

Traffic Impact Study

Proposed Mixed-Use Development
101 South King Street
City of Gloucester City
Camden County, New Jersey

Prepared for:
Capodagli Property Company LLC

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SE&D Job Number: RUT-200341



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INTRODUCTION

This Traffic Impact Study was prepared to investigate the potential impacts of the proposed mixed-use development on the adjacent roadway network. The subject property is located at the westerly terminus of Cumberland Street at its intersection with South King Street in Gloucester City, Camden County, New Jersey. The site location is shown on appended **Figure 1**.

The subject property is designated as Block 48, Lots 2, 2.01, & 2.02 as depicted on the Gloucester City Tax Map. The site has approximately 523 feet of frontage along South King Street. The northerly portion of the existing site contains the Holt Logistics Corporation, a surface-level parking lot, and additional paved/undeveloped spaces. The existing access is provided via one (1) full-movement driveway that serves as the westerly leg of the intersection of South King Street and Cumberland Street. Under the proposed development program, the existing Holt Logistics Corporation building would remain, the existing surface-level parking lot would be removed, and a two (2)-phase mixed-use development would be constructed on the subject property. Phase 1 of the proposed development would include a seven (7)-story building consisting of 247 multi-family residential units, a 5,000-square-foot restaurant, and a 5,000-square-foot retail space. Phase 2 of the proposed development would include an eight (8)-story building consisting of 117 multi-family residential units. Access is proposed to remain, and the existing driveway would be extended to the west into the site and be widened to more adequately accommodate two (2)-way traffic.

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 the Synchro II 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.

2023 EXISTING CONDITION

2023 EXISTING ROADWAY CONDITIONS

The proposed mixed-use development is located at the westerly terminus of Cumberland Street at its intersection with South King Street in Gloucester City, Camden County, New Jersey. The subject property is designated as Block 48, Lots 2, 2.01, & 2.02 as depicted on the Gloucester City Tax Map. The site has approximately 523 feet of frontage along South King Street. Land uses in the area are a mix of commercial, educational, industrial, institutional, recreational, and residential uses.

South King Street (CR 631) is classified as an Urban Major Collector roadway with a general north-south orientation and is under the jurisdiction of Camden County. Along the site frontage, the roadway provides one (1) lane of travel in each direction and has a posted speed limit of 25 mph. Curb and sidewalk are provided along both side of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway with restrictions in effect on Thursdays from 8:00 a.m. to 9:00 a.m. along the easterly side of the roadway and on Fridays from 8:00 a.m. to 9:00 a.m. along the westerly side of the roadway. South King Street provides north-south mobility within the City of Gloucester City for a mix of commercial, industrial, institutional, recreational, and residential uses along its length.

Cumberland Street is a local roadway with a general east-west orientation and is under the jurisdiction of the City of Gloucester City. Within the vicinity of the site, the roadway provides one (1) lane of travel in the eastbound direction and does not have a posted speed limit. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway with restrictions in effect on Fridays from 9:00 a.m. to 11:00 a.m. along the northerly side of the roadway and from 1:00 p.m. to 3:00 p.m. along the southerly side of the roadway. Cumberland Street provides eastbound mobility within the City of Gloucester City for a mix of educational and residential uses along its length.

South King Street, Cumberland Street, and the site driveway intersect to form an unsignalized four (4) leg intersection with the eastbound approach of the site driveway operating under stop control. The northbound and southbound approach of South King Street each provide one (1) full-movement lane. The eastbound approach of the site driveway provides one (1) full-movement driveway. Cumberland Street is a one (1)-way street and does not provide an approach at the intersection. Pedestrian ramps are provided across each leg of the intersection.

2023 EXISTING TRANSIT SERVICE

The subject site is located within 0.4 miles (8-minute walk) from bus stops that service six (6) NJ Transit bus routes, with the nearest stop located at the intersection of Broadway and Monmouth Street. NJ Transit

Bus Routes 401, 402, 408, 410, 412, and 457 provide service to Philadelphia, Camden, and various points of interest throughout Burlington, Camden, Cumberland, and Gloucester Counties and Pennsylvania. The non-vehicular transportation modes available in the general vicinity of the subject site are summarized on **Table I**.

TABLE I – MULTI-MODAL TRANSPORTATION OPTIONS

Travel Mode	Proximity to Site	Destination(s)
NJ Transit Bus Routes 401, 402, 410, & 412	0.4 Miles	Philadelphia, Camden, Brooklawn, Westville, Woodbury
NJ Transit Bus Route 408	0.4 Miles	Philadelphia, Camden, Brooklawn, Glassboro, Vineland, Millville
NJ Transit Bus Route 457	0.4 Miles	Camden, Audubon, Haddonfield, Cherry Hill, Mount Laurel, Moorestown

2021 AS-COUNTED TRAFFIC VOLUMES

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 South King Street and Cumberland Street. Specifically, turning movement counts were conducted on the following dates and during the following times:

- ◆ Tuesday, August 10, 2021, from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m.
- ◆ Saturday, August 14, 2021, 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 7:45 a.m. to 8:45 a.m.; the weekday evening peak hour occurred from 4:30 p.m. to 5:30 p.m.; and the Saturday midday peak hour occurred from 12:30 p.m. to 1:30 p.m. The Technical Appendix contains a summary of the turning movement count data. The 2021 As Counted weekday morning, weekday evening, and Saturday midday peak-hour volumes are summarized on appended **Figure 2**.

2023 EXISTING TRAFFIC VOLUMES

In accordance with industry guidelines, the 2021 As-Counted traffic volumes at the study intersections were increased by 2.25% annually for two (2) years to generate the 2023 Existing Traffic Volumes. The 2023 Existing Traffic Volumes are summarized on appended **Figure 3**. The 2.25% background growth rate was

obtained from the New Jersey Department of Transportation (NJDOT) Annual Background Growth Rate Table.

2023 EXISTING LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2023 Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and existing site driveway. The turning movements at the unsignalized intersection of South King Street and Cumberland Street are calculated to operate at Level of Service A during the weekday morning and Saturday midday peak hours and at Level of Service B or better during the weekday evening peak hour.

2025 NO-BUILD CONDITION

BACKGROUND GROWTH

The 2023 Existing Condition traffic volume data was grown to a future horizon year of 2025, which is a conservative estimate for when the proposed mixed-use development is expected to be fully constructed. In accordance with industry guidelines, the existing traffic volumes at the study intersections were increased by 2.25% annually for two (2) years to generate the 2025 Base Traffic Volumes. These volumes are summarized on appended **Figure 4**. The 2.25% background growth rate was obtained from the New Jersey Department of Transportation (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 research with the City of Gloucester City Planning Board, the following developments are anticipated to impact traffic volumes within the study area:

- ◆ 22 North King Street – Eight (8) multi-family residential units and 1,043 square feet of retail space located 700 feet north of the subject property

Appended **Figure 5** illustrates the site-generated traffic associated with the approved development assigned to the study area network.

