



Bailey Park

Traffic Impact Study

April 2022

Quality information

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1. Executive Summary

The planned Bailey Park mixed-use development is to be located south of SC 170 (Okatie Highway) between Old Bailey Road West and Okatie Park Drive in Jasper County, South Carolina. The development is expected to be fully built out by 2027 and is planned to consist of 233 single family homes and 65,280 square feet of commercial development.

AECOM studied the traffic impacts of the Bailey Park development at full build-out and due to the heavy traffic volumes on SC 170, the minor street approaches at Bailey Road West and Site Driveway #1 are likely to experience moderate to significant delay for all left-turn vehicles in the year 2027. Please note AECOM used a conservative 4% annual growth rate to obtain 2027 traffic volumes.

In the Build 2027 scenario, the minor approach at Site Driveway #1 intersecting with SC 170 is expected to operate with a poor level of service and experience significant queuing. The following items were recommended for this scenario:

SC 170 at Site Driveway #1

- Construct a 150-foot eastbound right turn lane on SC 170 at Site Driveway #1.
- Construct a northbound left-turn lane along with 200-foot right-turn lane on Site Driveway #1 at SC 170.

While these recommendations may not fully mitigate congestion during peak hours, the following additional improvement should be considered:

- Install a sign at Site Driveway #1 that prohibits vehicle from turning left out of driveway during 7-9 AM and 4-6 PM. As a result of vehicles being restricted from turning left out of Site Driveway #1, the intersection of SC 170 at Bailey Road West should be monitored as future signalization may be warranted at a later time.

Old Bailey Road at Site Driveway #2

- Construct a single lane southbound approach on Site Driveway #2 at Old Bailey Road under stop control. No significant delay is expected at this driveway.

2. Introduction

The planned Bailey Park mixed-use development is to be located on SC 170 (Okatie Highway) between Old Bailey Road West and Okatie Park Drive in Jasper County, South Carolina as seen in **Figure 1**. The development is expected to be fully built out by 2027 and is planned to consist of 233 single family homes and 65,280 square feet of commercial development. The proposed site plan is shown in **Figure 2**. The intersections studied in this report are listed below:

1. SC 170 at Old Bailey Road West (S-18)
2. SC 170 at Old Bailey Road East (S-18)

This traffic study focuses on trip generation, distribution, traffic analyses, and provides recommendations for mitigating Level of Service (LOS) and queuing incurred by the proposed Bailey Park mixed-use development.

AECOM was tasked with studying traffic conditions near the proposed project during the weekday AM and PM peak hours for three (3) scenarios:

- 2022 Existing: An analysis of the existing conditions
- 2027 Background: An analysis of conditions in the year 2027 if the development is not constructed.
- 2027 Build: An analysis of conditions in the year 2027 if the development is constructed.

Based on these scenarios, the study is structured to focus on whether the proposed development will have a negative impact on traffic regarding LOS, delay, and queuing.



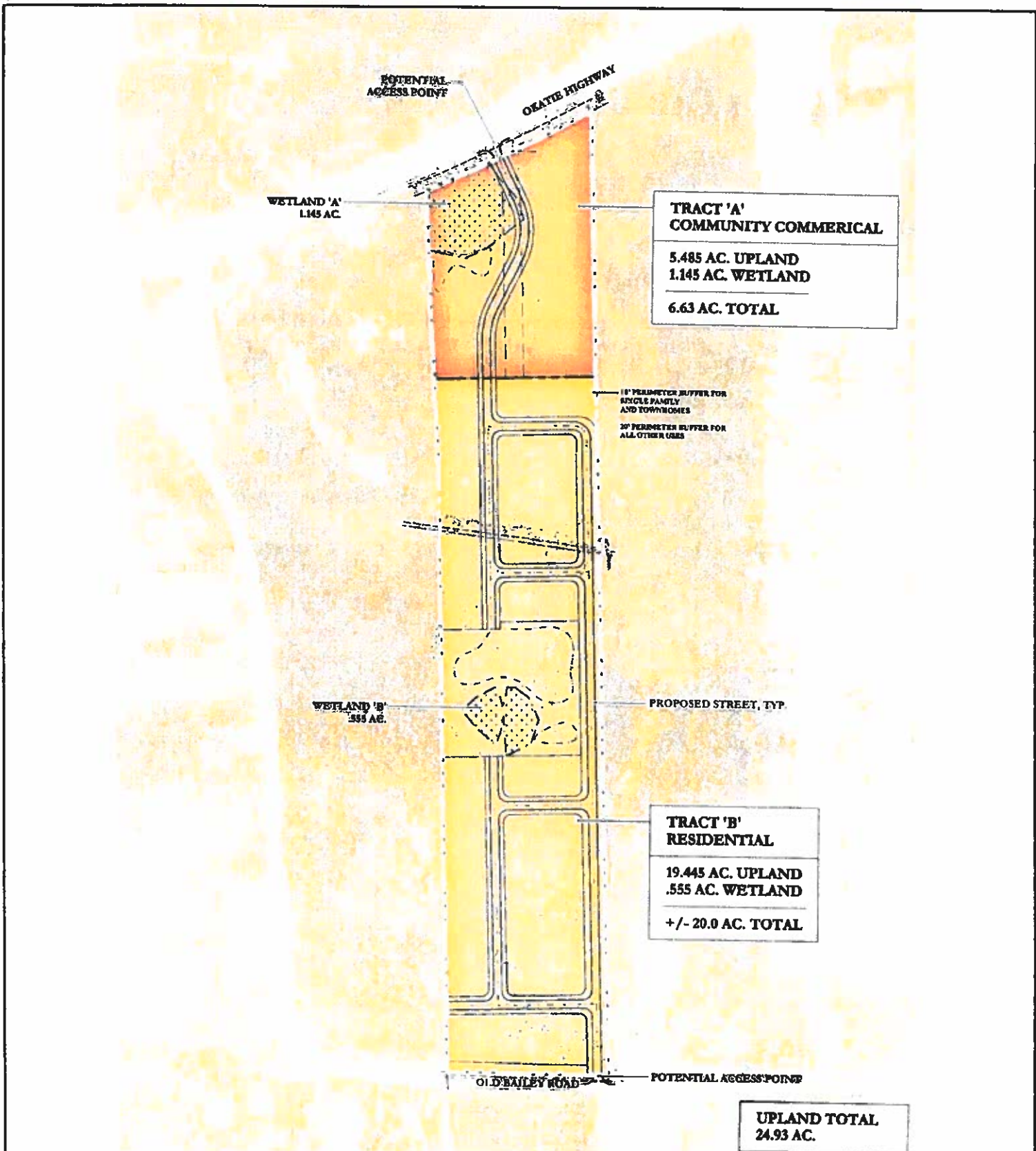
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FIGURE 1
VICINITY MAP

Bailey Park
Traffic Impact Analysis - Jasper County, SC



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FIGURE 2
PROPOSED SITE PLAN

Bailey Park
Traffic Impact Analysis - Jasper County, SC



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3. Existing Conditions

Resources on the South Carolina Department of Transportation (SCDOT) website were referenced to determine the functional classification and Annual Average Daily Traffic (AADT) of the roadways studied in this report. This data assisted with determination of growth rates and other analysis factors.

3.1 Roadway Characteristics

Okatie Highway (SC 170) is a 5-lane divided principal arterial with a speed limit of 55 miles per hour in the study area. According to the SCDOT traffic counts, the 2019 (Pre-Pandemic) average daily traffic consisted of 28,300 vehicles just east of the study area.

The existing lane configuration is shown in **Figure 3**.

3.2 Field Review

AECOM conducted a field visit on Monday, April 11, 2022 to record the existing roadway geometry and operations at the proposed study intersection.



Looking east towards proposed driveway location along SC 170



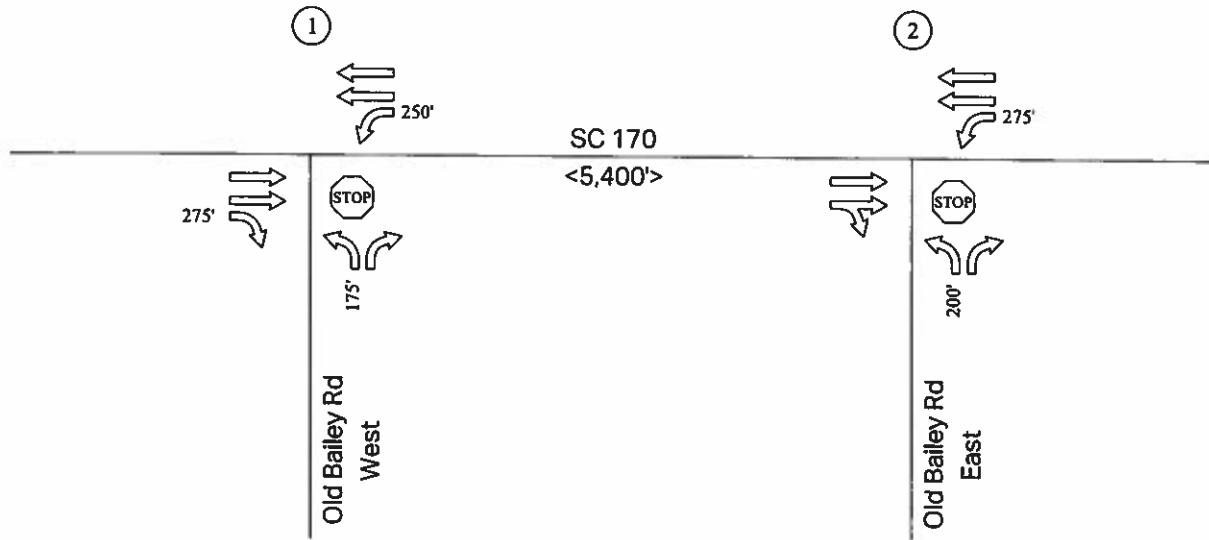
Looking east toward proposed driveway location along Old Bailey Road

3.3 Traffic Counts

Turning movement count data was collected by National Data and Surveying Services, Inc. at the study intersections on Thursday, April 7, 2022, from 7:00 – 9:00 AM and 4:00 – 6:00 PM. The peak hours were determined to be 7:00 – 8:00 AM and 4:00 – 5:00 PM.

An Average Daily Traffic (ADT) volume of 467 was collected over a 24-hour period on Thursday, April 7, 2022 along Old Bailey Road near the proposed Site Driveway #2.

The existing volumes are shown in **Figure 4**. Peak hour factors and truck percentages for the roadway are also reflected in the analysis. Traffic count data can be found in **Appendix A**.



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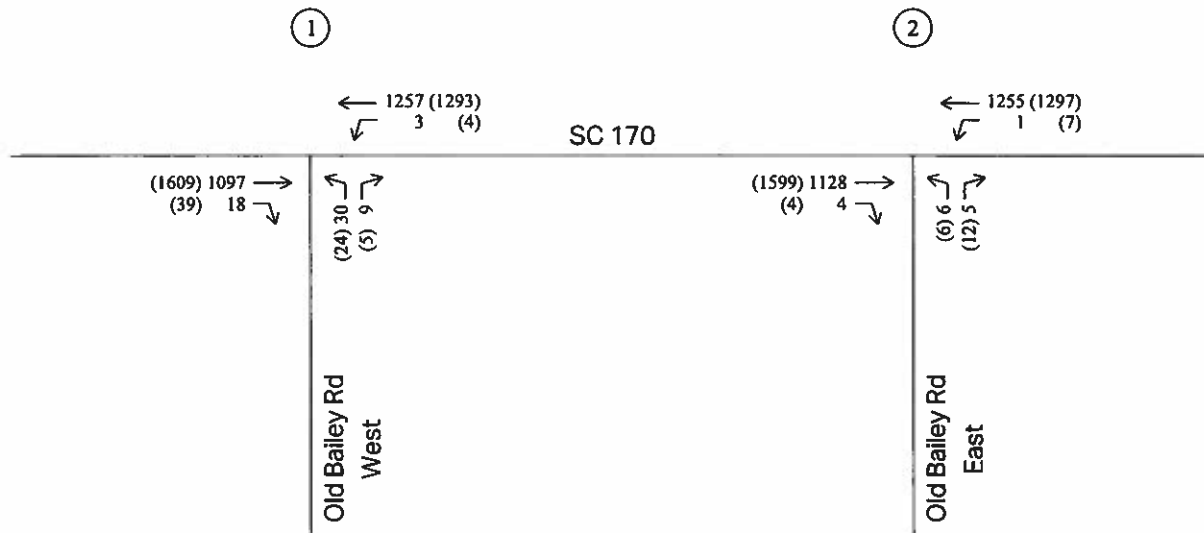
-  Existing Laneage
-  Intersection Number
-  Distance Between Intersections



FIGURE 3
 Existing 2022 Lane Configuration
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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LEGEND

- ← Volume Movement
- ⓪ Intersection Number
- ## AM Peak Hour Traffic Volume
- (##) PM Peak Hour Traffic Volume



FIGURE 4
 Existing 2022
 AM / PM Peak Hour Volumes
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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4. Background Growth

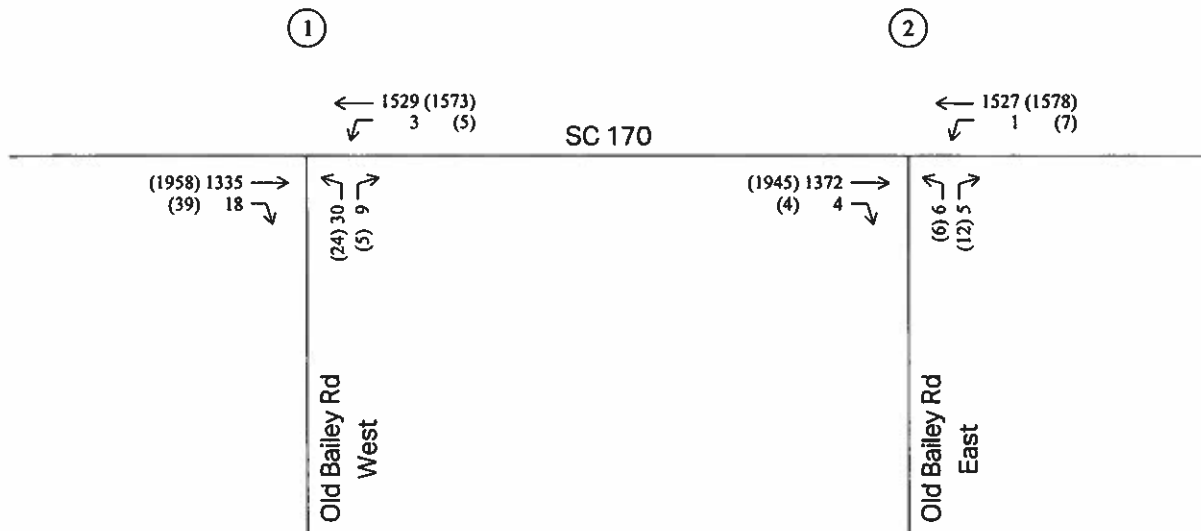
4.1 AADT Trends

Historic trend analysis of the data referenced from the SCDOT website shows growth rates in the study area at approximately 4 percent (4%) growth per year from 2014-2019. Table 1 shows Annual Average Daily Traffic (AADT) Trends from 2014 to 2019.

