

Technical Memorandum

June 6, 2022

Project# 27723

To: Ken Lenz
White Leasure Development Company
8385 W. Emerald Street
Boise, ID 83704

From: John Ringert, PE and Sam Mantsch

RE: Black Rock Coffee Queuing Analysis

Introduction

The purpose of this memorandum is to evaluate the need for a northbound right-turn lane on Eagle Road to accommodate potential vehicle queuing from a proposed Black Rock Coffee Shop to be located at the southeast corner of Eagle Road and Victory Road in Meridian, Idaho.

The coffee shop will be constructed within an existing commercial development and is planned to be approximately 1,925 square feet with a drive-through window and indoor seating. Two driveways on Eagle Road serve as direct access to the coffee shop and two driveways on Victory Road provide additional access through the parking lot of the adjacent Rite Aid. Figure 1 shows the preliminary site plan, including access locations.



Figure 1. Proposed Black Rock Coffee Shop – Eagle Road/Victory Road

The Ada County Highway District (ACHD) has requested an analysis of the vehicle queuing for the site in order to determine if the queuing from the drive-through window will be accommodated on-site or whether a northbound right-turn lane at the southern driveway on Eagle Road might be considered for additional queuing storage.

Data Collection

The findings from previously collected data at various coffee shops indicate that trip generation and queuing for coffee shops can vary significantly based on the brand, operational strategies, and amount of traffic on the adjacent roadways. Therefore, for the purpose of this analysis, data was collected at three established Black Rock coffee shops on similar type arterials to estimate the projected trip generation and queuing characteristics for the proposed site. The three sites include:

- **Chinden Boulevard & Linder Road:** This shop is on the south side of Chinden Boulevard to the west of Linder Road in a commercial development. The site includes a seating area and drive through. Based on information provided by Black Rock Coffee, this shop is approximately 1,426 square feet.
- **Ustick Road:** This shop is on the south side of Ustick Road to the east of Cloverdale Road. The site includes a seating area and drive through. Based on information provided by Black Rock Coffee, this shop is approximately 1,426 square feet.
- **Fairview Avenue:** This shop is on the south side of Fairview Avenue to the east of Milwaukee Street and west of Etheridge Lane. The site does not include any indoor seating. Based on information provided by the Ada County assessor, this shop is approximately 620 square feet.

Based on a review of the data from past studies and trip generation information in the *ITE Trip Generation Manual*, the morning peak hour represents the critical weekday time period for traffic operations analysis. Therefore, trip generation and queuing data was collected during the AM peak period of coffee shop trip generation (approximately 7:00 AM to 9:00 AM) to represent peak operations analysis.

Trip Generation

While trip generation was not the focus of this study, the trip generation of the three sample Black Rock Coffee shops was compared to the trip generation estimated for the proposed shop using the *ITE Trip Generation Manual, 11th Edition*. Table 1 shows the observed trip generation for the three example sites and the average trip generation of the three sites during the AM peak hour.

Table 1 Observed Trip Generation of Sample Black Rock Coffee Shops

Location	Estimated Size (GSF)	Weekday AM Peak Hour			Estimated AM Peak Hour Trip Rate (Trips/1,000 GSF)
		Total	In	Out	
Chinden Boulevard	1,426	104	52	52	74.33
Fairview Road (No Seating)	620	110	55	55	177.42
Ustick Road	1,426	122	61	61	84.15
Observed Average Trip Rate (Shops with Seating Area)					79.24

As shown in Table 1, the trip rates per 1,000 square feet were relatively consistent for the two sites with indoor seating, while the trip rate for the site on Fairview without indoor seating was much higher. Because the majority of the trips to each site are drive-through trips, the results indicate that additional square footage associated with the seating does not significantly impact the trip generation. Therefore, the

observed average trip rate was calculated based on the shops with indoor seating similar to the proposed shop.

The trip generation for the proposed shop was estimated based on the average trip rate in Table 1 (excludes data from site with no indoor seating). The observed trip generation rate of Black Rock Coffee Shops with indoor seating in the area was applied to the proposed 1,925 square foot coffee shop to develop an expected trip generation during the AM peak hour. Table 2 shows the proposed coffee shop is expected to generate approximately 152 trips in the AM peak hour (76 inbound / 76 outbound).

Table 2 Trip Generation For Proposed Coffee Shop Based on Sample Black Rock Coffee Shops

Location	Size (SF)	Weekday AM Peak Hour		
		Total	In	Out
Eagle Road Black Rock Coffee (Proposed)	1,925	152	76	76

The ITE Trip Generation Manual, 11th Edition estimate results in 1,030 daily trips with the critical AM peak hour generating approximately 166 trip (85 inbound / 81 outbound). Table 3 shows the estimated trip generation based on the ITE Trip Generation Manual.

Table 3 Trip Generation for Proposed Coffee Shop Based on ITE Trip Generation Manual

Land Use	ITE Code	Size (GSF)	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Coffee/Donut Shop with Drive-Through Window	937	1,925	1,030	166	85	81	75	37	38
Average Trip Rate (Trips/1,000 GSF)				86.23			38.96		

The estimated trip generation based on example Black Rock Coffee Shops was found to be approximately 8% lower than the trip generation estimate based on the *ITE Trip Generation Manual* in the weekday AM peak hour used for the analysis.

