



Sustainable Traffic Solutions

Joseph L. Henderson PE, PTOE
Traffic Engineer / Principal

June 19, 2024

Brian Pyle
Chief Executive Officer
ERC Hospitality
9150 Commerce Center Circle, Suite 135
Highlands Ranch, CO 80129

RE: Traffic Conformance Letter to Support the Construction of a 7 Brew Coffee Shop at Quincy Avenue / Picadilly Road in Aurora

Dear Brian,

Sustainable Traffic Solutions, Inc. has prepared this traffic conformance letter to support the construction of a 7 Brew Coffee shop northeast of Quincy Avenue / Picadilly Road in Aurora. This letter includes a discussion of the trip generation and a signal warrant study for Picadilly Road / Quemoy Way.

The 7 Brew Coffee shop will be located on the northeast corner of Quincy Avenue / Picadilly Road. It is expected to be completed in Year 2024. Access to the site will be through two intersections on Quincy Avenue and two on Picadilly Road. Figure 1 contains a vicinity map showing the location of the 7 Brew Coffee shop. The site layout and building configuration are shown in Figure 2. A building is planned on the south side of the site with a drive-through window and dual drive-through lanes.

The trip generation for the 7 Brew Coffee shop was estimated based on rates contained in Trip Generation, 11th Edition¹. Table 1 shows that the 7 Brew Coffee shop is expected to generate 358 trips on an average weekday, 80 trips during the morning peak hour, and 30 trips during the evening peak hour.

There are several undeveloped lots on the east and west sides of Picadilly Road that will contribute traffic to Picadilly Road / Quemoy Way. A 29,993 ft² medical clinic is planned east of Picadilly Road and is described in the Aurora Medical Clinic Traffic Impact Study². It is expected to be completed in Year 2025. Three other undeveloped lots were assumed to be developed with retail uses and have an FAR of 0.2. The trip generation for these lots is contained in Table 2.

The four-hour traffic signal warrant was evaluated at Picadilly Road / Quemoy Way based on the requirements contained in the Manual on Uniform Traffic Control Devices³. Traffic count data were collected for three hours around the morning peak hour and three hours during the evening peak hour on Thursday, February 29, 2024. Four traffic volume scenarios were evaluated including the

¹ Trip Generation, 11th Edition. Institute of Transportation Engineers. September 2021.

² Aurora Medical Clinic Traffic Impact Study. Felsburg Holt & Ullevig. July 2023.

³ Manual on Uniform Traffic Control Devices – 11th Edition. Federal Highway Administration. December 2023.

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Year 2024 volumes, the Year 2024 volumes plus 7 Brew Coffee development traffic, the Year 2025 volumes plus the 7 Brew Coffee and medical clinic development traffic, and the Year 2050 volumes plus the traffic from all of the undeveloped lots. Traffic on Picadilly Road north of Quincy Avenue was expected to grow at 1.3% per year based on [information provided by DRCOG](#).

The six hours of data for the 7 Brew and undeveloped lots were obtained from 24-hour traffic scenarios for each of the uses (see Table 3). The hourly volumes for each use were assumed based on the expected hours of operation and traffic patterns for each land use. Development scenarios were prepared using the Year 2024 traffic count data and the appropriate hourly volumes for each of the land uses. They were assigned using the trip distribution assumption that is contained in Figure 3. It is based on the direction provided by Dean Kaiser with the City of Aurora and reflects development in the area near the development site. The signal warrant analysis showed that a traffic signal is not expected to be warranted by the traffic from the 7 Brew Coffee or the 7 Brew Coffee plus the medical clinic. Traffic from the Year 2050 traffic volume scenario that includes all of the undeveloped lots is expected to warrant the traffic signal.

Please contact me with any questions.

Sincerely,



Joseph L. Henderson, PE, PTOE
Project Manager / Principal

7 Brew Coffee Traffic Letter - Quincy-Picadilly 6-17-24





7 Brew Coffee at Quincy Avenue / Picadilly Road Traffic Conformance Letter
VICINITY MAP

Scale	1" = 500'	Date	June 19, 2024	Drawn by	JLH	Job #	ERC Hospitality	Figure	1
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7 Brew Coffee at Quincy Avenue / Picadilly Road Traffic Conformance Letter
TRIP DISTRIBUTION

Scale	1" = 500'	Date	June 19, 2024	Drawn by	JLH	Job #	ERC Hospitality	Figure	3
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Table 1. Trip Generation - 7 Brew Coffee

Land Use	ITE Code ¹	Size	Unit	Average Weekday Trips				Morning Peak Hour Trips				Evening Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	938	2	Drive-Through Lanes	179.00	358	179	179	39.81	80	40	40	15.08	30	15	15