2025 NO-BUILD TRAFFIC VOLUMES

The site-generated trips associated with the approved development were added to the 2025 Base Traffic Volumes to calculate the 2025 No-Build Traffic Volumes for the weekday morning, weekday evening, and Saturday midday peak hours. These volumes are summarized on appended **Figure 6**.

2025 NO-BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2025 No-Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and existing site driveway. The turning movements at the unsignalized intersection of South King Street and Cumberland Street are calculated to operate generally consistent with the findings of the Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours.

2025 BUILD CONDITION

The site-generated traffic volume of the proposed mixed-use development 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 mixed-use development were prepared utilizing ITE's Trip Generation Manual, 11th Edition. Trip generation rates associated with Land Use 221 “Multifamily Housing (Mid-Rise),” Land Use 932 “High Turnover (Sit-Down) Restaurant,” and Land Use 822 “Strip Retail Plaza” were cited for the proposed Phase 1 and Phase 2 mixed-use development consisting of 364 total dwelling units, 5,000 square feet of restaurant space, and 5,000 square feet of retail space, respectively. **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
<i>Proposed Phase 1</i> 247 Units Multifamily Housing (Mid-Rise) <i>ITE Land Use 221</i>	22	75	97	59	38	97	51	48	99
<i>Proposed Phase 1</i> 5,000 SF High Turnover (Sit Down) Restaurant <i>ITE Land Use 932</i>	26	22	48	28	17	45	29	27	56
<i>Proposed Phase 1</i> 5,000 SF Strip Retail Plaza <i>ITE Land Use 822</i>	7	5	12	16	17	33	17	16	33
<i>Proposed Phase 2</i> 117 Units Multifamily Housing (Mid-Rise) <i>ITE Land Use 221</i>	9	31	40	28	18	46	23	23	46
Total	64	133	197	131	90	221	120	114	234

As stated within Chapter 6 of ITE's Trip Generation Handbook, 3rd Edition, internally captured trips can be a component of the travel patterns at mixed-use developments, such as the one proposed. When combined within a single development, individual land uses tend to interact, and thus attract a portion of each other's trip generation, such as residents visiting the restaurants. Therefore, based on the nature of the proposed uses, an internal capture credit should be considered for this site. Utilizing published ITE data, internal trips were calculated between the proposed uses during the weekday morning, weekday evening, and Saturday midday peak hours. It is noted that the published data for the Saturday midday peak hour is limited with respect to the land uses within the proposed development. For the purpose of this analysis, the Saturday midday peak hour internal trips were calculated using the published weekday evening peak hour rates. **Table 3** shows the additional site generated traffic for the proposed development after applying the appropriate trip reductions to account for internal trip capture traffic.

TABLE 3 – PROPOSED TRIP GENERATION (ADJUSTED)

	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
ITE Trip Generation Total	64	133	197	131	90	221	120	114	234
Internal Capture Trip Reduction	-10	-10	-20	-25	-25	-50	-25	-25	-50
Total New Vehicular Trips	54	123	177	106	65	171	95	89	184

TRIP ASSIGNMENT/DISTRIBUTION

The restaurant and retail trips generated by the proposed development were distributed according to the existing travel pattern along the adjacent roadway, and the residential trips generated by the proposed development were distributed according to a Journey-to-Work Model prepared for the site using the 2020 census data with the City of Gloucester City as a place of residence and the access management plan of the site. The results of the Journey-To-Work Model are summarized in **Table 4**. The Site-Generated Traffic Volumes are illustrated on **Figure 7**.

TABLE 4 – JOURNEY-TO-WORK MODEL TRIP DISTRIBUTION

Destination	Percentage
To North – Via South King Street	57%
To South – Via South King Street	34%
To East – Via Cumberland Street	9%
TOTAL	100%

2025 BUILD TRAFFIC VOLUMES

The site-generated trips were added to the 2025 No-Build Traffic Volumes to calculate the 2025 Build Traffic Volumes and are shown on appended **Figure 8**.

2025 BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2025 Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and proposed site driveway. **Tables 5** through **7** compare the Existing, No-Build, and Build Conditions Level of Service and delay values.

The turning movements at the unsignalized intersection of South King Street and Cumberland Street are calculated to operate at Level of Service B or better during the weekday morning, weekday evening, and Saturday midday peak hours.

COMPARATIVE LEVEL OF SERVICE (DELAY) TABLES**SOUTH KING STREET AND CUMBERLAND STREET**

EB (Eastbound) approach is the Cumberland Street approach

NB (Northbound) and SB (Southbound) approaches are the South King Street approaches

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

TABLE 5 – WEEKDAY MORNING PEAK HOUR

Lane Group	2023 Existing	2025 No-Build	2025 Build
EB Left/Through/Right	A (9.2)	A (9.2)	B (10.7)
NB Left	A (7.5)	A (7.5)	A (7.6)
SB Left	A (7.5)	A (7.5)	A (7.5)

TABLE 6 – WEEKDAY EVENING PEAK HOUR

Lane Group	2023 Existing	2025 No-Build	2025 Build
EB Left/Through/Right	B (10.0)	B (10.2)	B (11.9)
NB Left	A (7.7)	A (7.7)	A (8.0)
SB Left	A (7.5)	A (7.5)	A (7.5)

TABLE 7 – SATURDAY MIDDAY PEAK HOUR

Lane Group	2023 Existing	2025 No-Build	2025 Build
EB Left/Through/Right	A (8.7)	A (8.7)	B (10.1)
NB Left	A (7.3)	A (7.4)	A (7.5)
SB Left	A (7.4)	A (7.4)	A (7.4)

SITE CIRCULATION/PARKING SUPPLY

A review was conducted of the proposed mixed-use development using the Site Plan prepared by Stonefield Engineering & Design, dated April 21, 2023. In completing this review, particular attention was focused on the site access, circulation, and parking supply.

Access is proposed via one (1) full-movement driveway that serves as the westerly leg of the intersection of South King Street and Cumberland Street. The existing Holt Logistics Corporation building and associated parking lot would remain at the northerly portion of the property. The proposed Phase I building would be located on the westerly portion of the property. The first floor of the Phase I building would include a restaurant and retail space at the westerly side of the building and a parking garage, and the second through seventh floors would be dedicated to multi-family living space. The proposed Phase 2 building would be located on the southeasterly portion of the property. The first and second floors would provide a parking garage, the third floor would provide mechanical parking, and the fourth through eight floors would be dedicated to multi-family living and amenity space. An additional surface-level parking lot would be provided on the southerly portion of the site. Two (2)-way vehicular circulation throughout the parking garages and surface-level parking lot would be facilitated via a minimum of 24-foot-wide drive aisles. Access to the Phase I and Phase 2 buildings and surface-level parking lot would be facilitated via the site driveway with lanes of 15 feet in width. A proposed

cross-access driveway would be provided, which would connect the proposed driveway to the existing Holt Logistics Corporation property.

