson's Mills Road North Brunswick, Middlesex County, New Jersey	Count Location Map Traffic Impact Study
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New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 09/12/2018 to 09/14/2018

Site names: 121208,US 130-80.25,00000130
 County: MIDDLESEX
 Funct Class: Urban Principal Arterial - Other
 Location: BET CO 696 APPLE ORCHARD LN CO 694 OLD GEORGES RD

Seasonal Factor Grp: rg3_3U
 Daily Factor Grp: rg3_3U
 Axle Factor Grp: rg3_3U
 Growth Factor Grp:

	Sun, Sep 9, 2018				Mon, Sep 10, 2018				Tue, Sep 11, 2018				Wed, Sep 12, 2018				Thu, Sep 13, 2018				Fri, Sep 14, 2018				Sat, Sep 15, 2018				
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S		
00:00																													
01:00																													
02:00																													
03:00																													
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18:00																													
19:00																													
20:00																													
21:00																													
22:00																													
23:00																													
Total																													
AM Peak Vol																													
AM Peak Fct																													
AM Peak Hr																													
PM Peak Vol																													
PM Peak Fct																													
PM Peak Hr																													
Seasonal Fct																													
Daily Fct																													
Axle Fct																													
Pulse Fct																													

Site names: 121208,US 130-80.25,00000130
 County: MIDDLESEX
 Funct Class: Urban Principal Arterial - Other
 Location: BET CO 696 APPLE ORCHARD LN CO 694 OLD GEORGES RD

Seasonal Factor Grp: rg3_3U
 Daily Factor Grp: rg3_3U
 Axle Factor Grp: rg3_3U
 Growth Factor Grp:



Route 130 Northbound
North of Apple Orchard Road
North Brunswick, Middlesex County, NJ
Setup: MAK/BG

File Name: 5. Route 130 NB, North of Apple
Orchard, Volume
Start Date: 8/7/2020
End Date: 8/16/2020
Date Printed: 8/17/2020

		Monday			Tuesday			Wednesday			Thursday			Friday			Saturday		
	Time	North, Route																	
	12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	Day	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak	Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

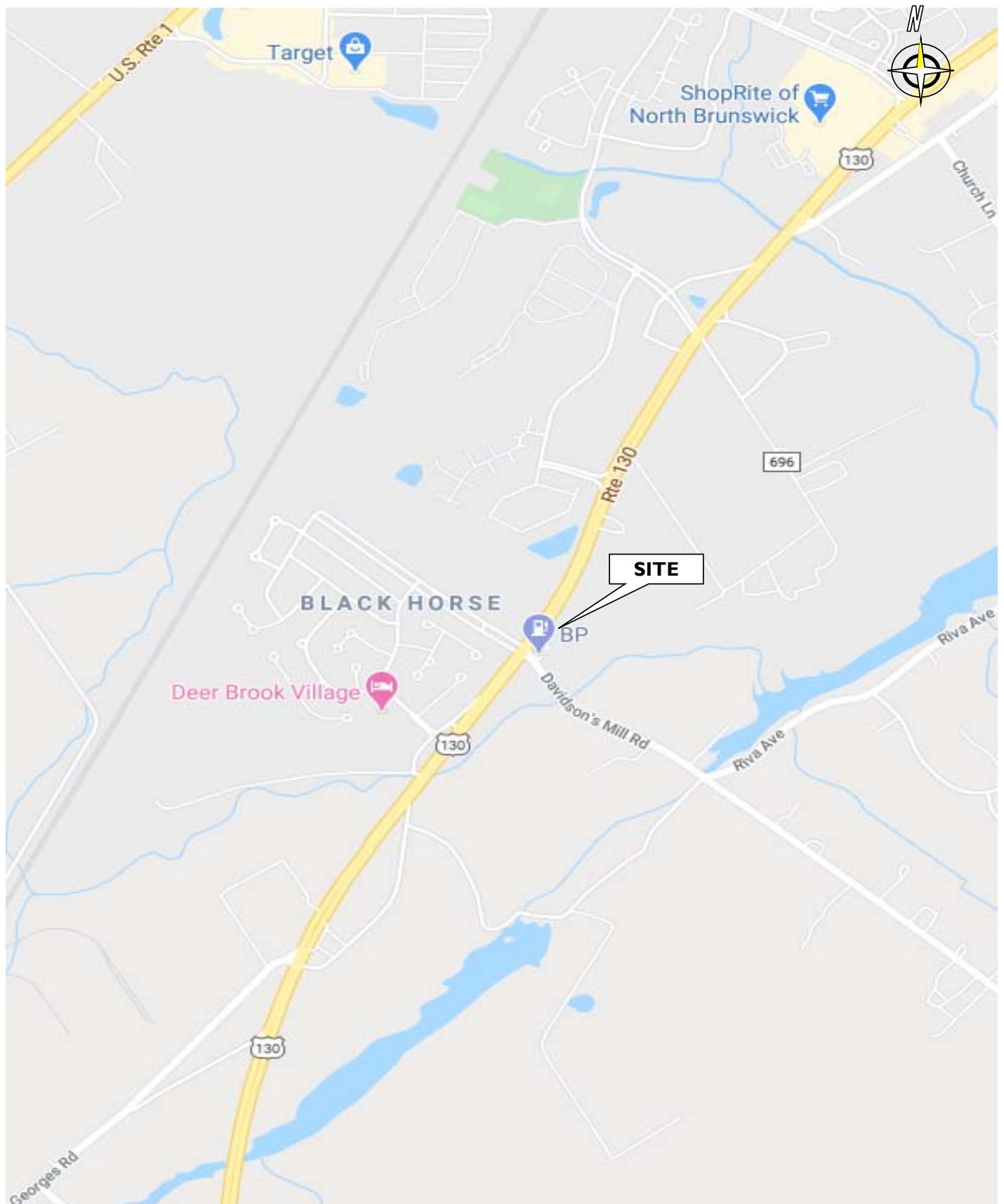


Route 130 Northbound
North of Apple Orchard Road
North Brunswick, Middlesex County, NJ
Setup: MAK/BG

File Name: 5. Route 130 NB, North of Apple
Orchard, Volume
Start Date: 8/7/2020
End Date: 8/16/2020
Date Printed: 8/17/2020

8/10/2020		Monday		Tuesday		Wednesday		Thursday		Friday		Weekday Average		Saturday		Sunday	
Time	Route	North, Route	North, Route	North, Route	North, Route	North, Route	North, Route										
12:00 AM	72	51	169	154	187	156	167	134	163	136	152	126	140	132	117	117	81
1:00	36	30	88	47	77	49	82	56	102	69	77	50	76	35	54	33	33
2:00	34	22	84	48	95	47	92	51	72	44	75	42	68	28	44	18	18
3:00	56	37	87	57	91	56	102	82	97	62	87	59	53	44	42	29	29
4:00	88	58	100	53	101	59	114	61	93	64	99	59	77	51	27	13	13
5:00	223	169	234	200	241	193	250	165	225	154	235	176	128	82	84	47	47
6:00	391	387	414	471	412	432	410	390	380	384	401	413	227	186	115	64	64
7:00	570	515	580	549	568	566	466	475	506	492	538	519	306	198	146	81	81
8:00	596	540	628	604	605	576	545	387	557	542	586	530	398	294	187	129	129
9:00	519	495	583	508	568	523	516	378	538	499	545	481	374	319	217	169	169
10:00	513	517	551	488	539	498	495	413	563	479	532	479	467	382	270	217	217
11:00	542	493	541	485	506	467	490	446	508	495	517	477	487	428	356	255	255
12:00 PM	528	489	533	542	548	478	540	469	594	542	549	504	491	418	275	252	252
1:00	540	483	520	532	598	437	560	494	538	479	551	485	523	441	*	*	*
2:00	642	694	681	664	669	585	662	586	696	612	670	628	526	516	*	*	*
3:00	788	798	788	826	770	693	810	688	737	700	779	741	524	446	*	*	*
4:00	824	879	886	904	903	769	848	796	832	896	859	849	448	396	*	*	*
5:00	714	723	742	844	703	679	703	730	686	733	710	742	467	388	*	*	*
6:00	526	500	571	582	542	489	539	482	520	496	540	510	403	350	*	*	*
7:00	431	363	416	396	391	362	395	332	491	397	425	370	326	305	*	*	*
8:00	338	301	378	361	335	290	323	276	370	341	349	314	284	239	*	*	*
9:00	245	167	254	169	222	170	206	171	245	215	234	178	232	163	*	*	*
10:00	176	138	218	179	203	176	187	153	248	192	206	168	150	123	*	*	*
11:00	186	146	211	145	187	145	211	156	220	202	203	159	136	111	*	*	*
Total Day	9578	8995	10257	9808	10061	8895	9713	8371	9981	9225	9919	9059	7311	6075	1934	1388	
AM Peak	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	12:00 PM	12:00 PM	11:00	11:00	11:00
Volume	596	540	628	604	605	576	545	475	594	542	586	530	491	428	356	255	255
PM Peak	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	2:00	2:00	12:00 PM	12:00 PM	
Volume	824	879	886	904	903	904	848	796	832	896	859	849	526	516	275	252	
Comb Total ADT	18573	20065	18956	18084	18956	19206	18084	19206	18978	19206	18978	19206	31435	31435	28185	14286	