Table 2. Trip Generation - Other Land Uses

Land Use	ITE Code ¹	Size	Unit	Average Weekday Trips				Morning Peak Hour Trips				Evening Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Medical Clinic ²	630	29.993	1,000 ft ²	37.60	1,128	564	564	2.75	82	67	16	3.69	111	33	77
Strip Retail Plaza (<40k) (Undeveloped Sites on the West Side of Picadilly) ³	822	27.8	1,000 ft ²	54.45	1,512	756	756	2.36	66	39	26	6.59	183	91	91
Strip Retail Plaza (<40k) (Undeveloped Site on the East Side of Picadilly) ⁴	822	11.8	1,000 ft ²	54.45	641	320	320	2.36	28	17	11	6.59	78	39	39

Notes

1. The trip generation rates were obtained from [Trip Generation, 11th Edition](#) (Institute of Transportation Engineers, 2021).
2. The land use was obtained from [Aurora Medical Clinic Traffic Impact Study](#) (Felsburg Holt & Ullevig, July 2023)
3. Two undeveloped lots exist on the west side of Picadilly Road and south of Oxford Avenue. The area of the lots was obtained from ArapaMAP. A 20% FAR was assumed.
4. One undeveloped lot exists on the east side of Picadilly Road and south of Quemoy Way. The area of the lot was obtained from ArapaMAP. A 20% FAR was assumed.

Table 3. 24-Hour Volume Scenarios for the Undeveloped Lots

Time of Day	7 Brew Coffee (Open 5:00 AM to 10:00 PM)				Medical Clinic (Open 24-Hours Per Day)				Retail West of Picadilly (Open 6:00 a.m. to 8:00 p.m.)				Retail East of Picadilly (Open 6:00 a.m. to 8:00 p.m.)			
	Hourly Total	% of Daily Traffic	Inbound	Outbound	Hourly Total	% of Daily Traffic	Inbound	Outbound	Hourly Total	% of Daily Traffic	Inbound	Outbound	Hourly Total	% of Daily Traffic	Inbound	Outbound
12:00 AM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
1:00 AM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
2:00 AM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
3:00 AM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
4:00 AM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
5:00 AM	36	10%	18	18	43	4%	21	21	0	0%	0	0	0	0%	0	0
6:00 AM	54	15%	27	27	43	4%	34	9	106	7%	53	53	45	7%	22	22
7:00 AM	80	22%	40	40	82	7%	66	16	66	4%	33	33	28	4%	14	14
8:00 AM	54	15%	27	27	43	4%	34	9	106	7%	53	53	45	7%	22	22
9:00 AM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
10:00 AM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
11:00 AM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
12:00 PM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
1:00 PM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
2:00 PM	8	2%	4	4	43	4%	21	21	106	7%	53	53	45	7%	22	22
3:00 PM	8	2%	4	4	43	4%	13	30	106	7%	53	53	45	7%	22	22
4:00 PM	11	3%	5	5	43	4%	13	30	106	7%	53	53	45	7%	22	22
5:00 PM	30	8%	15	15	111	10%	33	77	183	12%	91	91	78	12%	39	39
6:00 PM	14	4%	7	7	43	4%	21	21	106	7%	53	53	45	7%	22	22
7:00 PM	11	3%	5	5	43	4%	21	21	106	7%	53	53	45	7%	22	22
8:00 PM	8	2%	4	4	43	4%	21	21	0	0%	0	0	0	0%	0	0
9:00 PM	8	2%	4	4	43	4%	21	21	0	0%	0	0	0	0%	0	0
10:00 PM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0
11:00 PM	0	0%	0	0	43	4%	21	21	0	0%	0	0	0	0%	0	0

Table 4. Traffic Signal Warrant Scenarios

Development Scenarios

Time of Day	Existing Traffic - Year 2024												Existing + 7 Brew Coffee - Year 2024											
	Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
6:00 AM	10	161	5	6	176	6	26	3	18	17	4	23	10	161	16	13	176	6	26	3	18	28	4	30
7:00 AM	21	318	13	23	552	5	42	16	44	36	20	108	21	318	29	33	552	5	42	16	44	52	20	118
8:00 AM	63	368	39	16	438	8	33	7	31	38	14	75	63	368	50	23	438	8	33	7	31	49	14	82
3:00 PM	92	344	49	25	439	33	38	15	11	40	20	73	92	344	51	26	439	33	38	15	11	42	20	74
4:00 PM	76	363	55	29	535	26	33	12	36	47	24	85	76	363	57	30	535	26	33	12	36	49	24	86
5:00 PM	72	369	61	24	451	41	20	11	27	54	27	70	72	369	67	28	451	41	20	11	27	60	27	74

