FOCUSED TRAFFIC IMPACT ANALYSIS

RIALTO & LINDEN INDUSTRIAL WAREHOUSE PROJECT

CITY OF RIALTO

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

October 2024

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CITY OF RIALTO

SAN BERNARDINO COUNTY, CALIFORNIA

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Project No. 20241780

LSA

October 2024

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1.0 EXECUTIVE SUMMARY

The proposed Rialto & Linden Industrial Warehouse Project (project) in Rialto, California, will include construction of a 42,000 square foot (sf) building with a 40,000 sf first floor consisting of 38,000 sf of warehouse and 2,000 sf of office space, and a 2,000 sf second floor of office space. The project is located at the southwest corner of the intersection of Linden Avenue and Rialto Avenue. The project site consists of approximately 2.13 acres of vacant land on Assessor's Parcel Number (APN) 0246-201-51. According to the *2023 City of Rialto Focused General Plan Update* (General Plan), the project parcel is currently zoned as General Manufacturing (M-2) with a land use designation of Light Industrial (LI). The project is anticipated to be completed by year 2025.

Access to the project will be provided via a right-in-right-out (RIRO) driveway on Rialto Avenue to the north of the project site and a full-access driveway on Linden Avenue to the east of the project site.

The project is forecast to generate 12 Passenger Car Equivalent (PCE) trips in the a.m. peak hour, 13 PCE trips in the p.m. peak hour, and 121 daily PCE trips.

The study area for the project was determined based on the criteria defined in City of Rialto (City) *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment* (TIA Guidelines), dated October 2021, and in consultation with City staff. Based on the City's TIA Guidelines and discussions with City staff during the scoping agreement process, the study area includes analysis of the intersection of Linden Avenue/Rialto Avenue.

Traffic conditions were examined for the weekday a.m. and p.m. peak-hour conditions under the following scenarios:

- Existing Conditions
- Project Opening Year with Background Traffic Conditions
- Project Opening Year with Background Traffic and Proposed Project Conditions

1.1 EXISTING CONDITIONS SUMMARY

Based on the criteria as discussed later in this report in Section 3.2, Level of Service Procedures and Criteria, the study intersection is currently operating at satisfactory LOS during both the a.m. and p.m. peak hours under existing conditions.

1.2 PROJECT OPENING YEAR CONDITIONS SUMMARY

Based on the criteria as discussed in Section 3.2, the study intersection is forecast to operate at a satisfactory LOS during both a.m. and p.m. peak hours under project opening year with background traffic conditions. Furthermore, the study intersection is forecast to operate at a satisfactory LOS during both a.m. and p.m. peak hours under project opening year with background traffic and proposed project conditions.

1.3 QUEUING ANALYSIS

Reported queue lengths for all movements at the study intersection do not exceed the corresponding storage lengths under project opening year with background traffic and project opening year with background traffic and proposed project conditions. Therefore, the existing roadway geometry at the study intersection is sufficient to support vehicle queues for all turning movements under project opening year with background traffic and project opening year with background traffic and proposed project conditions.

1.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT VEHICLE MILES TRAVELED ANALYSIS

Senate Bill (SB) 743 required changes be made to the California Environmental Quality Act (CEQA) regulations introducing Vehicle Miles Traveled (VMT) as the new metric for determining project traffic impacts. The VMT evaluation is based on the methodology and significant impact criteria as described in the City's TIA Guidelines. According to the TIA Guidelines, projects that generate less than 110 daily vehicle trips may be screened out from a detailed VMT analysis. The proposed project is estimated to generate 72 daily vehicle trips. Therefore, the proposed project is eligible to be screened out and a detailed VMT analysis is not required.

2.0 INTRODUCTION

This Focused Traffic Impact Analysis (TIA) has been prepared for the proposed Rialto & Linden Industrial Warehouse Project to be located at the southwest corner of the intersection of Linden Avenue and Rialto Avenue. The project site consists of approximately 2.13 acres of vacant land on APN 0246-201-51. Figure 2-1 illustrates the regional and project location. (Figures and tables are located at the end of each chapter.)

This report is intended to satisfy the requirements established by the City of Rialto *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment* (TIA Guidelines), dated October 2021. The scope of work for this TIA, including trip generation, trip distribution, study area, and analysis methodologies, has been approved by City staff via the Scoping Agreement process. A copy of the Scoping Agreement is included in Appendix A.

This study examines traffic operations in the vicinity of the proposed project under the following three scenarios:

- Existing Conditions
- Project Opening Year with Background Traffic Conditions
- Project Opening Year with Background Traffic and Proposed Project Conditions

Traffic conditions were examined for the weekday a.m. and p.m. peak-hour conditions. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

2.1 PROJECT DESCRIPTION

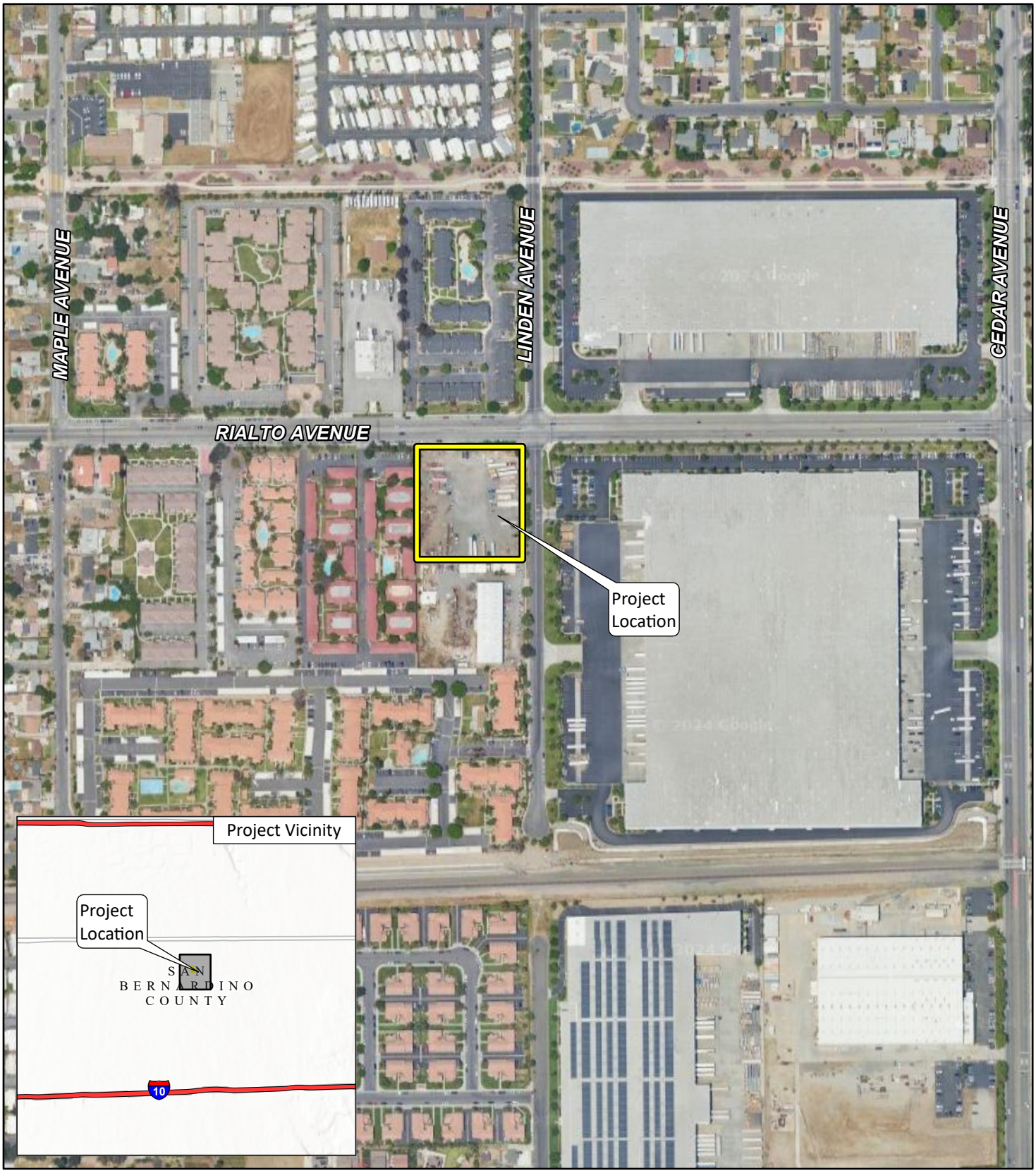
The proposed project will include the construction of a two-story, 42,000 sf warehouse that includes 4,000 sf of office space. The first floor of the proposed building would include 38,000 sf of industrial/ warehouse space and 2,000 sf of office space. An additional 2,000 sf of office space would occupy the second floor of the proposed building. Parking accommodations for the proposed project total thirty-six (36) parking stalls, including two Americans with Disabilities Act (ADA) compliant stalls and three electric vehicle stalls.

Per the City's General Plan, the project parcel is currently zoned as General Manufacturing (M-2) with a land use designation of Light Industrial (LI). The LI designation allows light industrial activity such as processing, packaging, machinery repair, fabrication, distribution, warehousing and storage, research and development, and similar uses that are low impact. The M-2 zone allows a variety of general manufacturing uses related to the manufacturing, processing, or treatment of products. Therefore, the proposed project land uses are consistent with the City's zoning code and land use designations. The project is anticipated to be completed by year 2025. Figure 2-2 illustrates the conceptual site plan for the proposed project as well as truck access for the loading dock and project driveway at the southeastern portion of the project.

As shown in Figure 2-2, access to the project will be provided via a RIRO driveway on Rialto Avenue to the north of the project site and a full-access driveway on Linden Avenue to the east of the project site.

2.2 LIST OF CHAPTER 2.0 FIGURES

- Figure 2-1: Regional and Project Location
- Figure 2-2: Conceptual Site Plan



LSA

LEGEND

Project Location

FIGURE 2-1

N

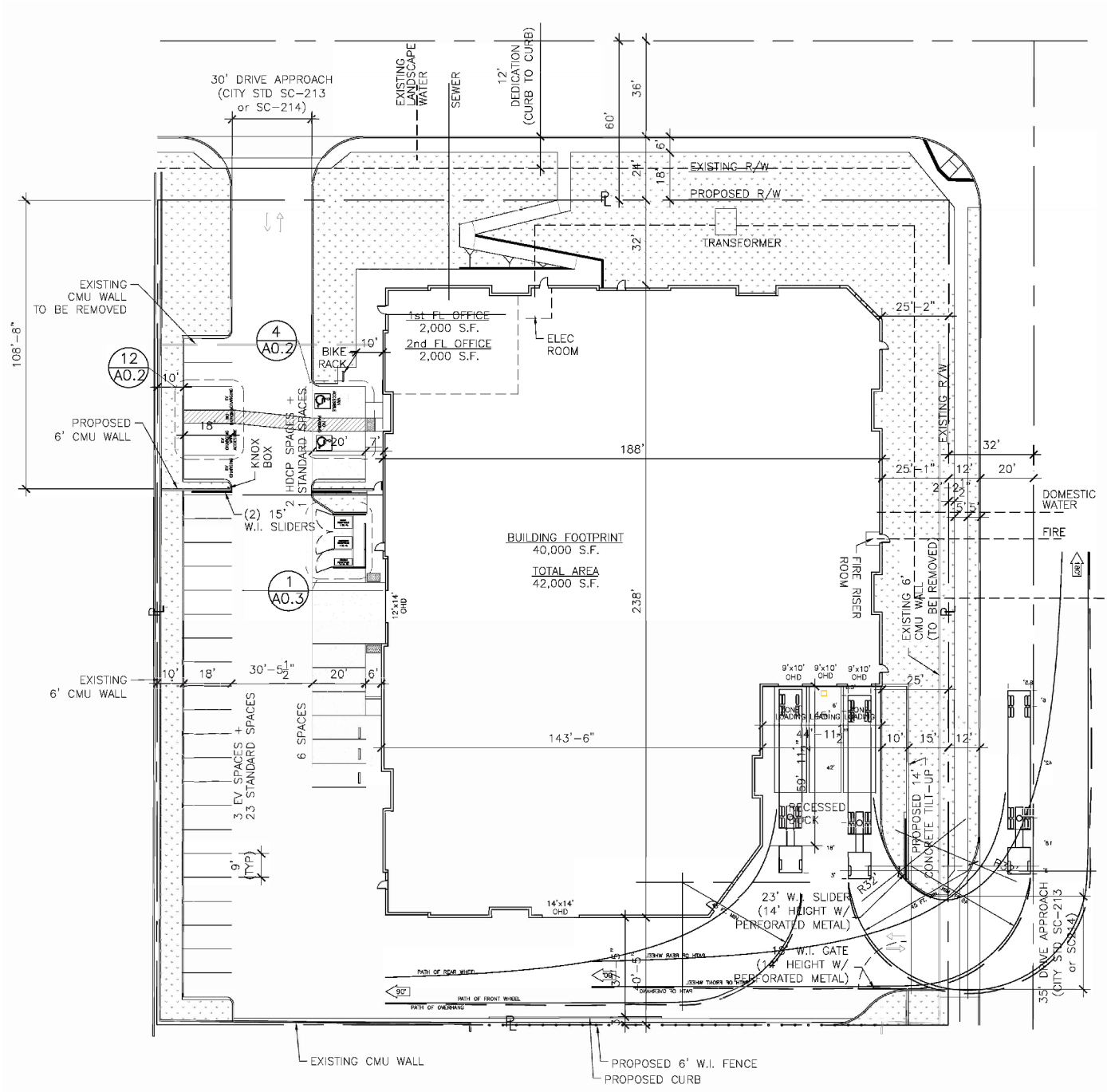
0 180 360

FEET

SOURCE: Google Earth, 2022

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis
Regional and Project Location

P:\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\R&L\R&L.aprx (9/19/2024)



LSA

FIGURE 2-2

N

0 30 60

FEET

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Conceptual Site Plan

SOURCE: Lord Constructors, Inc., October 2024

\\aznasunifiler1\projects\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\Fig2-2_SitePlan.ai (10/14/2024)

3.0 ANALYSIS METHODOLOGY AND CRITERIA

3.1 LEVEL OF SERVICE DEFINITIONS

Level of service (LOS) can be characterized for the whole intersection, by each intersection approach, and by each lane group. Control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption.

A complete description of the meaning of LOS can be found in the Transportation Research Board Special Report 209, *Highway Capacity Manual* (HCM). The HCM establishes LOS A through F for intersections. Intersection delays for signalized and all-way stop controlled (AWSC) intersections are based on the average intersection delay. A description of LOS for signalized and unsignalized intersections is summarized in Table 3.A. LOS criteria for unsignalized and signalized intersections is summarized in Table 3.B.

Highway Capacity Manual 7th Edition (HCM 7) analysis methodologies were used to determine intersection LOS for the study intersection, which is signalized. Intersection LOS was calculated using the Synchro 12 software, which uses the HCM 7 methodologies.

3.2 LEVEL OF SERVICE PROCEDURES AND CRITERIA

The study intersection analyzed in this report is under the jurisdiction of the City of Rialto. The City uses LOS D as its minimum LOS criterion for all signalized intersections during the a.m. and p.m. peak hours except for intersections on Riverside Avenue south of the Metrolink tracks, which have a minimum LOS criterion of LOS E.

New development projects are required to mitigate traffic impacts at study intersections in which the LOS would exceed the minimum LOS criterion with implementation of the project. Furthermore, deficiencies are deemed to occur at any study intersection in which the project would cause the peak hour delay to increase by the following metrics:

- LOS A or B by 10.0 or more seconds
- LOS C by 8.0 or more seconds
- LOS D by 5.0 or more seconds
- LOS E by 2.0 or more seconds
- LOS F by 1.0 or more seconds

3.3 LIST OF CHAPTER 3.0 TABLES

Table 3.A: Intersection Level of Service Definitions

LOS	Description
A	Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: *Highway Capacity Manual* (7th Edition).

Table 3.B: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	$\leq$ 10	$\leq$ 10
B	> 10 and $\leq$ 15	> 10 and $\leq$ 20
C	> 15 and $\leq$ 25	> 20 and $\leq$ 35
D	> 25 and $\leq$ 35	> 35 and $\leq$ 55
E	> 35 and $\leq$ 50	> 55 and $\leq$ 80
F	> 50	> 80

Source: *Highway Capacity Manual* (7th Edition).

4.0 EXISTING CONDITIONS

4.1 STUDY AREA

Based on the requirements of a focused TIA as described in the TIA Guidelines, the study area must include intersections at which the proposed project will add between one (1) to 49 peak-hour trips or intersections identified by the City during the scoping agreement process. As such, based on comments from the City, the following study intersection is analyzed in the study:

1. Linden Avenue/Rialto Avenue

The study intersection is located within the jurisdiction of the City of Rialto. Figure 4-1 illustrates the location of the study intersection. The study intersection was approved by City staff as part of the scoping process.

The study intersection was analyzed during the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m.

4.2 EXISTING ROADWAY NETWORK

This section provides a description of the circulation network within the study area. Within the City of Rialto, all major roadways are classified based on the Circulation Element in the City's General Plan. Following is a brief description of major roadways within the study area:

- **Linden Avenue:** Within the study area, Linden Avenue is designated as a Collector Street in the City's General Plan. Linden Avenue is a two-lane undivided Collector Street with a posted speed limit of 35 miles per hour (mph). There are no bike facilities along either direction of this segment within the study area. There is provision for on-street parking on the west side of this segment north of Rialto Avenue within the study area. There is no provision for on-street parking on the east side of this segment north of Rialto Avenue nor on either direction of this segment south of Rialto Avenue within the study area.

- **Rialto Avenue:** Within the study area, Rialto Avenue is designated as a Major Arterial in the City's General Plan. Rialto Avenue is a four-lane divided Major Arterial with a two-way left turn lane (TWLTL) median and a posted speed limit of 40 mph. There are no bike facilities along either direction of this segment within the study area. There is provision for on-street parking along both directions of this segment west of Linden Avenue within the study area. There is no provision for on-street parking along either direction of this segment east of Linden Avenue within the study area.

Figure 4-2 illustrates existing study intersection geometrics and traffic control. Figure 4-3 illustrates the City of Rialto street classifications.

4.3 BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES

4.3.1 Bicycle Facilities

The City of Rialto promotes a safe and efficient network of bikeways for recreational and commuter use within the City. The City strives to create a safe and comfortable biking environment for users of all ages and abilities. To facilitate and encourage bicycle trips, the City has adopted the Bikeway Master Plan that includes a network of bicycle facilities as a part of the City's General Plan.

According to the City's General Plan, the bikeway network within the City is classified into three categories: Class I, Class II, and Class III. Class I bikeways are physically separated from roadways either by distance or physical barriers and are intended exclusively for bicycle use. Class II bikeways share the right-of-way with roadways or walkways and are indicated by bikeway pictographs on the pavement, delineation, or curbs and other variations of low barriers. Class III bikeways also share the right-of-way with roadways or walkways but are identified with signage instead of delineation, pavement markings, or barriers.

There are currently not any existing bikeways within the study area. Figure 4-4 illustrates the existing bikeways within the City of Rialto.

4.3.2 Pedestrian Facilities

A safe pedestrian system that links commercial, residential, and open spaces offers several benefits: improved health for those who walk, reduced vehicle emissions, and improved security with "eyes on the street" as people move within their neighborhoods to nearby destinations. Pedestrian circulation and recreation are primarily provided for on the sidewalk network. Sidewalk paraphernalia often appears in clusters at intersections, the most critical points in the pedestrian circulation system, where pedestrians wait for and potentially come into conflict with traffic.

Paved sidewalks are provided along both directions of Rialto Avenue and Linden Avenue, north of Rialto Avenue, within the study area. There are currently no sidewalks available on Linden Avenue south of Rialto Avenue within the study area. Furthermore, marked crosswalks are available for every direction at the intersection of Linden Avenue/Rialto Avenue.

Additionally, the Pacific Electric Trail, which provides a contiguous link from the City of Rialto to the neighboring community of Fontana, has an access point on Linden Avenue approximately 620 feet north of the intersection of Linden Avenue/Rialto Avenue.

4.3.3 Transit Facilities

Omnitrans is the Public Transit Agency for San Bernardino County and is responsible for coordinating transit services throughout the approximately 480-square-mile service area. Omnitrans provides both local and regional services throughout the region with 28 fixed routes and three OmniRide routes using 157 vehicles. Omnitrans bus route 312 operates through the study area. Route 312 has a bus stop for the westbound direction on Rialto Avenue approximately 450 feet east of the intersection of Linden Avenue/Rialto Avenue. Furthermore, Route 312 has a bus stop for the northbound direction on Linden Avenue approximately 280 feet north of the intersection of Linden Avenue/Rialto Avenue. Route 312 connects to the Fontana Metrolink Transit Center on one end and California State University, San Bernardino on the opposing end.

4.3.4 Truck Facilities

To accommodate the large volumes of truck traffic associated with goods movement, ensure appropriate road construction and maintenance, and protect the residential neighborhoods, certain arterials have been designated as truck routes. Rialto Avenue is designated as a truck route within the study area. Figure 4-5 illustrates the network of truck routes within the City of Rialto.

4.4 EXISTING TRAFFIC VOLUMES

Existing traffic volumes were developed based on counts collected by Counts Unlimited in September 2024. Existing a.m. and p.m. peak-hour turning movement counts were collected at the study intersection. Detailed count sheets are included in Appendix B.

Vehicle classification counts were conducted at the study intersection of Linden Avenue/Rialto Avenue. The collected counts were converted to PCE volumes following the City's TIA Guidelines. The concept of PCEs accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection at the same time that a particular type of truck could. PCE volumes at study intersections were computed using a factor of 1.5 for two-axle trucks, 2.0 for three-axle trucks, and 3.0 for trucks with four-or-more axles, which is consistent with the City's TIA Guidelines.

Figure 4-6 illustrates the PCE peak-hour traffic volumes at the study intersection under existing conditions. Detailed volume development worksheets are included in Appendix C.

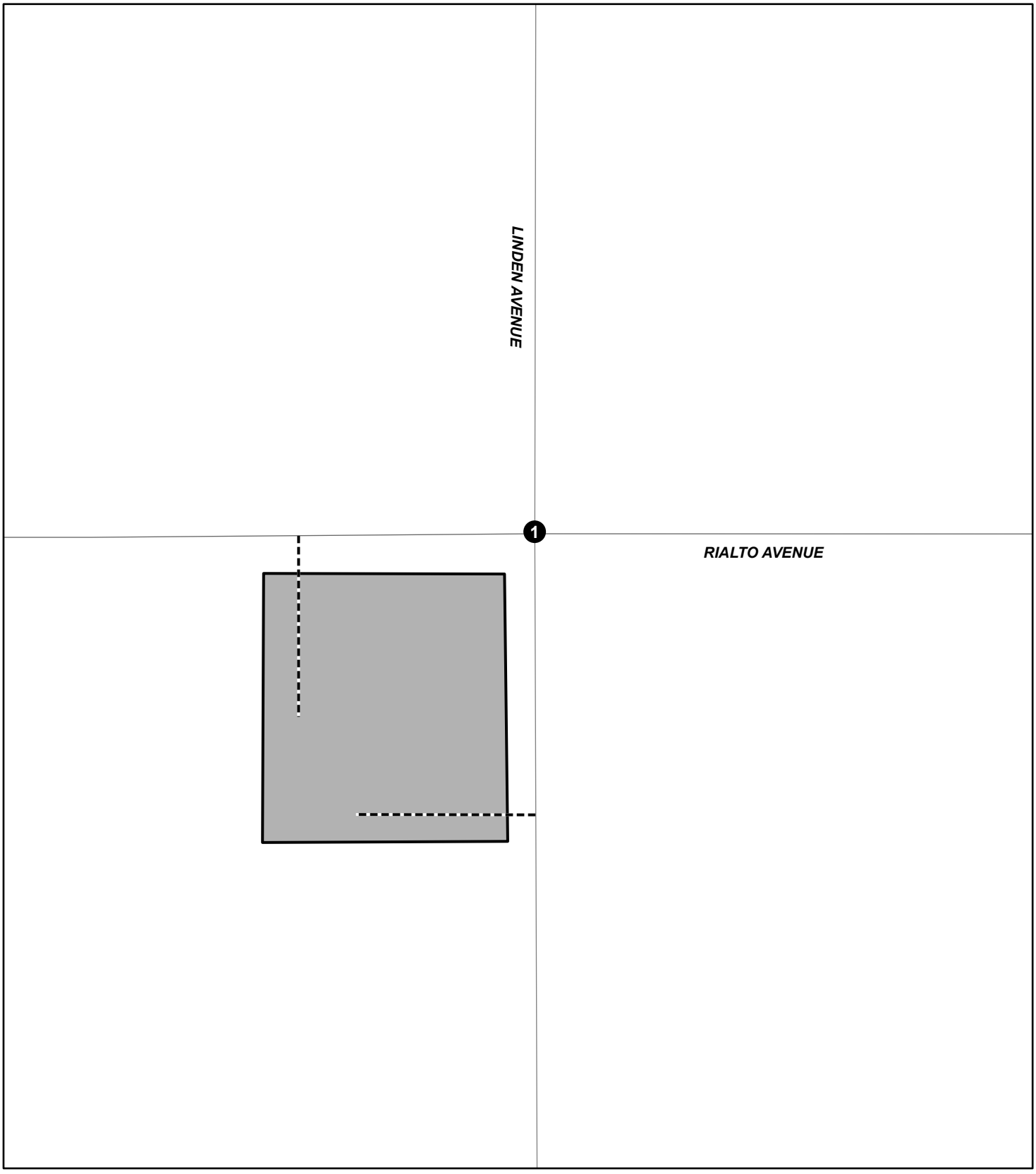
4.5 EXISTING INTERSECTION LEVELS OF SERVICE

An intersection LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 4.A summarizes the results of this analysis and shows that the study intersection is currently operating at satisfactory LOS during both a.m. and p.m. peak hours under existing conditions.

Detailed LOS worksheets are included in Appendix D.

