



TRAFFIC IMPACT STUDY

6601 COLORADO HOLDING

Commerce City, CO

PREPARED FOR:
6601 Colorado Holding, LLC

PREPARED BY:
Brian Horan, PE
Daniela Gonzalez

Galloway & Company, Inc.
5500 Greenwood Plaza Blvd, Suite 200
Greenwood Village, CO 80111

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Executive Summary

Site Location and Study Area

The property that comprises the application area for the proposed development is approximately 11.6 acres in size and is identified as Adams County Parcel Numbers 0182501400005 and 0182501400006. It is located at 6601 Colorado Boulevard in Commerce City, Colorado. It is zoned Agricultural District (AG) and is currently occupied by a light industrial and residential use.

The study area is generally bounded by Colorado Boulevard to the east, Burlington Ditch to the west, and property lines to the north and south. The study area for the project includes those intersections identified that could be affected by the proposed development:

- 68th Avenue/Colorado Boulevard
- 64th Avenue/Colorado Boulevard
- Proposed Site Accesses

Description of Proposed Development

The Applicant, 6601 Colorado Holding, LLC seeks to develop the property with a general light industrial use. Site access is being proposed via two full movement accesses on Colorado Boulevard.

Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the intersections within the study area currently operate at overall acceptable levels of service (LOS) “C” or better during the weekday AM and PM peak hours.
- Under background future 2024 and 2044 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth.
- The proposed site development would generate, upon completion and full occupancy, 24 new weekday AM and 17 new weekday PM peak hour vehicle trips as well as 163 new weekday daily trips.
- Under total future traffic conditions with development of the site, study intersections would continue to operate at acceptable LOS “C” consistent with background conditions.
- Under total future traffic conditions with development of the site, all forecasted queues would be contained within their effective storage.

Recommendations

- The Applicant should provide access consistent with the site plan contained herein.

I. Introduction

Overview

This report presents the results of a Traffic Impact Study (TIS) conducted in support of a site plan to develop an industrial use in Commerce City, Colorado. Currently, the site is zoned Agricultural District (AG) and is occupied by a light industrial and residential use.

The Applicant, 6601 Colorado Holding, LLC seeks to rezone the property from Agricultural District (AG) to either Medium-Intensity Industrial District (I-2) or Heavy-Intensity Industrial District (I-3). Per the requirements of the City of Commerce City Engineering Construction Standards and Specifications, Section 5.02, a TIS is required for "A rezoning application or for the application for annexation into the City".

Site Location and Study Area

The property that comprises the application area for the proposed development is approximately 11.6 acres in size and is identified as Adams County Parcel Numbers 0182501400005 and 0182501400006. It is located at 6601 Colorado Boulevard in Commerce City, Colorado as shown on Figure 1-1. Site access is being proposed via two full movement accesses on Colorado Boulevard.

The Applicant, 6601 Colorado Holding, LLC seeks to develop the property with a general light industrial use. A reduction of the Applicant's proposed conceptual site plan is provided on Figure 1-2. A full-size copy of the plan is provided in Appendix A.

The study area is generally bounded by Colorado Boulevard to the east, Burlington Ditch to the west, and property lines to the north and south.

Tasks undertaken in the course of this study included the following:

1. Reviewed the Applicant's proposed development plans and other background data.
2. Conducted a virtual field reconnaissance of existing roadway and intersection geometries, traffic controls, and speed limits.
3. Conducted peak hour turning movement counts at the key intersections.
4. Analyzed existing levels of service at each of the key study intersections based on the methodologies set forth in the Highway Capacity Guidelines (HCM) 6th Edition as reported by Synchro version 11.
5. Forecasted background future traffic volumes based on baseline traffic counts and regional traffic growth for build-out (2024), and long-range (2044) conditions.
6. Calculated background levels of service at each of the key study intersections for the projected build-out years based on background future traffic forecasts, and the existing lane use and traffic controls.
7. Estimated the number of AM and PM peak hour trips that would be generated by the proposed use based on the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition rates/equations and methodologies.

8. Prepared AM and PM peak hour total future traffic forecasts based on background traffic forecasts plus site traffic assignments for the 2024 (buildout year) as well as 2044 (long range) conditions.
9. Calculated total future levels of service for each of the key study intersections based on projected total future traffic forecasts, existing/future traffic controls and intersection geometries.
10. Identified roadway improvements required to accommodate future traffic volumes as necessary.

Sources of data for this analysis included the ITE, HCM 6th, 6601 Colorado Holding, LLC, Commerce City, Colorado, and the files/library of Galloway.

Site Description and Access

Site Conditions

The terrain proximate to and surrounding the site is generally classified as "level".

Hazardous Conditions

Based on the field reconnaissance in the vicinity of the subject site, no hazardous features or constraints were identified.

Proposed Site Access

Access to the site is being proposed via two existing full movement accesses on Colorado Boulevard.

Existing Zoning

The subject site is currently zoned Agricultural District (AG) and is currently occupied by a light industrial and residential use. Figure 1-3 depicts the existing zoning associated with the subject property, as well as neighboring properties as shown on the Commerce City zoning map.

Nearby Uses

The properties surrounding the subject site are generally industrial uses to the north and south, and residential uses to the east.

Comprehensive Plan Land Use Recommendations for the Property

According to the Commerce City Comprehensive Plan the future land use planned for the subject site is General Industrial. Primary uses include medium intensive and heavy-industrial uses. Secondary uses include flex space, warehousing, outdoor storage, open space, and other public uses and facilities. The proposed use is in conformance with the Comprehensive Plan.

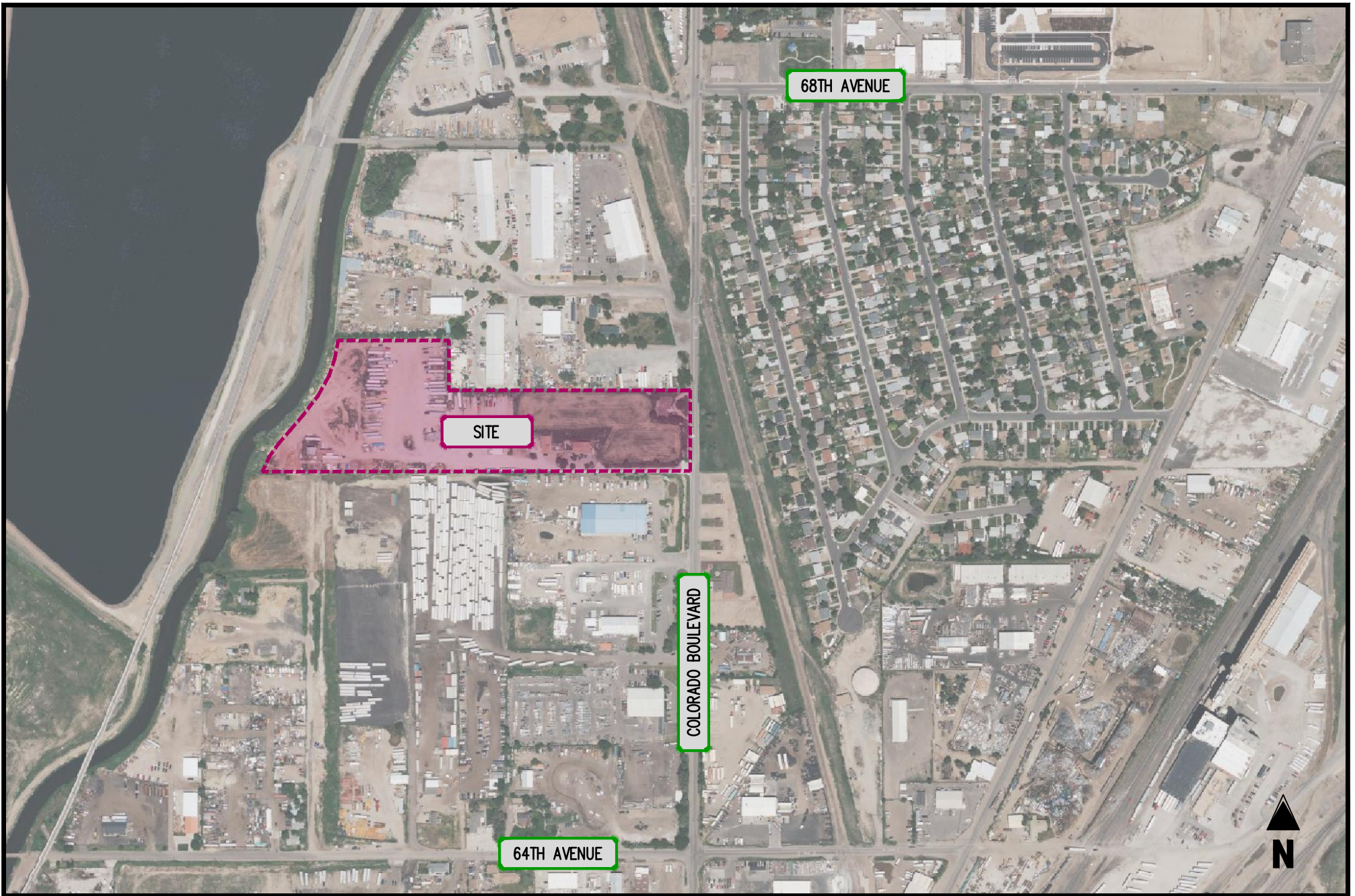


FIGURE 1-1
SITE LOCATION



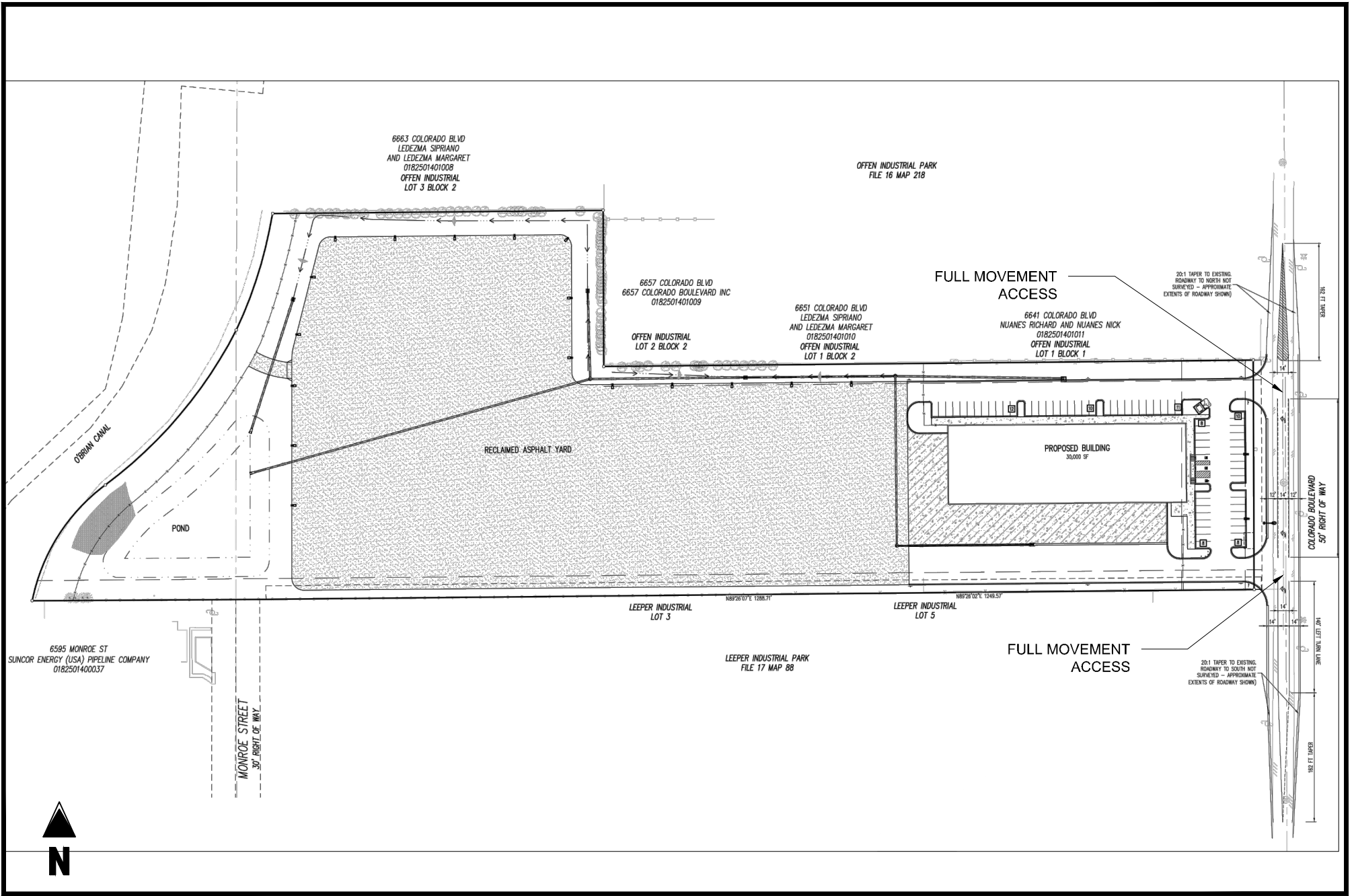


FIGURE 1-2
SITE PLAN

6601 COLORADO HOLDING, LLC
COMMERCIE CITY, CO



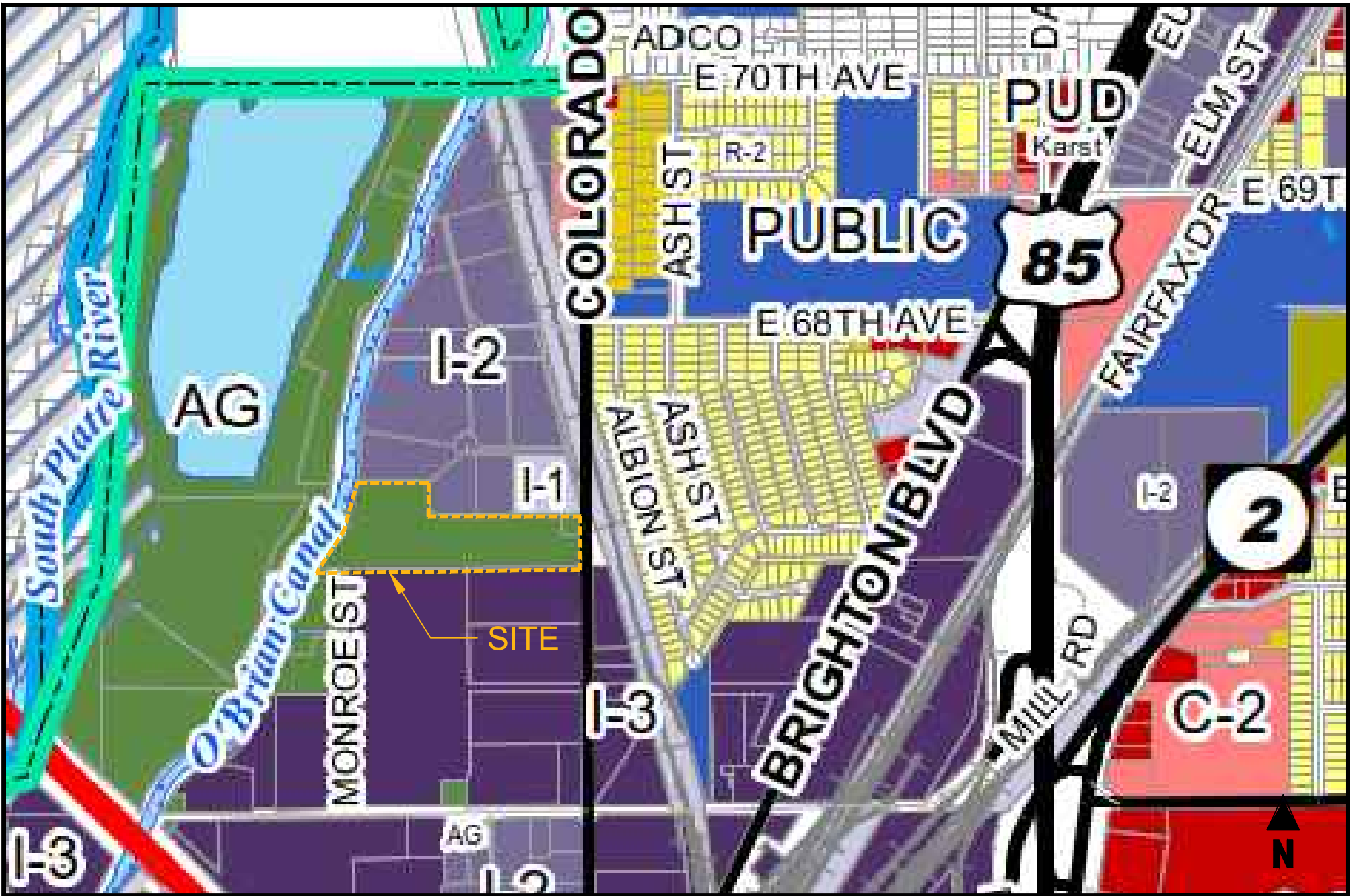


FIGURE 1-3
EXISTING ZONING



II. Background Information

Study Area

The study area was determined by a review of intersections that would experience a significant portion of turning movement volumes generated by the site. As such, the traffic study focuses primarily on the following intersections:

Study Intersections

- 68th Avenue/Colorado Boulevard
- 64th Avenue/Colorado Boulevard
- Proposed Site Accesses

Study Assumptions

For purposes of this analysis only, the proposed use is assumed to be built and occupied in one distinct phase. It was assumed that the use would be built and operational in study year 2024. As required by Commerce City, a long-term analysis of 2044 is also provided.

Study Methodology

Synchro software version 11 was used to evaluate levels of service at each of the study intersections during the weekday AM and PM peak hours. Synchro is a macroscopic model used for optimizing traffic signal timing and performing capacity analyses. The software can model existing traffic signal timings or optimize splits, offsets, and cycle lengths for individual intersections, an arterial, or a complete network. Synchro allows the user to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings as well as optimize traffic signal timings.

The levels of service reported for the study intersections analyzed herein were taken from the Highway Capacity Manual (HCM) 6th reports generated by Synchro 11. Level of service descriptions are included in Appendix B.

Existing Roadway Network

Regional and local access to the subject site is provided via Colorado Boulevard. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site. The following provides a description of the roadway within the study network.

Colorado Boulevard

Colorado Boulevard is constructed as a two-lane undivided section with a posted speed limit of 35 mph in the vicinity of the subject site. The city of Commerce City classifies the roadway as a Major Collector. The intersections with 68th Avenue and 64th Avenue operate under stop control.

Assumed Improvements

No funded/programmed roadway improvements were identified at the study intersections.