Development Scenarios

Time of Day	Year 2025 Background + 7 Brew Coffee Traffic + Medical Clinic - Year 2025												Year 2050 Background + All Development Traffic - Year 2050											
	Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
6:00 AM	10	165	29	21	181	6	26	3	18	31	4	32	26	314	38	27	343	19	50	3	41	40	4	37
7:00 AM	21	326	55	49	566	5	42	16	44	59	20	122	31	620	61	53	1076	13	66	16	64	64	20	126
8:00 AM	63	378	63	31	449	8	33	7	31	52	14	84	79	717	72	37	854	21	57	7	54	61	14	89
3:00 PM	92	353	56	29	450	33	38	15	11	53	20	81	108	670	65	35	856	46	53	15	28	62	20	87
4:00 PM	76	372	62	34	549	26	33	12	36	61	24	94	92	708	71	39	1043	39	48	12	53	70	24	99
5:00 PM	72	379	80	36	463	41	20	11	27	91	27	93	99	719	96	46	879	64	49	11	58	107	27	103

Development Traffic

Time of Day	7 Brew Coffee Traffic												Medical Clinic Traffic											
	Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
6:00 AM			11	7						11		7			14	9						3		2
7:00 AM			16	10						16		10			26	16						7		4
8:00 AM			11	7						11		7			14	9						3		2
3:00 PM			2	1						2		1			5	3						12		7
4:00 PM			2	1						2		1			5	3						12		7
5:00 PM			6	4						6		4			13	8						31		19

Development Traffic

Time of Day	Retail West of Picadilly Traffic												Retail East of Picadilly Traffic											
	Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
6:00 AM	16					13	13		16						9	6						9		6
7:00 AM	10					8	8		10						6	3						6		3
8:00 AM	16					13	13		16						9	6						9		6
3:00 PM	16					13	13		16						9	6						9		6
4:00 PM	16					13	13		16						9	6						9		6
5:00 PM	27					23	23		27						16	10						16		10



Traffic Signal Warrant Analysis

Project Name	7 Brew Aurora
Project/File #	ERC Hospitality
Scenario	Year 2024

Intersection Information	
Major Street Name	Picadilly Road
North/South or East/West	N/S
Speed Limit	40 mph
# of Approach Lanes	2 or more
% of Right Turn Traffic to Include	100%
Minor Street Name	Quemoy Way
# of Approach Lanes	1
% of Right Turn Traffic to Include	50%
Isolated Community < 10,000 pop	No

What Additional Warrants to Consider?	
Warrant 3, Peak Hour (A - Vol. and Delay)	No
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	No
Warrant 9, Intersection Near a Grade Crossing	No
All-Way Stop Warrant	No

Sustainable Traffic Solutions, Inc.



Year 2024 Traffic Counts

Traffic Signal Warrant Analysis

Picadilly Road (Major Street) Volume

Northbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	10	161	5	
7 - 8 AM	21	318	13	
8 - 9 AM	63	368	39	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	92	344	49	
4 - 5 PM	76	363	55	
5 - 6 PM	72	369	61	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,479	0

Southbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	6	176	6	
7 - 8 AM	23	552	5	
8 - 9 AM	16	438	8	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	25	439	33	
4 - 5 PM	29	535	26	
5 - 6 PM	24	451	41	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,833	0

Quemoy Way (Minor Street) Volume

Eastbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	26	3	18	
7 - 8 AM	42	16	44	
8 - 9 AM	33	7	31	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	38	15	11	
4 - 5 PM	33	12	36	
5 - 6 PM	20	11	27	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			423	0

Westbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	17	4	23	
7 - 8 AM	36	20	108	
8 - 9 AM	38	14	75	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	40	20	73	
4 - 5 PM	47	24	85	
5 - 6 PM	54	27	70	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			775	0



Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	7 Brew Aurora
Project/File #	ERC Hospitality
Scenario	Year 2024

Intersection Information			
Major Street (N/S Road)	Picadilly Road	Minor Street (E/W Road)	Quemoy Way
Analyzed with	2 or more approach lanes	Analyzed with	1 Approach Lane
Total Approach Volume	5312 vehicles	Total Approach Volume	1198 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	50 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