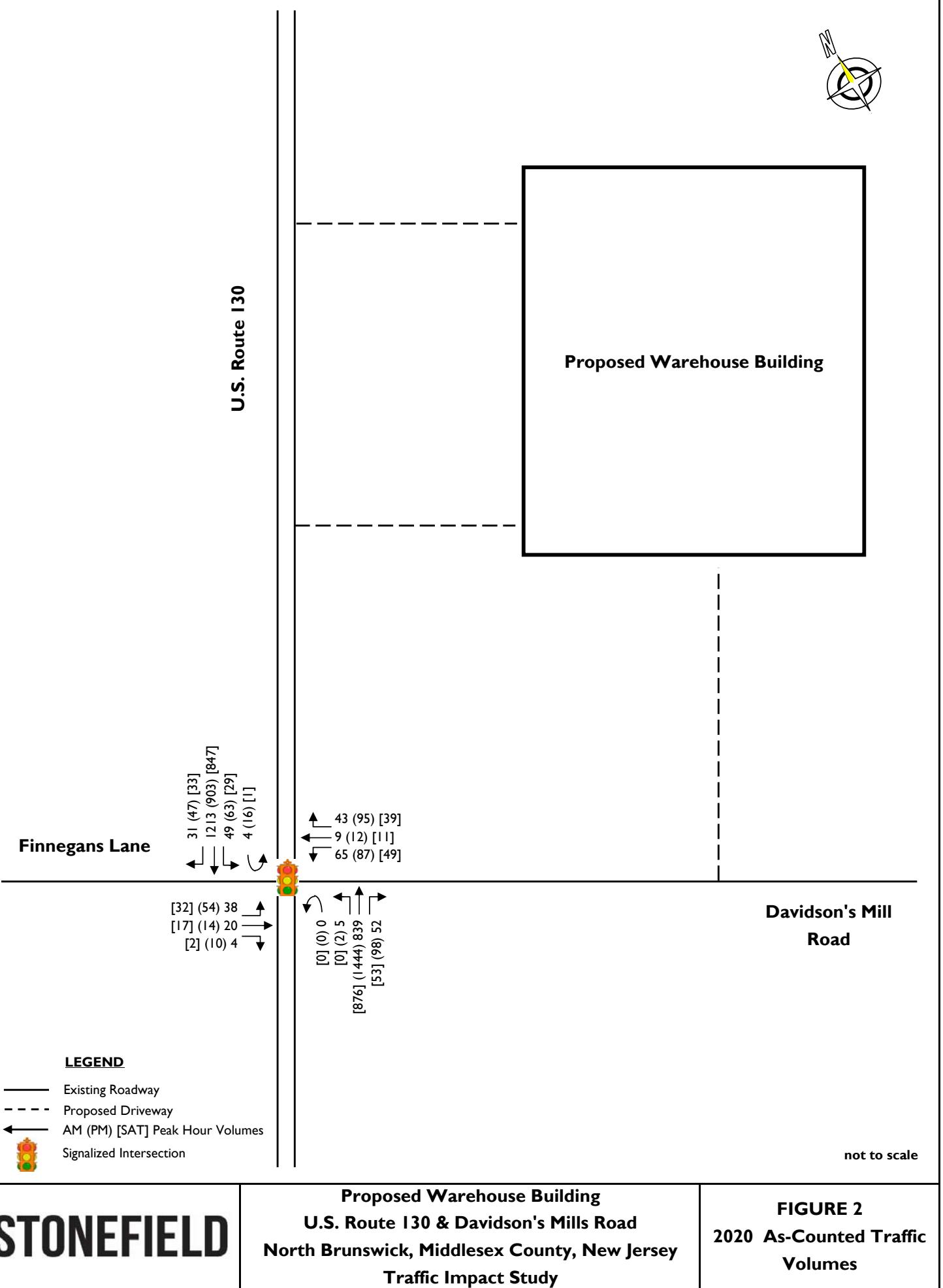
FIGURES

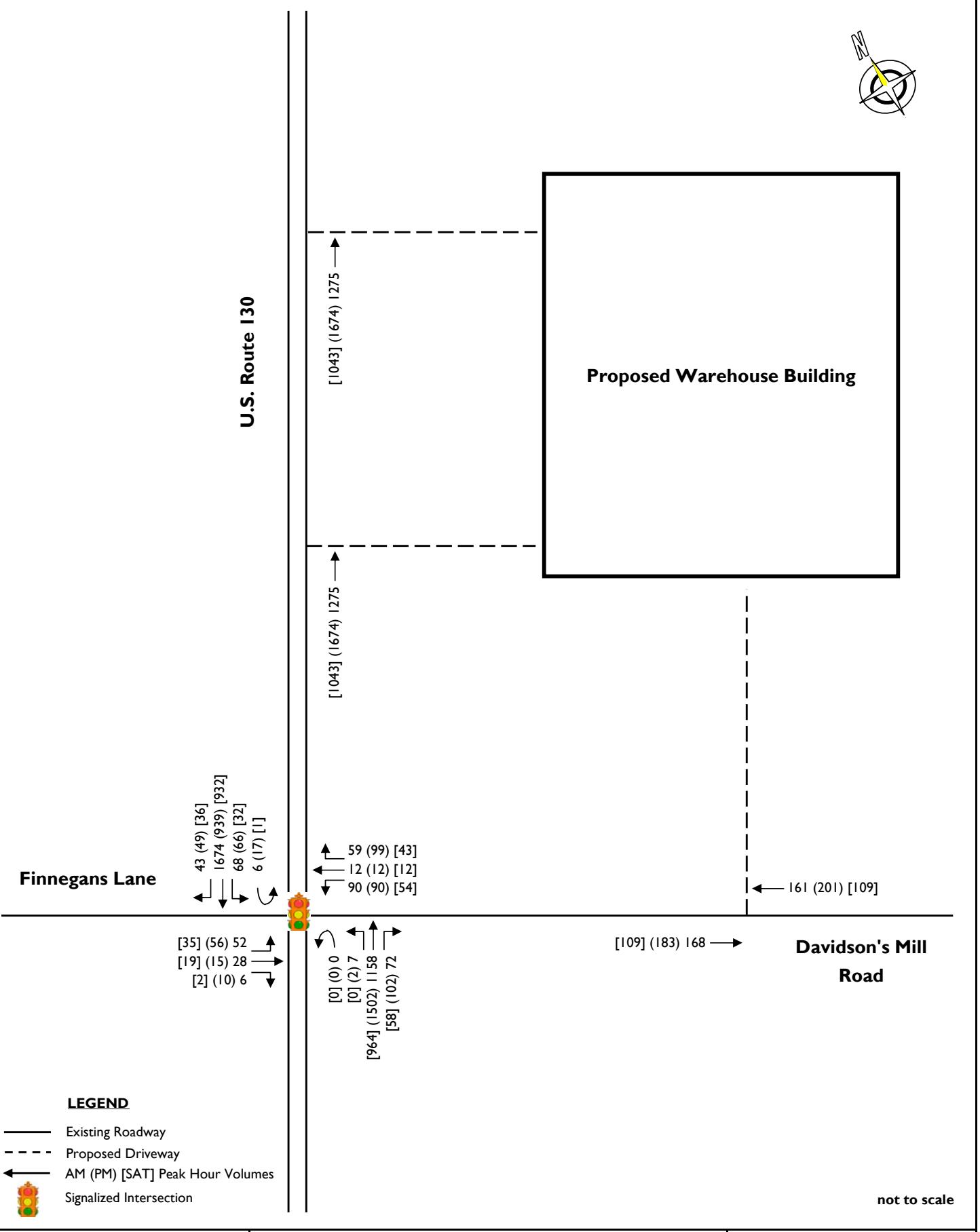


STONEFIELD

**Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study**

**FIGURE I
Site Location Map**

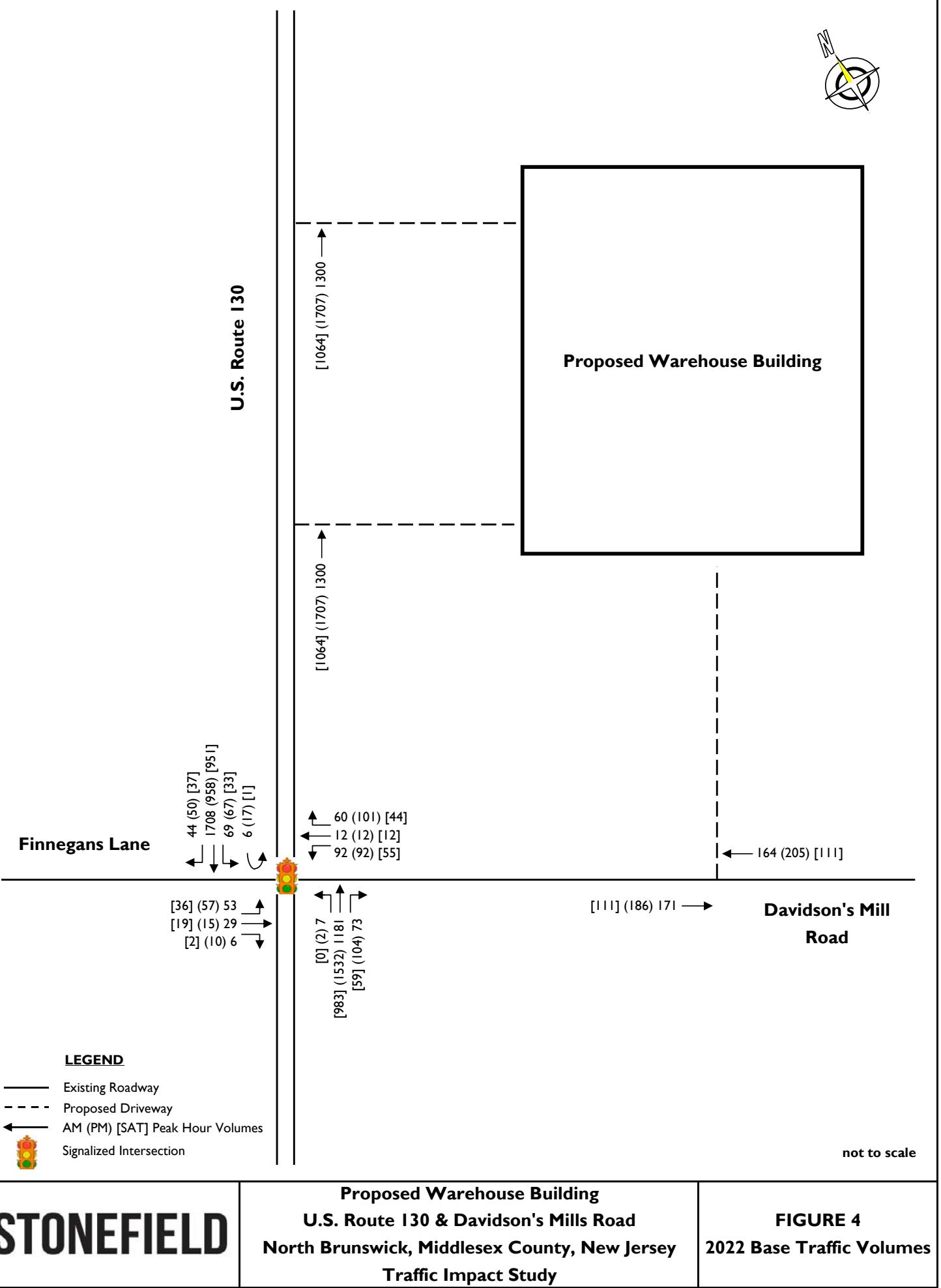


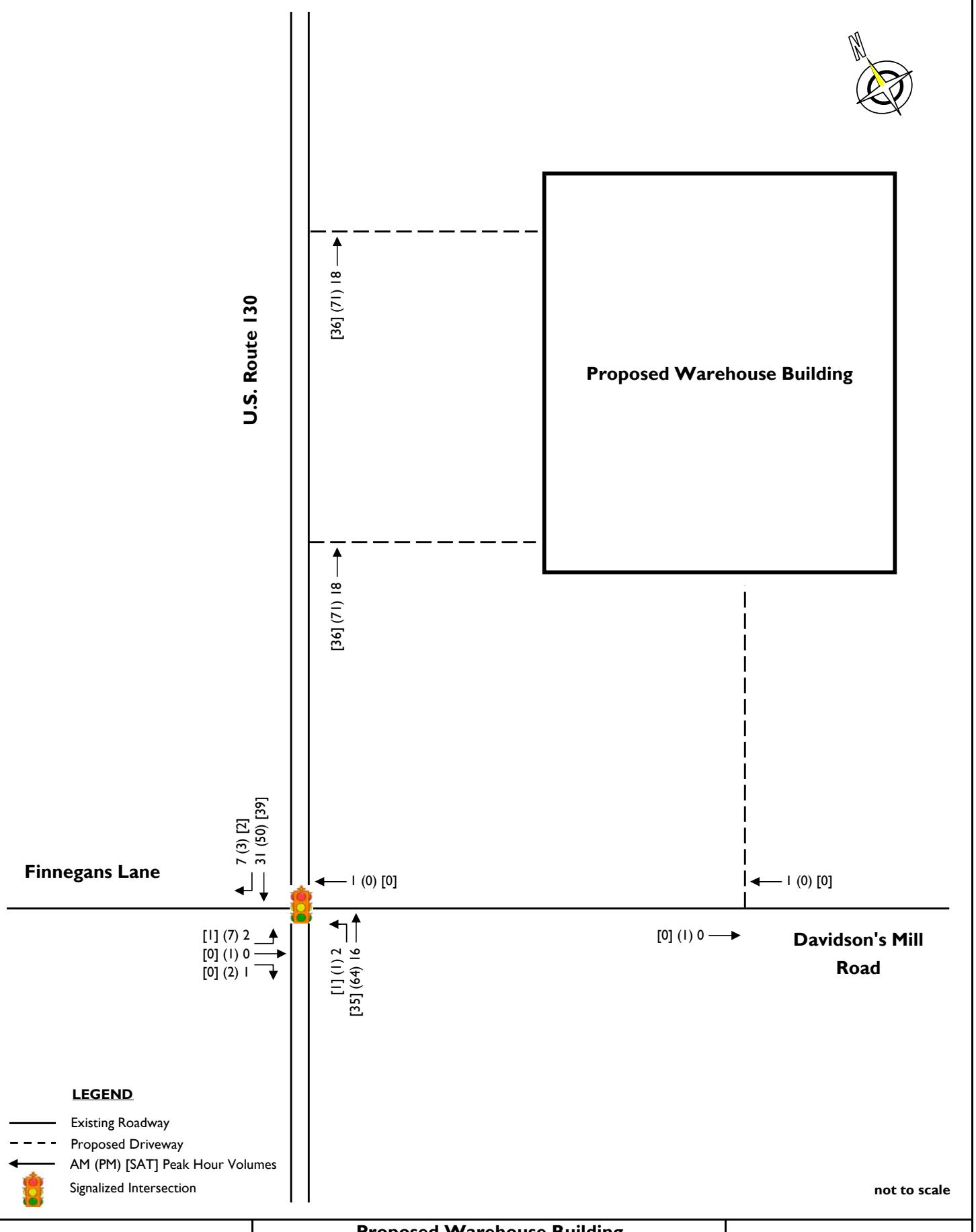