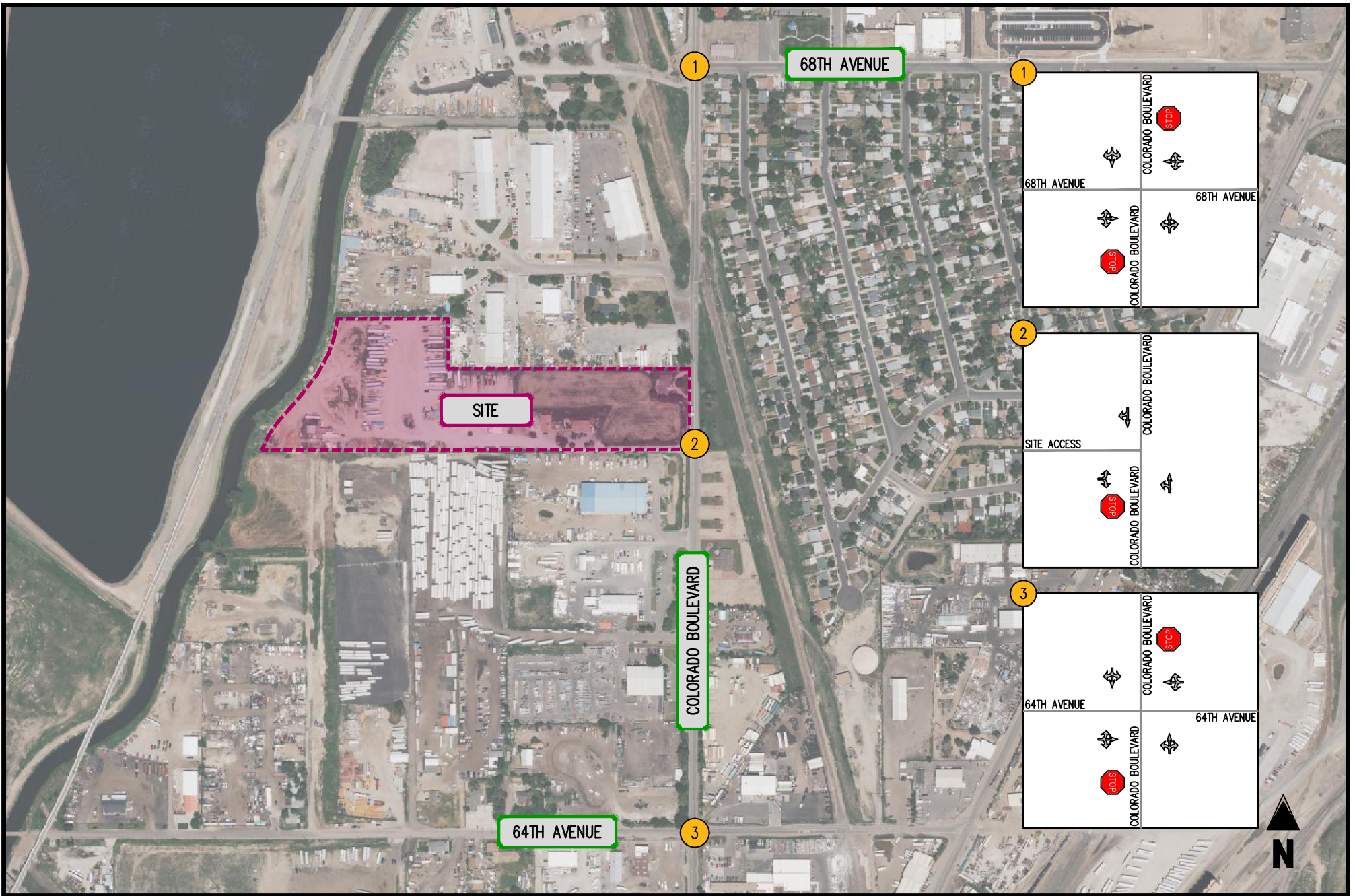
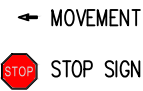


FIGURE 2-1
EXISTING LANE USE AND TRAFFIC CONTROL



III. Analysis of Existing Conditions

Traffic Volumes

Weekday AM and PM peak hour traffic volumes counts were conducted on Thursday September 1, 2022, from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM at the study intersections by IDAX Data Solutions.

Based on a review of the intersection volumes, for purposes of this study, the peak hour of each intersection was selected in order to provide a conservative analysis.

The existing volumes are summarized on Figure 3-1. Copies of traffic counts are included in Appendix C. Existing peak hour factors (PHF) were also computed by approach from the traffic counts and applied to the analysis with a minimum of 0.85 and a maximum of 0.92.

Operational Analysis

Capacity/level of service analyses were conducted at the study intersections based on the existing lane use and traffic controls shown on Figure 2-1 and existing baseline vehicular traffic volumes shown on Figure 3-1. The capacity analysis results are presented in Appendix D and summarized in Table 3-1 and on Figure 3-2.

As shown in Table 3-1, the study intersections, currently operate at overall acceptable LOS "C" or better during the weekday peak hours.

Existing Intersection Queues

An analysis of intersection 95th-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 3-2.

As shown in the table, the existing queues are contained within the effective storage within the study area.

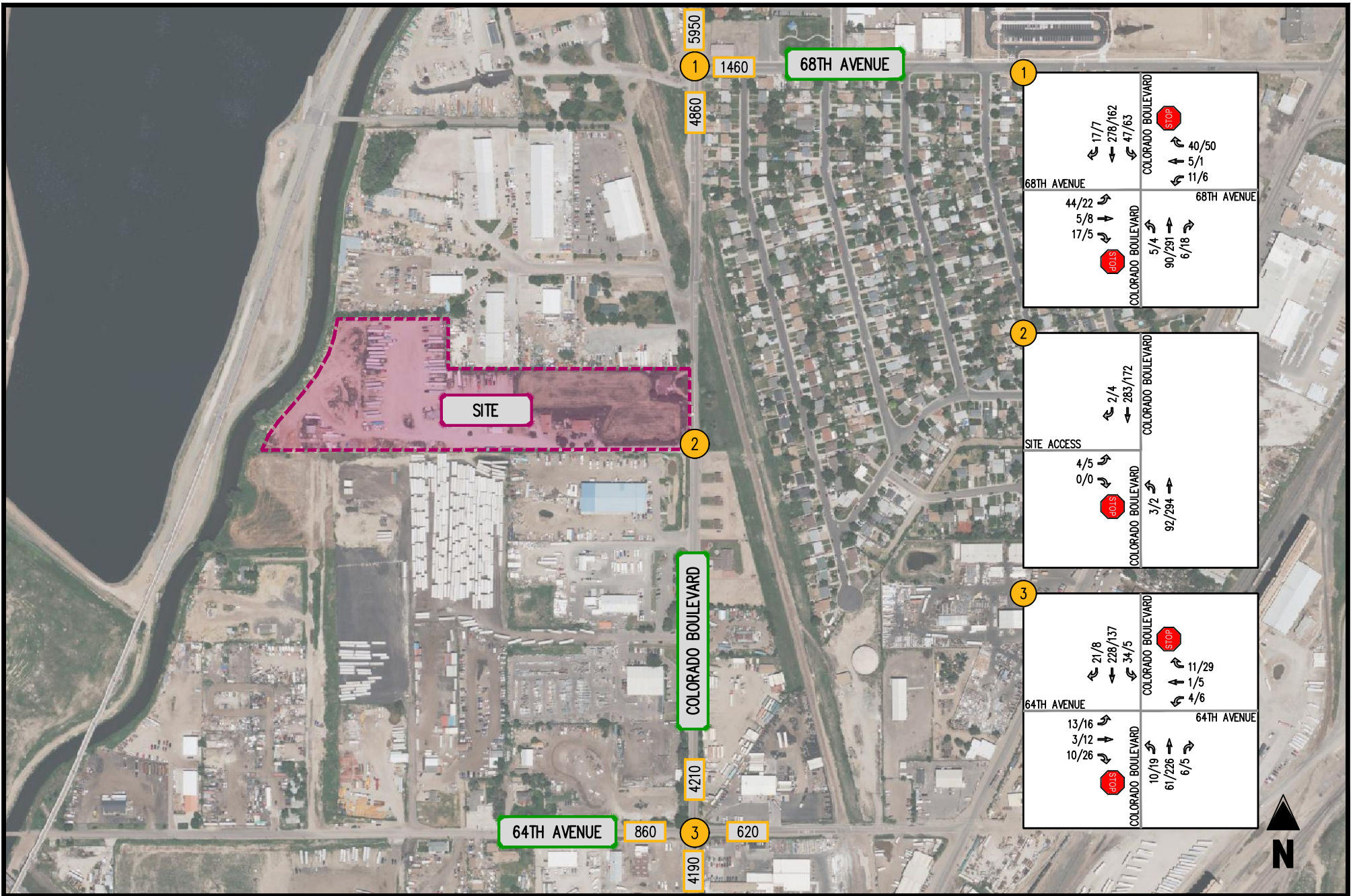


FIGURE 3-1
EXISTING VOLUMES



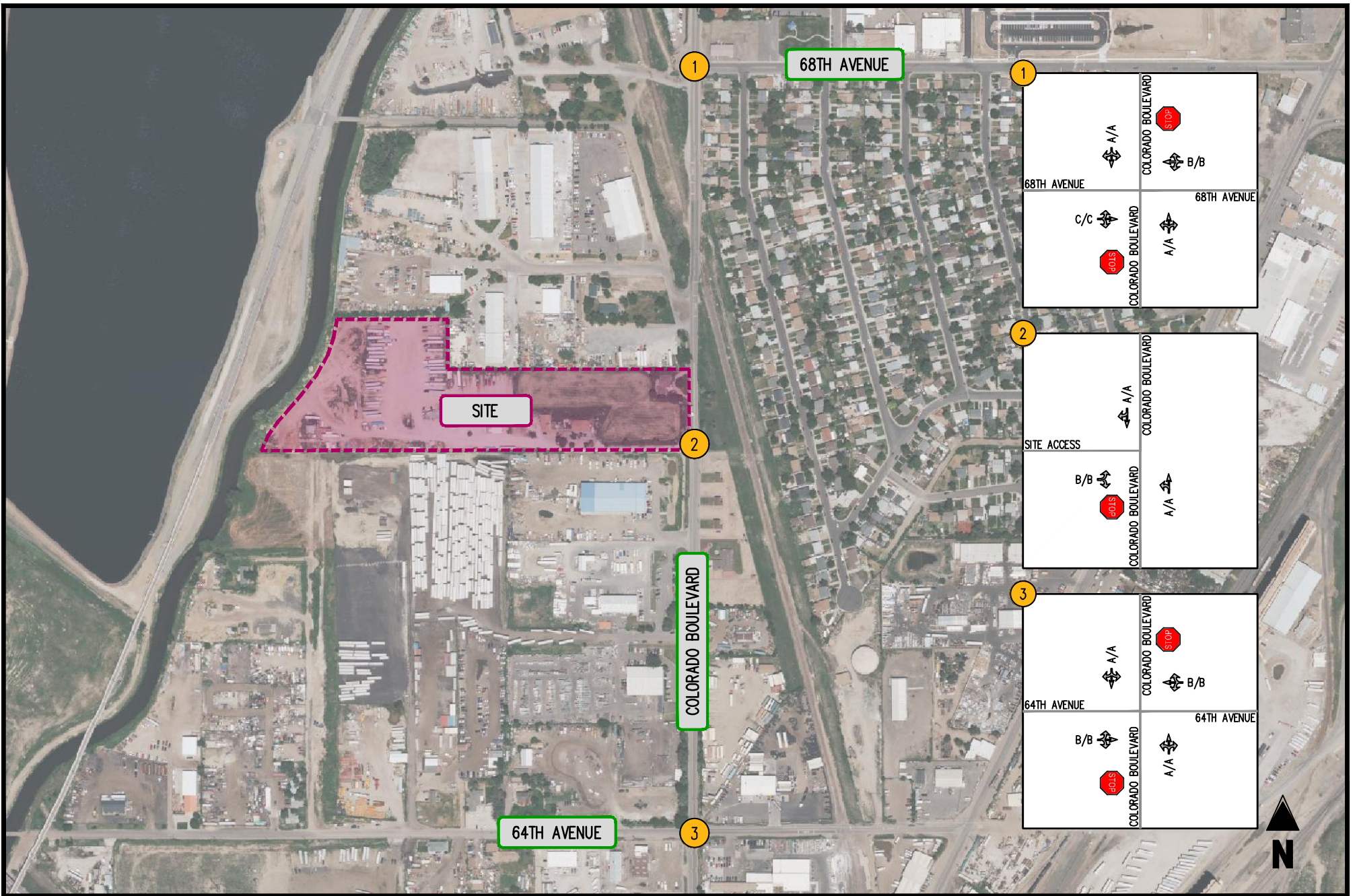


FIGURE 3-2
EXISTING LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



Table 3-1
 6601 COLORADO HOLDING, LLC
 Existing Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2022	
				AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE 68TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	C [17.9] B [11.0] A [8.5] A [7.5]	C [18.1] B [11.6] A [8.7] A [8.2]
2 SITE ACCESS/COLORADO BOULEVARD	STOP	SITE ACCESS COLORADO BOULEVARD COLORADO BOULEVARD	EBLR NBLT SBTR	B [12.4] A [8.8] A [0.0]	B [12.4] A [8.2] A [0.0]
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE 64TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	B [13.1] B [10.4] A [8.2] A [7.7]	B [12.1] B [11.3] A [7.8] A [8.8]

Notes (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.

Table 3-2
 6601 COLORADO HOLDING, LLC
 Existing Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Existing 2022	
					AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE	EBLTR	-	20	10
		68TH AVENUE	WBLTR	-	7.5	7.5
		COLORADO BOULEVARD	NBLTR	-	0	0
		COLORADO BOULEVARD	SBLTR	-	2.5	5
2 SITE ACCESS/COLORADO BOULEVARD	STOP	SITE ACCESS	EBLR	-	0	0
		COLORADO BOULEVARD	NBLT	-	0	0
		COLORADO BOULEVARD	SBTR	-	0	0
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE	EBLTR	-	5	10
		64TH AVENUE	WBLTR	-	2.5	5
		COLORADO BOULEVARD	NBLTR	-	0	2.5
		COLORADO BOULEVARD	SBLTR	-	2.5	0

Note (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

IV. Analysis of Future Conditions without Site Development

Methodology

The future traffic forecasts, without the proposed new use, were developed for 2024 and 2044 conditions based on a composite of existing baseline traffic volumes and regional traffic. A 1.0% growth factor per year was applied to the existing traffic volumes.

Regional Growth

Increases in traffic associated with regional growth were estimated at 1.0 percent per year compounded for movements along the study intersections up to 2024 as well as to 2044. This growth accounts for increases in traffic resulting from influences outside of the immediate study area. The resulting increases in traffic within the study area are reflected on Figure 4-1 for 2024 build-out year conditions and Figure 4-2 for 2044 long range conditions.

Background Traffic Forecasts

The existing traffic forecasts depicted on Figure 3-1 and the regional growth shown on Figure 4-1 (2024) and Figure 4-2 (2044) were added together to yield the background future traffic forecasts shown on Figure 4-3 for 2024 conditions, and Figure 4-4 for 2044 conditions.

Background Future Levels of Service

Capacity analyses of 2024 and 2044 future traffic conditions without the proposed development are provided in Appendix E and summarized in Table 4-1. The forecasted levels of service are also depicted graphically on Figure 4-5 for 2024 conditions and Figure 4-6 for 2044 conditions.

As shown on Table 4-1, the signalized intersections within the study area would operate at overall acceptable LOS "C" or better during the AM and PM peak hours, consistent with existing conditions.

Background Future Queueing

An analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queuing analysis are summarized in Table 4-2.

As shown in the table, queues within the study network will increase due to regional traffic growth and pipeline development. Forecasted queues would be contained within their effective storage.

