

 Traffic Impact Analysis

Naterra Development
Coppell, Texas

Kimley-Horn and Associates, Inc.
Richardson, Texas

Project #060066300
Registered Firm F-928

Kimley»Horn

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Coppell, Texas**

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EXECUTIVE SUMMARY

The proposed Natterra development is located in the southwest corner of Dividend Drive and Point West Boulevard in Coppell, Texas. The site will be a mixed-use development and will contain the following:

- 398,000 SF of warehouse uses with 50 employees and
- 42,000 SF of general office uses with 200 employees.

This study is intended to identify traffic generation characteristics, identify potential traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts.

The following existing intersections were selected to be part of this study:

- Belt Line Road at Dividend Drive
- Belt Line Road at Hackberry Road
- Belt Line Road at IH 635 WB Frontage Road
- Belt Line Road at IH 635 EB Frontage Road
- Hackberry Road at Point West Boulevard
- Dividend Drive at Point West Boulevard

The analysis also included the following driveways providing access for the site:

- Drive 1, which is a full-access driveway to Dividend Drive and will serve both cars and trucks.
- Drive 2, which is a full-access driveway to Point West Boulevard and will serve both cars and trucks.

Traffic operations were analyzed at the study intersections for existing volumes, 2027 and 2032 background traffic volumes, and 2027 and 2032 background plus site-generated traffic volumes. The future years correspond to the expected buildout year of the site and a key future study year. Conditions were analyzed for the weekday AM and PM peak hours. The background traffic conditions included existing traffic with compound growth rates, plus explicit modeling of the following developments in the vicinity:

- Homewood Suites site, a development consisting of 129 rooms located in the southeast corner of Point West Boulevard at Dividend Drive in Coppell, Texas.
- Springhill Suites and Convention Center site, a development consisting of 136 rooms in the northeast corner of Belt Line Road at Hackberry Road in Coppell, Texas.
- Coppell Victory site, a mixed use development consisting of 32,339 SF of retail, 19,296 SF of restaurant, 1,500 SF of patio uses, 7,100 SF for fast-service restaurants, and a 285 room hotel.

The Natterra development is expected to generate approximately 142 new weekday AM peak hour one-way vehicle trips and 139 new weekday PM peak hour one-way vehicle trips at buildout. The distribution of the site-generated traffic volumes onto the street system was based

on the surrounding roadway network, existing traffic patterns, and the project's proposed access locations.

Based on the analysis presented in this report, the proposed Naterra development can be successfully incorporated into the surrounding roadway network given the following recommendations are implemented to the roadway network. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations. Both of the proposed site driveways operate well in the study years.

The following improvements to the site driveways are recommended for the site and are the responsibility of the developer:

- Shift Drive 2 approximately 40 feet north to align with Sheraton Drive

The following improvements to the external roadway network are required for the site and are the responsibility of the developer:

- Stripe a northbound left-turn lane at Drive 2 (100' turn bay + 50' taper)

I. INTRODUCTION

A. Purpose

Kimley-Horn was retained to conduct a Traffic Impact Analysis (TIA) of future traffic conditions associated with the development of the Naterra site located at the southwest corner of Dividend Drive and Point West Boulevard. A site vicinity map is provided as **Exhibit 1**.

Exhibit 2 shows the proposed conceptual site plan. This study is intended to identify traffic generation characteristics, identify potential traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts.

B. Methodology

Traffic operations were analyzed at the study intersections for AM and PM peak hours for the following scenarios:

- 2025 existing traffic
- 2027 background traffic
- 2027 background plus site traffic
- 2032 background traffic
- 2032 background plus site traffic

The capacity analyses were conducted using the *Synchro*[™] software package and its associated *Intersection* reports for signalized intersections and *Highway Capacity Manual* reports for unsignalized intersections.

C. Roadway Characteristics

The following signalized intersections were evaluated as part of this study:

- Belt Line Road at Dividend Drive
- Belt Line Road at Hackberry Road
- Belt Line Road at IH 635 WB Frontage Road
- Belt Line Road at IH 635 EB Frontage Road

The following unsignalized intersection were evaluated as part of this study:

- Hackberry Road at Point West Boulevard
- Dividend Drive at Point West Boulevard

The study roadways are described below.

Belt Line Road

Road Size: 6-Lanes, Divided

Speed Limit: 45 MPH

Thoroughfare Plan Classification: Boulevard, 4 or 6-Lanes Divided

Dividend Drive

Road Size: 4-Lanes, Divided

Speed Limit: 30 MPH

Thoroughfare Plan Classification: Avenue, 2 or 4-Lanes Divided

Point West Boulevard

Road Size: 2-Lanes, Undivided

Speed Limit: 30 MPH

Thoroughfare Plan Classification: Avenue, 2 or 4-Lanes Undivided

Hackberry Road

Road Size: 2-Lanes, Undivided

Speed Limit: 30 MPH

Thoroughfare Plan Classification: Unclassified

IH 635 Frontage Roads

Road Size: 4-Lanes, Divided

Speed Limit: 55 MPH

Thoroughfare Plan Classification: Freeway, 4-Lanes

Exhibit 3 illustrates the intersection geometry used for the traffic analysis.

D. Existing Study Area

The property is zoned in a Highway Commercial District (HC). The property is currently undeveloped.

E. Proposed Site Improvements

The development as proposed will be constructed in one phase which is expected to be completed in 2027 and include the following:

- 398,000 SF of warehouse uses with 50 employees.
- 42,000 SF of general office uses with 200 employees.

As shown in **Exhibit 3**, the site has two proposed driveways. The driveways to be modeled in this analysis are as follows:

Drive 1

- Full-Access to Dividend Drive
- West of Point West Boulevard
- One inbound, two outbound lanes

Drive 2

- Full-Access to Point West Boulevard
- North of Hackberry Road
- One inbound, two outbound lanes

F. Existing Traffic Volumes

Traffic counts were collected on Thursday October 2, 2025. **Exhibit 4** shows the existing weekday AM and PM peak hour traffic volumes. 24-hour machine counts were collected near the site on Belt Line Road and Dividend Drive. The raw count sheets, as well as a comparison between the 24-hour volumes collected and previous 24-hour counts, are provided in the **Appendix** of this report.

The 24-hour count showed the daily volume on the roadway link as follows:

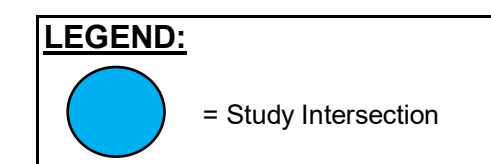
- Belt Line Road: 32,613 vehicles per day (vpd)
- Dividend Drive: 3,750 vehicles per day (vpd)