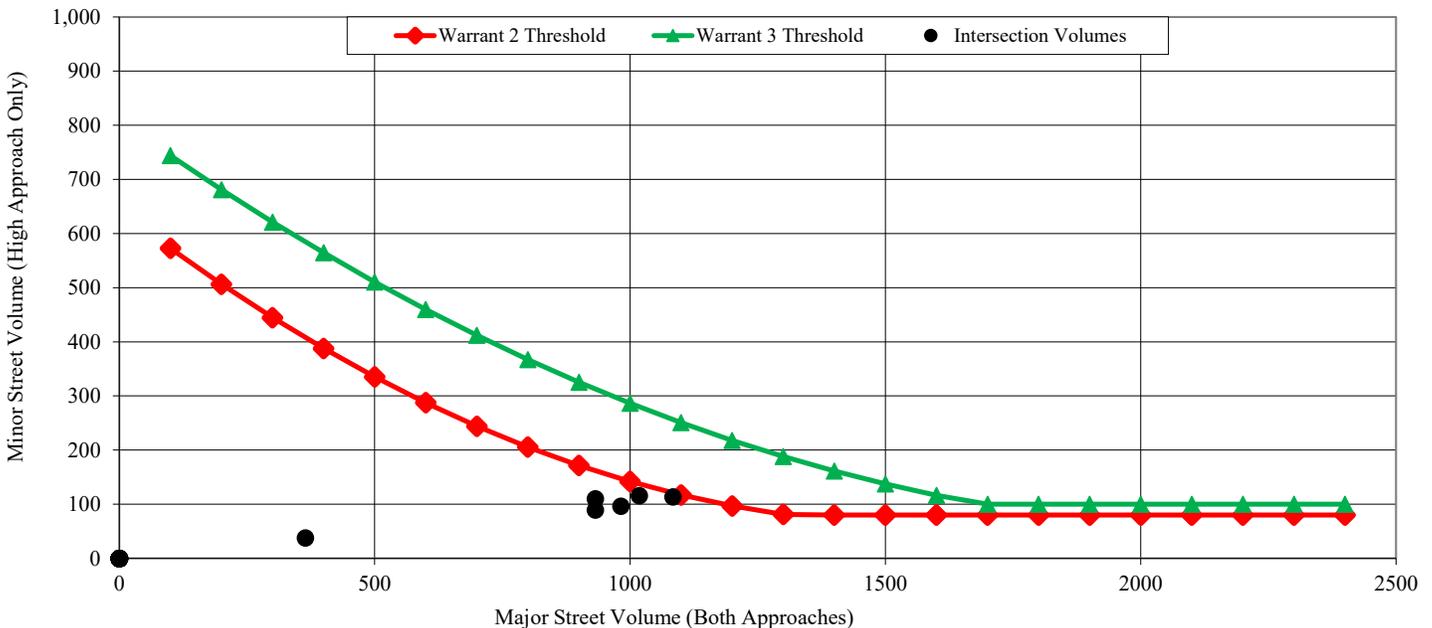
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	5 hours	0 (Cond. A) & 5 (Cond. B)
Criteria - Major Street (veh/hr)	600	900	480 (Cond. A) & 720 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Not Satisfied
Required values reached for	0 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Examined	Not Satisfied
Required values reached for		0 hours
Criteria - Total Approach Volume (veh in one hour)		See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)		
Criteria - Minor Street High Side Delay (veh-hrs)		

Figure 4C-1 (Warrant 2) & Figure 4C-3 (Warrant 3)





Traffic Signal Warrant Analysis

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2024 + 7 Brew

Intersection Information	
Major Street Name	Picadilly Road
North/South or East/West	N/S
Speed Limit	40 mph
# of Approach Lanes	2 or more
% of Right Turn Traffic to Include	100%
Minor Street Name	Quemoy Way
# of Approach Lanes	1
% of Right Turn Traffic to Include	50%
Isolated Community < 10,000 pop	No

What Additional Warrants to Consider?	
Warrant 3, Peak Hour (A - Vol. and Delay)	No
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	No
Warrant 9, Intersection Near a Grade Crossing	No
All-Way Stop Warrant	No

Sustainable Traffic Solutions, Inc.

Year 2024 Volumes + 7 Brew Coffee Traffic



Traffic Signal Warrant Analysis

Picadilly Road (Major Street) Volume

Northbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	10	161	16	
7 - 8 AM	21	318	29	
8 - 9 AM	63	368	50	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	92	344	51	
4 - 5 PM	76	363	57	
5 - 6 PM	72	369	67	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,527	0

Southbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	13	176	6	
7 - 8 AM	33	552	5	
8 - 9 AM	23	438	8	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	26	439	33	
4 - 5 PM	30	535	26	
5 - 6 PM	28	451	41	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,863	0

Quemoy Way (Minor Street) Volume

Eastbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	26	3	18	
7 - 8 AM	42	16	44	
8 - 9 AM	33	7	31	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	38	15	11	
4 - 5 PM	33	12	36	
5 - 6 PM	20	11	27	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			423	0

Westbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	28	4	30	
7 - 8 AM	52	20	118	
8 - 9 AM	49	14	82	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	42	20	74	
4 - 5 PM	49	24	86	
5 - 6 PM	60	27	74	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			853	0



Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2024 + 7 Brew

Intersection Information			
Major Street (N/S Road)	Picadilly Road	Minor Street (E/W Road)	Quemoy Way
Analyzed with	2 or more approach lanes	Analyzed with	1 Approach Lane
Total Approach Volume	5390 vehicles	Total Approach Volume	1276 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	50 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