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Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 3
2020 Existing Traffic
Volumes

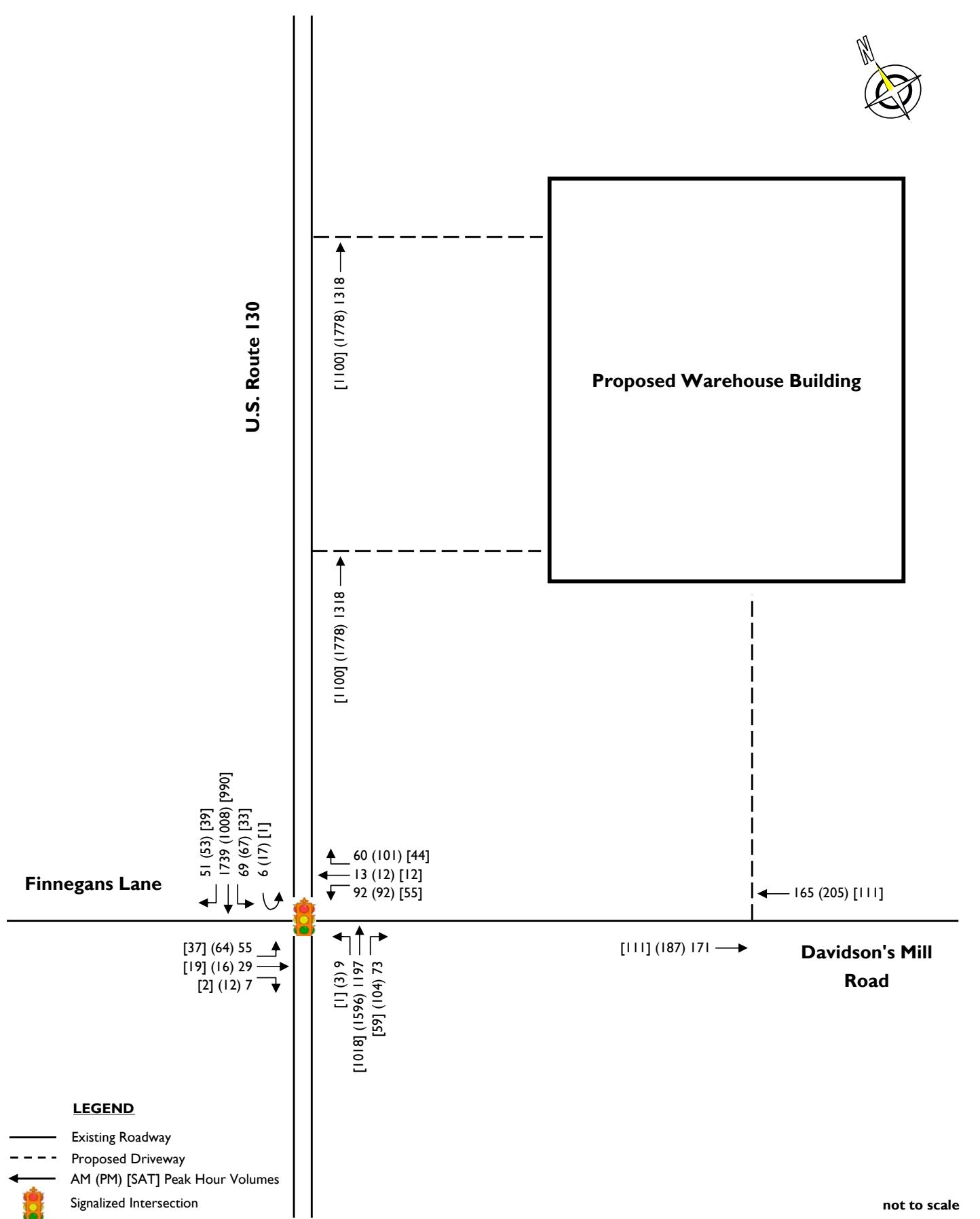




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Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 5
Other Planned Projects
Future Traffic Volumes