EXHIBIT 1

Vicinity Map
Naterra Development - Coppell, Texas

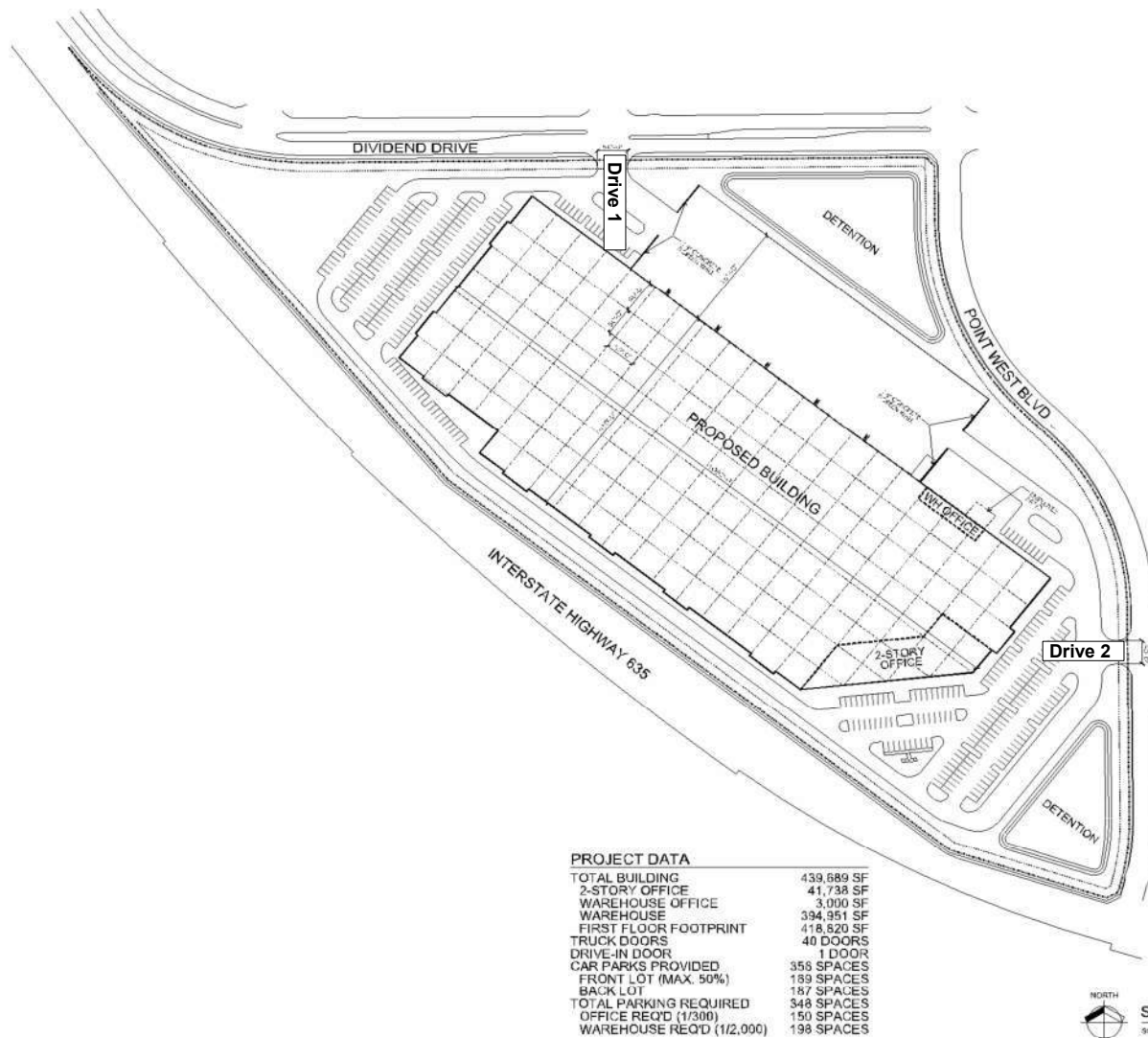
Kimley»Horn



North
↑
Not To Scale

STAIRS
ELEVATOR
WALKWAY

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PROJECT DATA

TOTAL BUILDING	439,689 SF
2-STORY OFFICE	41,738 SF
WAREHOUSE OFFICE	3,000 SF
WAREHOUSE	394,951 SF
FIRST FLOOR FOOTPRINT	418,520 SF
TRUCK DOORS	40 DOORS
DRIVE-IN DOOR	1 DOOR
CAR PARKS PROVIDED	355 SPACES
FRONT LOT (MAX. 50%)	189 SPACES
BACK LOT	187 SPACES
TOTAL PARKING REQUIRED	348 SPACES
OFFICE REQ'D (1/300)	150 SPACES
WAREHOUSE REQ'D (1/2,000)	198 SPACES



SITE PLAN
SCALE: 1"=80'

drawn:
checked:
approved:
DATE: 08/05/2015

naterra
NATERRA WORLD HEADQUARTERS
COPPELL, TEXAS
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COPPELL, TEXAS



job no:
2015-001
sheet:
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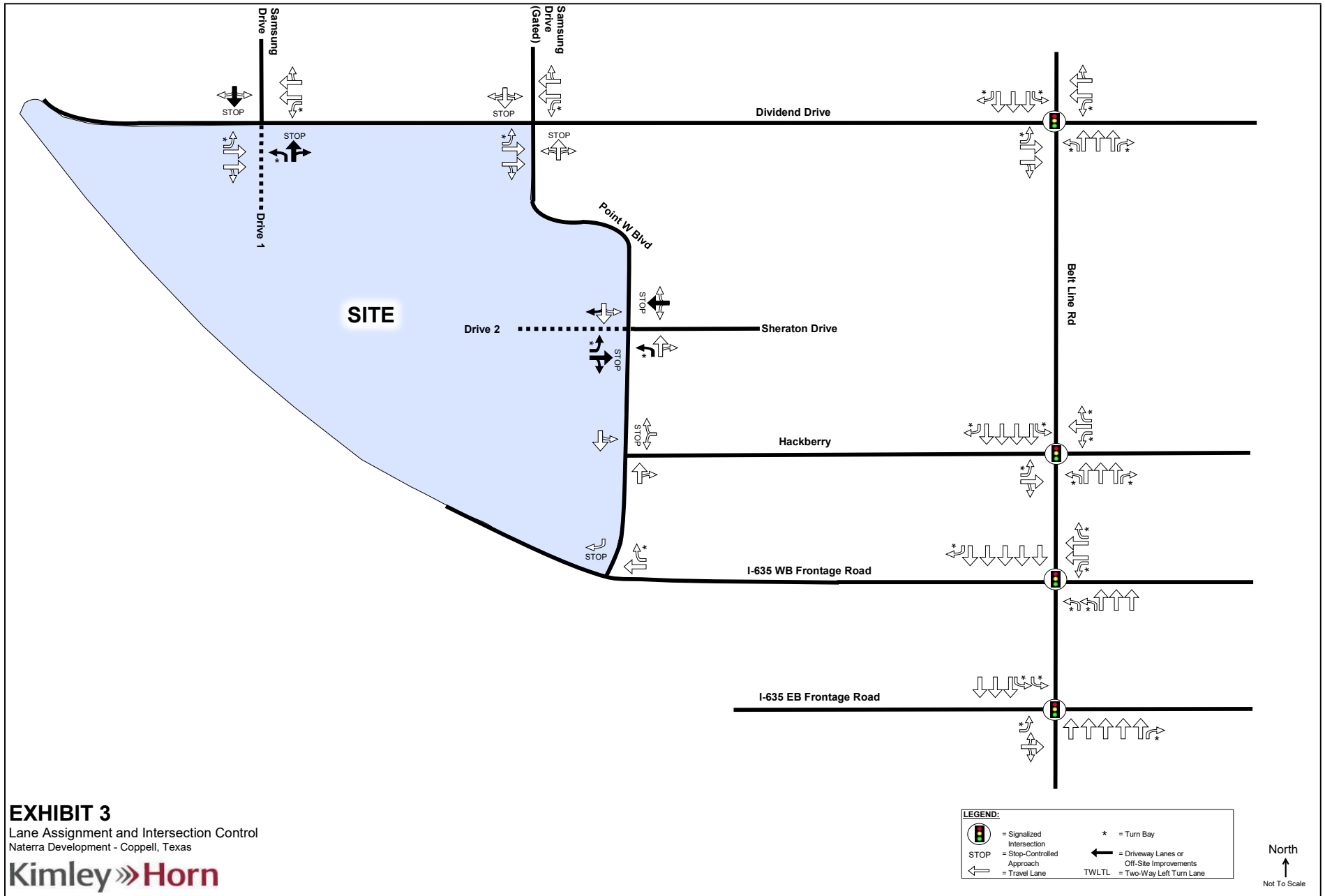
EXHIBIT 2

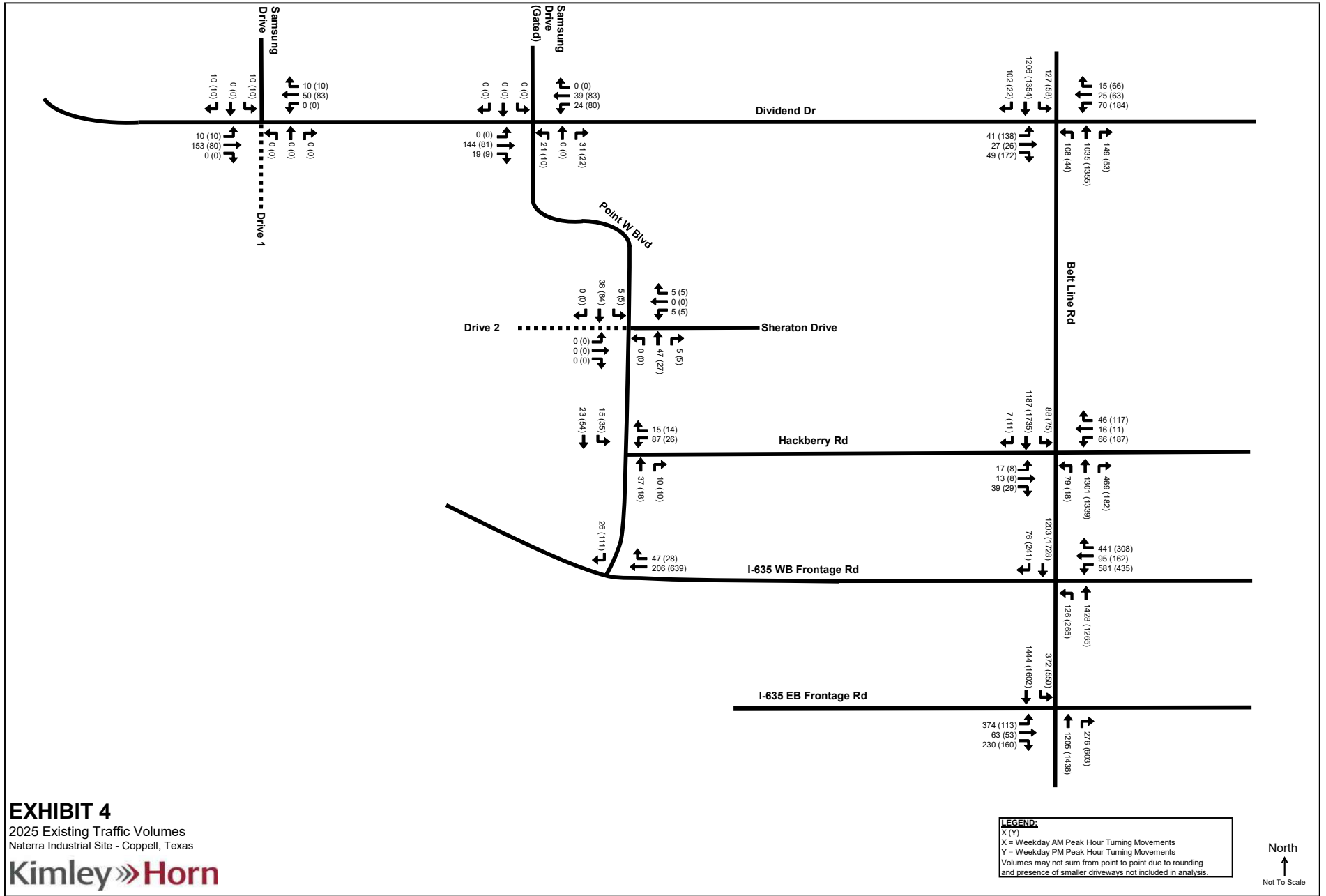
Conceptual Site Plan

Natterra Development - Coppell, Texas

Kimley»Horn

North
↑
Not To Scale





II. PROJECT TRAFFIC CHARACTERISTICS

A. Site-Generated Traffic

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the 12th edition of *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. The trips indicated are actually one-way trips or *trip ends*, where one vehicle entering and exiting the site is counted as one inbound trip and one outbound trip.