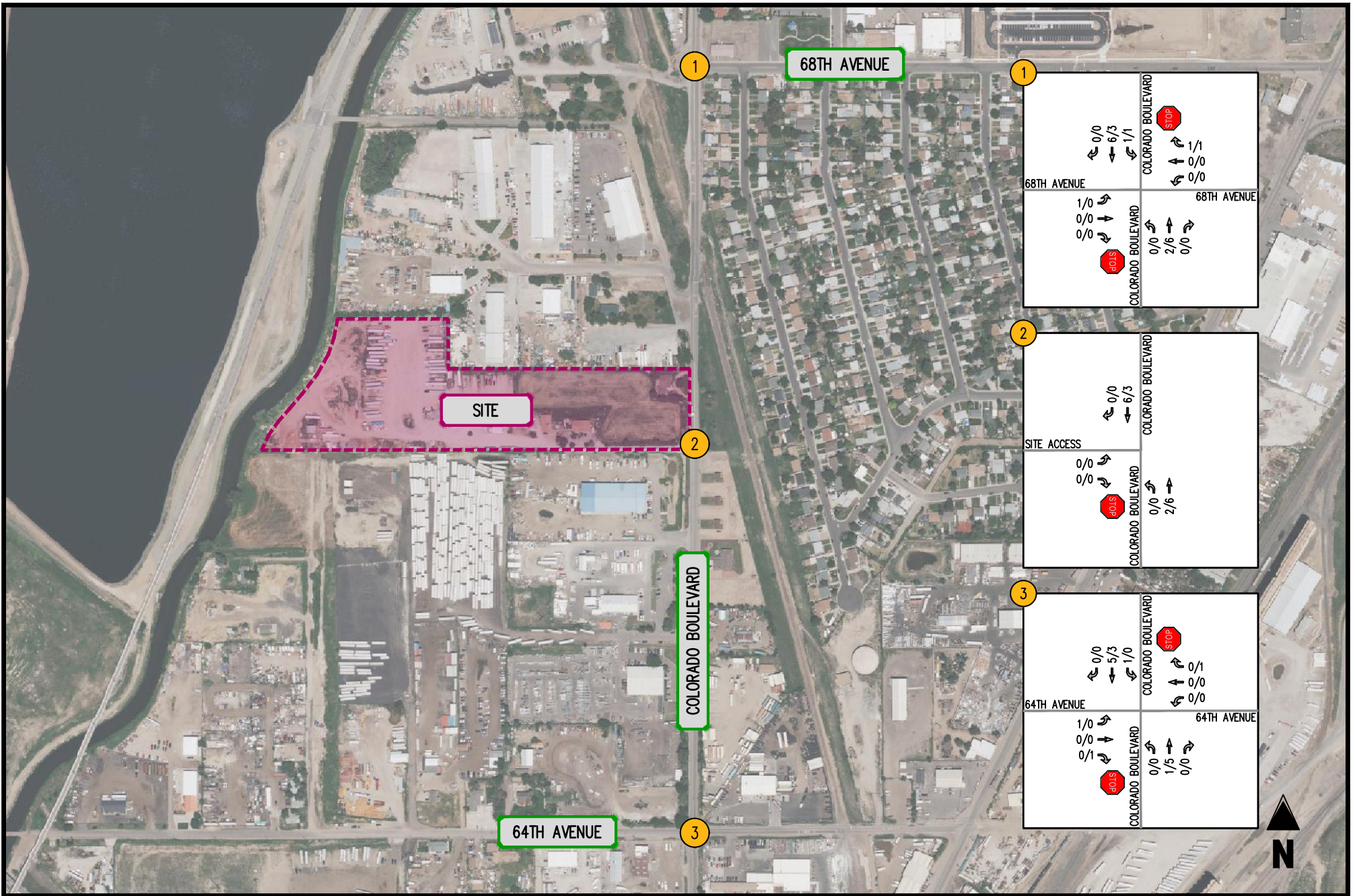


FIGURE 4-1
BACKGROUND 2024 GROWTH

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



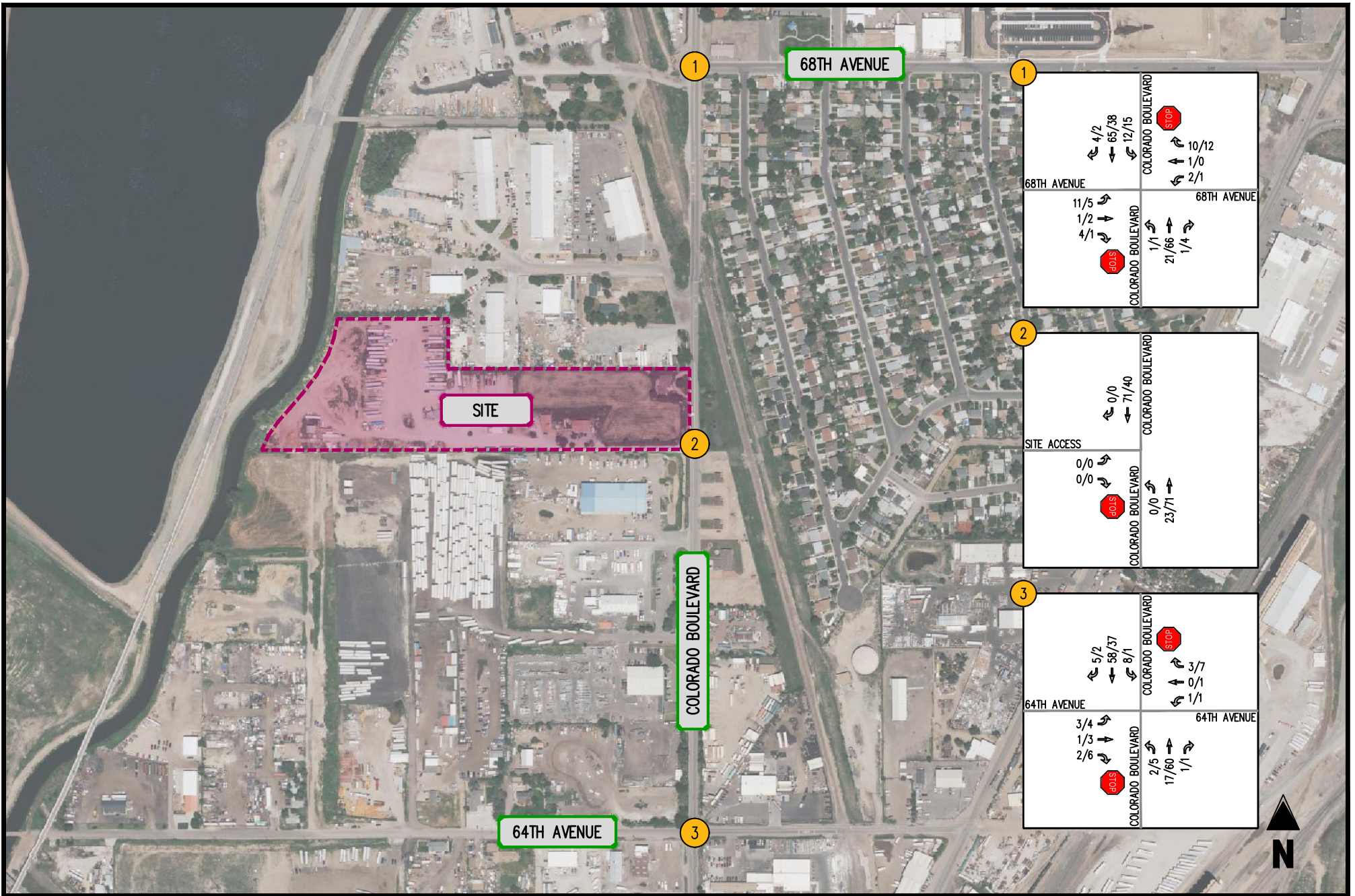


FIGURE 4-2
BACKGROUND 2044 GROWTH

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



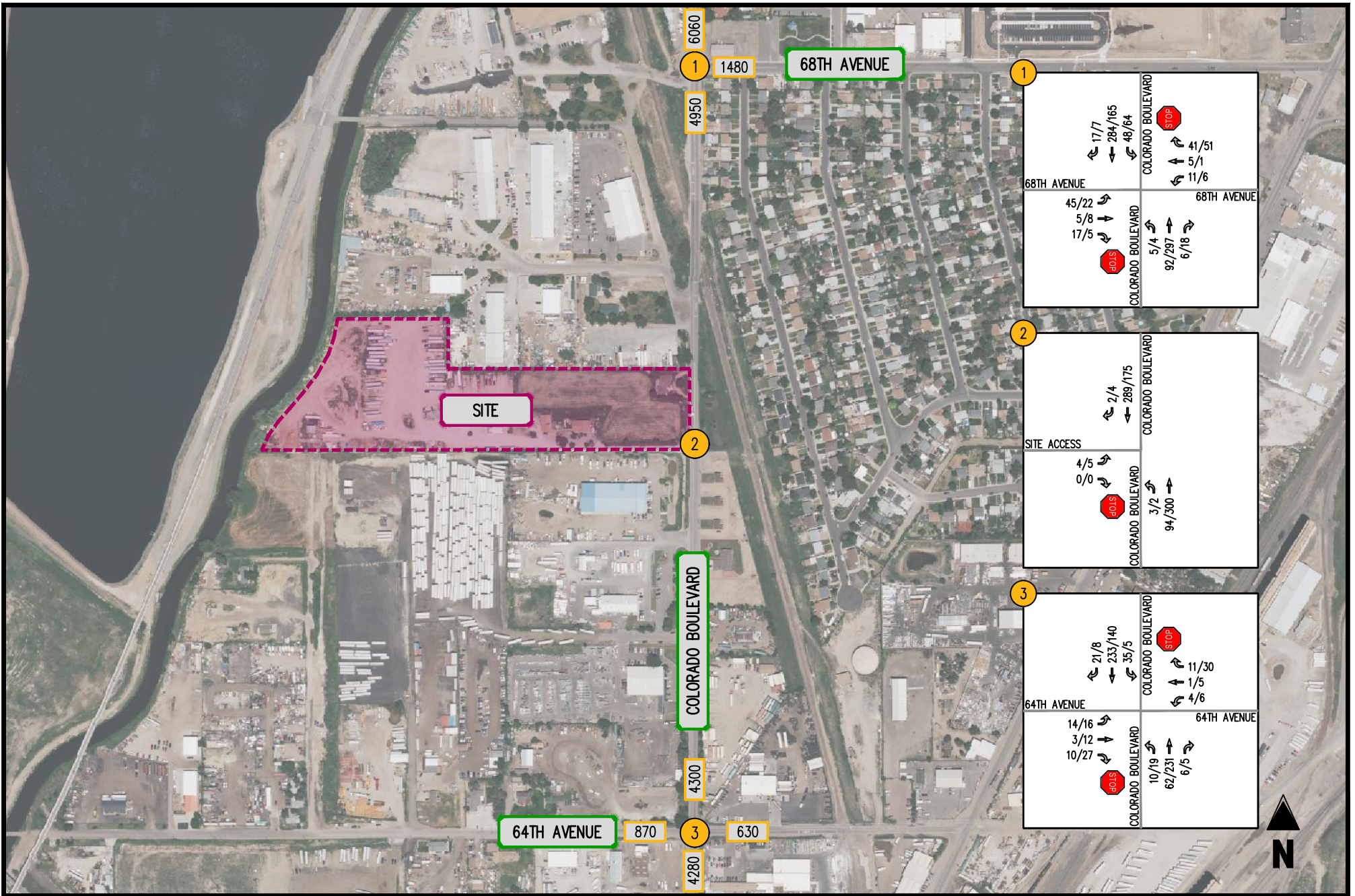


FIGURE 4-3
BACKGROUND 2024 FORECASTS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

00000 AVERAGE DAILY TRAFFIC (ADT)

STOP SIGN



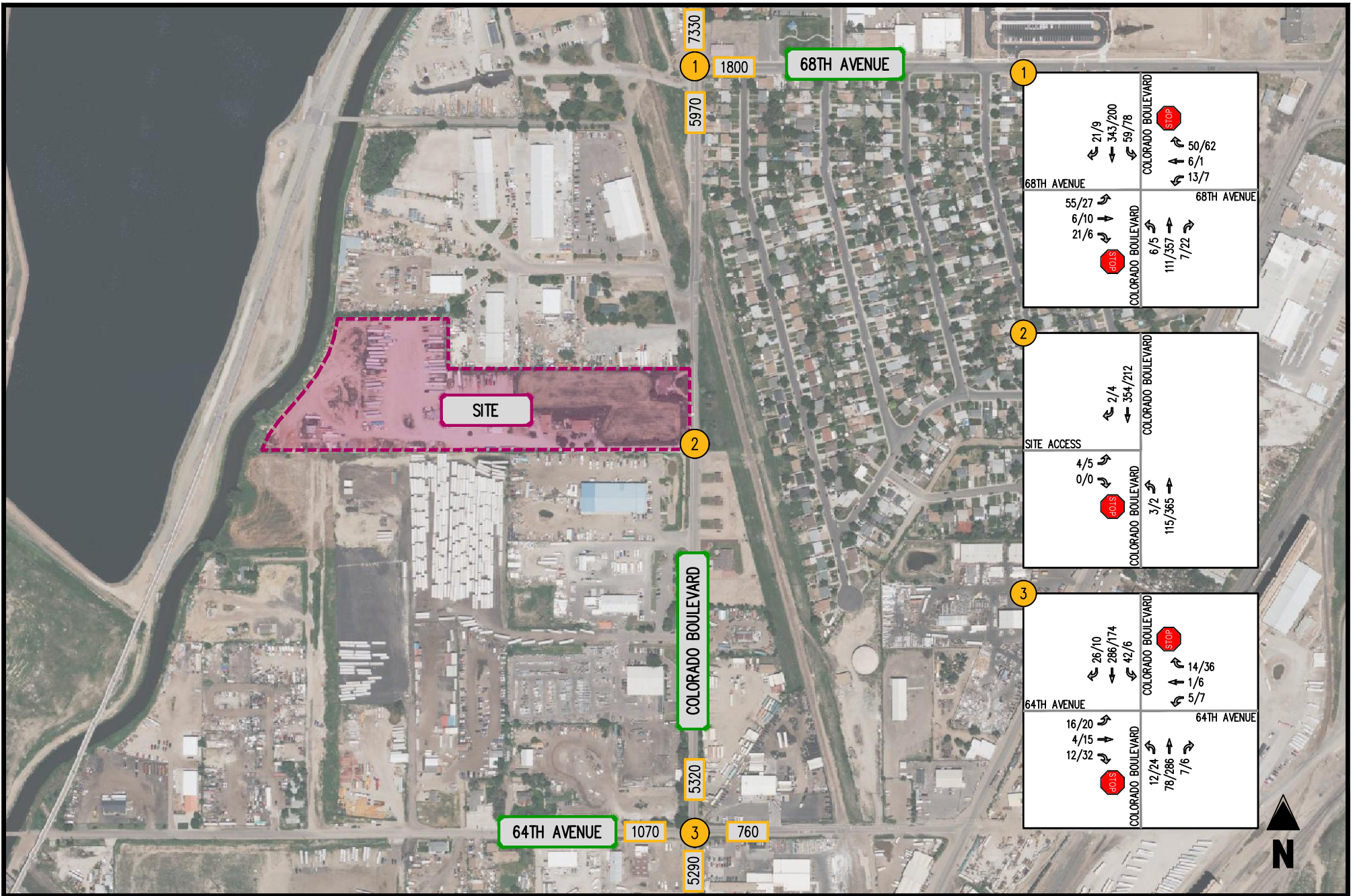


FIGURE 4-4
BACKGROUND 2044 FORECASTS



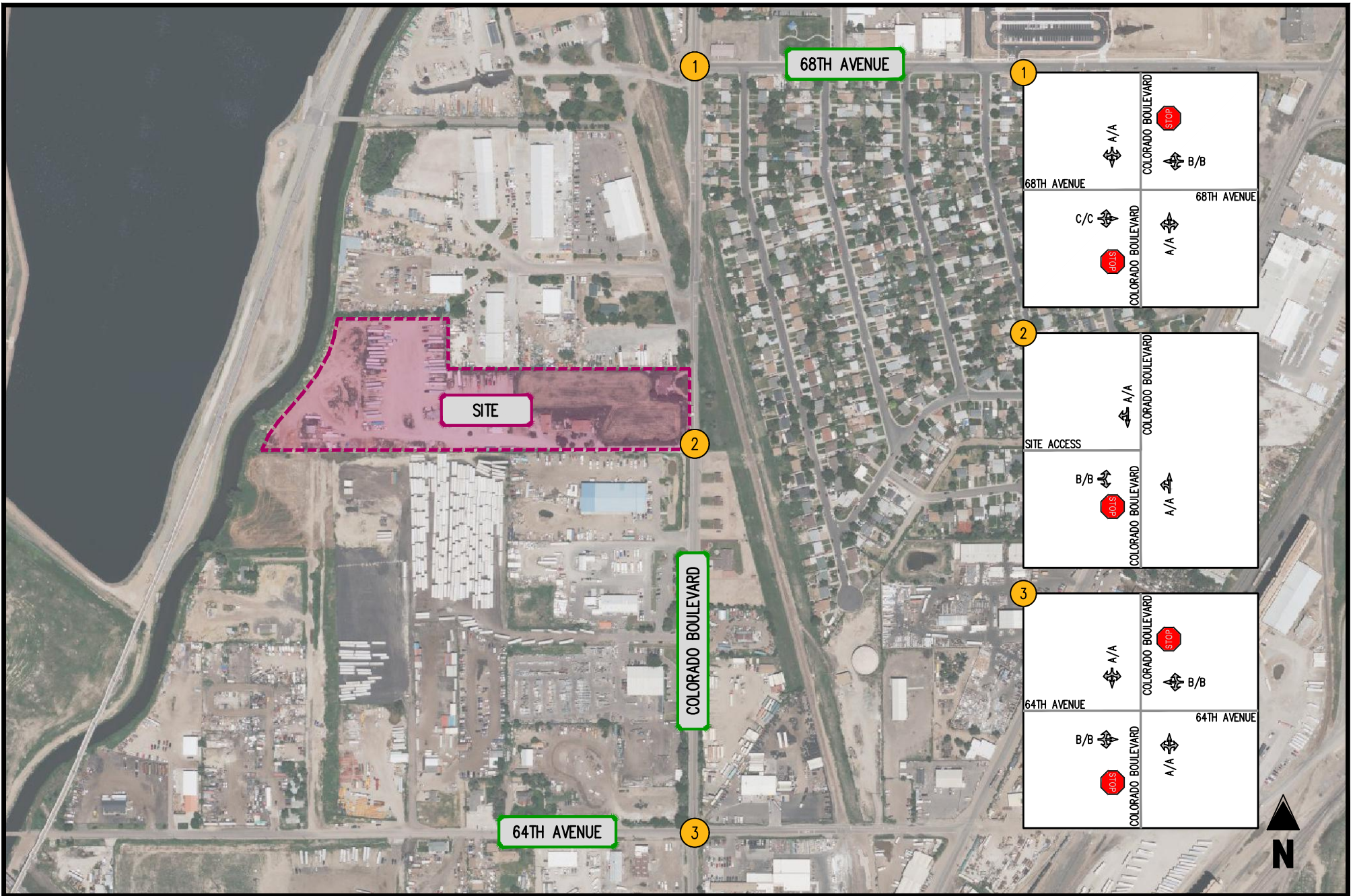


FIGURE 4-5
BACKGROUND 2024 LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



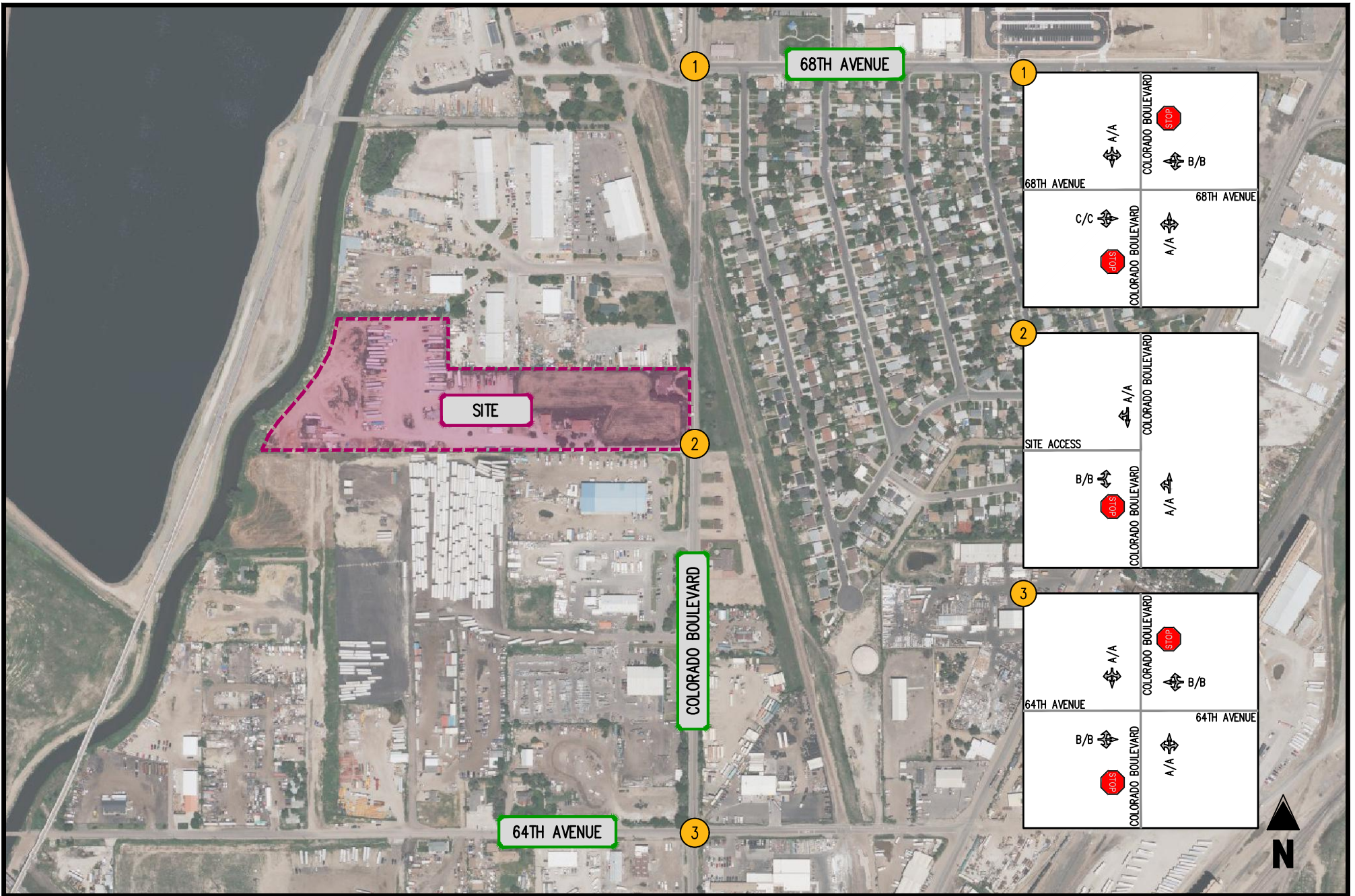


FIGURE 4-6
BACKGROUND 2044 LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



Table 4-1
6601 COLORADO HOLDING, LLC
Background Future Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/Movement	Existing 2022		Background 2024		Background 2044	
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE 68TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	C [17.9] B [11.0] A [8.5] A [7.5]	C [18.1] B [11.6] A [8.7] A [8.2]	C [17.0] B [10.8] A [8.5] A [7.5]	C [17.3] B [11.5] A [8.7] A [8.2]	C [21.8] B [11.6] A [8.7] A [7.6]	C [22.1] B [12.6] A [8.8] A [8.4]
2 SITE ACCESS/COLORADO BOULEVARD	STOP	SITE ACCESS COLORADO BOULEVARD COLORADO BOULEVARD	EBLR NBLT SBTR	B [12.4] A [8.8] A [0.0]	B [12.4] A [8.2] A [0.0]	B [12.2] A [8.8] A [0.0]	B [12.1] A [8.2] A [0.0]	B [13.2] A [9.1] A [0.0]	B [13.2] A [8.3] A [0.0]
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE 64TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	B [13.1] B [10.4] A [8.2] A [7.7]	B [12.1] B [11.3] A [7.8] A [8.8]	B [13.1] B [10.3] A [8.2] A [7.7]	B [11.7] B [11.1] A [7.8] A [8.8]	B [14.6] B [10.9] A [8.4] A [7.8]	B [13.2] B [12.1] A [7.9] A [9.0]

Notes (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.

Table 4-2
 6601 COLORADO HOLDING, LLC
 Background Future Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/Movement	Available Storage	Existing 2022		Background 2024		Background 2044	
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE	EBLTR	-	20	10	17.5	10	30	17.5
		68TH AVENUE	WBLTR	-	7.5	7.5	7.5	7.5	10	12.5
		COLORADO BOULEVARD	NBLTR	-	0	0	0	0	0	0
		COLORADO BOULEVARD	SBLTR	-	2.5	5	2.5	5	2.5	5
2 SITE ACCESS/COLORADO BOULEVARD	STOP	SITE ACCESS	EBLR	-	0	0	0	0	0	0
		COLORADO BOULEVARD	NBLT	-	0	0	0	0	0	0
		COLORADO BOULEVARD	SBTR	-	0	0	0	0	0	0
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE	EBLTR	-	5	10	5	7.5	7.5	12.5
		64TH AVENUE	WBLTR	-	2.5	5	2.5	5	2.5	7.5
		COLORADO BOULEVARD	NBLTR	-	0	2.5	0	0	0	2.5
		COLORADO BOULEVARD	SBLTR	-	2.5	0	2.5	0	2.5	0

Note (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

V. Site Analysis

Overview

The Applicant is proposing to develop the approximately 11.6 acre site with a general light industrial use. For purposes of this study, the site will be developed in one phase. For analysis purposes it was assumed that the development would be complete and operational in study year 2024. The following use and development programs were analyzed:

Build Out - 2024

30,000 SF General Light Industrial

Proposed Site Access

As shown on the Applicant's conceptual plan (Figure 1-2), access to the development is being proposed via two existing full movement accesses on Colorado Boulevard with added left turn lanes from Colorado Boulevard to the site.