4.6 LIST OF CHAPTER 4.0 FIGURES AND TABLES

- Figure 4-1: Study Area Intersections
- Figure 4-2: Existing Study Intersection Geometrics and Traffic Control
- Figure 4-3: City of Rialto Street Classifications
- Figure 4-4: City of Rialto Bikeway Network
- Figure 4-5: City of Rialto Truck Routes
- Figure 4-6: Existing Peak Hour Traffic Volumes
- Table 4.A: Existing Intersection Levels of Service



LSA

LEGEND

- Study Intersection
- Project Site
- Project Driveways

N

0 90 180

FEET

SOURCE: ESRI Streetmap, 2021

FIGURE 4-1

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis
Study Area Intersection

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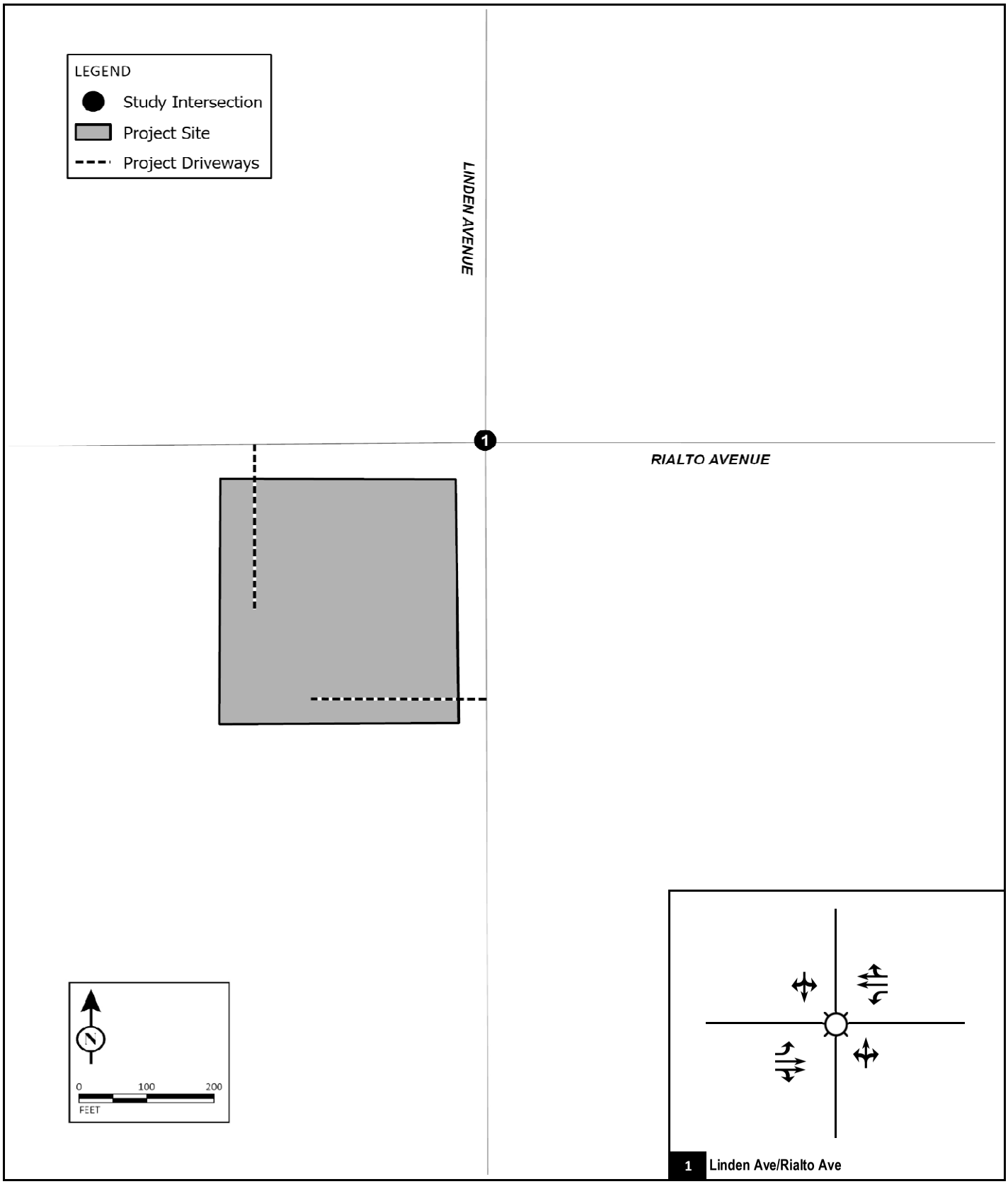


FIGURE 4-2

LSA

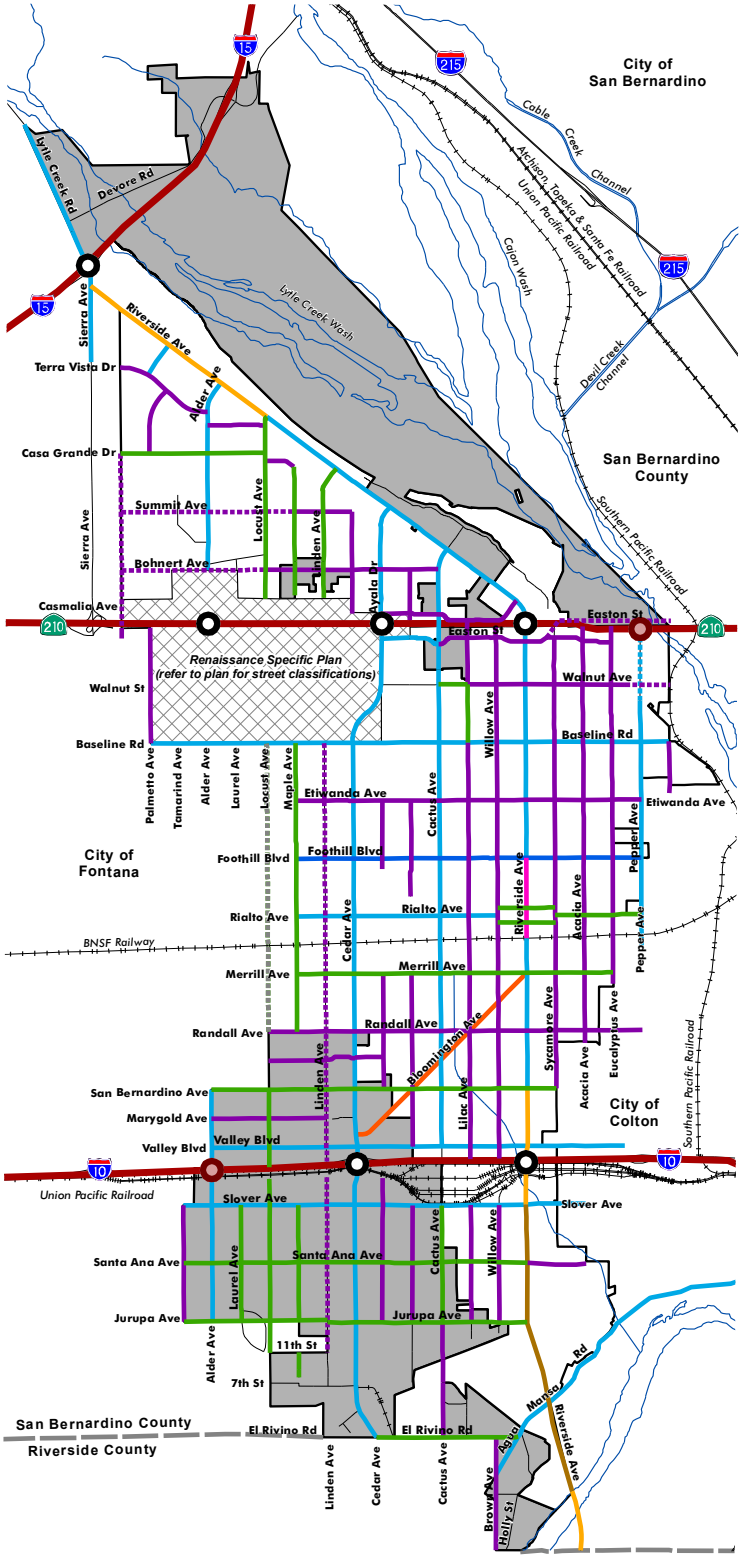
Legend

Traffic Signal

Rialto & Linden Industrial Warehouse Project

Focused Traffic Impact Analysis

Existing Study Intersection Geometrics and Traffic Control



LSA

LEGEND

- Freeway
- Major Arterial Highway
- Major Arterial
- Major Arterial
- Modified Major Arterial I
- Modified Major Arterial II
- Modified Arterial I
- Modified Arterial II
- Secondary Arterial
- Secondary Arterial
- Secondary Arterial
- Collector Street
- Collector Street

N

0 4,500 9,000

FEET

FIGURE 4-3

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

City of Rialto Street Classifications

Date: 2023 City of Rialto Focused General Plan Update

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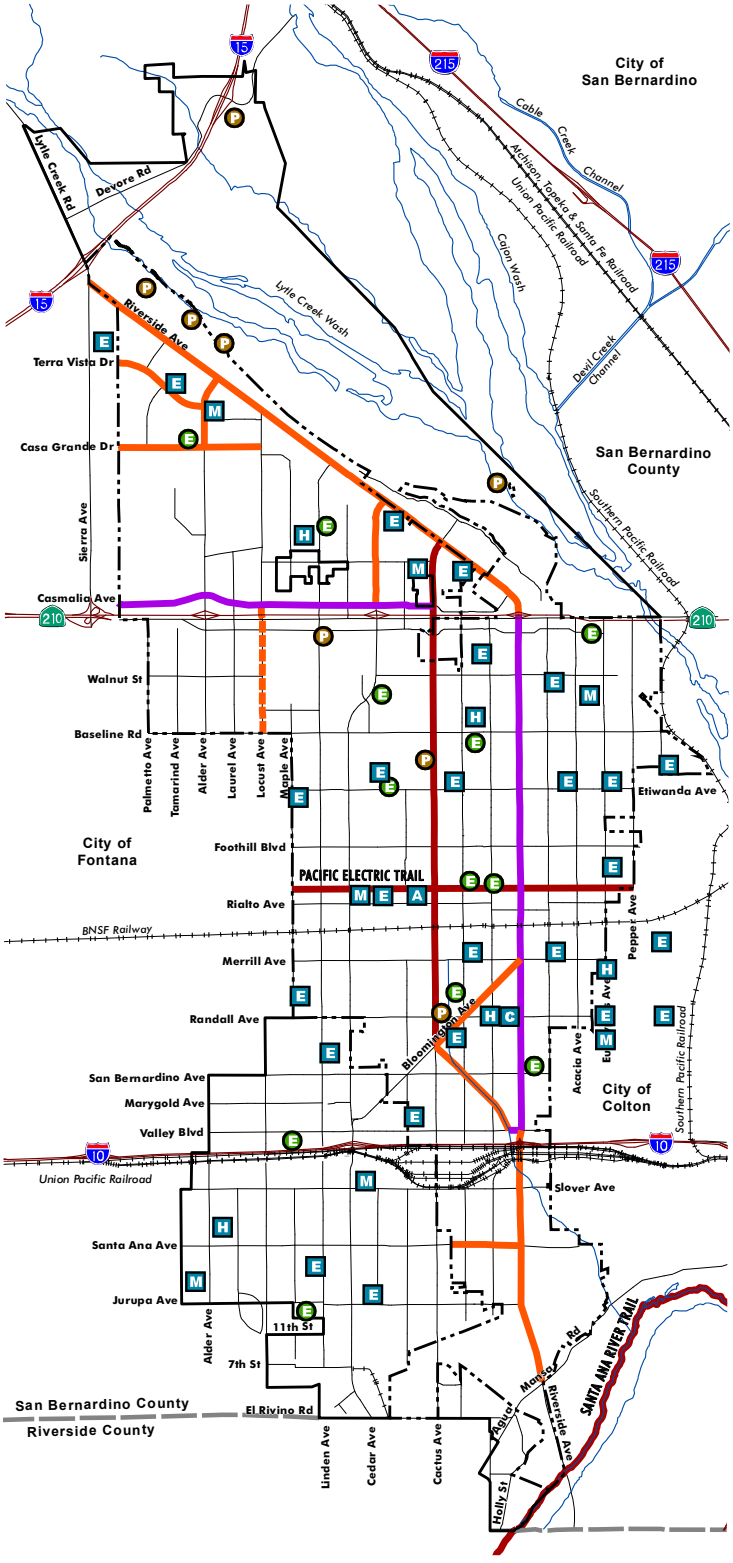


LSA

LEGEND

Bike Trails
- Class I - Bike Path
- Class II - Bike Lane
- Class II - Bike Lane (subject to change)
- Class III - Bike Route

Parks
- Existing
- Proposed

Base Map Features
- Rialto Incorporated Area
- Rialto Sphere of Influence
- County Boundary
- Freeway/Highway
- Local Roads
- Railroad
- Hydrological Features

Education Facilities
- E Elementary School
- M Middle School
- A Alternative School
- H High School
- C Continuation High School

N

0 4,500 9,000
FEET

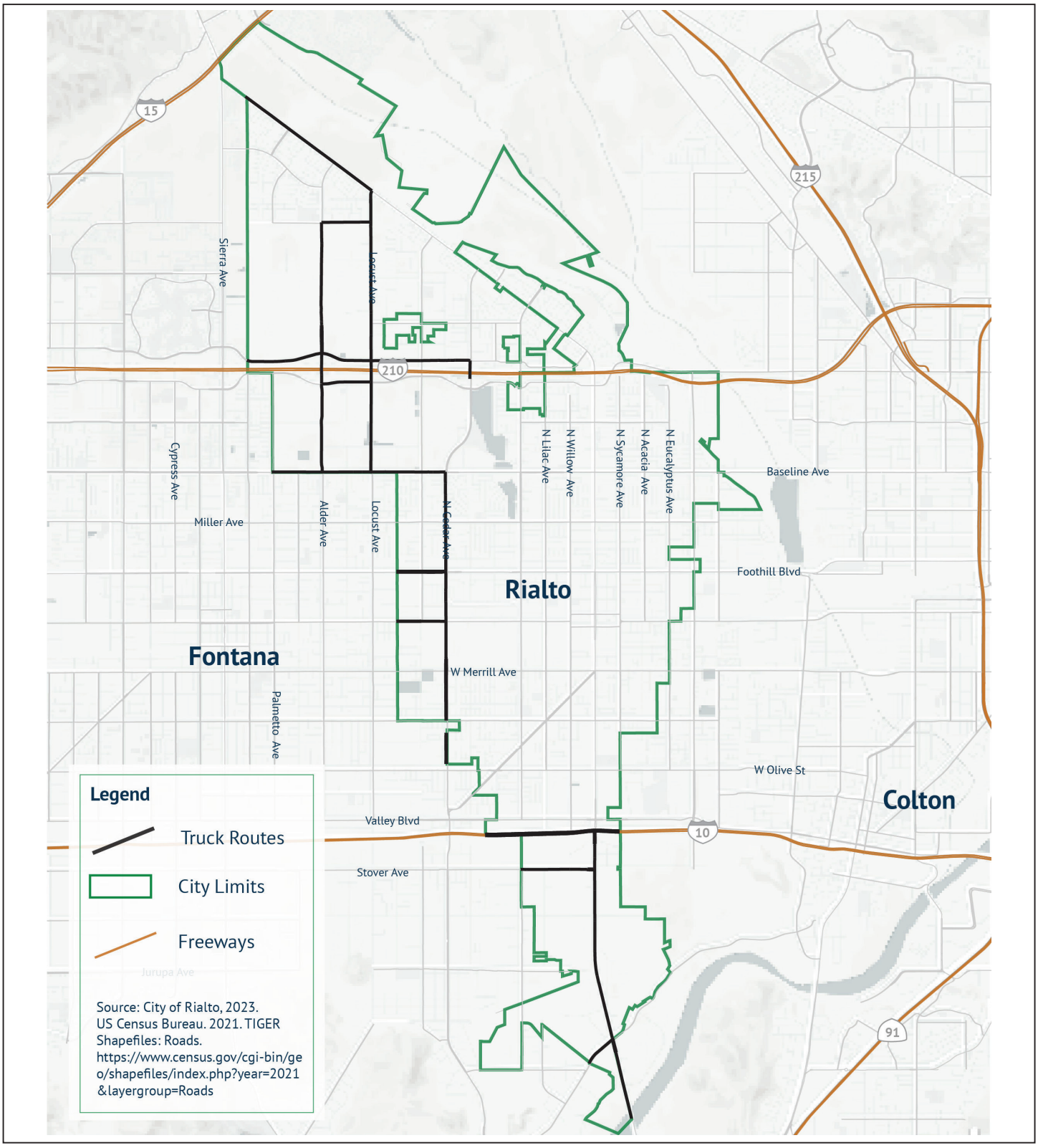
FIGURE 4-4

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

City of Rialto Bikeway Network

Date: 2023 City of Rialto Focused General Plan Update

P:\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\fig4-4_BikeMap (10/14/2024)



LSA

FIGURE 4-5

N

0 3,500 7,000
FEET

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

City of Rialto Truck Routes

Date: 2023 City of Rialto Focused General Plan Update

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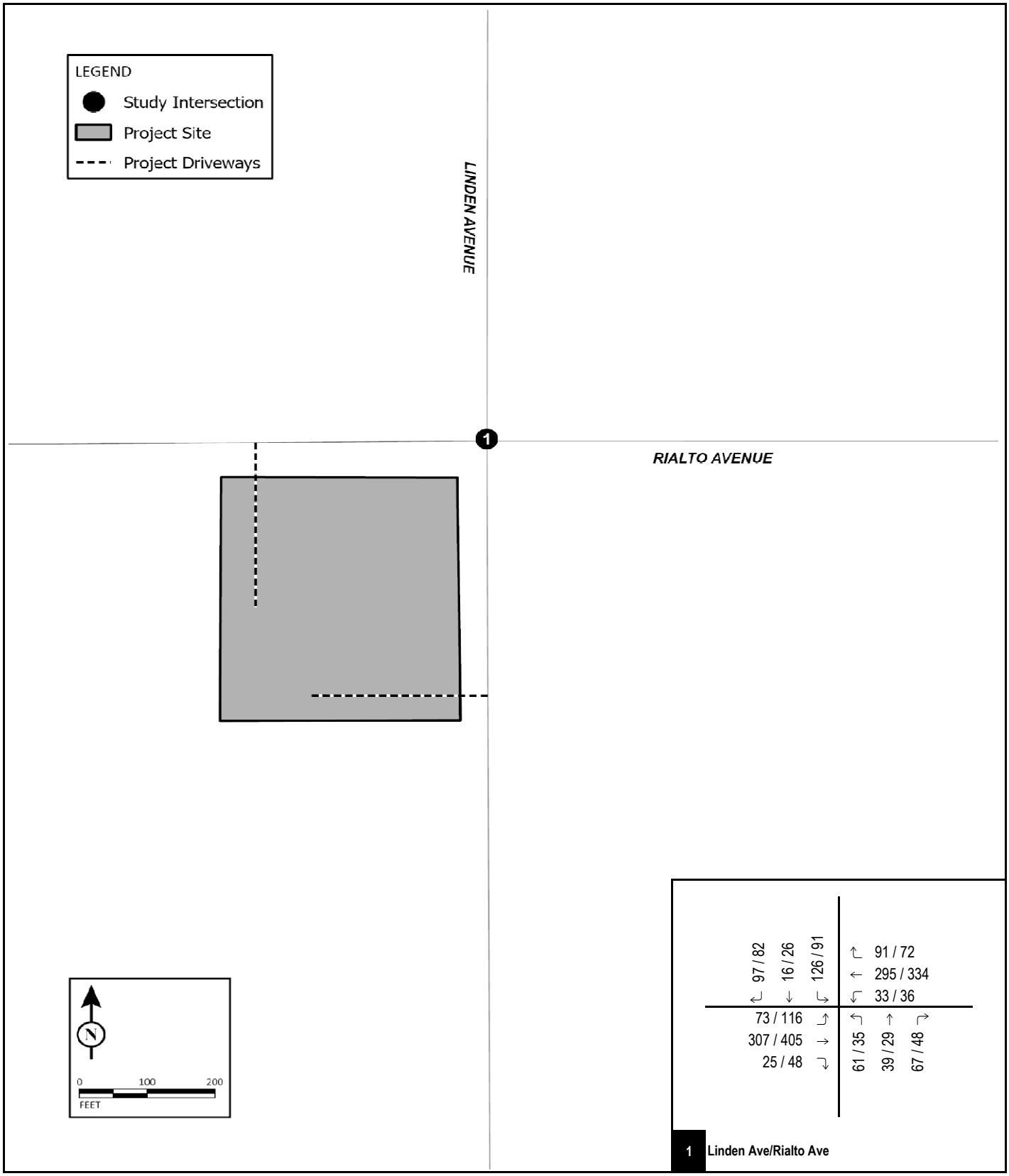


FIGURE 4-6

LSA

XXX / YYY
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Existing Peak Hour Traffic Volumes

LSA

Table 4.A: Existing Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	Existing				
			Control	A.M. Peak Hour		P.M. Peak Hour	
				Delay (sec.)	LOS	Delay (sec.)	LOS
1 . Linden Avenue/Rialto Avenue	Rialto	D	Signal	15.3	B	14.8	B

Notes:

LOS = Level of Service

Delay = Average control delay in seconds

* Exceeds LOS Standard

5.0 PROJECT TRAFFIC

5.1 PROJECT TRIP GENERATION

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (11th Edition) for Land Use 150 – 'Warehousing', Setting/Location – 'General Urban/Suburban'. The resulting trips were converted to trucks and passenger vehicles (PV) based on the recommended vehicle splits included in the City's TIA Guidelines, which is consistent with the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As recommended in the City's TIA Guidelines, 40 percent of project traffic is considered to be trucks. Additionally, as recommended in the City's TIA Guidelines, the truck mix is considered to be 70 percent four or more axle, 28 percent three-axle, and 2 percent two-axle trucks out of all truck trips. Furthermore, based on the City's TIA Guidelines, all truck trips have been converted to PCEs using a PCE factor of 1.5 for two-axle trucks, 2.0 for three-axle trucks, and 3.0 for four-or-more axle trucks.

Table 5.A summarizes the project trip generation. As shown in Table 5.A, the proposed project is estimated to generate 43 daily PV trips, with 4 PV trips occurring in the a.m. peak hour and 5 PV trips occurring in the p.m. peak hour. The proposed project is estimated to generate 29 daily truck trips, with 3 truck trips occurring in each of the a.m. and p.m. peak hours. After converting the trucks trips into PCEs, the proposed project is estimated to generate 121 daily PCE trips, with 12 PCE trips occurring in the a.m. peak hour and 13 PCE trips occurring in the p.m. peak hour.

5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Generalized trip distribution patterns were developed based on the location of the proposed project in relation to surrounding land uses and the regional roadway network and was approved by City staff during the scoping agreement process. Figures 5-1 and 5-2 illustrate the project trip distribution at the study intersection for PVs and trucks, respectively. The project trip assignment at the study intersection is the product of the project trip generation and the corresponding trip distribution percentages. Figures 5-3 and 5-4 illustrate the project trip assignment at the study intersection for PVs and trucks, respectively. Figure 5-5 illustrates the total project net trip assignment.

5.3 LIST OF CHAPTER 5.0 FIGURES AND TABLES

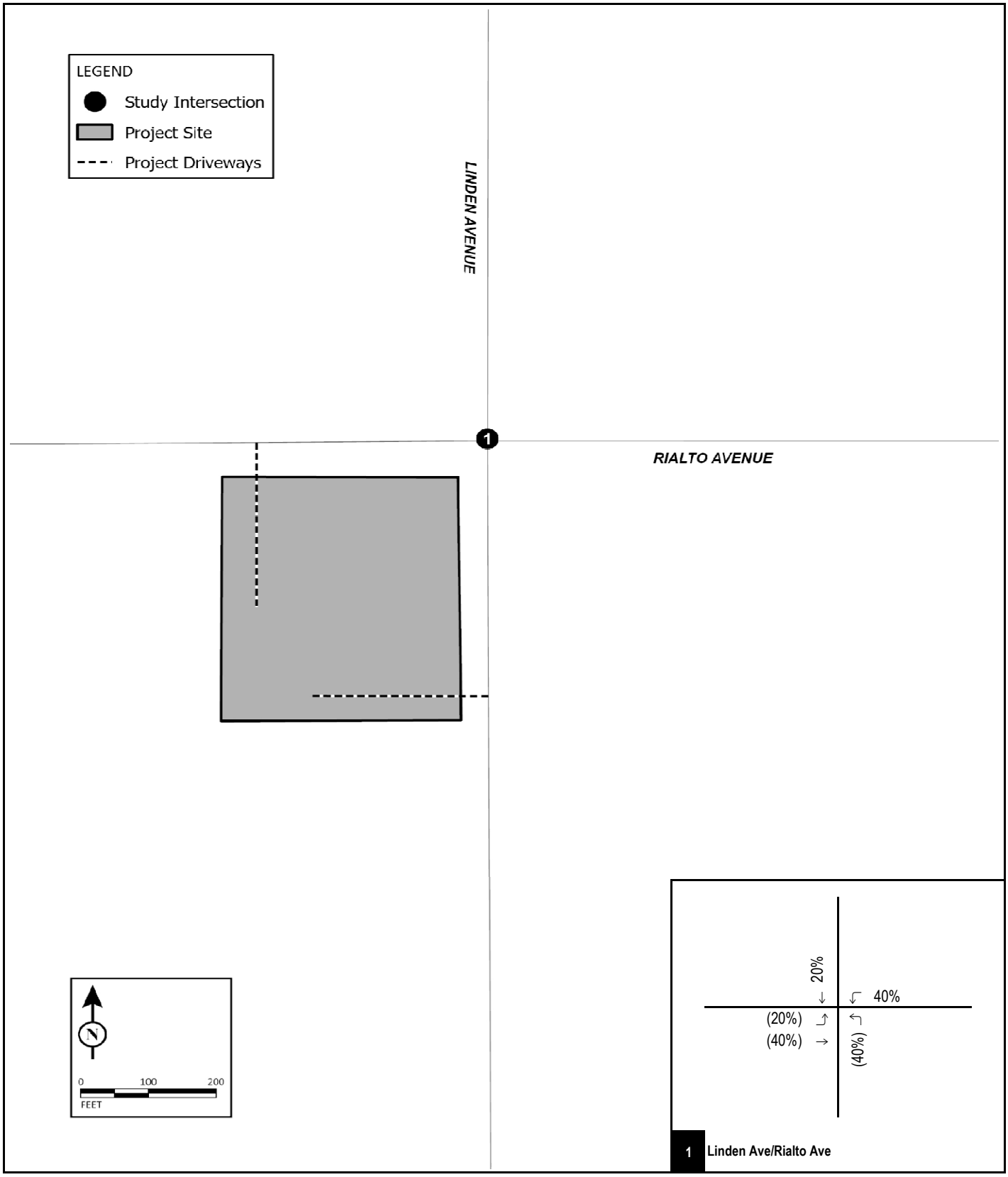


FIGURE 5-1

LSA

XX% (YY%)
Inbound (Outbound) Distribution

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Distribution - Passenger Vehicles