The trips for the site were generated using the number of employees that would be working in each portion of the site as provided by the client. Additionally, the client provided the information that there would be 25 trucks per day at the site which would generate 50 daily one-way trips. The ITE Warehousing Truck generation estimated more daily truck trips than the client expects the site to generate. The AM and PM peak hour total trips and the inbound and outbound trips is based on the proportions used by ITE in the trip generation process. The proportions are applied to the client provided number of trucks to generate the truck trips creating the “Adjusted” Warehousing Truck generation for the site.

No reductions were taken for pass-by trips, internal capture, or multimodal use.

Table 1 shows the resulting daily and weekday AM and PM peak hour trip generation for the proposed development, showing new external trips.

Table 1 – Trip Generation

Land Uses	Amount	Units	ITE Code	Daily One-Way Trips	AM Peak Hour One-Way Trips			PM Peak Hour One-Way Trips		
					IN	OUT	TOTAL	IN	OUT	TOTAL
Warehousing	50	Employees	150	254	21	9	30	13	22	35
Warehousing (Trucks) (Adjusted)	25	Trucks	-	50	2	3	5	2	2	4
General Office Building	200	Employees	710	758	96	16	112	19	85	104
Development Totals										
				Total Net New External Vehicle Trips:	1,012	117	25	142	32	107
							139			

Trip Generation rates based on ITE's *Trip Generation Manual*, 12th Edition.

In this report, the terms “heavy vehicles” and “trucks” represent any vehicles whose large size causes them to accelerate and turn more slowly and take up more space than a typical vehicle. Typically, the primary purpose of a heavy vehicle is to transport goods rather than people, though buses would also be included in this category due to their size and operational characteristics. This category includes box trucks or tractor-trailers among other freight vehicles.

The terms “passenger vehicles”, “autos”, or “cars” represent any typical two-axle vehicle. Generally, a car’s primary purpose is to transport people (individually or in groups) rather than goods. These vehicles make up the majority of vehicles using the roadway network. This includes sedans, minivans, pick-up trucks, and SUVs among other non-freight vehicles.

B. Trip Distribution and Assignment

The distribution of the site-generated traffic volumes in to and out of the site driveways and onto the street system was based on the area street system characteristics, existing traffic patterns, relative land use density, and the locations of the proposed driveway access to/from the site.

The corresponding inbound and outbound traffic assignment, where the directional distribution is applied using the most probable paths to and from the site, can be found in **Exhibit 5** for the site-generated cars and in **Exhibit 7** for the site generated trucks. The resulting site-generated weekday AM and weekday PM peak hour turning movements after multiplying the new external trip generation by the respective traffic assignment percentages is shown in **Exhibit 6** for cars and **Exhibit 8** for trucks.

C. Growth Rate

As seen in **Table 2**, based on counts obtained from TxDOT’s Traffic Count Database System (TCDS) and collected counts, the average growth rate along Belt Line Road was -2.4% and along Dividend Drive was -5.9%. Based on the expected annual growth of the area around the development, an annual average growth rate was assumed as 2.0%. The growth rate was used to calculate the buildout year’s background traffic and horizon year’s background traffic. It is expected this growth will account for all the future developments in the area that are not explicitly modeled. The additional information on the historical count data is provided in the **Appendix**.

Table 2 – Growth Rate Analysis

Year	24-Hour Volume	
	Belt Line Road (north of IH 635)	Dividend Drive (west of Belt Line Road)
2014	41,957	-
2019	35,554	5,393
2022	35,554	-
2024	31,225	-
2025	32,613	3,750
Avg. Growth Rate	-2.4%	-5.9%
Annual Growth Rate Used:		2.0%

D. Other Development Traffic Modeling

Using the same procedure as was used to develop the Naterra site-generated traffic and distribute that traffic on the roadway network, traffic was developed and distributed for the Homewood Suites and Springhill Suites developments as well. The Victory Coppel site's trip generation and distribution matched what is proposed in the TIA and trip generation memos provided by the City of Coppel. The distribution and volumes for each of these developments can be found in the **Appendix**.

Homewood Suites will be a 129 room suites-only hotel and will be located in the southeast corner of Dividend Drive and Point West Boulevard. The buildout year for the hotel is 2026.

Springhill Suites and Convention Center will be a 136 room suites-only hotel and will be located in the northeast corner of Belt Line Road at Hackberry Road. Although the buildout year for the hotel is currently unknown, the site is under construction, and it was assumed it would be built before the buildout of the proposed development in 2027.

The Victory Coppel development is a mixed used development consisting of 32,339 SF of retail, 19,296 SF of restaurant, 1,500 SF of patios, 7,100 SF of quick service restaurants, and 285 room hotel that is currently under construction. The Victory Coppel TIA projected a 2024 buildout date, however the site is currently under construction and it was assumed it would be built before the proposed site's buildout in 2027.

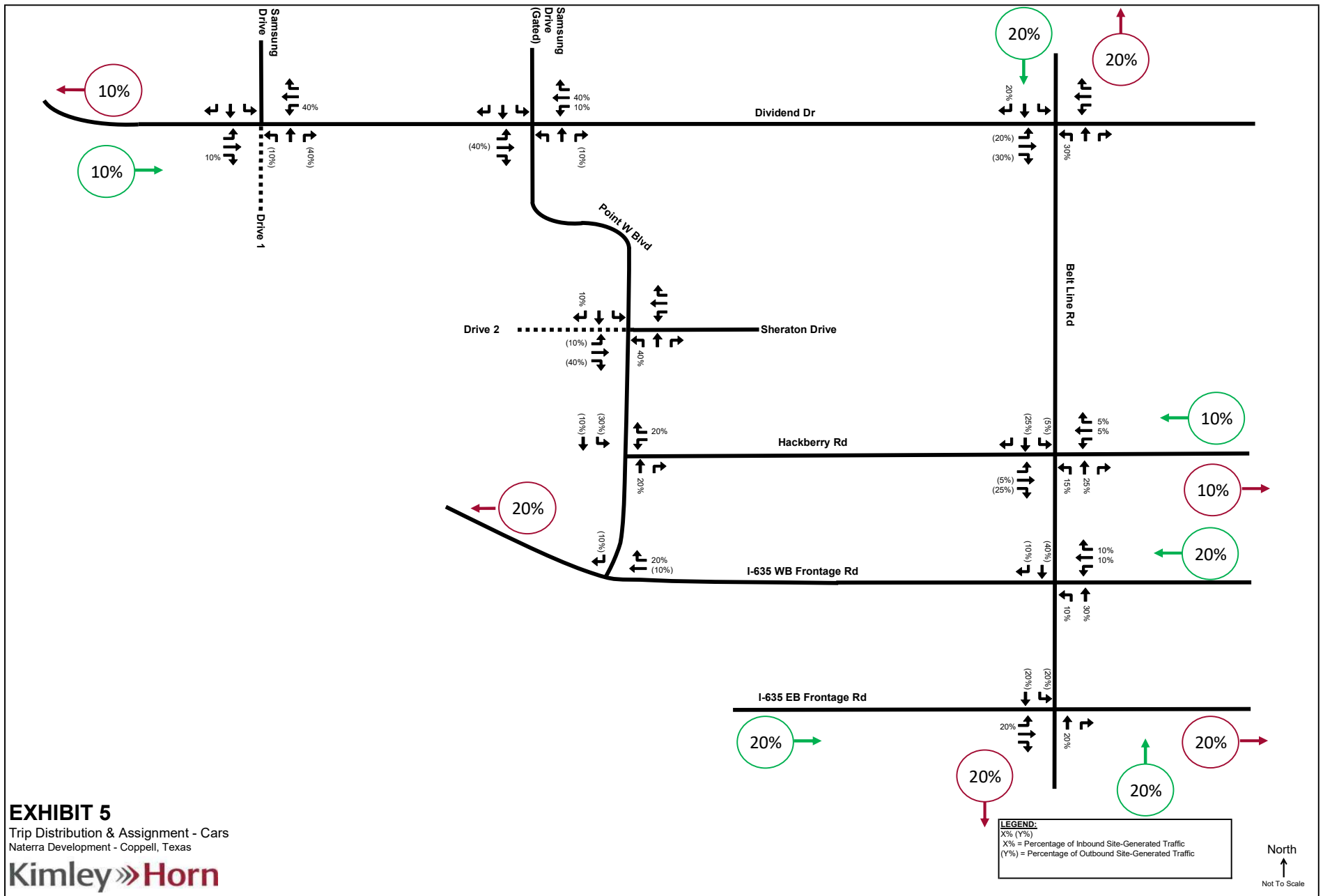
E. Development of Background and Total Traffic