Trip Generation

Overview

Trip generation estimates for the weekday AM and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) Trip Generation Manual rates/equations, as published in the 11th edition. The trip generation analysis is presented in Table 5-1.

Site Trips

The vehicle trips that would be generated by the proposed development plan are summarized in Table 5-1. As shown in Table 5-1, the site would generate upon completion and full occupancy, 24 new weekday AM and 17 new weekday PM peak hour vehicle trips as well as 163 new weekday daily trips.

Site Trip Distributions

The distribution of the anticipated trips generated by the completion of the proposed development was based on an examination of existing traffic counts and local knowledge. Existing travel patterns indicate the following distribution is appropriate in the forecasting of future site traffic:

- To/from the north on Colorado Boulevard: 50%
- To/from the south on Colorado Boulevard: 50%

Site Trip Assignments

The assignment of the new vehicle trips generated upon the future build-out of the development project was based on the above distribution. The trips assignments are depicted on Figure 5-1.

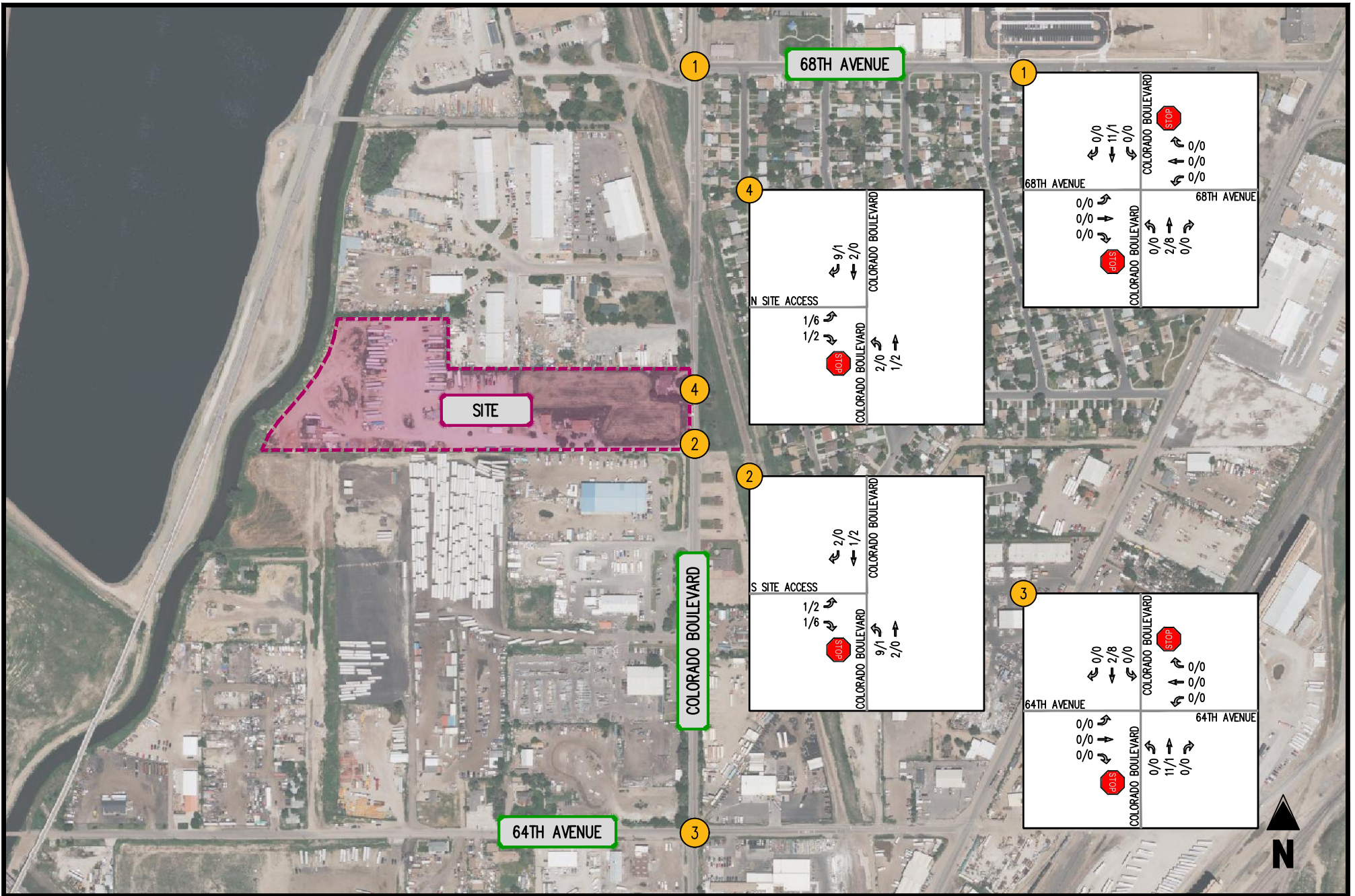


FIGURE 5-1
SITE TRIPS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)


← MOVEMENT
 STOP SIGN



Table 5-1

6601 Colorado Holding

Site Trip Generation

Land Use	Land Use Code	Amount	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
<i>Proposed</i> ⁽¹⁾ General Light Industrial	110	30,000	SF	21	3	24	2	15	17	163

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

VI. Analysis of Future Conditions with Site Development

Total Future Traffic Forecasts

The 2024 and 2044 total future traffic forecasts associated with the proposed development were developed by combining background future forecasts shown on Figure 4-4 (2024) and Figure 4-5 (2044), and the site trip assignments shown on Figure 5-1. The resulting total future traffic forecasts are provided on Figure 6-1 for 2024 and Figure 6-2 for 2044 conditions.

Total Future Levels of Service with Proposed Development

Future levels of service with the proposed development plan were estimated at key study intersections based on the future traffic volumes shown on Figures 6-1 and Figure 6-2, the existing lane use on Figure 2-1, and the HCM 6th methodologies for unsignalized intersections. The results of these analyses are provided in Appendix F and presented in Table 6-1. Total future levels of service are also presented graphically on Figure 6-3 (2024) and Figure 6-4 (2044).

As shown in Table 6-1, levels of service under future site development conditions would remain consistent with future background conditions (i.e., without site development). Overall delays would experience minor increase due to site trips. The intersections within the study area would continue to operate at acceptable overall LOS “C” or better in the AM and PM peak hours in all future scenarios.

Total Future Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-2. As shown on Table 6-2, forecasted queues would be contained within their effective storage consistent with background conditions.

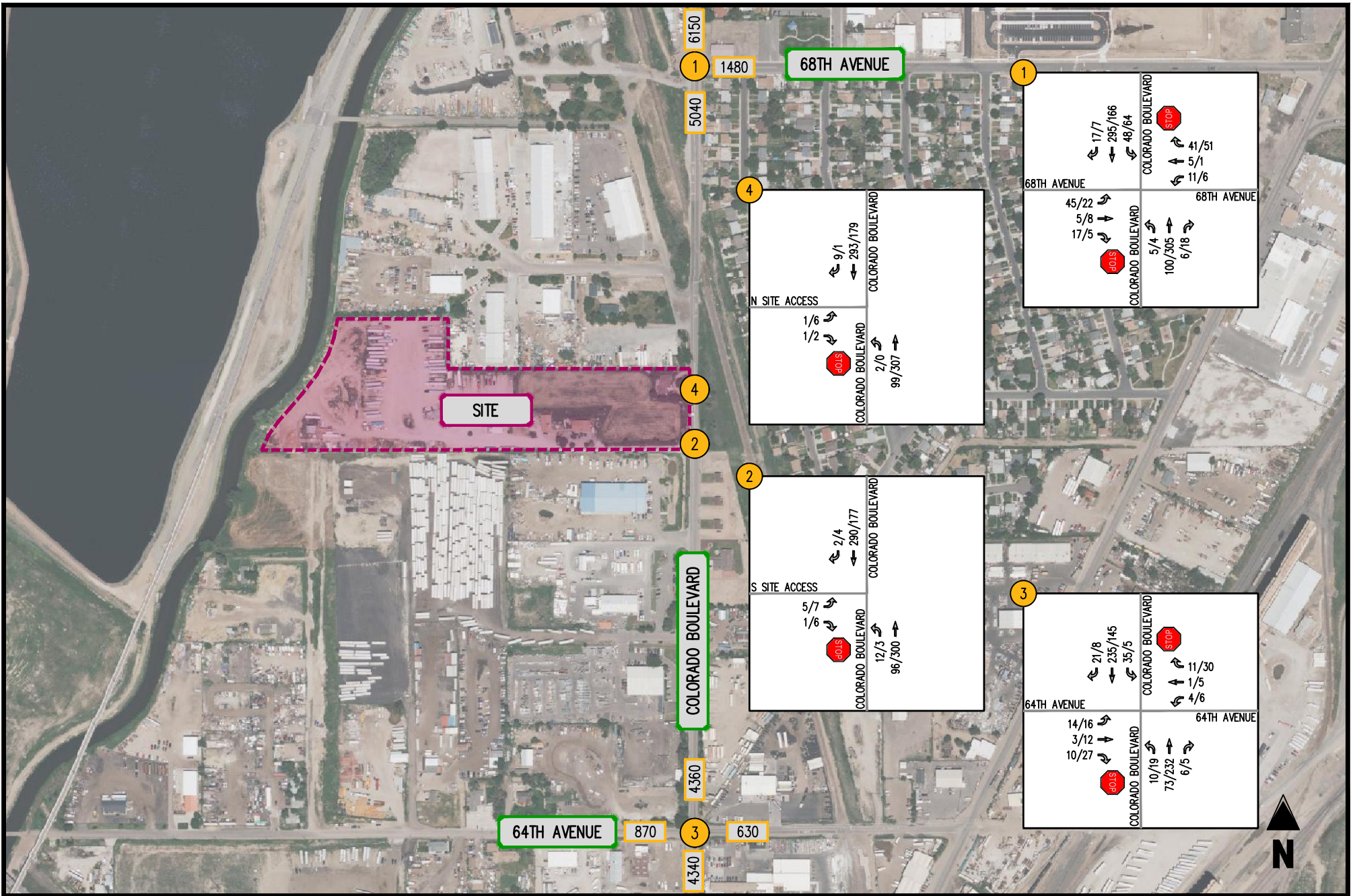


FIGURE 6-1
 TOTAL FUTURE 2024 FORECASTS



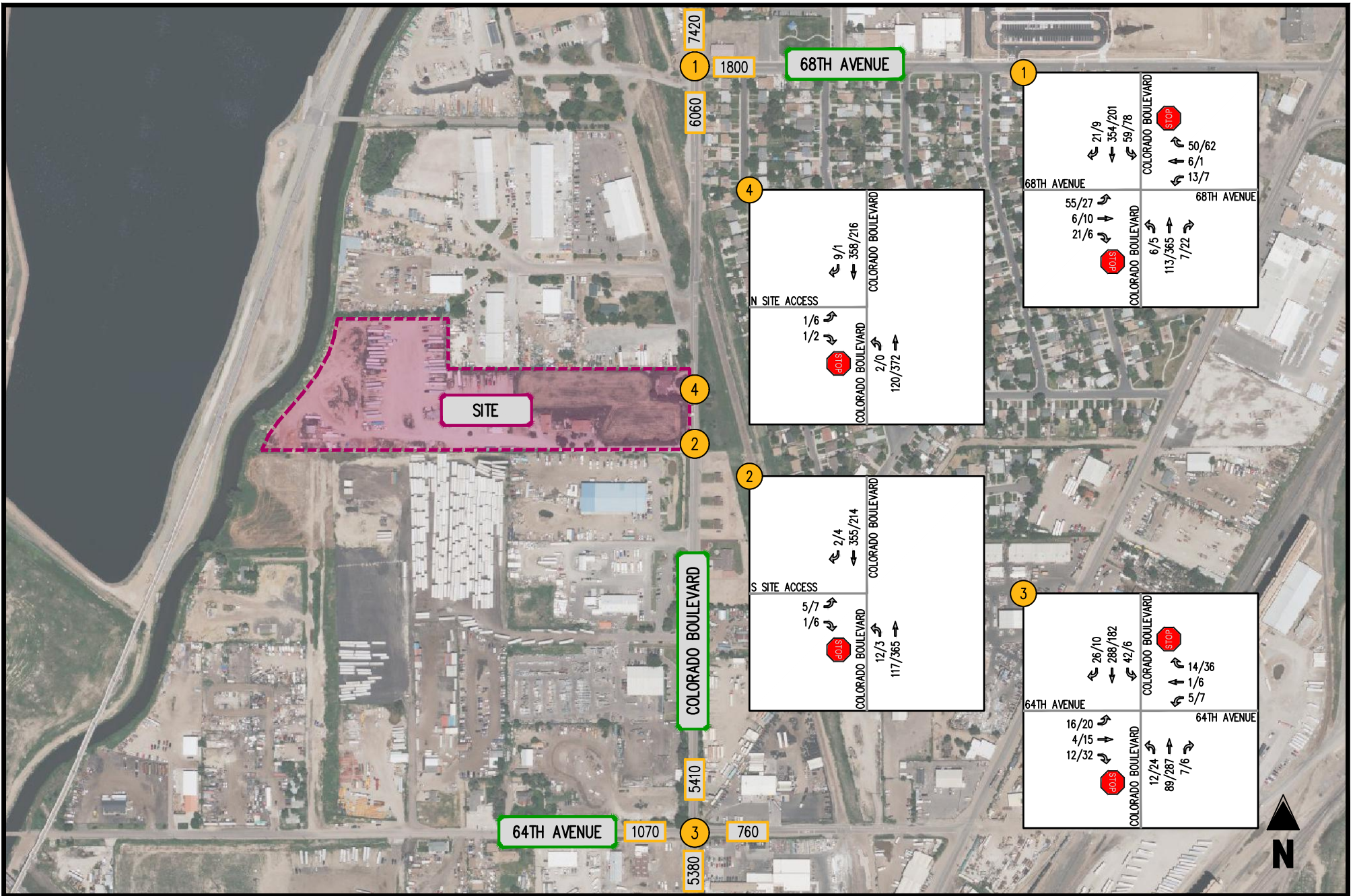



FIGURE 6-2
TOTAL FUTURE 2044 FORECASTS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR) ← MOVEMENT
0000 AVERAGE DAILY TRAFFIC (ADT)  STOP SIGN



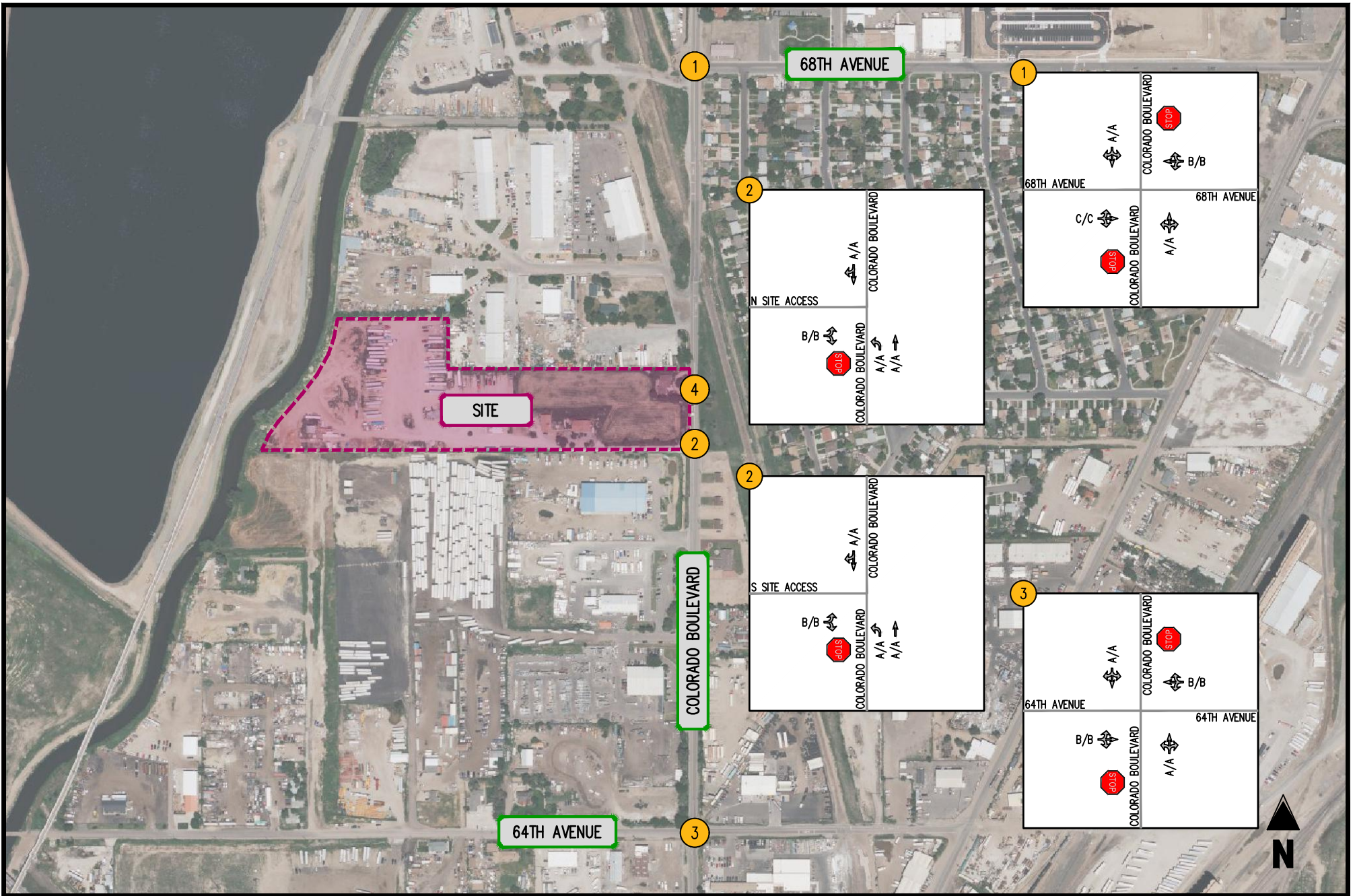


FIGURE 6-3
TOTAL FUTURE 2024 LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