Table 1 – AADT Trends

Road Name	Station	2014	2015	2016	2017	2018	2019	% Growth Rate
SC 170 from Jasper County Line to Beaufort County Line	184	23,100	22,200	22,900	23,600	25,500	28,300	4.14%

Background 2027 volumes are shown in Figure 5.



LEGEND

- ← Volume Movement
- ⊙## Intersection Number
- ## AM Peak Hour Traffic Volume
- (##) PM Peak Hour Traffic Volume



FIGURE 5
 Background 2027
 AM / PM Peak Hour Volumes
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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5. Trip Generation and Distribution

5.1 Trip Generation

AECOM used the Trip Generation Manual (Institute of Transportation Engineers, 10th Edition, 2017) to generate the site trips for the Bailey Park mixed-use development as shown in **Table 2**. The Trip Generation Handbook (Institute of Transportation Engineers, 3rd Edition, 2017) was referenced for determining whether to use the average rate or equation to generate projected traffic.

The development is planned to consist of 233 single family homes and 65,280 square feet of commercial development and is expected to be fully built out by 2027.

The Bailey Park mixed-use development is projected to generate 4,186 new daily trips (2,093 entering, 2,093 exiting) for a normal weekday. During the peak hours the proposed development is expected to generate 168 new trips (63 entering, 105 exiting) in the AM peak, and 374 new trips (199 entering, 175 exiting) during the PM peak.

Internal capture includes trips that start and end within the project site; therefore, trips do not affect external study intersections since they do not exit the development. According to the Trip Generation Handbook (Institute of Transportation Engineers, 2017) internal capture worksheets, approximately 2% of the AM and 25% of the PM peak hour site trips will be internally captured trips between the residential and retail land uses.

Pass-by includes trips already on the roadway network that are attracted by the retail development, enter and exit the development within the same peak hour. Based on proposed land uses, AECOM used 0% (AM peak) and 34% (PM peak) for the commercial development.

After internal capture and pass-by calculations, the proposed Bailey Park development is projected to generate 2,576 net new daily trips (1,288 entering, 1,288 exiting) for a normal weekday. During the peak hours the proposed development is expected to generate 164 net new trips (61 entering, 103 exiting) in the AM peak, and 213 net new trips (116 entering, 97 exiting) during the PM peak when constructed.

Detailed trip generation calculations are provided in **Appendix B**.

Table 2 – Trip Generation

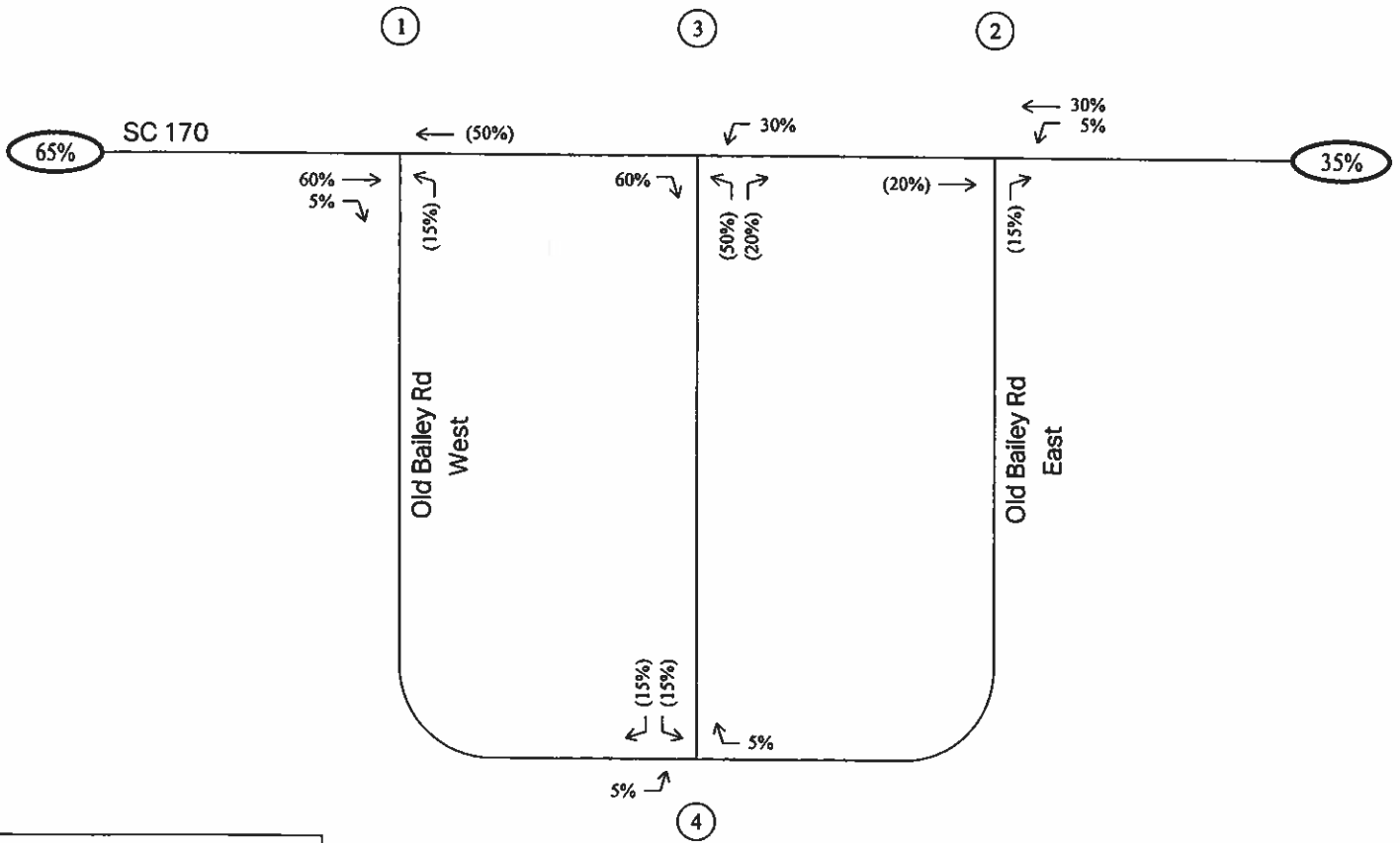
Land Use Type	ITE Code	Daily Total	Daily		AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
65,280 SF Commercial	820	2,464	1,232	1,232	61	38	23	249	120	129
233 Townhomes	220	1,722	861	861	107	25	82	125	79	46
New Vehicle Trips	-	4,186	2,093	2,093	168	63	105	374	199	175
Internal Capture	-	3,266	1,633	1,633	164	61	103	282	153	129
Pass-By	-	690	345	345	0	0	0	69	37	32
Total External Site Trips	-	2,576	1,288	1,288	164	61	103	213	116	97

5.2 Trip Distribution

The planned development is to be accessed by a full access driveway along SC 170. Trip distributions for the Bailey Park mixed-use development were developed by analyzing existing traffic patterns at the study intersections. The distribution is described below:

- 65% to and from the west on SC 170
- 35% to and from the east on SC 170

Site trip distribution and assignment are presented in **Figure 6**. The AM site trips using this distribution are shown in **Figure 7**. The PM site trips using this distribution are shown in **Figure 8**.



LEGEND

- ← Turning Movement
- ⊙## Intersection Number
- ⊙XX% Origin / Destination
- ##% Entering Site
- (##%) Exiting Site