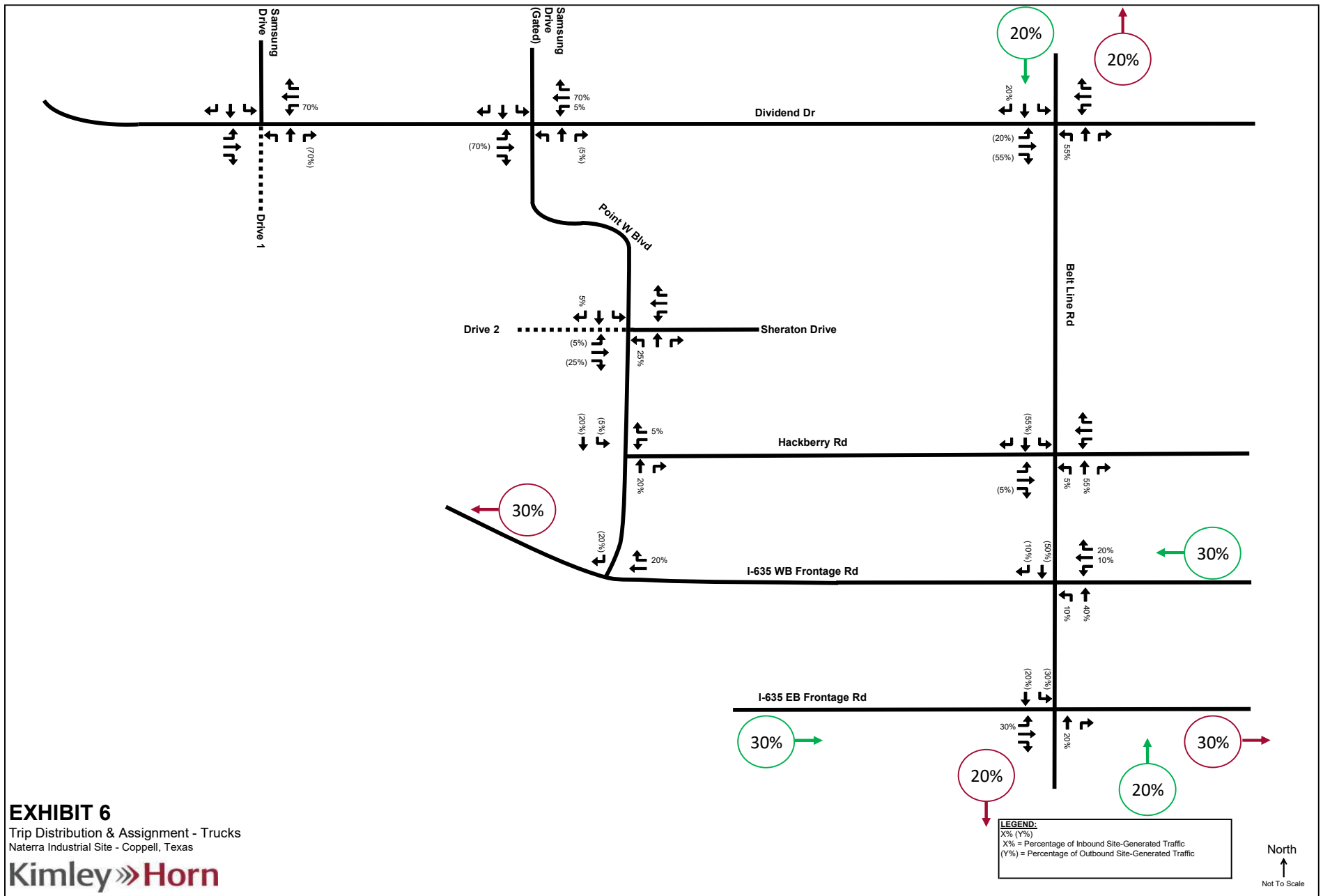
The growth rates, background developments, and site-generated traffic included in each scenario is summarized in **Table 3** below.

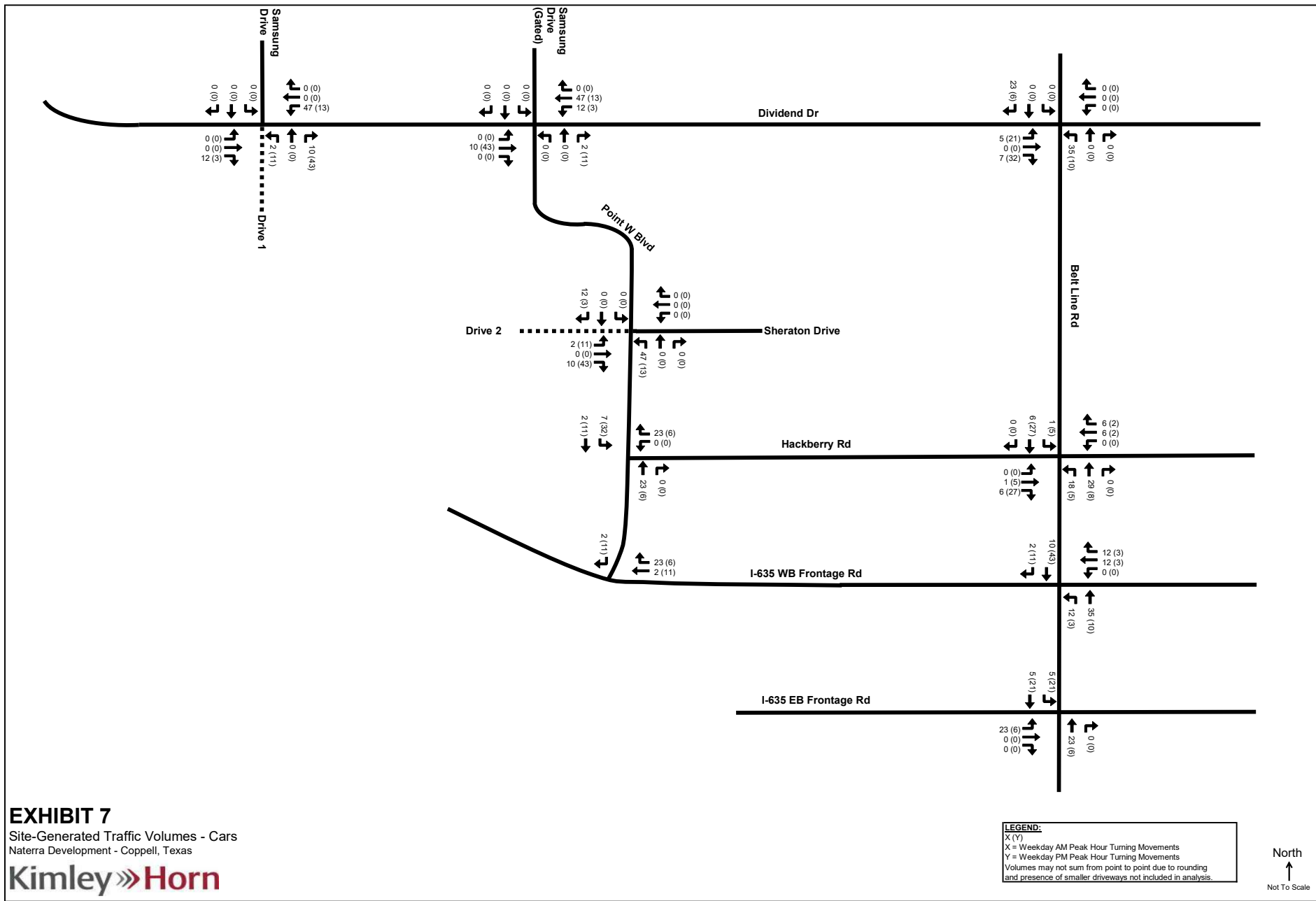
The existing traffic counts and historic counts near the site were compared to find expected growth trends within the study area. Based on the recent growth in the area, an annual growth rate of 2.0% was assumed for the background traffic.