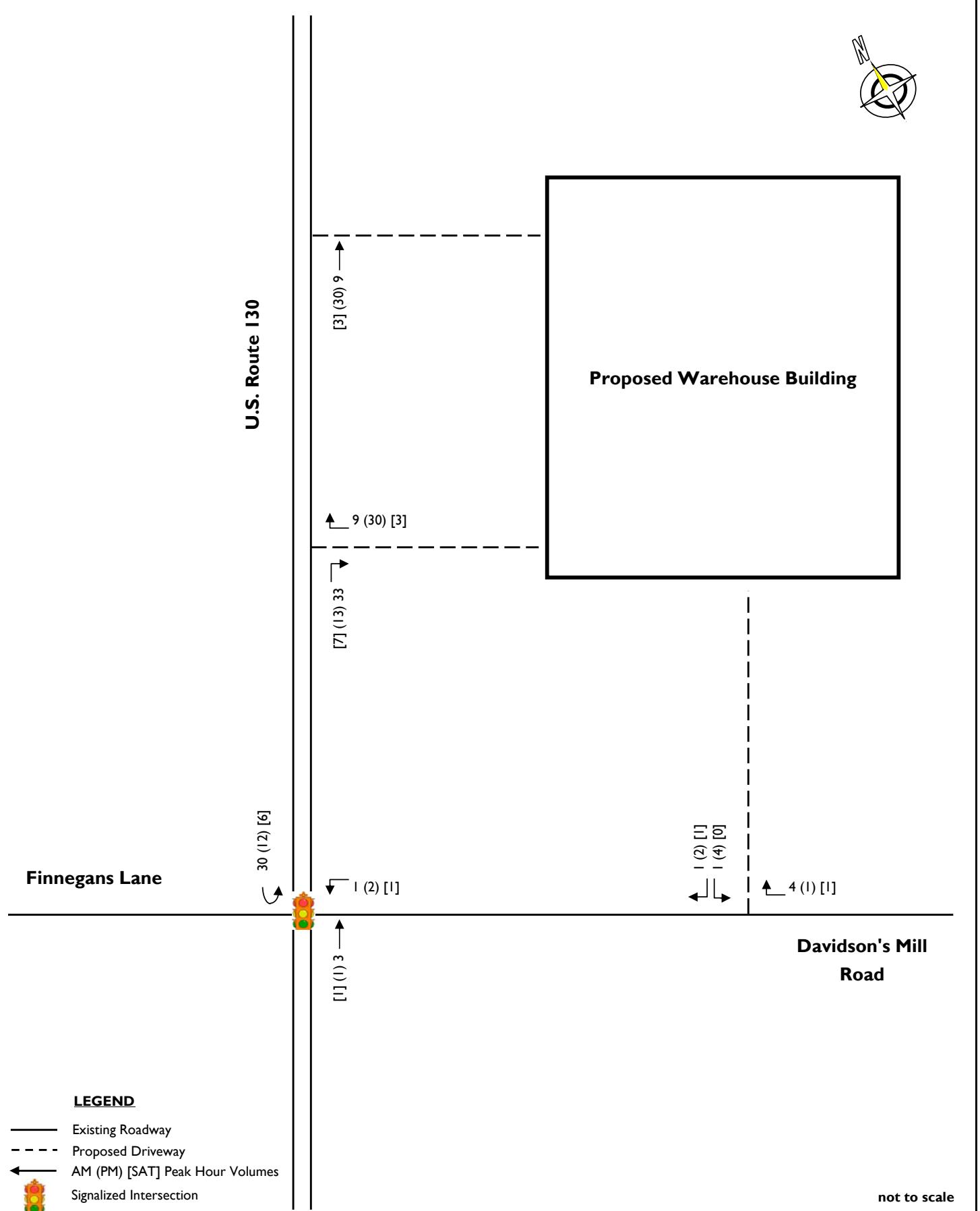
STONEFIELD

**Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study**

FIGURE 6

2022 No-Build Traffic Volumes

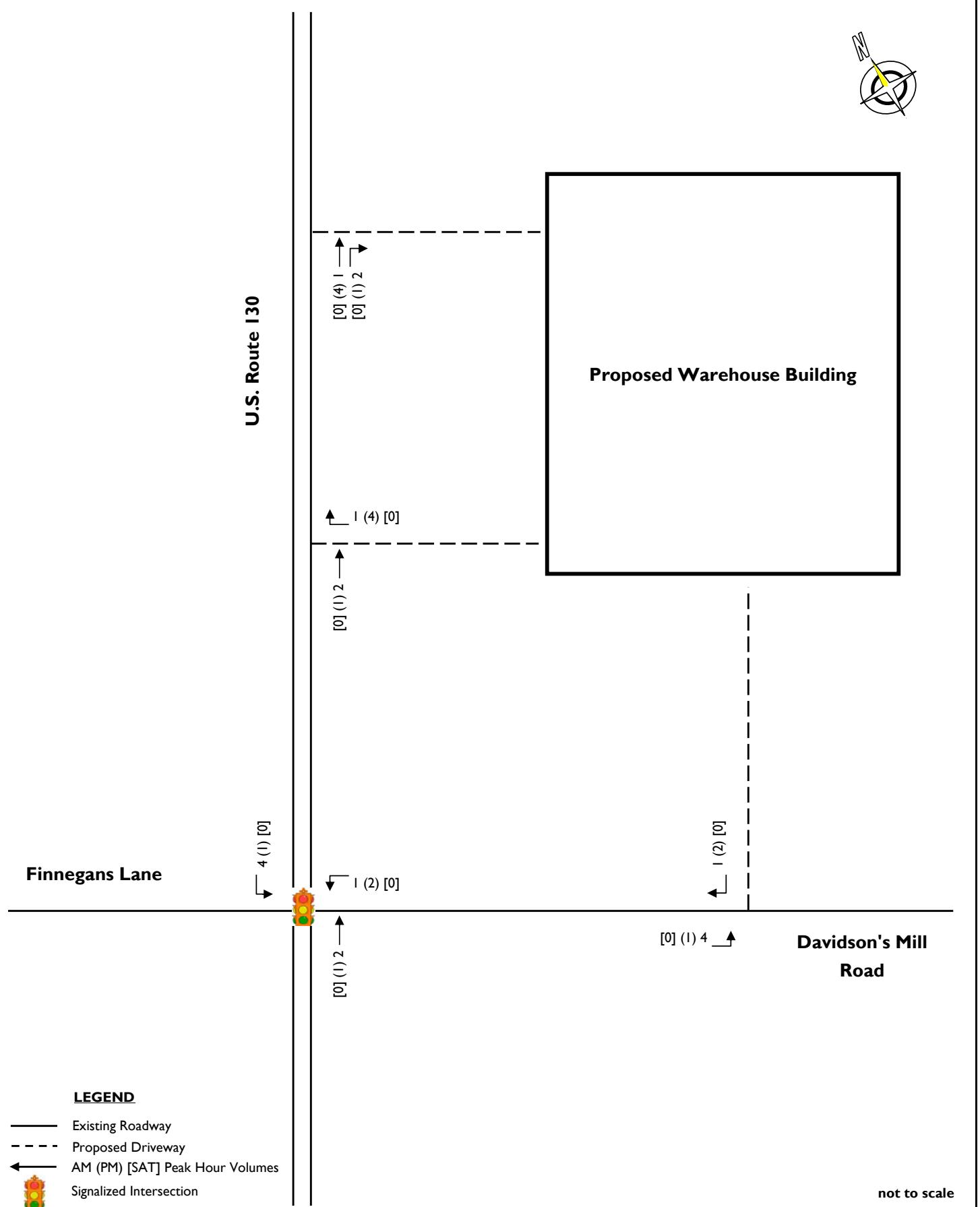
not to scale



STONEFIELD

Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

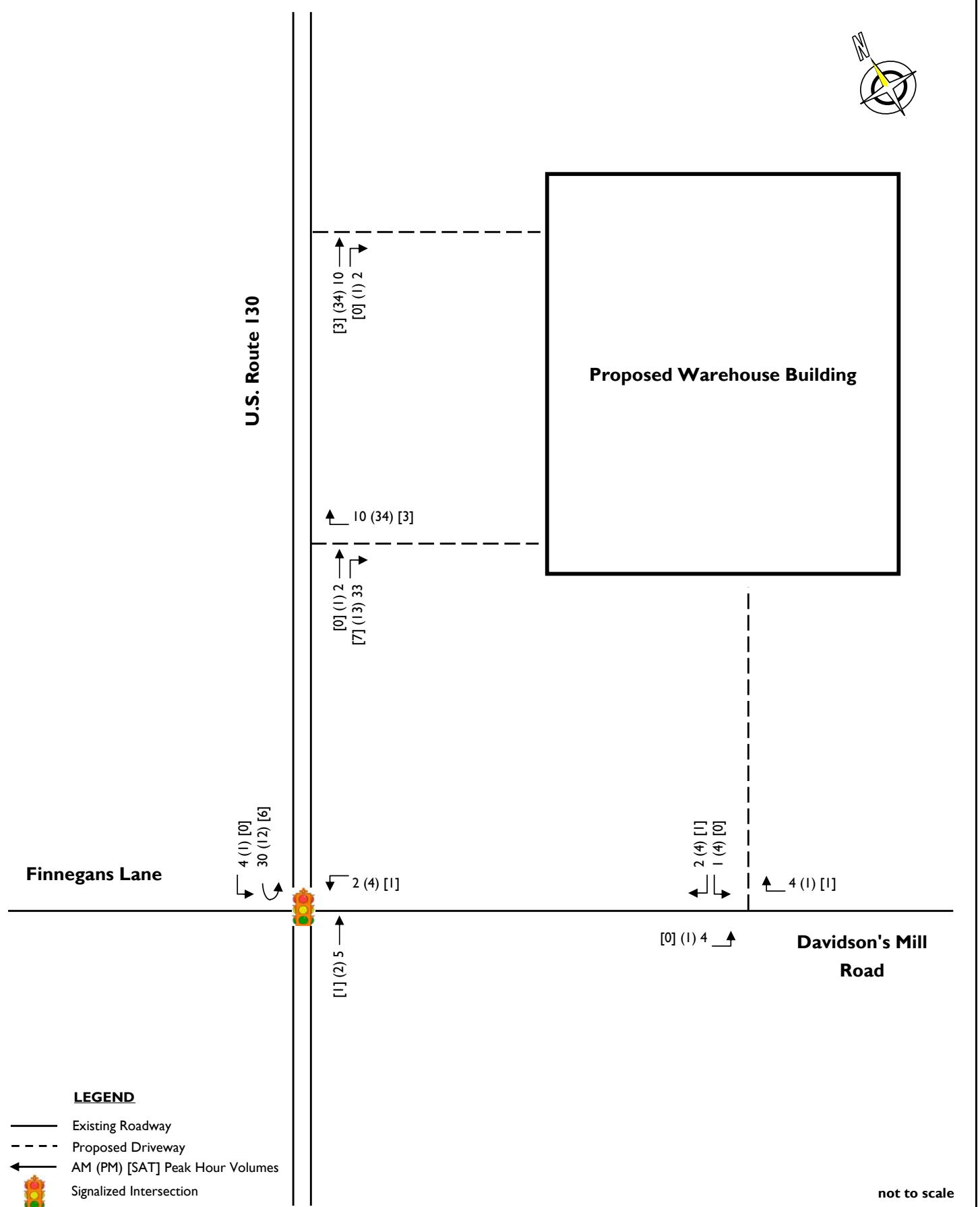
FIGURE 7
Passenger Vehicle Traffic
Volumes



STONEFIELD

Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

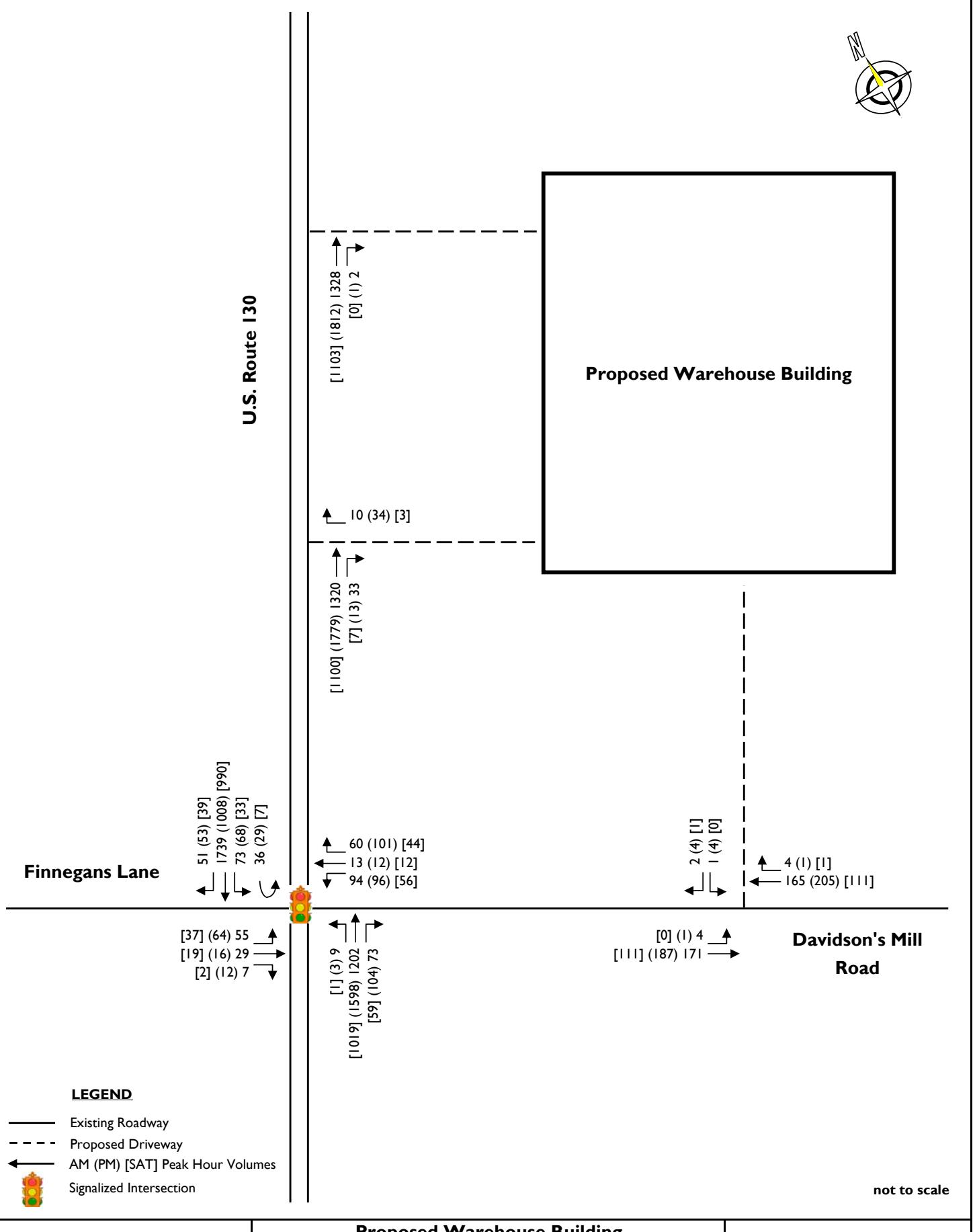
FIGURE 8
Truck Traffic Volumes



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Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 9
Total Site-Generated
Traffic Volumes