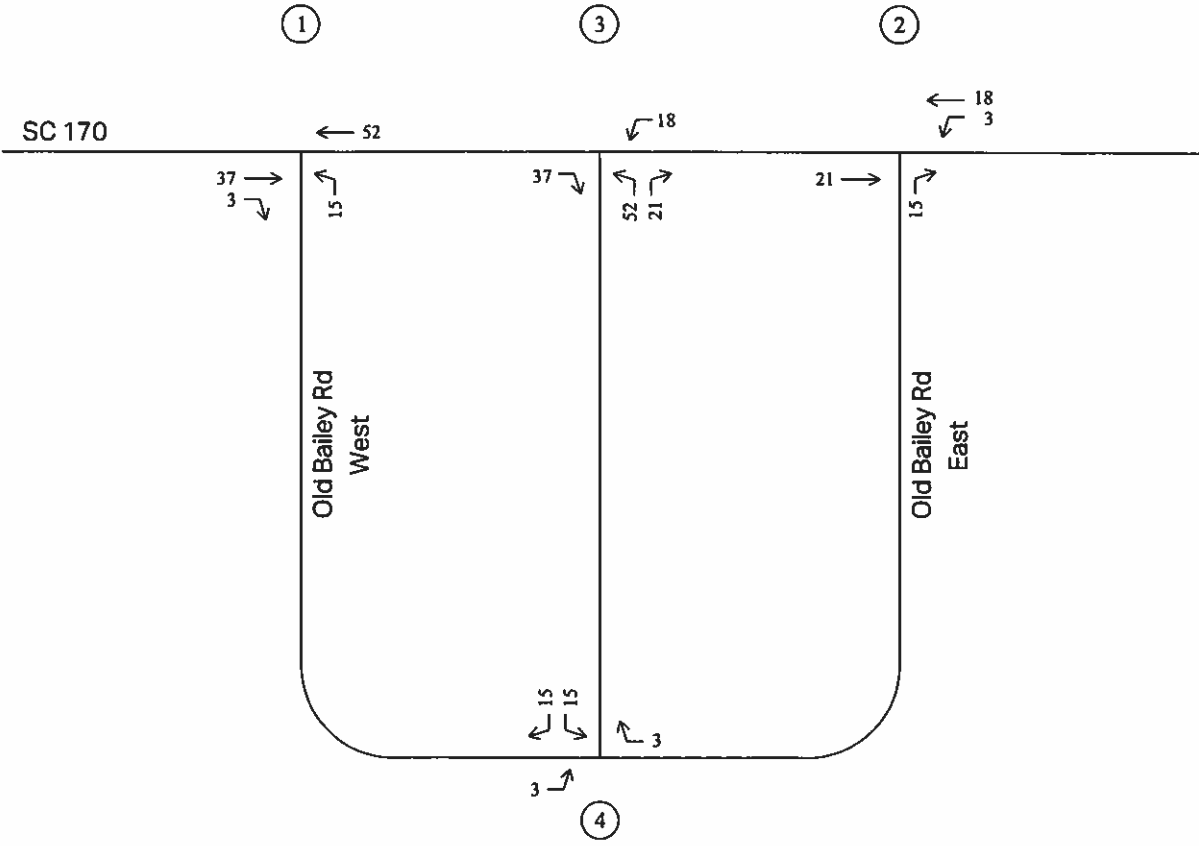
FIGURE 6

Site Traffic Distribution

Bailey Park
Traffic Impact Analysis - Jasper County, SC



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LEGEND

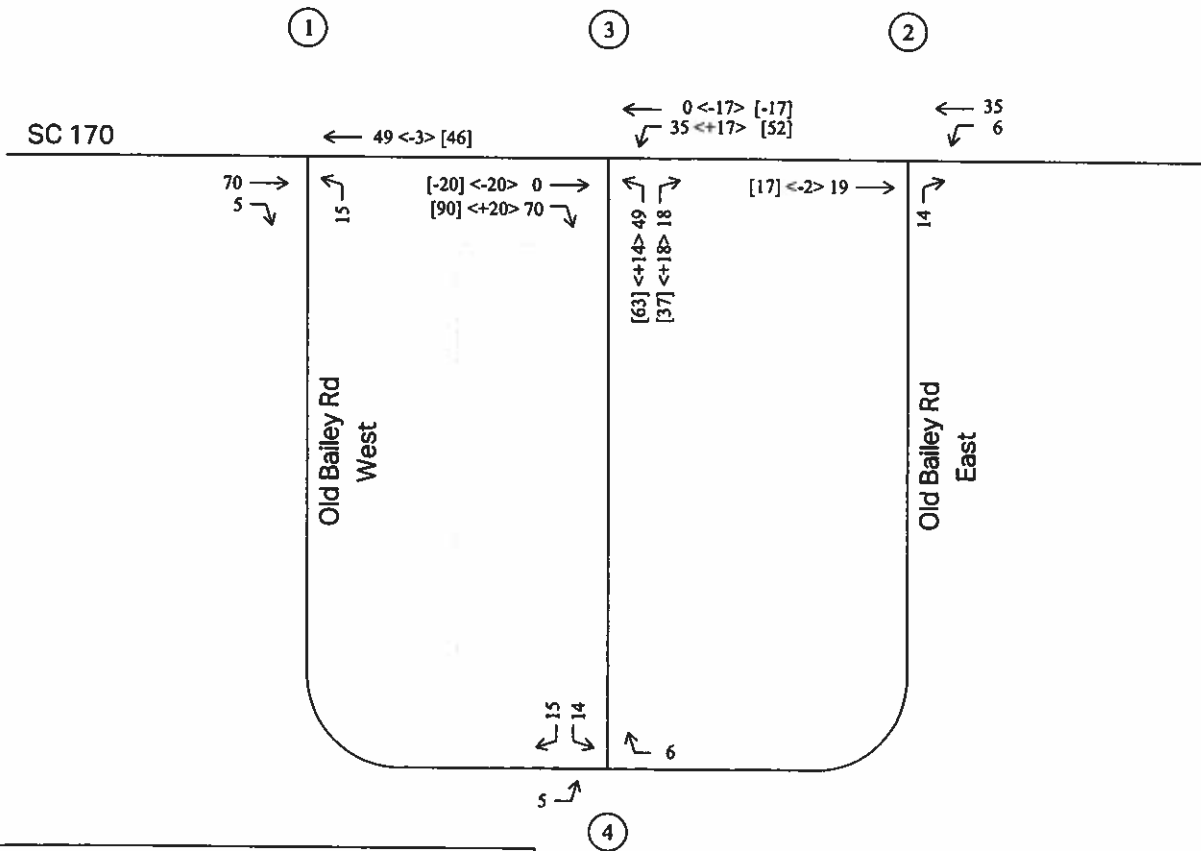
- ← Turning Movement
- ⊕ Intersection Number
- # AM Peak Hour Site Traffic Volume
- Site



FIGURE 7
 Site Traffic Volume AM
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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LEGEND

- ← Turning Movement
- ⊙## Intersection Number
- ## PM Peak Hour Site Traffic Volume
- <##> PM Pass-By Peak Hour Traffic Volume
- [##] PM Peak Hour Total External Site Traffic Volume



FIGURE 8

Site Traffic Volume PM

Bailey Park
Traffic Impact Analysis - Jasper County, SC



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6. Capacity Analysis

The traffic carrying ability of a roadway is described by levels of service (LOS) that range from LOS A to LOS F. LOS A represents unrestricted maneuverability and operating speeds. LOS B represents reduced maneuverability and operating speeds. LOS C represents restricted maneuverability and operating speeds closer to the speed limit. LOS D represents severely restricted maneuverability and unstable, low operating speeds. LOS E represents operating conditions at or near the capacity level. LOS F represents breakdown conditions characterized by stop and go travel. A visual representation of each LOS is shown below.



The Highway Capacity Manual (HCM) 6 defines LOS at an unsignalized intersection by average control delay per vehicle, which includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue. The Highway Capacity Manual explains that drivers perceive that a signalized intersection is designed to carry higher traffic volumes and therefore expect to experience greater delays at signalized intersections. Unsignalized intersections are assigned a LOS for each minor movement. Typically, LOS D is considered the minimum acceptable level of service at an urban intersection. **Table 3** presents LOS thresholds for unsignalized intersections.

Table 3 – LOS Thresholds for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	< 10.0
B	> 10.0 and < 15.0
C	> 15.0 and < 25.0
D	> 25.0 and < 35.0
E	> 35.0 and < 50.0
F	> 50.0

AECOM performed an analysis using Synchro 11 (Build 0, Rev 8) for the study intersections. AECOM analyzed each scenario for the AM and PM peak hours.

AECOM determined the required laneage to satisfy the LOS requirement as well as the appropriate storage lengths to accommodate 95th percentile queuing. According to Highway Capacity Manual (HCM) 6, an acceptable Level-of-Service (LOS) is "D" or better with "A" having the shortest delays and "F" having the longest delays. Sim Traffic was used to report 95th percentile queuing.

Appendix C provides the volume calculation spreadsheets used to develop all capacity analysis scenarios.

6.1 Existing 2022

AECOM analyzed the Existing 2022 traffic conditions during the AM and PM peak hours at the study intersections. **Figure 9** shows the Existing 2022 AM and PM peak hour volumes and LOS.

Table 4 presents a summary of the LOS, delay, and volume to capacity ratios for the Existing 2022 conditions.

Table 4 – Existing 2022 Summary of LOS and Delay

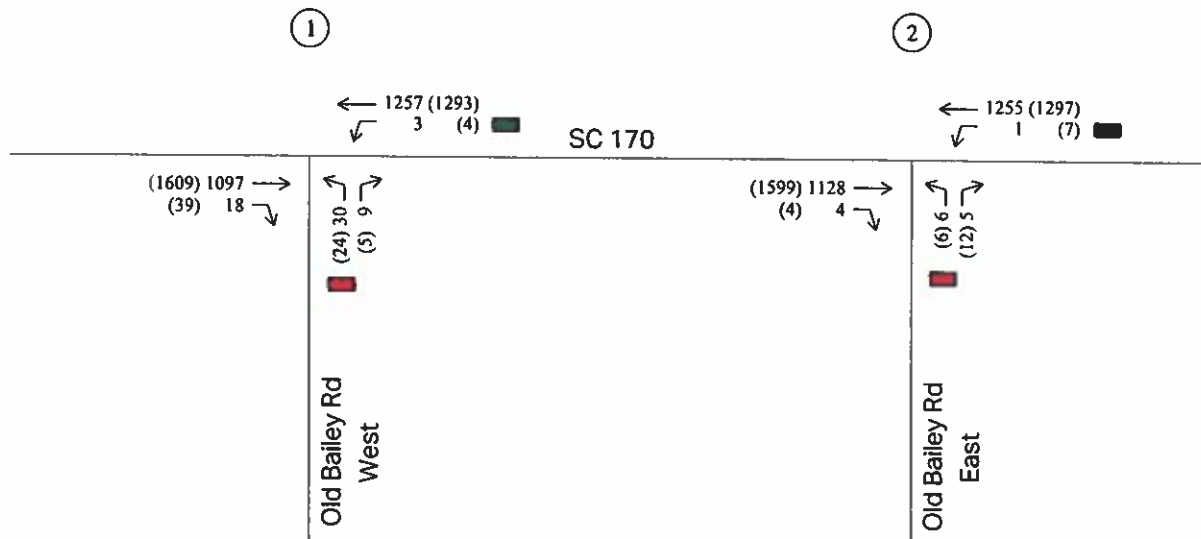
ID#	Intersection	Approach	HCM 6		Control		Volume to	
			Level of		Delay		Capacity Ratio	
			Service (LOS)		(sec/veh)		(V/C)	
			AM	PM	AM	PM	AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	A	A	0.0	0.0	-	-
		WBL	C	B	16.3	14.9	0.010	0.012
		NBL	D	E	26.5	48.0	0.228	0.306
		NBR	B	C	13.6	16.9	0.034	0.025
2	SC 170 at Old Bailey Road East (Unsignalized)	EB	A	A	0.0	0.0	-	-
		WBL	B	C	12.6	16.8	0.002	0.025
		NBL	D	E	25.0	37.5	0.068	0.078
		NBR	B	C	13.1	18.4	0.024	0.065

The 95th percentile queues for the Existing 2022 scenario are shown in **Table 5**.

Table 5 – Existing 2022 Summary of 95th Percentile Queues

ID#	Intersection	Approach	Storage Length (ft)	95th Percentile Queue (ft)	
				AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	275	0	0
		WBL	250	21	22
		NBL	175	72	93
		NBR	-	42	24
2	SC 170 at Old Bailey Road East (Unsignalized)	WBL	275	8	19
		NBL	200	32	22
		NBR	-	26	41

Synchro 11 and Sim Traffic outputs from the Existing 2022 analysis are provided in **Appendix D**.



LEGEND

- ← Volume Movement
- ⓪ Intersection Number
- ## AM Peak Hour Traffic Volume
- (##) PM Peak Hour Traffic Volume
- Site
- Unsignalized LOS (Critical Peak Hour)
- LOS E/F
- LOS D
- LOS A/B/C



FIGURE 9
 Existing 2022 AM / PM
 Peak Hour Volumes & LOS
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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6.2 Background 2027

AECOM analyzed the Background 2027 traffic conditions during the AM and PM peak hours at each study intersection. As previously mentioned, this is an analysis of conditions in the year 2027 if the project is not constructed.

Table 6 presents a summary of the LOS, delay, and volume to capacity ratios for the Background 2027 conditions. As indicated in the table below, the northbound left turns experience a high level of delay due to the high east-west traffic volume on SC 170 and the 4% annual growth.

Table 6 – Background 2027 Summary of LOS and Delay

ID#	Intersection	Approach	HCM 6		Control		Volume to	
			Level of		Delay		Capacity Ratio	
			Service (LOS)		(sec/veh)		(V/C)	
			AM	PM	AM	PM	AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	A	A	0.0	0.0	-	-
		WBL	C	C	20.2	18.9	0.014	0.021
		NBL	D	F	33.5	77.4	0.210	0.356
		NBR	C	C	15.4	20.8	0.028	0.024
2	SC 170 at Old Bailey Road East (Unsignalized)	EB	A	A	0.0	0.0	-	-
		WBL	B	C	14.8	22.0	0.003	0.035
		NBL	D	F	32.0	56.9	0.048	0.088
		NBR	B	C	14.7	22.9	0.015	0.062

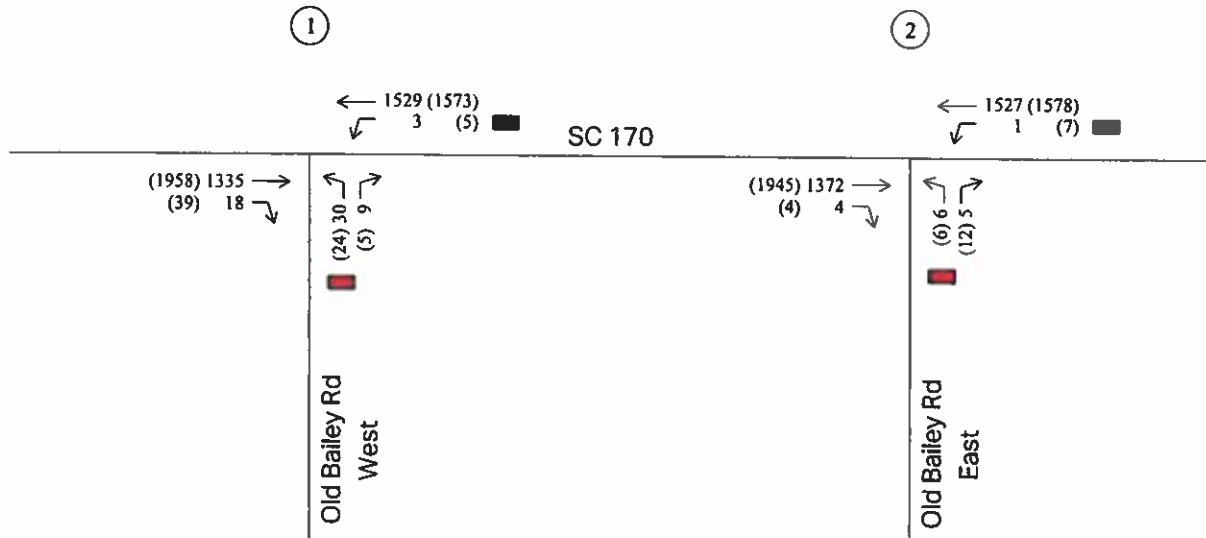
Figure 10 shows the Background 2027 AM and PM peak hour volumes and LOS.

The 95th percentile queues for the Build 2027 scenario are shown in **Table 7**.

Table 7 – Background 2027 Summary of 95th Percentile Queues

ID#	Intersection	Approach	Storage Length (ft)	95th Percentile Queue (ft)	
				AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	275	0	0
		WBL	250	16	12
		NBL	175	75	314
		NBR	-	36	373
2	SC 170 at Old Bailey Road East (Unsignalized)	WBL	275	0	17
		NBL	200	29	17
		NBR	-	25	40

Synchro 11 and Sim Traffic outputs from the Background 2027 analysis are provided in **Appendix E**.



LEGEND

- ← Volume Movement
- ⓪ Intersection Number
- ## AM Peak Hour Traffic Volume
- (##) PM Peak Hour Traffic Volume
- Site
- Unsignalized LOS (Critical Peak Hour)
 - LOS E/F
 - LOS D
 - LOS A/B/C



FIGURE 10
 Background 2027 AM / PM
 Peak Hour Volumes & LOS
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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6.3 Build 2027

AECOM analyzed the Build 2027 traffic conditions during the AM and PM peak hours at the study intersection. This is an analysis of conditions in the year 2027 if the development is constructed.

Based on SCDOT turn lane warrants, a westbound left and eastbound right turn lane are both warranted at Site Driveway #1. The right turn lane warrant for the eastbound approach can be found in **Appendix F**. A left turn lane is recommended on all divided highways able to accommodate them according to the SCDOT ARMS Manual.