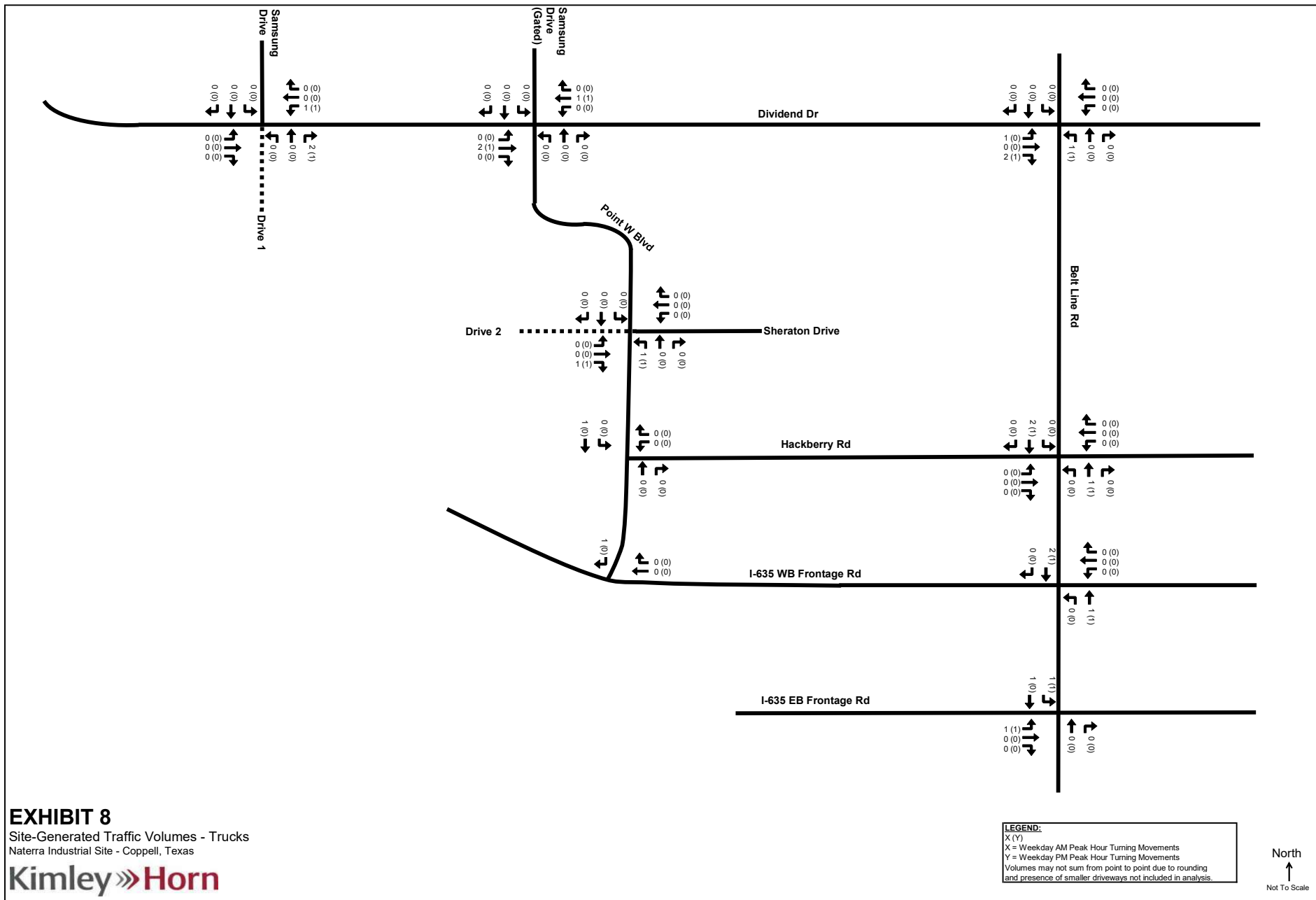
Table 3 – Development Scenario Included Traffic

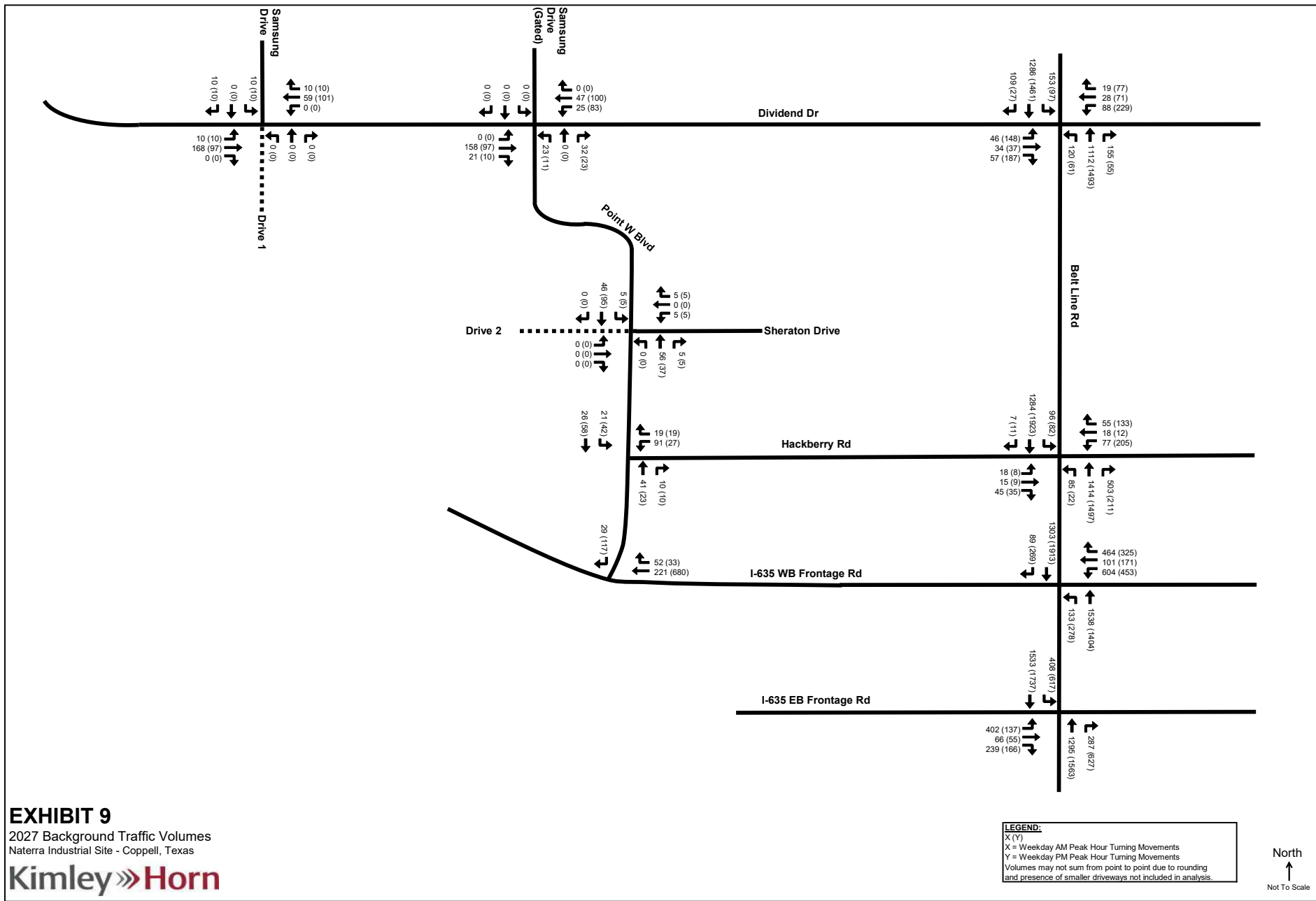
Scenario	Percent Growth	Development Traffic Added	Exhibit
2025 Existing	N/A	None	Exhibit 4
2027 Background	2.0% annually	Homewood Suites Springhill Suites Victory Coppell	Exhibit 9
2027 Background + Site	N/A	Homewood Suites Springhill Suites Victory Coppell Site Traffic	Exhibit 10
2032 Background	Additional 2.0% annually	Homewood Suites Springhill Suites Victory Coppell	Exhibit 11
2032 Background + Site	N/A	Homewood Suites Springhill Suites Victory Coppell Site Traffic	Exhibit 12