Regarding the parking requirements for the proposed development, the Freedom Pier Redevelopment Plan requires 1.5 parking spaces per residential dwelling unit, one (1) space per three (3) seats in restaurant uses, and four (4) spaces per 1,000 square feet of gross floor area in retail and commercial uses. For the proposed mixed-use development consisting of 364 total residential units, a 150-seat restaurant, and 5,000-square-feet of commercial space, this equates to 616 required spaces. The Phase 1 building would provide 97 parking spaces, the Phase 2 building would provide 390 parking spaces, and the surface-level parking lot would provide 147 parking spaces, for a total of 634 parking spaces, inclusive of 22 ADA accessible parking spaces, which meets the parking requirement and would be sufficient to support this project's parking demand. The spaces would be nine (9) feet wide by 18 feet deep in accordance with the Freedom Pier Redevelopment Plan and industry standards.

As per P.L. 2021, c.171 (C.40:55D-66.18 et al.), all projects involving multifamily dwellings with more than five (5) units must have 15% of the parking supply be pre-wired for electric vehicle charging stations ("make-ready"). Of the make-ready spaces, 5% must be ADA compliant. For the proposed parking supply of 634 parking spaces, this equates to 96 make-ready spaces with five (5) being ADA accessible. The electric vehicle requirements consider electric vehicle spaces as a minimum of two (2) parking spaces for the purpose of satisfying parking requirements, up to a 10% reduction of the total requirement. As such, the development plan would be considered to provide 695 (634 + 61) total parking spaces, whereas 616 are required.

Based on nearby transit options for the site's residents, and the Freedom Pier Redevelopment Plan parking requirements, the proposed parking supply of 634 spaces would be sufficient to support the expected parking demand of the proposed development.

CONCLUSIONS

This report was prepared to examine the potential traffic impact of the proposed mixed-use development. 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 mixed-use nature of the site, proximity of the site to nearby bus stops, and walkable nature of the surrounding area would result in a reduced traffic generation as compared to a similar suburban development with separate land uses per lot, no interconnection between uses, and no transit access. The site driveways and on-site layout have been designed to provide for effective access to and from the subject property. Based on the Freedom Pier Redevelopment Plan parking requirements, the parking supply would be sufficient to support this project.






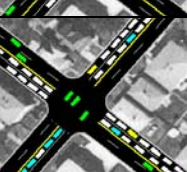
TECHNICAL APPENDIX

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

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Intersection of Cumberland Street (E/W)
and South King Street (N/S)
Gloucester, Camden County, New Jersey
Tuesday, August 10, 2021

File Name : RUT-200341

Site Code : 00200341

Start Date : 8/10/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Cumberland Street Eastbound				Cumberland Street Westbound				S King Street Northbound				S King Street Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	17	1	19	0	16	1	17	36
07:15 AM	0	0	0	0	0	0	0	0	1	26	2	29	1	11	0	12	41
07:30 AM	1	0	0	1	0	0	0	0	4	32	1	37	1	5	1	7	45
07:45 AM	1	0	0	1	0	0	0	0	6	40	1	47	0	11	3	14	62
Total	2	0	0	2	0	0	0	0	12	115	5	132	2	43	5	50	184
08:00 AM	0	0	1	1	0	0	0	0	7	26	1	34	0	13	2	15	50
08:15 AM	0	0	3	3	0	0	0	0	7	24	1	32	1	10	5	16	51
08:30 AM	1	0	2	3	0	0	0	0	8	24	5	37	3	10	4	17	57
08:45 AM	3	0	3	6	0	0	0	0	7	28	3	38	0	14	3	17	61
Total	4	0	9	13	0	0	0	0	29	102	10	141	4	47	14	65	219
*** BREAK ***																	
04:00 PM	2	1	3	6	0	0	0	0	0	21	3	24	0	49	1	50	80
04:15 PM	3	0	4	7	0	0	0	0	1	19	1	21	3	38	0	41	69
04:30 PM	3	1	2	6	0	0	0	0	0	24	3	27	0	38	0	38	71
04:45 PM	0	0	1	1	0	0	0	0	0	24	4	28	3	49	0	52	81
Total	8	2	10	20	0	0	0	0	1	88	11	100	6	174	1	181	301
05:00 PM	3	1	4	8	0	0	0	0	1	23	5	29	1	58	1	60	97
05:15 PM	5	0	1	6	0	0	0	0	1	15	7	23	1	39	3	43	72
05:30 PM	5	0	2	7	0	0	0	0	0	14	6	20	3	29	2	34	61
05:45 PM	3	1	5	9	0	0	0	0	2	24	4	30	3	25	3	31	70
Total	16	2	12	30	0	0	0	0	4	76	22	102	8	151	9	168	300
06:00 PM	1	1	3	5	0	0	0	0	0	22	3	25	2	24	0	26	56
06:15 PM	0	1	1	2	0	0	0	0	0	21	3	24	1	13	2	16	42
06:30 PM	1	1	2	4	0	0	0	0	2	19	3	24	0	29	3	32	60
06:45 PM	1	0	0	1	0	0	0	0	0	12	6	18	1	22	0	23	42
Total	3	3	6	12	0	0	0	0	2	74	15	91	4	88	5	97	200
Grand Total	33	7	37	77	0	0	0	0	48	455	63	566	24	503	34	561	1204
Apprch %	42.9	9.1	48.1		0	0	0		8.5	80.4	11.1		4.3	89.7	6.1		
Total %	2.7	0.6	3.1	6.4	0	0	0	0	4	37.8	5.2	47	2	41.8	2.8	46.6	
Auto	29	7	36	72	0	0	0	0	44	429	62	535	24	469	32	525	1132
% Auto	87.9	100	97.3	93.5	0	0	0	0	91.7	94.3	98.4	94.5	100	93.2	94.1	93.6	94
HV	4	0	1	5	0	0	0	0	4	26	1	31	0	31	2	33	69
% HV	12.1	0	2.7	6.5	0	0	0	0	8.3	5.7	1.6	5.5	0	6.2	5.9	5.9	5.7
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0.5	0.2

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Intersection of Cumberland Street (E/W)
and South King Street (N/S)
Gloucester, Camden County, New Jersey
Tuesday, August 10, 2021

File Name : RUT-200341
Site Code : 00200341
Start Date : 8/10/2021
Page No : 2

	Cumberland Street Eastbound				Cumberland Street Westbound				S King Street Northbound				S King Street Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	0	0	1	0	0	0	0	6	40	1	47	0	11	3	14	62
08:00 AM	0	0	1	1	0	0	0	0	7	26	1	34	0	13	2	15	50
08:15 AM	0	0	3	3	0	0	0	0	7	24	1	32	1	10	5	16	51
08:30 AM	1	0	2	3	0	0	0	0	8	24	5	37	3	10	4	17	57
Total Volume	2	0	6	8	0	0	0	0	28	114	8	150	4	44	14	62	220
% App. Total	25	0	75		0	0	0		18.7	76	5.3		6.5	71	22.6		
PHF	.500	.000	.500	.667	.000	.000	.000	.000	.875	.713	.400	.798	.333	.846	.700	.912	.887
Auto	1	0	5	6	0	0	0	0	25	103	7	135	4	36	13	53	194
% Auto	50.0	0	83.3	75.0	0	0	0	0	89.3	90.4	87.5	90.0	100	81.8	92.9	85.5	88.2
HV	1	0	1	2	0	0	0	0	3	11	1	15	0	7	1	8	25
% HV	50.0	0	16.7	25.0	0	0	0	0	10.7	9.6	12.5	10.0	0	15.9	7.1	12.9	11.4
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0	1.6	0.5

Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	3	1	2	6	0	0	0	0	0	24	3	27	0	38	0	38	71
04:45 PM	0	0	1	1	0	0	0	0	0	24	4	28	3	49	0	52	81
05:00 PM	3	1	4	8	0	0	0	0	1	23	5	29	1	58	1	60	97
05:15 PM	5	0	1	6	0	0	0	0	1	15	7	23	1	39	3	43	72
Total Volume	11	2	8	21	0	0	0	0	2	86	19	107	5	184	4	193	321
% App. Total	52.4	9.5	38.1		0	0	0		1.9	80.4	17.8		2.6	95.3	2.1		
PHF	.550	.500	.500	.656	.000	.000	.000	.000	.500	.896	.679	.922	.417	.793	.333	.804	.827
Auto	10	2	8	20	0	0	0	0	2	84	19	105	5	172	4	181	306
% Auto	90.9	100	100	95.2	0	0	0	0	100	97.7	100	98.1	100	93.5	100	93.8	95.3
HV	1	0	0	1	0	0	0	0	0	2	0	2	0	11	0	11	14
% HV	9.1	0	0	4.8	0	0	0	0	0	2.3	0	1.9	0	6.0	0	5.7	4.4
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0.5	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Cumberland Street (E/W)
and South King Street (N/S)
Gloucester, Camden County, New Jersey
Saturday, August 14, 2021

File Name : RUT-200341_SAT

Site Code : 00200341

Start Date : 8/14/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Cumberland Street Eastbound					Cumberland Street Westbound					S King Street Northbound					S King Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	0	1	0	3	0	0	0	0	0	3	61	7	0	71	5	48	4	0	57	131
11:15 AM	0	1	0	0	1	0	0	0	0	0	2	12	9	0	23	1	10	1	0	12	36
11:30 AM	1	0	1	0	2	0	0	0	0	0	1	16	4	0	21	2	10	3	0	15	38
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	5	0	14	0	20	0	0	20	34
Total	3	1	2	0	6	0	0	0	0	0	6	98	25	0	129	8	88	8	0	104	239
12:00 PM	0	1	0	0	1	0	0	0	0	0	1	11	5	0	17	1	11	0	0	12	30
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	17	2	0	19	0	12	0	0	12	31
12:30 PM	0	0	1	0	1	0	0	0	0	0	0	21	2	0	23	2	18	1	0	21	45
12:45 PM	0	0	3	0	3	0	0	0	0	0	0	17	1	0	18	0	21	0	0	21	42
Total	0	1	4	0	5	0	0	0	0	0	1	66	10	0	77	3	62	1	0	66	148
01:00 PM	0	1	0	0	1	0	0	0	0	0	2	22	4	0	28	2	11	1	0	14	43
01:15 PM	1	0	0	0	1	0	0	0	0	0	0	27	2	0	29	2	15	0	0	17	47
01:30 PM	0	0	2	0	2	0	0	0	0	0	1	16	1	0	18	0	13	1	0	14	34
01:45 PM	1	1	1	0	3	0	0	0	0	0	2	5	3	0	10	3	18	0	0	21	34
Total	2	2	3	0	7	0	0	0	0	0	5	70	10	0	85	7	57	2	0	66	158
Grand Total	5	4	9	0	18	0	0	0	0	0	12	234	45	0	291	18	207	11	0	236	545
Apprch %	27.8	22.2	50	0		0	0	0	0		4.1	80.4	15.5	0		7.6	87.7	4.7	0		
Total %	0.9	0.7	1.7	0	3.3	0	0	0	0	0	2.2	42.9	8.3	0	53.4	3.3	38	2	0	43.3	
Auto	5	4	9	0	18	0	0	0	0	0	11	228	43	0	282	17	196	11	0	224	524
% Auto	100	100	100	0	100	0	0	0	0	0	91.7	97.4	95.6	0	96.9	94.4	94.7	100	0	94.9	96.1
HV	0	0	0	0	0	0	0	0	0	0	1	6	2	0	9	1	11	0	0	12	21
% HV	0	0	0	0	0	0	0	0	0	0	8.3	2.6	4.4	0	3.1	5.6	5.3	0	0	5.1	3.9
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Cumberland Street Eastbound					Cumberland Street Westbound					S King Street Northbound					S King Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:30 PM	0	0	1	0	1	0	0	0	0	0	0	21	2	0	23	2	18	1	0	21	45
12:45 PM	0	0	3	0	3	0	0	0	0	0	0	17	1	0	18	0	21	0	0	21	42
01:00 PM	0	1	0	0	1	0	0	0	0	0	2	22	4	0	28	2	11	1	0	14	43
01:15 PM	1	0	0	0	1	0	0	0	0	0	0	27	2	0	29	2	15	0	0	17	47
Total Volume	1	1	4	0	6	0	0	0	0	0	2	87	9	0	98	6	65	2	0	73	177
% App. Total	16.7	16.7	66.7	0		0	0	0	0		2	88.8	9.2	0		8.2	89	2.7	0		
PHF	.250	.250	.333	.000	.500	.000	.000	.000	.000	.000	.250	.806	.563	.000	.845	.750	.774	.500	.000	.869	.941
Auto	1	1	4	0	6	0	0	0	0	0	1	85	9	0	95	5	61	2	0	68	169
% Auto	100	100	100	0	100	0	0	0	0	0	50.0	97.7	100	0	96.9	83.3	93.8	100	0	93.2	95.5
HV	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	1	4	0	0	5	8
% HV	0	0	0	0	0	0	0	0	0	0	50.0	2.3	0	0	3.1	16.7	6.2	0	0	6.8	4.5
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRIP DISTRIBUTION

Journey-To-Work Model - Trip Routing Summary Tables
Proposed Mixed-Use Development
City of Gloucester City, Camden County, New Jersey

Routings to Nearby Municipalities

Municipality	Restricted Share	Routing
Philadelphia city, PA	16.79%	Via South King Street
Gloucester City city, NJ	16.04%	Via South King Street
Camden city, NJ	13.43%	Via South King Street
Bellmawr borough, NJ	6.34%	Via South King Street
Ellisburg CDP, NJ	4.48%	Via South King Street
Golden Triangle CDP, NJ	4.10%	Via South King Street
Greentree CDP, NJ	3.36%	Via South King Street
Ramblewood CDP, NJ	3.36%	Via South King Street
Cherry Hill Mall CDP, NJ	2.99%	Via South King Street
Lawnside borough, NJ	2.99%	Via South King Street
Woodbury city, NJ	2.61%	Via South King Street
Marlton CDP, NJ	2.24%	Via South King Street
Newark city, NJ	2.24%	Via South King Street
Ashland CDP, NJ	1.87%	Via Cumberland Street
Moorestown-Lenola CDP, NJ	1.87%	Via Cumberland Street
Runnemede borough, NJ	1.87%	Via South King Street
Vineland city, NJ	1.87%	Via Cumberland Street
Westville borough, NJ	1.87%	Via South King Street
New York city, NY	1.87%	Via South King Street
Florence CDP, NJ	1.49%	Via Cumberland Street
Mount Ephraim borough, NJ	1.49%	Via Cumberland Street
Springdale CDP, NJ	1.49%	Via South King Street
Wilmington city, DE	1.12%	Via South King Street
Barrington borough, NJ	1.12%	Via South King Street
Eatontown borough, NJ	1.12%	Via South King Street
100.00%		