In the Build 2027 scenario, the minor approach at Site Driveway #1 intersecting with SC 170 is expected to operate with a poor level of service and experience significant queuing. The following items were recommended for this scenario:

SC 170 at Site Driveway #1

- Construct a 150-foot eastbound right turn lane on SC 170 at Site Driveway #1.
- Construct a northbound left-turn lane along with 200-foot right-turn lane on Site Driveway #1 at SC 170

While these recommendations may not fully mitigate congestion during peak hours, the following additional improvement should be considered:

- Install a sign at Site Driveway #1 that prohibits vehicle from turning left out of driveway during 7-9 AM and 4-6 PM. As a result of vehicles being restricted from turning left out of Site Driveway #1, the intersection of SC 170 at Bailey Road West should be monitored as future signalization may be warranted at a later time.

Old Bailey Road at Site Driveway #2

- Construct a single lane southbound approach on Site Driveway #2 at Old Bailey Road under stop control. No significant delay is expected at this driveway.

Table 8 presents a summary of the LOS, delay, and volume to capacity ratios for the Build 2027 conditions.

Table 8 – Build 2027 Summary of LOS and Delay

ID#	Intersection	Approach	HCM 6		Control		Volume to	
			Level of Service		Delay		Capacity Ratio	
			(LOS)		(sec/veh)		(V/C)	
			AM	PM	AM	PM	AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	A	A	0.0	0.0	-	-
		WBL	C	C	22.3	21.6	0.016	0.025
		NBL	E	F	43.9	160.3	0.355	0.734
		NBR	C	C	16.3	23.3	0.030	0.028
2	SC 170 at Old Bailey Road East (Unsignalized)	EB	A	A	0.0	0.0	-	-
		WBL	C	C	16.1	24.2	0.014	0.072
		NBL	E	F	36.2	63.6	0.055	0.098
		NBR	C	D	16.2	26.0	0.064	0.144
3	SC 170 at Site Driveway #1 (Unsignalized)	WBL	B	D	13.8	26.7	0.047	0.259
		NBL	E	F	44.9	235.1	0.396	1.061
		NBR	C	D	15.9	25.8	0.066	0.192
4	Old Bailey Road at Site Driveway #2 (Unsignalized)	EB	A	A	7.2	7.3	0.002	0.003
		SB Approach	A	A	8.7	8.7	0.033	0.032

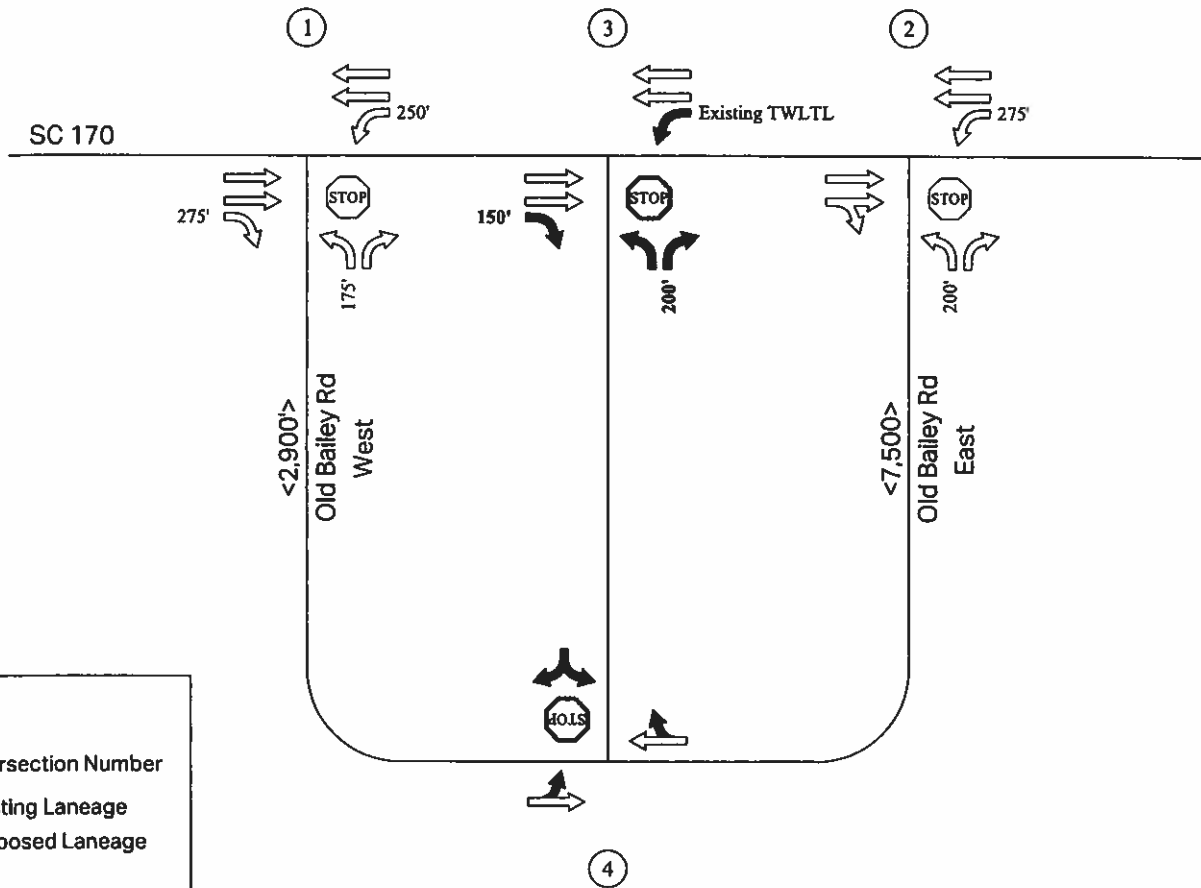
Figure 11 shows the proposed Build 2027 proposed laneage and Figure 12 shows the Build 2027 AM and PM peak hour volumes and LOS. As indicated in the tables, the northbound approaches at intersections #1 (Old Bailey Road West) and #3 (Site Driveway #1) with SC 170 are expected experience significant delay and queuing. It should be noted that the volume to capacity ratio is less than 1.0 at the Old Bailey Road West intersection and not likely to warrant a traffic signal.

The 95th percentile queues for the Build 2027 scenario are shown in Table 9.

Table 9 – Build 2027 Summary of 95th Percentile Queues

ID#	Intersection	Approach	Storage Length (ft)	95th Percentile Queue (ft)	
				AM	PM
1	SC 170 at Old Bailey Road West (Unsignalized)	EBR	275	0	0
		WBL	250	22	18
		NBL	175	96	324
		NBR	-	30	611
2	SC 170 at Old Bailey Road West (Unsignalized)	WBL	275	17	32
		NBL	200	32	40
		NBR	-	41	66
3	SC 170 at Site Driveway #1 (Unsignalized)	WBL	150	29	67
		NBL	-	104	757
		NBR	-	33	45
4	Old Bailey Road at Site Driveway #2 (Unsignalized)	EBL	-	0	0
		SB Approach	-	43	42

Synchro 11 and Sim Traffic outputs from the Build 2027 analysis are provided in Appendix G



LEGEND

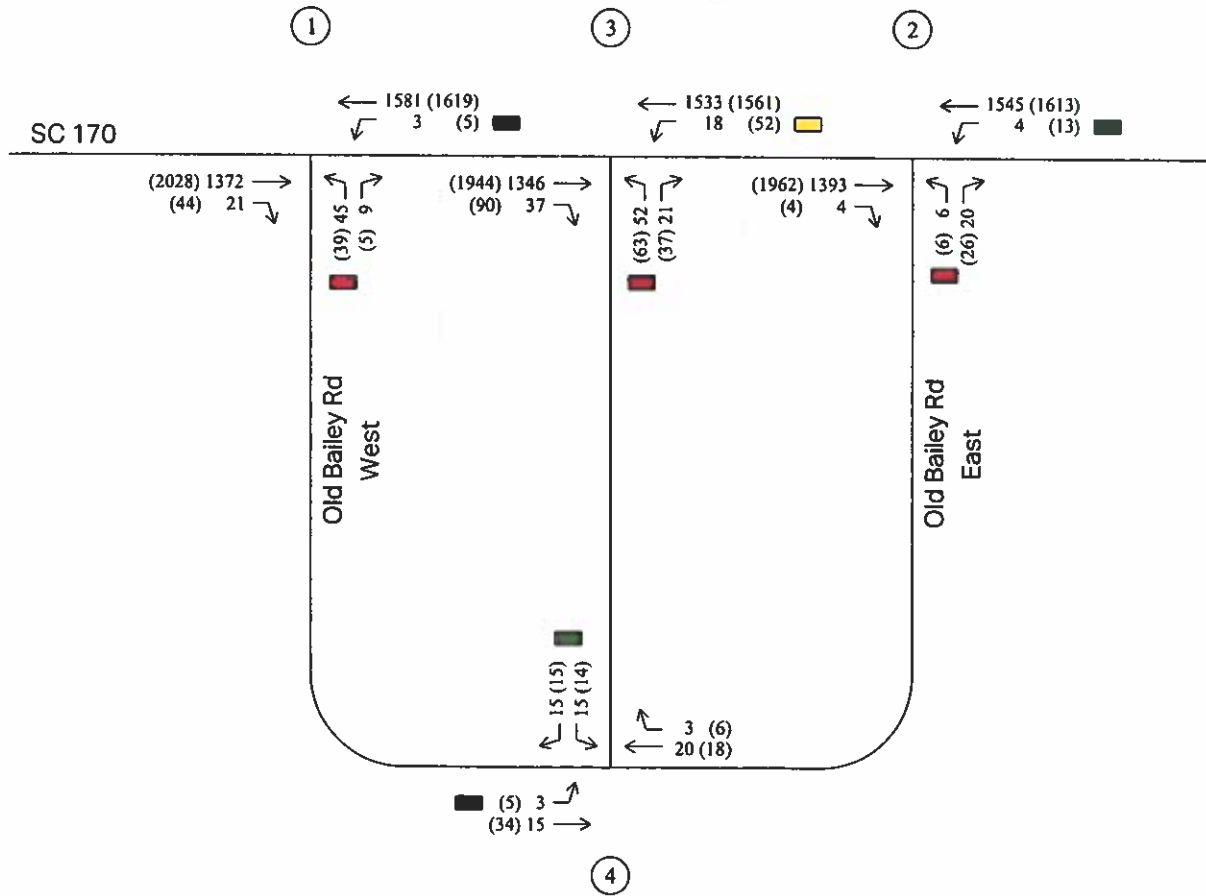
- Intersection Number
- Existing Laneage
- Proposed Laneage
- Intersection Number
- Proposed Stop Sign
- Storage Length
- Distance Between Intersections
- Site



FIGURE 11
 Build 2027
 Lane Configuration
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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LEGEND

← Volume Movement	Unsignalized LOS (Critical Peak Hour)
⓪ Intersection Number	■ LOS E/F
## AM Peak Hour Traffic Volume	■ LOS D
### PM Peak Hour Traffic Volume	■ LOS A/B/C
Site	

FIGURE 12
 Build 2027 AM / PM
 Peak Hour Volumes & LOS
 Bailey Park
 Traffic Impact Analysis - Jasper County, SC



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7. Conclusions and Recommendations

AECOM analyzed multiple scenarios for the Bailey Park development. A summary of the LOS and delay for each scenario is summarized in Table 10.

Table 10 – Scenario Summary of LOS and Delay

ID#	Intersection	Approach	Level of Service and Delay (sec)					
			2022 Existing		2027 Background		2027 Build	
			AM	PM	AM	PM	AM	PM
1	SC 170 at Old Bailey Road West	NB Left	D (26.5)	E (48.0)	D (33.5)	F (77.4)	E (43.9)	F (160.3)
2	SC 170 at Old Bailey Road East	NB Left	D (25.0)	E (37.5)	D (32.0)	F (56.9)	E (36.2)	F (63.6)
3	SC 170 at Site Driveway #1	NB Left	-	-	-	-	E* (44.9)	F* (235.1)
4	Old Bailey Road at Site Driveway #2	SB Approach	-	-	-	-	A (8.8)	A (8.9)

***Installing sign prohibiting no left-turn existing Site Driveway #1 during the AM and PM peak hours is expected to improve LOS to D in the AM peak hour and LOS C during the PM peak hour.**

The summary table above indicates that in the Existing, Background, and Build scenarios the study intersections along SC 170 operate at unacceptable LOS on the minor approaches. The Site Driveway #1 approach should be expected to experience long queues during the peak hours. It is likely that traffic from the development will choose the less congested route such as using the Old Bailey Road back driveway which eventually intersect with SC 170.

A future consideration to improve queuing and delay at Site Driveway #1 would be to allow exiting vehicles to a northbound right only and to not allow northbound left turns. This access configuration could be achieved with restriping and signage. Northbound left turning vehicles would then have the option to access SC 170 via both of its intersections with Old Bailey Road through the back access Site Driveway #2.

As access is restricted along all northbound site driveways along SC 170 in general study area, warrants are likely to be met for a traffic signal at Old Bailey Road West. Traffic from the Bailey Park development and other sites along Old Bailey Road would likely opt to use the signal to turn left onto SC 170 to avoid long queues and delay at unsignalized intersections.

The growth rate used in this study was 4%. This is a conservative growth rate and does result in significant growth in background traffic. This is not an unreasonable growth rate to use based on historic traffic counts but if growth does not continue at this rate, traffic congestion may not be to the level indicated in this report.