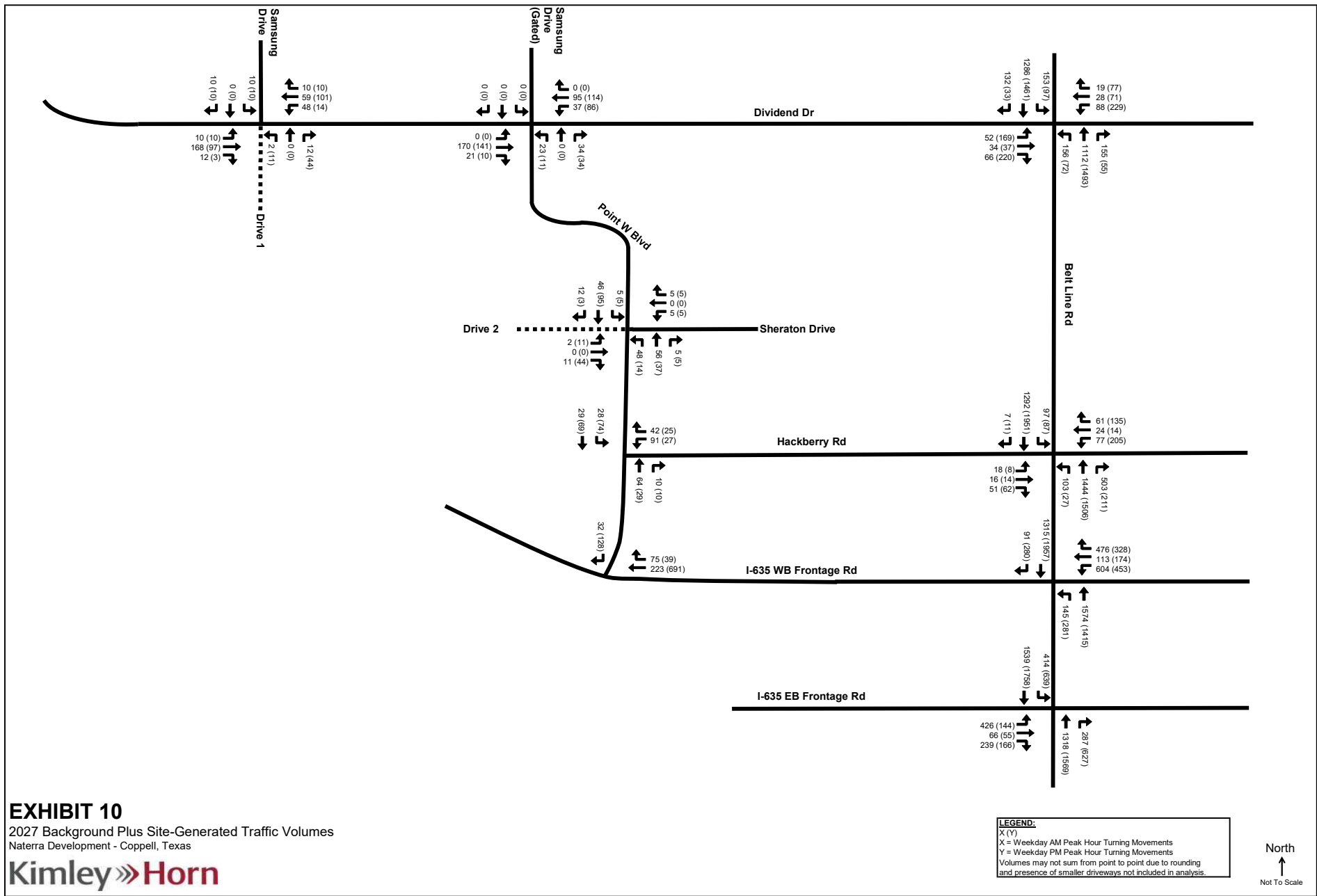


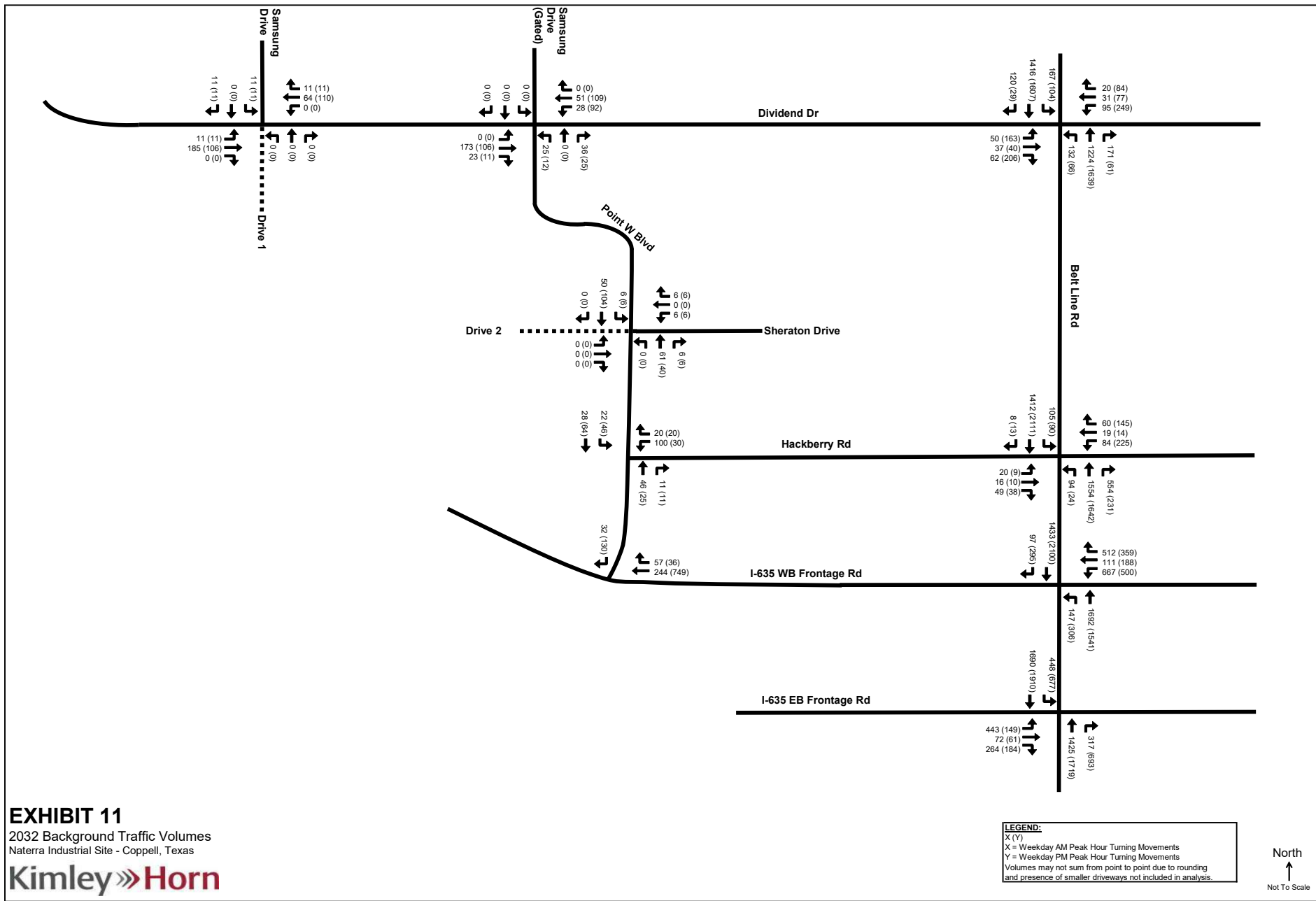


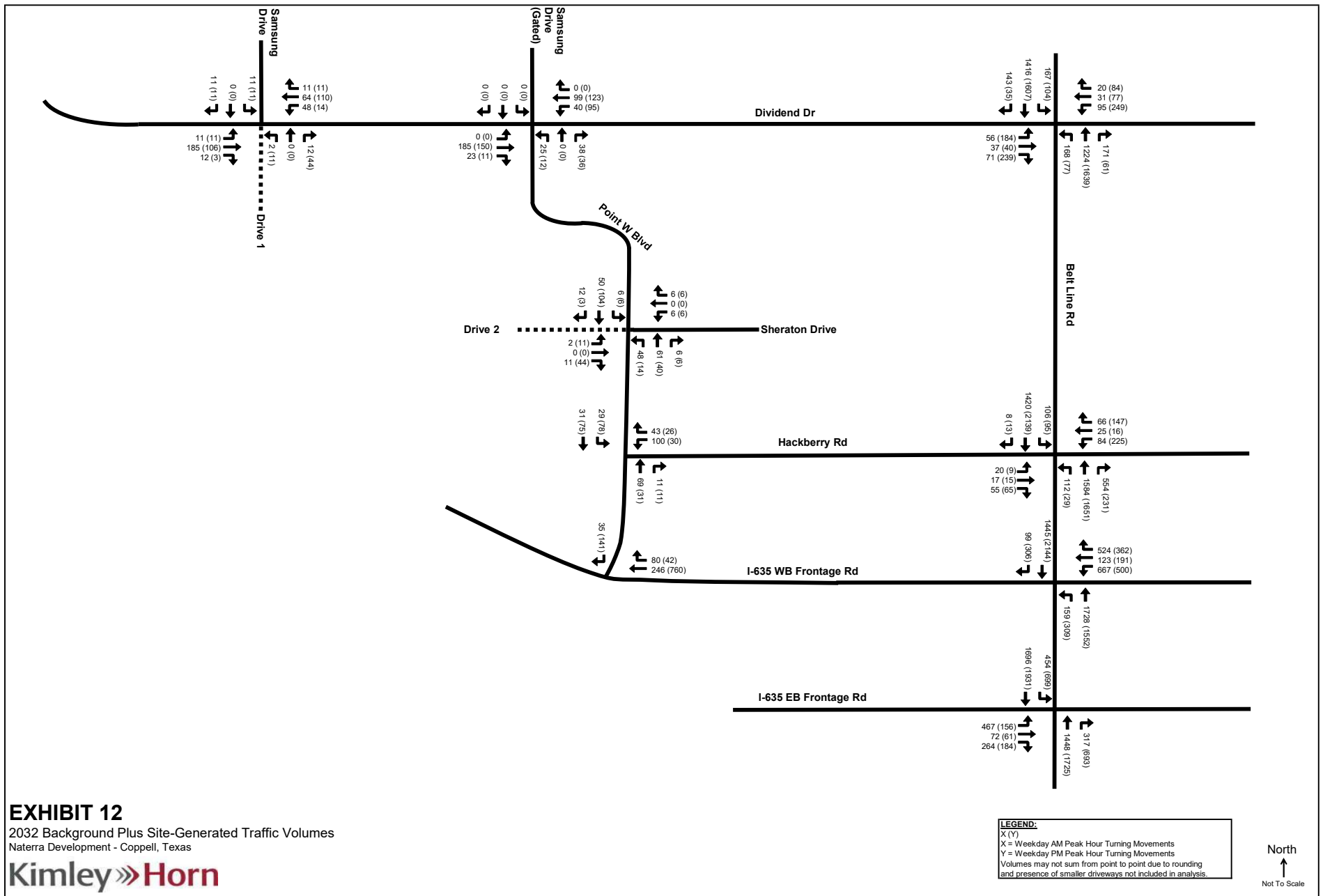












III. TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn conducted a traffic operations analysis to determine potential capacity deficiencies in the 2025, 2027, and 2032 study years at the study intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual*.

A. Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). **Table 4** shows the definition of level of service for signalized and unsignalized intersections.

Table 4 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Definitions provided from the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. For the unsignalized analysis, the level of service (LOS) for a two-way stop-controlled intersection is defined for each movement. Unlike signalized intersections which define LOS for each approach and for the intersection as a whole, LOS for two-way stop-controlled intersections is not defined as a whole.