Drive Through Queuing Analysis

Drive-Through queueing data from the three Black Rock Coffee Shops was used to estimate the 95th percentile queue and maximum queue at the proposed coffee shop. Due to the drive-through trip generation not being associated with the square footage of the shop, adjacent street traffic counts were used to develop a queueing rate per 1,000 peak hour trips. Table 4 shows the 95th percentile queue and maximum observed queue at each of the example locations. Also shown in Table 4 are traffic counts obtained from ACHD.

As shown in Table 4, the maximum queues were relatively consistent between all three sites and there is no strong correlation between size of the shop and queue lengths. There is also not a strong correlation between the queue lengths and volumes on the adjacent arterial street, but the differences in adjacent street volumes and queueing were minor between the shops. This indicates that adjacent street traffic volume may be more correlated to queueing than square footage, but data from additional sites would be required to determine the level of correlation of either indicator.

Table 4 Observed Queue Lengths at Existing Black Rock Coffee Shops

Location	Estimated Size (GSF)	AM Peak Hour Adjacent Arterial Traffic Volume	95 th Percentile Queue (veh)	Maximum Observed Queue (veh)
Chinden Boulevard	1,426	1,700 (10/19/21)	8	9
Fairview Road	620	1,555 (6/15/18)	5	7
Ustick Road	1,426	1,210 (3/2/22)	7	8
Estimated Queue Length per 1,000 vph in AM Peak		1,490	4.5	5.3

Based on the existing traffic counts on Eagle Road, year 2030 traffic volumes were estimated and used to predict the 95th percentile queue and maximum queue for the proposed shop in 2030. Table 5 shows the results.

Table 5 Estimated Queue Lengths at Proposed Coffee Shop

Location	Estimated Size (GSF)	AM Peak Hour Adjacent Arterial Traffic Volume	Estimated 95 th Percentile Queue Existing / 2030 (veh)	Estimated Maximum Queue Existing / 2030 (veh)
Eagle Road	1,925	1,365 (7/21/20) ¹ 1,665 (Est 2030) ²	7 / 8	8 / 9

1. Volume based on 2020 traffic count north of Easy Jet Drive
2. 2030 Volume based on 2.0%/year traffic growth

Based on the results in Table 5, a projected 95th percentile queue of 8 vehicles is recommended and a maximum queue of 9 vehicles is recommended for use as the design queue in for the new shop proposed on Eagle Road.

Order Kiosk Queuing at Arrival

As part of the data collection, data was gathered on the queue back from the order kiosk at Chinden Boulevard and Ustick Road shops. The Fairview Shop did not have an advanced order kiosk. The reason for collecting arrival queue data at the order kiosk is to capture instances of multiple vehicles queue at the order kiosk even though there may not be a queue between the order kiosk and the pick-up window. Those observations found that the maximum queue that developed in back of the order kiosks was 6 vehicles with a 95th percentile queue of 5 vehicles. Therefore, it is recommended that the design also account for 6 vehicles of queueing back from the order kiosk.

Proposed Site Plan Queuing Evaluation

Figure 2 illustrates the recommended design queue on the proposed site plan. The site plan includes a total drive-through storage distance of approximately 210' which will accommodate approximately 8 vehicles assuming an effective vehicle length of 25'. There is approximately 115' of drive-through storage from the order kiosk which will accommodate approximately 4 vehicles. This indicates that the proposed drive-through will accommodate the projected 95th percentile queue. But during a maximum queue event or a time period where a group of vehicles arrive at the order Kiosk, one vehicle will queue in the parking lot area.