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Proposed Warehouse Building
U.S. Route 130 & Davidson's Mills Road
North Brunswick, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 10
2022 Build Traffic Volumes

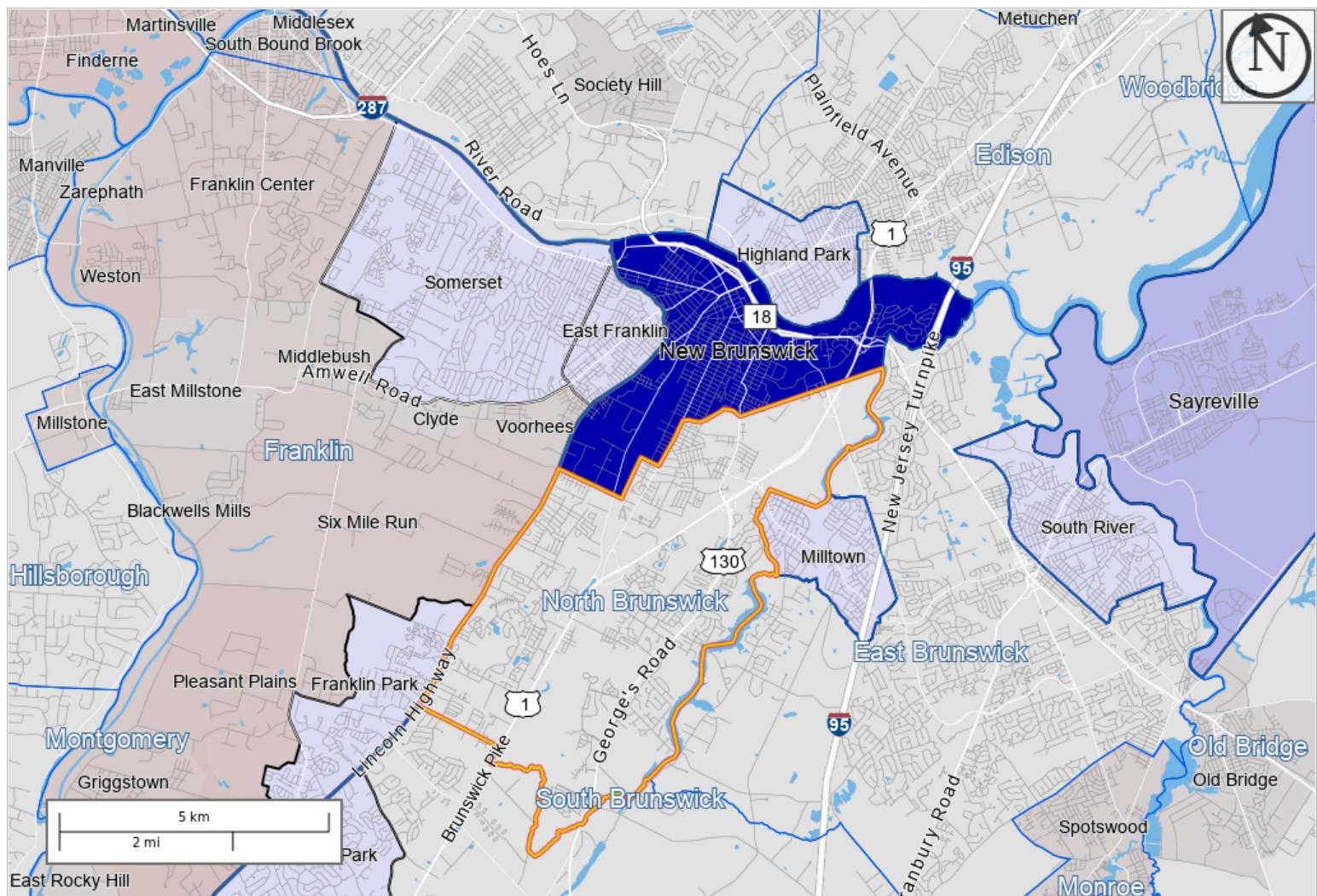
TRIP DISTRIBUTION

Home Destination Report - Work Selection Area to Home Places (Cities, CDPs, etc.)

All Jobs for All Workers in 2017

Created by the U.S. Census Bureau's OnTheMap <https://onthemap.ces.census.gov> on 07/06/2020

Counts of All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2017 All Workers



Map Legend

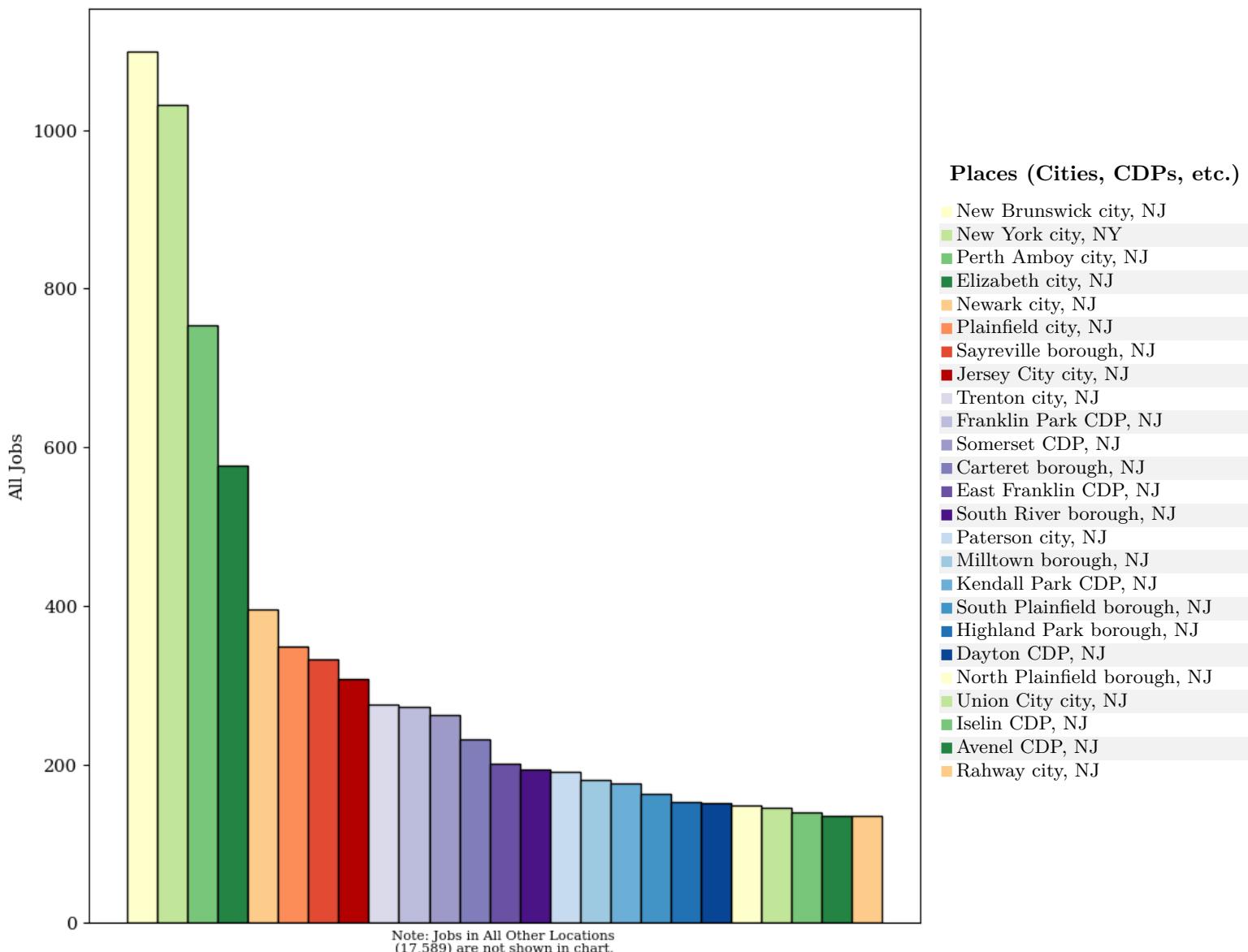
- Job Count**
- 961 - 1,098
 - 823 - 960
 - 686 - 822
 - 548 - 685
 - 411 - 547
 - 273 - 410
 - 135 - 272

- Selection Areas**
- ▲ Analysis Selection



All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2017

All Workers



All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2017

All Workers

Places (Cities, CDPs, etc.) as Home Destination Area	Count	Share
All Places (Cities, CDPs, etc.)	25,586	100.0
New Brunswick city, NJ	1,098	4.3
New York city, NY	1,032	4.0
Perth Amboy city, NJ	754	2.9
Elizabeth city, NJ	577	2.3
Newark city, NJ	395	1.5
Plainfield city, NJ	349	1.4
Sayreville borough, NJ	333	1.3
Jersey City city, NJ	307	1.2
Trenton city, NJ	275	1.1
Franklin Park CDP, NJ	272	1.1

2017

Places (Cities, CDPs, etc.) as Home Destination Area	Count	Share
Somerset CDP, NJ	263	1.0
Carteret borough, NJ	231	0.9
East Franklin CDP, NJ	201	0.8
South River borough, NJ	193	0.8
Paterson city, NJ	190	0.7
Milltown borough, NJ	180	0.7
Kendall Park CDP, NJ	176	0.7
South Plainfield borough, NJ	163	0.6
Highland Park borough, NJ	153	0.6
Dayton CDP, NJ	151	0.6
North Plainfield borough, NJ	149	0.6
Union City city, NJ	146	0.6
Iselin CDP, NJ	139	0.5
Avenel CDP, NJ	135	0.5
Rahway city, NJ	135	0.5
All Other Locations	17,589	68.7

Additional Information

Analysis Settings

Analysis Type	Destination
Destination Type	Places (Cities, CDPs, etc.)
Selection area as	Work
Year(s)	2017
Job Type	All Jobs
Selection Area	North Brunswick township (Middlesex, NJ) from County Subdivisions
Selected Census Blocks	556
Analysis Generation Date	07/06/2020 16:49 - OnTheMap 6.6
Code Revision	d7f8a300c9f4e458f61bc73d3099ca2cb8f8feaa
LODES Data Version	20170818

Data Sources

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2017).