Signal timings for the signalized intersections are based on the City of Coppell's signal timing models. The Belt Line Road corridor signals run as actuated and coordinated.

The analysis assumed the lane geometry and intersection control shown in **Exhibit 3**.

The peak hour factors (PHF) for the existing traffic are known from the counts collected at the site. PHF for the future traffic and the site-generated traffic is unknown, so where this occurred the PHF was assumed to be 0.92.

B. Analysis Results

Table 5 and **Table 6** show the intersection operational results for the weekday AM and PM peak hours, respectively.

Table 5 – Traffic Operational Results – Weekday AM Peak Hour

INTERSECTION	APPROACH	2025 Existing Traffic		2027 Background Traffic		2027 Background + Site Traffic		2032 Background Traffic		2032 Background + Site Traffic	
		AM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS
SIGNALIZED INTERSECTION											
Belt Line Road at Dividend Drive	EB	47.6	● D	48.1	● D	47.1	● D	48.1	● D	47.1	● D
	WB	71.1	● E	76.4	● E	76.4	● E	79.2	● E	79.5	● E
	NB	1.4	● A	2.2	● A	3.6	● A	4.0	● A	5.8	● A
	SB	12.5	● B	13.3	● B	13.7	● B	14.3	● B	14.7	● B
	Overall	11.2	● B	12.6	● B	13.4	● B	14.0	● B	14.9	● B
Belt Line Road at Hackberry Road	EB	49.9	● D	49.1	● D	47.8	● D	49.1	● D	47.2	● D
	WB	47.8	● D	47.3	● D	48.3	● D	48.8	● D	50.1	● D
	NB	1.1	● A	1.4	● A	1.9	● A	2.1	● A	3.0	● A
	SB	4.3	● A	5.0	● A	5.6	● A	6.0	● A	6.7	● A
	Overall	5.1	● A	5.7	● A	6.4	● A	6.5	● A	7.5	● A
Belt Line Road at IH 635 WB Frontage Road	WB	63.1	● E	68.6	● E	74.2	● E	83.2	● F	90.9	● F
	NB	20.7	● C	23.0	● C	27.0	● C	36.1	● D	52.4	● D
	SB	15.7	● B	15.9	● B	15.7	● B	15.7	● B	15.5	● B
	Overall	31.1	● C	33.1	● C	36.2	● D	42.3	● D	50.7	● D
Belt Line Road at IH 635 EB Frontage Road	EB	85.0	● F	91.5	● F	102.1	● F	114.5	● F	128.3	● F
	NB	40.9	● D	42.3	● D	43.4	● D	44.7	● D	46.2	● D
	SB	10.9	● B	11.5	● B	11.7	● B	11.9	● B	11.9	● B
	Overall	34.6	● C	36.4	● D	39.0	● D	41.3	● D	44.6	● D
UNSIGNALIZED INTERSECTION											
Dividend Drive at Point West Boulevard / Samsung Drive (Gated)	NBL	9.9	● A	10.1	● B	10.6	● B	10.3	● B	10.8	● B
	WBL	8.0	● A	7.9	● A	7.9	● A	8.0	● A	8.0	● A
Point West Boulevard at IH 635 WB Frontage Road	SBR	9.9	● A	10.1	● B	10.1	● B	10.3	● B	10.4	● B
Point West Boulevard at Hackberry Road	WBL	9.5	● A	9.7	● A	10.1	● B	9.9	● A	10.2	● B
	SBL	7.3	● A	7.4	● A	7.4	● A	7.4	● A	7.4	● A
Dividend Drive at Samsung Drive / Drive 1	NBL	-	-	-	-	11.5	● B	-	-	11.8	● B
	NBR	-	-	-	-	9.1	● A	-	-	9.2	● A
	EBL	7.4	● A	7.4	● A	7.4	● A	7.4	● A	7.4	● A
	WBL	-	-	-	-	7.7	● A	-	-	7.8	● A
Point West Boulevard at Sheraton Drive / Drive 2	NBL	-	-	-	-	7.4	● A	-	-	7.4	● A
	EBL	-	-	-	-	10.2	● B	-	-	10.3	● B
	EBR	-	-	-	-	8.7	● A	-	-	8.7	● A
	SBL	8.9	● A	9.0	● A	9.5	● A	9.0	● A	9.5	● A
		7.3	● A	7.4	● A	7.4	● A	7.4	● A	7.4	● A

Table 6 – Traffic Operational Results – Weekday PM Peak Hour

INTERSECTION	APPROACH	2025 Existing Traffic		2027 Background Traffic		2027 Background + Site Traffic		2032 Background Traffic		2032 Background + Site Traffic	
		PM PEAK HOUR		PM PEAK HOUR		PM PEAK HOUR		PM PEAK HOUR		PM PEAK HOUR	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS
SIGNALIZED INTERSECTION											
Belt Line Road at Dividend Drive	EB	52.9	● D	55.3	● E	58.8	● E	56.7	● E	58.0	● E
	WB	70.9	● E	69.6	● E	67.2	● E	66.3	● E	58.8	● E
	NB	4.7	● A	8.5	● A	11.2	● B	11.2	● B	15.3	● B
	SB	18.2	● B	25.7	● C	32.0	● C	32.4	● C	40.1	● D
	Overall	20.7	● C	25.7	● C	29.8	● C	29.3	● C	33.7	● C
Belt Line Road at Hackberry Road	EB	45.7	● D	44.7	● D	41.0	● D	44.1	● D	40.9	● D
	WB	94.9	● F	111.7	● F	120.2	● F	133.5	● F	153.7	● F
	NB	4.1	● A	4.7	● A	5.9	● A	5.2	● A	6.4	● A
	SB	6.1	● A	6.6	● A	9.0	● A	8.8	● A	11.3	● B
	Overall	13.3	● B	15.1	● B	17.7	● B	18.2	● B	21.9	● C
Belt Line Road at IH 635 WB Frontage Road	WB	72.3	● E	73.1	● E	75.5	● E	78.7	● E	84.3	● F
	NB	11.9	● B	12.0	● B	12.5	● B	12.8	● B	13.1	● B
	SB	22.6	● C	25.7	● C	28.5	● C	29.4	● C	34.3	● C
	Overall	29.1	● C	30.0	● C	31.9	● C	33.1	● C	36.4	● D
Belt Line Road at IH 635 EB Frontage Road	EB	79.3	● E	83.1	● F	85.6	● F	90.4	● F	98.9	● F
	NB	29.7	● C	31.3	● C	32.5	● C	35.1	● D	37.1	● D
	SB	19.8	● B	27.6	● C	37.0	● D	43.9	● D	53.4	● D
	Overall	28.6	● C	33.3	● C	38.6	● D	43.4	● D	49.5	● D
UNSIGNALIZED INTERSECTION											
Dividend Drive at Point West Boulevard / Samsung Drive (Gated)	NBL	9.8	● A	10.0	● A	10.3	● B	10.3	● B	10.6	● B
	WBL	7.6	● A	7.6	● A	7.8	● A	7.7	● A	7.9	● A
Point West Boulevard at IH 635 WB Frontage Road	SBR	18.0	● C	19.8	● C	21.5	● C	23.9	● C	27.9	● D
Point West Boulevard at Hackberry Road	WBL	9.3	● A	9.4	● A	9.8	● A	9.5	● A	9.9	● A
	SBL	7.3	● A	7.4	● A	7.4	● A	7.4	● A	7.4	● A
Dividend Drive at Samsung Drive / Drive 1	NBL	-	-	-	-	10.2	● B	-	-	10.3	● B
	NBR	-	-	-	-	8.8	● A	-	-	8.8	● A
	EBL	7.4	● A	7.5	● A	7.5	● A	7.5	● A	7.5	● A
	WBL	-	-	-	-	7.5	● A	-	-	7.5	● A
Point West Boulevard at Sheraton Drive / Drive 2	NBL	-	-	-	-	7.5	● A	-	-	7.5	● A
	EBL	-	-	-	-	9.8	● A	-	-	9.9	● A
	EBR	-	-	-	-	9.0	● A	-	-	9.0	● A
	WBL	8.9	● A	9.0	● A	9.3	● A	9.1	● A	9.4	● A
	SBL	7.3	● A	7.3	● A	7.3	● A	7.3	● A	7.3	● A

C. 2025 Existing Traffic Operations

- The unsignalized intersections operate at LOS C or better.
- The signalized intersections operate at LOS D or better overall.
 - There are very high traffic volumes along Belt Line Road and the IH 635 Frontage Roads. The road is coordinated throughout the area and has long signal cycles to provide efficient flow along its length, so the minor streets see high delays even with low volumes. Regardless of the traffic volumes on the minor streets, LOS E and low levels of LOS F are to be expected and do not represent failing approaches.

D. 2027 Background Traffic Operations

- 2 years of 2.0% background growth added to network.
- Homewood Suites and Springhill Suites background traffic added to the network.
- Unsignalized intersections continue to operate at LOS C or better overall.
- Signalized intersections continue to operate at LOS D or better overall.
 - There are very high traffic volumes along Belt Line Road and the IH 635 Frontage Roads. The road is coordinated throughout the area and has long signal cycles to provide efficient flow along its length, so the minor streets see high delays even with low volumes. Regardless of the traffic volumes on the minor streets, LOS E and low levels of LOS F are to be expected and do not represent failing approaches.