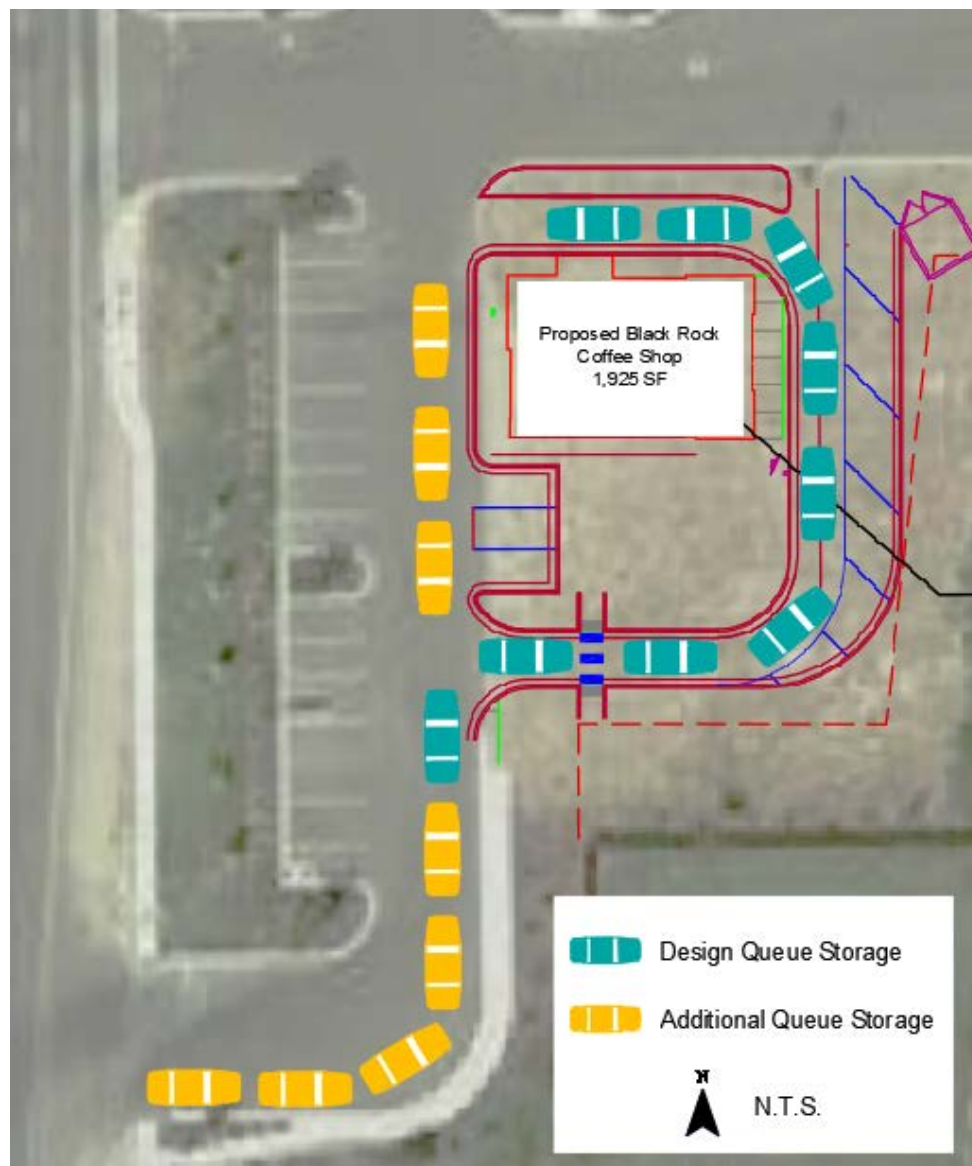


Figure 2 Queuing Storage Available

Additionally, there is approximately 125' of distance between the drive-through entry lane and the southern driveway on Eagle Road which could accommodate another 6 vehicles before reaching Eagle Road.

While stacking vehicles beyond the drive-through storage lane during the maximum queuing event will have impacts to parking accessibility, the additional distance to Eagle Road provides a buffer to ensure vehicle queues don't extend onto Eagle Road. There is also an additional 75' storage area to the north of the drive thru lane that can accommodate 3 vehicles if drive-through customers decide to enter from one of the other development access driveways.

Based on this analysis, the queue storage provided in the site plan is expected to be sufficient to support the projected maximum queue (9 vehicles) during the critical AM peak hour. Therefore, we do not recommend a northbound right-turn lane on Eagle Road be installed for the purpose of addressing queue spillback from the proposed Black Rock Coffee Shop.

Operational Observations

While the site plan is expected to accommodate the recommended queue storage for the drive-through, on-site observations indicate that the drive-through queues may be influenced by the coffee shop service time and operations. The two most common elements observed that resulted in increased queues were the following:

- **Extended service time for a single customer order:** There were observations in which the service time for a vehicle arriving when no queue was present took over 6 minutes. During that time, a queue of 6-7 vehicles can occur, thus reaching the maximum queue behind the single vehicle. There may be options for customers with orders that require extended time to be directed out of pick-up window line to park and wait for their order to be hand-delivered, such that they don't delay other vehicles behind them.
- **Multiple vehicles arriving at the order window:** There were observations when 4-5 vehicles arrived within a couple minutes and queued back from the order kiosk, while no vehicles were queued between the order kiosk and the pick-up window. Both the Chinden Boulevard shop and Ustick Road shop utilized employees to go out and take orders manually to minimize the service time, but this was observed to occur only after a significant queue had developed. The process of having a person take orders seemed to reduce the service times and reduce queuing. Responding with an employee to take orders quickly when multiple vehicles arrive could reduce maximum queues and we recommend implementation of this practice at this proposed Black Rock Coffee Shop.

Summary

Based on an evaluation of the trip generation and queueing data from three existing Black Rock Coffee shops in similar arterial locations, the maximum queue length for the proposed Eagle Road Black Rock Coffee shop is projected to be approximately 9 vehicles during the weekday AM peak hour. The site plan shows a drive through lane that can store approximately 8 vehicles. Additionally, there is available storage for 6 additional vehicles between the southern driveway on Eagle Road and the drive-through lane. Therefore, no on-site mitigation is recommended to accommodate queuing vehicles from the Black Rock Coffee Shop, and a northbound right-turn lane on Eagle Road is not recommended to accommodate potential queue spillback onto Eagle Road.

Even though site plan changes or adding a turn lane on Eagle Road are not required to accommodate on-site queuing, we recommend that store management incorporate operational strategies to reduce the impacts of a single vehicle with a long service time and increase order efficiency when multiple vehicles arrive at the order kiosk.

We trust that the information provided herein adequately addresses the question from ACHD regarding the need for a turn lane on Eagle Road to accommodate queueing from the Black Rock Coffee Shop. Please contact us if you have any questions or need any additional information.

Attachments:

- A. Existing Site Traffic Counts & Queuing Estimates.
- B. Roadway volumes



Attachment A

CHINDEN BLACKROCK COFFEE DATA COLLECTION

arrive	depart	Time Arrival	Time Depart	Process time	Total Queue at Departure	Queue from Kiosk at Arrival	Park & Walk in obs	Total Queue at Arrival (Calculated)	Queue at Departure Including Departing Vehicle (Calculated)
Start	Start	6:50:00	6:50:00						
0:01:51	0:04:50	6:51:51	6:54:50	0:02:59	1			1	2
0:04:00	0:10:20	6:54:00	7:00:20	0:06:20	4			2	4
0:07:01	0:12:12	6:57:01	7:02:12	0:05:11	3			2	3
0:07:43	0:13:40	6:57:43	7:03:40	0:05:57	2			3	2
0:08:50	0:15:20	6:58:50	7:05:20	0:06:30	2			4	2
0:14:12	0:16:59	7:04:12	7:06:59	0:02:47	2			2	2
0:16:04	0:18:43	7:06:04	7:08:43	0:02:39	1			2	1
0:21:20	0:25:14	7:11:20	7:15:14	0:03:54	6	1		1	6
0:21:26	0:27:37	7:11:26	7:17:37	0:06:11	8	1		2	8
0:24:00	0:28:08	7:14:00	7:18:08	0:04:08	7	2		3	7
0:24:10	0:28:19	7:14:10	7:18:19	0:04:09	6	2		4	6
0:24:20	0:29:26	7:14:20	7:19:26	0:05:06	6	3		5	6
0:24:51	0:30:43	7:14:51	7:20:43	0:05:52	6	3	1	6	6
0:26:50	0:31:50	7:16:50	7:21:50	0:05:00	5	2		6	5
0:27:05	0:32:00	7:17:05	7:22:00	0:04:55	5	3		7	4
0:27:09	0:33:31	7:17:09	7:23:31	0:06:22	4	4		8	4
0:29:06	0:35:19	7:19:06	7:25:19	0:06:13	3	3		6	3
0:30:20	0:36:18	7:20:20	7:26:18	0:05:58	2	2	1	6	2
0:32:12	0:38:08	7:22:12	7:28:08	0:05:56	2	1	1	4	2
0:36:34	0:39:30	7:26:34	7:29:30	0:02:56	2	1		2	3
0:38:20	0:40:17	7:28:20	7:30:17	0:01:57	1	1	1	2	2
0:39:00	0:42:50	7:29:00	7:32:50	0:03:50	2	1		3	2
0:40:50	0:44:02	7:30:50	7:34:02	0:03:12	2	1		2	2
0:43:28	0:44:58	7:33:28	7:34:58	0:01:30	1	1		2	1
0:45:42	0:47:33	7:35:42	7:37:33	0:01:51	1	1		1	1
0:49:40	0:51:01	7:39:40	7:41:01	0:01:21	1	1		1	1
0:54:17	0:56:15	7:44:17	7:46:15	0:01:58	1	1	1	1	1
0:56:16	0:59:01	7:46:16	7:49:01	0:02:45	1	1		1	1
1:01:09	1:05:45	7:51:09	7:55:45	0:04:36	3	1		1	3
1:01:45	1:07:38	7:51:45	7:57:38	0:05:53	6	2		2	6
1:03:19	1:09:56	7:53:19	7:59:56	0:06:37	9	2	1	3	9
1:05:52	1:11:42	7:55:52	8:01:42	0:05:50	9	1		3	9
1:06:48	1:13:11	7:56:48	8:03:11	0:06:23	8	1	1	4	8
1:06:58	1:14:03	7:56:58	8:04:03	0:07:05	7	2		5	8
1:07:07	1:15:27	7:57:07	8:05:27	0:08:20	7	3	1	6	7
1:07:52	1:16:09	7:57:52	8:06:09	0:08:17	6	3	1	6	6
1:09:10	1:16:14	7:59:10	8:06:14	0:07:04	5	4		7	5
1:09:20	1:16:28	7:59:20	8:06:28	0:07:08	5	5	1	8	4
1:09:42	1:17:47	7:59:42	8:07:47	0:08:05	4	6	1	9	4
1:11:33	1:19:00	8:01:33	8:09:00	0:07:27	4	6		9	4
1:14:02	1:20:18	8:04:02	8:10:18	0:06:16	5	2		8	5
1:17:16	1:21:40	8:07:16	8:11:40	0:04:24	6	1	1	4	5
1:18:37	1:26:16	8:08:37	8:16:16	0:07:39	9	1		4	8
1:19:34	1:27:24	8:09:34	8:17:24	0:07:50	9	1		4	8
1:19:38	1:28:03	8:09:38	8:18:03	0:08:25	8	2		5	7
1:20:45	1:26:00	8:10:45	8:16:00	0:05:15	7	1		5	9
1:21:47	1:31:21	8:11:47	8:21:21	0:09:34	7	2		5	7
1:22:36	1:33:40	8:12:36	8:23:40	0:11:04	6	3		6	6
1:24:39	1:34:36	8:14:39	8:24:36	0:09:57	5	3		7	5
1:25:08	1:36:07	8:15:08	8:26:07	0:10:59	4	4		8	4
1:25:58	1:37:00	8:15:58	8:27:00	0:11:02	3	5	1	9	4
1:27:04	1:38:18	8:17:04	8:28:18	0:11:14	3	5		8	4
1:29:50	1:39:35	8:19:50	8:29:35	0:09:45	5	3	1	7	6
1:37:22	1:40:26	8:27:22	8:30:26	0:03:04	4	1	2	4	5
1:38:50	1:41:15	8:28:50	8:31:15	0:02:25	5	1		4	6
1:39:16	1:43:00	8:29:16	8:33:00	0:03:44	7	2		5	8
1:39:30	1:44:52	8:29:30	8:34:52	0:05:22	8	2		6	7
1:36:30	1:45:11	8:26:30	8:35:11	0:08:41	6	1		4	6
1:40:39	1:46:00	8:30:39	8:36:00	0:05:21	6	2		5	6
1:40:51	1:47:43	8:30:51	8:37:43	0:06:52	6	3		6	6
1:41:24	1:49:08	8:31:24	8:39:08	0:07:44	6	3		6	6
1:41:54	1:49:26	8:31:54	8:39:26	0:07:32	5	4		7	5
1:42:43	1:50:25	8:32:43	8:40:25	0:07:42	5	5	1	8	4
1:45:27	1:51:15	8:35:27	8:41:15	0:05:48	4	6		6	3
1:46:40	1:52:01	8:36:40	8:42:01	0:05:21	3	3	1	6	2
1:48:25	1:52:57	8:38:25	8:42:57	0:04:32	5	3		6	1
Total:				66			18		
Average:				0:05:52	4.7	2.4		4.6	4.6
Max:					9	6		9	9
95th%:						5.1		8	8