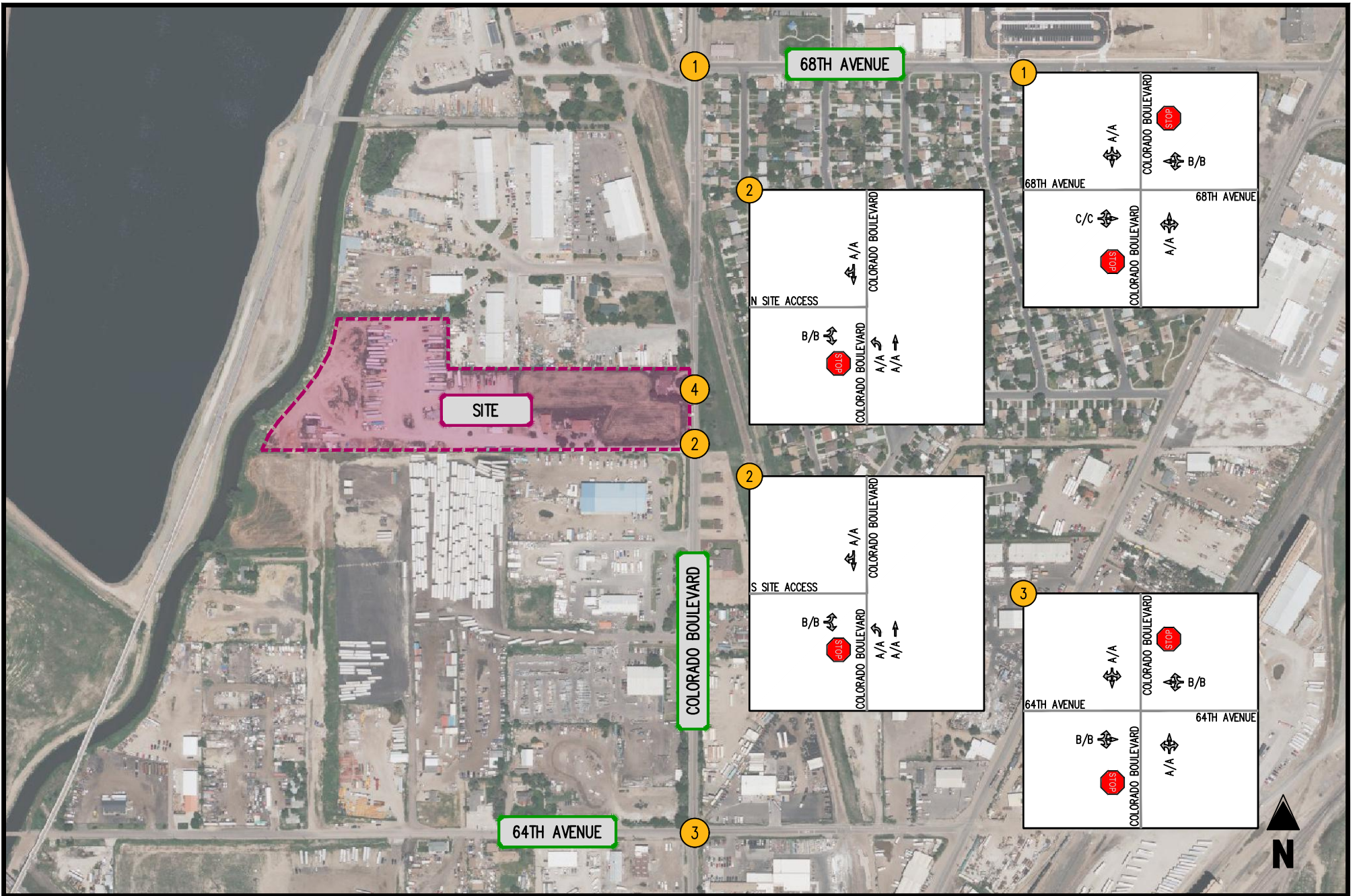


FIGURE 6-4
TOTAL FUTURE 2044 LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT

STOP SIGN



Table 6-1
6601 COLORADO HOLDING, LLC
Total Future Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Background 2024		Background 2044		Total Future 2024		Total Future 2044	
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE 68TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	C [17.0] B [10.8] A [8.5] A [7.5]	C [17.3] B [11.5] A [8.7] A [8.2]	C [21.8] B [11.6] A [8.7] A [7.6]	C [22.1] B [12.6] A [8.8] A [8.4]	C [17.3] B [10.8] A [8.5] A [7.5]	C [17.5] B [11.5] A [8.7] A [8.2]	C [22.3] B [11.7] A [8.7] A [7.6]	C [22.3] B [12.7] A [8.8] A [8.5]
2 S SITE ACCESS/COLORADO BOULEVARD	STOP	S SITE ACCESS COLORADO BOULEVARD COLORADO BOULEVARD	EBLR NBLT SBTR	B [12.2] A [8.8] A [0.0]	B [12.1] A [8.2] A [0.0]	B [13.2] A [9.1] A [0.0]	B [13.2] A [8.3] A [0.0]	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A
	STOP	S SITE ACCESS COLORADO BOULEVARD COLORADO BOULEVARD COLORADO BOULEVARD	EBLR NBL NBT SBTR	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	B [12.3] A [8.8] A [0.0] A [0.0]	B [10.9] A [8.2] A [0.0] A [0.0]	B [13.3] A [9.1] A [0.0] A [0.0]	B [11.6] A [8.3] A [0.0] A [0.0]
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE 64TH AVENUE COLORADO BOULEVARD COLORADO BOULEVARD	EBLTR WBLTR NBLTR SBLTR	B [13.1] B [10.3] A [8.2] A [7.7]	B [11.7] B [11.1] A [7.8] A [8.8]	B [14.6] B [10.9] A [8.4] A [7.8]	B [13.2] B [12.1] A [7.9] A [9.0]	B [13.2] B [10.4] A [8.2] A [7.8]	B [11.8] B [11.1] A [7.8] A [8.8]	B [14.8] B [11.0] A [8.4] A [7.8]	B [13.3] B [12.1] A [7.9] A [9.0]
4 N SITE ACCESS/COLORADO BOULEVARD	STOP	N SITE ACCESS COLORADO BOULEVARD COLORADO BOULEVARD COLORADO BOULEVARD	EBLR NBL NBT SBTR	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	B [10.6] A [7.9] A [0.0] A [0.0]	B [11.5] A [0.0] A [0.0] A [0.0]	B [11.3] A [8.1] A [0.0] A [0.0]	B [12.4] A [0.0] A [0.0] A [0.0]

Notes (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 6-2
6601 COLORADO HOLDING, LLC
Total Future Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/Movement	Available Storage	Background 2024		Background 2044		Total Future 2024		Total Future 2044	
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 68TH AVENUE/COLORADO BOULEVARD	STOP	68TH AVENUE	EBLTR	-	17.5	10	30	17.5	17.5	10	30	17.5
		68TH AVENUE	WBLTR	-	7.5	7.5	10	12.5	7.5	7.5	10	12.5
		COLORADO BOULEVARD	NBLTR	-	0	0	0	0	0	0	0	0
		COLORADO BOULEVARD	SBLTR	-	2.5	5	2.5	5	2.5	5	2.5	5
2 S SITE ACCESS/COLORADO BOULEVARD <i>NBL LANE ADDED</i>	STOP	S SITE ACCESS	EBLR	-	0	0	0	0	N/A	N/A	N/A	N/A
		COLORADO BOULEVARD	NBLT	-	0	0	0	0	N/A	N/A	N/A	N/A
		COLORADO BOULEVARD	SBTR	-	0	0	0	0	N/A	N/A	N/A	N/A
	STOP	S SITE ACCESS	EBLR	-	N/A	N/A	N/A	N/A	0	2.5	0	2.5
		COLORADO BOULEVARD	NBL	199	N/A	N/A	N/A	N/A	0	0	0	0
		COLORADO BOULEVARD	NBT	-	N/A	N/A	N/A	N/A	0	0	0	0
COLORADO BOULEVARD	SBTR	-	N/A	N/A	N/A	N/A	0	0	0	0		
3 64TH AVENUE/COLORADO BOULEVARD	STOP	64TH AVENUE	EBLTR	-	5	7.5	7.5	12.5	5	7.5	7.5	12.5
		64TH AVENUE	WBLTR	-	2.5	5	2.5	7.5	2.5	5	2.5	7.5
		COLORADO BOULEVARD	NBLTR	-	0	0	0	2.5	0	0	0	2.5
		COLORADO BOULEVARD	SBLTR	-	2.5	0	2.5	0	2.5	0	2.5	0
4 N SITE ACCESS/COLORADO BOULEVARD	STOP	N SITE ACCESS	EBLR	-	N/A	N/A	N/A	N/A	0	0	0	2.5
		COLORADO BOULEVARD	NBL	140	N/A	N/A	N/A	N/A	0	0	0	0
		COLORADO BOULEVARD	NBT	-	N/A	N/A	N/A	N/A	0	0	0	0
		COLORADO BOULEVARD	SBTR	-	N/A	N/A	N/A	N/A	0	0	0	0

Note (1) Queue length, in feet, is based on the 95th percentile queue as reported by Synchro, Version 11.

VII. Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the intersections within the study area currently operate at overall acceptable levels of service (LOS) “C” or better during the weekday AM and PM peak hours. Unsignalized side street movements within the study area are at or approaching capacity.
- Under background future 2024 and 2044 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth.
- The proposed site development would generate, upon completion and full occupancy, 24 new weekday AM and 17 new weekday PM peak hour vehicle trips as well as 163 new weekday daily trips.
- Under total future traffic conditions with development of the site, study intersections would continue to operate at acceptable LOS “C” consistent with background conditions.
- Under total future traffic conditions with development of the site, all forecasted queues would be contained within their effective storage.

Recommendations

- The Applicant should provide access consistent with the site plan contained herein.

APPENDIX A – Full Sized Conceptual Plan

PRELIMINARY
NOT FOR BIDDING
NOT FOR CONSTRUCTION

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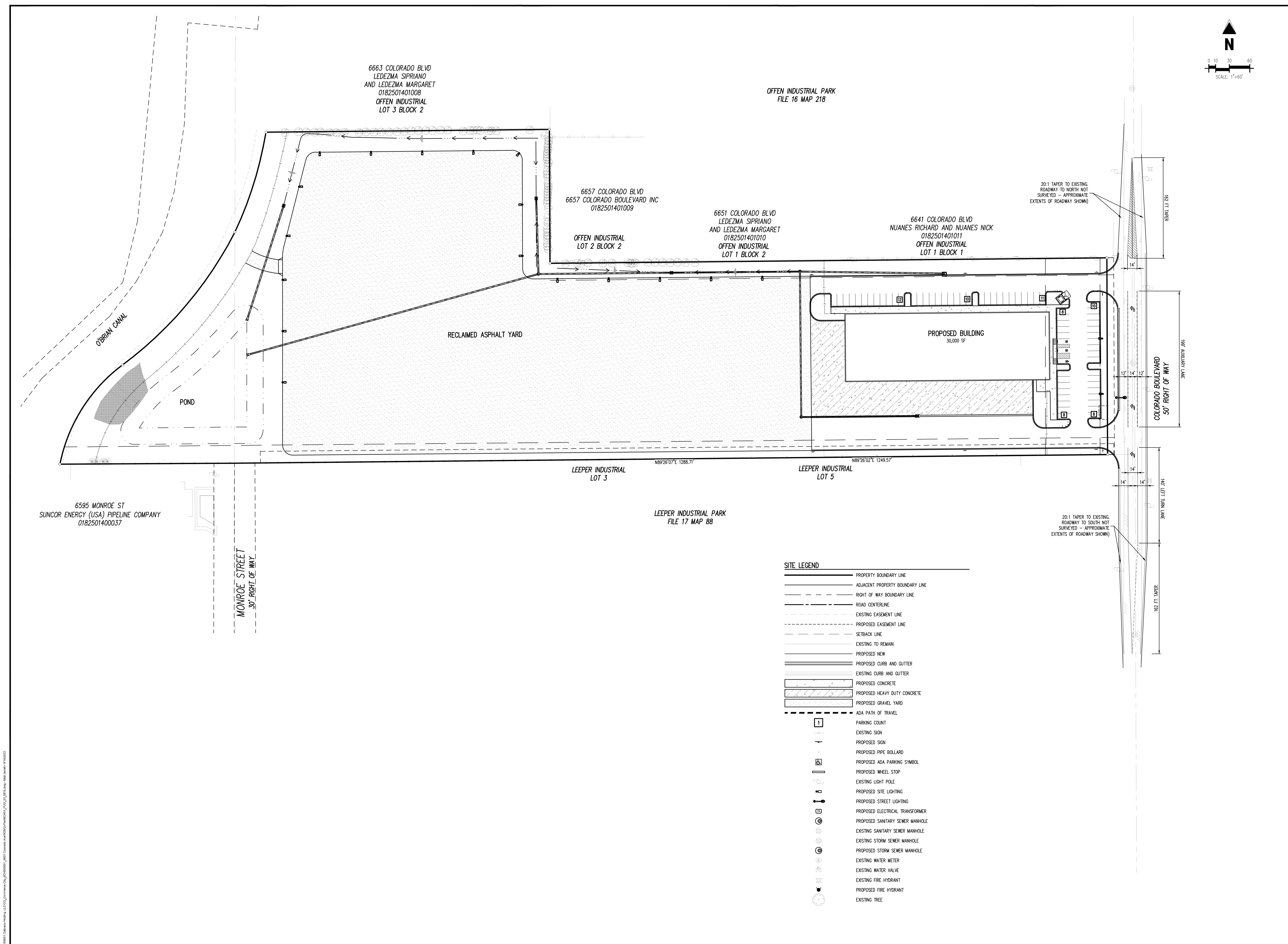
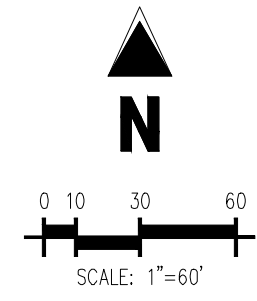


DEVELOPMENT PLAN
6601 COLORADO BOULEVARD

6601 COLORADO BOULEVARD
COMMERCE CITY, COLORADO

#	Date	Issue / Description	Init.
1	1/18/23	2ND DP SUBMITTAL	
2	5/26/23	3RD DP SUBMITTAL	
3	9/15/23	4TH DP SUBMITTAL	

Project No: 6CH000001
Drawn By: RDG
Checked By: MJ
Date: 02/08/2023
#####



SITE LEGEND

—	PROPERTY BOUNDARY LINE
---	ADJACENT PROPERTY BOUNDARY LINE
- - -	RIGHT OF WAY BOUNDARY LINE
---	ROAD CENTERLINE
- - -	EXISTING EASEMENT LINE
- . - . -	PROPOSED EASEMENT LINE
---	SETBACK LINE
---	EXISTING TO REMAIN
---	PROPOSED NEW
---	PROPOSED CURB AND GUTTER
---	EXISTING CURB AND GUTTER
---	PROPOSED CONCRETE
---	PROPOSED HEAVY DUTY CONCRETE
---	PROPOSED GRAVEL YARD
- - - - -	ADA PATH OF TRAVEL
1	PARKING COUNT
—	EXISTING SIGN
—	PROPOSED SIGN
—	PROPOSED PIPE BOLLARD
—	PROPOSED ADA PARKING SYMBOL
—	PROPOSED WHEEL STOP
○	EXISTING LIGHT POLE
○	PROPOSED SITE LIGHTING
○	PROPOSED STREET LIGHTING
□	PROPOSED ELECTRICAL TRANSFORMER
○	PROPOSED SANITARY SEWER MANHOLE
○	EXISTING SANITARY SEWER MANHOLE
○	EXISTING STORM SEWER MANHOLE
○	PROPOSED STORM SEWER MANHOLE
○	EXISTING WATER METER
○	EXISTING WATER VALVE
○	EXISTING FIRE HYDRANT
○	PROPOSED FIRE HYDRANT
○	EXISTING TREE

APPENDIX B – LOS Descriptions

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: [Highway Capacity Manual, 2000](#). Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

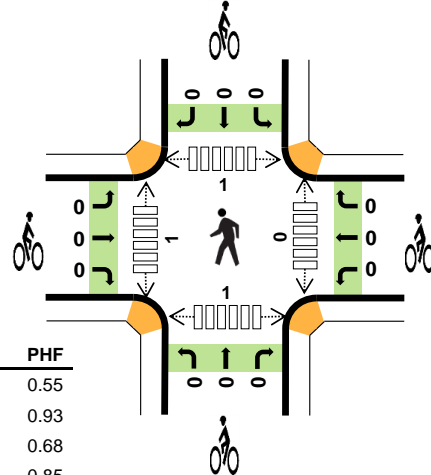
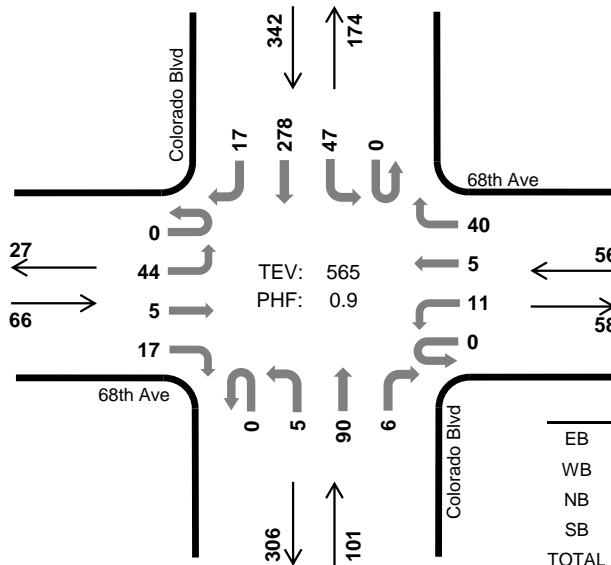
APPENDIX C – Traffic Counts

Colorado Blvd 68th Ave



Peak Hour

Date: 09/01/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	59.1%	0.55
WB	8.9%	0.93
NB	51.5%	0.68
SB	10.5%	0.85
TOTAL	23.4%	0.90

Two-Hour Count Summaries

Interval Start	68th Ave Eastbound				68th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	22	1	7	0	4	0	10	0	1	18	0	0	10	77	7	157	0	
7:15 AM	0	7	2	4	0	1	1	13	0	0	33	4	0	5	55	2	127	0	
7:30 AM	0	9	0	5	0	4	2	8	0	2	17	1	0	18	64	3	133	0	
7:45 AM	0	6	2	1	0	2	2	9	0	2	22	1	0	14	82	5	148	565	
8:00 AM	0	2	1	4	0	4	1	7	0	0	19	2	0	13	63	1	117	525	
8:15 AM	0	5	0	2	0	6	1	20	0	0	28	0	0	13	57	0	132	530	
8:30 AM	0	4	0	2	0	0	0	4	0	2	14	2	0	8	64	1	101	498	
8:45 AM	0	3	1	2	0	2	1	9	0	2	23	1	0	8	56	3	111	461	
Count Total	0	58	7	27	0	23	8	80	0	9	174	11	0	89	518	22	1,026	0	
Peak Hour	All	0	44	5	17	0	11	5	40	0	5	90	6	0	47	278	17	565	0
	HV	0	30	1	8	0	1	0	4	0	2	49	1	0	0	35	1	132	0
	HV%	-	68%	20%	47%	-	9%	0%	10%	-	40%	54%	17%	-	0%	13%	6%	23%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	23	4	8	11	46	0	0	0	0	0	0	0	0	0	0
7:15 AM	7	1	21	7	36	0	0	0	0	0	0	1	0	0	1
7:30 AM	7	0	12	8	27	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	0	11	10	23	0	0	0	0	0	0	0	1	1	2
8:00 AM	1	0	6	5	12	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	14	12	27	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	0	10	13	25	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	1	7	11	20	0	0	0	0	0	0	0	0	0	0
Count Total	44	6	89	77	216	0	0	0	0	0	0	1	1	1	3
Peak Hour	39	5	52	36	132	0	0	0	0	0	0	1	1	1	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	68th Ave				68th Ave				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	18	0	5	0	1	0	3	0	0	8	0	0	0	10	1	46	0
7:15 AM	0	5	0	2	0	0	0	1	0	0	21	0	0	0	7	0	36	0
7:30 AM	0	6	0	1	0	0	0	0	0	1	11	0	0	0	8	0	27	0
7:45 AM	0	1	1	0	0	0	0	0	0	1	9	1	0	0	10	0	23	132
8:00 AM	0	0	0	1	0	0	0	0	0	0	5	1	0	0	5	0	12	98
8:15 AM	0	0	0	1	0	0	0	0	0	0	14	0	0	0	12	0	27	89
8:30 AM	0	1	0	1	0	0	0	0	0	0	9	1	0	1	12	0	25	87
8:45 AM	0	0	0	1	0	0	1	0	0	0	7	0	0	1	10	0	20	84
Count Total	0	31	1	12	0	1	1	4	0	2	84	3	0	2	74	1	216	0
Peak Hour	0	30	1	8	0	1	0	4	0	2	49	1	0	0	35	1	132	0

Two-Hour Count Summaries - Bikes																
Interval Start	68th Ave			68th Ave			Colorado Blvd			Colorado Blvd			15-min Total	Rolling One Hour		
	Eastbound			Westbound			Northbound			Southbound						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