Notes

1. Race, Ethnicity, Educational Attainment, and Sex statistics are beta release results and are not available before 2009.
2. Educational Attainment is only produced for workers aged 30 and over.
3. Firm Age and Firm Size statistics are beta release results for All Private jobs and are not available before 2011.
4. Data on Federal employment are not available after 2015.

CAPACITY ANALYSIS DETAIL SHEETS

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBT	SBL	SBR
Lane Configurations													
Traffic Volume (vph)	52	28	6	90	12	59	7	1158	72	6	68	1674	43
Future Volume (vph)	52	28	6	90	12	59	7	1158	72	6	68	1674	43
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95	
Frt	1.00	0.85					1.00	0.99			1.00	1.00	
Fit Protected	0.97	1.00					0.95	1.00			0.95	1.00	
Said. Flow (prot)	1763	1658	1730				1544	3215			1787	3382	
Fit Permitted	0.71	1.00		0.78			0.95	1.00			0.95	1.00	
Said. Flow (perm)	1291	1658	1387				1544	3215			1787	3382	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	30	6	96	13	63	7	1232	77	6	72	1781	46
RTOR Reduction (vph)	0	0	5	0	25	0	0	4	0	0	0	1	0
Lane Group Flow (vph)	0	85	1	0	147	0	7	1305	0	0	78	1826	0
Heavy Vehicles (%)	11%	0%	0%	5%	0%	4%	20%	15%	2%	0%	4%	9%	14%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	Prot	NA	
Protected Phases	4		4	8			5	2		1	1	6	
Permitted Phases	4		4	8									
Actuated Green, G (s)	13.7	13.7	13.7	13.7	13.7	13.7	1.4	49.9	7.4	7.4	55.9		
Effective Green, g (s)	13.7	13.7	13.7	13.7	13.7	13.7	1.4	49.9	7.4	7.4	55.9		
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.02	0.55	0.08	0.08	0.62		
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0			5.0	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			2.0	2.0	
Lane Grip Cap (vph)	196	252	211				24	1782			146	2100	
v/s Ratio Prot							0.00	0.41			c0.04	c0.54	
v/s Ratio Perm	0.07	0.00		c0.11									
v/c Ratio	0.43	0.00		0.69			0.29	0.73			0.53	0.87	
Uniform Delay, d1	34.6	32.4		36.2			43.8	15.0			39.6	14.0	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.6	0.0		7.8			2.5	2.7			1.9	5.2	
Delay (s)	35.2	32.4		43.9			46.3	17.7			41.5	19.3	
Level of Service	D	C		D			D	B			D	B	

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	35.0				43.9			17.9			20.2	
Approach LOS		D				D		B			C	
Intersection Summary												
HCM 2000 Control Delay	20.9			HCM 2000 Level of Service								C
HCM 2000 Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)				19.0				E
Intersection Capacity Utilization	88.7%			ICU Level of Service								
Analysis Period (min)	15											
c Critical Lane Group												

2020 Existing Condition
Weekday Morning Peak Hour

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	56	15	10	90	12	99	2	1502	102	17	66	939	49
Future Volume (vph)	56	15	10	90	12	99	2	1502	102	17	66	939	49
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95	
Frt	1.00	0.85	0.93				1.00	0.99			1.00	0.99	
Fit Protected	0.96	1.00	0.98				0.95	1.00			0.95	1.00	
Sabd. Flow (prot)	1727	1275	1716				1852	3444			1782	3388	
Fit Permitted	0.60	1.00	0.82				0.95	1.00			0.95	1.00	
Sabd. Flow (perm)	1070	1275	1438				1852	3444			1782	3388	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	59	16	11	95	13	104	2	1581	107	18	69	988	52
RTOR Reduction (vph)	0	0	9	0	42	0	0	4	0	0	0	3	0
Lane Group Flow (vph)	0	75	2	0	170	0	2	1684	0	0	87	1037	0
Heavy Vehicles (%)	11%	0%	30%	3%	8%	4%	0%	7%	0%	0%	5%	8%	19%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA		
Protected Phases	4		4	8			5	2		1	1	6	
Permitted Phases	4		4	8									
Actuated Green, G (s)	14.3	14.3	14.3	14.3	14.3	14.3	1.4	48.9			7.8	55.3	
Effective Green, g (s)	14.3	14.3	14.3	14.3	14.3	14.3	1.4	48.9			7.8	55.3	
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.54			0.09	0.61	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0			5.0	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			2.0	2.0	
Lane Grip Cap (vph)	170	202	228				28	1871			154	2081	
v/s Ratio Prot							0.00	0.049			c0.05	0.31	
v/s Ratio Perm	0.07	0.00		c0.12									
v/c Ratio	0.44	0.01		0.75			0.07	0.90			0.56	0.50	
Uniform Delay, d1	34.2	31.9		36.1			43.7	18.4			39.5	9.6	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.7	0.0		11.0			0.4	7.4			2.8	0.9	
Delay (s)	34.9	31.9		47.1			44.1	25.8			42.3	10.5	
Level of Service	C	C	D	D	C						D	B	

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	34.5				47.1			25.8			13.0	
Approach LOS	C		D				C			B		
Intersection Summary												
HCM 2000 Control Delay	22.9			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.83											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			19.0					
Intersection Capacity Utilization	83.3%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

2020 Existing Condition
Weekday Evening Peak Hour



HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	19	2	54	12	43	0	964	58	1	32	932
Future Volume (vph)	35	19	2	54	12	43	0	964	58	1	32	932
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	
Frt	1.00	0.85		0.95		0.95	0.99		0.99	1.00	0.99	
Fit Protected	0.97	1.00		0.98		0.98	1.00		0.95	1.00		
Satd. Flow (prot)	1784	1658		1718		1718	3540		1800	3573		
Fit Permitted	0.77	1.00		0.81		0.81	1.00		0.95	1.00		
Satd. Flow (perm)	1425	1658		1433		1433	3540		1800	3573		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	20	2	57	13	45	0	1015	61	1	34	981
RTOR Reduction (vph)	0	0	2	0	30	0	0	3	0	0	1	38
Lane Group Flow (vph)	0	57	0	0	85	0	0	1073	0	0	35	1018
Heavy Vehicles (%)	9%	0%	0%	2%	0%	10%	0%	4%	0%	0%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA	NA	Prot	NA	Prot	Prot	NA	
Protected Phases	4		4	8		8	5	2		1	1	6
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	8.8	8.8	8.8	8.8		8.8		57.7		4.5	67.2	
Effective Green, g (s)	8.8	8.8	8.8	8.8		8.8		57.7		4.5	67.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10		0.10		0.64		0.05	0.75	
Clearance Time (s)	7.0	7.0	7.0	7.0		7.0		7.0		5.0	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Lane Grip Cap (vph)	139	162	140	140		140		2269		90	2667	
v/s Ratio Prot							c0.30			0.02	c0.28	
v/s Ratio Perm	0.04	0.00		c0.06								
v/c Ratio	0.41	0.00		0.61			0.47			0.39	0.38	
Uniform Delay, d1	38.2	36.6		38.9			8.3			41.4	4.0	
Progression Factor	1.00	1.00		1.00			1.00			1.00	1.00	
Incremental Delay, d2	0.7	0.0		5.1			0.7			1.0	0.4	
Delay (s)	38.9	36.6		44.0			9.0			42.4	4.5	
Level of Service	D	D	D	D			A			D	A	

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	38.8				44.0				9.0			5.7
Approach LOS	D				D				A			A
Intersection Summary												
HCM 2000 Control Delay	10.0			HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio	0.50											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)					19.0			
Intersection Capacity Utilization	56.9%			ICU Level of Service					B			
Analysis Period (min)	15											
c Critical Lane Group												

2020 Existing Condition
Saturday Midday Peak Hour

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

2022 No-Build Condition
Weekday Morning Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	55	29	7	92	13	60	9	1197	73	6	69	1739	51
Future Volume (vph)	55	29	7	92	13	60	9	1197	73	6	69	1739	51
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95	
Frt	1.00	0.85					1.00	0.99			1.00	1.00	
Fit Protected	0.97	1.00					0.95	1.00			0.95	1.00	
Said. Flow (prot)	1761	1658		1731		1544	3215			1786	3380		
Fit Permitted	0.70	1.00		0.78		0.95	1.00			0.95	1.00		
Said. Flow (perm)	1279	1658		1383		1544	3215			1786	3380		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	31	7	98	14	64	10	1273	78	6	73	1850	54
RTOR Reduction (vph)	0	0	6	0	25	0	0	4	0	0	0	2	0
Lane Group Flow (vph)	0	90	1	0	151	0	10	1347	0	0	79	1902	0
Heavy Vehicles (%)	11%	0%	5%	0%	4%	20%	15%	2%	0%	4%	9%	14%	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	Prot	NA	
Protected Phases	4		4	8			5	2		1	1	6	
Permitted Phases	4		4	8									
Actuated Green, G (s)	13.9	13.9	13.9	13.9			1.4	49.7			7.4	55.7	
Effective Green, g (s)	13.9	13.9	13.9	13.9			1.4	49.7			7.4	55.7	
Actuated g/C Ratio	0.15	0.15	0.15	0.15			0.02	0.55			0.08	0.62	
Clearance Time (s)	7.0	7.0		7.0			5.0	7.0			5.0	7.0	
Vehicle Extension (s)	2.0	2.0		2.0			2.0	2.0			2.0	2.0	
Lane Grip Cap (vph)	197	256		213			24	1775			146	2091	
v/s Ratio Prot							0.01	0.42			c0.04	c0.56	
v/s Ratio Perm	0.07	0.00		c0.11									
v/c Ratio	0.46	0.00		0.71			0.42	0.76			0.54	0.91	
Uniform Delay, d1	34.6	32.2		36.1			43.9	15.5			39.7	15.0	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.6	0.0		9.0			4.2	3.1			2.2	7.4	
Delay (s)	35.2	32.2		45.1			48.1	18.6			41.9	22.3	
Level of Service	D	C		D			D	B			D	C	

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegans Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	35.0				45.1			18.9			23.1	
Approach LOS		D				B					C	
Intersection Summary												
HCM 2000 Control Delay	22.9			HCM 2000 Level of Service								C
HCM 2000 Volume to Capacity ratio	0.88											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)				19.0				
Intersection Capacity Utilization	91.0%			ICU Level of Service				E				
Analysis Period (min)	15											
c Critical Lane Group												