PK Walk-in

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USTICK BLACKROCK COFFEE DATA COLLECTION

arrive Start	depart Start	Time Arrival	Time Depart	Process time	Total Queue at Departure	Queue from Kiosk at Arrival	Park & Walk in obs	Total Queue at Arrival (Calculated)	Queue at Departure Including Departing Vehicle (Calculated)
0:01:26	0:03:33	6:56:26	6:58:33	0:02:07	1	3	1	1	3
0:02:00	0:06:10	6:57:00	7:01:10	0:04:10	1	5		2	6
0:02:54	0:08:40	6:57:54	7:03:40	0:05:46	1	4		3	5
0:04:25	0:09:00	6:59:25	7:04:00	0:04:35	1	3		3	4
0:04:48	0:09:24	6:59:48	7:04:24	0:04:36	2	3		4	4
0:04:49	0:10:30	6:59:49	7:05:30	0:05:41	2	3		5	3
0:04:52	0:11:20	6:59:52	7:06:20	0:06:28	3	3		6	2
0:09:07	0:12:18	7:04:07	7:07:18	0:03:11	2	3	1	4	3
0:11:28	0:13:02	7:06:28	7:08:02	0:01:34	2	3		2	3
0:11:45	0:14:48	7:06:45	7:09:48	0:03:03	2	2	1	3	2
0:12:38	0:15:36	7:07:38	7:10:36	0:02:58	1	1		3	1
0:17:19	0:22:10	7:12:19	7:17:10	0:04:51	1	3		1	3
0:20:01	0:23:38	7:15:01	7:18:38	0:03:37	1	3	1	2	3
0:21:49	0:24:10	7:16:49	7:19:10	0:02:21	1	2		3	2
0:23:02	0:25:45	7:18:02	7:20:45	0:02:43	2	2	1	3	2
0:24:40	0:26:47	7:19:40	7:21:47	0:02:07	1	1		2	2
0:26:43	0:28:52	7:21:43	7:23:52	0:02:09	1	3		2	3
0:26:54	0:29:58	7:21:54	7:24:58	0:03:04	2	2		2	2
0:28:27	0:30:54	7:23:27	7:25:54	0:02:27	1	1		3	1
0:31:01	0:34:18	7:26:01	7:29:18	0:03:17	1	7		1	7
0:31:08	0:34:54	7:26:08	7:29:54	0:03:46	2	6		2	6
0:31:22	0:36:00	7:26:22	7:31:00	0:04:38	3	5		3	5
0:31:43	0:37:12	7:26:43	7:32:12	0:05:29	3	6		4	5
0:31:58	0:38:21	7:26:58	7:33:21	0:06:23	4	7		5	5
0:32:30	0:39:25	7:27:30	7:34:25	0:06:55	5	5	1	6	4
0:34:00	0:40:00	7:29:00	7:35:00	0:06:00	3	4	2	7	4
0:36:50	0:41:40	7:31:50	7:36:40	0:04:50	3	6		5	5
0:37:28	0:42:39	7:32:28	7:37:39	0:05:11	4	6		5	6
0:39:40	0:44:00	7:34:40	7:39:00	0:04:20	3	6	2	4	5
0:40:11	0:45:39	7:35:11	7:40:39	0:05:28	3	5		4	5
0:41:07	0:46:36	7:36:07	7:41:36	0:05:29	4	4		5	5
0:41:56	0:48:19	7:36:56	7:43:19	0:06:23	4	4		5	5
0:42:04	0:48:59	7:37:04	7:43:59	0:06:55	5	9		6	4
0:45:38	0:50:09	7:40:38	7:45:09	0:04:31	2	7		5	7
0:46:00	0:51:10	7:41:00	7:46:10	0:05:10	2	7		5	7
0:47:35	0:51:47	7:42:35	7:46:47	0:04:12	2	7		5	7
0:49:12	0:52:18	7:44:12	7:47:18	0:03:06	2	6		4	6
0:49:30	0:53:04	7:44:30	7:48:04	0:03:34	3	6		5	6
0:49:52	0:54:06	7:44:52	7:49:06	0:04:14	3	5		6	5
0:50:04	0:54:30	7:45:04	7:49:30	0:04:26	3	4		7	4
0:50:40	0:55:24	7:45:40	7:50:24	0:04:44	4	3	1	7	3
0:51:39	0:56:08	7:46:39	7:51:08	0:04:29	4	2		7	2
0:52:50	0:56:49	7:47:50	7:51:49	0:03:59	2	1		6	1
0:57:14	0:58:59	7:52:14	7:53:59	0:01:45	1	3		1	3
0:57:33	1:00:00	7:52:33	7:55:00	0:02:27	2	3		2	3
0:58:32	1:01:02	7:53:32	7:56:02	0:02:30	1	3		3	3
0:59:30	1:02:23	7:54:30	7:57:23	0:02:53	1	4		3	4
1:00:44	1:03:20	7:55:44	7:58:20	0:02:36	2	4		3	5