Journey-To-Work Summary Table

	Calculated	Assumed
To/From North Via South King Street	57.46%	57%
To/From South Via South King Street	33.95%	34%
To/From East Via Cumberland Street	8.58%	9%
	100.00%	100%

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Proposed Mixed-Use Development			Organization:	SE&D
Project Location:	City of Gloucester City, Camden County, NJ			Performed By:	AH
Scenario Description:	Build Condition			Date:	4/12/2023
Analysis Year:	2025			Checked By:	MR
Analysis Period:	AM Street Peak Hour			Date:	4/25/2023

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822	5,000	SF	12	7	5
Restaurant	932	5,000	SF	48	26	22
Cinema/Entertainment				0		
Residential	221	364	Units	137	31	106
Hotel				0		
All Other Land Uses ²				0		
				197	64	133

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	5	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	197	64	133
Internal Capture Percentage	10%	16%	8%
External Vehicle-Trips ⁵	177	54	123
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	29%	40%
Restaurant	23%	9%
Cinema/Entertainment	N/A	N/A
Residential	6%	6%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Proposed Mixed-Use Development
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	7	7	1.00	5	5
Restaurant	1.00	26	26	1.00	22	22
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	31	31	1.00	106	106
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		1	0	1	0
Restaurant	7	3		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	21	21		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	6	0	0	0
Retail	0		13	0	1	0
Restaurant	0	1		0	2	0
Cinema/Entertainment	0	0	0		6	0
Residential	0	1	5	0		0
Hotel	0	0	2	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	2	5	7	5	0	0
Restaurant	6	20	26	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	29	31	29	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	2	3	5	3	0	0
Restaurant	2	20	22	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	6	100	106	100	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Proposed Mixed-Use Development	Organization:	SE&D		
Project Location:	City of Gloucester City, Camden County, NJ	Performed By:	AH		
Scenario Description:	Build Condition	Date:	4/12/2023		
Analysis Year:	2025	Checked By:	MR		
Analysis Period:	PM Street Peak Hour	Date:	4/25/2023		

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	5,000	SF	33	16	17
Restaurant	932	5,000	SF	45	28	17
Cinema/Entertainment				0		
Residential	221	364	Units	143	87	56
Hotel				0		
All Other Land Uses ²				0		
				221	131	90

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	0	4	0
Restaurant	0	7		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	4	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	221	131	90
Internal Capture Percentage	23%	19%	28%
External Vehicle-Trips ⁵	171	106	65
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	56%	53%
Restaurant	32%	59%
Cinema/Entertainment	N/A	N/A
Residential	8%	11%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Proposed Mixed-Use Development
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	16	16	1.00	17	17
Restaurant	1.00	28	28	1.00	17	17
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	87	87	1.00	56	56
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	1	4	1
Restaurant	1	7		1	3	1
Cinema/Entertainment	0	0	0		0	0
Residential	2	24	12	11		2
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	3	0
Retail	0		8	0	40	0
Restaurant	0	8		0	14	0
Cinema/Entertainment	0	1	1		17	0
Residential	0	2	4	0		0
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	9	7	16	7	0	0
Restaurant	9	19	28	19	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	80	87	80	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	9	8	17	8	0	0
Restaurant	10	7	17	7	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	6	50	56	50	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Proposed Mixed-Use Development			Organization:	SE&D
Project Location:	City of Gloucester City, Camden County, NJ			Performed By:	AH
Scenario Description:	Build Condition			Date:	4/12/2023
Analysis Year:	2025			Checked By:	MR
Analysis Period:	Saturday Peak Hour			Date:	4/25/2023

Table 1-S: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	5,000	SF	33	17	16
Restaurant	932	5,000	SF	56	29	27
Cinema/Entertainment				0		
Residential	221	364	Units	145	74	71
Hotel				0		
All Other Land Uses ²				0		
				234	120	114

Table 2-S: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-S: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-S: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	0	1	0
Restaurant	0	9		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	4	0		0
Hotel	0	0	0	0	0	

Table 5-S: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	234	120	114
Internal Capture Percentage	21%	21%	22%
External Vehicle-Trips ⁵	184	95	89
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-S: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	59%	38%
Restaurant	31%	52%
Cinema/Entertainment	N/A	N/A
Residential	8%	7%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-S vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-S, 9-S (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-S.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Proposed Mixed-Use Development
Analysis Period:	Saturday Peak Hour

Table 7-S: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-S (D): Entering Trips			Table 7-S (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	17	17	1.00	16	16
Restaurant	1.00	29	29	1.00	27	27
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	74	74	1.00	71	71
Hotel	1.00	0	0	1.00	0	0

Table 8-S (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	0	1	0
Restaurant	1	11		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	3	24	15	0		0
Hotel	0	0	0	0	0	

Table 8-S (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	3	0
Retail	0		8	0	27	0
Restaurant	0	9		0	12	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	4	0		0
Hotel	0	0	0	0	0	

Table 9-S (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	10	7	17	7	0	0
Restaurant	9	20	29	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	6	68	74	68	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-S (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	6	10	16	10	0	0
Restaurant	14	13	27	13	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	5	66	71	66	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