2022 No-Build Condition
Weekday Morning Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	35.0				45.1			18.9			23.1	
Approach LOS		D				B					C	
Intersection Summary												
HCM 2000 Control Delay	22.9			HCM 2000 Level of Service								C
HCM 2000 Volume to Capacity ratio	0.88											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)				19.0				
Intersection Capacity Utilization	91.0%			ICU Level of Service				E				
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	64	16	12	92	12	101	3	1596	104	17	67	1008	53
Future Volume (vph)	64	16	12	92	12	101	3	1596	104	17	67	1008	53
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	5.0	7.0					5.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95					1.00	0.95
Frt	1.00	0.85		0.93		1.00	0.99					1.00	0.99
Fit Protected	0.96	1.00		0.98		0.95	1.00					0.95	1.00
Said. Flow (prot)	1724	1275	1716	1852	3445							1781	3387
Fit Permitted	0.59	1.00	0.82	0.95	1.00							0.95	1.00
Said. Flow (perm)	1059	1275	1430	1852	3445							1781	3387
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	17	13	97	13	106	3	1680	109	18	71	1061	56
RTOR Reduction (vph)	0	0	11	0	42	0	0	4	0	0	0	3	0
Lane Group Flow (vph)	0	84	2	0	174	0	3	1785	0	0	89	1114	0
Heavy Vehicles (%)	11%	0%	30%	3%	8%	4%	0%	7%	0%	0%	5%	8%	19%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA		
Protected Phases	4		4	8		5	2		1	1	6		
Permitted Phases	4		4	8									
Actuated Green, G (s)	14.6	14.6	14.6	14.6	14.6	14.6	1.4	48.5				7.9	55.0
Effective Green, g (s)	14.6	14.6	14.6	14.6	14.6	14.6	1.4	48.5				7.9	55.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.54				0.09	0.61
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0				5.0	7.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				2.0	2.0
Lane Grip Cap (vph)	171	206	231	28	1856							156	2069
v/s Ratio Prot						0.00	0.052					0.05	0.33
v/s Ratio Perm	0.08	0.00		c0.12									
v/c Ratio	0.49	0.01		0.75		0.11	0.96					0.57	0.54
Uniform Delay, d1	34.3	31.6		36.0		43.7	19.9					39.4	10.1
Progression Factor	1.00	1.00		1.00		1.00	1.00					1.00	1.00
Incremental Delay, d2	0.8	0.0		11.7		0.6	13.6					3.1	1.0
Delay (s)	35.1	31.6		47.6		44.3	33.5					42.5	11.2
Level of Service	D	C		D		C						D	B

**HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	34.7				47.6				33.5			13.5
Approach LOS	C			D			C				B	
Intersection Summary												
HCM 2000 Control Delay	27.2			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.87											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			19.0					
Intersection Capacity Utilization	86.2%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

2022 No-Build Condition
Weekday Evening Peak Hour

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	19	2	55	12	44	1	1018	59	1	33	990
Future Volume (vph)	37	19	2	55	12	44	1	1018	59	1	33	990
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95
Frt	1.00	0.85					0.95	1.00	0.99		1.00	0.99
Fit Protected	0.97	1.00					0.98	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1782	1658		1717		1852	3541			1800		3573
Fit Permitted	0.77	1.00		0.81		0.95	1.00			0.95		1.00
Satd. Flow (perm)	1409	1658		1430		1852	3541			1800		3573
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	39	20	2	58	13	46	1	1072	62	1	35	1042
RTOR Reduction (vph)	0	0	2	0	30	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	59	0	0	87	0	1	1131	0	0	36	1081
Heavy Vehicles (%)	9%	0%	0%	2%	0%	10%	0%	4%	0%	0%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA	
Protected Phases	4		4	8			5	2		1	1	6
Permitted Phases	4		4	8								
Actuated Green, G (s)	9.0	9.0	9.0	9.0	9.0	9.0	1.4	57.4	4.6	4.6	60.6	
Effective Green, g (s)	9.0	9.0	9.0	9.0	9.0	9.0	1.4	57.4	4.6	4.6	60.6	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.64	0.05	0.05	0.67	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grip Cap (vph)	140	165	143				28	2258	92	2405		
v/s Ratio Prot							0.00	0.032	c0.02	c0.02	c0.30	
v/s Ratio Perm	0.04	0.00		c0.06								
v/c Ratio	0.42	0.00		0.61			0.04	0.50		0.39	0.45	
Uniform Delay, d1	38.1	36.5		38.8			43.6	8.7		41.3	6.9	
Progression Factor	1.00	1.00		1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.0		5.3			0.2	0.8		1.0	0.6	
Delay (s)	38.8	36.5		44.1			43.8	9.5		42.3	7.5	
Level of Service	D	D	D	D	A		D	A		D	A	

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	38.7				44.1				9.5			8.6
Approach LOS	D				D				A			A
Intersection Summary												
HCM 2000 Control Delay	11.5			HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)					19.0			
Intersection Capacity Utilization	58.8%			ICU Level of Service					B			
Analysis Period (min)	15											
c Critical Lane Group												

2022 No-Build Condition
Saturday Midday Peak Hour

HCM Signalized Intersection Capacity Analysis

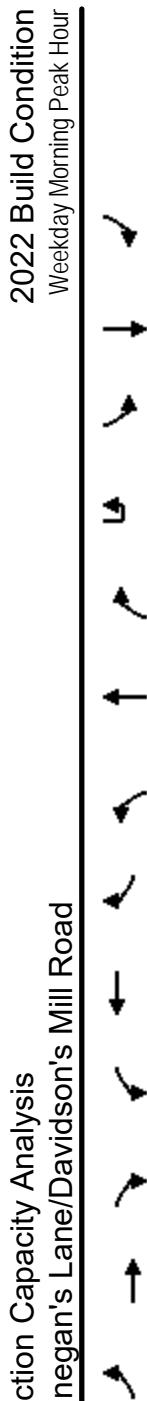
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	29	7	94	13	60	9	1202	73	36	73	1739
Future Volume (vph)	55	29	7	94	13	60	9	1202	73	36	73	51
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95
Frt	1.00	0.85					1.00	0.99			1.00	1.00
Fit Protected	0.97	1.00					0.95	1.00			0.95	1.00
Said. Flow (prot)	1761	1658	1731				1544	3215			1804	3380
Fit Permitted	0.70	1.00	0.78				0.95	1.00			0.95	1.00
Said. Flow (perm)	1279	1658	1381				1544	3215			1804	3380
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	31	7	100	14	64	10	1279	78	38	78	1850
RTOR Reduction (vph)	0	0	6	0	24	0	0	4	0	0	0	2
Lane Group Flow (vph)	0	90	1	0	154	0	10	1353	0	0	116	1902
Heavy Vehicles (%)	11%	0%	5%	0%	4%	20%	15%	2%	0%	4%	9%	14%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA	
Protected Phases	4		4	8			5	2		1	1	6
Permitted Phases	4		4	8								
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0	14.0	1.4	48.0			9.0	55.6
Effective Green, g (s)	14.0	14.0	14.0	14.0	14.0	14.0	1.4	48.0			9.0	55.6
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.53			0.10	0.62
Clearance Time (s)	7.0	7.0		7.0			5.0	7.0			5.0	7.0
Vehicle Extension (s)	2.0	2.0		2.0			2.0	2.0			2.0	2.0
Lane Grip Cap (vph)	198	257		214			24	1714			180	2088
v/s Ratio Prot							0.01	0.42			c0.06	c0.56
v/s Ratio Perm	0.07	0.00		c0.11								
v/c Ratio	0.45	0.00		0.72			0.42	0.79			0.64	0.91
Uniform Delay, d1	34.5	32.1		36.1			43.9	16.9			39.0	15.0
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00
Incremental Delay, d2	0.6	0.0		9.2			4.2	3.8			5.8	7.5
Delay (s)	35.1	32.1		45.3			48.1	20.7			44.8	22.5
Level of Service	D	C		D			C				D	C

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	34.9			45.3			20.9			23.8		
Approach LOS	C			D			C			C		
Intersection Summary												
HCM 2000 Control Delay	24.0			24.0			HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio	0.89			0.89								
Actuated Cycle Length (s)	90.0			90.0			Sum of lost time (s)			19.0		
Intersection Capacity Utilization	91.1%			91.1%			ICU Level of Service			F		
Analysis Period (min)	15			15								
c Critical Lane Group												



HCM 6th TWSC
2: U.S. Route 130 & Right-In/Right-Out Driveway

2022 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	1320	33	0	1899
Future Vol, veh/h	0	10	1320	33	0	1899
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	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	1	14	0	0	0
Mvmt Flow	0	11	1435	36	0	2064
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	736	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	-	-	-	-
Pot Cap-1 Maneuver	0	448	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	448	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.2	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT		
Capacity (veh/h)	-	-	448	-		
HCM Lane V/C Ratio	-	-	0.024	-		
HCM Control Delay (s)	-	-	13.2	-		
HCM Lane LOS	-	-	B	-		
HCM 95th %tile Q(veh)	-	-	0.1	-		

HCM 6th TWSC
4: Davidson's Mill Road & Site Driveway

2022 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	171	165	4	1	2
Future Vol, veh/h	4	171	165	4	1	2
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	96	96	96	96	96	96
Heavy Vehicles, %	31	2	4	0	0	0
Mvmt Flow	4	178	172	4	1	2
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	176	0	-	0	360	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	186	-
Critical Hdwy	4.41	-	-	-	5.4	5.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.479	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1243	-	-	-	710	918
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1243	-	-	-	707	918
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	851	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.2	0	9.3			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1243	-	-	-	835	
HCM Lane V/C Ratio	0.003	-	-	-	0.004	
HCM Control Delay (s)	7.9	0	-	-	9.3	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	64	16	12	96	12	101	3	1598	104	29	68	1008	53
Future Volume (vph)	64	16	12	96	12	101	3	1598	104	29	68	1008	53
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95	
Frt	1.00	0.85		0.93			1.00	0.99			1.00	0.99	
Fit Protected	0.96	1.00		0.98			0.95	1.00			0.95	1.00	
Sabd. Flow (prot)	1724	1275		1717			1852	3445			1790	3387	
Fit Permitted	0.59	1.00		0.81			0.95	1.00			0.95	1.00	
Sabd. Flow (perm)	1062	1275		1427			1852	3445			1790	3387	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	17	13	101	13	106	3	1682	109	31	72	1061	56
RTOR Reduction (vph)	0	0	11	0	40	0	0	4	0	0	0	3	0
Lane Group Flow (vph)	0	84	2	0	180	0	3	1787	0	0	0	103	1114
Heavy Vehicles (%)	11%	0%	30%	3%	8%	4%	0%	7%	0%	0%	5%	8%	19%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA		
Protected Phases	4		4	8			5	2		1	1	6	
Permitted Phases	4		4	8									
Actuated Green, G (s)	14.9	14.9		14.9			1.4	47.7				8.4	54.7
Effective Green, g (s)	14.9	14.9		14.9			1.4	47.7				8.4	54.7
Actuated g/C Ratio	0.17	0.17	0.17		0.17		0.02	0.53			0.09	0.61	
Clearance Time (s)	7.0	7.0		7.0			5.0	7.0			5.0	7.0	
Vehicle Extension (s)	2.0	2.0		2.0			2.0	2.0			2.0	2.0	
Lane Grip Cap (vph)	175	211		236			28	1825			167	2058	
v/s Ratio Prot							0.00	0.052			0.06	0.33	
v/s Ratio Perm	0.08	0.00		c0.13									
v/c Ratio	0.48	0.01		0.76			0.11	0.98			0.62	0.54	
Uniform Delay, d1	34.0	31.4		35.9			43.7	20.7			39.3	10.3	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.8	0.0		12.3			0.6	16.7			4.7	1.0	
Delay (s)	34.8	31.4		48.2			44.3	37.4			43.9	11.3	
Level of Service	C	C	D	D	D		D	D			D	B	