As development increases along SC 170, a corridor study may be necessary to determine a long-term solution to alleviate congestion and safety. These solutions may include raised median barriers along SC 170 combined with dedicated U-turn sites which would help encourage the right-out only movement from Site Driveway #1.

Appendix A – Traffic Count Data

Project ID: 22-150013-002
 Location: SR S-7-18 & SR 170/Okatie Hwy
 City: Ridgeland

Day: Thursday
 Date: 4/7/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	SR S-7-18 Northbound						SR S-7-18 Southbound						SR 170/Okatie Hwy Eastbound						SR 170/Okatie Hwy Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
7:00 AM	4	0	2	0	0	6	0	0	0	0	0	0	0	267	1	0	268	1	345	0	0	0	346	620	
7:15 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	295	1	0	296	0	336	0	0	0	336	634	
7:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	295	0	1	296	0	310	0	0	0	310	607	
7:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	271	2	0	273	0	284	0	0	0	284	539	
Total	6	0	5	0	0	11	0	0	0	0	0	0	0	1128	4	1	1133	1	1255	0	0	0	1256	2400	
8:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	266	1	0	267	2	246	0	0	0	248	516	
8:15 AM	1	0	2	0	0	3	0	0	0	0	0	0	0	233	0	0	233	1	263	0	0	0	264	500	
8:30 AM	2	0	1	0	0	3	0	0	0	0	0	0	0	205	0	0	205	1	273	0	0	0	274	482	
8:45 AM	1	0	3	0	0	4	0	0	0	0	0	0	0	237	1	0	238	0	262	0	0	0	262	504	
Total	4	0	7	0	0	11	0	0	0	0	0	0	0	941	2	0	943	4	1044	0	0	0	1046	2002	
BREAK																									
4:00 PM	1	0	3	0	0	4	0	0	0	0	0	0	0	402	2	0	404	0	361	0	0	0	361	769	
4:15 PM	2	0	5	0	0	7	0	0	0	0	0	0	0	429	0	0	429	1	332	0	0	0	333	769	
4:30 PM	3	0	2	0	0	5	0	0	0	0	0	0	0	391	1	0	392	4	316	0	0	0	320	717	
4:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	377	1	0	378	2	288	0	0	0	290	670	
Total	6	0	12	0	0	18	0	0	0	0	0	0	0	1599	4	0	1603	7	1297	0	0	0	1304	2925	
5:00 PM	1	0	2	0	0	3	0	0	0	0	0	0	0	336	2	0	338	1	261	0	0	0	262	603	
5:15 PM	1	0	5	0	0	6	0	0	0	0	0	0	0	311	1	0	312	5	205	0	0	0	210	528	
5:30 PM	2	0	1	0	0	3	0	0	0	0	0	0	0	254	0	0	254	3	211	0	0	0	214	471	
5:45 PM	0	0	4	0	0	4	0	0	0	0	0	0	0	186	0	0	186	3	182	0	0	0	185	355	
Total	4	0	12	0	0	16	0	0	0	0	0	0	0	1087	3	0	1090	12	839	0	0	0	851	1957	
Grand Total	20	0	36	0	0	56	0	0	0	0	0	0	0	4755	13	1	4769	24	4435	0	0	0	4459	9284	
Approch %	35.7	0.0	64.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.7	0.3	0.0	0.0	0.5	99.5	0.0	0.0	0.0	0.0	0.0	
Total %	0.2	0.0	0.4	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.1	0.0	0.0	0.3	47.8	0.0	0.0	0.0	0.0	49.0	
Cars, PU, Vans	18	0	35	0	0	53	0	0	0	0	0	0	0	4533	13	1	4547	21	4261	0	0	0	4282	8882	
% Cars, PU, Vans	90.0	0.0	97.2	0.0	0.0	94.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.3	100.0	100.0	95.3	87.5	96.1	0.0	0.0	0.0	96.0	95.7	
Heavy trucks	2	0	1	0	0	3	0	0	0	0	0	0	0	222	0	0	222	3	174	0	0	0	177	402	
% Heavy trucks	10.0	0.0	2.8	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	4.7	12.5	3.9	0.0	0.0	0.0	4.0	4.3	

Project ID: 22-150013-002
 Location: SR S-7-18 & SR 170/Okatie Hwy
 City: Ridgeland

PEAK HOURS

Day: Thursday
 Date: 4/7/2022

AM

Start Time	SR S-7-18 Northbound						SR S-7-18 Southbound						SR 170/Okatie Hwy Eastbound						SR 170/Okatie Hwy Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
Peak Hour Analysis from 07:00 AM - 09:00 AM																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
7:00 AM	4	0	2	0	0	6	0	0	0	0	0	0	0	267	1	0	268	1	345	0	0	0	346	620	
7:15 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	295	1	0	296	0	336	0	0	0	336	634	
7:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	295	0	1	296	0	310	0	0	0	310	607	
7:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	271	2	0	273	0	284	0	0	0	284	539	
Total Volume	6	0	5	0	0	11	0	0	0	0	0	0	0	1128	4	1	1133	1	1255	0	0	0	1256	2400	
% App. Total	54.5	0.0	45.5	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.6	0.4	0.1	100.0	0.1	99.9	0.0	0.0	0.0	100.0	0.0	
PHF	0.458						0.957						0.934						0.903						0.951
Cars, PU, Vans	5	0	5	0	0	10	0	0	0	0	0	0	0	1056	4	1	1061	0	1199	0	0	0	1199	2270	
% Cars, PU, Vans	83.3	0.0	100.0	0.0	0.0	90.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.6	100.0	93.6	0.0	95.5	0.0	0.0	0.0	95.5	94.6		
Heavy trucks	1	0	0	0	0	1	0	0	0	0	0	0	0	72	0	0	72	1	56	0	0	0	57	130	
% Heavy trucks	16.7	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	6.4	100.0	4.5	0.0	0.0	4.5	5.4		

PM

Start Time	SR S-7-18 Northbound						SR S-7-18 Southbound						SR 170/Okatie Hwy Eastbound						SR 170/Okatie Hwy Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
Peak Hour Analysis from 04:00 PM - 05:00 PM																									
Peak Hour for Entire Intersection Begins at 04:00 PM																									
4:00 PM	1	0	3	0	0	4	0	0	0	0	0	0	0	402	2	0	404	0	361	0	0	0	361	769	
4:15 PM	2	0	5	0	0	7	0	0	0	0	0	0	0	429	0	0	429	1	332	0	0	0	333	769	
4:30 PM	3	0	2	0	0	5	0	0	0	0	0	0	0	391	1	0	392	4	316	0	0	0	320	717	
4:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	377	1	0	378	2	288	0	0	0	290	670	
Total Volume	6	0	12	0	0	18	0	0	0	0	0	0	0	1599	4	0	1603	7	1297	0	0	0	1304	2925	
% App. Total	33.3	0.0	66.7	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.8	0.2	0.0	100.0	0.5	99.5	0.0	0.0	0.0	100.0	0.0	
PHF	0.643						0.934						0.934						0.903						0.951
Cars, PU, Vans	6	0	11	0	0	17	0	0	0	0	0	0	0	1560	4	0	1564	8	1273	0	0	0	1279	2860	
% Cars, PU, Vans	100.0	0.0	91.7	0.0	0.0	94.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.6	100.0	97.6	0.0	97.6	0.0	0.0	0.0	98.1	97.8		
Heavy trucks	0	0	1	0	0	1	0	0	0	0	0	0	0	39	0	0	39	1	24	0	0	0	25	65	
% Heavy trucks	0.0	0.0	8.3	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.4	14.3	1.9	0.0	0.0	1.9	2.2		

Prepared by NOS/ATD

VOLUME

SR S-7-18 W/O Old Baileys Cir

Day: Thursday
Date: 4/7/2022

City: Ridgeland
Project #: SC22_150014_001

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	252	215	467		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			1	0	1	12:00			7	5	12	
00:15			0	0	0	12:15			8	2	10	
00:30			0	0	0	12:30			5	4	9	
00:45			0	1	0	12:45			4	24	4	15
01:00			0	0	0	13:00			5	5	10	
01:15			1	0	1	13:15			4	6	10	
01:30			0	0	0	13:30			5	4	9	
01:45			0	1	0	13:45			2	16	4	19
02:00			1	1	2	14:00			1	7	8	
02:15			0	1	1	14:15			1	4	5	
02:30			0	0	0	14:30			2	4	6	
02:45			0	1	0	14:45			3	7	1	16
03:00			0	0	0	15:00			4	4	8	
03:15			0	0	0	15:15			4	0	4	
03:30			0	0	0	15:30			8	2	10	
03:45			0	0	0	15:45			4	20	5	11
04:00			0	0	0	16:00			10	6	16	
04:15			0	1	1	16:15			5	3	8	
04:30			0	0	0	16:30			6	4	10	
04:45			0	0	1	16:45			13	34	5	18
05:00			0	3	3	17:00			5	3	8	
05:15			0	0	0	17:15			8	6	14	
05:30			1	1	2	17:30			6	2	8	
05:45			2	3	3	17:45			4	23	5	16
06:00			0	3	3	18:00			5	3	8	
06:15			1	7	8	18:15			7	2	9	
06:30			3	5	8	18:30			6	1	7	
06:45			2	6	4	18:45			6	24	5	11
07:00			2	7	9	19:00			4	2	6	
07:15			3	4	7	19:15			6	2	8	
07:30			6	4	10	19:30			6	2	8	
07:45			4	15	5	19:45			1	17	2	8
08:00			1	6	7	20:00			7	0	7	
08:15			0	5	5	20:15			3	0	3	
08:30			2	3	5	20:30			2	0	2	
08:45			0	3	2	20:45			3	15	0	3
09:00			0	4	4	21:00			0	2	2	
09:15			2	0	2	21:15			2	0	2	
09:30			2	2	4	21:30			4	1	5	
09:45			2	6	3	21:45			0	6	3	6
10:00			4	0	4	22:00			4	2	6	
10:15			2	2	4	22:15			1	2	3	
10:30			1	4	5	22:30			0	0	0	
10:45			6	13	1	22:45			1	6	0	4
11:00			1	3	4	23:00			2	1	3	
11:15			1	2	3	23:15			0	1	1	
11:30			4	3	7	23:30			0	0	0	
11:45			2	8	0	23:45			1	3	0	2
TOTALS			57	89	146	TOTALS			195	126	321	
SPLIT %			39.0%	61.0%	31.3%	SPLIT %			60.7%	39.3%	68.7%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	252	215	467

AM Peak Hour			11:45	06:15	07:00	PM Peak Hour			16:00	13:15	16:00
AM Pk Volume			22	23	35	PM Pk Volume			34	21	52
Pk Hr Factor			0.688	0.821	0.875	Pk Hr Factor			0.654	0.750	0.722
7 - 9 Volume	0	0	18	36	54	4 - 6 Volume	0	0	57	34	91
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	15	20	35	4 - 6 Pk	0	0	34	18	52
Pk Hr Factor	0.000	0.000	0.625	0.714	0.875	Pk Hr Factor	0.000	0.000	0.654	0.750	0.722

Appendix B – Trip Generation

Bailey Park Trip Generation

Table 2 - Trip Generation

Land Use	Intensity	Daily				AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out	
820 Shopping Center	65.28 1000 SF GLA	2,464	1,232	1,232	61	38	23	249	120	129	
220 Townhomes	233 Dwelling Units	1,722	861	861	107	25	82	125	79	46	
Subtotal		4,186	2,093	2,093	168	63	105	374	199	175	
<i>Internal Capture</i>											
820 Shopping Center		460	120	340	2	1	1	46	12	34	
220 Townhomes		460	340	120	2	1	1	46	34	12	
Internal Capture Total	AM 2.38% PM 24.60%	920	460	460	4	2	2	92	46	46	
Total External Trips		3,266	1,633	1,633	164	61	103	282	153	129	
Pass-By Traffic (ITE)											
820 Shopping Center	0% 34%	690	345	345	0	0	0	69	37	32	
Pass-By Total:	18.45%	690	345	345	0	0	0	69	37	32	
Total Net New External Trips		2,576	1,288	1,288	164	61	103	213	116	97	

Project Name:	Bailey Park TIA
Analysis Period:	AM Street Peak Hour

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	38	38	1.00	23	23
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	25	25	1.00	82	82
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	0	0	0	0	0
Retail	7	0	3	0	3	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	1	16	0	0	0
Hotel	0	0	0	0	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	12	0	0	0	0
Retail	0	0	0	0	1	0
Restaurant	0	3	0	0	1	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	6	0	0	0	0
Hotel	0	2	0	0	0	0

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	1	37	38	37	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	24	25	24	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

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	1	22	23	22	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	81	82	81	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.

Project Name:	Bailey Park TIA
Analysis Period:	PM Street Peak Hour

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	120	120	1.00	129	129
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	79	79	1.00	46	46
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	0	0	0	0	0
Retail	3	0	37	5	34	6
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	19	10	0	0	1
Hotel	0	0	0	0	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	10	0	0	3	0
Retail	0	0	0	0	36	0
Restaurant	0	60	0	0	13	0
Cinema/Entertainment	0	5	0	0	3	0
Residential	0	12	0	0	0	0
Hotel	0	2	0	0	0	0

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	12	108	120	108	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	34	45	79	45	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

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	34	95	129	95	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	12	34	46	34	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.