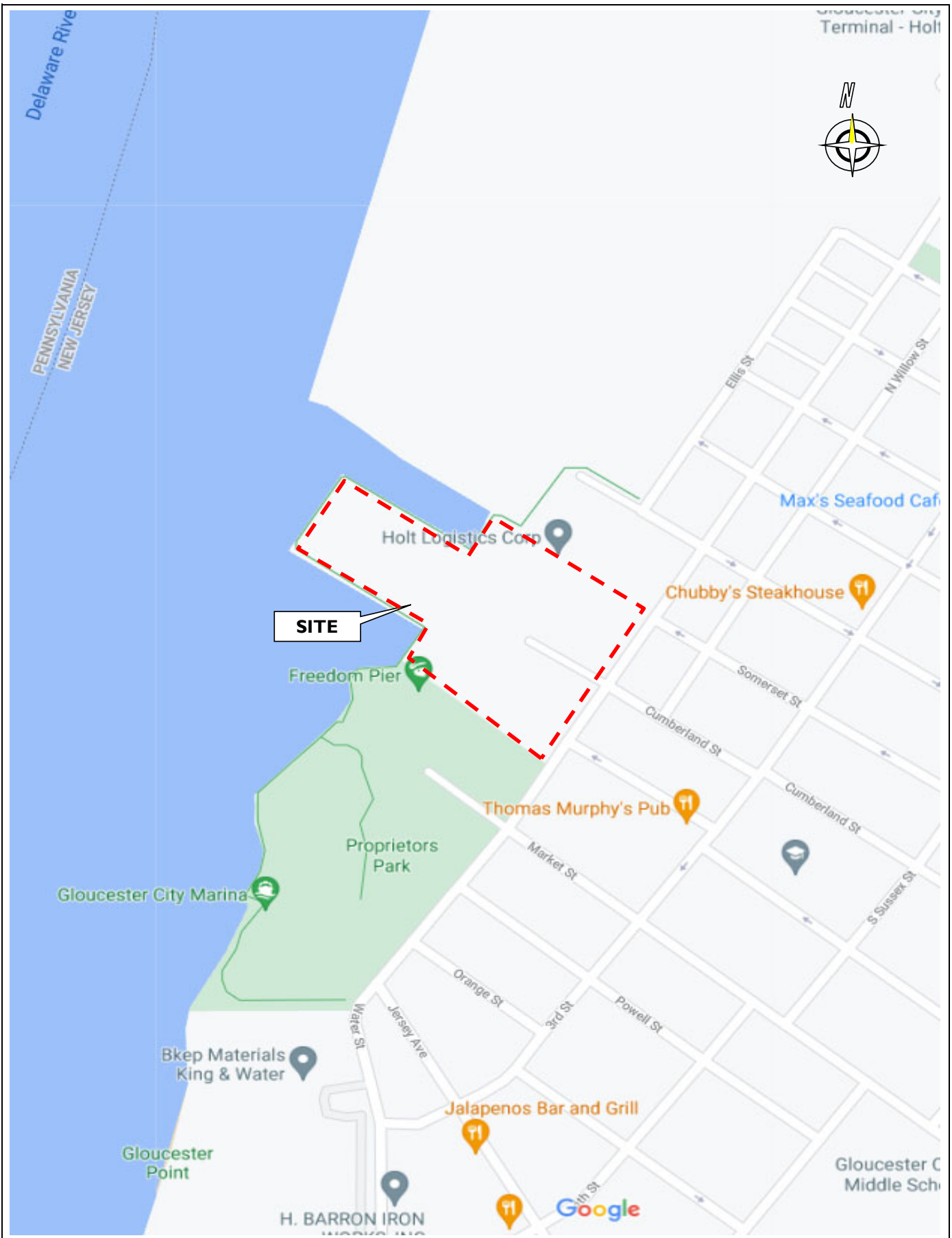
¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-S

²Person-Trips

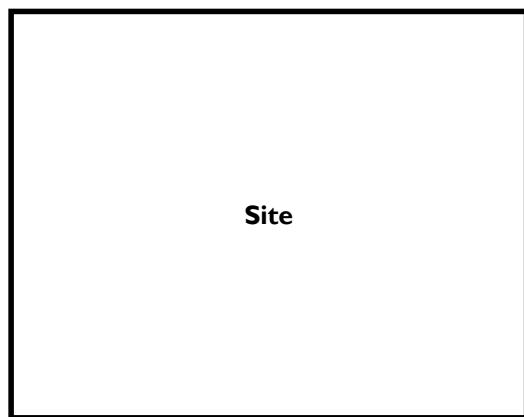
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

FIGURES

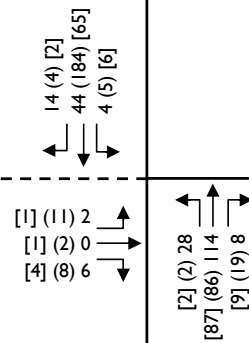


<p>STONEFIELD</p>	<p>Proposed Mixed-Use Development 101 South King Street Gloucester City, Camden County, New Jersey Traffic Impact Study</p>	<p>FIGURE I Site Location Map</p>
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South King Street

Cumberland Street



LEGEND

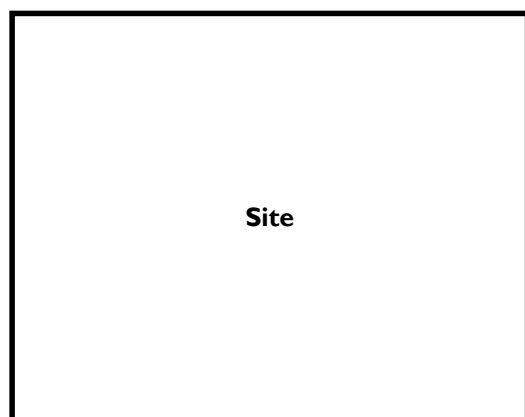
- Existing Roadway
- - - Proposed Driveway
- . . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

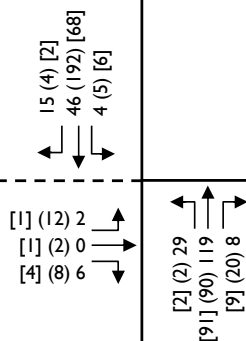
Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study

FIGURE 2
2021 As-Counted Traffic
Volumes



South King Street

Cumberland Street



LEGEND

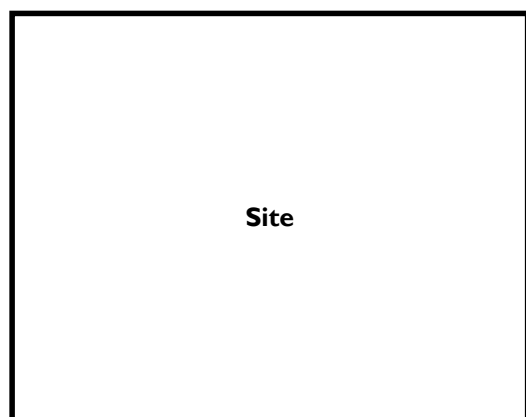
- Existing Roadway
- - - Proposed Driveway
- . . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

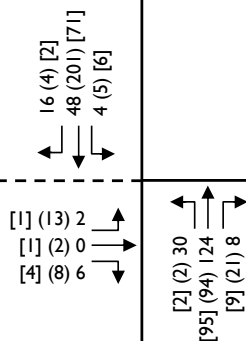
Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study

FIGURE 3
2023 Existing-Adjusted
Traffic Volumes



South King Street

Cumberland Street



LEGEND

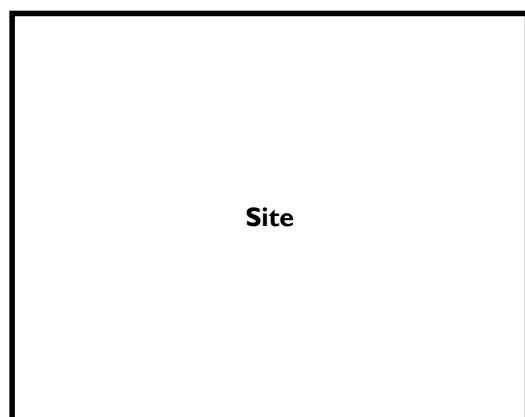
- Existing Roadway
- - - Proposed Driveway
- . . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study

FIGURE 4
2025 Base Traffic Volumes



South King Street

Cumberland Street

2 (3) [2]