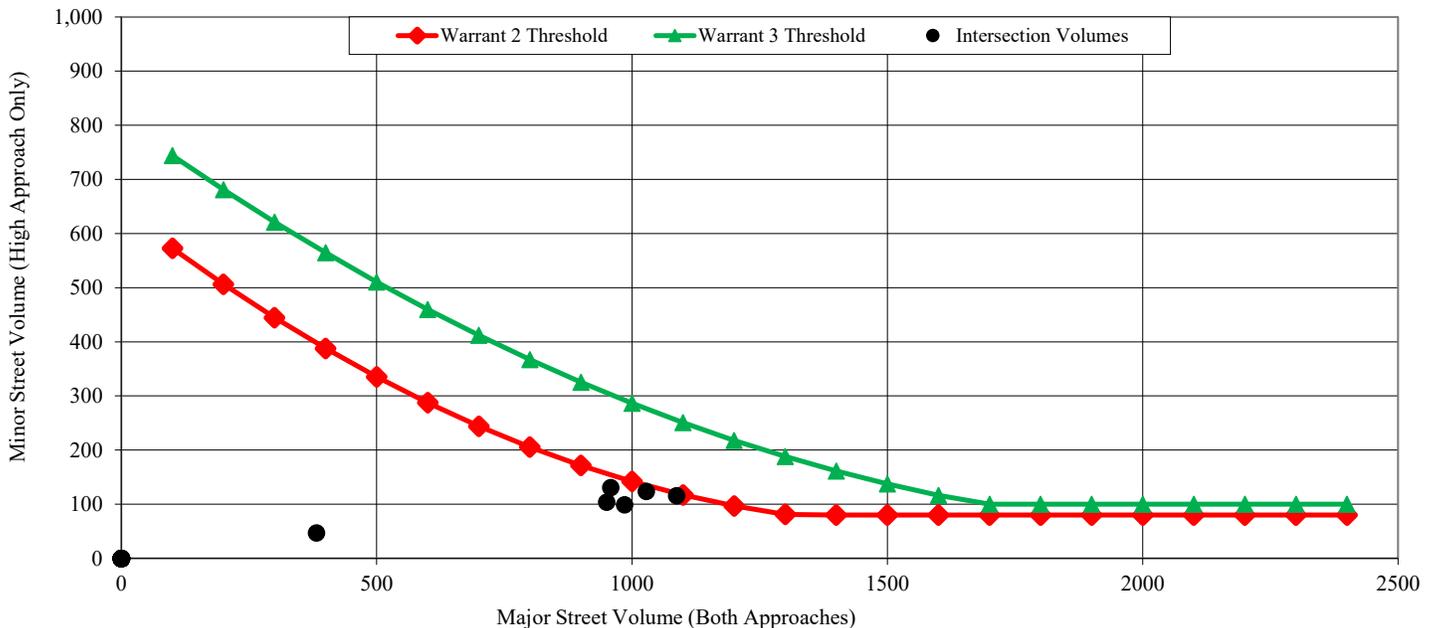
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	5 hours	2 (Cond. A) & 5 (Cond. B)
Criteria - Major Street (veh/hr)	600	900	480 (Cond. A) & 720 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Not Satisfied
Required values reached for	0 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Examined	Not Satisfied
Required values reached for		0 hours
Criteria - Total Approach Volume (veh in one hour)		See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)		
Criteria - Minor Street High Side Delay (veh-hrs)		

Figure 4C-1 (Warrant 2) & Figure 4C-3 (Warrant 3)





Traffic Signal Warrant Analysis

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2025 + 7 Brew & Medical Clinic

Intersection Information	
Major Street Name	Picadilly Road
North/South or East/West	N/S
Speed Limit	40 mph
# of Approach Lanes	2 or more
% of Right Turn Traffic to Include	100%
Minor Street Name	Quemoy Way
# of Approach Lanes	1
% of Right Turn Traffic to Include	50%
Isolated Community < 10,000 pop	No

What Additional Warrants to Consider?	
Warrant 3, Peak Hour (A - Vol. and Delay)	No
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	No
Warrant 9, Intersection Near a Grade Crossing	No
All-Way Stop Warrant	No

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Traffic Signal Warrant Analysis

Picadilly Road (Major Street) Volume

Northbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	10	165	29	
7 - 8 AM	21	326	55	
8 - 9 AM	63	378	63	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	92	353	56	
4 - 5 PM	76	372	62	
5 - 6 PM	72	379	80	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,652	0

Southbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	21	181	6	
7 - 8 AM	49	566	5	
8 - 9 AM	31	449	8	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	29	450	38	
4 - 5 PM	34	549	33	
5 - 6 PM	36	463	20	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			2,968	0

Quemoy Way (Minor Street) Volume

Eastbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	26	3	18	
7 - 8 AM	42	16	44	
8 - 9 AM	33	7	31	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	38	15	11	
4 - 5 PM	33	12	36	
5 - 6 PM	20	11	27	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			423	0

Westbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	31	4	32	
7 - 8 AM	59	20	122	
8 - 9 AM	52	14	84	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	53	20	81	
4 - 5 PM	61	24	94	
5 - 6 PM	91	27	93	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			962	0



Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2025 + 7 Brew & Medical Clinic

Intersection Information			
Major Street (N/S Road)	Picadilly Road	Minor Street (E/W Road)	Quemoy Way
Analyzed with	2 or more approach lanes	Analyzed with	1 Approach Lane
Total Approach Volume	5620 vehicles	Total Approach Volume	1385 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	50 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

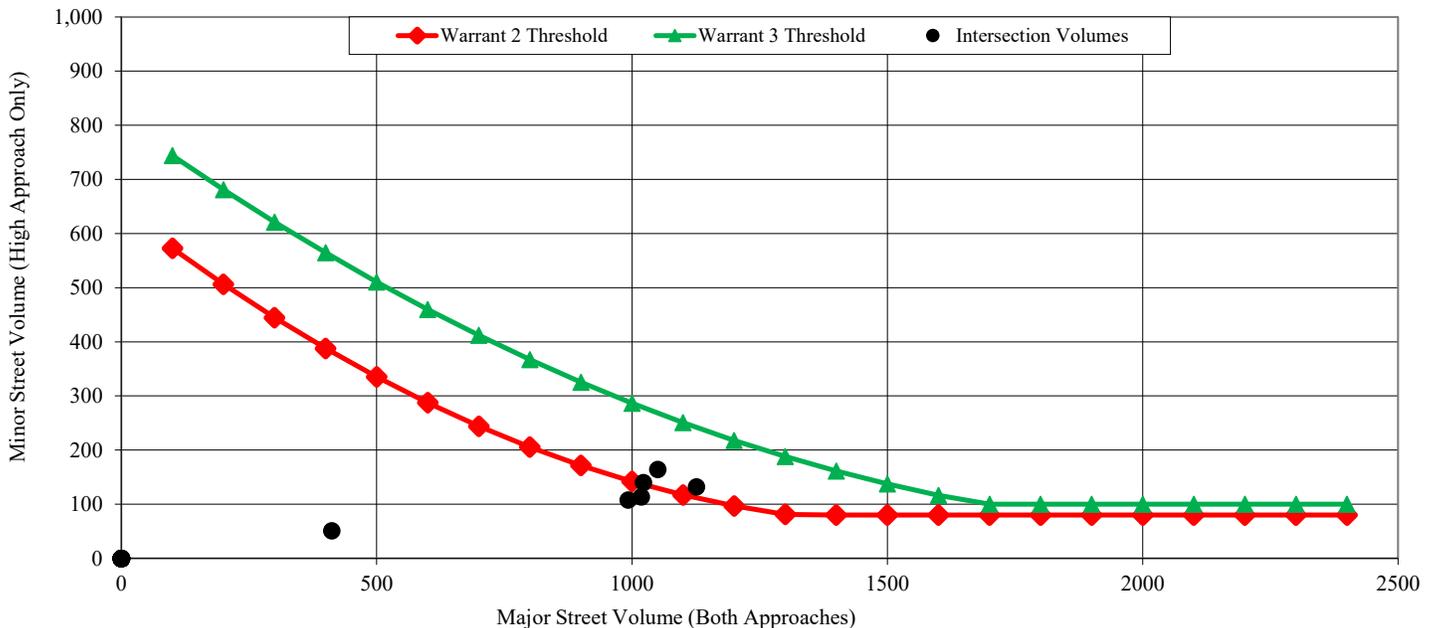
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	1 hour	5 hours	3 (Cond. A) & 5 (Cond. B)
Criteria - Major Street (veh/hr)	600	900	480 (Cond. A) & 720 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Not Satisfied
Required values reached for	3 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Examined	Not Satisfied
Required values reached for		0 hours
Criteria - Total Approach Volume (veh in one hour)		See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)		
Criteria - Minor Street High Side Delay (veh-hrs)		

Figure 4C-1 (Warrant 2) & Figure 4C-3 (Warrant 3)





Traffic Signal Warrant Analysis

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2050 + All Development

Intersection Information	
Major Street Name	Picadilly Road
North/South or East/West	N/S
Speed Limit	40 mph
# of Approach Lanes	2 or more
% of Right Turn Traffic to Include	100%
Minor Street Name	Quemoy Way
# of Approach Lanes	1
% of Right Turn Traffic to Include	50%
Isolated Community < 10,000 pop	No

What Additional Warrants to Consider?	
Warrant 3, Peak Hour (A - Vol. and Delay)	No
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	No
Warrant 9, Intersection Near a Grade Crossing	No
All-Way Stop Warrant	No

Sustainable Traffic Solutions, Inc.