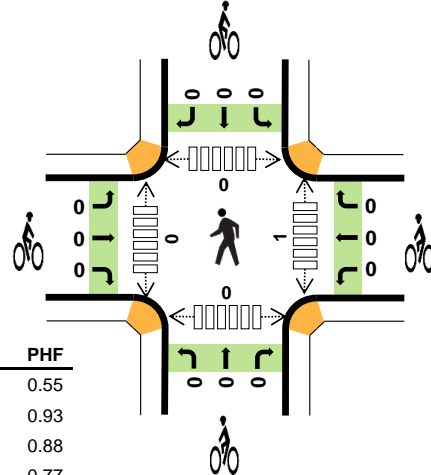
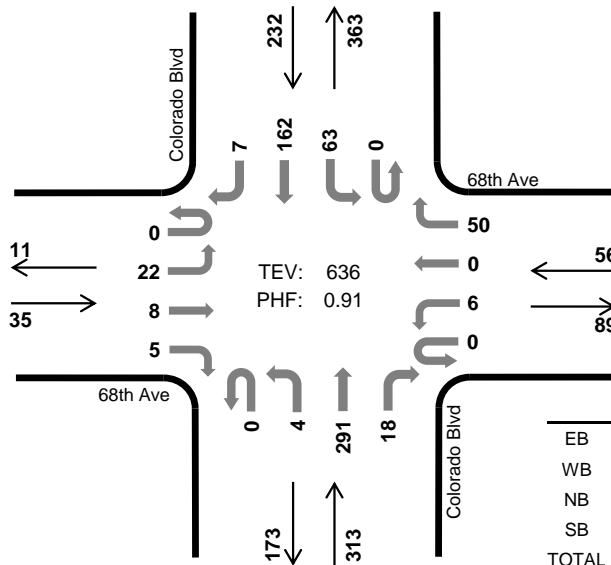
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Colorado Blvd 68th Ave



Peak Hour

Date: 09/01/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	22.9%	0.55
WB	3.6%	0.93
NB	12.5%	0.88
SB	28.0%	0.77
TOTAL	17.9%	0.91

Two-Hour Count Summaries

Interval Start	68th Ave Eastbound				68th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	12	3	1	0	4	0	10	0	3	65	5	0	14	41	0	158	0	
4:15 PM	0	5	2	1	0	1	0	12	0	0	75	3	0	24	47	4	174	0	
4:30 PM	0	2	1	1	0	1	0	13	0	0	70	3	0	11	35	2	139	0	
4:45 PM	0	3	2	2	0	0	0	15	0	1	81	7	0	14	39	1	165	636	
5:00 PM	0	4	1	1	0	1	0	8	1	1	72	5	0	21	37	4	156	634	
5:15 PM	0	1	1	1	0	0	0	5	0	2	70	5	0	22	32	2	141	601	
5:30 PM	0	4	0	1	0	1	0	6	0	2	49	2	0	27	28	0	120	582	
5:45 PM	0	0	0	0	0	2	1	3	0	0	37	2	0	19	31	1	96	513	
Count Total	0	31	10	8	0	10	1	72	1	9	519	32	0	152	290	14	1,149	0	
Peak Hour	All	0	22	8	5	0	6	0	50	0	4	291	18	0	63	162	7	636	0
	HV	0	5	0	3	0	1	0	1	0	4	33	2	0	3	56	6	114	0
	HV%	-	23%	0%	60%	-	17%	-	2%	-	100%	11%	11%	-	5%	35%	86%	18%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	9	17	29	0	0	0	0	0	0	0	0	0	0
4:15 PM	4	0	11	19	34	0	0	0	0	0	1	0	0	0	1
4:30 PM	1	0	10	12	23	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	0	9	17	28	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	10	14	25	0	0	0	0	0	0	0	0	2	2
5:15 PM	2	0	6	7	15	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	6	11	17	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	6	8	15	0	0	0	0	0	0	0	0	0	0
Count Total	11	3	67	105	186	0	0	0	0	0	1	0	0	2	3
Peak Hour	8	2	39	65	114	0	0	0	0	0	1	0	0	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	68th Ave				68th Ave				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	1	0	1	0	3	5	1	0	1	16	0	29	0
4:15 PM	0	3	0	1	0	0	0	0	0	0	11	0	0	2	13	4	34	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	10	0	0	0	10	2	23	0
4:45 PM	0	0	0	2	0	0	0	0	0	1	7	1	0	0	17	0	28	114
5:00 PM	0	0	0	1	0	0	0	0	0	1	9	0	0	1	11	2	25	110
5:15 PM	0	0	1	1	0	0	0	0	0	1	5	0	0	0	5	2	15	91
5:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	3	8	0	17	85
5:45 PM	0	0	0	0	0	0	1	0	0	0	6	0	0	1	7	0	15	72
Count Total	0	5	1	5	0	1	1	1	0	6	59	2	0	8	87	10	186	0
Peak Hour	0	5	0	3	0	1	0	1	0	4	33	2	0	3	56	6	114	0
Two-Hour Count Summaries - Bikes																		
Interval Start	68th Ave			68th Ave			Colorado Blvd			Colorado Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

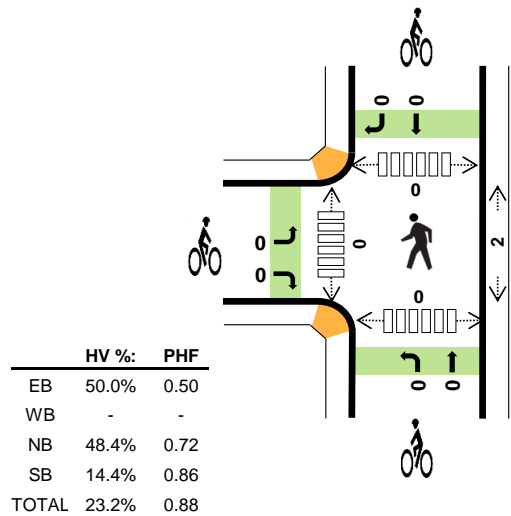
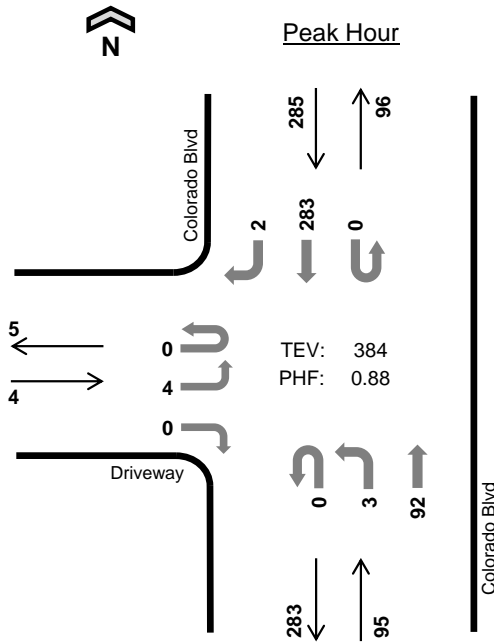
Colorado Blvd Driveway



Date: 09/01/2022

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	50.0%	0.50
WB	-	-
NB	48.4%	0.72
SB	14.4%	0.86
TOTAL	23.2%	0.88

Two-Hour Count Summaries

Interval Start	Driveway				N/A				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	0	0	0	0	0	0	0	2	23	0	0	0	83	0	109	0	
7:15 AM	0	2	0	0	0	0	0	0	0	0	33	0	0	0	52	0	87	0	
7:30 AM	0	0	0	0	0	0	0	0	0	1	15	0	0	0	71	0	87	0	
7:45 AM	0	1	0	0	0	0	0	0	0	0	21	0	0	0	77	2	101	384	
8:00 AM	0	0	0	0	0	0	0	0	0	0	26	0	0	0	73	1	100	375	
8:15 AM	0	0	0	0	0	0	0	0	0	0	27	0	0	0	65	0	92	380	
8:30 AM	0	0	0	0	0	0	0	0	0	0	18	0	0	0	63	0	81	374	
8:45 AM	0	0	0	0	0	0	0	0	0	0	24	0	0	0	57	0	81	354	
Count Total	0	4	0	0	0	0	0	0	0	3	187	0	0	0	541	3	738	0	
Peak Hour	All	0	4	0	0	0	0	0	0	0	3	92	0	0	0	283	2	384	0
	HV	0	2	0	0	0	0	0	0	0	2	44	0	0	0	41	0	89	0
	HV%	-	50%	-	-	-	-	-	-	-	67%	48%	-	-	-	14%	0%	23%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	9	16	26	0	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	18	7	25	0	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	8	10	18	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	11	8	20	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	9	10	19	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	9	13	22	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	7	9	16	0	0	0	0	0	0	0	0	0	0
Count Total	2	0	77	81	160	0	0	0	0	0	2	0	0	0	2
Peak Hr	2	0	46	41	89	0	0	0	0	0	2	0	0	0	2

Two-Hour Count Summaries - Heavy Vehicles														15-min Total	Rolling One Hour			
Interval Start	Driveway				N/A				Colorado Blvd				Colorado Blvd					
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	2	7	0	0	0	16	0	26	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	18	0	0	0	7	0	25	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	10	0	18	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	11	0	0	0	8	0	20	89
8:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0	14	77
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	10	0	19	71
8:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	13	0	22	75
8:45 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	9	0	16	71
Count Total	0	2	0	0	0	0	0	0	0	2	75	0	0	0	81	0	160	0
Peak Hour	0	2	0	0	0	0	0	0	0	2	44	0	0	0	41	0	89	0

Two-Hour Count Summaries - Bikes														15-min Total	Rolling One Hour			
Interval Start	Driveway			N/A			Colorado Blvd			Colorado Blvd								
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

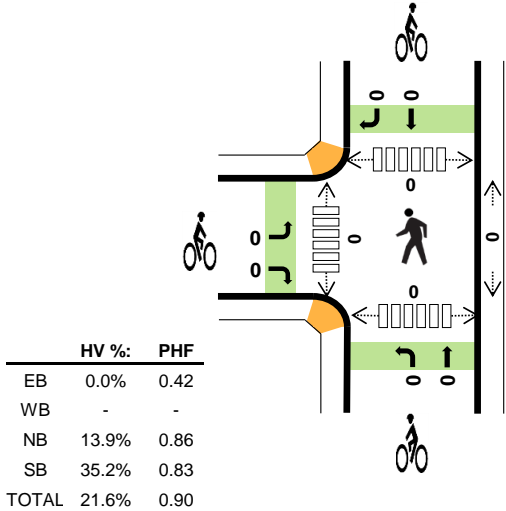
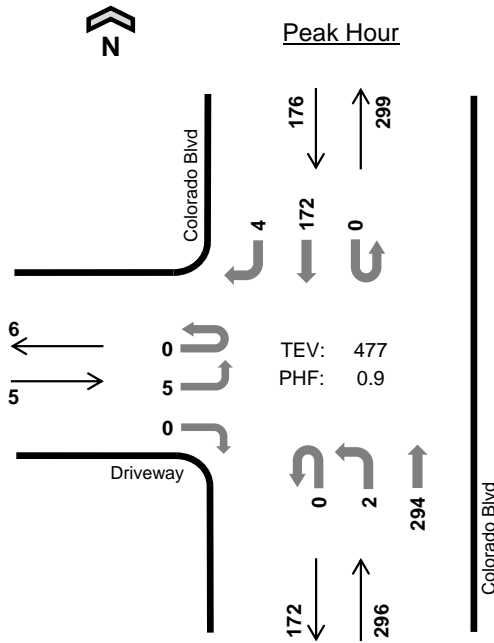
Colorado Blvd Driveway



Date: 09/01/2022

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	0.0%	0.42
WB	-	-
NB	13.9%	0.86
SB	35.2%	0.83
TOTAL	21.6%	0.90

Two-Hour Count Summaries

Interval Start	Driveway				N/A				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour	
	Eastbound		Westbound		UT		TH		UT		TH		UT		TH				
4:00 PM	0	2	0	0	0	0	0	0	0	0	65	0	0	0	43	1	111	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	73	0	0	0	53	0	126	0	
4:30 PM	0	0	0	0	0	0	0	0	0	1	71	0	0	0	35	1	108	0	
4:45 PM	0	3	0	0	0	0	0	0	0	1	85	0	0	0	41	2	132	477	
5:00 PM	0	1	0	0	0	0	0	0	0	0	70	0	0	0	37	1	109	475	
5:15 PM	0	2	0	0	0	0	0	0	0	0	71	0	0	0	33	1	107	456	
5:30 PM	0	1	0	0	0	0	0	0	0	0	53	0	0	0	24	0	78	426	
5:45 PM	0	0	0	0	0	0	0	0	0	0	34	0	0	0	30	0	64	358	
Count Total	0	9	0	0	0	0	0	0	0	2	522	0	0	0	296	6	835	0	
Peak Hour	All	0	5	0	0	0	0	0	0	0	2	294	0	0	0	172	4	477	0
	HV	0	0	0	0	0	0	0	0	0	1	40	0	0	0	60	2	103	0
	HV%	-	0%	-	-	-	-	-	-	-	50%	14%	-	-	-	35%	50%	22%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	9	17	26	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	9	16	25	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	12	9	21	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	11	20	31	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	9	11	20	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	7	7	14	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	4	7	11	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	6	7	13	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	67	94	161	0	0	0	0	0	0	0	0	0	0
Peak Hr	0	0	41	62	103	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Driveway				N/A				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	17	0	26	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	16	0	25	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	11	0	0	0	9	0	21	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	18	2	31	103
5:00 PM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	20	97
5:15 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	6	1	14	86
5:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	11	76
5:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	13	58
Count Total	0	0	0	0	0	0	0	0	0	1	66	0	0	0	91	3	161	0
Peak Hour	0	0	0	0	0	0	0	0	0	1	40	0	0	0	60	2	103	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Driveway			N/A			Colorado Blvd			Colorado Blvd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

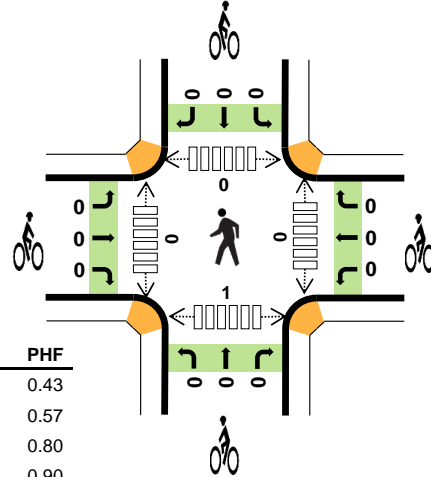
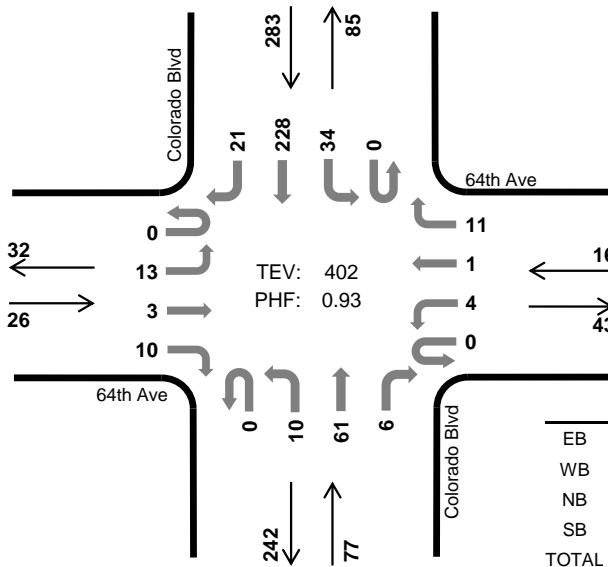
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Colorado Blvd 64th Ave



Peak Hour

Date: 09/01/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	61.5%	0.43
WB	25.0%	0.57
NB	29.9%	0.80
SB	14.1%	0.90
TOTAL	20.6%	0.93

Two-Hour Count Summaries

Interval Start	64th Ave Eastbound				64th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	2	0	3	0	1	2	4	0	1	19	3	0	15	56	5	111	0	
7:15 AM	0	4	0	7	0	0	2	1	0	0	20	3	0	1	47	3	88	0	
7:30 AM	0	2	0	2	0	1	1	3	0	3	8	1	0	8	57	4	90	0	
7:45 AM	0	2	2	0	0	2	0	1	0	4	15	3	0	8	64	7	108	397	
8:00 AM	0	0	1	2	0	1	0	6	0	2	21	1	0	11	56	3	104	390	
8:15 AM	0	9	0	6	0	0	0	1	0	1	17	1	0	7	51	7	100	402	
8:30 AM	0	1	1	2	0	2	2	2	0	0	15	3	0	5	50	4	87	399	
8:45 AM	0	1	0	2	0	2	3	2	0	0	17	6	0	3	52	1	89	380	
Count Total	0	21	4	24	0	9	10	20	0	11	132	21	0	58	433	34	777	0	
Peak Hour	All	0	13	3	10	0	4	1	11	0	10	61	6	0	34	228	21	402	0
	HV	0	10	2	4	0	2	0	2	0	3	17	3	0	11	25	4	83	0
	HV%	-	77%	67%	40%	-	50%	0%	18%	-	30%	28%	50%	-	32%	11%	19%	21%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	8	19	30	0	0	0	0	0	0	0	0	0	0
7:15 AM	7	0	11	6	24	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	0	2	9	14	0	0	0	0	0	0	0	0	1	1
7:45 AM	3	1	10	11	25	0	0	0	0	0	0	0	0	0	0
8:00 AM	2	2	4	8	16	0	0	0	0	0	0	0	0	0	0
8:15 AM	8	1	7	12	28	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	3	10	16	30	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	3	7	10	21	0	0	0	0	0	0	0	0	0	0
Count Total	26	12	59	91	188	0	0	0	0	0	0	0	0	1	1
Peak Hour	16	4	23	40	83	0	0	0	0	0	0	0	0	1	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	64th Ave				64th Ave				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	1	1	0	0	6	2	0	5	14	0	30	0
7:15 AM	0	4	0	3	0	0	0	0	0	0	10	1	0	0	6	0	24	0
7:30 AM	0	2	0	1	0	0	0	0	0	0	1	1	0	2	7	0	14	0
7:45 AM	0	2	1	0	0	1	0	0	0	2	6	2	0	4	5	2	25	93
8:00 AM	0	0	1	1	0	1	0	1	0	0	4	0	0	3	5	0	16	79
8:15 AM	0	6	0	2	0	0	0	1	0	1	6	0	0	2	8	2	28	83
8:30 AM	0	0	0	1	0	2	0	1	0	0	9	1	0	3	12	1	30	99
8:45 AM	0	0	0	1	0	1	1	1	0	0	5	2	0	0	10	0	21	95
Count Total	0	14	2	10	0	5	2	5	0	3	47	9	0	19	67	5	188	0
Peak Hour	0	10	2	4	0	2	0	2	0	3	17	3	0	11	25	4	83	0

Two-Hour Count Summaries - Bikes																		
Interval Start	64th Ave			64th Ave			Colorado Blvd			Colorado Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