Appendix C – Intersection Calculation Spreadsheets

INTERSECTION VOLUME WORKSHEET

Intersection #1
SC 170 at Old Bailey Rd West

AM Peak Hour

Description	SC 170 Eastbound			SC 170 Westbound			Old Bailey Rd West Northbound			Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count	0	1,097	18	3	1,257	0	30	0	9			
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,097	18	3	1,257	0	30	0	9	0	0	0
Annual Growth Rate	4.0%	4.0%	0.0%	0.0%	4.0%	4.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%
Background Growth	0	238	0	0	272	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	1,335	18	3	1,529	0	30	0	9	0	0	0
% Entering	0%	60%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	37	3	0	0	0	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	50%	0%	15%	0%	0%	0%	0%	0%
Exiting Site Traffic	0	0	0	0	52	0	15	0	0	0	0	0
Total Site Trips	0	37	3	0	52	0	15	0	0	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	0	37	3	0	52	0	15	0	0	0	0	0
2027 Build Peak Hour Volume	0	1,372	21	3	1,581	0	45	0	9	0	0	0

PM Peak Hour

Description	SC 170 Eastbound			SC 170 Westbound			Old Bailey Rd West Northbound			Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count	0	1,609	39	4	1,293	0	24	0	5			
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,609	39	4	1,293	0	24	0	5	0	0	0
Annual Growth Rate	4.0%	4.0%	0.0%	4.0%	4.0%	4.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%
Background Growth	0	349	0	1	280	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	1,958	39	5	1,573	0	24	0	5	0	0	0
% Entering	0%	60%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	70	5	0	0	0	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	50%	0%	15%	0%	0%	0%	0%	0%
Exiting Site Traffic	0	0	0	0	49	0	15	0	0	0	0	0
Total Site Trips	0	70	5	0	49	0	15	0	0	0	0	0
Pass-by Trips	0	0	0	0	-3	0	0	0	0	0	0	0
Total External Site Traffic	0	70	5	0	46	0	15	0	0	0	0	0
2027 Build Peak Hour Volume	0	2,028	44	5	1,619	0	39	0	5	0	0	0

INTERSECTION VOLUME WORKSHEET

Intersection #2
SC 170 at Old Bailey Rd East

AM Peak Hour

Description	SC 170 Eastbound			SC 170 Westbound			Old Bailey Rd East Northbound			- Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count	0	1,128	4	1	1,255	0	6	0	5	0	0	0
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,128	4	1	1,255	0	6	0	5	0	0	0
Annual Growth Rate	4.0%	4.0%	0.0%	0.0%	4.0%	4.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%
Background Growth	0	244	0	0	272	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	1,372	4	1	1,527	0	6	0	5	0	0	0
% Entering	0%	0%	0%	5%	30%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	0	0	3	18	0	0	0	0	0	0	0
% Exiting	0%	20%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%
Exiting Site Traffic	0	21	0	0	0	0	0	0	15	0	0	0
Total Site Trips	0	21	0	3	18	0	0	0	15	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	0	21	0	3	18	0	0	0	15	0	0	0
2027 Build Peak Hour Volume	0	1,393	4	4	1,545	0	6	0	20	0	0	0

PM Peak Hour

Description	SC 170 Eastbound			SC 170 Westbound			Old Bailey Rd East Northbound			- Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count	0	1,599	4	7	1,297	0	6	0	12	0	0	0
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,599	4	7	1,297	0	6	0	12	0	0	0
Annual Growth Rate	4.0%	4.0%	0.0%	0.0%	4.0%	4.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%
Background Growth	0	346	0	0	281	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	1,945	4	7	1,578	0	6	0	12	0	0	0
% Entering	0%	0%	0%	5%	30%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	0	0	6	35	0	0	0	0	0	0	0
% Exiting	0%	20%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%
Exiting Site Traffic	0	19	0	0	0	0	0	0	14	0	0	0
Total Site Trips	0	19	0	6	35	0	0	0	14	0	0	0
Pass-by Trips	0	-2	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	0	17	0	6	35	0	0	0	14	0	0	0
2027 Build Peak Hour Volume	0	1,962	4	13	1,613	0	6	0	26	0	0	0

INTERSECTION VOLUME WORKSHEET

Intersection #3
SC 170 at Site Driveway #1

AM Peak Hour

Description	SC 170 <u>Eastbound</u>			SC 170 <u>Westbound</u>			Site Driveway #1 <u>Northbound</u>			- <u>Southbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count		1,106			1,260							
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,106	0	0	1,260	0	0	0	0	0	0	0
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Background Growth	0	240	0	0	273	0	0	0	0	0	0	0
Existing Phase Remaining Traffic												
2027 No-Build Peak Hour Volume	0	1,346	0	0	1,533	0	0	0	0	0	0	0
% Entering	0%	0%	60%	30%	0%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	0	37	18	0	0	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	0%	0%	50%	0%	20%	0%	0%	0%
Exiting Site Traffic	0	0	0	0	0	0	52	0	21	0	0	0
Total Site Trips	0	0	37	18	0	0	52	0	21	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	0	0	37	18	0	0	52	0	21	0	0	0
2027 Build Peak Hour Volume	0	1,346	37	18	1,533	0	52	0	21	0	0	0

PM Peak Hour

Description	SC 170 <u>Eastbound</u>			SC 170 <u>Westbound</u>			Site Driveway #1 <u>Northbound</u>			- <u>Southbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count		1,614			1,297							
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	1,614	0	0	1,297	0	0	0	0	0	0	0
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Background Growth	0	350	0	0	281	0	0	0	0	0	0	0
Existing Phase Remaining Traffic												
2027 No-Build Peak Hour Volume	0	1,964	0	0	1,578	0	0	0	0	0	0	0
% Entering	0%	0%	60%	30%	0%	0%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	0	0	70	35	0	0	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	0%	0%	50%	0%	20%	0%	0%	0%
Exiting Site Traffic	0	0	0	0	0	0	49	0	19	0	0	0
Total Site Trips	0	0	70	35	0	0	49	0	19	0	0	0
Pass-by Trips	0	-20	20	17	-17	0	14	0	18	0	0	0
Total External Site Traffic	0	-20	90	52	-17	0	63	0	37	0	0	0
2027 Build Peak Hour Volume	0	1,944	90	52	1,561	0	63	0	37	0	0	0

INTERSECTION VOLUME WORKSHEET

Intersection #4
Old Bailey Rd at Site Driveway #2

AM Peak Hour

Description	Old Bailey Rd Eastbound			Old Bailey Rd Westbound			-			Site Driveway #2 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count		18			36							
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	18	0	0	36	0	0	0	0	0	0	0
Annual Growth Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Background Growth	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	18	0	0	36	0	0	0	0	0	0	0
% Entering	5%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	3	0	0	0	0	3	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	15%
Exiting Site Traffic	0	0	0	0	0	0	0	0	0	15	0	15
Total Site Trips	3	0	0	0	0	3	0	0	0	15	0	15
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	3	0	0	0	0	3	0	0	0	15	0	15
2027 Build Peak Hour Volume	3	18	0	0	36	3	0	0	0	15	0	15

PM Peak Hour

Description	Old Bailey Rd			Old Bailey Rd			-			Site Driveway #2		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2022 Raw Traffic Count		57			34							
Growth Adjustment Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Adjustment Amount	0	0	0	0	0	0	0	0	0	0	0	0
2022 Peak Hour Volume	0	57	0	0	34	0	0	0	0	0	0	0
Annual Growth Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Background Growth	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Peak Hour Volume	0	57	0	0	34	0	0	0	0	0	0	0
% Entering	5%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Entering Site Traffic	5	0	0	0	0	6	0	0	0	0	0	0
% Exiting	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	15%
Exiting Site Traffic	0	0	0	0	0	0	0	0	0	14	0	15
Total Site Trips	5	0	0	0	0	6	0	0	0	14	0	15
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total External Site Traffic	5	0	0	0	0	6	0	0	0	14	0	15
2027 Build Peak Hour Volume	5	57	0	0	34	6	0	0	0	14	0	15

Appendix D – Existing Synchro and SimTraffic Reports

Lanes, Volumes, Timings
1: Old Bailey Rd West & SC 170

Existing 2022
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙	↗
Traffic Volume (vph)	1097	18	3	1257	30	9
Future Volume (vph)	1097	18	3	1257	30	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3374	1524	1081	3438	1752	1455
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3374	1524	1081	3438	1752	1455
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			2650	1171	
Travel Time (s)	18.4			32.9	26.6	
Peak Hour Factor	0.94	0.94	0.90	0.90	0.61	0.61
Heavy Vehicles (%)	7%	6%	67%	5%	3%	11%
Adj. Flow (vph)	1167	19	3	1397	49	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1167	19	3	1397	49	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Vol, veh/h	1097	18	3	1257	30	9
Future Vol, veh/h	1097	18	3	1257	30	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	90	90	61	61
Heavy Vehicles, %	7	6	67	5	3	11
Mvmt Flow	1167	19	3	1397	49	15

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1186	0	1872
Stage 1	-	-	-	-	1167
Stage 2	-	-	-	-	705
Critical Hdwy	-	-	5.44	-	6.86
Critical Hdwy Stg 1	-	-	-	-	5.86
Critical Hdwy Stg 2	-	-	-	-	5.86
Follow-up Hdwy	-	-	2.87	-	3.53
Pot Cap-1 Maneuver	-	-	323	-	63
Stage 1	-	-	-	-	256
Stage 2	-	-	-	-	448
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	323	-	62
Mov Cap-2 Maneuver	-	-	-	-	216
Stage 1	-	-	-	-	256
Stage 2	-	-	-	-	444

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	216	433	-	-	323	-
HCM Lane V/C Ratio	0.228	0.034	-	-	0.01	-
HCM Control Delay (s)	26.5	13.6	-	-	16.3	-
HCM Lane LOS	D	B	-	-	C	-
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Existing 2022
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↗
Traffic Volume (vph)	1128	4	1	1255	6	5
Future Volume (vph)	1128	4	1	1255	6	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frts	0.999					0.850
Fit Protected			0.950		0.950	
Satd. Flow (prot)	3403	0	1444	3438	1543	1615
Fit Permitted			0.950		0.950	
Satd. Flow (perm)	3403	0	1444	3438	1543	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.96	0.96	0.91	0.91	0.46	0.46
Heavy Vehicles (%)	6%	0%	25%	5%	17%	0%
Adj. Flow (vph)	1175	4	1	1379	13	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1179	0	1	1379	13	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1128	4	1	1255	6	5
Future Vol, veh/h	1128	4	1	1255	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	91	91	46	46
Heavy Vehicles, %	6	0	25	5	17	0
Mvmt Flow	1175	4	1	1379	13	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1179	0	1869
Stage 1	-	-	-	-	1177
Stage 2	-	-	-	-	692
Critical Hdwy	-	-	4.6	-	7.14
Critical Hdwy Stg 1	-	-	-	-	6.14
Critical Hdwy Stg 2	-	-	-	-	6.14
Follow-up Hdwy	-	-	2.45	-	3.67
Pot Cap-1 Maneuver	-	-	474	-	54
Stage 1	-	-	-	-	226
Stage 2	-	-	-	-	420
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	474	-	54
Mov Cap-2 Maneuver	-	-	-	-	193
Stage 1	-	-	-	-	226
Stage 2	-	-	-	-	419

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	193	456	-	-	474	-
HCM Lane V/C Ratio	0.068	0.024	-	-	0.002	-
HCM Control Delay (s)	25	13.1	-	-	12.6	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %ile Q(veh)	0.2	0.1	-	-	0	-

Lanes, Volumes, Timings
1: Old Bailey Rd West & SC 170

Existing 2022
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	1609	39	4	1293	24	5
Future Volume (vph)	1609	39	4	1293	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1538	1805	3539	1736	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1538	1805	3539	1736	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			2650	1171	
Travel Time (s)	18.4			32.9	26.6	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.66	0.66
Heavy Vehicles (%)	2%	5%	0%	2%	4%	0%
Adj. Flow (vph)	1694	41	5	1469	36	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1694	41	5	1469	36	8
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.5%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Vol, veh/h	1609	39	4	1293	24	5
Future Vol, veh/h	1609	39	4	1293	24	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	88	88	66	66
Heavy Vehicles, %	2	5	0	2	4	0
Mvmt Flow	1694	41	5	1469	36	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1735	0	2439
Stage 1	-	-	-	-	1694
Stage 2	-	-	-	-	745
Critical Hdwy	-	-	4.1	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	2.2	-	3.54
Pot Cap-1 Maneuver	-	-	368	-	~25
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	425
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	368	-	~25
Mov Cap-2 Maneuver	-	-	-	-	119
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	419

Approach	EB	WB	NB
HCM Control Delay, s	0	0	42.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	119	309	-	-	368	-
HCM Lane V/C Ratio	0.306	0.025	-	-	0.012	-
HCM Control Delay (s)	48	16.9	-	-	14.9	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-

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

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Existing 2022
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1599	4	7	1297	6	12
Future Volume (vph)	1599	4	7	1297	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Fr _t						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	0	1583	3539	1805	1495
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	0	1583	3539	1805	1495
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.93	0.93	0.90	0.90	0.64	0.64
Heavy Vehicles (%)	2%	0%	14%	2%	0%	8%
Adj. Flow (vph)	1719	4	8	1441	9	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1723	0	8	1441	9	19
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
2: Old Bailey Rd East & SC 170

Existing 2022
PM Peak

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1599	4	7	1297	6	12
Future Vol, veh/h	1599	4	7	1297	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	90	90	64	64
Heavy Vehicles, %	2	0	14	2	0	8
Mvmt Flow	1719	4	8	1441	9	19

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1723	0	2458
Stage 1	-	-	-	-	1721
Stage 2	-	-	-	-	737
Critical Hdwy	-	-	4.38	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.34	-	3.5
Pot Cap-1 Maneuver	-	-	314	-	26
Stage 1	-	-	-	-	132
Stage 2	-	-	-	-	439
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	314	-	25
Mov Cap-2 Maneuver	-	-	-	-	120
Stage 1	-	-	-	-	132
Stage 2	-	-	-	-	428