Year 2050 Volumes + All Development Traffic

Traffic Signal Warrant Analysis

Picadilly Road (Major Street) Volume

Northbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	26	314	38	
7 - 8 AM	31	620	61	
8 - 9 AM	79	717	72	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	108	670	65	
4 - 5 PM	92	708	71	
5 - 6 PM	99	719	96	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			4,586	0

Southbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	27	343	19	
7 - 8 AM	53	1,076	13	
8 - 9 AM	37	854	21	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	35	856	46	
4 - 5 PM	39	1043	39	
5 - 6 PM	46	879	64	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			5,490	0

Quemoy Way (Minor Street) Volume

Eastbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	50	3	41	
7 - 8 AM	66	16	64	
8 - 9 AM	57	7	54	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	53	15	28	
4 - 5 PM	48	12	53	
5 - 6 PM	49	11	58	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			685	0

Westbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	40	4	37	
7 - 8 AM	64	20	126	
8 - 9 AM	61	14	89	
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM	62	20	87	
4 - 5 PM	70	24	99	
5 - 6 PM	107	27	103	
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			1,054	0



Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	7 Brew Coffee
Project/File #	ERC Hospitality
Scenario	Year 2050 + All Development

Intersection Information			
Major Street (N/S Road)	Picadilly Road	Minor Street (E/W Road)	Quemoy Way
Analyzed with	2 or more approach lanes	Analyzed with	1 Approach Lane
Total Approach Volume	10076 vehicles	Total Approach Volume	1739 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	50 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

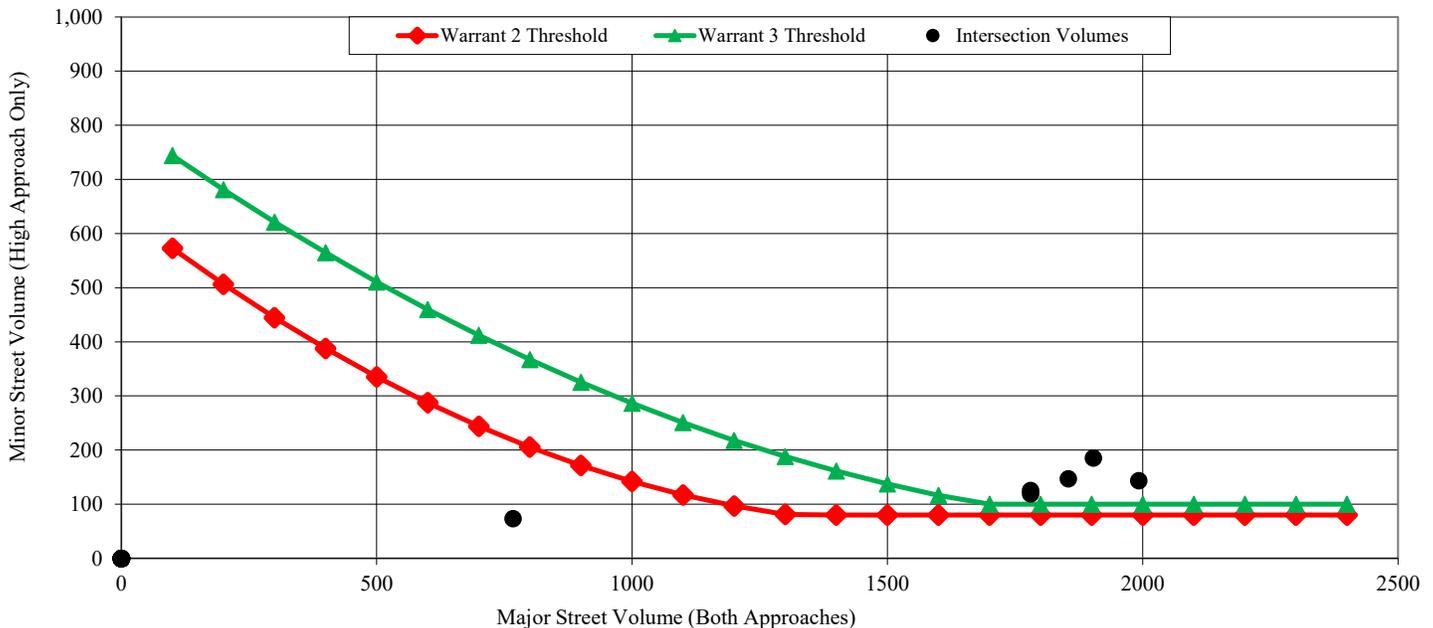
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	1 hour	5 hours	4 (Cond. A) & 6 (Cond. B)
Criteria - Major Street (veh/hr)	600	900	480 (Cond. A) & 720 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Satisfied
Required values reached for	5 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Examined	Satisfied
Required values reached for		5 hours
Criteria - Total Approach Volume (veh in one hour)		See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)		
Criteria - Minor Street High Side Delay (veh-hrs)		