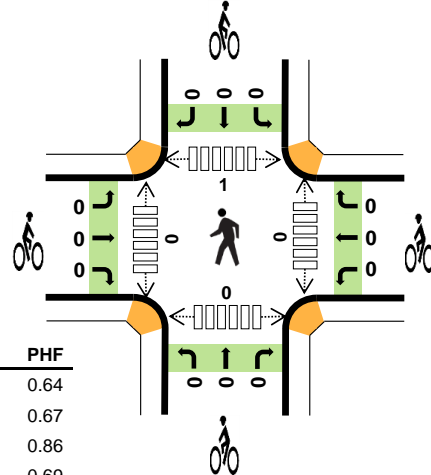
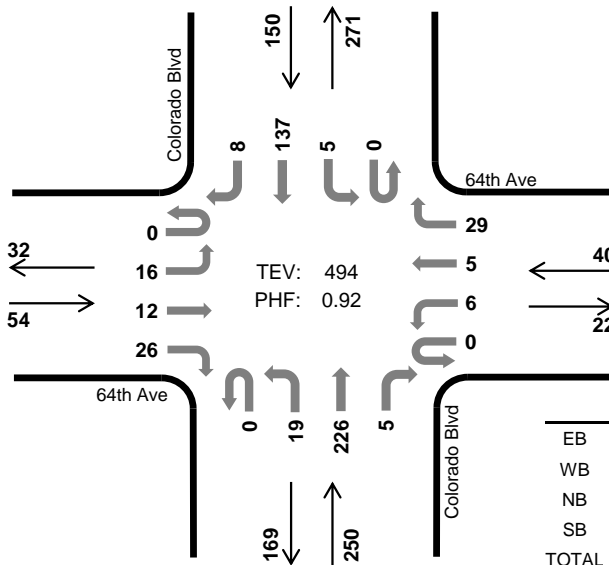
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Colorado Blvd 64th Ave



Peak Hour

Date: 09/01/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	7.4%	0.64
WB	12.5%	0.67
NB	17.6%	0.86
SB	27.3%	0.69
TOTAL	19.0%	0.92

Two-Hour Count Summaries

Interval Start	64th Ave Eastbound				64th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	3	0	2	0	2	2	3	0	1	57	0	0	3	37	0	110	0	
4:15 PM	0	4	3	6	0	2	0	3	0	5	56	1	0	3	48	3	134	0	
4:30 PM	0	4	2	1	0	2	3	10	0	6	55	2	0	1	29	2	117	0	
4:45 PM	0	4	2	7	0	2	1	8	0	5	67	1	0	1	33	1	132	493	
5:00 PM	0	4	5	12	0	0	1	8	0	3	48	1	0	0	27	2	111	494	
5:15 PM	0	3	0	5	0	2	3	2	0	4	59	1	0	2	27	3	111	471	
5:30 PM	0	3	3	1	0	1	0	2	0	5	37	1	0	1	27	3	84	438	
5:45 PM	0	4	3	3	0	0	0	1	0	1	28	0	0	0	23	6	69	375	
Count Total	0	29	18	37	0	11	10	37	0	30	407	7	0	11	251	20	868	0	
Peak Hour	All	0	16	12	26	0	6	5	29	0	19	226	5	0	5	137	8	494	0
	HV	0	2	2	0	0	3	0	2	0	4	37	3	0	4	33	4	94	0
	HV%	-	13%	17%	0%	-	50%	0%	7%	-	21%	16%	60%	-	80%	24%	50%	19%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	9	10	21	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	0	10	14	26	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	3	13	7	23	0	0	0	0	0	0	0	1	0	1
4:45 PM	2	1	11	13	27	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	10	7	18	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	6	7	14	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	9	7	17	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	7	7	15	0	0	0	0	0	0	0	0	0	0
Count Total	5	9	75	72	161	0	0	0	0	0	0	0	1	0	1
Peak Hour	4	5	44	41	94	0	0	0	0	0	0	0	1	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	64th Ave				64th Ave				Colorado Blvd				Colorado Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	1	1	0	0	9	0	0	1	9	0	21	0
4:15 PM	0	1	1	0	0	0	0	0	0	1	9	0	0	3	10	1	26	0
4:30 PM	0	0	0	0	0	2	0	1	0	1	11	1	0	0	7	0	23	0
4:45 PM	0	1	1	0	0	1	0	0	0	1	9	1	0	1	11	1	27	97
5:00 PM	0	0	0	0	0	0	0	1	0	1	8	1	0	0	5	2	18	94
5:15 PM	0	0	0	0	0	0	1	0	0	0	6	0	0	1	4	2	14	82
5:30 PM	0	0	0	0	0	1	0	0	0	3	5	1	0	0	5	2	17	76
5:45 PM	0	0	1	0	0	0	0	0	0	1	6	0	0	0	3	4	15	64
Count Total	0	2	3	0	0	4	2	3	0	8	63	4	0	6	54	12	161	0
Peak Hour	0	2	2	0	0	3	0	2	0	4	37	3	0	4	33	4	94	0

Two-Hour Count Summaries - Bikes																		
Interval Start	64th Ave			64th Ave			Colorado Blvd			Colorado Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

APPENDIX D – Existing Synchro Outputs

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	44	5	17	11	5	40	5	90	6	47	278	17
Future Vol, veh/h	44	5	17	11	5	40	5	90	6	47	278	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	92	92	85	85	85	85	85	85
Heavy Vehicles, %	68	20	47	9	2	10	40	54	17	2	13	6
Mvmt Flow	52	6	20	12	5	43	6	106	7	55	327	20

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	593	572	337	582
Stage 1	447	447	-	122
Stage 2	146	125	-	460
Critical Hdwy	7.78	6.7	6.67	7.19
Critical Hdwy Stg 1	6.78	5.7	-	6.19
Critical Hdwy Stg 2	6.78	5.7	-	6.19
Follow-up Hdwy	4.112	4.18	3.723	3.581
Pot Cap-1 Maneuver	335	407	613	414
Stage 1	482	544	-	866
Stage 2	722	759	-	568
Platoon blocked, %				
Mov Cap-1 Maneuver	304	386	613	380
Mov Cap-2 Maneuver	304	386	-	380
Stage 1	479	519	-	861
Stage 2	679	754	-	518

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	11	0.4	1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	356	661	1476	-	-
HCM Lane V/C Ratio	0.006	-	-	0.218	0.092	0.037	-	-
HCM Control Delay (s)	8.5	0	-	17.9	11	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.3	0.1	-	-




HCM 6th TWSC
2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	4	0	3	92	283	2
Future Vol, veh/h	4	0	3	92	283	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	86	86
Heavy Vehicles, %	50	50	67	48	14	2
Mvmt Flow	5	0	4	108	329	2

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	446	330	331	0	-	0
Stage 1	330	-	-	-	-	-
Stage 2	116	-	-	-	-	-
Critical Hdwy	6.9	6.7	4.77	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	2.803	-	-	-
Pot Cap-1 Maneuver	490	614	940	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	488	614	940	-	-	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	803	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 12.4 0.3 0
HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	940	-	488	-	-
HCM Lane V/C Ratio	0.004	-	0.01	-	-
HCM Control Delay (s)	8.8	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	3	10	4	1	11	10	61	6	34	228	21
Future Vol, veh/h	13	3	10	4	1	11	10	61	6	34	228	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	90	90	90
Heavy Vehicles, %	77	67	40	50	2	18	30	28	50	32	11	19
Mvmt Flow	15	4	12	5	1	13	12	72	7	38	253	23

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	448	444	265	449
Stage 1	341	341	-	100
Stage 2	107	103	-	349
Critical Hdwy	7.87	7.17	6.6	7.6
Critical Hdwy Stg 1	6.87	6.17	-	6.6
Critical Hdwy Stg 2	6.87	6.17	-	6.6
Follow-up Hdwy	4.193	4.603	3.66	3.95
Pot Cap-1 Maneuver	414	423	690	447
Stage 1	543	538	-	801
Stage 2	745	700	-	579
Platoon blocked, %				
Mov Cap-1 Maneuver	394	404	690	422
Mov Cap-2 Maneuver	394	404	-	422
Stage 1	537	520	-	792
Stage 2	726	692	-	547

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	10.4	1.1	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	473	689	1349	-	-
HCM Lane V/C Ratio	0.01	-	-	0.065	0.027	0.028	-	-
HCM Control Delay (s)	8.2	0	-	13.1	10.4	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	8	5	6	1	50	4	291	18	63	162	7
Future Vol, veh/h	22	8	5	6	1	50	4	291	18	63	162	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	92	92	88	88	88	85	85	85
Heavy Vehicles, %	23	2	60	17	2	2	95	11	11	5	35	86
Mvmt Flow	26	9	6	7	1	54	5	331	20	74	191	8

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	722	704	195	702	698	341	199	0	0	351	0	0
Stage 1	343	343	-	351	351	-	-	-	-	-	-	-
Stage 2	379	361	-	351	347	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.52	6.8	7.27	6.52	6.22	5.05	-	-	4.15	-	-
Critical Hdwy Stg 1	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4.018	3.84	3.653	4.018	3.318	3.055	-	-	2.245	-	-
Pot Cap-1 Maneuver	316	361	718	334	364	701	969	-	-	1191	-	-
Stage 1	631	637	-	636	632	-	-	-	-	-	-	-
Stage 2	602	626	-	636	635	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	274	334	718	306	336	701	969	-	-	1191	-	-
Mov Cap-2 Maneuver	274	334	-	306	336	-	-	-	-	-	-	-
Stage 1	627	592	-	632	628	-	-	-	-	-	-	-
Stage 2	551	622	-	577	591	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.1	11.6	0.1	2.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	969	-	-	315	607	1191	-	-
HCM Lane V/C Ratio	0.005	-	-	0.131	0.102	0.062	-	-
HCM Control Delay (s)	8.7	0	-	18.1	11.6	8.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0.2	-	-

HCM 6th TWSC
2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	5	0	2	294	172	4
Future Vol, veh/h	5	0	2	294	172	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	86	86	85	85
Heavy Vehicles, %	2	2	50	14	35	50
Mvmt Flow	6	0	2	342	202	5

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	551	205	207	0	-	0
Stage 1	205	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.6	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.65	-	-	-
Pot Cap-1 Maneuver	495	836	1124	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	494	836	1124	-	-	-
Mov Cap-2 Maneuver	494	-	-	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 12.4 0.1 0
HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1124	-	494	-	-
HCM Lane V/C Ratio	0.002	-	0.012	-	-
HCM Control Delay (s)	8.2	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	12	26	6	5	29	19	226	5	5	137	8
Future Vol, veh/h	16	12	26	6	5	29	19	226	5	5	137	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	86	86	86	85	85	85
Heavy Vehicles, %	13	17	2	50	2	7	21	16	60	80	24	50
Mvmt Flow	19	14	31	7	6	34	22	263	6	6	161	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	508	491	166	510	492	266	170	0	0	269	0	0
Stage 1	178	178	-	310	310	-	-	-	-	-	-	-
Stage 2	330	313	-	200	182	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.67	6.22	7.6	6.52	6.27	4.31	-	-	4.9	-	-
Critical Hdwy Stg 1	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.153	3.318	3.95	4.018	3.363	2.389	-	-	2.92	-	-
Pot Cap-1 Maneuver	458	457	878	405	478	761	1300	-	-	952	-	-
Stage 1	799	724	-	609	659	-	-	-	-	-	-	-
Stage 2	661	631	-	703	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	425	445	878	374	465	761	1300	-	-	952	-	-
Mov Cap-2 Maneuver	425	445	-	374	465	-	-	-	-	-	-	-
Stage 1	783	719	-	597	646	-	-	-	-	-	-	-
Stage 2	613	618	-	661	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	11.3	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	573	616	952	-	-
HCM Lane V/C Ratio	0.017	-	-	0.111	0.076	0.006	-	-
HCM Control Delay (s)	7.8	0	-	12.1	11.3	8.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.2	0	-	-

**APPENDIX E – Background (without site development) Synchro
Outputs**

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	5	17	11	5	41	5	92	6	48	284	17
Future Vol, veh/h	45	5	17	11	5	41	5	92	6	48	284	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	68	20	47	9	2	10	40	54	17	2	13	6
Mvmt Flow	49	5	18	12	5	45	5	100	7	52	309	18

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	561	539	318	548	545	104	327	0	0	107	0	0
Stage 1	422	422	-	114	114	-	-	-	-	-	-	-
Stage 2	139	117	-	434	431	-	-	-	-	-	-	-
Critical Hdwy	7.78	6.7	6.67	7.19	6.52	6.3	4.5	-	-	4.12	-	-
Critical Hdwy Stg 1	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.112	4.18	3.723	3.581	4.018	3.39	2.56	-	-	2.218	-	-
Pot Cap-1 Maneuver	353	425	629	436	446	929	1047	-	-	1484	-	-
Stage 1	498	558	-	874	801	-	-	-	-	-	-	-
Stage 2	729	765	-	587	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	321	405	629	404	425	929	1047	-	-	1484	-	-
Mov Cap-2 Maneuver	321	405	-	404	425	-	-	-	-	-	-	-
Stage 1	496	534	-	870	797	-	-	-	-	-	-	-
Stage 2	686	761	-	540	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	10.8	0.4	1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1047	-	-	373	686	1484	-	-
HCM Lane V/C Ratio	0.005	-	-	0.195	0.09	0.035	-	-
HCM Control Delay (s)	8.5	0	-	17	10.8	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.3	0.1	-	-

HCM 6th TWSC
 2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	4	0	3	94	289	2
Future Vol, veh/h	4	0	3	94	289	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	67	48	14	2
Mvmt Flow	4	0	3	102	314	2

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	423	315	316	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.9	6.7	4.77	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	2.803	-	-	-
Pot Cap-1 Maneuver	506	627	953	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	504	627	953	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	12.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	953	-	504	-	-
HCM Lane V/C Ratio	0.003	-	0.009	-	-
HCM Control Delay (s)	8.8	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	14	3	10	4	1	11	10	62	6	35	233	21
Future Vol, veh/h	14	3	10	4	1	11	10	62	6	35	233	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	77	67	40	50	2	18	30	28	50	32	11	19
Mvmt Flow	15	3	11	4	1	12	11	67	7	38	253	23

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	440	437	265	441	445	71	276	0	0	74	0	0
Stage 1	341	341	-	93	93	-	-	-	-	-	-	-
Stage 2	99	96	-	348	352	-	-	-	-	-	-	-
Critical Hdwy	7.87	7.17	6.6	7.6	6.52	6.38	4.4	-	-	4.42	-	-
Critical Hdwy Stg 1	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.193	4.603	3.66	3.95	4.018	3.462	2.47	-	-	2.488	-	-
Pot Cap-1 Maneuver	419	428	690	453	508	949	1142	-	-	1355	-	-
Stage 1	543	538	-	808	818	-	-	-	-	-	-	-
Stage 2	753	705	-	579	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	400	410	690	429	486	949	1142	-	-	1355	-	-
Mov Cap-2 Maneuver	400	410	-	429	486	-	-	-	-	-	-	-
Stage 1	538	520	-	800	810	-	-	-	-	-	-	-
Stage 2	735	698	-	548	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	10.3	1	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	475	696	1355	-	-
HCM Lane V/C Ratio	0.01	-	-	0.062	0.025	0.028	-	-
HCM Control Delay (s)	8.2	0	-	13.1	10.3	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	8	5	6	1	51	4	297	18	64	165	7
Future Vol, veh/h	22	8	5	6	1	51	4	297	18	64	165	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	23	2	60	17	2	2	95	11	11	5	35	86
Mvmt Flow	24	9	5	7	1	55	4	323	20	70	179	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	692	674	183	671	668	333	187	0	0	343	0	0
Stage 1	323	323	-	341	341	-	-	-	-	-	-	-
Stage 2	369	351	-	330	327	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.52	6.8	7.27	6.52	6.22	5.05	-	-	4.15	-	-
Critical Hdwy Stg 1	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4.018	3.84	3.653	4.018	3.318	3.055	-	-	2.245	-	-
Pot Cap-1 Maneuver	332	376	730	350	379	709	980	-	-	1199	-	-
Stage 1	647	650	-	644	639	-	-	-	-	-	-	-
Stage 2	610	632	-	653	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	289	350	730	323	352	709	980	-	-	1199	-	-
Mov Cap-2 Maneuver	289	350	-	323	352	-	-	-	-	-	-	-
Stage 1	644	608	-	641	636	-	-	-	-	-	-	-
Stage 2	559	629	-	597	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	11.5	0.1	2.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	980	-	-	331	621	1199	-	-
HCM Lane V/C Ratio	0.004	-	-	0.115	0.102	0.058	-	-
HCM Control Delay (s)	8.7	0	-	17.3	11.5	8.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0.2	-	-

HCM 6th TWSC
2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	5	0	2	300	175	4
Future Vol, veh/h	5	0	2	300	175	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	50	14	35	50
Mvmt Flow	5	0	2	326	190	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	522	192	194	0	-	0
Stage 1	192	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.6	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.65	-	-	-
Pot Cap-1 Maneuver	515	850	1138	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	514	850	1138	-	-	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 12.1 0.1 0
HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1138	-	514	-	-
HCM Lane V/C Ratio	0.002	-	0.011	-	-
HCM Control Delay (s)	8.2	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	12	27	6	5	30	19	231	5	5	140	8
Future Vol, veh/h	16	12	27	6	5	30	19	231	5	5	140	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	17	2	50	2	7	21	16	60	80	24	50
Mvmt Flow	17	13	29	7	5	33	21	251	5	5	152	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	482	465	157	484	467	254	161	0	0	256	0	0
Stage 1	167	167	-	296	296	-	-	-	-	-	-	-
Stage 2	315	298	-	188	171	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.67	6.22	7.6	6.52	6.27	4.31	-	-	4.9	-	-
Critical Hdwy Stg 1	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.153	3.318	3.95	4.018	3.363	2.389	-	-	2.92	-	-
Pot Cap-1 Maneuver	477	473	889	423	493	773	1310	-	-	964	-	-
Stage 1	810	733	-	620	668	-	-	-	-	-	-	-
Stage 2	673	641	-	715	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	445	461	889	393	481	773	1310	-	-	964	-	-
Mov Cap-2 Maneuver	445	461	-	393	481	-	-	-	-	-	-	-
Stage 1	795	729	-	608	655	-	-	-	-	-	-	-
Stage 2	627	629	-	675	752	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.1	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1310	-	-	596	636	964	-	-
HCM Lane V/C Ratio	0.016	-	-	0.1	0.07	0.006	-	-
HCM Control Delay (s)	7.8	0	-	11.7	11.1	8.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	55	6	21	13	6	50	6	111	7	59	343	21
Future Vol, veh/h	55	6	21	13	6	50	6	111	7	59	343	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	68	20	47	9	2	10	40	54	17	2	13	6
Mvmt Flow	60	7	23	14	7	54	7	121	8	64	373	23

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	683	656	385	667	663	125	396	0	0	129	0	0
Stage 1	513	513	-	139	139	-	-	-	-	-	-	-
Stage 2	170	143	-	528	524	-	-	-	-	-	-	-
Critical Hdwy	7.78	6.7	6.67	7.19	6.52	6.3	4.5	-	-	4.12	-	-
Critical Hdwy Stg 1	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.112	4.18	3.723	3.581	4.018	3.39	2.56	-	-	2.218	-	-
Pot Cap-1 Maneuver	288	363	574	363	382	905	984	-	-	1457	-	-
Stage 1	440	507	-	848	782	-	-	-	-	-	-	-
Stage 2	699	745	-	521	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	254	340	574	327	358	905	984	-	-	1457	-	-
Mov Cap-2 Maneuver	254	340	-	327	358	-	-	-	-	-	-	-
Stage 1	436	479	-	841	776	-	-	-	-	-	-	-
Stage 2	646	739	-	466	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.8	11.6	0.4	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	984	-	-	303	617	1457	-	-
HCM Lane V/C Ratio	0.007	-	-	0.294	0.122	0.044	-	-
HCM Control Delay (s)	8.7	0	-	21.8	11.6	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.4	0.1	-	-

HCM 6th TWSC
 2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	4	0	3	115	354	2
Future Vol, veh/h	4	0	3	115	354	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	67	48	14	2
Mvmt Flow	4	0	3	125	385	2

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	517	386	387	0	-	0
Stage 1	386	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Critical Hdwy	6.9	6.7	4.77	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	2.803	-	-	-
Pot Cap-1 Maneuver	443	568	891	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	441	568	891	-	-	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	13.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	891	-	441	-	-
HCM Lane V/C Ratio	0.004	-	0.01	-	-
HCM Control Delay (s)	9.1	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	4	12	5	1	14	12	78	7	42	286	26
Future Vol, veh/h	16	4	12	5	1	14	12	78	7	42	286	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	77	67	40	50	2	18	30	28	50	32	11	19
Mvmt Flow	17	4	13	5	1	15	13	85	8	46	311	28