[3] (3) 1

LEGEND

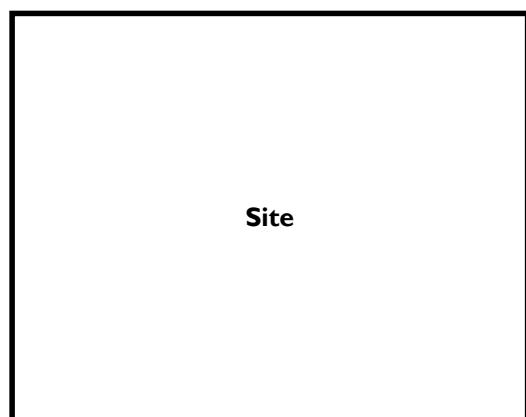
- Existing Roadway
- - - Proposed Driveway
- . . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

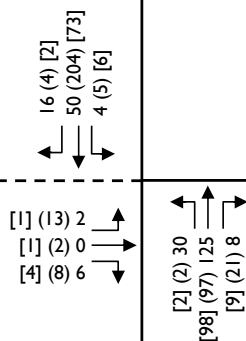
**Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study**

**FIGURE 5
Other Planned Projects
Future Traffic Volumes**



South King Street

Cumberland Street



LEGEND

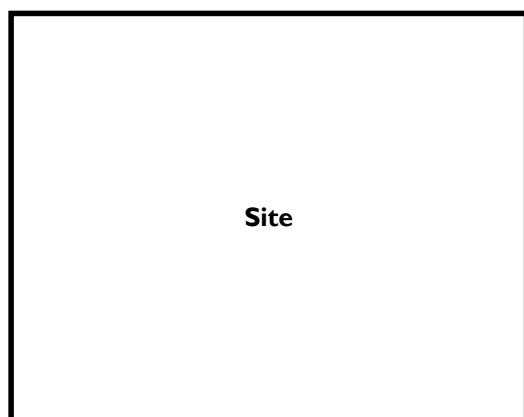
- Existing Roadway
- - - Proposed Driveway
- . . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study

FIGURE 6
2025 No-Build Traffic
Volumes



South King Street

Cumberland Street

31 (60) [54]

[50] (37) 69
[8] (5) 11
[31] (23) 43

[41] (46) 23

LEGEND

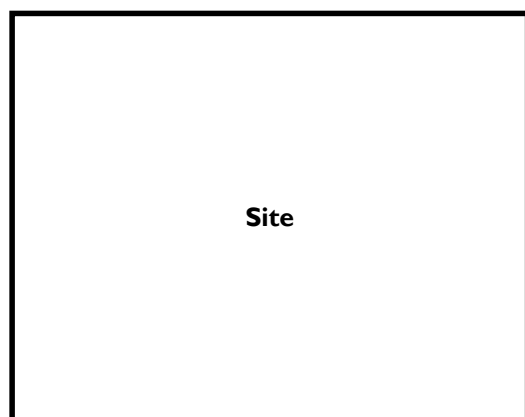
- Existing Roadway
- - - Proposed Driveway
- . . - Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

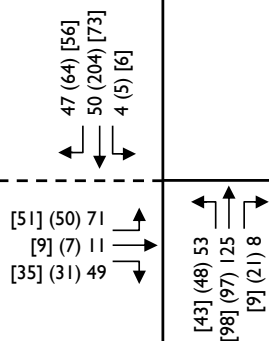
**Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study**

**FIGURE 7
Site-Generated Traffic
Volumes**



South King Street

Cumberland Street



LEGEND

- Existing Roadway
- Proposed Driveway
- Existing Private Driveway
- AM (PM) [SAT] Peak Hour Volumes

not to scale

STONEFIELD

**Proposed Mixed-Use Development
101 South King Street
Gloucester City, Camden County, New Jersey
Traffic Impact Study**

**FIGURE 8
2025 Build Traffic Volumes**

HIGHWAY CAPACITY ANALYSIS DETAIL SHEETS

HCM 6th TWSC
1: South King Street & Cumberland Street

2023 Existing Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	2	0	6	0	0	0	29	119	8	4	46	15
Future Vol, veh/h	2	0	6	0	0	0	29	119	8	4	46	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	50	0	17	0	0	0	11	10	13	0	18	7
Mvmt Flow	2	0	7	0	0	0	33	134	9	4	52	17

Major/Minor	Minor2			Major1			Major2			
Conflicting Flow All	274	278	61		69	0	0	143	0	0
Stage 1	69	69	-		-	-	-	-	-	-
Stage 2	205	209	-		-	-	-	-	-	-
Critical Hdwy	5.9	5.5	5.4		4.21	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.5	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.5	-		-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.453		2.299	-	-	2.2	-	-
Pot Cap-1 Maneuver	673	684	980		1477	-	-	1452	-	-
Stage 1	845	841	-		-	-	-	-	-	-
Stage 2	727	733	-		-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	655	0	980		1477	-	-	1452	-	-
Mov Cap-2 Maneuver	655	0	-		-	-	-	-	-	-
Stage 1	825	0	-		-	-	-	-	-	-
Stage 2	725	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.4	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1477	-	-	872	1452	-	-
HCM Lane V/C Ratio	0.022	-	-	0.01	0.003	-	-
HCM Control Delay (s)	7.5	0	-	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2023 Existing Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	12	2	8	0	0	0	2	90	20	5	192	4
Future Vol, veh/h	12	2	8	0	0	0	2	90	20	5	192	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	9	0	0	0	0	0	0	2	0	0	7	0
Mvmt Flow	14	2	10	0	0	0	2	108	24	6	231	5

Major/Minor	Minor2			Major1			Major2			
Conflicting Flow All	370	382	234		236	0	0	132	0	0
Stage 1	246	246	-		-	-	-	-	-	-
Stage 2	124	136	-		-	-	-	-	-	-
Critical Hdwy	5.5	5.5	5.2		4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.49	5.5	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.49	5.5	-		-	-	-	-	-	-
Follow-up Hdwy	3.581	4	3.3		2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	683	616	864		1343	-	-	1466	-	-
Stage 1	779	706	-		-	-	-	-	-	-
Stage 2	884	788	-		-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	678	0	864		1343	-	-	1466	-	-
Mov Cap-2 Maneuver	678	0	-		-	-	-	-	-	-
Stage 1	777	0	-		-	-	-	-	-	-
Stage 2	880	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.1	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1343	-	-	742	1466	-	-
HCM Lane V/C Ratio	0.002	-	-	0.036	0.004	-	-
HCM Control Delay (s)	7.7	0	-	10	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2023 Existing Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	1	1	4	0	0	0	2	91	9	6	68	2
Future Vol, veh/h	1	1	4	0	0	0	2	91	9	6	68	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	7	0
Mvmt Flow	1	1	4	0	0	0	2	97	10	6	72	2