Figure 4C-1 (Warrant 2) & Figure 4C-3 (Warrant 3)





Picadilly Rd / Quemoy Way
February, 29th, 2024
Peak Hour: 7:30 - 8:30
Peak 15 Minutes: 8:00 - 8:15

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Interval Start Time	S Picadilly Road Northbound				S Picadilly Road Southbound				E Oxford Avenue Eastbound				S Quemoy Way Westbound			Pedestrian Crossing					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	North	South	East	West
	6:00	0	3	31	2	0	1	17	1	0	7	0	4	0	6	0	4	76	0	1	0
6:15	0	4	28	1	0	0	38	2	0	5	2	3	0	1	2	9	95	0	0	0	0
6:30	0	1	41	0	0	3	46	2	0	9	0	9	0	4	1	4	120	0	0	0	0
6:45	1	2	61	2	0	2	75	1	0	5	1	2	0	6	1	6	165	0	0	0	0
7:00	0	2	81	0	0	7	90	1	0	9	4	7	0	11	3	15	230	0	0	0	0
7:15	0	2	82	0	0	7	89	1	0	8	3	8	0	10	2	16	228	0	0	0	0
7:30	0	8	77	7	0	4	186	1	0	13	4	14	0	7	8	38	367	0	0	0	0
7:45	0	9	78	6	0	5	187	2	0	12	5	15	0	8	7	39	373	0	0	0	0
8:00	0	21	98	11	0	6	188	2	0	14	5	15	0	9	4	43	416	0	0	0	0
8:15	0	17	94	11	0	4	90	1	0	8	0	7	0	11	2	13	258	0	0	0	0
8:30	0	16	95	12	0	5	89	0	0	8	0	6	0	12	3	14	260	0	0	0	0
8:45	0	9	81	5	0	1	71	5	0	3	2	3	0	6	5	5	196	0	0	0	0
Count Total	1	94	847	57	0	45	1166	19	0	101	26	93	0	91	38	206	2784	0	1	0	0
Peak Hour	0	55	347	35	0	19	651	6	0	47	14	51	0	35	21	133	1414	0	0	0	0
Peak Hour Factor		0.84				0.86				0.82				0.84			---	---	---	---	---

Peak Hour Inbound & Outbound Traffic

North Leg		South Leg		East Leg		West Leg	
In	Out	In	Out	In	Out	In	Out
676	527	437	737	189	68	112	82



Picadilly Rd / Quemoy Way
February, 28th, 2024
Peak Hour: 16:15 - 17:15
Peak 15 Minutes: 16:30 - 16:45

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Interval Start Time	S Picadilly Road Northbound				S Picadilly Road Southbound				E Oxford Avenue Eastbound				S Quemoy Way Westbound			Total	Pedestrian Crossing					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru		Right	North	South	East	West	
15:00	0	13	66	10	0	9	90	6	0	7	4	2	0	16	5	16	244	0	1	0	0	
15:15	0	14	41	7	0	8	122	11	0	11	2	3	0	5	3	26	253	0	0	0	0	
15:30	1	19	102	7	0	0	119	6	0	14	7	2	0	11	4	22	314	0	0	0	0	
15:45	0	46	135	25	0	8	108	10	0	6	2	4	0	8	8	9	369	0	0	0	0	
16:00	0	18	81	21	0	4	90	7	0	9	4	7	0	11	3	15	270	0	0	0	0	
16:15	0	24	108	16	0	12	129	13	0	6	3	10	0	16	3	17	357	0	0	0	0	
16:30	0	25	77	7	0	4	186	4	0	13	0	14	0	7	8	38	383	0	0	0	0	
16:45	0	9	97	11	0	9	130	2	0	5	5	5	0	13	10	15	311	0	0	0	0	
17:00	0	22	93	17	0	9	135	17	0	7	1	7	0	10	5	19	342	0	0	0	0	
17:15	0	18	84	20	0	7	112	13	0	5	3	9	0	15	8	23	317	0	0	0	0	
17:30	0	16	95	12	0	5	89	0	0	4	5	6	0	12	3	14	261	0	0	0	0	
17:45	0	16	97	12	0	3	115	11	0	4	2	5	0	17	11	14	307	0	0	0	0	
Count Total	1	240	1076	165	0	78	1425	100	0	91	38	74	0	141	71	228	3728	0	1	0	0	
Peak Hour	0	80	375	51	0	34	580	36	0	31	9	36	0	46	26	89	1393	0	0	0	0	
Peak Hour Factor		0.85				0.84				0.70				0.76				---	---	---	---	---

Peak Hour Inbound & Outbound Traffic

North Leg		South Leg		East Leg		West Leg	
In	Out	In	Out	In	Out	In	Out
650	495	506	662	161	94	76	142