1:01:45	1:05:30	7:56:45	8:00:30	0:03:45	2	4		3	4
1:02:22	1:06:16	7:57:22	8:01:16	0:03:54	1	3	1	4	3
1:02:45	1:07:00	7:57:45	8:02:00	0:04:15	2	2		4	2
1:03:10	1:08:56	7:58:10	8:03:56	0:05:46	2	2		5	2
1:07:07	1:09:36	8:02:07	8:04:36	0:02:29	1	1		2	1
1:09:46	1:12:20	8:04:46	8:07:20	0:02:34	1	2		1	2
1:10:13	1:14:10	8:05:13	8:09:10	0:03:57	1	4		2	4
1:13:00	1:14:20	8:08:00	8:09:20	0:01:20	1	4		2	3
1:13:01	1:15:00	8:08:01	8:10:00	0:01:59	2	4		3	4
1:13:25	1:16:43	8:08:25	8:11:43	0:03:18	3	3		4	3
1:14:27	1:18:00	8:09:27	8:13:00	0:03:33	3	6		3	6
1:14:35	1:18:30	8:09:35	8:13:30	0:03:55	3	6		4	7
1:17:19	1:19:40	8:12:19	8:14:40	0:02:21	1	7		3	7
1:17:29	1:20:04	8:12:29	8:15:04	0:02:35	2	7		4	7
1:17:50	1:20:48	8:12:50	8:15:48	0:02:58	2	6		5	6
1:17:59	1:21:30	8:12:59	8:16:30	0:03:31	3	7		6	7
1:18:06	1:22:10	8:13:06	8:17:10	0:04:04	4	6		6	6
1:18:12	1:22:33	8:13:12	8:17:33	0:04:21	5	5		7	5
1:19:36	1:24:00	8:14:36	8:19:00	0:04:24	4	7		7	7
1:19:43	1:24:43	8:14:43	8:19:43	0:05:00	5	6		7	6
1:21:11	1:26:00	8:16:11	8:21:00	0:04:49	4	7		6	6
1:21:21	1:26:17	8:16:21	8:21:17	0:04:56	4	5	1	7	5
1:23:07	1:27:21	8:18:07	8:22:21	0:04:14	4	4		5	4
1:23:27	1:28:11	8:18:27	8:23:11	0:04:44	5	3		6	3
1:23:50	1:29:08	8:18:50	8:24:08	0:05:18	5	2		7	2
1:25:55	1:29:45	8:20:55	8:24:45	0:03:50	4	1		6	1
1:31:24	1:34:04	8:26:24	8:29:04	0:02:40	1	7		1	7
1:32:08	1:36:12	8:27:08	8:31:12	0:04:04	1	7		2	7
1:32:11	1:36:40	8:27:11	8:31:40	0:04:29	2	6		3	6
1:32:55	1:37:44	8:27:55	8:32:44	0:04:49	3	6		4	6
1:33:22	1:38:00	8:28:22	8:33:00	0:04:38	4	7		5	5
1:33:35	1:38:57	8:28:35	8:33:57	0:05:22	4	8		6	8
1:34:00	1:39:00	8:29:00	8:34:00	0:05:00	5	7		7	7
1:35:20	1:39:31	8:30:20	8:34:31	0:04:11	5	6		7	6
1:36:52	1:41:00	8:31:52	8:36:00	0:04:08	5	6		6	6
1:38:19	1:41:54	8:33:19	8:36:54	0:03:35	4	6		5	6
1:38:25	1:42:00	8:33:25	8:37:00	0:03:35	5	5		6	5
1:38:48	1:43:43	8:33:48	8:38:43	0:04:55	6	5	1	7	5
1:38:52	1:44:28	8:33:52	8:39:28	0:05:36	5	5		8	5
1:40:15	1:44:50	8:35:15	8:39:50	0:04:35	2	4		6	4
1:41:32	1:45:56	8:36:32	8:40:56	0:04:24	2	3		6	3
1:42:48	1:46:00	8:37:48	8:41:00	0:03:12	2	2		5	2
1:44:06	1:47:10	8:39:06	8:42:10	0:03:04	2	2		5	2
1:46:39	1:49:48	8:41:39	8:44:48	0:03:09	1	3		2	3
1:48:25	1:50:28	8:43:25	8:45:28	0:02:03	1	3		2	3
1:48:31	1:51:30	8:43:31	8:46:30	0:02:59	2	3		3	3
1:49:58	1:52:20	8:44:58	8:47:20	0:02:22	1	5		3	5
1:50:49	1:54:10	8:45:49	8:49:10	0:03:21	1	4		3	4
1:51:50	1:55:05	8:46:50	8:50:05	0:03:15	2	4		3	4
1:51:54	1:55:51	8:46:54	8:50:51	0:03:57	3	3		4	3
1:52:00	1:56:37	8:47:00	8:51:37	0:04:37	4	3	1	5	3
1:54:22	1:58:31	8:49:22	8:53:31	0:04:09	1	2		4	2
1:55:59	1:59:50	8:50:59	8:54:50	0:03:51	1	1		3	1
Total:				101			15		
Average:				0:03:58	2.6	4.3		4.2	4.2
Max:					6	9		8	8
95th:					5			7	7