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	120	287	-	-	314	-
HCM Lane V/C Ratio	0.078	0.065	-	-	0.025	-
HCM Control Delay (s)	37.5	18.4	-	-	16.8	-
HCM Lane LOS	E	C	-	-	C	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

Summary of All Intervals

Start Time	6:50
End Time	8:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2424
Vehs Exited	2419
Starting Vehs	78
Ending Vehs	83
Travel Distance (mi)	3679
Travel Time (hr)	73.2
Total Delay (hr)	5.0
Total Stops	57
Fuel Used (gal)	108.0

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2424
Vehs Exited	2419
Starting Vehs	78
Ending Vehs	83
Travel Distance (mi)	3679
Travel Time (hr)	73.2
Total Delay (hr)	5.0
Total Stops	57
Fuel Used (gal)	108.0

Queuing and Blocking Report
Existing 2022

AM Peak

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	44	108	73
Average Queue (ft)	3	27	13
95th Queue (ft)	21	72	42
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Old Bailey Rd East & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	25	50	31
Average Queue (ft)	1	8	6
95th Queue (ft)	8	32	26
Link Distance (ft)			1363
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	3:50
End Time	5:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2908
Vehs Exited	2932
Starting Vehs	102
Ending Vehs	78
Travel Distance (mi)	4450
Travel Time (hr)	89.8
Total Delay (hr)	7.5
Total Stops	69
Fuel Used (gal)	130.1

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2908
Vehs Exited	2932
Starting Vehs	102
Ending Vehs	78
Travel Distance (mi)	4450
Travel Time (hr)	89.8
Total Delay (hr)	7.5
Total Stops	69
Fuel Used (gal)	130.1

Queuing and Blocking Report
Existing 2022

PM Peak

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	26	113	27
Average Queue (ft)	5	37	7
95th Queue (ft)	22	93	24
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Old Bailey Rd East & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	26	31	54
Average Queue (ft)	4	5	14
95th Queue (ft)	19	22	41
Link Distance (ft)			1363
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Appendix E – Background 2027 Synchro and SimTraffic Reports

Lanes, Volumes, Timings
 1: Old Bailey Rd West & SC 170

Background 2027
 AM Peak



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1335	18	3	1529	30	9
Future Volume (vph)	1335	18	3	1529	30	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3374	1524	1081	3438	1752	1455
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3374	1524	1081	3438	1752	1455
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			2650	1171	
Travel Time (s)	18.4			32.9	26.6	
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	6%	67%	5%	3%	11%
Adj. Flow (vph)	1420	19	3	1699	33	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1420	19	3	1699	33	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.3%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Vol, veh/h	1335	18	3	1529	30	9
Future Vol, veh/h	1335	18	3	1529	30	9
Conflicting Peds #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	90	90	90	90
Heavy Vehicles, %	7	6	67	5	3	11
Mvmt Flow	1420	19	3	1699	33	10

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1439	0	2276
Stage 1	-	-	-	-	1420
Stage 2	-	-	-	-	856
Critical Hdwy	-	-	5.44	-	6.86
Critical Hdwy Stg 1	-	-	-	-	5.86
Critical Hdwy Stg 2	-	-	-	-	5.86
Follow-up Hdwy	-	-	2.87	-	3.53
Pot Cap-1 Maneuver	-	-	240	-	33
Stage 1	-	-	-	-	187
Stage 2	-	-	-	-	374
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	240	-	33
Mov Cap-2 Maneuver	-	-	-	-	159
Stage 1	-	-	-	-	187
Stage 2	-	-	-	-	370

Approach	EB	WB	NB
HCM Control Delay, s	0	0	29.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	159	356	-	-	240	-
HCM Lane V/C Ratio	0.21	0.028	-	-	0.014	-
HCM Control Delay (s)	33.5	15.4	-	-	20.2	-
HCM Lane LOS	D	C	-	-	C	-
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-

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

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Background 2027
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1372	4	1	1527	6	5
Future Volume (vph)	1372	4	1	1527	6	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3406	0	1444	3438	1543	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3406	0	1444	3438	1543	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.96	0.96	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	6%	0%	25%	5%	17%	0%
Adj. Flow (vph)	1429	4	1	1678	7	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1433	0	1	1678	7	6
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	52.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1372	4	1	1527	6	5
Future Vol, veh/h	1372	4	1	1527	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	91	91	90	90
Heavy Vehicles, %	6	0	25	5	17	0
Mvmt Flow	1429	4	1	1678	7	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1433	0	2272
Stage 1	-	-	-	-	1431
Stage 2	-	-	-	-	841
Critical Hdwy	-	-	4.6	-	7.14
Critical Hdwy Stg 1	-	-	-	-	6.14
Critical Hdwy Stg 2	-	-	-	-	6.14
Follow-up Hdwy	-	-	2.45	-	3.67
Pot Cap-1 Maneuver	-	-	369	-	28
Stage 1	-	-	-	-	162
Stage 2	-	-	-	-	348
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	369	-	28
Mov Cap-2 Maneuver	-	-	-	-	140
Stage 1	-	-	-	-	162
Stage 2	-	-	-	-	347

Approach	EB	WB	NB
HCM Control Delay, s	0	0	24.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	140	377	-	-	369	-
HCM Lane V/C Ratio	0.048	0.015	-	-	0.003	-
HCM Control Delay (s)	32	14.7	-	-	14.8	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

Lanes, Volumes, Timings
1: Old Bailey Rd West & SC 170

Background 2027
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙	↗
Traffic Volume (vph)	1958	39	5	1573	24	5
Future Volume (vph)	1958	39	5	1573	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1538	1805	3539	1736	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1538	1805	3539	1736	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			2650	1171	
Travel Time (s)	18.4			32.9	26.6	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.90	0.90
Heavy Vehicles (%)	2%	5%	0%	2%	4%	0%
Adj. Flow (vph)	2061	41	6	1788	27	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2061	41	6	1788	27	6
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	64.1%			ICU Level of Service C		
Analysis Period (min)	15					

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Vol, veh/h	1958	39	5	1573	24	5
Future Vol, veh/h	1958	39	5	1573	24	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	88	88	90	90
Heavy Vehicles, %	2	5	0	2	4	0
Mvmt Flow	2061	41	6	1788	27	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2102
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	265
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	265
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	67.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	75	234	-	-	265	-
HCM Lane V/C Ratio	0.356	0.024	-	-	0.021	-
HCM Control Delay (s)	77.4	20.8	-	-	18.9	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.1	-

Notes

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

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Background 2027
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1945	4	7	1578	6	12
Future Volume (vph)	1945	4	7	1578	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Fr _t						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	0	1583	3539	1805	1495
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	0	1583	3539	1805	1495
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.93	0.93	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	14%	2%	0%	8%
Adj. Flow (vph)	2091	4	8	1753	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2095	0	8	1753	7	13
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.9%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	1945	4	7	1578	6	12
Future Vol, veh/h	1945	4	7	1578	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	90	90	90	90
Heavy Vehicles, %	2	0	14	2	0	8
Mvmt Flow	2091	4	8	1753	7	13

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	2095	0	2986
Stage 1	-	-	-	-	2093
Stage 2	-	-	-	-	893
Critical Hdwy	-	-	4.38	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.34	-	3.5
Pot Cap-1 Maneuver	-	-	220	-	11
Stage 1	-	-	-	-	83
Stage 2	-	-	-	-	365
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	220	-	11
Mov Cap-2 Maneuver	-	-	-	-	76
Stage 1	-	-	-	-	83
Stage 2	-	-	-	-	352

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	34.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	214	-	-	220	-
HCM Lane V/C Ratio	0.088	0.062	-	-	0.035	-
HCM Control Delay (s)	56.9	22.9	-	-	22	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0.1	-

Summary of All Intervals

Start Time	6:50
End Time	8:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2959
Vehs Exited	2936
Starting Vehs	76
Ending Vehs	99
Travel Distance (mi)	4492
Travel Time (hr)	89.9
Total Delay (hr)	7.1
Total Stops	53
Fuel Used (gal)	131.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2959
Vehs Exited	2936
Starting Vehs	76
Ending Vehs	99
Travel Distance (mi)	4492
Travel Time (hr)	89.9
Total Delay (hr)	7.1
Total Stops	53
Fuel Used (gal)	131.7

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	49	90	51
Average Queue (ft)	2	30	10
95th Queue (ft)	16	75	36
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Old Bailey Rd East & SC 170

Movement	NB	NB
Directions Served	L	R
Maximum Queue (ft)	54	30
Average Queue (ft)	6	6
95th Queue (ft)	29	25
Link Distance (ft)	1363	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	3:50
End Time	5:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3673
Vehs Exited	3628
Starting Vehs	92
Ending Vehs	137
Travel Distance (mi)	5605
Travel Time (hr)	121.1
Total Delay (hr)	17.3
Total Stops	61
Fuel Used (gal)	165.4

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3673
Vehs Exited	3628
Starting Vehs	92
Ending Vehs	137
Travel Distance (mi)	5605
Travel Time (hr)	121.1
Total Delay (hr)	17.3
Total Stops	61
Fuel Used (gal)	165.4

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	25	275	381
Average Queue (ft)	2	159	113
95th Queue (ft)	12	314	373
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)		48	
Queuing Penalty (veh)		2	

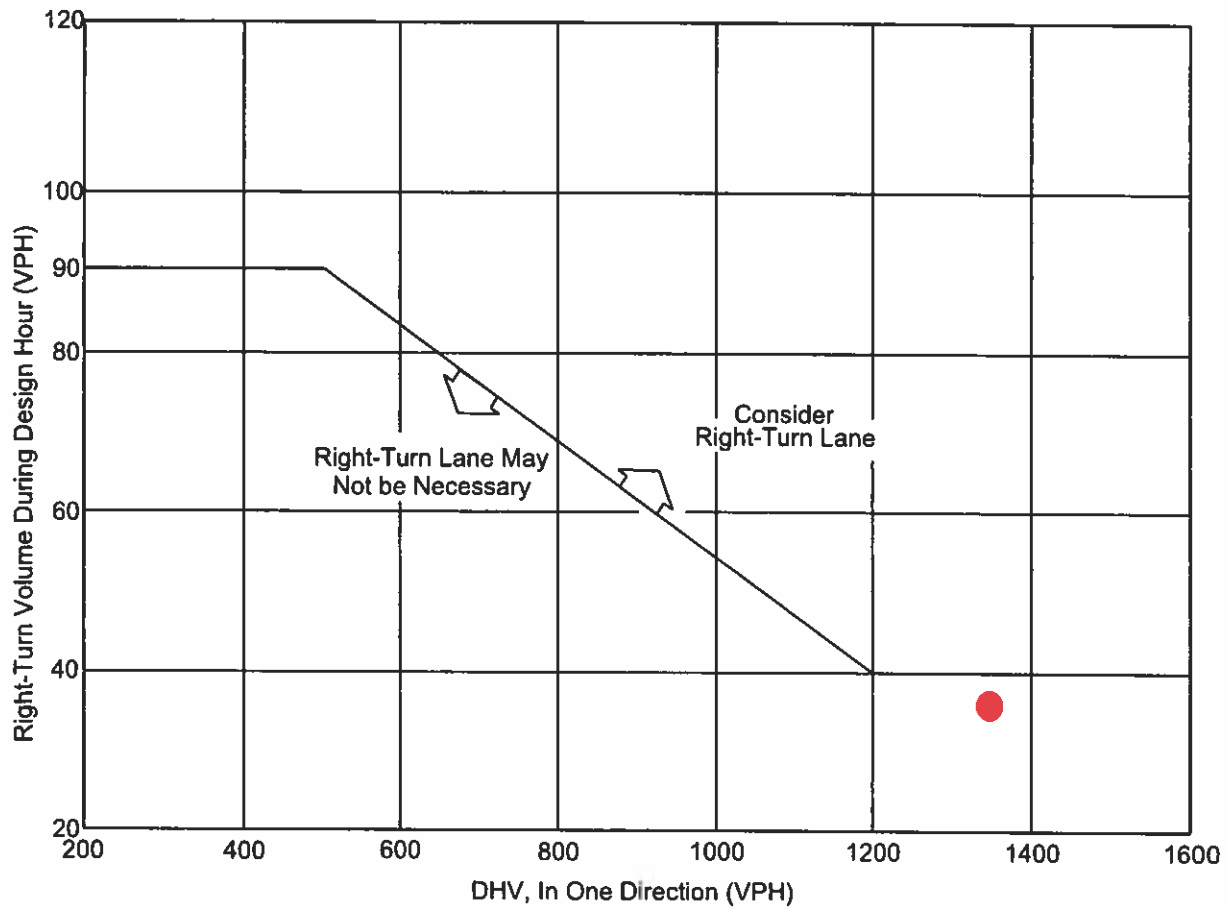
Intersection: 2: Old Bailey Rd East & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	25	31	87
Average Queue (ft)	3	3	9
95th Queue (ft)	17	17	40
Link Distance (ft)		1363	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2

Appendix F – SCDOT Right Turn Lane Warrant Worksheet



Note: Figure is only applicable on highways with a design speed of 50 miles per hour or greater.