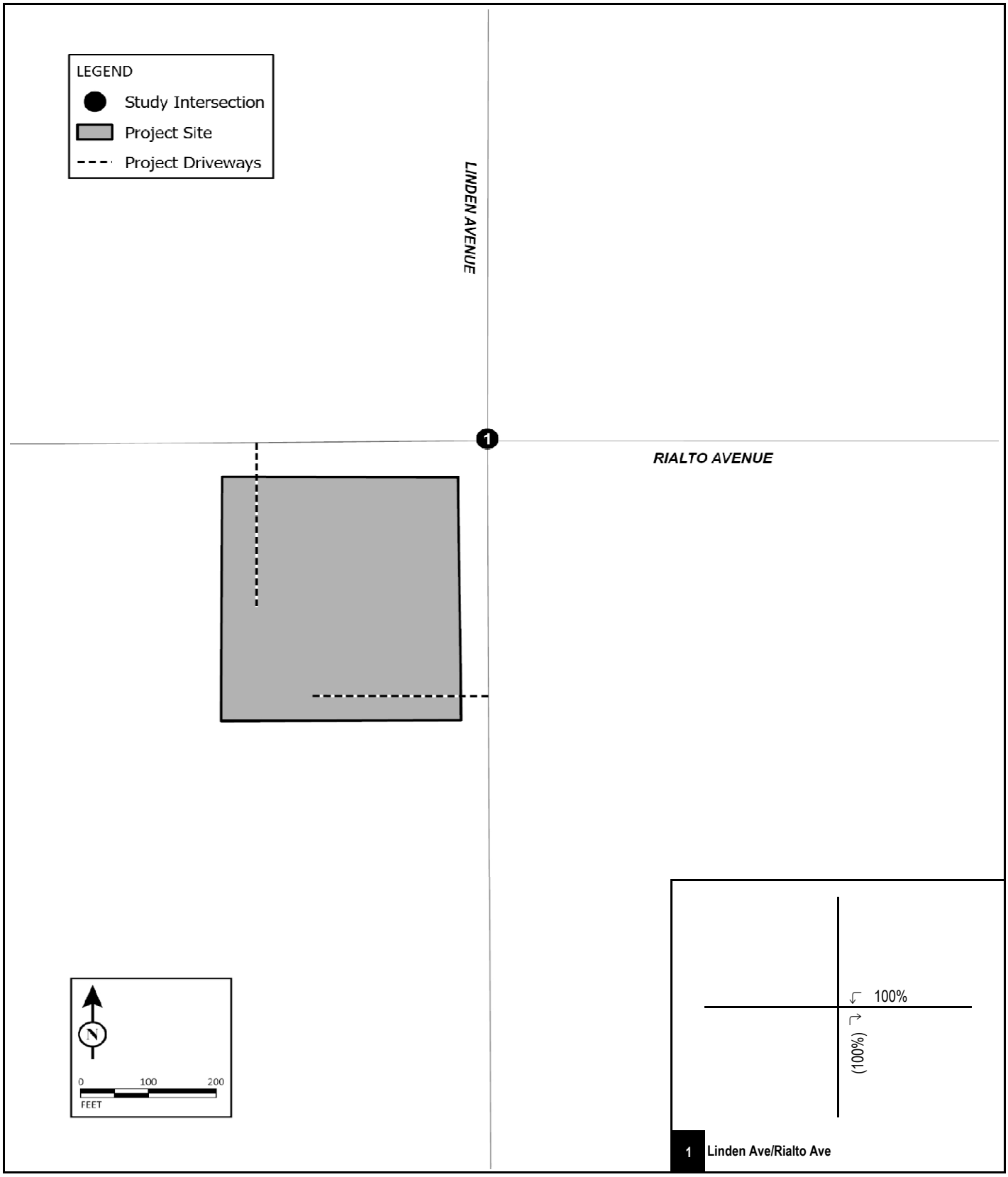


FIGURE 5-2

LSA

XXX% (YYY%)
Inbound (Outbound) Distribution

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Distribution - Trucks

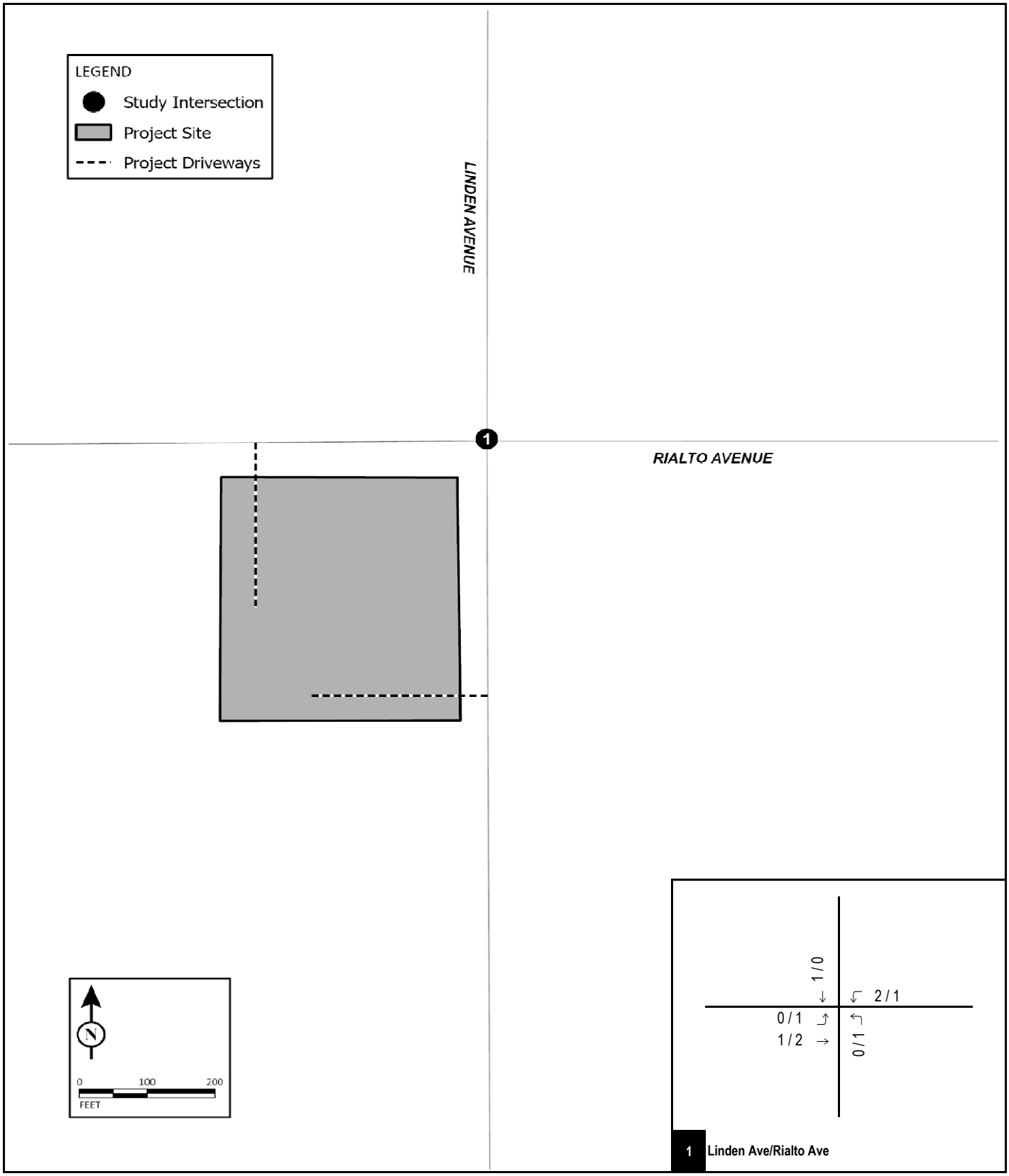


FIGURE 5-3

LSA

X / Y
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Assignment - Passenger Vehicles

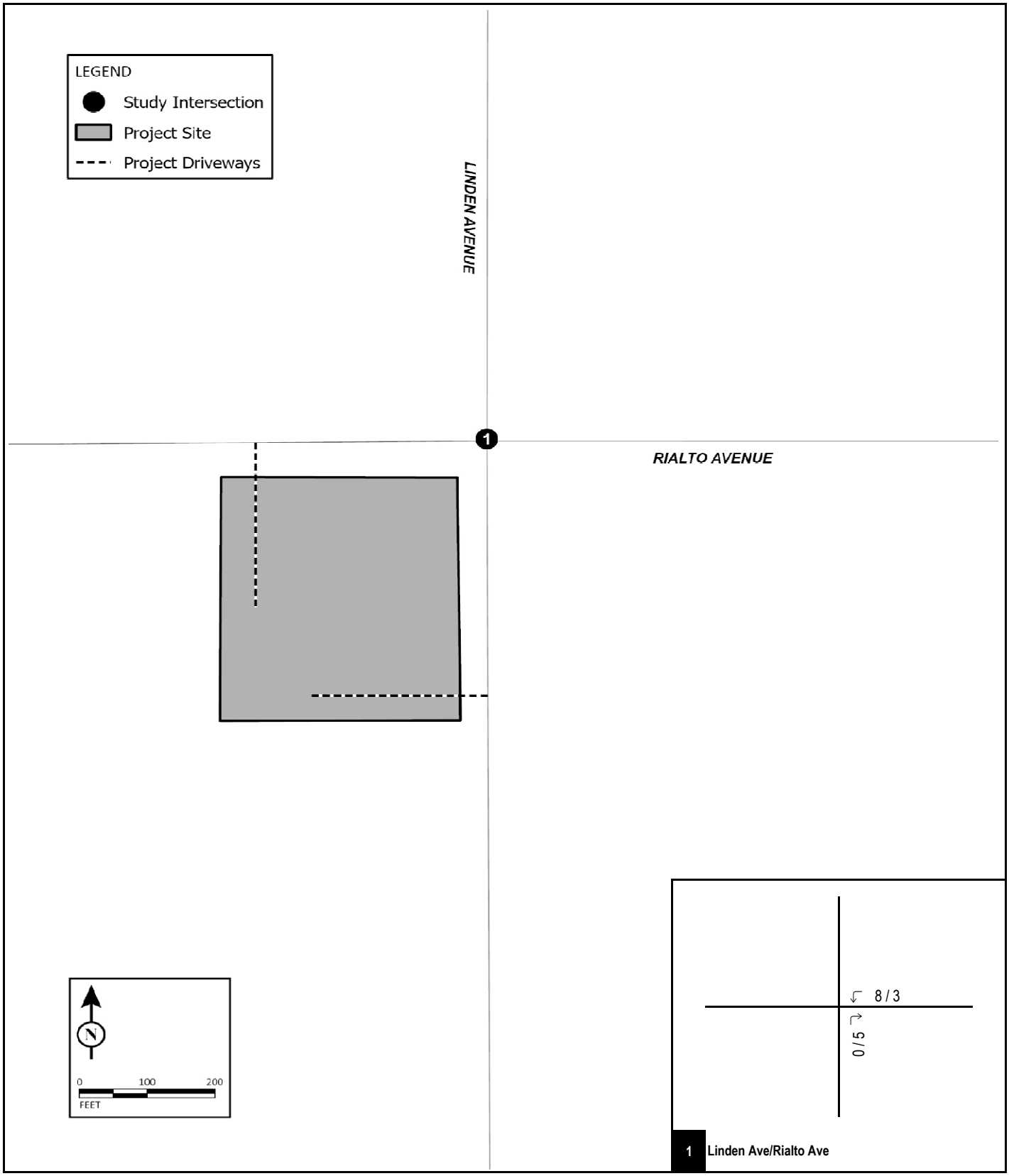


FIGURE 5-4

LSA

X / Y
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Assignment - Trucks

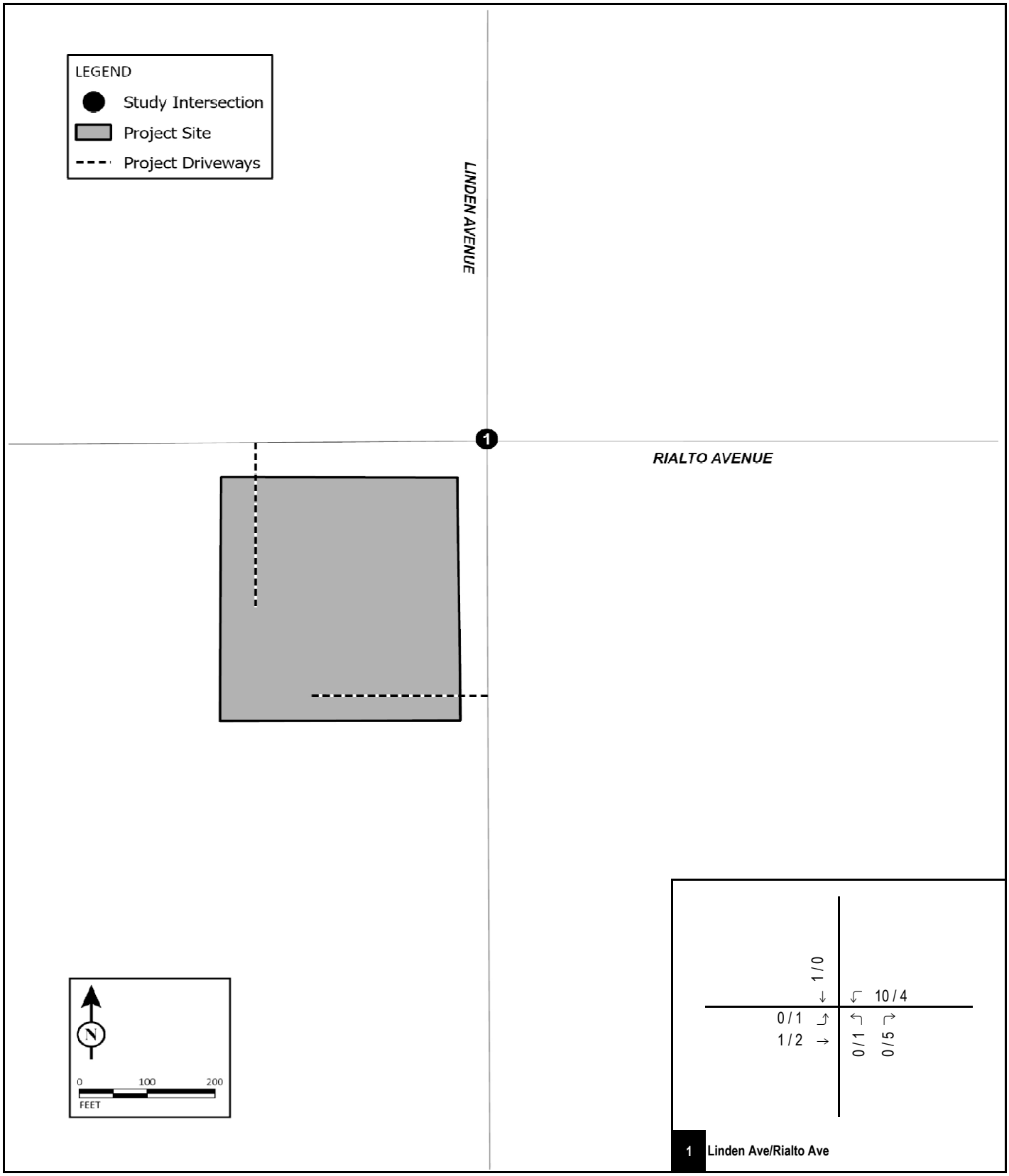


FIGURE 5-5

LSA

XX / YY
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Total Project Net Trip Assignment

LSA

Table 5.A: Project Trip Generation

Land Uses	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Warehouse[1]								
	42.000 TSF							
Trips/Unit (Cars)		0.077	0.025	0.102	0.030	0.078	0.108	1.026
Trips/Unit (2-Axle Trucks)		0.001	0.000	0.001	0.000	0.001	0.001	0.014
Trips/Unit (3-Axle Trucks)		0.015	0.004	0.019	0.006	0.014	0.020	0.192
Trips/Unit (4+ Axle Trucks)		0.037	0.011	0.048	0.014	0.037	0.051	0.478
Trips/Unit (Total)		0.130	0.040	0.170	0.050	0.130	0.180	1.710
Trip Generation (Cars)		3	1	4	1	4	5	43
Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	1
Trip Generation (3-Axle Trucks)		1	0	1	0	1	1	8
Trip Generation (4+ Axle Trucks)		2	0	2	1	1	2	20
Trip Generation (Total)		6	1	7	2	6	8	72
Trip Generation (Cars)		3	1	4	1	4	5	43
PCE Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	2
PCE Trip Generation (3-Axle Trucks)		2	0	2	0	2	2	16
PCE Trip Generation (4+ Axle Trucks)		6	0	6	3	3	6	60
PCE Trip Generation (Total)		**11**	**1**	**12**	**4**	**9**	**13**	**121**

Notes:

TSF = thousand square-feet

[1] The trip generation was developed based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th edition) rates for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, 40 percent of project traffic will be trucks. Based on Vehicle Mix from the SCAQMD, *as mentioned in the Traffic Impact Analysis* (TIA) *Guidelines* , the truck mix was considered as 70% 4-axle, 28% 3-axle, and 2% 2-axle trucks. Based on the City of Rialto *Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (dated October 2021), all truck trips were converted to passenger car equivalents (PCEs) using a 1.5 PCE factor for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

6.0 PROJECT OPENING YEAR ANALYSIS

6.1 PROJECT OPENING YEAR WITH BACKGROUND TRAFFIC VOLUMES

As approved during the City's scoping agreement process (Appendix A), traffic volumes for project opening year with background traffic conditions were developed by applying a growth of 2.0 percent per annum to existing traffic volumes. This methodology was applied for the study intersection. Figure 6-1 illustrates the peak-hour traffic volumes at the study intersection under project opening year with background traffic conditions.

Detailed volume development worksheets are included in Appendix C.

6.2 PROJECT OPENING YEAR WITH BACKGROUND TRAFFIC AND PROPOSED PROJECT VOLUMES

Project opening year with background traffic and proposed project traffic volumes were developed by adding proposed project trips to the project opening year with background traffic volumes. Figure 6-2 illustrates the peak-hour traffic volumes at the study intersection under project opening year with background traffic and proposed project conditions.

Detailed volume development worksheets are included in Appendix C.

6.3 PROJECT OPENING YEAR WITH BACKGROUND TRAFFIC INTERSECTION LEVELS OF SERVICE

An intersection LOS analysis was conducted for project opening year with background traffic conditions using the methodologies previously discussed. Table 6.A summarizes the results of the analysis and shows that the study intersection is forecast to operate at satisfactory LOS during both a.m. and p.m. peak hours under project opening year with background traffic conditions.

Detailed LOS worksheets are included in Appendix D.

6.4 PROJECT OPENING YEAR WITH BACKGROUND TRAFFIC AND PROPOSED PROJECT INTERSECTION LEVELS OF SERVICE

An intersection LOS analysis was conducted for project opening year with background traffic and proposed project conditions using the methodologies previously discussed. Table 6.A summarizes the results of the analysis and shows that the study intersection is forecast to operate at satisfactory LOS during both a.m. and p.m. peak hours under project opening year with background traffic and proposed project conditions. Furthermore, the proposed project is forecast to increase the peak-hour delay by 0.1 seconds in the a.m. peak hour and does not increase the peak-hour delay in the p.m. peak hour.

Detailed LOS worksheets are included in Appendix D.

6.5 LIST OF CHAPTER 6.0 FIGURES AND TABLES

- Figure 6-1: Project Opening Year with Background Traffic Peak Hour Traffic Volumes
- Figure 6-2: Project Opening Year with Background Traffic and Proposed Project Peak Hour Traffic Volumes
- Table 6.A: Project Opening Year Intersection Levels of Service

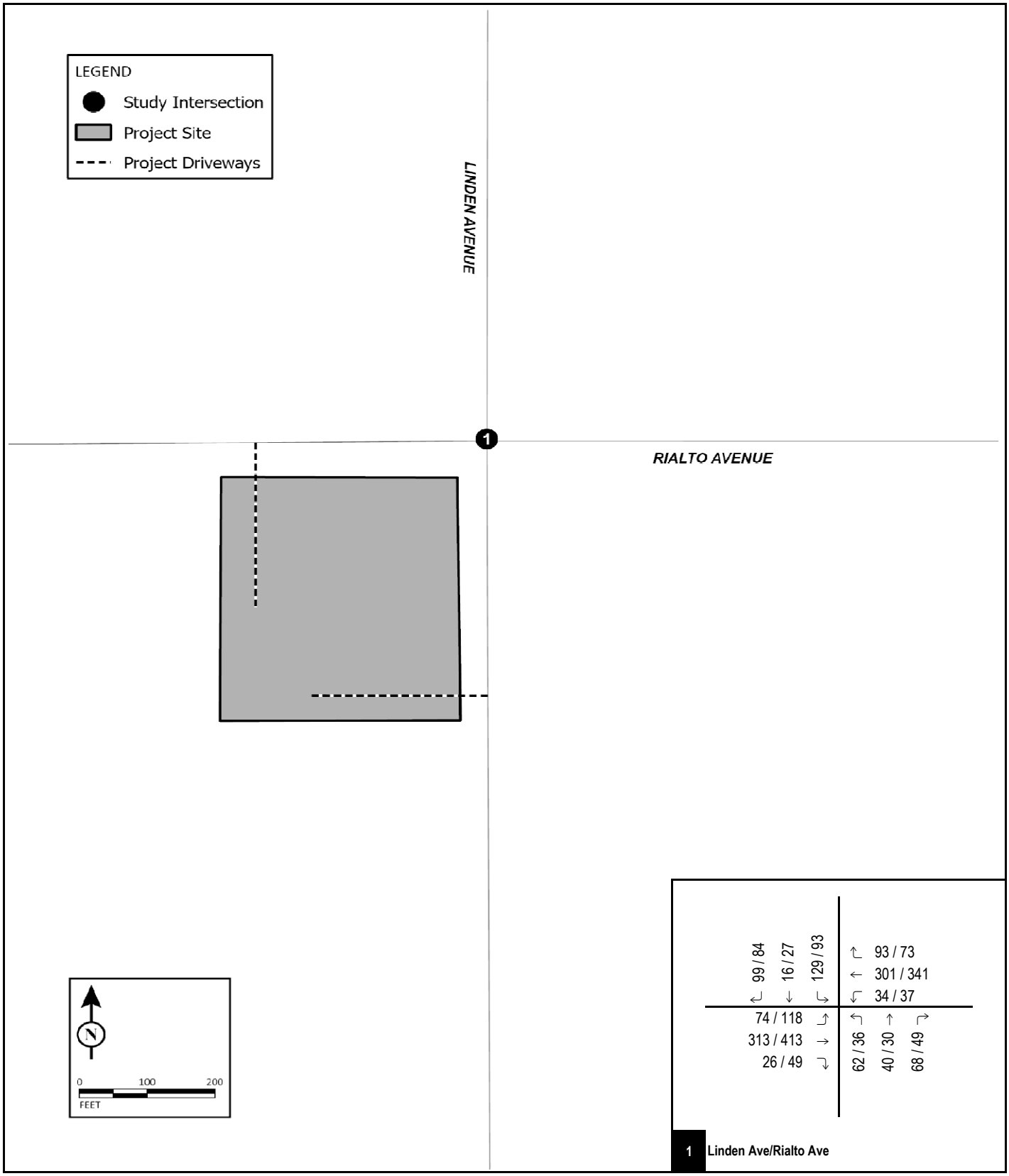


FIGURE 6-1

LSA

XXX / YYY
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Opening Year with Background Traffic Peak Hour Traffic Volumes

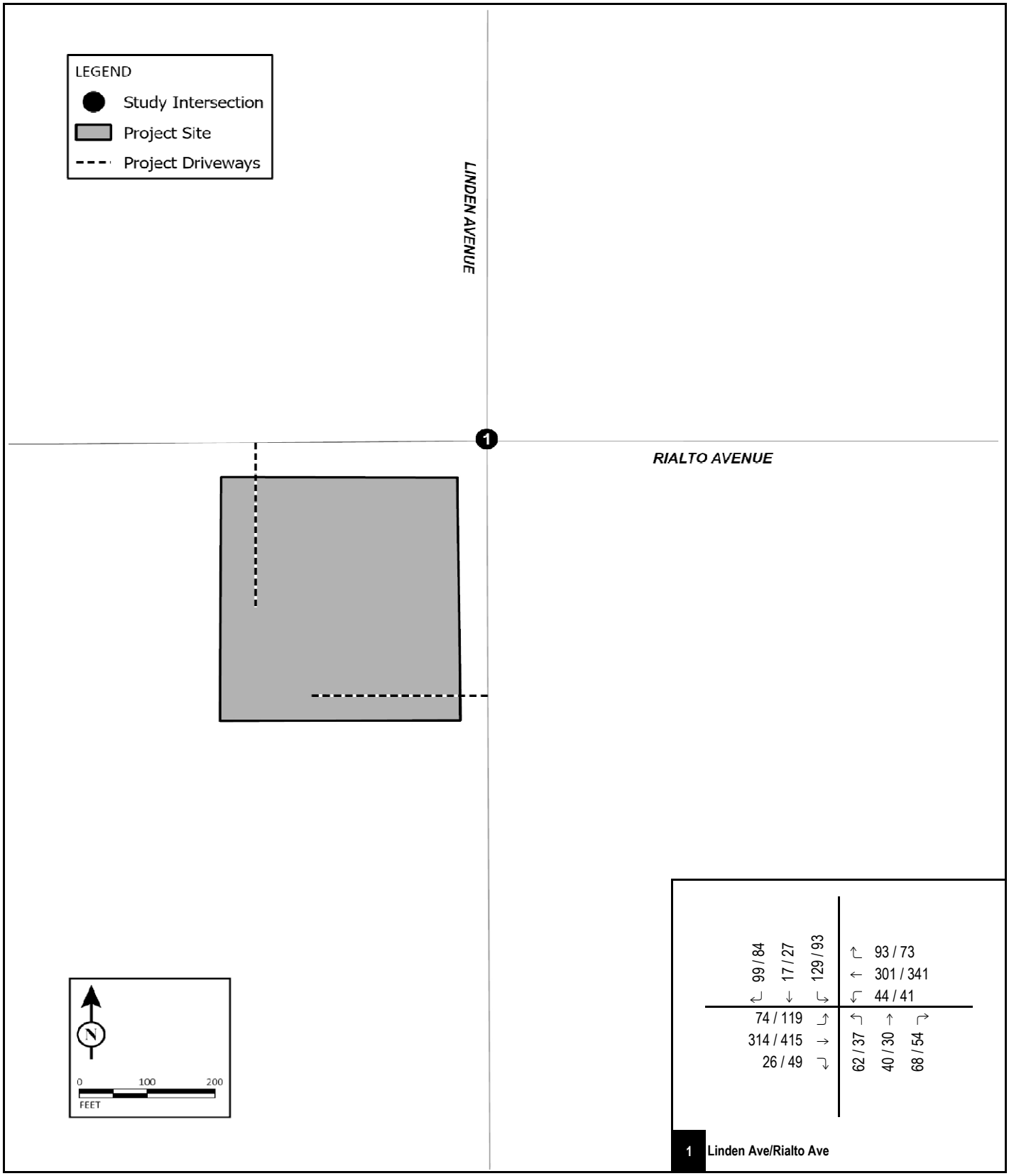


FIGURE 6-2

LSA

XXX / YYY
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Opening Year with Background Traffic and Proposed Project Peak Hour Traffic Volumes

LSA

Table 6.A: Project Opening Year Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	With Background Traffic					With Background Traffic and Proposed Project					A.M. Peak Hour Increase in Delay (sec.)	P.M. Peak Hour Increase in Delay (sec.)	Improvement Required?
			Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS	Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS			
1 . Linden Avenue/Rialto Avenue	Rialto	D	Signal	15.5	B	15.0	B	Signal	15.6	B	15.0	B	0.1	0.0	No

Notes:

LOS = Level of Service

Delay = Average control delay in seconds

* Exceeds LOS Standard

7.0 INTERSECTION QUEUING ANALYSIS

Tables 7.A and 7.B list the available turn-pocket storage lengths and summarize the 95th percentile back-of-queue lengths at the study intersection under existing and project opening year with background traffic conditions, respectively. For both tables, reported storage lengths for movements without turn-pockets reflect the distance between the corresponding limit line at the study intersection to the next immediate driveway. As the study intersection is signalized under all scenarios, queues for the study intersection have been reported using Synchro 12 software.

As shown in Table 7.A, reported queue lengths for all movements do not exceed the corresponding storage lengths at the study intersection under existing conditions. Therefore, the existing roadway geometry at the study intersection is sufficient to support vehicle queues for all turning movements under existing conditions.

As shown in Table 7.B, forecasted queue lengths for all movements at the study intersection do not exceed the corresponding storage lengths under project opening year with background traffic and project opening year with background traffic and proposed project conditions. Therefore, the existing roadway geometry at the study intersection is sufficient to support vehicle queues for all turning movements under project opening year with background traffic and project opening year with background traffic and proposed project conditions. As such, a third additional eastbound through lane at the intersection of Linden Avenue/Rialto Avenue is not required with implementation of the proposed project.

Detailed queuing worksheets are included in Appendix E.

7.1 LIST OF CHAPTER 7.0 TABLES

LSA

Table 7.A: Existing Queuing Analysis

Intersection	Movement	Existing Storage Length[1] (ft/ln)	Existing Without Project[2] AM	Existing Without Project[2] PM
1. Linden Avenue/Rialto Avenue	**NBLTR**	155	100	70
Signal	**SBLTR**	335	155	125
	EBL	150	75	95
	EBT	215	100	115
	WBL	150	45	45
	WBT	150	115	115

Notes:

ft/ln = feet per lane

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

L = Left; T = Through; R = Right

Bold = Queue exceeds available storage.

1 Storage lengths reflect the available turn-pocket storage length or the length from the intersection to the next immediate driveway in the case of lanes without a turn-pocket. Storage length for all movements obtained from Google Earth measurements and conceptual site plan.

2 All queues reported are 95th percentile queues. Queues for signalized intersections have been taken from Synchro.

LSA

Table 7.B: Project Opening Year Queuing Analysis

Intersection	Movement	Existing Storage Length[1] (ft/ln)	Project Opening Year with Background Traffic			
			Without Project[2]		With Project[2]	
			AM	PM	AM	PM
1. Linden Avenue/Rialto Avenue	**NBLTR**	155	105	70	105	75
Signal	**SBLTR**	335	160	130	160	130
	EBL	150	75	95	75	100
	EBT	215	105	120	105	120
	WBL	150	45	45	55	50
	WBT	150	120	115	120	115

Notes:

ft/ln = feet per lane

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

L = Left; T = Through; R = Right

Bold = Queue exceeds available storage.

1 Storage lengths reflect the available turn-pocket storage length or the length from the intersection to the next immediate driveway in the case of lanes without a turn-pocket. Storage length for all movements obtained from Google Earth measurements and conceptual site plan.