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	191	196	73	74	0	0	107	0	0
Stage 1	85	85	-	-	-	-	-	-	-
Stage 2	106	111	-	-	-	-	-	-	-
Critical Hdwy	5.4	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	846	742	1015	1538	-	-	1497	-	-
Stage 1	943	828	-	-	-	-	-	-	-
Stage 2	923	807	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	842	0	1015	1538	-	-	1497	-	-
Mov Cap-2 Maneuver	842	0	-	-	-	-	-	-	-
Stage 1	942	0	-	-	-	-	-	-	-
Stage 2	919	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.1	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	975	1497	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.004	-	-
HCM Control Delay (s)	7.3	0	-	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 No-Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	2	0	6	0	0	0	30	125	8	4	50	16
Future Vol, veh/h	2	0	6	0	0	0	30	125	8	4	50	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	50	0	17	0	0	0	11	10	13	0	18	7
Mvmt Flow	2	0	7	0	0	0	34	140	9	4	56	18

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	286	290	65	74	0	0	149	0	0
Stage 1	73	73	-	-	-	-	-	-	-
Stage 2	213	217	-	-	-	-	-	-	-
Critical Hdwy	5.9	5.5	5.4	4.21	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.453	2.299	-	-	2.2	-	-
Pot Cap-1 Maneuver	665	676	976	1470	-	-	1445	-	-
Stage 1	841	838	-	-	-	-	-	-	-
Stage 2	721	727	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	646	0	976	1470	-	-	1445	-	-
Mov Cap-2 Maneuver	646	0	-	-	-	-	-	-	-
Stage 1	820	0	-	-	-	-	-	-	-
Stage 2	719	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.4	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1470	-	-	865	1445	-	-
HCM Lane V/C Ratio	0.023	-	-	0.01	0.003	-	-
HCM Control Delay (s)	7.5	0	-	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 No-Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	13	2	8	0	0	0	2	97	21	5	204	4
Future Vol, veh/h	13	2	8	0	0	0	2	97	21	5	204	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	9	0	0	0	0	0	0	2	0	0	7	0
Mvmt Flow	16	2	10	0	0	0	2	117	25	6	246	5

Major/Minor	Minor2			Major1		Major2			
Conflicting Flow All	395	407	249	251	0	0	142	0	0
Stage 1	261	261	-	-	-	-	-	-	-
Stage 2	134	146	-	-	-	-	-	-	-
Critical Hdwy	5.5	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.49	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.49	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.581	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	665	601	852	1326	-	-	1453	-	-
Stage 1	767	696	-	-	-	-	-	-	-
Stage 2	875	780	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	660	0	852	1326	-	-	1453	-	-
Mov Cap-2 Maneuver	660	0	-	-	-	-	-	-	-
Stage 1	765	0	-	-	-	-	-	-	-
Stage 2	871	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.1	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1326	-	-	722	1453	-	-
HCM Lane V/C Ratio	0.002	-	-	0.038	0.004	-	-
HCM Control Delay (s)	7.7	0	-	10.2	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 No-Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	1	1	4	0	0	0	2	98	9	6	73	2
Future Vol, veh/h	1	1	4	0	0	0	2	98	9	6	73	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	7	0
Mvmt Flow	1	1	4	0	0	0	2	104	10	6	78	2

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	204	209	79	80	0	0	114	0	0
Stage 1	91	91	-	-	-	-	-	-	-
Stage 2	113	118	-	-	-	-	-	-	-
Critical Hdwy	5.4	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	835	733	1009	1531	-	-	1488	-	-
Stage 1	938	823	-	-	-	-	-	-	-
Stage 2	917	802	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	831	0	1009	1531	-	-	1488	-	-
Mov Cap-2 Maneuver	831	0	-	-	-	-	-	-	-
Stage 1	937	0	-	-	-	-	-	-	-
Stage 2	913	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.1	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	968	1488	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.004	-	-
HCM Control Delay (s)	7.4	0	-	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	71	11	49	0	0	0	53	125	8	4	50	47
Future Vol, veh/h	71	11	49	0	0	0	53	125	8	4	50	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	1	0	2	0	0	0	11	10	13	0	18	7
Mvmt Flow	80	12	55	0	0	0	60	140	9	4	56	53

Major/Minor	Minor2			Major1		Major2				
Conflicting Flow All	356	360	83		109	0	0	149	0	0
Stage 1	91	91	-		-	-	-	-	-	-
Stage 2	265	269	-		-	-	-	-	-	-
Critical Hdwy	5.4	5.5	5.2		4.21	-	-	4.1	-	-
Critical Hdwy Stg 1	5.41	5.5	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.41	5.5	-		-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.318		2.299	-	-	2.2	-	-
Pot Cap-1 Maneuver	712	630	1000		1427	-	-	1445	-	-
Stage 1	935	823	-		-	-	-	-	-	-
Stage 2	782	690	-		-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	677	0	1000		1427	-	-	1445	-	-
Mov Cap-2 Maneuver	677	0	-		-	-	-	-	-	-
Stage 1	892	0	-		-	-	-	-	-	-
Stage 2	780	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	2.2	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1427	-	-	780	1445	-	-
HCM Lane V/C Ratio	0.042	-	-	0.189	0.003	-	-
HCM Control Delay (s)	7.6	0	-	10.7	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	50	7	31	0	0	0	48	97	21	5	204	64
Future Vol, veh/h	50	7	31	0	0	0	48	97	21	5	204	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	0	0	0	0	0	0	2	0	0	7	0
Mvmt Flow	60	8	37	0	0	0	58	117	25	6	246	77

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	543	555	285	323	0	0	142	0	0
Stage 1	297	297	-	-	-	-	-	-	-
Stage 2	246	258	-	-	-	-	-	-	-
Critical Hdwy	5.4	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.41	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.41	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	585	516	821	1248	-	-	1453	-	-
Stage 1	756	671	-	-	-	-	-	-	-
Stage 2	797	698	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	552	0	821	1248	-	-	1453	-	-
Mov Cap-2 Maneuver	552	0	-	-	-	-	-	-	-
Stage 1	717	0	-	-	-	-	-	-	-
Stage 2	793	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	2.3	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	631	1453	-	-
HCM Lane V/C Ratio	0.046	-	-	0.168	0.004	-	-
HCM Control Delay (s)	8	0	-	11.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	-	-

HCM 6th TWSC
1: South King Street & Cumberland Street

2025 Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	51	9	35	0	0	0	43	98	9	6	73	56
Future Vol, veh/h	51	9	35	0	0	0	43	98	9	6	73	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	7	0
Mvmt Flow	54	10	37	0	0	0	46	104	10	6	78	60

Major/Minor	Minor2			Major1			Major2			
Conflicting Flow All	321	326	108		138	0	0	114	0	0
Stage 1	120	120	-		-	-	-	-	-	-
Stage 2	201	206	-		-	-	-	-	-	-
Critical Hdwy	5.4	5.5	5.2		4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-		-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3		2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	740	652	980		1458	-	-	1488	-	-
Stage 1	910	800	-		-	-	-	-	-	-
Stage 2	838	735	-		-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	712	0	980		1458	-	-	1488	-	-
Mov Cap-2 Maneuver	712	0	-		-	-	-	-	-	-
Stage 1	879	0	-		-	-	-	-	-	-
Stage 2	835	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2.2	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	801	1488	-	-
HCM Lane V/C Ratio	0.031	-	-	0.126	0.004	-	-
HCM Control Delay (s)	7.5	0	-	10.1	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	-	-