AM = 1383, 37 ●
PM = 2034, 90 ●

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON FOUR-LANE HIGHWAYS**
Figure 9.5-B

Appendix G – Build 2027 Synchro and SimTraffic Reports

Lanes, Volumes, Timings
1: Old Bailey Rd West & SC 170

Build 2027
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	1372	21	3	1581	45	9
Future Volume (vph)	1372	21	3	1581	45	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frnt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3374	1524	1081	3438	1752	1455
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3374	1524	1081	3438	1752	1455
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			1016	1171	
Travel Time (s)	18.4			12.6	26.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	6%	67%	5%	3%	11%
Adj. Flow (vph)	1524	23	3	1757	50	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1524	23	3	1757	50	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	53.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1372	21	3	1581	45	9
Future Vol, veh/h	1372	21	3	1581	45	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	6	67	5	3	11
Mvmt Flow	1524	23	3	1757	50	10

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1547	0	2409
Stage 1	-	-	-	-	1524
Stage 2	-	-	-	-	885
Critical Hdwy	-	-	5.44	-	6.86
Critical Hdwy Stg 1	-	-	-	-	5.86
Critical Hdwy Stg 2	-	-	-	-	5.86
Follow-up Hdwy	-	-	2.87	-	3.53
Pot Cap-1 Maneuver	-	-	211	-	~27
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	361
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	211	-	~27
Mov Cap-2 Maneuver	-	-	-	-	141
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	356

Approach	EB	WB	NB
HCM Control Delay, s	0	0	39.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	141	328	-	-	211	-
HCM Lane V/C Ratio	0.355	0.03	-	-	0.016	-
HCM Control Delay (s)	43.9	16.3	-	-	22.3	-
HCM Lane LOS	E	C	-	-	C	-
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0	-

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

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Build 2027
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1393	4	4	1545	6	20
Future Volume (vph)	1393	4	4	1545	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3406	0	1444	3438	1543	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3406	0	1444	3438	1543	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	0%	25%	5%	17%	0%
Adj. Flow (vph)	1548	4	4	1717	7	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1552	0	4	1717	7	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1393	4	4	1545	6	20
Future Vol, veh/h	1393	4	4	1545	6	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	0	25	5	17	0
Mvmt Flow	1548	4	4	1717	7	22

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1552	0	2417
Stage 1	-	-	-	-	1550
Stage 2	-	-	-	-	867
Critical Hdwy	-	-	4.6	-	7.14
Critical Hdwy Stg 1	-	-	-	-	6.14
Critical Hdwy Stg 2	-	-	-	-	6.14
Follow-up Hdwy	-	-	2.45	-	3.67
Pot Cap-1 Maneuver	-	-	328	-	22
Stage 1	-	-	-	-	139
Stage 2	-	-	-	-	337
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	328	-	22
Mov Cap-2 Maneuver	-	-	-	-	122
Stage 1	-	-	-	-	139
Stage 2	-	-	-	-	333

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	122	345	-	-	328	-
HCM Lane V/C Ratio	0.055	0.064	-	-	0.014	-
HCM Control Delay (s)	36.2	16.2	-	-	16.1	-
HCM Lane LOS	E	C	-	-	C	-
HCM 95th %ile Q(veh)	0.2	0.2	-	-	0	-

Lanes, Volumes, Timings
3: Bailey Park #1 & SC 170

Build 2027
AM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	1346	37	18	1533	52	21
Future Volume (vph)	1346	37	18	1533	52	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	150		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Link Speed (mph)	55			55	30	
Link Distance (ft)	1016			1628	1563	
Travel Time (s)	12.6			20.2	35.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1496	41	20	1703	58	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1496	41	20	1703	58	23
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset (ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

HCM 6th TWSC
3: Bailey Park #1 & SC 170

Build 2027
AM Peak

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1346	37	18	1533	52	21
Future Vol, veh/h	1346	37	18	1533	52	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1496	41	20	1703	58	23

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1537	0	2388
Stage 1	-	-	-	-	1496
Stage 2	-	-	-	-	892
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	429	-	~28
Stage 1	-	-	-	-	172
Stage 2	-	-	-	-	361
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	429	-	~27
Mov Cap-2 Maneuver	-	-	-	-	146
Stage 1	-	-	-	-	172
Stage 2	-	-	-	-	344

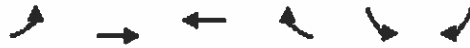
Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	36.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	146	355	-	-	429	-
HCM Lane V/C Ratio	0.396	0.066	-	-	0.047	-
HCM Control Delay (s)	44.9	15.9	-	-	13.8	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.7	0.2	-	-	0.1	-

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

Lanes, Volumes, Timings
4: Old Bailey Rd & Bailey Park #2

Build 2027
AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	↘
Traffic Volume (vph)	3	15	20	3	15	15
Future Volume (vph)	3	15	20	3	15	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.932	
Flt Protected		0.993			0.976	
Satd. Flow (prot)	0	1887	1870	0	1728	0
Flt Permitted		0.993			0.976	
Satd. Flow (perm)	0	1887	1870	0	1728	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		559	769		549	
Travel Time (s)		12.7	17.5		12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	17	22	3	17	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	25	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 13.4%

ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	15	20	3	15	15
Future Vol, veh/h	3	15	20	3	15	15
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, %	0	0	0	0	0	0
Mvmt Flow	3	17	22	3	17	17

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	25	0	47
Stage 1	-	-	24
Stage 2	-	-	23
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1603	-	968
Stage 1	-	-	1004
Stage 2	-	-	1005
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1603	-	966
Mov Cap-2 Maneuver	-	-	966
Stage 1	-	-	1002
Stage 2	-	-	1005

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1603	-	-	-	1010
HCM Lane V/C Ratio	0.002	-	-	-	0.033
HCM Control Delay (s)	7.2	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
1: Old Bailey Rd West & SC 170

Build 2027
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙	↗
Traffic Volume (vph)	2028	44	5	1619	39	5
Future Volume (vph)	2028	44	5	1619	39	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		275	250		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Flt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1538	1805	3539	1736	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1538	1805	3539	1736	1615
Link Speed (mph)	55			55	30	
Link Distance (ft)	1485			1016	1171	
Travel Time (s)	18.4			12.6	26.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	5%	0%	2%	4%	0%
Adj. Flow (vph)	2253	49	6	1799	43	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2253	49	6	1799	43	6
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	66.1%			ICU Level of Service C		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Vol, veh/h	2028	44	5	1619	39	5
Future Vol, veh/h	2028	44	5	1619	39	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	250	-	175	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	5	0	2	4	0
Mvmt Flow	2253	49	6	1799	43	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	2302	0	3165
Stage 1	-	-	-	-	2253
Stage 2	-	-	-	-	912
Critical Hdwy	-	-	4.1	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	2.2	-	3.54
Pot Cap-1 Maneuver	-	-	222	-	8
Stage 1	-	-	-	-	64
Stage 2	-	-	-	-	347
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	222	-	8
Mov Cap-2 Maneuver	-	-	-	-	59
Stage 1	-	-	-	-	64
Stage 2	-	-	-	-	338

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	144.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	59	202	-	-	222	-
HCM Lane V/C Ratio	0.734	0.028	-	-	0.025	-
HCM Control Delay (s)	160.3	23.3	-	-	21.6	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %ile Q(veh)	3.2	0.1	-	-	0.1	-

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

Lanes, Volumes, Timings
2: Old Bailey Rd East & SC 170

Build 2027
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↔		↘	↑↑	↖	↗
Traffic Volume (vph)	1962	4	13	1613	6	26
Future Volume (vph)	1962	4	13	1613	6	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Flt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	0	1583	3539	1805	1495
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	0	1583	3539	1805	1495
Link Speed (mph)	55			55	30	
Link Distance (ft)	2727			1381	1408	
Travel Time (s)	33.8			17.1	32.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	14%	2%	0%	8%
Adj. Flow (vph)	2180	4	14	1792	7	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2184	0	14	1792	7	29
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	64.4%			ICU Level of Service C		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↑
Traffic Vol, veh/h	1962	4	13	1613	6	26
Future Vol, veh/h	1962	4	13	1613	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	275	-	0	200
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	0	14	2	0	8
Mvmt Flow	2180	4	14	1792	7	29

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	2184	0	3106	1092
Stage 1	-	-	-	-	2182	-
Stage 2	-	-	-	-	924	-
Critical Hdwy	-	-	4.38	-	6.8	7.06
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.34	-	3.5	3.38
Pot Cap-1 Maneuver	-	-	202	-	9	200
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	352	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	202	-	8	200
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	328	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	33.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	68	200	-	-	202	-
HCM Lane V/C Ratio	0.098	0.144	-	-	0.072	-
HCM Control Delay (s)	63.6	26	-	-	24.2	-
HCM Lane LOS	F	D	-	-	C	-
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0.2	-

Lanes, Volumes, Timings
3: Bailey Park #1 & SC 170

Build 2027
PM Peak

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	1944	90	52	1561	63	37
Future Volume (vph)	1944	90	52	1561	63	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	150		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Link Speed (mph)	55			55	30	
Link Distance (ft)	1016			1628	1563	
Travel Time (s)	12.6			20.2	35.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2160	100	58	1734	70	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2160	100	58	1734	70	41
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.9%			ICU Level of Service B		
Analysis Period (min)	15					

HCM 6th TWSC
3: Bailey Park #1 & SC 170

Build 2027
PM Peak

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Vol, veh/h	1944	90	52	1561	63	37
Future Vol, veh/h	1944	90	52	1561	63	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2160	100	58	1734	70	41

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	2260	0	3143
Stage 1	-	-	-	-	2160
Stage 2	-	-	-	-	983
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	223	-	~ 8
Stage 1	-	-	-	-	74
Stage 2	-	-	-	-	323
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	223	-	~ 6
Mov Cap-2 Maneuver	-	-	-	-	~ 66
Stage 1	-	-	-	-	74
Stage 2	-	-	-	-	239

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	157.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	66	214	-	-	223	-
HCM Lane V/C Ratio	1.061	0.192	-	-	0.259	-
HCM Control Delay (s)	235.1	25.8	-	-	26.7	-
HCM Lane LOS	F	D	-	-	D	-
HCM 95th %tile Q(veh)	5.4	0.7	-	-	1	-

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

Lanes, Volumes, Timings
4: Old Bailey Rd & Bailey Park #2

Build 2027
PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↘	↘
Traffic Volume (vph)	5	34	18	6	14	15
Future Volume (vph)	5	34	18	6	14	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.965		0.930	
Fl _t Protected		0.993			0.976	
Satd. Flow (prot)	0	1887	1834	0	1725	0
Fl _t Permitted		0.993			0.976	
Satd. Flow (perm)	0	1887	1834	0	1725	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		559	769		549	
Travel Time (s)		12.7	17.5		12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	38	20	7	16	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	44	27	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 16.0% ICU Level of Service A
 Analysis Period (min) 15

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	5	34	18	6	14	15
Future Vol, veh/h	5	34	18	6	14	15
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, %	0	0	0	0	0	0
Mvmt Flow	6	38	20	7	16	17

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	27	0	-	0	74 24
Stage 1	-	-	-	-	24 -
Stage 2	-	-	-	-	50 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
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	1600	-	-	-	935 1058
Stage 1	-	-	-	-	1004 -
Stage 2	-	-	-	-	978 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1600	-	-	-	931 1058
Mov Cap-2 Maneuver	-	-	-	-	931 -
Stage 1	-	-	-	-	1000 -
Stage 2	-	-	-	-	978 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	993
HCM Lane V/C Ratio	0.003	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Summary of All Intervals

Start Time	6:50
End Time	8:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3320
Vehs Exited	3328
Starting Vehs	100
Ending Vehs	92
Travel Distance (mi)	4579
Travel Time (hr)	94.6
Total Delay (hr)	9.2
Total Stops	201
Fuel Used (gal)	139.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3320
Vehs Exited	3328
Starting Vehs	100
Ending Vehs	92
Travel Distance (mi)	4579
Travel Time (hr)	94.6
Total Delay (hr)	9.2
Total Stops	201
Fuel Used (gal)	139.3

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	47	115	51
Average Queue (ft)	3	43	7
95th Queue (ft)	22	96	30
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Old Bailey Rd East & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	44	50	31
Average Queue (ft)	2	10	17
95th Queue (ft)	17	32	41
Link Distance (ft)		1363	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Bailey Park #1 & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	32	182	44
Average Queue (ft)	8	43	12
95th Queue (ft)	29	104	33
Link Distance (ft)		1506	1506
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Old Bailey Rd & Bailey Park #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	520
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	3:50
End Time	5:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3833
Vehs Exited	3804
Starting Vehs	139
Ending Vehs	168
Travel Distance (mi)	5588
Travel Time (hr)	147.5
Total Delay (hr)	42.6
Total Stops	255
Fuel Used (gal)	176.1

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	3833
Vehs Exited	3804
Starting Vehs	139
Ending Vehs	168
Travel Distance (mi)	5588
Travel Time (hr)	147.5
Total Delay (hr)	42.6
Total Stops	255
Fuel Used (gal)	176.1

Intersection: 1: Old Bailey Rd West & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	29	274	586
Average Queue (ft)	3	243	264
95th Queue (ft)	18	324	611
Link Distance (ft)			1116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	175	
Storage Blk Time (%)		87	
Queuing Penalty (veh)		4	

Intersection: 2: Old Bailey Rd East & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	48	52	94
Average Queue (ft)	9	13	24
95th Queue (ft)	32	40	66
Link Distance (ft)		1363	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Bailey Park #1 & SC 170

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	95	828	63
Average Queue (ft)	31	417	19
95th Queue (ft)	67	757	45
Link Distance (ft)		1506	1506
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Old Bailey Rd & Bailey Park #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	19
95th Queue (ft)	42
Link Distance (ft)	520
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 4

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