2 All queues reported are 95th percentile queues. Queues for signalized intersections have been taken from Synchro.

8.0 REQUIREMENT OF CIRCULATION IMPROVEMENTS

As recommended in the City's TIA Guidelines and as detailed in Section 3.2 of this report, new development projects are required to mitigate traffic impacts at study intersections in which the LOS would exceed the minimum LOS criterion with implementation of the project. Furthermore, deficiencies are deemed to occur at any study intersection in which the project would cause the peak-hour delay to increase by the following metrics:

- LOS A or B by 10.0 or more seconds
- LOS C by 8.0 or more seconds
- LOD D by 5.0 or more seconds
- LOS E by 2.0 or more seconds
- LOS F by 1.0 or more seconds

As shown in previously referenced Table 6.A, the study intersection is forecast to operate at satisfactory LOS during both the a.m. and p.m. peak hours under project opening year with background traffic and proposed project conditions. Furthermore, the proposed project is forecast to increase the peak-hour delay by 0.1 seconds in the a.m. peak hour and does not increase the peak-hour delay in the p.m. peak hours. As such, implementation of the proposed project would not create any LOS deficiencies at the study intersection under project opening year conditions.

A queuing analysis was conducted to determine if any forecasted queue lengths would exceed the available turn-pocket storage lengths at the study intersection or if queue lengths would cause blockages at project driveways or adjacent driveways with implementation of the proposed project. As shown in previously referenced Table 7.B, forecasted queue lengths for all movements at the study intersection do not exceed the corresponding storage lengths under project opening year with background traffic and proposed project conditions. Therefore, the existing roadway geometry at the study intersection is sufficient to support vehicle queues for all turning movements under project opening year with background traffic and proposed project conditions.

The proposed project is not forecast to cause any LOS or queuing deficiencies at the study intersection. Therefore, no circulation improvements are recommended at this time.

9.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT VEHICLE MILES TRAVELED ANALYSIS

On December 28, 2018, the California Office of Administrative Law approved the revised CEQA Guidelines for use. Among the changes to the CEQA Guidelines was the removal of vehicle delay and LOS from consideration under CEQA. With the adopted CEQA Guidelines, transportation impacts are to be evaluated based on a project's effect on VMT.

The City's TIA Guidelines includes screening criteria, VMT analysis methodology, VMT impact thresholds, and VMT mitigation measures. Therefore, the City's TIA Guidelines were used in the evaluation of the proposed project's VMT analysis.

According to the City's TIA Guidelines, projects that generate less than 110 daily vehicle trips may be screened out from a detailed VMT analysis. As summarized in the previously referenced Table 5.A, the proposed project is estimated to generate 72 daily vehicle trips. Therefore, the proposed project is eligible to be screened out and a detailed VMT analysis is not required.

APPENDIX A

SCOPING AGREEMENT

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

September 20, 2024

Michael Lloyd
Contract Engineer for Transportation Engineering; City of Rialto
150 South Palm Avenue
Rialto, California 92376

Subject: Scope of Work for the Rialto & Linden Industrial Warehouse Project Focused Traffic Impact Analysis (LSA Project No. 20241780)

Dear Mr. Lloyd:

LSA has prepared this scoping agreement for preparation of a Focused Traffic Impact Analysis (TIA) for the proposed Rialto & Linden Industrial Warehouse Project (project) located in the City of Rialto (City) in San Bernardino County. The proposed project would be located on approximately 2.13 acres of land (Assessor's Parcel Number [APN] 0246-201-51) at the southwest corner of the intersection of Linden Avenue and Rialto Avenue. Figure 1 (all figures and tables attached) illustrates the regional and project location.

The proposed project includes the construction of a two-story, 42,000 square foot (sf) warehouse that includes 4,000 sf of office space. The first floor of the proposed building would include 38,000 sf of industrial/warehouse space and 2,000 sf of office space. An additional 2,000 sf of office space would occupy the second floor of the proposed building. Parking accommodations for the proposed project totals to thirty-six (36) parking stalls, including two Americans with Disabilities Act (ADA) compliant stalls and four electric vehicle stalls. Access to the project will be provided via a right-in-right-out (RIRO) driveway on Rialto Avenue and a full-access driveway on Linden Avenue. Figure 2 illustrates the conceptual site plan for the proposed project.

The project site has a designation of Light Industrial (LI) and is zoned as General Manufacturing (M-2) according to the City's General Plan. The LI designation allows light industrial activity such as processing, packaging, machinery repair, fabrication, distribution, warehousing and storage, research and development, and similar uses which are low impact. The M-2 zone allows a variety of general manufacturing uses related to the manufacturing, processing, or treatment of products. Therefore, the proposed project land uses are consistent with the City's zoning code and land use designations.

The Focused TIA will be prepared in accordance with the methodology and requirements outlined in the City's *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (TIA Guidelines), dated October 2021. As recommended in the TIA Guidelines, at the onset of any land development project TIA preparation process, the Project Scoping Forms from the City's TIA Guidelines needs to be submitted to the City Traffic Engineer to determine the level of analysis required for the project. The Project Scoping Form includes detailed project information and land uses, project trip generation, LOS analysis methodologies, and VMT analysis methodologies. The City's scoping form from the TIA Guidelines is attached as Attachment A.

Based on the anticipated trip generation estimate, the project is not anticipated to generate 50 or more peak hour trips and may be exempt from a detailed Level of Service (LOS) analysis. However, as recommended by the City staff in the comment letter dated August 16, 2024, a focused LOS analysis will be conducted for the project to determine the operational efficiency and potential requirement for third eastbound lane along Rialto Avenue at the intersection of Linden Avenue/Rialto Avenue. Based on the City's comment and requirements of the City's TIA Guidelines, LSA anticipates that the following scope of work will be required for the Focused TIA for the proposed project:

SCOPE OF WORK: LEVEL OF SERVICE ANALYSIS

Study Intersection Analysis

The LOS analysis will be prepared in accordance with the methodology outlined in the TIA Guidelines. The study intersection will be analyzed during the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m. Intersection LOS will be calculated using the *Highway Capacity Manual 7* (HCM 7) analysis methodologies and using Synchro 12 software. Based on comments from the City, the LOS analysis will examine the following intersection:

1. Linden Avenue/Rialto Avenue

The study intersection is located within the jurisdiction of the City. Figure 3 illustrates the study area intersection.

Analysis Scenarios

The LOS analysis will satisfy the requirements established in the City's TIA Guidelines. The project opening year is anticipated to be 2025. Since the project is consistent with the City's General Plan land use and zoning designation, and based of the City's comments, the LOS analysis will examine traffic conditions and traffic operational characteristics under the following scenarios:

- Existing Conditions
- Project Opening Year with Background Traffic Conditions
- Project Opening Year with Background Traffic and Proposed Project Conditions

Project Trip Generation, Trip Distribution, and Trip Assignment

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers *Trip Generation Manual* (11th Edition) for Land Use 150 – 'Warehousing', Setting/Location – 'General Urban/Suburban'. The resulting trips were converted to trucks and passenger vehicles (PV) based on the recommended vehicle splits included in the City's TIA Guidelines, which is consistent with the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As recommended in the City's TIA Guidelines, 40 percent of project traffic has been considered to be trucks. Additionally, as recommended in the City's TIA Guidelines, the truck mix was considered to be 70 percent four- or more axle, 28 percent

three-axle, and 2 percent two-axle trucks out of all truck trips. Further, based on the City's TIA Guidelines, all truck trips were converted to passenger car equivalents (PCEs) using a PCE factor of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4 or more axle trucks.

Table A summarizes the project trip generation. As shown in Table A, the proposed project is estimated to generate 43 daily PV trips, with 4 PV trips occurring in the a.m. peak hour and 5 PV trips occurring in the p.m. peak hour. The proposed project is estimated to generate 29 daily truck trips, with 3 truck trips occurring in each of the a.m. and p.m. peak hours. After converting the truck trips into PCEs, the proposed project is estimated to generate 121 daily PCE trips, with 12 PCE trips occurring in the a.m. peak hour and 13 PCE trips occurring in the p.m. peak hour.

The project trip distribution is based on the regional roadway network and the location of residential, employment, and commercial centers in relation to the proposed project. Figure 4 and Figure 5 illustrate the project trip distribution for PVs and trucks, respectively. The project trip assignment at the study intersection is the product of the project trip generation and corresponding trip distribution percentages. Figure 6 and Figure 7 illustrate the project trip assignments at the study intersection for PVs and trucks in PCE, respectively. Figure 8 illustrates the total peak hour project trip assignment in PCE at the study intersection.

Volume Development and Analysis Methodology

Traffic volumes for existing conditions will be developed using existing count data collected at the study intersection. LSA will obtain a.m. and p.m. peak hour intersection turn movement counts at the study intersection.

Traffic volumes for project opening year with background traffic conditions will be developed by applying a 2 percent per annum growth rate to existing traffic volumes. Traffic volumes for project opening year with background traffic and proposed project conditions will be developed by adding project trips to project opening year with background traffic volumes.

As previously stated, the LOS study will analyze the study intersection during the a.m. and p.m. peak hours. Intersection LOS will be calculated using HCM 7 methodologies by using the Synchro 12 software.

Analysis of Traffic Operations and Recommended Circulation Improvements

LOS and delay will be analyzed under all analysis scenarios to determine operational deficiencies at the study intersection. Determination of operational deficiencies will be made based on the City's LOS standards and operational deficiency criteria.

Improvements will be recommended at the study location if the project creates or adds to an operational deficiency. Improvements may include addition of intersection turn lanes, roadway restriping, traffic signal optimization, local street striping and channelization improvements, and signage. The LOS with improvements will be calculated and summarized along with a comparison of the LOS without improvements.

Intersection Queuing Analysis

An intersection queuing analysis will be performed at the study intersection. The queuing analysis will be performed using the Synchro 12 software. The queuing analysis will be used to determine the

turn-pocket storage length requirements if any restriping, including a third eastbound lane on Rialto Avenue, is needed at the study intersection.

Fee Plans/Fair Share Contributions (if required)

LSA will evaluate whether the improvements identified in the Focused TIA are included as part of any adopted mitigation fee program or the San Bernardino County Transportation Authority (SBCTA) Nexus Study fee program. If it is determined that any recommended improvement is not covered through a fee program, then the project's fair share contribution will be calculated based on the project traffic as a percentage of total growth from existing to project opening year with background traffic conditions, as outlined in the City's TIA Guidelines.

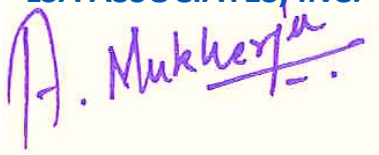
SCOPE OF WORK: CALIFORNIA ENVIRONMENTAL QUALITY ACT VEHICLE MILES TRAVELED ANALYSIS

Senate Bill 743 (SB 743) required changes be made to the California Environmental Quality Act (CEQA) regulations introducing Vehicle Miles Traveled (VMT) as the new metric for determining project traffic impacts. The VMT evaluation will be based on the methodology and significant impact criteria included in the City's TIA Guidelines. According to the TIA Guidelines, projects that generate less than 110 daily vehicle trips may be screened out from a detailed VMT analysis. The proposed project is estimated to generate 72 daily vehicle trips as summarized in Table A. Therefore, the proposed project is eligible to be screened out and a detailed VMT analysis will not be required.

Should you have any questions, please do not hesitate to contact me at (951) 781-9310 or email me at ambarish.mukherjee@lsa.net

Sincerely,

LSA ASSOCIATES, INC.



Ambarish Mukherjee, PE, AICP
Principal

Attachments: A: Forms
B: Figures
C: Table

ATTACHMENT A

FORMS

City of Rialto TIA Scoping Form
City of Rialto VMT Scoping Form

Exhibit A

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This following form shall be used to acknowledge preliminary approval of the scope for the traffic impact analysis (TIA) of the following project. The TIA must follow the City of Rialto Traffic Impact Analysis – Report Guidelines and Requirements, adopted by the City Council on _____.

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. MC2024-0021

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Rialto & Linden Industrial Warehouse Project

Project Address: Assessor's Parcel Number 0246-201-51

Project Description: The proposed project includes the construction of a two-story, 42,000 square feet industrial warehouse that includes 4,000 square feet of office space.

	Consultant	Developer
Name:	LSA Associates Inc.	Lord Constructors Inc.
Address:	1500 Iowa Avenue STE 200, Riverside, CA	Upland, CA
Telephone:	951-781-9310	
Fax:		

1. Trip Generation Source: Institute of Transportation Engineers Trip Generation Manual 11th Edtion

Existing GP Land Use Light Industrial (LI) Proposed Land Use Light Industrial (LI)

Current Zoning: General Manufacturing (M-2) Proposed Zoning: General Manufacturing (M-2)

Total Daily Project Trips: 72 non-PCE/121 PCE

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				6 non-PCE/11 PCE	1 non-PCE/1 PCE	7 non-PCE/12 PCE
PM Trips				2 non-PCE/4 PCE	6 non-PCE/9 PCE	8 non-PCE/13 PCE

Internal Trip Allowance Yes [No] (_____ % Trip Discount)

Pass-By Trip Allowance Yes [No] (_____ % Trip Discount)

For appropriate land uses, a pass-by trip discount may be allowed not to exceed 25%. Discount trips shall be indicated on a report figure for intersections and access locations.

2. Trip Geographic Distribution: N 20 % S 0 % E 40 % W 40 %

(Detailed exhibits of trip distribution must be attached with Trucks as a separate exhibit)

3. Background Growth Traffic

Project Completion Year: 2025 Annual Background Growth Rate: 2 %

Other Phase Years _____

Other area projects to be considered: _____

(Contact Planning for Lists. Correlate projects to exhibit map and also indicate which projects have been included in study area forecasts for existing + background growth + project + cumulative)

Model/Forecast methodology: _____

4. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. Linden Avenue/Rialto Avenue
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

5. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. N/A
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary?

YES
NO

If so, name of Jurisdiction: _____

7. Site Plan (please attach 11" x 17" legible copy)

8. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (to be filled out by the City of Rialto Public Works Department) (NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing un-signalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

_____
_____
_____
_____

9. Existing Conditions

Traffic count data must be new or within one year. Provide traffic count dates if using other than new counts.

Date of counts: N/A

NOTE Fees are due and must be submitted with, or prior to submittal of this form. The City will not process the Scoping Agreement prior to the receipt of the processing fee.

Fees Paid: _____ Date _____

Recommended:

Scoping Agreement Submittal date 07/05/2024

Scoping Agreement Resubmittal date 09/20/2024

LSA Associates Inc. 9/20/2024

Applicant/Engineer Date

Land Use Concurrence:

Development Services Department Date

Approved by:

Public Works Department Date

NOTE:

The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval.

VMT Analysis Project Scoping Form

This scoping form shall be submitted to the City of Rialto to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	MC2024-0021
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Rialto & Linden Industrial Warehouse Project
Project Address:	Assessor's Parcel Number 0246-201-51
Project Opening Year:	2025
Project Description:	The proposed project includes the construction of a two-story, 42,000 square feet industrial warehouse that includes 4,000 square feet of office space.

	Consultant:	**Developer:**
Name:	LSA Associates Inc.	Lord Constructors Inc.
Address:	1500 Iowa Avenue STE 200	Upland, CA
	Riverside, CA 92507	
Telephone:	951-781-9310	
Fax/Email:		

Trip Generation Information:

Trip Generation Data Source: Institute of Transportation Engineers Trip Generation Manual 11th Edtion

Current General Plan Land Use: Light Industrial (LI)

Proposed General Plan Land Use: Light Industrial (LI)

Current Zoning: General Manufacturing (M-2)

Proposed Zoning: General Manufacturing (M-2)

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				6 non-PCE/ 11 PCE	1 non-PCE/ 1 PCE	7 non-PCE/ 12 PCE
PM Trips				2 non-PCE/ 4 PCE	6 non-PCE/ 9 PCE	8 non-PCE/ 13 PCE

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☑ No (_____% Trip Discount)

Potential Screening Checks

Is the project screened from VMT assessment? ☑ Yes ☐ No

VMT screening justification
According to the City's TIA Guidelines, certain land uses in addition to local serving retail may be presumed to have a less than significant impact absent of substantial evidence to the contrary. The proposed project is anticipated to generate 72 total daily trips, which is lower than the City's daily trip threshold of 110 daily trips.

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used N/A
- Attach SBCTA Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Approved by:

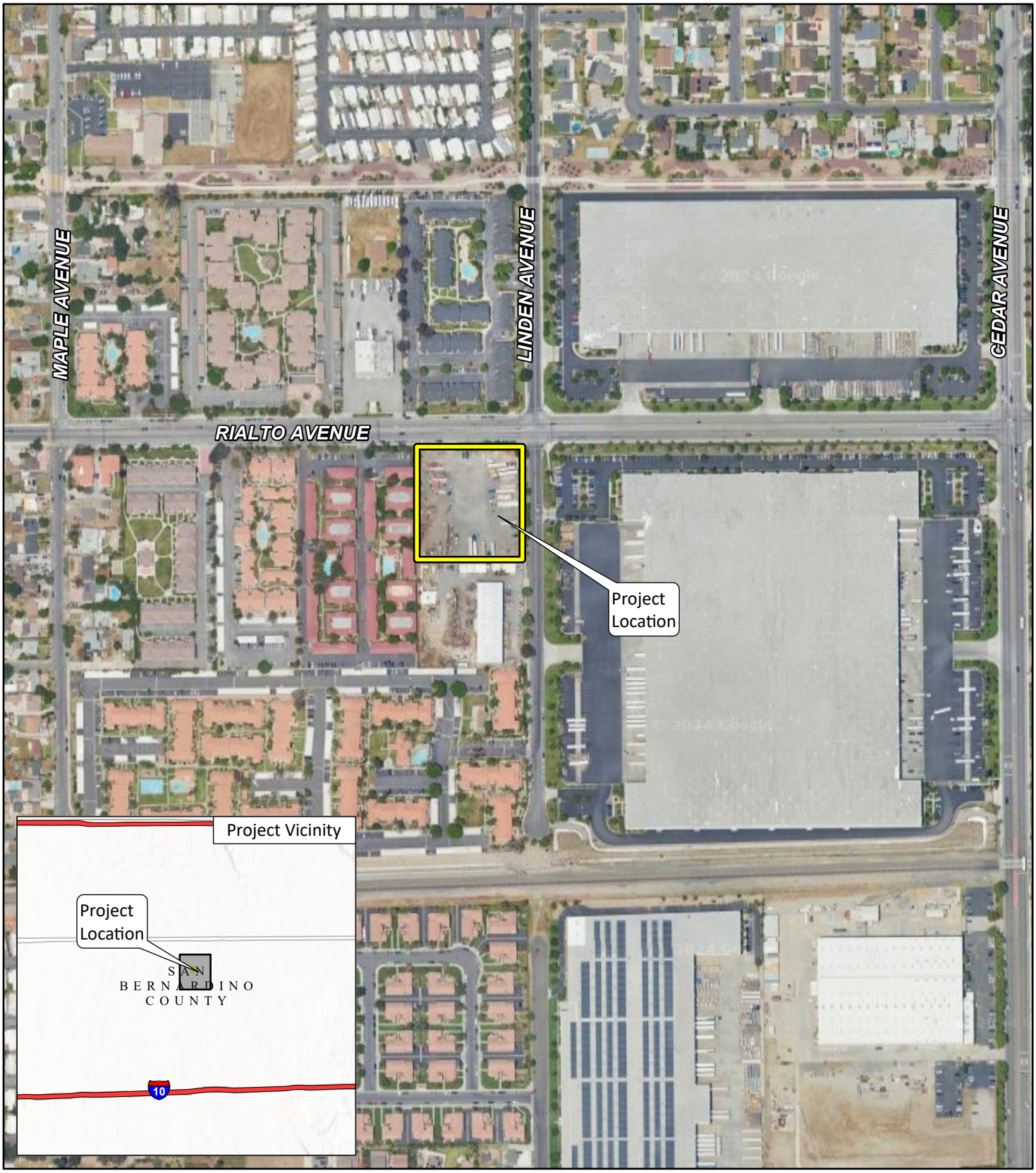
Public Works Department Date

NOTE:

The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval

ATTACHMENT B

FIGURES



LSA

LEGEND

Project Location

FIGURE 1

N

0 180 360

FEET

SOURCE: Google Earth, 2022

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis
Regional and Project Location

P:\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\R&L\R&L.aprx (9/19/2024)

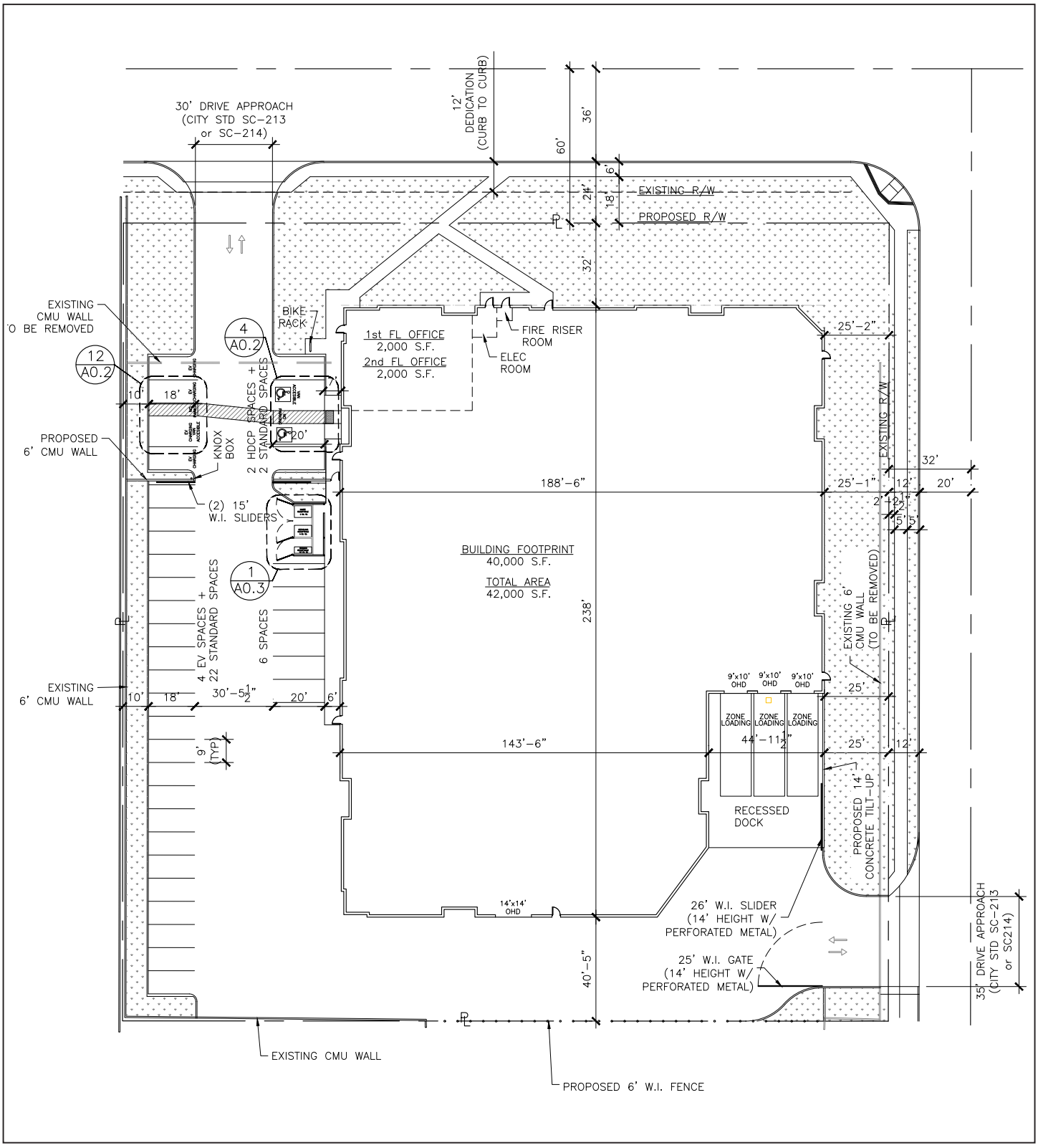


FIGURE 2

N

0 30 60

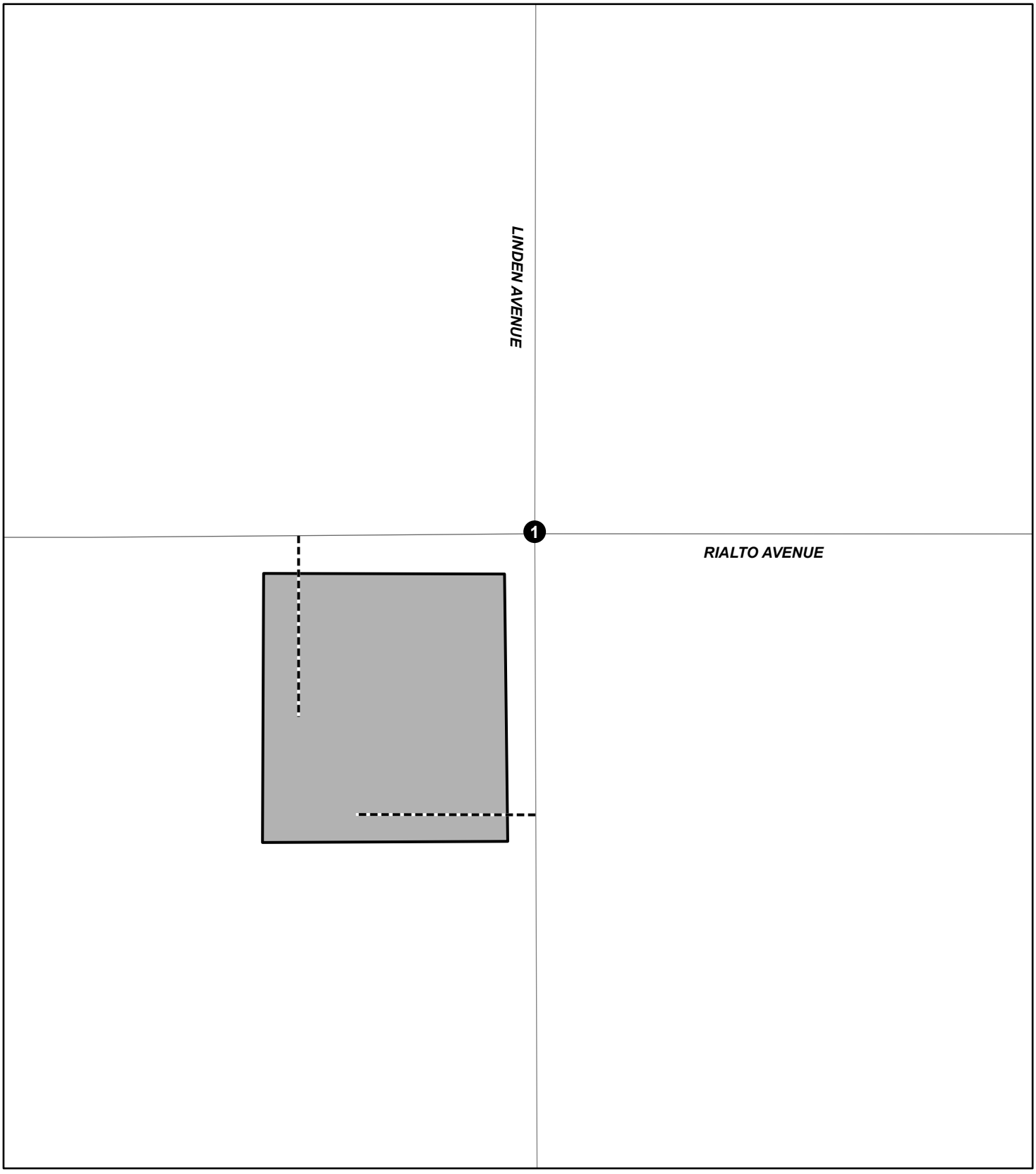
FEET

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Conceptual Site Plan

SOURCE: Lord Constructors, Inc., April 2024

\\aznasunifiler1\projects\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\Fig2_SitePlan.ai (9/19/2024)