PK Walk-in
4

FAIRVIEW BLACKROCK COFFEE DATA COLLECTION

arrive	depart	Time Arrival	Time Depart	Process time	Total Queue at Departure	Queue from Kiosk at Arrival	Park & Walk in obs	Total Queue at Arrival (Calculated)	Queue at Departure Including Departing Vehicle (Calculated)
Start	Start	6:55:00	6:55:00						
0:00:00	0:01:24	6:55:00	6:56:24	0:01:24	1	1		1	1
0:07:47	0:09:58	7:02:47	7:04:58	0:02:11	1	1		1	1
0:11:40	0:13:22	7:06:40	7:08:22	0:01:42	1	1		1	1
0:14:58	0:16:45	7:09:58	7:11:45	0:01:47	1	1		1	1
0:17:52	0:19:45	7:12:52	7:14:45	0:01:53	2	2		1	3
0:18:34	0:21:06	7:13:34	7:16:06	0:02:32	2	2	1	2	2
0:18:42	0:22:13	7:13:42	7:17:13	0:03:31	3	1		3	1
0:22:48	0:24:31	7:17:48	7:19:31	0:01:43	1	3		1	4
0:22:57	0:25:47	7:17:57	7:20:47	0:02:50	2	3		2	3
0:23:16	0:27:12	7:18:16	7:22:12	0:03:56	3	4		3	4
0:23:25	0:28:56	7:18:25	7:23:56	0:05:31	4	5		4	5
0:26:51	0:30:13	7:21:51	7:25:13	0:03:22	3	5		3	5
0:26:57	0:31:32	7:21:57	7:26:32	0:04:35	4	4		4	4
0:27:16	0:32:58	7:22:16	7:27:58	0:05:42	4	3		4	3
0:28:15	0:33:32	7:23:15	7:28:32	0:05:17	5	2		5	2
0:29:13	0:34:10	7:24:13	7:29:10	0:04:57	5	1		5	1
0:34:46	0:36:15	7:29:46	7:31:15	0:01:29	1	1		1	1
0:37:46	0:39:33	7:32:46	7:34:33	0:01:47	1	2		1	2
0:38:47	0:41:05	7:33:47	7:36:05	0:02:18	2	2		2	2
0:39:51	0:43:09	7:34:51	7:38:09	0:03:18	2	5	1	2	5
0:41:48	0:43:32	7:36:48	7:38:32	0:01:44	2	7		2	4
0:42:04	0:44:40	7:37:04	7:39:40	0:02:36	3	3		3	3
0:42:33	0:45:34	7:37:33	7:40:34	0:03:01	4	2		4	2
0:42:40	0:47:08	7:37:40	7:42:08	0:04:28	5	3		5	3
0:45:50	0:49:13	7:40:50	7:44:13	0:03:23	2	3		2	3
0:46:08	0:49:21	7:41:08	7:44:21	0:03:13	3	2		3	2
0:48:12	0:49:47	7:43:12	7:44:47	0:01:35	3	1		3	1
0:52:28	0:54:15	7:47:28	7:49:15	0:01:47	1	2		1	2
0:52:36	0:55:28	7:47:36	7:50:28	0:02:52	2	2		2	2
0:54:56	0:56:49	7:49:56	7:51:49	0:01:53	2	5		2	5
0:55:33	0:58:00	7:50:33	7:53:00	0:02:27	2	5		2	5
0:55:47	0:58:05	7:50:47	7:53:05	0:02:18	3	4		3	4
0:56:11	0:58:42	7:51:11	7:53:42	0:02:31	4	3	1	4	3
0:56:15	0:59:51	7:51:15	7:54:51	0:03:36	5	4		5	4
0:57:34	1:00:27	7:52:34	7:55:27	0:02:53	5	4		5	4
0:58:52	1:01:45	7:53:52	7:56:45	0:02:53	3	3		3	3
0:58:56	1:04:05	7:53:56	7:59:05	0:05:09	4	5	1	4	5
1:00:11	1:06:06	7:55:11	8:01:06	0:05:55	4	5		4	5
1:01:59	1:06:53	7:56:59	8:01:53	0:04:54	3	4		3	4
1:02:27	1:07:27	7:57:27	8:02:27	0:05:00	4	4		4	4
1:02:47	1:08:36	7:57:47	8:03:36	0:05:49	5	4		5	4
1:04:20	1:09:11	7:59:20	8:04:11	0:04:51	5	3		5	3
1:07:13	1:09:45	8:02:13	8:04:45	0:02:32	4	2		4	2
1:07:39	1:10:42	8:02:39	8:05:42	0:03:03	4	2		4	3
1:09:52	1:14:46	8:04:52	8:09:46	0:04:54	2	5	1	2	6
1:10:49	1:15:50	8:05:49	8:10:50	0:05:01	2	4		3	7
1:10:37	1:16:00	8:05:37	8:11:00	0:05:23	3	3		3	6
1:11:05	1:16:09	8:06:05	8:11:09	0:05:04	4	5		4	5
1:11:51	1:17:23	8:06:51	8:12:23	0:05:32	5	5		5	5
1:14:42	1:17:41	8:09:42	8:12:41	0:02:59	5	4		6	4
1:15:27	1:18:00	8:10:27	8:13:17	0:02:50	5	4		6	4
1:15:35	1:18:17	8:10:35	8:14:50	0:04:15	6	3		7	3
1:16:31	1:19:50	8:11:31	8:16:00	0:04:29	6	5		5	5
1:17:43	1:21:00	8:12:43	8:18:37	0:05:54	4	4		4	4
1:19:00	1:23:37	8:14:00	8:18:40	0:04:40	3	5	1	3	5
1:19:41	1:23:40	8:14:41	8:19:10	0:04:29	4	4		4	4
1:19:46	1:24:10	8:14:46	8:20:15	0:05:29	5	4		5	4
1:22:30	1:25:15	8:17:30	8:21:17	0:03:47	5	4		4	4
1:22:34	1:26:17	8:17:34	8:23:11	0:05:37	5	5		5	5
1:24:00	1:28:11	8:19:00	8:23:37	0:04:37	4	5		4	5
1:24:40	1:28:37	8:19:40	8:25:17	0:05:37	4	5	1	4	5
1:25:52	1:30:17	8:20:52	8:25:17	0:04:25	4	4		4	4
1:26:09	1:31:02	8:21:09	8:26:02	0:04:53	5	3		5	3
1:27:39	1:32:34	8:22:39	8:27:34	0:04:55	5	2		5	2
1:28:25	1:34:00	8:23:25	8:29:00	0:05:35	5	2		5	2
1:33:18	1:35:10	8:28:18	8:30:10	0:01:52	2	1		2	1
1:35:50	1:36:59	8:30:50	8:31:59	0:01:09	1	2		1	2
1:36:51	1:38:10	8:31:51	8:33:10	0:01:19	2	1		2	2
1:37:20	1:40:23	8:32:20	8:35:23	0:03:03	2	1		2	1
1:40:46	1:42:41	8:35:46	8:37:41	0:01:55	1	3		1	3
1:41:07	1:44:56	8:36:07	8:39:56	0:03:49	2	2		2	2
1:42:00	1:45:18	8:37:00	8:40:18	0:03:18	3	1		3	1
1:48:24	1:50:53	8:43:24	8:45:53	0:02:29	1	3		1	3
1:49:39	1:53:38	8:44:39	8:48:38	0:03:59	2	4		2	4
1:50:02	1:54:59	8:45:02	8:49:59	0:04:57	3	4		3	4
1:51:21	1:55:55	8:46:21	8:50:55	0:04:34	3	5		3	5
1:51:26	1:56:55	8:46:26	8:51:55	0:05:29	4	4		4	4
1:54:12	1:57:38	8:49:12	8:52:38	0:03:26	4	4		4	4
1:55:23	1:58:40	8:50:23	8:53:40	0:03:17	4	4		4	3
1:55:35	1:58:53	8:50:35	8:53:53	0:03:18	5	5		5	2
1:56:59	1:59:45	8:51:59	8:54:45	0:02:46	4	4		4	1
Total:				81			7		
Average:				0:03:37	3.3	3.4		3.3	3.3
Max:					6	7		7	7
95th:								5	5