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	34.3			48.2			37.4			14.1		
Approach LOS	C		D				D			B		
Intersection Summary												
HCM 2000 Control Delay	29.5			29.5			HCM 2000 Level of Service	C				
HCM 2000 Volume to Capacity ratio	0.89											
Actuated Cycle Length (s)	90.0			90.0			Sum of lost time (s)	19.0				
Intersection Capacity Utilization	86.4%			86.4%			ICU Level of Service	E				
Analysis Period (min)	15											
c Critical Lane Group												

2022 Build Condition
Weekday Evening Peak Hour

HCM 6th TWSC
2: U.S. Route 130 & Right-In/Right-Out Driveway

2022 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	1779	13	0	1158
Future Vol, veh/h	0	34	1779	13	0	1158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	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	6	0	0	0
Mvmt Flow	0	37	1934	14	0	1259
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	974	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	333	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	333	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT		
Capacity (veh/h)	-	-	333	-		
HCM Lane V/C Ratio	-	-	0.111	-		
HCM Control Delay (s)	-	-	17.2	-		
HCM Lane LOS	-	-	C	-		
HCM 95th %tile Q(veh)	-	-	0.4	-		

HCM 6th TWSC
4: Davidson's Mill Road & Site Driveway

2022 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	187	205	1	4	4
Future Vol, veh/h	1	187	205	1	4	4
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	90	90	90	90	90	90
Heavy Vehicles, %	20	5	4	0	0	2
Mvmt Flow	1	208	228	1	4	4
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	229	0	-	0	439	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.3	-	-	-	5.4	5.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.38	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1240	-	-	-	654	865
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1240	-	-	-	653	865
Mov Cap-2 Maneuver	-	-	-	-	653	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	830	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	9.9			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1240	-	-	-	744	
HCM Lane V/C Ratio	0.001	-	-	-	0.012	
HCM Control Delay (s)	7.9	0	-	-	9.9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

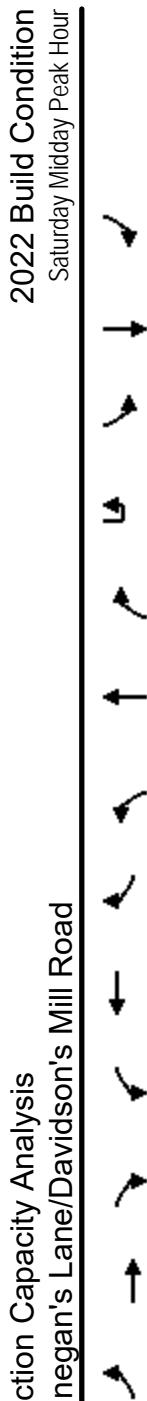
HCM Signalized Intersection Capacity Analysis
1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	37	19	2	56	12	44	1	1019	59	7	33	990	39
Future Volume (vph)	37	19	2	56	12	44	1	1019	59	7	33	990	39
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0				5.0	7.0			5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00				1.00	0.95			1.00	0.95	
Frt	1.00	0.85	0.95				1.00	0.99			1.00	0.99	
Fit Protected	0.97	1.00	0.98				0.95	1.00			0.95	1.00	
Sabd. Flow (prot)	1782	1658	1718				1852	3541			1807	3573	
Fit Permitted	0.76	1.00	0.81				0.95	1.00			0.95	1.00	
Sabd. Flow (perm)	1405	1658	1429				1852	3541			1807	3573	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	39	20	2	59	13	46	1	1073	62	7	35	1042	41
RTOR Reduction (vph)	0	0	2	0	29	0	0	3	0	0	0	2	0
Lane Group Flow (vph)	0	59	0	0	89	0	1	1132	0	0	42	1081	0
Heavy Vehicles (%)	9%	0%	0%	2%	0%	10%	0%	4%	0%	0%	3%	3%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Prot	Prot	NA		
Protected Phases	4		4	8			5	2		1	1	6	
Permitted Phases	4		4	8									
Actuated Green, G (s)	10.4	10.4	10.4	10.4	10.4	10.4	1.4	55.9			4.7	59.2	
Effective Green, g (s)	10.4	10.4	10.4	10.4	10.4	10.4	1.4	55.9			4.7	59.2	
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12	0.12	0.02	0.62			0.05	0.66	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	7.0			5.0	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			2.0	2.0	
Lane Grip Cap (vph)	162	191	165				28	2199			94	2350	
v/s Ratio Prot							0.00	0.032			c0.02	c0.30	
v/s Ratio Perm	0.04	0.00		c0.06									
v/c Ratio	0.36	0.00		0.54			0.04	0.51			0.45	0.46	
Uniform Delay, d1	36.7	35.2		37.5			43.6	9.5			41.4	7.6	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.5	0.0		1.7			0.2	0.9			1.2	0.7	
Delay (s)	37.3	35.2		39.2			43.8	10.4			42.6	8.2	
Level of Service	D	D	D	D	D	D	B	B	D	D	A	A	

HCM Signalized Intersection Capacity Analysis

1: U.S. Route 130 & Finnegan's Lane/Davidson's Mill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay (s)	37.2			39.2			10.4			9.5		
Approach LOS	D			D			B			A		
Intersection Summary												
HCM 2000 Control Delay	12.0			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			19.0					
Intersection Capacity Utilization	62.0%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												



2022 Build Condition
Saturday Midday Peak Hour

HCM 6th TWSC
2: U.S. Route 130 & Right-In/Right-Out Driveway

2022 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	1100	7	0	1069
Future Vol, veh/h	0	3	1100	7	0	1069
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	3	1134	7	0	1102
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	571	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	550	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	550	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.6	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT		
Capacity (veh/h)	-	-	550	-		
HCM Lane V/C Ratio	-	-	0.006	-		
HCM Control Delay (s)	-	-	11.6	-		
HCM Lane LOS	-	-	B	-		
HCM 95th %tile Q(veh)	-	-	0	-		

HCM 6th TWSC
4: Davidson's Mill Road & Site Driveway

2022 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	111	111	1	0	1
Future Vol, veh/h	0	111	111	1	0	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	81	81	81	81	81	81
Heavy Vehicles, %	0	1	5	0	0	0
Mvmt Flow	0	137	137	1	0	1
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	138	0	-	0	275	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	4.1	-	-	-	5.4	5.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1458	-	-	-	776	951
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1458	-	-	-	776	951
Mov Cap-2 Maneuver	-	-	-	-	776	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	895	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	8.8			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1458	-	-	-	951	
HCM Lane V/C Ratio	-	-	-	-	0.001	
HCM Control Delay (s)	0	-	-	-	8.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

TRAFFIC SIGNAL TIMING DIRECTIVE

1227111p
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Directive No. 114-17
Rt. US 130 and Finnegans Lane-
Davidson Mill Road
North Brunswick Twp., Middlesex Co.

90 SECOND BACKGROUND CYCLE

PHASE	SIGNAL INDICATIONS NORMAL OPERATION							TIME (SECS.)
	<u>1,2</u>	<u>4,5</u>	<u>8,9,11,12</u>	<u>14,15</u>	<u>16,17</u>	<u>18-25</u>	<u>26-31</u>	
A. Route US 130	G	G	R	<R-	<R-	DW	W	36-12
Pedestrian Clearance	G	G	R	<R-	<R-	DW	FDW	21
Change	Y	Y	R	<R-	<R-	DW	DW	5*
Clearance	R	R	R	<R-	<R-	DW	DW	2
B. Finnegans Ln/Davidson Mill Rd ROW	R	R	G	<R-	<R-	DW	DW	7-20
Change	R	R	Y	<R-	<R-	DW	DW	4
Clearance	R	R	R	<R-	<R-	DW	DW	3
C. Route US 130 Lead Left	R	R	R	<G-	<G-	DW	DW	7-18
Change	R	R	R	<Y-	<Y-	DW	DW	3
Clearance	R	R	R	<R-	<R-	DW	DW	2
EMERGENCY FLASH	Y	Y	R	<R-	<R-	DARK	DARK	-

PHASE	SIGNAL INDICATIONS WITH PEDESTRIAN ACTUATION							TIME (SECS.)
	1,2	4,5	8,9,11,12	14,15	16,17	18-25	26-31	
A. Route US 130	G	G	R	<R-	<R-	DW	W	12
Pedestrian Clearance	G	G	R	<R-	<R-	DW	FDW	21
Change	Y	Y	R	<R-	<R-	DW	DW	5*
Clearance	R	R	R	<R-	<R-	DW	DW	2
B. Finnegans Ln/Davidson Mill Rd ROW	R	R	G	<R-	<R-	W	DW	7
Pedestrian Clearance	R	R	G	<R-	<R-	FDW	DW	33
Change	R	R	Y	<R-	<R-	DW	DW	4
Clearance	R	R	R	<R-	<R-	DW	DW	3
C. Route US 130 Lead Left	R	R	R	<G-	<G-	DW	DW	7-18
Change	R	R	R	<Y-	<Y-	DW	DW	3
Clearance	R	R	R	<R-	<R-	DW	DW	2
EMERGENCY FLASH	Y	Y	R	<R-	<R-	DARK	DARK	-

NOTES:

1. SIGNAL HEADS NO. 3, 6, 7, 10 AND 13 ARE NOT IN USE.
2. *AN OFFSET OF 0 SECONDS IS TO BE MEASURED FROM THE BEGINNING OF YELLOW TO ROUTE 130 TRAFFIC AT THIS INTERSECTION.
3. THE ROUTE US 130 LEFT-TURN SLOTS ARE TO OCCUR SIMULTANEOUSLY AND INDEPENDENTLY. UPON TERMINATION OF A LEFT-TURN PHASE DUE TO NO VEHICLE DEMAND, THE NON-CONFLICTING THROUGH MOVEMENT IS TO OCCUR AFTER THE NECESSARY CLEARANCES HAVE BEEN SATISFIED.
4. THE VEHICLE EXTENSION IS TO BE SET AT 2 SECONDS.
5. THE MEMORY CIRCUIT AND THE MANUAL CONTROL ARE TO BE DISCONNECTED.
6. THE PHASE B MAXIMUM GREEN TIME AND CYCLE LENGTH WILL BE EXCEEDED DURING PEDESTRIAN ACTUATION USING THE PEDESTRIAN OVERRIDE FEATURE.