LSA

LEGEND

Study Intersection

Project Site

Project Driveways

FIGURE 3

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Study Area Intersection

N

0 90 180

FEET

SOURCE: ESRI Streetmap, 2021

P:\20241780 Lord Constructors Rialto & Linden\Technical Studies\Transportation\GIS and Graphics\R&L\R&L.aprx (9/17/2024)

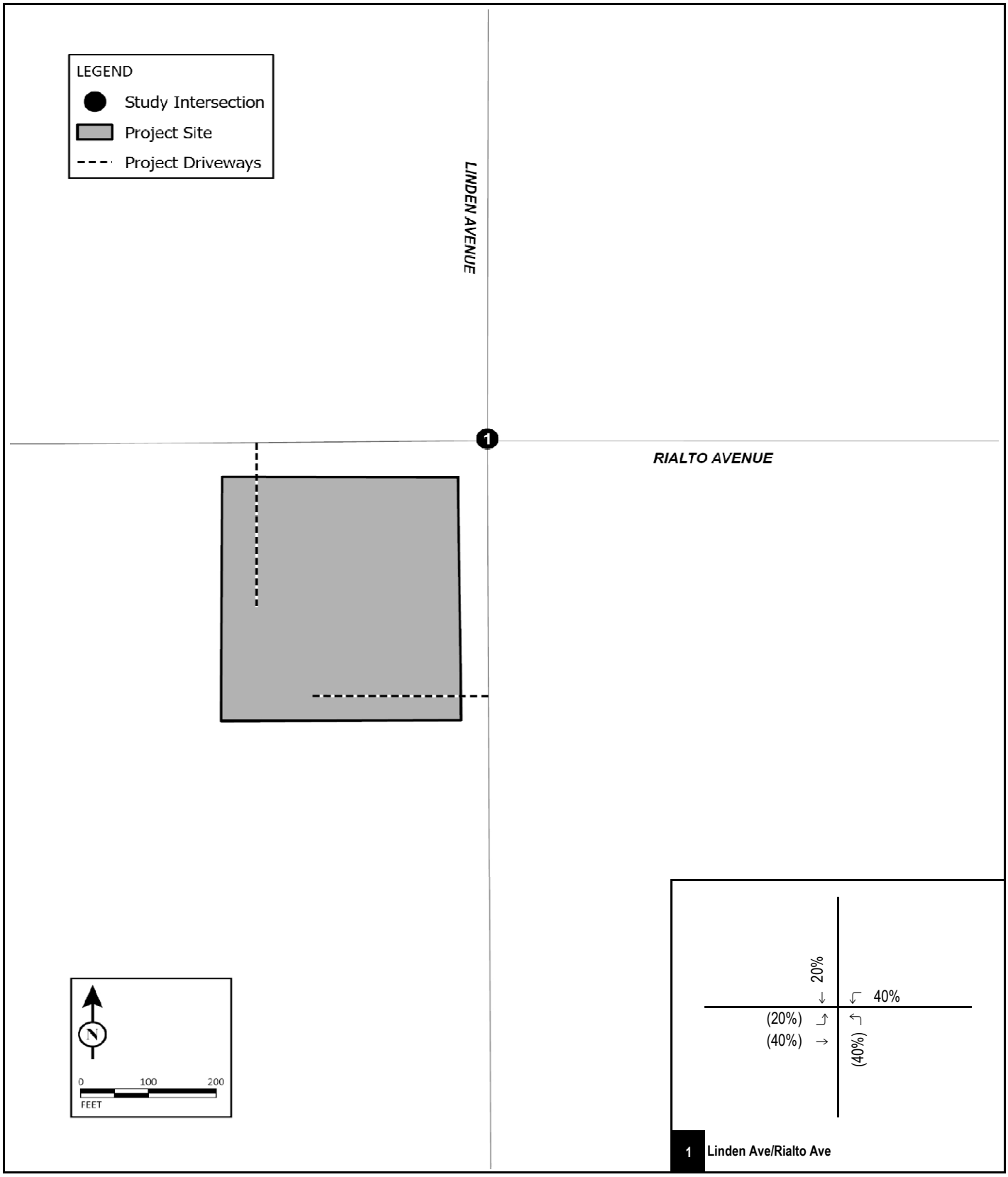


FIGURE 4

LSA

XX% (YY%)
Inbound (Outbound) Distribution

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Distribution - Passenger Vehicles

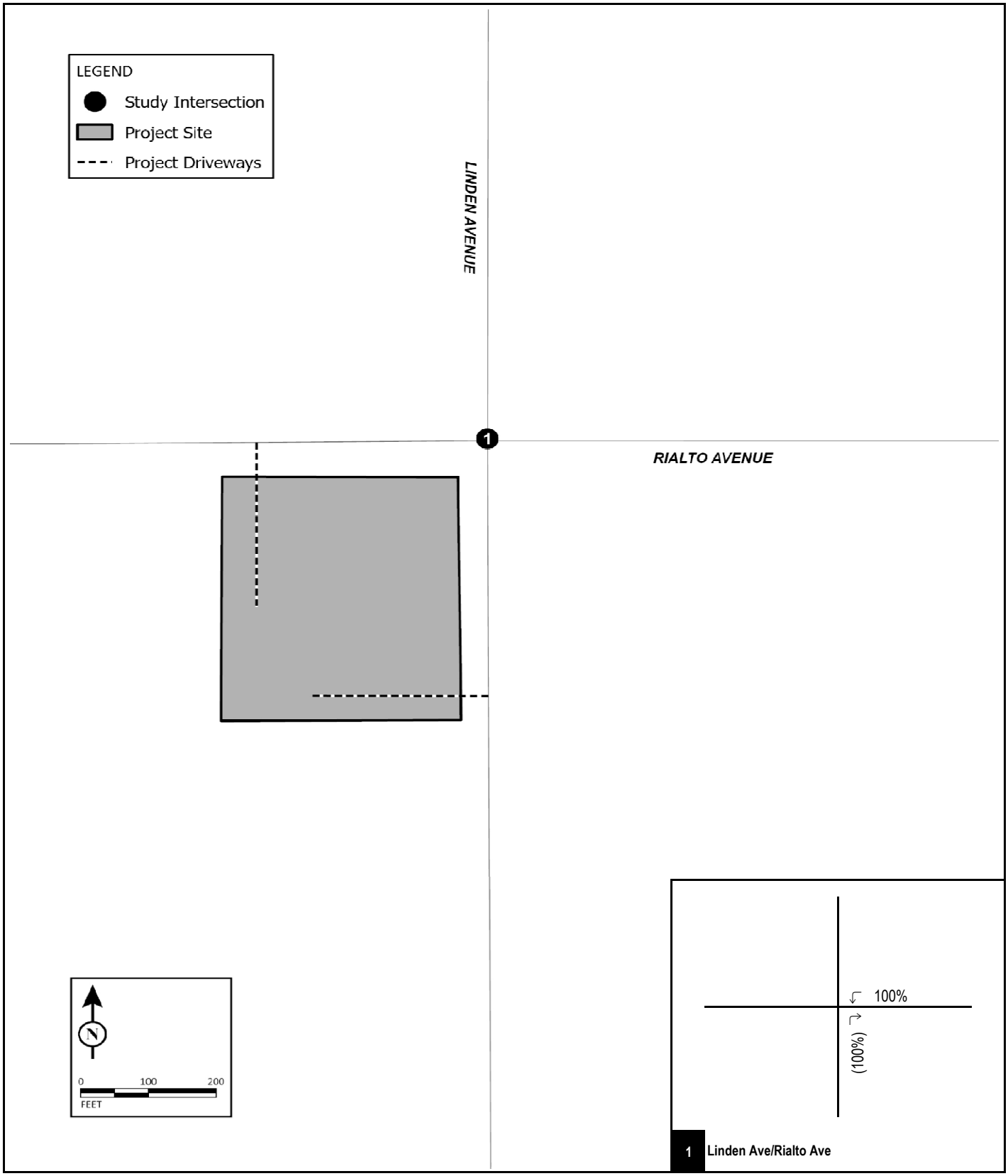


FIGURE 5

LSA

XXX% (YYY%)
Inbound (Outbound) Distribution

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Distribution - Trucks

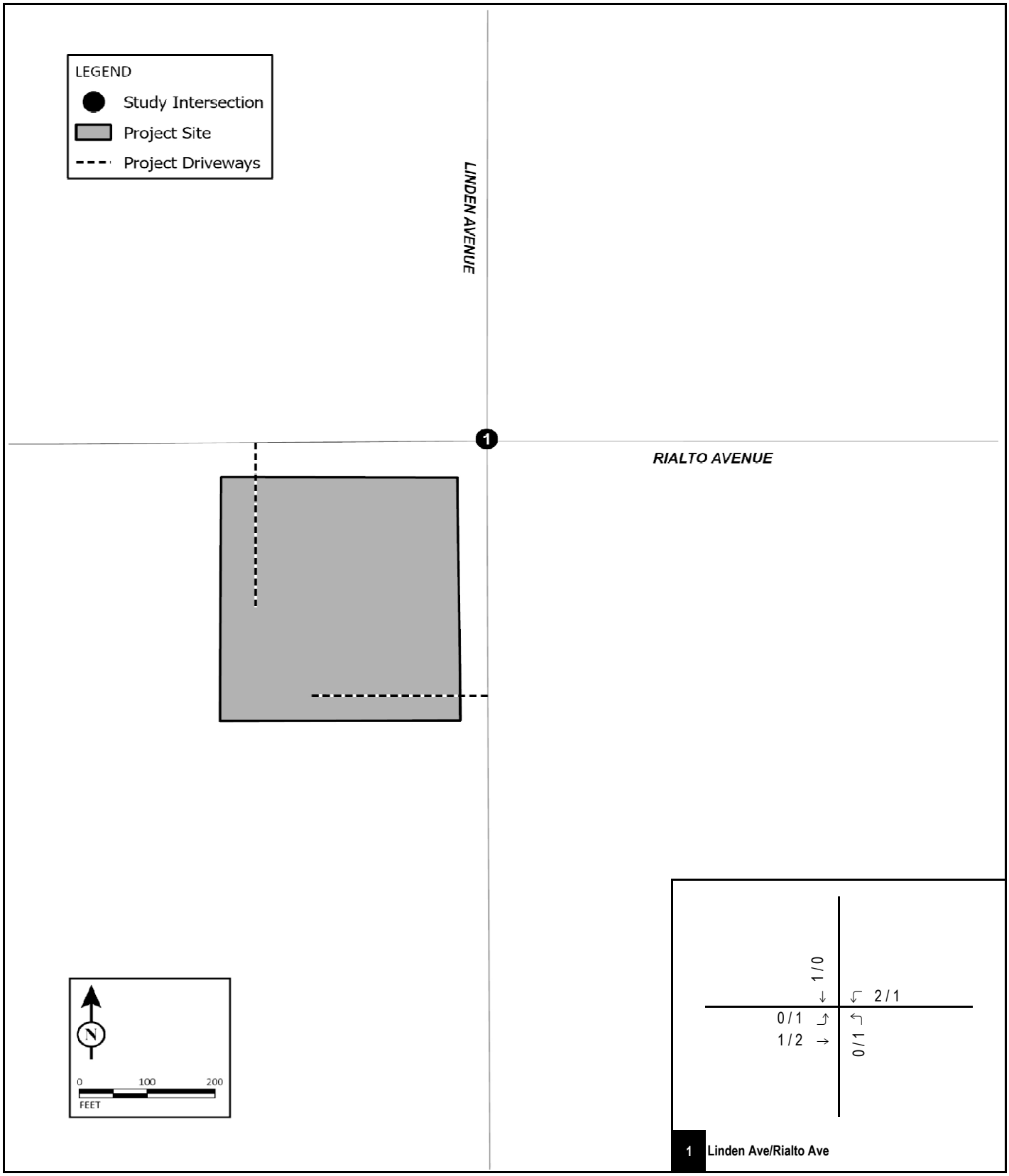


FIGURE 6

LSA

X / Y
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Assignment - Passenger Vehicles

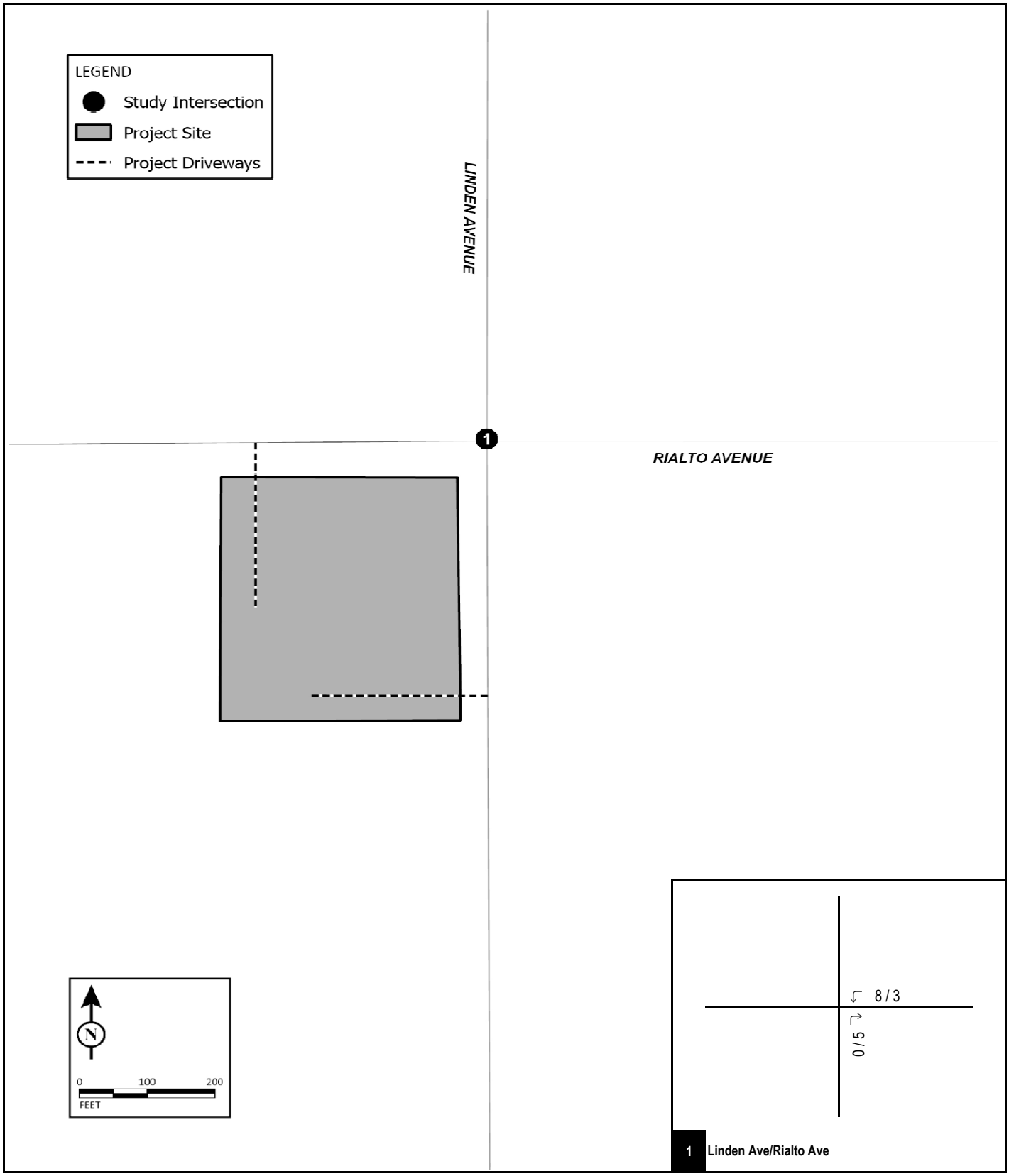


FIGURE 7

LSA

X / Y
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Project Trip Assignment - Trucks

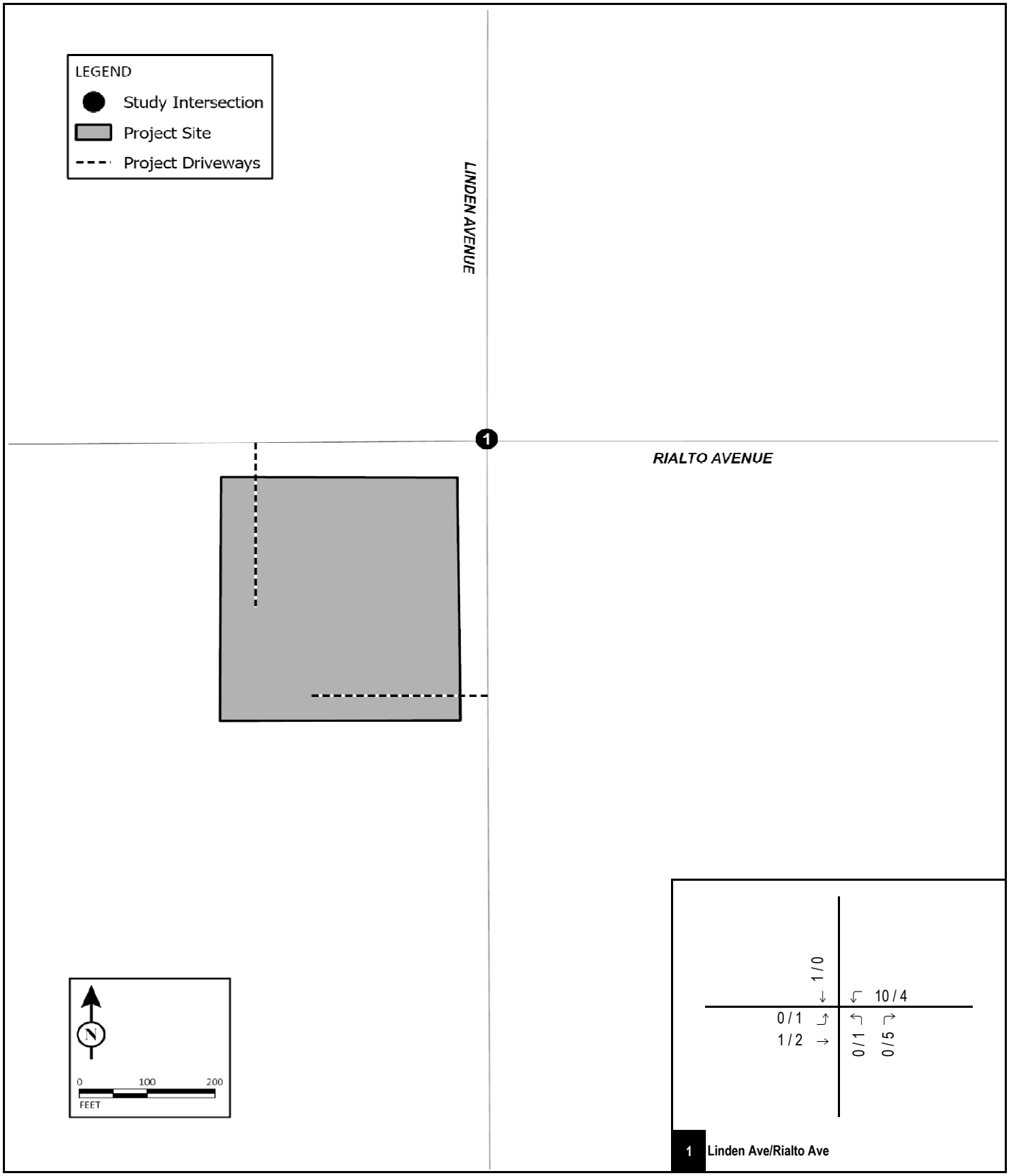


FIGURE 8

LSA

XX / YY
AM / PM PCE Peak Hour Trips

Rialto & Linden Industrial Warehouse Project
Focused Traffic Impact Analysis

Total Project Net Trip Assignment

ATTACHMENT C

TABLE

Table A: Project Trip Generation

LSA

Table A - Project Trip Generation

Land Uses	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Warehouse[1]								
	42.000 TSF							
Trips/Unit (Cars)		0.077	0.025	0.102	0.030	0.078	0.108	1.026
Trips/Unit (2-Axle Trucks)		0.001	0.000	0.001	0.000	0.001	0.001	0.014
Trips/Unit (3-Axle Trucks)		0.015	0.004	0.019	0.006	0.014	0.020	0.192
Trips/Unit (4+ Axle Trucks)		0.037	0.011	0.048	0.014	0.037	0.051	0.478
Trips/Unit (Total)		0.130	0.040	0.170	0.050	0.130	0.180	1.710
Trip Generation (Cars)		3	1	4	1	4	5	43
Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	1
Trip Generation (3-Axle Trucks)		1	0	1	0	1	1	8
Trip Generation (4+ Axle Trucks)		2	0	2	1	1	2	20
Trip Generation (Total)		6	1	7	2	6	8	72
Trip Generation (Cars)		3	1	4	1	4	5	43
PCE Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	2
PCE Trip Generation (3-Axle Trucks)		2	0	2	0	2	2	16
PCE Trip Generation (4+ Axle Trucks)		6	0	6	3	3	6	60
PCE Trip Generation (Total)		**11**	**1**	**12**	**4**	**9**	**13**	**121**

Notes:

TSF = thousand square-feet

[1] The trip generation was developed based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th edition) rates for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, 40 percent of project traffic will be trucks. Based on Vehicle Mix from the SCAQMD, *as mentioned in the Traffic Impact Analysis* (TIA) *Guidelines* , the truck mix was considered as 70% 4-axle, 28% 3-axle, and 2% 2-axle trucks. Based on the City of Rialto *Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (dated October 2021), all truck trips were converted to passenger car equivalents (PCEs) using a 1.5 PCE factor for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

APPENDIX B

TRAFFIC COUNT SHEETS AND SIGNAL TIMING SHEETS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	19	3	18	40	4	56	9	69	8	9	10	27	7	46	5	58	194
07:15 AM	38	6	18	62	0	53	10	63	14	7	18	39	16	75	4	95	259
07:30 AM	34	5	34	73	4	73	17	94	19	12	22	53	14	87	5	106	326
07:45 AM	32	3	23	58	11	82	33	126	13	12	12	37	25	77	7	109	330
Total	123	17	93	233	19	264	69	352	54	40	62	156	62	285	21	368	1109
08:00 AM	21	0	17	38	17	75	30	122	14	7	13	34	16	63	9	88	282
08:15 AM	20	2	22	44	5	48	8	61	4	6	15	25	16	58	6	80	210
08:30 AM	15	4	15	34	4	54	11	69	7	2	5	14	13	61	4	78	195
08:45 AM	20	7	17	44	7	65	5	77	4	2	5	11	21	63	7	91	223
Total	76	13	71	160	33	242	54	329	29	17	38	84	66	245	26	337	910
Grand Total	199	30	164	393	52	506	123	681	83	57	100	240	128	530	47	705	2019
Apprch %	50.6	7.6	41.7		7.6	74.3	18.1		34.6	23.8	41.7		18.2	75.2	6.7		
Total %	9.9	1.5	8.1	19.5	2.6	25.1	6.1	33.7	4.1	2.8	5	11.9	6.3	26.3	2.3	34.9	
Passenger Vehicles	191	25	155	371	50	495	120	665	78	55	94	227	122	519	44	685	1948
% Passenger Vehicles	96	83.3	94.5	94.4	96.2	97.8	97.6	97.7	94	96.5	94	94.6	95.3	97.9	93.6	97.2	96.5
Large 2 Axle Vehicles	7	4	8	19	2	6	1	9	5	1	6	12	6	9	2	17	57
% Large 2 Axle Vehicles	3.5	13.3	4.9	4.8	3.8	1.2	0.8	1.3	6	1.8	6	5	4.7	1.7	4.3	2.4	2.8
3 Axle Vehicles	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
% 3 Axle Vehicles	0	3.3	0	0.3	0	0	0.8	0.1	0	1.8	0	0.4	0	0	0	0	0.1
4+ Axle Trucks	1	0	1	2	0	5	1	6	0	0	0	0	0	2	1	3	11
% 4+ Axle Trucks	0.5	0	0.6	0.5	0	1	0.8	0.9	0	0	0	0	0	0.4	2.1	0.4	0.5

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**38**	**6**	18	62	0	53	10	63	14	7	18	39	16	75	4	95	259
07:30 AM	34	5	**34**	**73**	4	73	17	94	**19**	**12**	**22**	**53**	14	**87**	5	106	326
07:45 AM	32	3	23	58	11	**82**	**33**	**126**	13	12	12	37	**25**	77	7	**109**	**330**
08:00 AM	21	0	17	38	**17**	75	30	122	14	7	13	34	16	63	**9**	88	282
Total Volume	125	14	92	231	32	283	90	405	60	38	65	163	71	302	25	398	1197
% App. Total	54.1	6.1	39.8		7.9	69.9	22.2		36.8	23.3	39.9		17.8	75.9	6.3		
PHF	.822	.583	.676	.791	.471	.863	.682	.804	.789	.792	.739	.769	.710	.868	.694	.913	.907

Counts Unlimited, Inc.
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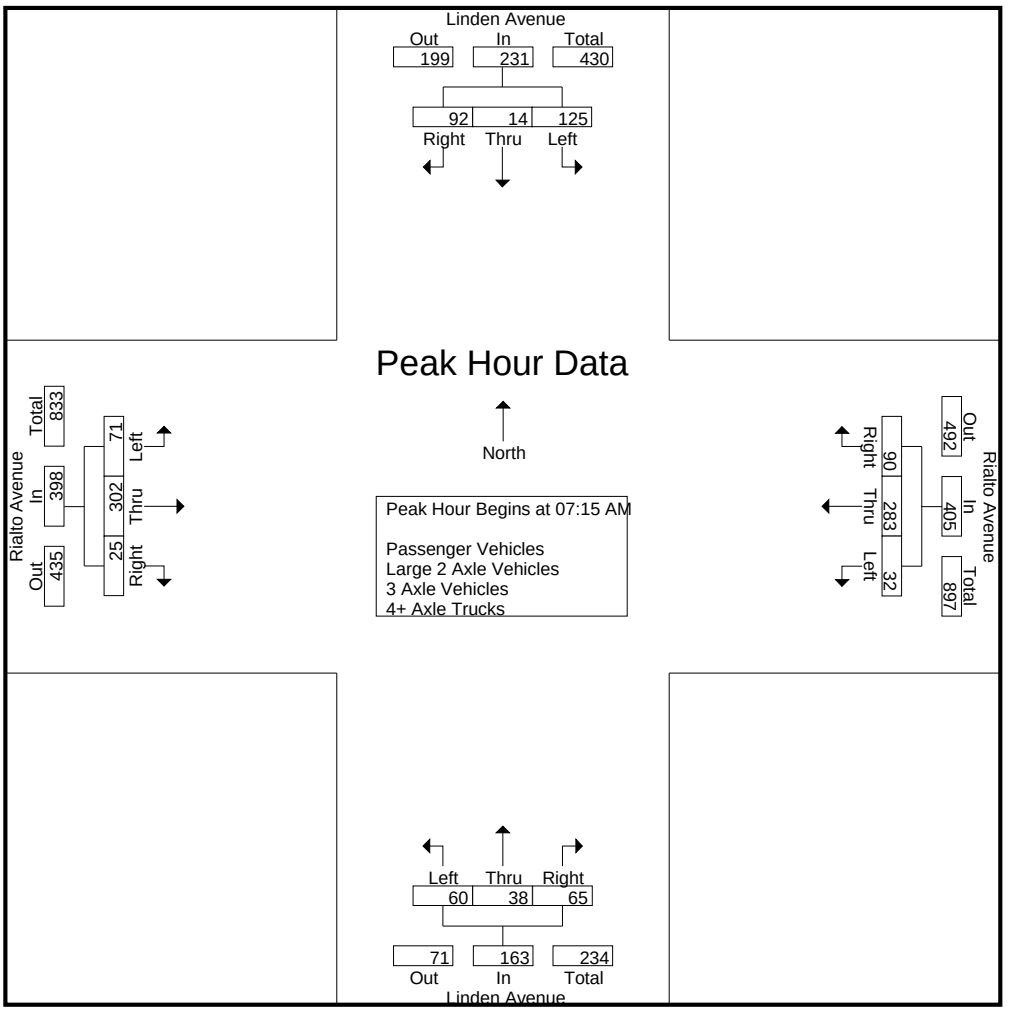
City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	19	3	18	40	0	53	10	63	14	7	18	39	16	75	4	95
+15 mins.	**38**	**6**	18	62	4	73	17	94	**19**	**12**	**22**	**53**	14	**87**	5	106
+30 mins.	34	5	**34**	**73**	11	**82**	**33**	**126**	13	12	12	37	**25**	77	7	**109**
+45 mins.	32	3	23	58	**17**	75	30	122	14	7	13	34	16	63	**9**	88
Total Volume	123	17	93	233	32	283	90	405	60	38	65	163	71	302	25	398
% App. Total	52.8	7.3	39.9		7.9	69.9	22.2		36.8	23.3	39.9		17.8	75.9	6.3	
PHF	.809	.708	.684	.798	.471	.863	.682	.804	.789	.792	.739	.769	.710	.868	.694	.913