PK Walk-in

5

Attachment B

ACHD Counts of Adjacent Arterials

STREETS	LOCATION	CITY	DATE	24 HR COUNT	DIRECTION	AM PEAK	PM PEAK
USTICK RD	EAST OF CAN ADA RD Approach & Total	Ada County	04/25/18	3514	EB WB	249 152	146 292
USTICK RD	West of McDermott Rd Approach & Total	Ada County	02/02/22	6352	EB WB	322 490	275 321
USTICK RD	EAST OF BRYSON AVE Approach & Total	Boise	05/15/19	21805	EB WB	969 518	912 1108
USTICK RD	East of Cloverdale Rd Approach & Total	Boise	03/02/22	18107	EB WB	675 533	747 806
USTICK RD 7 Day Count	EAST OF COLE RD Classification	Boise	12/03/20	11163	EB WB	450 205	388 555

CHINDEN BLVD ITD Count	WEST OF LINDER RD Approach & Total	Meridian	10/19/21	29599	EB WB	1078 621	1130 1394
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STREETS	LOCATION	CITY	DATE	24 HR COUNT	DIRECTION	AM PEAK	PM PEAK
FAIRVIEW AVE Permanent Count	BOISE RIVER AADT	Boise	12/31/20	12121	EB WB	944 0	1016 0
FAIRVIEW AVE 1-Way Street	EAST OF 23RD ST Approach & Total	Boise	11/07/19	9158	EB WB	1053	641
FAIRVIEW AVE ITD Count	EAST OF CHINDEN BLVD Approach & Total	Boise	08/17/21	14467	EB WB	1187	1144
FAIRVIEW AVE	EAST OF CLOVERDALE RD Approach & Total	Boise	06/12/18	33316	EB WB	1079 722	978 1654
FAIRVIEW AVE	EAST OF COLE RD Approach & Total	Boise	06/27/19	31195	EB WB	961 497	1099 1235
FAIRVIEW AVE	EAST OF CURTIS RD Approach & Total	Boise	03/21/18	22615	EB WB	1124 284	538 442
FAIRVIEW AVE	EAST OF FIVE MILE RD Approach & Total	Boise	06/13/18	33313	EB WB	1124 521	1124 1513
FAIRVIEW AVE	EAST OF MILWAUKEE ST Approach & Total	Boise	08/15/18	30592	EB WB	1117 438	1079 1227

STREETS	LOCATION	CITY	DATE	24 HR COUNT	DIRECTION	AM PEAK	PM PEAK
EAGLE RD	SOUTH OF PLAZA DR Approach & Total	Eagle	10/30/18	25299	NB SB	628 773	1068 894
EAGLE RD	SOUTH OF RANCH DR Approach & Total	Eagle	08/26/20	11093	NB SB	181 333	607 352
EAGLE RD	North of Amity Rd Approach & Total	Meridian	07/21/20	12637	NB SB	527 211	399 676
EAGLE RD	North of Easy Jet Dr Approach & Total	Meridian	07/21/20	24256	NB SB	1003 364	717 1334