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	540	536	325	541	546	89	339	0	0	93	0	0
Stage 1	417	417	-	115	115	-	-	-	-	-	-	-
Stage 2	123	119	-	426	431	-	-	-	-	-	-	-
Critical Hdwy	7.87	7.17	6.6	7.6	6.52	6.38	4.4	-	-	4.42	-	-
Critical Hdwy Stg 1	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.193	4.603	3.66	3.95	4.018	3.462	2.47	-	-	2.488	-	-
Pot Cap-1 Maneuver	355	372	637	386	445	927	1079	-	-	1333	-	-
Stage 1	489	494	-	786	800	-	-	-	-	-	-	-
Stage 2	729	688	-	522	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	334	352	637	359	421	927	1079	-	-	1333	-	-
Mov Cap-2 Maneuver	334	352	-	359	421	-	-	-	-	-	-	-
Stage 1	483	473	-	776	790	-	-	-	-	-	-	-
Stage 2	707	679	-	485	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	10.9	1	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	410	637	1333	-	-
HCM Lane V/C Ratio	0.012	-	-	0.085	0.034	0.034	-	-
HCM Control Delay (s)	8.4	0	-	14.6	10.9	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0.1	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	10	6	7	1	62	5	357	22	78	200	9
Future Vol, veh/h	27	10	6	7	1	62	5	357	22	78	200	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	23	2	60	17	2	2	95	11	11	5	35	86
Mvmt Flow	29	11	7	8	1	67	5	388	24	85	217	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	836	814	222	811	807	400	227	0	0	412	0	0
Stage 1	392	392	-	410	410	-	-	-	-	-	-	-
Stage 2	444	422	-	401	397	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.52	6.8	7.27	6.52	6.22	5.05	-	-	4.15	-	-
Critical Hdwy Stg 1	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4.018	3.84	3.653	4.018	3.318	3.055	-	-	2.245	-	-
Pot Cap-1 Maneuver	264	312	692	281	315	650	942	-	-	1131	-	-
Stage 1	592	606	-	590	595	-	-	-	-	-	-	-
Stage 2	554	588	-	597	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	219	283	692	251	286	650	942	-	-	1131	-	-
Mov Cap-2 Maneuver	219	283	-	251	286	-	-	-	-	-	-	-
Stage 1	588	554	-	586	591	-	-	-	-	-	-	-
Stage 2	492	584	-	530	551	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.1	12.6	0.1	2.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	942	-	-	257	552	1131	-	-
HCM Lane V/C Ratio	0.006	-	-	0.182	0.138	0.075	-	-
HCM Control Delay (s)	8.8	0	-	22.1	12.6	8.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.5	0.2	-	-

HCM 6th TWSC
2: COLORADO BOULEVARD & SITE ACCESS

09/09/2022

Intersection

Int Delay, s/veh 0.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	5	0	2	365	212	4
Future Vol, veh/h	5	0	2	365	212	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	50	14	35	50
Mvmt Flow	5	0	2	397	230	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	633	232	234	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.6	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.65	-	-	-
Pot Cap-1 Maneuver	444	807	1097	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	443	807	1097	-	-	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 13.2 0 0
HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1097	-	443	-	-
HCM Lane V/C Ratio	0.002	-	0.012	-	-
HCM Control Delay (s)	8.3	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

09/09/2022

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	15	32	7	6	36	24	286	6	6	174	10
Future Vol, veh/h	20	15	32	7	6	36	24	286	6	6	174	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	17	2	50	2	7	21	16	60	80	24	50
Mvmt Flow	22	16	35	8	7	39	26	311	7	7	189	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	599	579	195	601	581	315	200	0	0	318	0	0
Stage 1	209	209	-	367	367	-	-	-	-	-	-	-
Stage 2	390	370	-	234	214	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.67	6.22	7.6	6.52	6.27	4.31	-	-	4.9	-	-
Critical Hdwy Stg 1	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.153	3.318	3.95	4.018	3.363	2.389	-	-	2.92	-	-
Pot Cap-1 Maneuver	398	406	846	350	425	714	1266	-	-	907	-	-
Stage 1	769	702	-	565	622	-	-	-	-	-	-	-
Stage 2	613	595	-	673	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	362	392	846	317	411	714	1266	-	-	907	-	-
Mov Cap-2 Maneuver	362	392	-	317	411	-	-	-	-	-	-	-
Stage 1	750	696	-	551	606	-	-	-	-	-	-	-
Stage 2	559	580	-	625	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	12.1	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1266	-	-	510	563	907	-	-
HCM Lane V/C Ratio	0.021	-	-	0.143	0.095	0.007	-	-
HCM Control Delay (s)	7.9	0	-	13.2	12.1	9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.3	0	-	-

APPENDIX F – Future (with site development) Synchro Outputs

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	5	17	11	5	41	5	94	6	48	295	17
Future Vol, veh/h	45	5	17	11	5	41	5	94	6	48	295	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	68	20	47	9	2	10	40	54	17	2	13	6
Mvmt Flow	49	5	18	12	5	45	5	102	7	52	321	18

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	575	553	330	562
Stage 1	434	434	-	116
Stage 2	141	119	-	446
Critical Hdwy	7.78	6.7	6.67	7.19
Critical Hdwy Stg 1	6.78	5.7	-	6.19
Critical Hdwy Stg 2	6.78	5.7	-	6.19
Follow-up Hdwy	4.112	4.18	3.723	3.581
Pot Cap-1 Maneuver	345	417	619	427
Stage 1	490	551	-	872
Stage 2	727	764	-	578
Platoon blocked, %				
Mov Cap-1 Maneuver	313	397	619	395
Mov Cap-2 Maneuver	313	397	-	395
Stage 1	488	527	-	868
Stage 2	684	760	-	531

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	10.8	0.4	1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1036	-	-	364	678	1481	-	-
HCM Lane V/C Ratio	0.005	-	-	0.2	0.091	0.035	-	-
HCM Control Delay (s)	8.5	0	-	17.3	10.8	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.3	0.1	-	-

HCM 6th TWSC
2: COLORADO BOULEVARD & S SITE ACCESS

04/21/2023

Intersection

Int Delay, s/veh 0.4

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	5	1	12	96	290	4
Future Vol, veh/h	5	1	12	96	290	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	67	48	14	2
Mvmt Flow	5	1	13	104	315	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	447	317	319	0	-	0
Stage 1	317	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.9	6.7	4.77	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	2.803	-	-	-
Pot Cap-1 Maneuver	490	625	950	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	483	625	950	-	-	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	790	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	12.3	1	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	950	-	502	-	-
HCM Lane V/C Ratio	0.014	-	0.013	-	-
HCM Control Delay (s)	8.8	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	3	10	4	1	11	10	73	6	35	235	21
Future Vol, veh/h	14	3	10	4	1	11	10	73	6	35	235	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	77	67	40	50	2	18	30	28	50	32	11	19
Mvmt Flow	15	3	11	4	1	12	11	79	7	38	255	23

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	454	451	267	455	459	83	278	0	0	86	0	0
Stage 1	343	343	-	105	105	-	-	-	-	-	-	-
Stage 2	111	108	-	350	354	-	-	-	-	-	-	-
Critical Hdwy	7.87	7.17	6.6	7.6	6.52	6.38	4.4	-	-	4.42	-	-
Critical Hdwy Stg 1	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.87	6.17	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.193	4.603	3.66	3.95	4.018	3.462	2.47	-	-	2.488	-	-
Pot Cap-1 Maneuver	410	419	688	443	499	934	1140	-	-	1341	-	-
Stage 1	541	537	-	796	808	-	-	-	-	-	-	-
Stage 2	741	696	-	578	630	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	391	401	688	419	477	934	1140	-	-	1341	-	-
Mov Cap-2 Maneuver	391	401	-	419	477	-	-	-	-	-	-	-
Stage 1	536	519	-	788	800	-	-	-	-	-	-	-
Stage 2	723	689	-	546	609	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	10.4	0.9	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1140	-	-	467	683	1341	-	-
HCM Lane V/C Ratio	0.01	-	-	0.063	0.025	0.028	-	-
HCM Control Delay (s)	8.2	0	-	13.2	10.4	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-

HCM 6th TWSC
4: COLORADO BOULEVARD & N SITE ACCESS

04/21/2023

Intersection

Int Delay, s/veh 0.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	1	1	2	99	293	9
Future Vol, veh/h	1	1	2	99	293	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	2	108	318	10

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	435	323	328	0	-	0
Stage 1	323	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	578	718	1232	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	577	718	1232	-	-	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	913	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	10.6	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1232	-	640	-	-
HCM Lane V/C Ratio	0.002	-	0.003	-	-
HCM Control Delay (s)	7.9	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	8	5	6	1	51	4	305	18	64	166	7
Future Vol, veh/h	22	8	5	6	1	51	4	305	18	64	166	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	23	2	60	17	2	2	95	11	11	5	35	86
Mvmt Flow	24	9	5	7	1	55	4	332	20	70	180	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	702	684	184	681	678	342	188	0	0	352	0	0
Stage 1	324	324	-	350	350	-	-	-	-	-	-	-
Stage 2	378	360	-	331	328	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.52	6.8	7.27	6.52	6.22	5.05	-	-	4.15	-	-
Critical Hdwy Stg 1	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4.018	3.84	3.653	4.018	3.318	3.055	-	-	2.245	-	-
Pot Cap-1 Maneuver	327	371	729	345	374	701	979	-	-	1190	-	-
Stage 1	646	650	-	636	633	-	-	-	-	-	-	-
Stage 2	603	626	-	652	647	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	284	345	729	318	347	701	979	-	-	1190	-	-
Mov Cap-2 Maneuver	284	345	-	318	347	-	-	-	-	-	-	-
Stage 1	643	607	-	633	630	-	-	-	-	-	-	-
Stage 2	552	623	-	596	604	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.5	11.5	0.1	2.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	979	-	-	326	614	1190	-	-
HCM Lane V/C Ratio	0.004	-	-	0.117	0.103	0.058	-	-
HCM Control Delay (s)	8.7	0	-	17.5	11.5	8.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0.2	-	-

HCM 6th TWSC
 2: COLORADO BOULEVARD & S SITE ACCESS

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Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	7	6	3	300	177	4
Future Vol, veh/h	7	6	3	300	177	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	50	14	35	50
Mvmt Flow	8	7	3	326	192	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	526	194	196	0	-	0
Stage 1	194	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.6	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.65	-	-	-
Pot Cap-1 Maneuver	512	847	1136	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	510	847	1136	-	-	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 10.9 0.1 0
 HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1136	-	625	-	-
HCM Lane V/C Ratio	0.003	-	0.023	-	-
HCM Control Delay (s)	8.2	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

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Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	12	27	6	5	30	19	232	5	5	148	8
Future Vol, veh/h	16	12	27	6	5	30	19	232	5	5	148	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	17	2	50	2	7	21	16	60	80	24	50
Mvmt Flow	17	13	29	7	5	33	21	252	5	5	161	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	492	475	166	494	477	255	170	0	0	257	0	0
Stage 1	176	176	-	297	297	-	-	-	-	-	-	-
Stage 2	316	299	-	197	180	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.67	6.22	7.6	6.52	6.27	4.31	-	-	4.9	-	-
Critical Hdwy Stg 1	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.153	3.318	3.95	4.018	3.363	2.389	-	-	2.92	-	-
Pot Cap-1 Maneuver	470	467	878	416	487	772	1300	-	-	963	-	-
Stage 1	801	726	-	620	668	-	-	-	-	-	-	-
Stage 2	672	640	-	706	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	438	455	878	386	475	772	1300	-	-	963	-	-
Mov Cap-2 Maneuver	438	455	-	386	475	-	-	-	-	-	-	-
Stage 1	786	722	-	608	655	-	-	-	-	-	-	-
Stage 2	626	628	-	666	746	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	11.1	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	587	631	963	-	-
HCM Lane V/C Ratio	0.016	-	-	0.102	0.071	0.006	-	-
HCM Control Delay (s)	7.8	0	-	11.8	11.1	8.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

HCM 6th TWSC
 4: COLORADO BOULEVARD & N SITE ACCESS

04/21/2023

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	6	2	0	307	179	1
Future Vol, veh/h	6	2	0	307	179	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	0	334	195	1

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	530	196	196	0	-	0
Stage 1	196	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	510	845	1377	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	510	845	1377	-	-	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 11.5 0 0
 HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1377	-	566	-	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	0	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

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Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	55	6	21	13	6	50	6	113	7	59	354	21
Future Vol, veh/h	55	6	21	13	6	50	6	113	7	59	354	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	68	20	47	9	2	10	40	54	17	2	13	6
Mvmt Flow	60	7	23	14	7	54	7	123	8	64	385	23

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	697	670	397	681	677	127	408	0	0	131	0	0
Stage 1	525	525	-	141	141	-	-	-	-	-	-	-
Stage 2	172	145	-	540	536	-	-	-	-	-	-	-
Critical Hdwy	7.78	6.7	6.67	7.19	6.52	6.3	4.5	-	-	4.12	-	-
Critical Hdwy Stg 1	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.78	5.7	-	6.19	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	4.112	4.18	3.723	3.581	4.018	3.39	2.56	-	-	2.218	-	-
Pot Cap-1 Maneuver	282	356	565	355	375	902	973	-	-	1454	-	-
Stage 1	433	501	-	845	780	-	-	-	-	-	-	-
Stage 2	697	744	-	513	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	248	333	565	319	351	902	973	-	-	1454	-	-
Mov Cap-2 Maneuver	248	333	-	319	351	-	-	-	-	-	-	-
Stage 1	430	472	-	838	774	-	-	-	-	-	-	-
Stage 2	644	738	-	458	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.3	11.7	0.4	1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	973	-	-	296	609	1454	-	-
HCM Lane V/C Ratio	0.007	-	-	0.301	0.123	0.044	-	-
HCM Control Delay (s)	8.7	0	-	22.3	11.7	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.4	0.1	-	-

HCM 6th TWSC
2: COLORADO BOULEVARD & S SITE ACCESS

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Intersection

Int Delay, s/veh 0.4

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	5	1	12	117	355	4
Future Vol, veh/h	5	1	12	117	355	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	67	48	14	2
Mvmt Flow	5	1	13	127	386	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	541	388	390	0	-	0
Stage 1	388	-	-	-	-	-
Stage 2	153	-	-	-	-	-
Critical Hdwy	6.9	6.7	4.77	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	2.803	-	-	-
Pot Cap-1 Maneuver	428	567	888	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	567	888	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	13.3	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	888	-	441	-	-
HCM Lane V/C Ratio	0.015	-	0.015	-	-
HCM Control Delay (s)	9.1	-	13.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
 3: COLORADO BOULEVARD & 64TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	4	12	5	1	14	12	89	7	42	288	26
Future Vol, veh/h	16	4	12	5	1	14	12	89	7	42	288	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	77	67	40	50	2	18	30	28	50	32	11	19
Mvmt Flow	17	4	13	5	1	15	13	97	8	46	313	28

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	554	550	327	555
Stage 1	419	419	-	127
Stage 2	135	131	-	428
Critical Hdwy	7.87	7.17	6.6	7.6
Critical Hdwy Stg 1	6.87	6.17	-	6.6
Critical Hdwy Stg 2	6.87	6.17	-	6.6
Follow-up Hdwy	4.193	4.603	3.66	3.95
Pot Cap-1 Maneuver	347	364	635	377
Stage 1	488	493	-	774
Stage 2	717	679	-	521
Platoon blocked, %				
Mov Cap-1 Maneuver	326	344	635	350
Mov Cap-2 Maneuver	326	344	-	350
Stage 1	482	472	-	764
Stage 2	695	670	-	484

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	11	0.9	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1077	-	-	402	624	1319	-	-
HCM Lane V/C Ratio	0.012	-	-	0.087	0.035	0.035	-	-
HCM Control Delay (s)	8.4	0	-	14.8	11	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0.1	-	-

HCM 6th TWSC
 4: COLORADO BOULEVARD & N SITE ACCESS

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Intersection

Int Delay, s/veh 0.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	1	1	2	120	358	9
Future Vol, veh/h	1	1	2	120	358	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	2	130	389	10

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	528	394	399	0	-	0
Stage 1	394	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	511	655	1160	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	510	655	1160	-	-	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 11.3 0.1 0
 HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1160	-	573	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	8.1	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
1: COLORADO BOULEVARD & 68TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	10	6	7	1	62	5	365	22	78	201	9
Future Vol, veh/h	27	10	6	7	1	62	5	365	22	78	201	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	23	2	60	17	2	2	95	11	11	5	35	86
Mvmt Flow	29	11	7	8	1	67	5	397	24	85	218	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	846	824	223	821	817	409	228	0	0	421	0	0
Stage 1	393	393	-	419	419	-	-	-	-	-	-	-
Stage 2	453	431	-	402	398	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.52	6.8	7.27	6.52	6.22	5.05	-	-	4.15	-	-
Critical Hdwy Stg 1	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.33	5.52	-	6.27	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4.018	3.84	3.653	4.018	3.318	3.055	-	-	2.245	-	-
Pot Cap-1 Maneuver	260	308	691	277	311	642	941	-	-	1122	-	-
Stage 1	592	606	-	583	590	-	-	-	-	-	-	-
Stage 2	548	583	-	596	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	216	279	691	247	282	642	941	-	-	1122	-	-
Mov Cap-2 Maneuver	216	279	-	247	282	-	-	-	-	-	-	-
Stage 1	588	553	-	579	586	-	-	-	-	-	-	-
Stage 2	486	579	-	528	551	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.3	12.7	0.1	2.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	941	-	-	254	545	1122	-	-
HCM Lane V/C Ratio	0.006	-	-	0.184	0.14	0.076	-	-
HCM Control Delay (s)	8.8	0	-	22.3	12.7	8.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.5	0.2	-	-

HCM 6th TWSC
 2: COLORADO BOULEVARD & S SITE ACCESS

04/21/2023

Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	7	6	3	365	214	4
Future Vol, veh/h	7	6	3	365	214	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	50	14	35	50
Mvmt Flow	8	7	3	397	233	4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	638	235	237	0	-	0
Stage 1	235	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.6	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.65	-	-	-
Pot Cap-1 Maneuver	441	804	1094	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	440	804	1094	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	11.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1094	-	556	-	-
HCM Lane V/C Ratio	0.003	-	0.025	-	-
HCM Control Delay (s)	8.3	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
3: COLORADO BOULEVARD & 64TH AVENUE

04/21/2023

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	15	32	7	6	36	24	287	6	6	182	10
Future Vol, veh/h	20	15	32	7	6	36	24	287	6	6	182	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	17	2	50	2	7	21	16	60	80	24	50
Mvmt Flow	22	16	35	8	7	39	26	312	7	7	198	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	609	589	204	611	591	316	209	0	0	319	0	0
Stage 1	218	218	-	368	368	-	-	-	-	-	-	-
Stage 2	391	371	-	243	223	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.67	6.22	7.6	6.52	6.27	4.31	-	-	4.9	-	-
Critical Hdwy Stg 1	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.67	-	6.6	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.153	3.318	3.95	4.018	3.363	2.389	-	-	2.92	-	-
Pot Cap-1 Maneuver	392	401	837	344	420	713	1257	-	-	906	-	-
Stage 1	760	695	-	564	621	-	-	-	-	-	-	-
Stage 2	612	594	-	665	719	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	357	387	837	311	406	713	1257	-	-	906	-	-
Mov Cap-2 Maneuver	357	387	-	311	406	-	-	-	-	-	-	-
Stage 1	741	689	-	550	605	-	-	-	-	-	-	-
Stage 2	558	579	-	617	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.1	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1257	-	-	504	558	906	-	-
HCM Lane V/C Ratio	0.021	-	-	0.144	0.095	0.007	-	-
HCM Control Delay (s)	7.9	0	-	13.3	12.1	9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.3	0	-	-

HCM 6th TWSC
 4: COLORADO BOULEVARD & N SITE ACCESS

04/21/2023

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	6	2	0	372	216	1
Future Vol, veh/h	6	2	0	372	216	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	0	404	235	1

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	640	236	236	0	-	0
Stage 1	236	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	440	803	1331	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	440	803	1331	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1331	-	496	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	0	-	12.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-