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City of Rialto
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Weather: Clear

File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 1

Groups Printed- Passenger Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	2	18	38	4	56	9	69	7	9	10	26	7	44	5	56	189
07:15 AM	36	3	17	56	0	51	10	61	12	6	18	36	15	73	4	92	245
07:30 AM	34	5	33	72	4	70	16	90	19	12	22	53	14	85	5	104	319
07:45 AM	32	3	22	57	9	81	33	123	13	12	11	36	22	76	7	105	321
Total	120	13	90	223	17	258	68	343	51	39	61	151	58	278	21	357	1074
08:00 AM	21	0	14	35	17	73	30	120	14	7	11	32	16	61	9	86	273
08:15 AM	19	2	20	41	5	47	7	59	3	5	13	21	16	57	5	78	199
08:30 AM	11	3	14	28	4	52	10	66	6	2	5	13	13	61	3	77	184
08:45 AM	20	7	17	44	7	65	5	77	4	2	4	10	19	62	6	87	218
Total	71	12	65	148	33	237	52	322	27	16	33	76	64	241	23	328	874
Grand Total	191	25	155	371	50	495	120	665	78	55	94	227	122	519	44	685	1948
Apprch %	51.5	6.7	41.8		7.5	74.4	18		34.4	24.2	41.4		17.8	75.8	6.4		
Total %	9.8	1.3	8	19	2.6	25.4	6.2	34.1	4	2.8	4.8	11.7	6.3	26.6	2.3	35.2	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**36**	3	17	56	0	51	10	61	12	6	18	36	15	73	4	92	245
07:30 AM	34	**5**	**33**	**72**	4	70	16	90	**19**	**12**	**22**	**53**	14	**85**	5	104	319
07:45 AM	32	3	22	57	9	**81**	**33**	**123**	13	12	11	36	**22**	76	7	**105**	**321**
08:00 AM	21	0	14	35	**17**	73	30	120	14	7	11	32	16	61	**9**	86	273
Total Volume	123	11	86	220	30	275	89	394	58	37	62	157	67	295	25	387	1158
% App. Total	55.9	5	39.1		7.6	69.8	22.6		36.9	23.6	39.5		17.3	76.2	6.5		
PHF	.854	.550	.652	.764	.441	.849	.674	.801	.763	.771	.705	.741	.761	.868	.694	.921	.902

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N/S: Linden Avenue
E/W: Rialto Avenue
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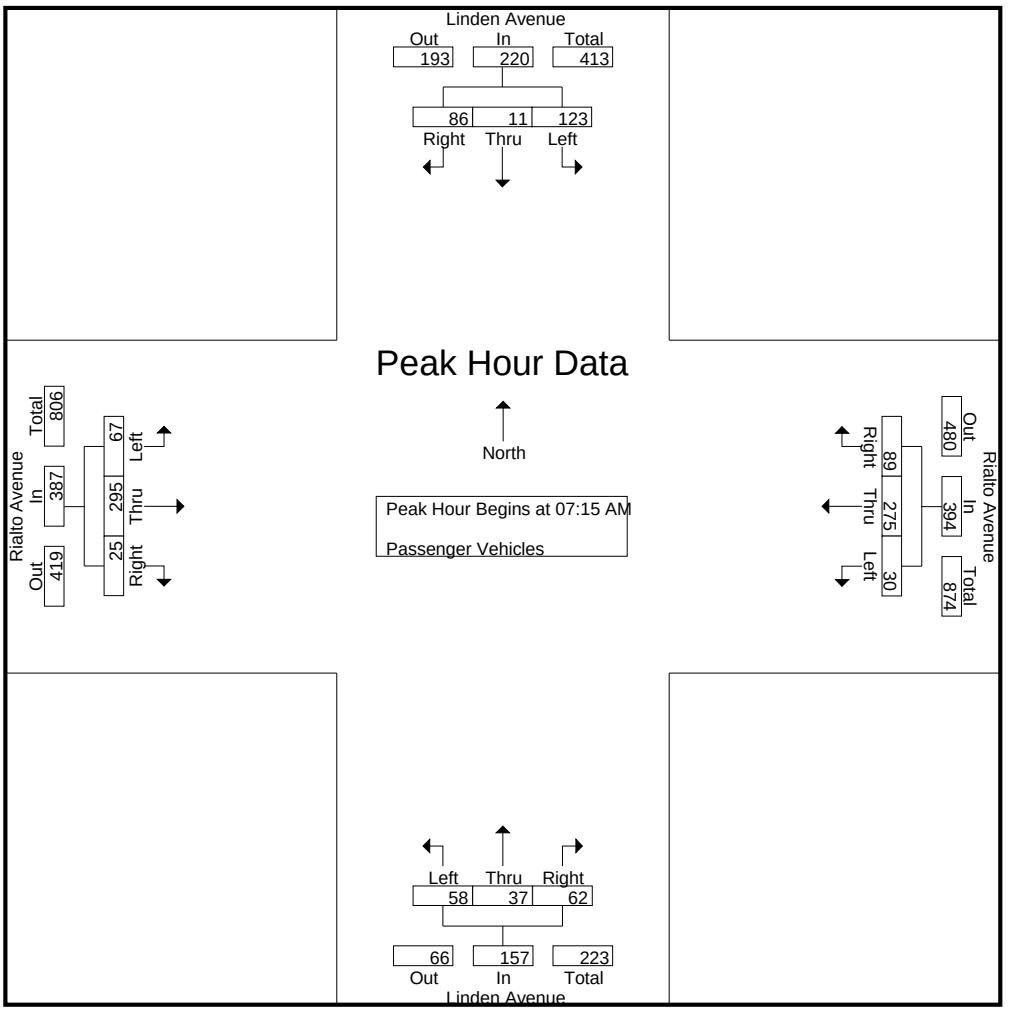
File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**36**	3	17	56	0	51	10	61	12	6	18	36	15	73	4	92
+15 mins.	34	**5**	**33**	**72**	4	70	16	90	**19**	**12**	**22**	**53**	14	**85**	5	104
+30 mins.	32	3	22	57	9	**81**	**33**	**123**	13	12	11	36	**22**	76	7	**105**
+45 mins.	21	0	14	35	**17**	73	30	120	14	7	11	32	16	61	**9**	86
Total Volume	123	11	86	220	30	275	89	394	58	37	62	157	67	295	25	387
% App. Total	55.9	5	39.1		7.6	69.8	22.6		36.9	23.6	39.5		17.3	76.2	6.5	
PHF	.854	.550	.652	.764	.441	.849	.674	.801	.763	.771	.705	.741	.761	.868	.694	.921

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City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	1	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
07:15 AM	2	3	1	6	0	0	0	0	2	1	0	3	1	1	0	2	11
07:30 AM	0	0	1	1	0	1	1	2	0	0	0	0	0	2	0	2	5
07:45 AM	0	0	1	1	2	0	0	2	0	0	1	1	3	1	0	4	8
Total	3	4	3	10	2	1	1	4	3	1	1	5	4	6	0	10	29
08:00 AM	0	0	2	2	0	2	0	2	0	0	2	2	0	2	0	2	8
08:15 AM	1	0	2	3	0	1	0	1	1	0	2	3	0	1	1	2	9
08:30 AM	3	0	1	4	0	2	0	2	1	0	0	1	0	0	1	1	8
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	2	3
Total	4	0	5	9	0	5	0	5	2	0	5	7	2	3	2	7	28
Grand Total	7	4	8	19	2	6	1	9	5	1	6	12	6	9	2	17	57
Apprch %	36.8	21.1	42.1		22.2	66.7	11.1		41.7	8.3	50		35.3	52.9	11.8		
Total %	12.3	7	14	33.3	3.5	10.5	1.8	15.8	8.8	1.8	10.5	21.1	10.5	15.8	3.5	29.8	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**2**	**3**	1	**6**	0	0	0	0	**2**	**1**	0	**3**	1	1	0	2	**11**
07:30 AM	0	0	1	1	0	1	**1**	**2**	0	0	0	0	0	**2**	0	2	5
07:45 AM	0	0	1	1	**2**	0	0	2	0	0	1	1	**3**	1	0	**4**	8
08:00 AM	0	0	**2**	2	0	**2**	0	2	0	0	**2**	2	0	2	0	2	8
Total Volume	2	3	5	10	2	3	1	6	2	1	3	6	4	6	0	10	32
% App. Total	20	30	50		33.3	50	16.7		33.3	16.7	50		40	60	0		
PHF	.250	.250	.625	.417	.250	.375	.250	.750	.250	.250	.375	.500	.333	.750	.000	.625	.727

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City of Rialto
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E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria AM
Site Code : 00324840
Start Date : 9/26/2024
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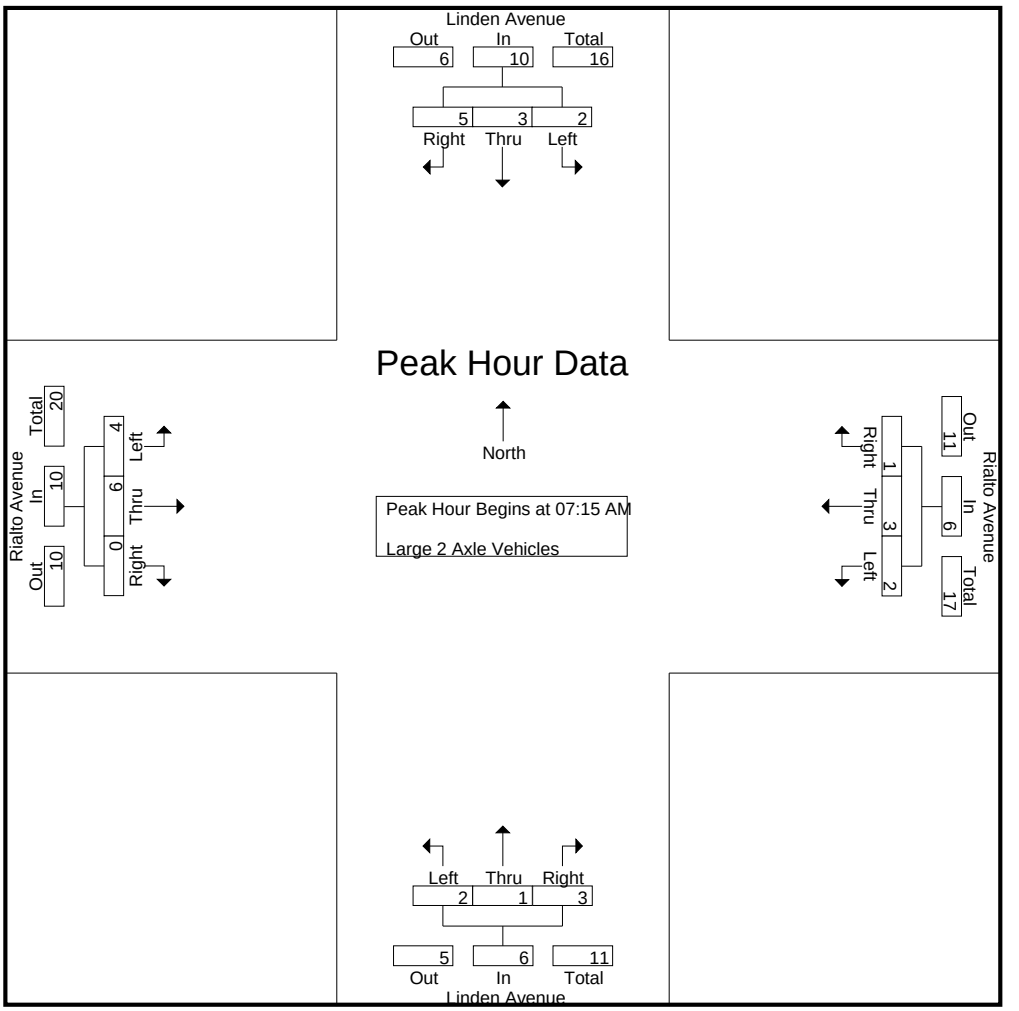

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**2**	**3**	1	**6**	0	0	0	0	**2**	**1**	0	**3**	1	1	0	2
+15 mins.	0	0	1	1	0	1	**1**	**2**	0	0	0	0	0	**2**	0	2
+30 mins.	0	0	1	1	**2**	0	0	2	0	0	1	1	**3**	1	0	**4**
+45 mins.	0	0	**2**	2	0	**2**	0	2	0	0	**2**	2	0	2	0	2
Total Volume	2	3	5	10	2	3	1	6	2	1	3	6	4	6	0	10
% App. Total	20	30	50		33.3	50	16.7		33.3	16.7	50		40	60	0	
PHF	.250	.250	.625	.417	.250	.375	.250	.750	.250	.250	.375	.500	.333	.750	.000	.625

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Groups Printed- 3 Axle Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
Grand Total	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
Apprch %	0	100	0		0	0	100		0	100	0		0	0	0		
Total %	0	33.3	0	33.3	0	0	33.3	33.3	0	33.3	0	33.3	0	0	0	0	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : RLT_Lin_Ria AM
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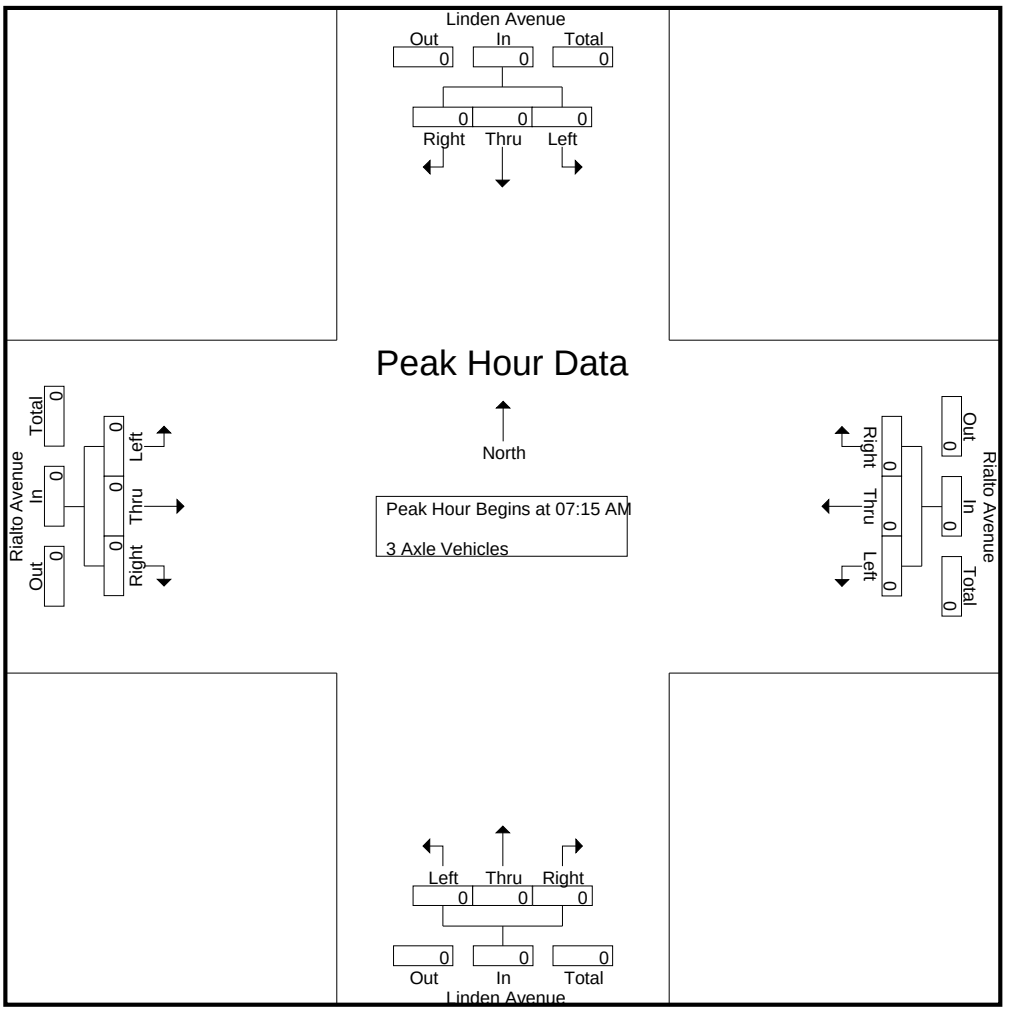

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	0	0	0	0	0	1	0	1	6
08:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
Total	1	0	1	2	0	0	1	1	0	0	0	0	0	1	1	2	5
Grand Total	1	0	1	2	0	5	1	6	0	0	0	0	0	2	1	3	11
Apprch %	50	0	50		0	83.3	16.7		0	0	0		0	66.7	33.3		
Total %	9.1	0	9.1	18.2	0	45.5	9.1	54.5	0	0	0	0	0	18.2	9.1	27.3	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**1**	0	**1**	**3**
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	1	0	5	0	5	0	0	0	0	0	1	0	1	7
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250	.583

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File Name : RLT_Lin_Ria AM
Site Code : 00324840
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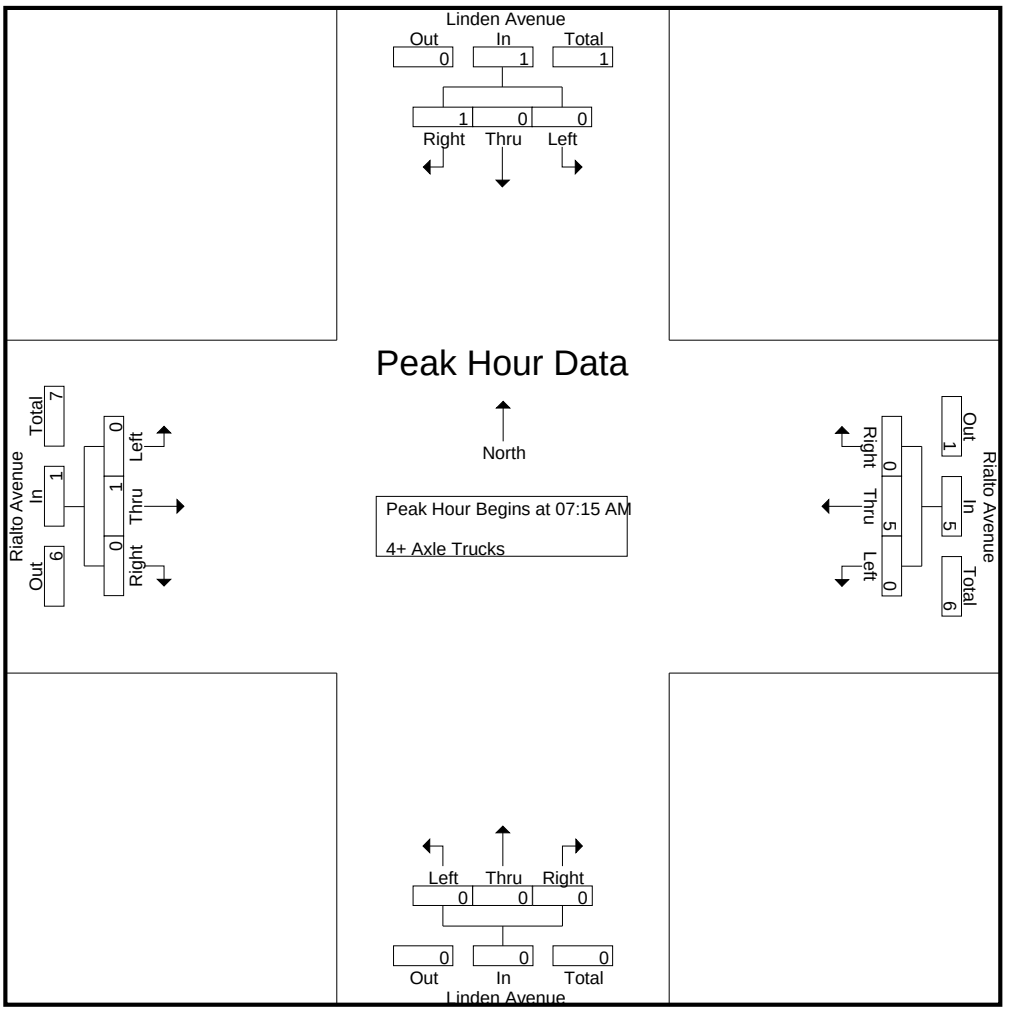

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	5	0	5	0	0	0	0	0	1	0	1
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	18	5	13	36	6	78	12	96	6	11	15	32	27	98	15	140	304
04:15 PM	22	6	26	54	13	87	17	117	6	4	6	16	30	91	10	131	318
04:30 PM	30	7	21	58	9	89	24	122	11	6	13	30	26	99	10	135	345
04:45 PM	19	7	21	47	7	76	19	102	12	8	12	32	33	110	12	155	336
Total	89	25	81	195	35	330	72	437	35	29	46	110	116	398	47	561	1303
05:00 PM	17	6	17	40	6	65	17	88	3	8	7	18	21	95	15	131	277
05:15 PM	19	4	16	39	7	92	24	123	7	2	7	16	31	116	13	160	338
05:30 PM	24	4	27	55	12	93	25	130	7	7	8	22	24	101	6	131	338
05:45 PM	15	5	16	36	9	62	16	87	6	3	16	25	28	111	18	157	305
Total	75	19	76	170	34	312	82	428	23	20	38	81	104	423	52	579	1258
Grand Total	164	44	157	365	69	642	154	865	58	49	84	191	220	821	99	1140	2561
Apprch %	44.9	12.1	43		8	74.2	17.8		30.4	25.7	44		19.3	72	8.7		
Total %	6.4	1.7	6.1	14.3	2.7	25.1	6	33.8	2.3	1.9	3.3	7.5	8.6	32.1	3.9	44.5	
Passenger Vehicles	159	43	153	355	68	634	154	856	58	49	81	188	219	809	98	1126	2525
% Passenger Vehicles	97	97.7	97.5	97.3	98.6	98.8	100	99	100	100	96.4	98.4	99.5	98.5	99	98.8	98.6
Large 2 Axle Vehicles	4	1	4	9	0	5	0	5	0	0	2	2	1	4	1	6	22
% Large 2 Axle Vehicles	2.4	2.3	2.5	2.5	0	0.8	0	0.6	0	0	2.4	1	0.5	0.5	1	0.5	0.9
3 Axle Vehicles	1	0	0	1	1	1	0	2	0	0	1	1	0	6	0	6	10
% 3 Axle Vehicles	0.6	0	0	0.3	1.4	0.2	0	0.2	0	0	1.2	0.5	0	0.7	0	0.5	0.4
4+ Axle Trucks	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
% 4+ Axle Trucks	0	0	0	0	0	0.3	0	0.2	0	0	0	0	0	0.2	0	0.2	0.2

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	18	5	13	36	6	78	12	96	6	**11**	**15**	**32**	27	98	**15**	140	304
04:15 PM	22	6	**26**	54	**13**	87	17	117	6	4	6	16	30	91	10	131	318
04:30 PM	**30**	**7**	21	**58**	9	**89**	**24**	**122**	11	6	13	30	26	99	10	135	**345**
04:45 PM	19	7	21	47	7	76	19	102	**12**	8	12	32	**33**	**110**	12	**155**	336
Total Volume	89	25	81	195	35	330	72	437	35	29	46	110	116	398	47	561	1303
% App. Total	45.6	12.8	41.5		8	75.5	16.5		31.8	26.4	41.8		20.7	70.9	8.4		
PHF	.742	.893	.779	.841	.673	.927	.750	.895	.729	.659	.767	.859	.879	.905	.783	.905	.944

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File Name : RLT_Lin_Ria PM
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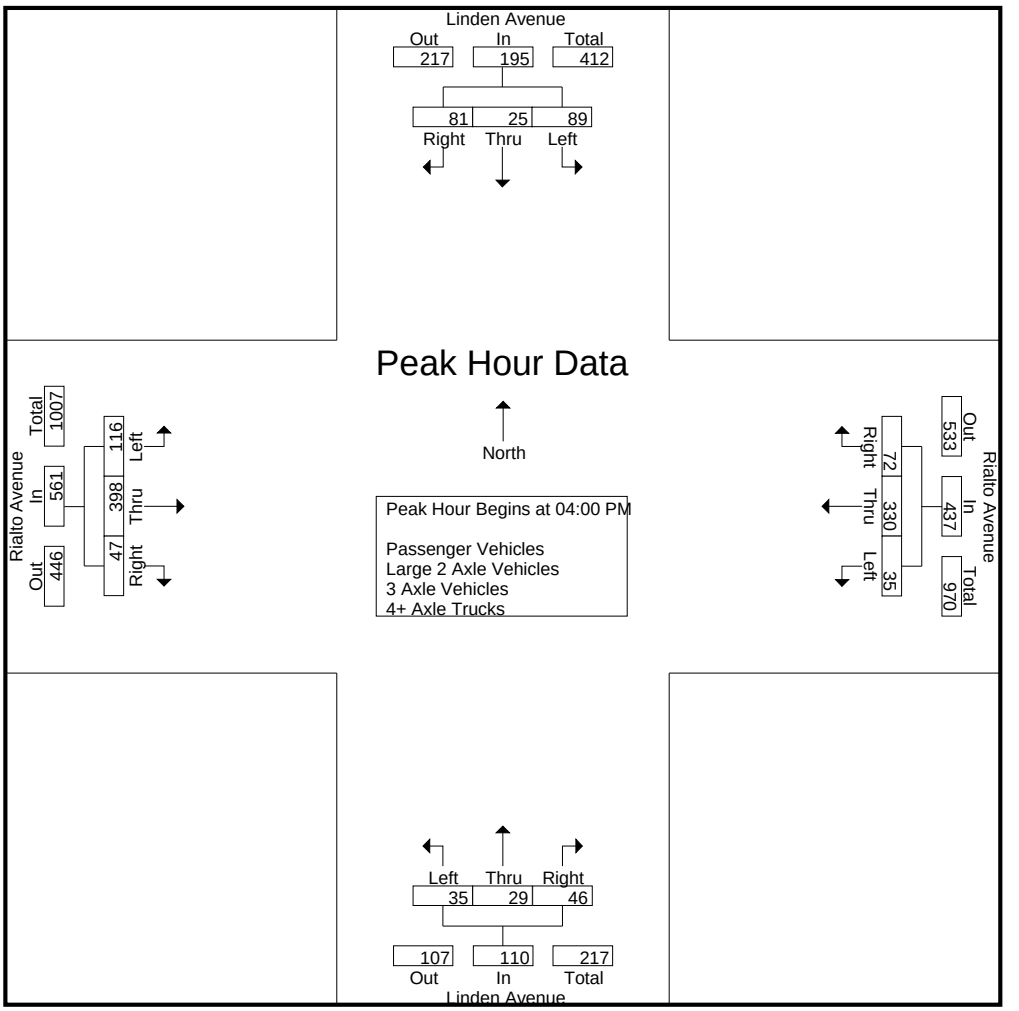

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:00 PM				04:30 PM			
+0 mins.	22	6	**26**	54	7	76	19	102	6	**11**	**15**	**32**	26	99	10	135
+15 mins.	**30**	**7**	21	**58**	6	65	17	88	6	4	6	16	**33**	110	12	155
+30 mins.	19	7	21	47	7	92	24	123	11	6	13	30	21	95	**15**	131
+45 mins.	17	6	17	40	**12**	**93**	**25**	**130**	**12**	8	12	32	31	**116**	13	**160**
Total Volume	88	26	85	199	32	326	85	443	35	29	46	110	111	420	50	581
% App. Total	44.2	13.1	42.7		7.2	73.6	19.2		31.8	26.4	41.8		19.1	72.3	8.6	
PHF	.733	.929	.817	.858	.667	.876	.850	.852	.729	.659	.767	.859	.841	.905	.833	.908

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Groups Printed- Passenger Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	18	4	12	34	6	76	12	94	6	11	14	31	27	96	14	137	296
04:15 PM	20	6	26	52	12	86	17	115	6	4	5	15	30	89	10	129	311
04:30 PM	29	7	20	56	9	89	24	122	11	6	13	30	26	99	10	135	343
04:45 PM	18	7	21	46	7	75	19	101	12	8	11	31	33	107	12	152	330
Total	85	24	79	188	34	326	72	432	35	29	43	107	116	391	46	553	1280
05:00 PM	16	6	17	39	6	64	17	87	3	8	7	18	20	93	15	128	272
05:15 PM	19	4	15	38	7	90	24	121	7	2	7	16	31	116	13	160	335
05:30 PM	24	4	27	55	12	92	25	129	7	7	8	22	24	99	6	129	335
05:45 PM	15	5	15	35	9	62	16	87	6	3	16	25	28	110	18	156	303
Total	74	19	74	167	34	308	82	424	23	20	38	81	103	418	52	573	1245
Grand Total	159	43	153	355	68	634	154	856	58	49	81	188	219	809	98	1126	2525
Apprch %	44.8	12.1	43.1		7.9	74.1	18		30.9	26.1	43.1		19.4	71.8	8.7		
Total %	6.3	1.7	6.1	14.1	2.7	25.1	6.1	33.9	2.3	1.9	3.2	7.4	8.7	32	3.9	44.6	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	18	4	12	34	6	76	12	94	6	**11**	**14**	**31**	27	96	**14**	137	296
04:15 PM	20	6	**26**	52	**12**	86	17	115	6	4	5	15	30	89	10	129	311
04:30 PM	**29**	**7**	20	**56**	9	**89**	**24**	**122**	11	6	13	30	26	99	10	135	**343**
04:45 PM	18	7	21	46	7	75	19	101	**12**	8	11	31	**33**	**107**	12	**152**	330
Total Volume	85	24	79	188	34	326	72	432	35	29	43	107	116	391	46	553	1280
% App. Total	45.2	12.8	42		7.9	75.5	16.7		32.7	27.1	40.2		21	70.7	8.3		
PHF	.733	.857	.760	.839	.708	.916	.750	.885	.729	.659	.768	.863	.879	.914	.821	.910	.933

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City of Rialto
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Weather: Clear

File Name : RLT_Lin_Ria PM
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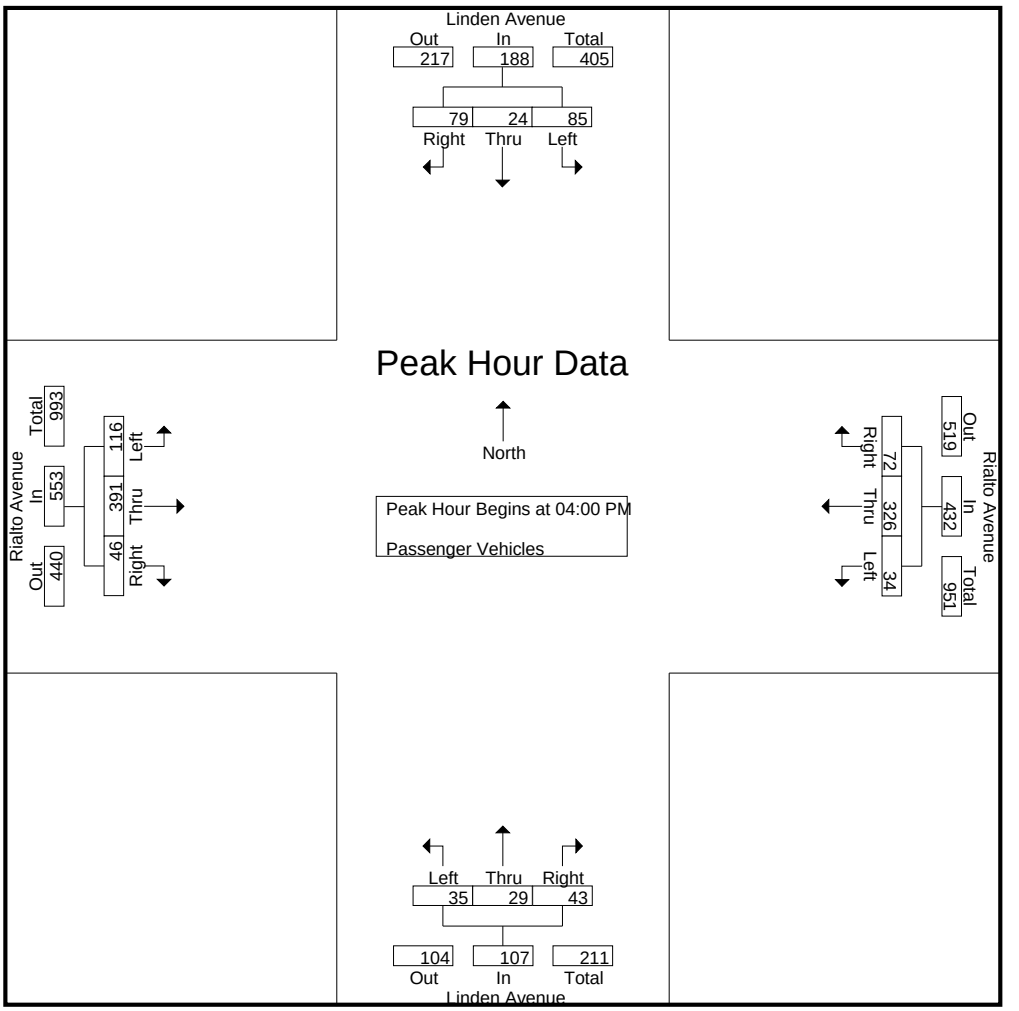

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	18	4	12	34	6	76	12	94	6	**11**	**14**	**31**	27	96	**14**	137
+15 mins.	20	6	**26**	52	**12**	86	17	115	6	4	5	15	30	89	10	129
+30 mins.	**29**	**7**	20	**56**	9	**89**	**24**	**122**	11	6	13	30	26	99	10	135
+45 mins.	18	7	21	46	7	75	19	101	**12**	8	11	31	**33**	**107**	12	**152**
Total Volume	85	24	79	188	34	326	72	432	35	29	43	107	116	391	46	553
% App. Total	45.2	12.8	42		7.9	75.5	16.7		32.7	27.1	40.2		21	70.7	8.3	
PHF	.733	.857	.760	.839	.708	.916	.750	.885	.729	.659	.768	.863	.879	.914	.821	.910

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	2	0	1	0	1	0	0	1	1	0	2	1	3	7
04:15 PM	2	0	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
04:30 PM	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	4	1	2	7	0	2	0	2	0	0	2	2	0	3	1	4	15
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
05:15 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	0	2	2	0	3	0	3	0	0	0	0	1	1	0	2	7
Grand Total	4	1	4	9	0	5	0	5	0	0	2	2	1	4	1	6	22
Apprch %	44.4	11.1	44.4		0	100	0		0	0	100		16.7	66.7	16.7		
Total %	18.2	4.5	18.2	40.9	0	22.7	0	22.7	0	0	9.1	9.1	4.5	18.2	4.5	27.3	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**1**	**1**	**2**	0	**1**	0	**1**	0	0	**1**	**1**	0	**2**	**1**	**3**	**7**
04:15 PM	**2**	0	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
04:30 PM	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total Volume	4	1	2	7	0	2	0	2	0	0	2	2	0	3	1	4	15
% App. Total	57.1	14.3	28.6		0	100	0		0	0	100		0	75	25		
PHF	.500	.250	.500	.875	.000	.500	.000	.500	.000	.000	.500	.500	.000	.375	.250	.333	.536

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City of Rialto
N/S: Linden Avenue
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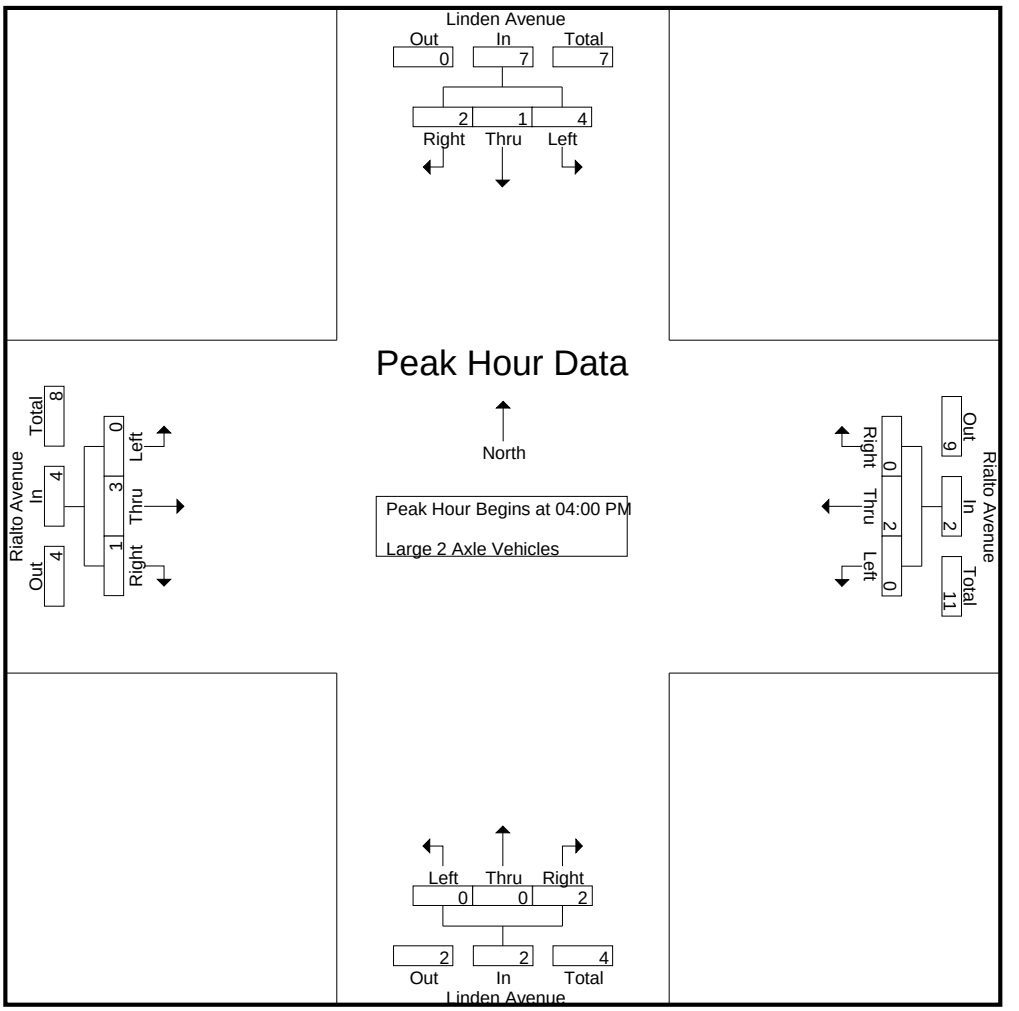
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**1**	**1**	**2**	0	**1**	0	**1**	0	0	**1**	**1**	0	**2**	**1**	**3**
+15 mins.	**2**	0	0	2	0	1	0	1	0	0	1	1	0	0	0	0
+30 mins.	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	4	1	2	7	0	2	0	2	0	0	2	2	0	3	1	4
% App. Total	57.1	14.3	28.6		0	100	0		0	0	100		0	75	25	
PHF	.500	.250	.500	.875	.000	.500	.000	.500	.000	.000	.500	.500	.000	.375	.250	.333

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City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 1

Groups Printed- 3 Axle Vehicles

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	1	3
Total	0	0	0	0	1	1	0	2	0	0	1	1	0	3	0	3	6
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	0	3	0	3	4
Grand Total	1	0	0	1	1	1	0	2	0	0	1	1	0	6	0	6	10
Apprch %	100	0	0		50	50	0		0	0	100		0	100	0		
Total %	10	0	0	10	10	10	0	20	0	0	10	10	0	60	0	60	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	**2**	0	**2**	**3**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	**1**	0	1	0	0	**1**	**1**	0	1	0	1	3
Total Volume	0	0	0	0	1	1	0	2	0	0	1	1	0	3	0	3	6
% App. Total	0	0	0		50	50	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.250	.250	.000	.375	.000	.375	.500

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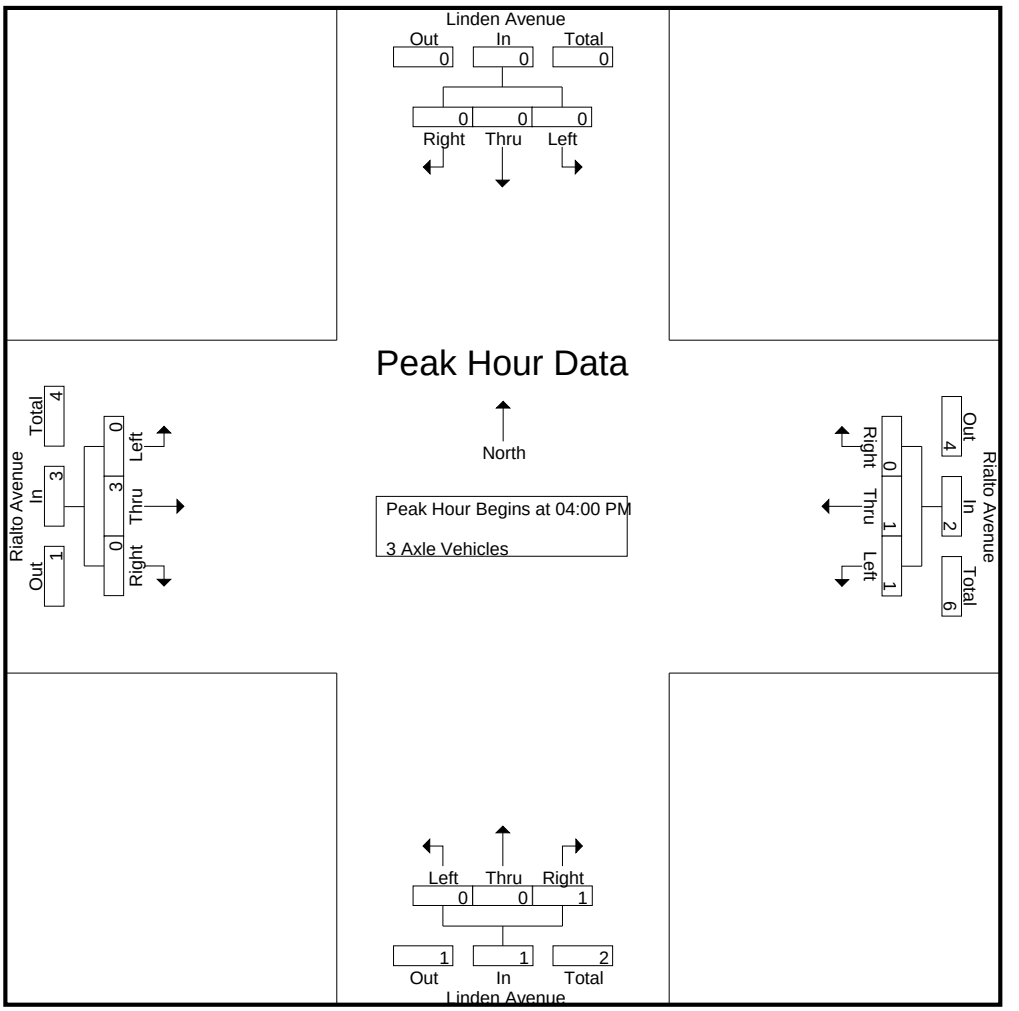
City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	1	0	0	**1**	**1**	0	1	0	1
Total Volume	0	0	0	0	1	1	0	2	0	0	1	1	0	3	0	3
% App. Total	0	0	0		50	50	0		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.250	.250	.000	.375	.000	.375

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City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
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Page No : 1

Groups Printed- 4+ Axle Trucks

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	0	0	0	50	0	50	

	Linden Avenue Southbound				Rialto Avenue Westbound				Linden Avenue Northbound				Rialto Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

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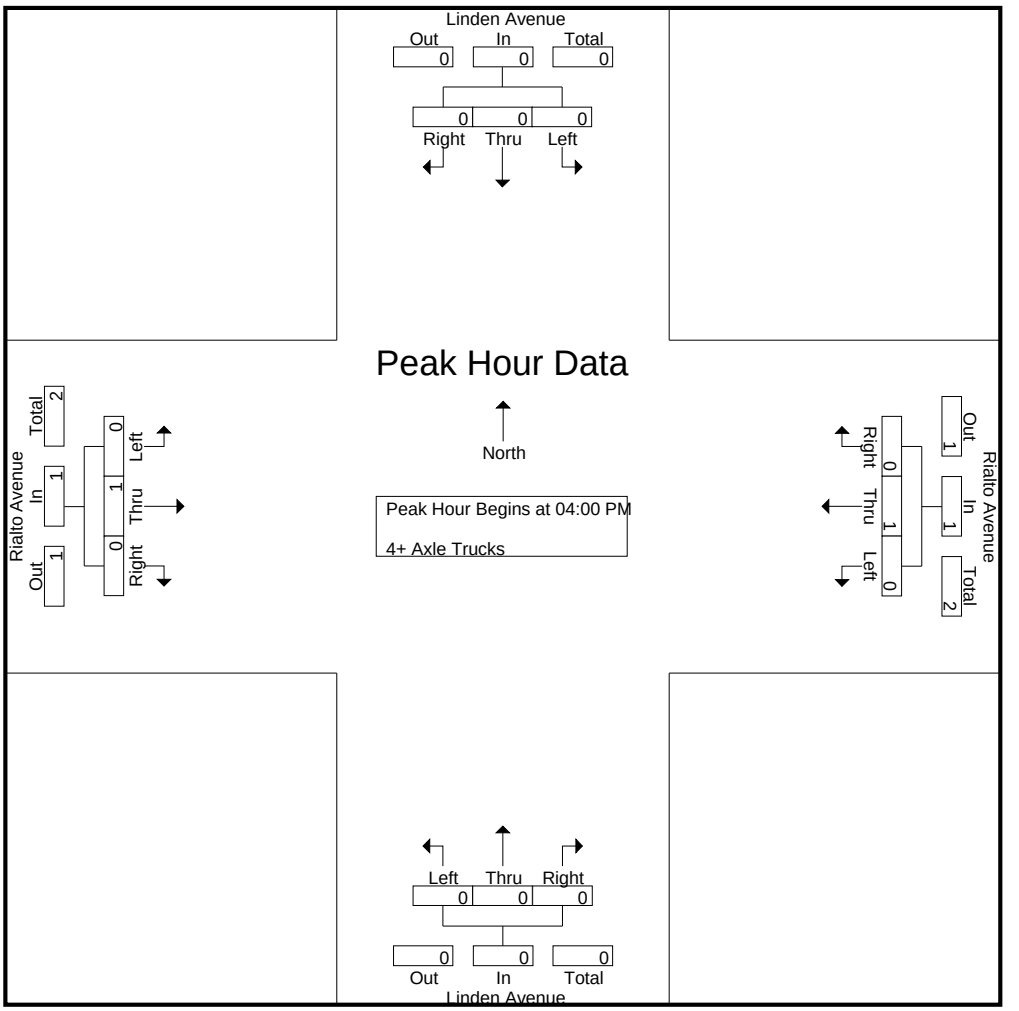
City of Rialto
N/S: Linden Avenue
E/W: Rialto Avenue
Weather: Clear

File Name : RLT_Lin_Ria PM
Site Code : 00324840
Start Date : 9/26/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250

Location: Rialto
N/S: Linden Avenue
E/W: Rialto Avenue

Date: 9/26/2024
Day: Thursday

PEDESTRIANS

	North Leg Linden Avenue Pedestrians	East Leg Rialto Avenue Pedestrians	South Leg Linden Avenue Pedestrians	West Leg Rialto Avenue Pedestrians	
7:00 AM	0	0	0	2	2
7:15 AM	0	0	0	0	0
7:30 AM	1	0	2	7	10
7:45 AM	1	4	3	3	11
8:00 AM	0	0	0	1	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	1	0	0	0	1
TOTAL VOLUMES:	3	5	5	13	26

	North Leg Linden Avenue Pedestrians	East Leg Rialto Avenue Pedestrians	South Leg Linden Avenue Pedestrians	West Leg Rialto Avenue Pedestrians	
4:00 PM	1	0	0	4	5
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	1	0	1
5:30 PM	0	0	0	3	3
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	1	9	11

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Location: Rialto
N/S: Linden Avenue
E/W: Rialto Avenue

Date: 9/26/2024
Day: Thursday

BICYCLES

	Southbound Linden Avenue			Westbound Rialto Avenue			Northbound Linden Avenue			Eastbound Rialto Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15 AM	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
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1	0	0	3	0	0	0	0	5

	Southbound Linden Avenue			Westbound Rialto Avenue			Northbound Linden Avenue			Eastbound Rialto Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
4:45 PM	0	0	0	1	0	0	0	0	0	2	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	1	0	0	2
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	2
TOTAL VOLUMES:	0	0	2	2	2	0	1	1	0	3	1	0	12

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11/18/18

City of Rialto

INTERSECTION: Rialto Ave @ Linden Ave

QuicNet System Parameters

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **30**
Commications Channel: **UDP:8024:166.140.167.6**
Drop Address: **2**
Area Number: **5**
Area Address: **49**

N/S Street Name: **Linden Ave**
E/W Street Name: **Rialto Ave**

Last *QuicNet* Database Change: **12/5/2013 15:03**

Notes:

Field Change Record

Change	By	Date	Change	By	Date

Basic Phase Timing

	Phase 1	2 NB	3 WBL	4 EB	5	6 SB	7 EBL	8 WB
Min Green	0	3	2	6	0	3	2	6
Extension	0.0	3.0	2.0	4.0	0.0	3.0	2.0	4.0
Max	0	30	15	40	0	30	15	40
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0

Clear

Yellow Change	4.0	4.1	3.6	4.4	4.0	4.1	3.6	4.4
Red Clear	0.0	3.6	1.0	1.7	0.0	2.6	1.0	1.5

Pedestrian Timing

Walk	0	5	0	5	0	5	0	5
Ped Clear - FDW	0	25	0	16	0	24	0	16
Adv / Delay Walk	0	0	0	0	0	0	0	0
PE Min Ped FDW	0	0	0	0	0	0	0	0

Volume Density

Type 3 Disconnect	0	0	0	0	0	0	0	0
Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 1

Red Lock	
Yellow Lock	
Simultaneous Gap	
Rest In Walk	
Advance Walk	
Flashing Walk	
Max Extension	

Red Rest	
Dual Entry	2 6
Sequential Timing	
Inhibit Ped Reservice	
Semi-Actuated	
Guaranteed Passage	
Conditional Service	

Phase Functions - Page 1

Minimum Recall	4 8
Ped Recall	
Maximum Recall	
Green Flash	
Overlap Green Flash	

Soft Recall	
External Recall	
Manual Control Calls	
Fast Green Flash	
Fast Overlap G. Flash	

Phase Functions - Page 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 3

Clear Phases	
Delay	0
Clear Time	0

Railroad - 1

Clear Phases	
Limited Service Phases	
Delay	0
Clear Time	0

Railroad - 2

Railroad Preempt Parameters

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 1

	Delay	Clear	Clear Phases
EV - A	0	1	_2___6__
EV - B	0	1	_2___6__
EV - C	0	1	___4__7_
EV - D	0	1	__3____8

Emergency Vehicle Preempt

SE - 1	
SE - 2	
EV - A	
EV - B	
EV - C	
EV - D	

Preempt Priority

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 2

Transition Type	0.3
Coord Extra Functions	
Phase 1 - Minimum	5
Phase 2 - Minimum	5
Phase 3 - Minimum	5
Phase 4 - Minimum	5
Phase 5 - Minimum	5
Phase 6 - Minimum	5
Phase 7 - Minimum	5
Phase 8 - Minimum	5

Coordination - General

Note: The *Ring-Barrier Sum* of these Minimums will be the Minimum Cycle Length During Transition

Coord Extra
1 = Programmed Walk Time for Sync Phases
2 = Always Terminate Sync Phase Peds
3 = Use "Floating Force Off"
4 =
5 = Use "Start of Green" for Sync Point

Transition Type
0.X = Shortway
1.X = Lengthen Only
2.X = Shorten Only
X.1 thru X.4 = Number of Cycles to get "In Step"

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Cycle	0	0	0	0	0	0	0	0	0
Offset - 1	0	0	0	0	0	0	0	0	0
Offset - 2	0	0	0	0	0	0	0	0	0
Offset - 3	0	0	0	0	0	0	0	0	0
Zone Offset	0	0	0	0	0	0	0	0	0
Ring Offset	0	0	0	0	0	0	0	0	0
Hold Release	255	255	255	255	255	255	255	255	255
Ped Adjust	0	0	0	0	0	0	0	0	0
Force Off - 1	0	0	0	0	0	0	0	0	0
Force Off - 2	0	0	0	0	0	0	0	0	0
Force Off - 3	0	0	0	0	0	0	0	0	0
Force Off - 4	0	0	0	0	0	0	0	0	0
Force Off - 5	0	0	0	0	0	0	0	0	0
Force Off - 6	0	0	0	0	0	0	0	0	0
Force Off - 7	0	0	0	0	0	0	0	0	0
Force Off - 8	0	0	0	0	0	0	0	0	0

Coordination - Cycle, Offsets, & Force Offs

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Perm 1 - Begin	0	0	0	0	0	0	0	0	0
Perm 1 - End	5	5	5	5	5	5	5	5	5
Perm 1 - Veh Phases	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	_234_678
Perm 1 - Ped Phases	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	_2_4_6_8
Perm 2 - Begin	0	0	0	0	0	0	0	0	0
Perm 2 - End	0	0	0	0	0	0	0	0	0
Perm 2 - Veh Phases									
Perm 2 - Ped Phases									
Perm 3 - Begin	0	0	0	0	0	0	0	0	0
Perm 3 - End	0	0	0	0	0	0	0	0	0
Perm 3 - Veh Phases									
Perm 3 - Ped Phases									
Max Inhibit Phases									
Max Recall Phases									
Sync Phases	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__
Lag Phases	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8
Pre-Timed Phases									

Coordination - Permissives & Phase Sequence

	Overlap Number							
	1	2	3	4	5	6	7	8
Load Switch Number	0	0	0	0	0	0	0	0
Vehicle Set 1								
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle								
Negative Ped								
Green Omit								
Green Clear Omit								
Green Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlaps

	AND 1	AND 2	AND 3	AND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

AND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

NAND Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A	0	0	0	0	0	0
Input - B	0	0	0	0	0	0
Output	0	0	0	0	0	0

2 Input - OR Gates

	OR 7	OR 8
Input - A	0	0
Input - B	0	0
Input - C	0	0
Input - D	0	0
Output	0	0

4 Input - OR Gates

	NOT 1	NOT 2	NOT 3	NOT 4
Input	0	0	0	0
Output	0	0	0	0

NOT Gates (Inverters)

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0
Output	0	0	0	0	0	0

DELAY Gates

Latch:	1	2	3	4	5	6	7	8
Set	0	0	0	0	0	0	0	0
Reset	0	0	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0
/Out	0	0	0	0	0	0	0	0

Logic Latches

Det. #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	0.0	0.0	6	45_7_	123
2	0.0	0.0	2	45_7_	123
3	0.0	0.0	3	45_7_	123
4	0.0	0.0	4	45_7_	123
5	0.0	0.0	2	45_7_	123
6	0.0	0.0	6	45_7_	123
7	0.0	0.0	7	45_7_	123
8	0.0	0.0	8	45_7_	123
9	0.0	0.0		45_7_	123
10	0.0	0.0		45_7_	123
11	0.0	0.0		45_7_	123
12	0.0	0.0	4	45_7_	123
13	0.0	0.0		45_7_	123
14	0.0	0.0		45_7_	123
15	0.0	0.0		45_7_	123
16	0.0	0.0	8	45_7_	123
17	0.0	0.0		45_7_	123
18	0.0	0.0		45_7_	123
19	0.0	0.0		45_7_	123
20	0.0	0.0		45_7_	123
21	0.0	0.0		45_7_	123
22	0.0	0.0		45_7_	123
23	0.0	0.0		45_7_	123
24	0.0	0.0		45_7_	123
25	0.0	0.0		45_7_	123
26	0.0	0.0		45_7_	123
27	0.0	0.0		45_7_	123
28	0.0	0.0		45_7_	123
29	0.0	0.0		45_7_	123
30	0.0	0.0		45_7_	123
31	0.0	0.0		45_7_	123
32	0.0	0.0		45_7_	123

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Pin #
External Permit - 1	0
External Permit - 2	0
Exclusive Ped Omit	0
Max. Term Inhibit	0
Max. 2	0
External Lag Phases	0

General Inputs

	Pin #
Plan 1	0
Plan 2	0
Plan 3	0
Plan 4	0
Plan 5	0
Plan 6	0
Plan 7	0
Plan 8	0
Plan 9	0
Free	0
Flash	0

Coordination Plan Inputs

	Pin #
Railroad - 1	0
Railroad - 2	0
Special Event - 1	0
Special Event - 2	0
Gate Down	0
EV - A	3
EV - B	4
EV - C	5
EV - D	6

Preempt Inputs

	Pin #
Phase Bank - 2	0
Phase Bank - 3	0
Detector Set - 2	0
Detector Set - 3	0
Overlap Vehicle Set - 2	0
Overlap Vehicle Set - 3	0

Bank & Set Inputs

Vehicle Phase	
Load Sw 1	0
Load Sw 2	2
Load Sw 3	3
Load Sw 4	4
Load Sw 5	0
Load Sw 6	6
Load Sw 7	7
Load Sw 8	8
Load Sw 9	0
Load Sw 10	0
Load Sw 11	0
Load Sw 12	0
Load Sw 13	0
Load Sw 14	0
Load Sw 15	0
Load Sw 16	0

Pedestrian Phase	
Load Sw 1	0
Load Sw 2	0
Load Sw 3	0
Load Sw 4	0
Load Sw 5	0
Load Sw 6	0
Load Sw 7	0
Load Sw 8	0
Load Sw 9	2
Load Sw 10	4
Load Sw 11	6
Load Sw 12	8
Load Sw 13	0
Load Sw 14	0
Load Sw 15	0
Load Sw 16	0

Load Switch Assignments

BIU Enabled?	
BIU 1	Yes
BIU 2	Yes
BIU 3	No
BIU 4	No
BIU 5	No
BIU 6	No
BIU 7	No
BIU 8	No
BIU 9	Yes
BIU 10	No
BIU 11	No
BIU 12	No
BIU 13	No
BIU 14	No
BIU 15	No
BIU 16	No

BIU Enables

MMU Enabled?	Yes

	Phase(s)
Ped Detector 1	
Ped Detector 2	2
Ped Detector 3	
Ped Detector 4	4
Ped Detector 5	
Ped Detector 6	6
Ped Detector 7	
Ped Detector 8	8

Ped Det Phase Assign

	Pin #
Detector Failure	0
Flasher - Alternating 1	0
Flasher - Alternating 2	0
Fast Flasher	0
On Line	0
Exclusive - Walk	0
Exclusive - Don't Walk	0

General Outputs

	Pin #
Output - 1	0
Output - 2	0
Output - 3	0
Output - 4	0
Output - 5	0
Output - 6	0
Output - 7	0
Output - 8	0

Time of Day Outputs

	Pin #
Plan - 1	0
Plan - 2	0
Plan - 3	0
Plan - 4	0
Plan - 5	0
Plan - 6	0
Plan - 7	0
Plan - 8	0
Plan - 9	0
Free	0
Flash	

Coordination Plan Out

	On	Flash
Railroad - 1	0	0
Railroad - 2	0	0
Special Event - 1	0	0
Special Event - 2	0	0
Preempt Failure	0	0
EV - A	0	0
EV - B	0	0
EV - C	0	0
EV - D	0	0
Any Preempt	0	0

Preemption Outputs

	Pin #
Output - 1	0
Output - 2	0
Output - 3	0
Output - 4	0
Output - 5	0
Output - 6	0
Output - 7	0
Output - 8	0

Special Event Outputs

	Pin #
Output - 1	0
Output - 2	0
Output - 3	0
Output - 4	0
Output - 5	0
Output - 6	0
Output - 7	0
Output - 8	0

Special Function Output

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0	_____		0	0	0	0
1	_23456_		6	30	E	A
2	_23456_		8	30	E	0
3	_23456_		16	0	E	A
4	1234567		18	0	E	0
5	_____		0	0	0	0
6	_____		0	0	0	0
7	_____		0	0	0	0
8	_____		0	0	0	0
9	_____		0	0	0	0
10	_____		0	0	0	0
11	_____		0	0	0	0
12	_____		0	0	0	0
13	_____		0	0	0	0
14	_____		0	0	0	0
15	_____		0	0	0	0
16	_____		0	0	0	0
17	_____		0	0	0	0
18	_____		0	0	0	0
19	_____		0	0	0	0
20	_____		0	0	0	0
21	_____		0	0	0	0
22	_____		0	0	0	0
23	_____		0	0	0	0
24	_____		0	0	0	0
25	_____		0	0	0	0
26	_____		0	0	0	0
27	_____		0	0	0	0
28	_____		0	0	0	0
29	_____		0	0	0	0
30	_____		0	0	0	0
31	_____		0	0	0	0

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0	1234567		4	0	14	1_____
1	_____		0	0	0	_____
2	_____		0	0	0	_____
3	_____		0	0	0	_____
4	_____		0	0	0	_____
5	_____		0	0	0	_____
6	_____		0	0	0	_____
7	_____		0	0	0	_____
8	_____		0	0	0	_____
9	_____		0	0	0	_____
10	_____		0	0	0	_____
11	_____		0	0	0	_____
12	_____		0	0	0	_____
13	_____		0	0	0	_____
14	_____		0	0	0	_____
15	_____		0	0	0	_____

Time of Day Function Events

TOD Functions

0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
10 = Soft Recall
11= Max Extension 2
12 = Conditional Service
13 = Lag Free Phases
14, Bit 1 = Local Override
14, Bit 4 = Disable Det Off Monitoring
15 = TOD Outputs

#	Holiday Type	Day	Month	Year
0	_____	0	0	0
1	_____	0	0	0
2	_____	0	0	0
3	_____	0	0	0
4	_____	0	0	0
5	_____	0	0	0
6	_____	0	0	0
7	_____	0	0	0
8	_____	0	0	0
9	_____	0	0	0
10	_____	0	0	0
11	_____	0	0	0
12	_____	0	0	0
13	_____	0	0	0
14	_____	0	0	0
15	_____	0	0	0
16	_____	0	0	0
17	_____	0	0	0
18	_____	0	0	0
19	_____	0	0	0
20	_____	0	0	0
21	_____	0	0	0
22	_____	0	0	0
23	_____	0	0	0
24	_____	0	0	0
25	_____	0	0	0
26	_____	0	0	0
27	_____	0	0	0
28	_____	0	0	0
29	_____	0	0	0
30	_____	0	0	0
31	_____	0	0	0

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0	_____	0	0	0	0
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0
16	_____	0	0	0	0
17	_____	0	0	0	0
18	_____	0	0	0	0
19	_____	0	0	0	0
20	_____	0	0	0	0
21	_____	0	0	0	0
22	_____	0	0	0	0
23	_____	0	0	0	0
24	_____	0	0	0	0
25	_____	0	0	0	0
26	_____	0	0	0	0
27	_____	0	0	0	0
28	_____	0	0	0	0
29	_____	0	0	0	0
30	_____	0	0	0	0
31	_____	0	0	0	0

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0	_____	0	0	0	_____
1	_____	0	0	0	_____
2	_____	0	0	0	_____
3	_____	0	0	0	_____
4	_____	0	0	0	_____
5	_____	0	0	0	_____
6	_____	0	0	0	_____
7	_____	0	0	0	_____
8	_____	0	0	0	_____
9	_____	0	0	0	_____
10	_____	0	0	0	_____
11	_____	0	0	0	_____
12	_____	0	0	0	_____
13	_____	0	0	0	_____
14	_____	0	0	0	_____
15	_____	0	0	0	_____

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	1	12	31
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0

Season Definitions

Red Start Time	5.0
Yellow Start Phases	_2___6__
First Green Phases	_____
Startup Vehicle Calls	_2_456__
Startup Ped Calls	_____

Startup

Max ON Time	5
Max OFF Time	15
Chatter	

Detector Check

Flash Entry Phases	_____
Flash Phases Yellow	_____
Flash Overlaps Yellow	_____
Flash Type	

Flash Setup

Exclusive Phases	_____
Protect / Permissive	_____
Disable Yellow Range	_____
Extra One	1_3_5___
Lag Phases - Free	_2_4_6_8

Configuration

Permitted Phases	_234_678
Restricted Phases	_____
Disable Overlap Range	_____
Extra Two	_____

Configuration

Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	0
Spec Evnt 2 - Ltd Serv Interval	0
Red Revert	0.0

Miscellaneous

Spring Month (Begin)	
Spring Week (Begin)	
Fall Month (End)	
Fall Week (End)	

Daylight Savings Time

Manual Plan	
Manual Offset	

Manual

Manual Plan
1 thru 9 = Coordination Plan 1 thru 9
14 = Free
15 = Flash

Extra One
1 =
2 =
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 =
8 =

Extra Two
1 =
2 =
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignor P/P on EV
6 =
7 =
8 =

Flash Type
0 = All On-Off (12345678-0)
1 = Main-Side (1256-3478)
2 = Ping Pong (1234-5678
3 = Ring Pairs (1638-5247)

Address	
Area Number	
Area Address	
IP Port	
IP Address	
Subnet Mask	
Gateway	

Ethernet Port Address

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Communications Parameters

APPENDIX C

VOLUME DEVELOPMENT WORKSHEETS

LSA

Table C.1: Existing Peak Hour Volume Summary

		A.M. Peak Hour Existing (2024) Volumes	P.M. Peak Hour Existing (2024) Volumes
1	**Linden Avenue/Rialto Avenue**		
NBL		61	35
NBT		39	29
NBR		67	48
SBL		126	91
SBT		16	26
SBR		97	82
EBL		73	116
EBT		307	405
EBR		25	48
WBL		33	36
WBT		295	334
WBR		91	72
North Leg			
	Approach	239	199
	Departure	203	217
	Total	442	416
South Leg			
	Approach	167	112
	Departure	74	110
	Total	241	222
East Leg			
	Approach	419	442
	Departure	500	544
	Total	919	986
West Leg			
	Approach	405	569
	Departure	453	451
	Total	858	1,020
Total Approaches			
	Approach	1,230	1,322
	Departure	1,230	1,322
	Total	2,460	2,644

LSA

Table C.2: Project Opening Year Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Existing (2024) Volumes	2024 to 2025 Growth	Opening Year w/o Project Volumes	Net Project Trips	Opening Year w/ Project Volumes	Existing (2024) Volumes	2024 to 2025 Growth	Opening Year w/o Project Volumes	Net Project Trips	Opening Year w/ Project Volumes
1 Linden Avenue/Rialto Avenue										
NBL	61	1	62	0	62	35	1	36	1	37
NBT	39	1	40	0	40	29	1	30	0	30
NBR	67	1	68	0	68	48	1	49	5	54
SBL	126	3	129	0	129	91	2	93	0	93
SBT	16	0	16	1	17	26	1	27	0	27
SBR	97	2	99	0	99	82	2	84	0	84
EBL	73	1	74	0	74	116	2	118	1	119
EBT	307	6	313	1	314	405	8	413	2	415
EBR	25	1	26	0	26	48	1	49	0	49
WBL	33	1	34	10	44	36	1	37	4	41
WBT	295	6	301	0	301	334	7	341	0	341
WBR	91	2	93	0	93	72	1	73	0	73
North Leg										
Approach	239	5	244	1	245	199	5	204	0	204
Departure	203	4	207	0	207	217	4	221	1	222
Total	442	9	451	1	452	416	9	425	1	426
South Leg										
Approach	167	3	170	0	170	112	3	115	6	121
Departure	74	2	76	11	87	110	3	113	4	117
Total	241	5	246	11	257	222	6	228	10	238
East Leg										
Approach	419	9	428	10	438	442	9	451	4	455
Departure	500	10	510	1	511	544	11	555	7	562
Total	919	19	938	11	949	986	20	1,006	11	1,017
West Leg										
Approach	405	8	413	1	414	569	11	580	3	583
Departure	453	9	462	0	462	451	10	461	1	462
Total	858	17	875	1	876	1,020	21	1,041	4	1,045
Total Approaches										
Approach	1,230	25	1,255	12	1,267	1,322	28	1,350	13	1,363
Departure	1,230	25	1,255	12	1,267	1,322	28	1,350	13	1,363
Total	2,460	50	2,510	24	2,534	2,644	56	2,700	26	2,726

APPENDIX D

INTERSECTION LEVEL OF SERVICE WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	307	25	33	295	91	61	39	67	126	16	97
Future Volume (veh/h)	73	307	25	33	295	91	61	39	67	126	16	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	337	27	36	324	100	67	43	74	138	18	107
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	102	927	74	42	653	198	231	155	183	315	65	173
Arrive On Green	0.06	0.27	0.27	0.02	0.24	0.24	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	3384	270	1810	2711	821	426	561	664	681	234	628
Grp Volume(v), veh/h	80	179	185	36	214	210	184	0	0	263	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1849	1810	1805	1727	1651	0	0	1544	0	0
Q Serve(g_s), s	1.9	3.4	3.5	0.9	4.4	4.5	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	1.9	3.4	3.5	0.9	4.4	4.5	3.6	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.48	0.36		0.40	0.52		0.41
Lane Grp Cap(c), veh/h	102	494	506	42	435	416	569	0	0	553	0	0
V/C Ratio(X)	0.79	0.36	0.37	0.85	0.49	0.51	0.32	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	630	1677	1717	630	1677	1604	1203	0	0	1154	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	12.6	12.6	21.0	14.1	14.1	12.6	0.0	0.0	13.3	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.6	0.6	16.0	1.2	1.4	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.1	1.2	0.5	1.5	1.5	1.2	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.0	13.2	13.2	36.9	15.3	15.5	13.0	0.0	0.0	13.9	0.0	0.0
LnGrp LOS	C	B	B	D	B	B	B			B		
Approach Vol, veh/h		444			460			184			263	
Approach Delay, s/veh		15.4			17.1			13.0			13.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	19.6	5.6	17.9	19.6	7.0	16.5
Change Period (Y+Rc), s	7.7	4.6	* 6.1	* 7.7	4.6	* 6.1
Max Green Setting (Gmax), s	30.0	15.0	* 40	* 30	15.0	* 40
Max Q Clear Time (g_c+I1), s	5.6	2.9	5.5	7.9	3.9	6.5
Green Ext Time (p_c), s	1.1	0.0	3.1	1.6	0.1	3.7

Intersection Summary	
HCM 7th Control Delay, s/veh	15.3
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

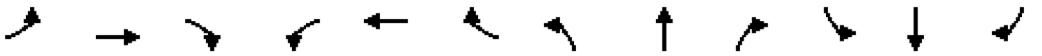
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	405	48	36	334	72	35	29	48	91	26	82
Future Volume (veh/h)	116	405	48	36	334	72	35	29	48	91	26	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	123	431	51	38	355	77	37	31	51	97	28	87
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	1006	118	45	725	155	183	141	157	253	77	141
Arrive On Green	0.09	0.31	0.31	0.02	0.25	0.25	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3245	382	1810	2944	630	311	647	718	575	350	644
Grp Volume(v), veh/h	123	239	243	38	216	216	119	0	0	212	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1822	1810	1805	1769	1676	0	0	1570	0	0
Q Serve(g_s), s	2.7	4.3	4.4	0.9	4.2	4.3	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	2.7	4.3	4.4	0.9	4.2	4.3	2.3	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.36	0.31		0.43	0.46		0.41
Lane Grp Cap(c), veh/h	160	560	565	45	444	435	481	0	0	471	0	0
V/C Ratio(X)	0.77	0.43	0.43	0.85	0.49	0.50	0.25	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	659	1752	1768	659	1752	1716	1270	0	0	1230	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	11.3	11.3	20.0	13.3	13.3	13.5	0.0	0.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.7	0.7	15.1	1.2	1.2	0.3	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.4	1.4	0.5	1.4	1.4	0.8	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	12.0	12.1	35.2	14.5	14.6	13.8	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	C	B	B	D	B	B	B			B		
Approach Vol, veh/h		605			470			119			212	
Approach Delay, s/veh		13.9			16.2			13.8			15.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.7	5.6	18.9		16.7	8.3	16.2				
Change Period (Y+Rc), s		7.7	4.6	* 6.1		* 7.7	4.6	* 6.1				
Max Green Setting (Gmax), s		30.0	15.0	* 40		* 30	15.0	* 40				
Max Q Clear Time (g_c+I1), s		4.3	2.9	6.4		6.8	4.7	6.3				
Green Ext Time (p_c), s		0.6	0.0	4.2		1.2	0.1	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	313	26	34	301	93	62	40	68	129	16	99
Future Volume (veh/h)	74	313	26	34	301	93	62	40	68	129	16	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	344	29	37	331	102	68	44	75	142	18	109
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	930	78	44	659	199	232	156	185	318	63	174
Arrive On Green	0.06	0.28	0.28	0.02	0.24	0.24	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	3369	282	1810	2712	820	430	561	663	690	227	625
Grp Volume(v), veh/h	81	183	190	37	218	215	187	0	0	269	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1846	1810	1805	1727	1654	0	0	1543	0	0
Q Serve(g_s), s	1.9	3.6	3.6	0.9	4.5	4.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	1.9	3.6	3.6	0.9	4.5	4.7	3.7	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.47	0.36		0.40	0.53		0.41
Lane Grp Cap(c), veh/h	103	499	510	44	439	420	573	0	0	555	0	0
V/C Ratio(X)	0.78	0.37	0.37	0.85	0.50	0.51	0.33	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	622	1654	1692	622	1654	1583	1188	0	0	1138	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	12.7	12.7	21.2	14.2	14.3	12.7	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.6	0.6	15.3	1.2	1.4	0.3	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.2	1.2	0.5	1.6	1.6	1.2	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.1	13.4	13.4	36.5	15.5	15.6	13.1	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	C	B	B	D	B	B	B			B		
Approach Vol, veh/h		454			470			187			269	
Approach Delay, s/veh		15.5			17.2			13.1			14.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.8	5.7	18.2		19.8	7.1	16.7				
Change Period (Y+Rc), s		7.7	4.6	* 6.1		* 7.7	4.6	* 6.1				
Max Green Setting (Gmax), s		30.0	15.0	* 40		* 30	15.0	* 40				
Max Q Clear Time (g_c+I1), s		5.7	2.9	5.6		8.1	3.9	6.7				
Green Ext Time (p_c), s		1.1	0.0	3.1		1.6	0.1	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

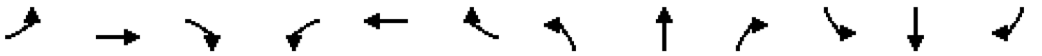
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	413	49	37	341	73	36	30	49	93	27	84
Future Volume (veh/h)	118	413	49	37	341	73	36	30	49	93	27	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	126	439	52	39	363	78	38	32	52	99	29	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	1018	120	46	732	155	182	144	158	253	78	143
Arrive On Green	0.09	0.31	0.31	0.03	0.25	0.25	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3244	382	1810	2949	626	313	649	715	576	351	644
Grp Volume(v), veh/h	126	243	248	39	220	221	122	0	0	217	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1821	1810	1805	1770	1678	0	0	1571	0	0
Q Serve(g_s), s	2.8	4.5	4.5	0.9	4.4	4.5	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	2.8	4.5	4.5	0.9	4.4	4.5	2.4	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.35	0.31		0.43	0.46		0.41
Lane Grp Cap(c), veh/h	164	566	571	46	448	439	484	0	0	473	0	0
V/C Ratio(X)	0.77	0.43	0.43	0.85	0.49	0.50	0.25	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	649	1725	1741	649	1725	1691	1251	0	0	1212	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	11.4	11.4	20.3	13.5	13.5	13.6	0.0	0.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.7	0.7	14.5	1.2	1.3	0.3	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.4	1.4	0.5	1.5	1.5	0.8	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	12.1	12.2	34.8	14.7	14.8	13.9	0.0	0.0	15.2	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B			B		
Approach Vol, veh/h		617			480			122			217	
Approach Delay, s/veh		14.0			16.4			13.9			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.0	5.7	19.2		17.0	8.4	16.5				
Change Period (Y+Rc), s		7.7	4.6	* 6.1		* 7.7	4.6	* 6.1				
Max Green Setting (Gmax), s		30.0	15.0	* 40		* 30	15.0	* 40				
Max Q Clear Time (g_c+I1), s		4.4	2.9	6.5		7.0	4.8	6.5				
Green Ext Time (p_c), s		0.6	0.0	4.3		1.2	0.1	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



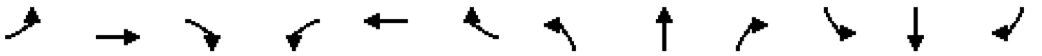
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	314	26	44	301	93	62	40	68	129	17	99
Future Volume (veh/h)	74	314	26	44	301	93	62	40	68	129	17	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	345	29	48	331	102	68	44	75	142	19	109
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	903	75	58	659	199	232	156	185	317	65	174
Arrive On Green	0.06	0.27	0.27	0.03	0.24	0.24	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	3370	282	1810	2712	820	430	561	663	688	232	623
Grp Volume(v), veh/h	81	184	190	48	218	215	187	0	0	270	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1846	1810	1805	1727	1654	0	0	1543	0	0
Q Serve(g_s), s	1.9	3.6	3.7	1.2	4.5	4.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	1.9	3.6	3.7	1.2	4.5	4.7	3.7	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.47	0.36		0.40	0.53		0.40
Lane Grp Cap(c), veh/h	103	484	495	58	439	420	573	0	0	556	0	0
V/C Ratio(X)	0.78	0.38	0.38	0.83	0.50	0.51	0.33	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	621	1653	1690	621	1653	1581	1187	0	0	1138	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	13.0	13.0	21.0	14.2	14.3	12.7	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.7	0.7	10.4	1.2	1.4	0.3	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.2	1.3	0.6	1.6	1.6	1.2	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.2	13.7	13.7	31.4	15.5	15.7	13.1	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B			B		
Approach Vol, veh/h		455			481			187			270	
Approach Delay, s/veh		15.8			17.2			13.1			14.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	6.0	17.8		19.9	7.1	16.7				
Change Period (Y+Rc), s		7.7	4.6	* 6.1		* 7.7	4.6	* 6.1				
Max Green Setting (Gmax), s		30.0	15.0	* 40		* 30	15.0	* 40				
Max Q Clear Time (g_c+I1), s		5.7	3.2	5.7		8.1	3.9	6.7				
Green Ext Time (p_c), s		1.1	0.0	3.2		1.6	0.1	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	415	49	41	341	73	37	30	54	93	27	84
Future Volume (veh/h)	119	415	49	41	341	73	37	30	54	93	27	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	127	441	52	44	363	78	39	32	57	99	29	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	166	1009	118	53	732	155	180	137	165	253	77	143
Arrive On Green	0.09	0.31	0.31	0.03	0.25	0.25	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3246	381	1810	2949	626	309	620	746	578	351	646
Grp Volume(v), veh/h	127	244	249	44	220	221	128	0	0	217	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1822	1810	1805	1770	1675	0	0	1574	0	0
Q Serve(g_s), s	2.9	4.5	4.6	1.0	4.4	4.5	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	2.9	4.5	4.6	1.0	4.4	4.5	2.6	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.35	0.30		0.45	0.46		0.41
Lane Grp Cap(c), veh/h	166	561	566	53	448	439	482	0	0	473	0	0
V/C Ratio(X)	0.77	0.44	0.44	0.84	0.49	0.50	0.27	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	648	1724	1740	648	1724	1690	1249	0	0	1210	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	11.5	11.5	20.2	13.5	13.5	13.7	0.0	0.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.8	0.8	12.1	1.2	1.3	0.3	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.4	1.5	0.5	1.5	1.5	0.9	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	12.3	12.3	32.3	14.7	14.8	14.0	0.0	0.0	15.2	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B			B		
Approach Vol, veh/h		620			485			128			217	
Approach Delay, s/veh		14.1			16.3			14.0			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.0	5.8	19.1		17.0	8.4	16.5				
Change Period (Y+Rc), s		7.7	4.6	* 6.1		* 7.7	4.6	* 6.1				
Max Green Setting (Gmax), s		30.0	15.0	* 40		* 30	15.0	* 40				
Max Q Clear Time (g_c+I1), s		4.6	3.0	6.6		6.9	4.9	6.5				
Green Ext Time (p_c), s		0.7	0.0	4.3		1.2	0.1	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX E

QUEUING WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	80	364	36	424	184	263
v/c Ratio	0.31	0.28	0.17	0.45	0.44	0.64
Control Delay (s/veh)	27.6	14.4	28.0	17.9	18.0	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.6	14.4	28.0	17.9	18.0	23.1
Queue Length 50th (ft)	23	31	10	51	38	60
Queue Length 95th (ft)	71	98	41	113	100	151
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	574	2748	574	2689	907	856
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.06	0.16	0.20	0.31

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	123	482	38	432	119	212
v/c Ratio	0.40	0.34	0.18	0.43	0.32	0.56
Control Delay (s/veh)	26.2	12.5	26.8	17.3	16.2	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.2	12.5	26.8	17.3	16.2	22.0
Queue Length 50th (ft)	33	36	10	52	20	45
Queue Length 95th (ft)	93	114	41	112	66	124
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	580	2809	580	2786	989	946
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.17	0.07	0.16	0.12	0.22

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	81	373	37	433	187	269
v/c Ratio	0.32	0.29	0.18	0.46	0.45	0.64
Control Delay (s/veh)	28.4	14.5	28.9	18.1	18.2	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.4	14.5	28.9	18.1	18.2	23.2
Queue Length 50th (ft)	23	32	11	53	39	62
Queue Length 95th (ft)	74	103	42	118	104	158
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	565	2709	565	2654	892	854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.14	0.07	0.16	0.21	0.31

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	126	491	39	441	122	217
v/c Ratio	0.41	0.34	0.18	0.44	0.33	0.57
Control Delay (s/veh)	26.7	12.7	27.5	17.5	16.7	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.7	12.7	27.5	17.5	16.7	22.5
Queue Length 50th (ft)	35	38	11	54	22	49
Queue Length 95th (ft)	95	118	42	115	69	129
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	573	2765	573	2743	972	932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.18	0.07	0.16	0.13	0.23

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	81	374	48	433	187	270
v/c Ratio	0.32	0.33	0.22	0.46	0.45	0.65
Control Delay (s/veh)	28.5	16.6	28.7	18.2	18.2	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	16.6	28.7	18.2	18.2	23.6
Queue Length 50th (ft)	23	48	14	53	39	63
Queue Length 95th (ft)	74	105	51	118	104	160
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	565	2708	565	2653	891	843
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.14	0.08	0.16	0.21	0.32

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	127	493	44	441	128	217
v/c Ratio	0.41	0.35	0.20	0.45	0.34	0.57
Control Delay (s/veh)	26.7	12.8	27.4	17.6	16.7	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.7	12.8	27.4	17.6	16.7	22.5
Queue Length 50th (ft)	36	38	13	54	23	49
Queue Length 95th (ft)	96	119	46	115	72	129
Internal Link Dist (ft)		201		1238	259	624
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	576	2764	576	2741	974	928
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.18	0.08	0.16	0.13	0.23

Intersection Summary