E. 2027 Background Plus Site-Generated Traffic Operations

- Site-generated traffic added to 2027 background traffic.
- Unsignalized intersections to operate at LOS C or better overall.
- Signalized intersections continue to operate at varying levels of service, which is to be expected considering the through volumes along Belt Line Road.
 - The signalized intersections are able to accommodate the site-generated traffic with minimal increases in delay.
- The site driveways to Dividend Drive and Point West Boulevard operate at LOS B or better during both peak hours.

F. 2032 Background Traffic Operations

- 5 years of 2% background growth added to network.
- Signalized intersections continue to operate at varying levels of service, which is to be expected considering the through volumes along Belt Line Road and the IH 635 Frontage Roads.

G. 2032 Background Plus Site-Generated Traffic Operations

- Unsignalized intersections operate at LOS B or better overall with one exception.
 - The southbound approach of Point West Boulevard at IH 635 WB Frontage Road operates at LOS D in the PM peak which is to be expected with the high

through volumes on the frontage road and a single lane serving as the on-ramp.

- Site-generated traffic added to 2032 background traffic.
- Signalized intersections continue to operate at varying levels of service, which is to be expected considering the through volumes along Belt Line Road and the IH 635 Frontage Roads.
- The signalized intersections are able to accommodate the site-generated traffic with minimal increases in delay compared to the 2032 background scenario.
 - The traffic signals are coordinated throughout the Belt Line Road corridor. Major adjustments to the signal timings are not recommended because it will impact the progression of the major movement along Belt Line Road.
- The site driveways to Dividend Drive and Point West Boulevard operate at LOS B or better during both peak hours.

No mitigations are needed at the site driveways or existing intersections to incorporate the Naterra development into the existing street network. The changes in the level of service at the intersections is due to background developments and general growth in the area. The site as proposed will function well with minimal impacts to future traffic operations.

H. Access Spacing

The City of Coppell's engineering design standards, section 13-8-5, require connection spacing of 90 feet between driveways on roadways with posted speeds of at least 30 mph. The standard also requires connection spacing of 30 feet from an existing intersection. As seen in **Table 7**, it is recommended to shift Drive 2 approximately 40 feet north of the proposed location to align with the north Sheraton drive.

Table 7 – Access Spacing

Driveway Location	Spacing Direction	Spacing Provided	City of Coppell Threshold	Driveway Spacing Adequate?
Drive 1 at Dividend Drive	from Point West Boulevard to Drive 1	550 feet	50 feet	Yes
Drive 2 at Point West Boulevard	from Hackberry Road to Drive 2	290 feet	50 feet	Yes
	from south Sheraton Drive to Drive 2	190 feet	90 feet	Yes
	from north Sheraton Drive to Drive 2	40 feet	90 feet	No

I. Right-Turn Lane Analysis

According to Table 2-3 of the Texas Department of Transportation (TxDOT) *Access Management Manual*, it is recommended to have right-turn lanes are driveways along major arterial and collector roads. These right-turn lanes should be provided when the number of right turns exceed 60 vehicles per hour (vph) for roadways with speed limits of 45 miles per hour (mph) or lower, and 50 vph for roadways with speed limits greater than 45 mph.

As seen in **Table 8**, none of the driveways meet TxDOT's requirements for a right-turn lane into the site.

Table 8 – Right-Turn Lane Analysis

Right-Turn Location	Projected Maximum Peak Hour Right-Turn Volume	TxDOT Threshold (Access Management Manual, Table 2-3)	Right-Turn Lane Recommended?
ET Drive 1 from Dividend Drive	12 vph	50 vph	No
ST Drive 2 from Point W Boulevard	12 vph	50 vph	No

J. Left-Turn Lane Analysis

The driveways were also analyzed for left turn warrants using TxDOT guidance. As seen in **Table 9** a left turn lane is warranted at Drive 2.

Table 9 – Left-Turn Lane Analysis

Left-Turn Lane Location	Direction	Projected Maximum Peak Hour Volume			Left-Turn Lane Required?
		Peak-Hour Left-Turn	Major Road Peak Hour Volumes	TxDOT Threshold	
Drive 2 from Point West Boulevard	NBL	48 vph	86 veh/hr/ln	50 veh/hr/ln	Yes

At Drive 1, there are existing 50-foot left turns lanes that provide ample storage to accommodate westbound left turning vehicles from Dividend Drive to Drive 1

According to Table 2-3 of the TxDOT *Access Management Manual* when designing an intersection that provides directional access to the proposed development, left-turn lanes should be provided at driveways and street intersections along major arterial and collector roads wherever left-turns are permitted.

Per TxDOT design criteria, a left-turn lane on a 30-mph roadway, with a 10-mph speed reduction, shall be 150' including a 50' taper (100' turn bay + 50' taper). The turn-bay length to serve Drive 2 is recommended to meet these requirements. It is recommended to stripe in the turn-lane onto Point West Boulevard.

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, the proposed Naterra development, located at the southwest corner of Dividend Drive and Point West Boulevard in Coppell, Texas, can be successfully incorporated into the surrounding roadway network given the following recommendations are implemented to the roadway network. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations. Both of the proposed site driveways operate well in the study years.

The following improvements to the site driveways are recommended for the site and are the responsibility of the developer:

- Shift Drive 2 approximately 40 feet north to align with Sheraton Drive

The following improvements to the external roadway network are recommended for the site and are the responsibility of the developer:

- Stripe a northbound left-turn lane at Drive 2 (100' turn bay + 50' taper)

APPENDIX

1. Traffic Counts and Historical Data
2. Additional Exhibits
3. Synchro™ Outputs

1. Traffic Counts and Historical Data

Naterra Industrial Site - Coppell, Texas

Historical Link Volumes and Growth Rates

Belt Line Road (North of IH 635)				
Record	Year	Source	24-Hour Volume	Annual Growth Rate
1	2014	TxDOT	41,957	-
2	2019	TxDOT	35,554	-3.3%
3	2022	TxDOT	35,554	0.0%
4	2024	TxDOT	31,225	-6.3%
5	2025	KHA	32,613	4.4%
(TCDS Location ID: 57HP6994)Average Growth 2009 - 2025:				-2.4%

Dividend Drive				
Record	Year	Source	24-Hour Volume	Annual Growth Rate
1	2019	TxDOT	5,393	-
2	2025	KHA	3,750	-5.9%
(TCDS Location ID: 57HP6994)Average Growth 2019 - 2025:				-5.9%

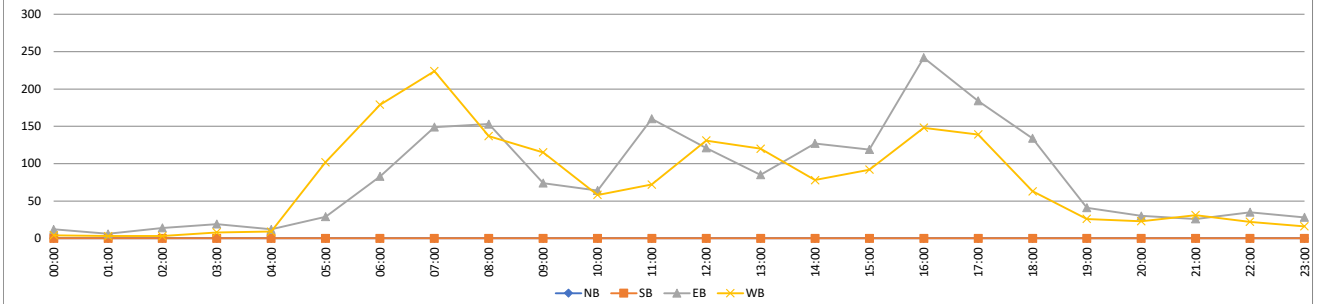
Average Annual Growth:	-4.1%
Assumed Annual Growth	2.0%

VOLUME**Dividend Dr Bet S Belt Line Rd & Point W Blvd**

Day: Thursday
Date: 10/2/2025

City: Coppell
Project #: TX25_470309_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						0	0	1,947	1,803	3,750							
15-Minutes Interval												Hourly Intervals					
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			4	2	6	12:00			47	34	81	00:00 01:00			12	4	16
0:15			3	0	3	12:15			28	30	58	01:00 02:00			6	3	9
0:30			4	2	6	12:30			24	40	64	02:00 03:00			14	3	17
0:45			1	0	1	12:45			22	27	49	03:00 04:00			19	8	27
1:00			1	0	1	13:00			28	33	61	04:00 05:00			12	9	21
1:15			2	2	4	13:15			23	27	50	05:00 06:00			29	102	131
1:30			1	0	1	13:30			12	31	43	06:00 07:00			83	179	262
1:45			2	1	3	13:45			22	29	51	07:00 08:00			149	224	373
2:00			8	0	8	14:00			35	17	52	08:00 09:00			153	137	290
2:15			1	2	3	14:15			31	14	45	09:00 10:00			74	115	189
2:30			2	1	3	14:30			32	26	58	10:00 11:00			64	58	122
2:45			3	0	3	14:45			29	21	50	11:00 12:00			160	72	232
3:00			4	0	4	15:00			45	18	63	12:00 13:00			121	131	252
3:15			3	3	6	15:15			15	24	39	13:00 14:00			85	120	205
3:30			7	1	8	15:30			27	26	53	14:00 15:00			127	78	205
3:45			5	4	9	15:45			32	24	56	15:00 16:00			119	92	211
4:00			4	1	5	16:00			58	40	98	16:00 17:00			242	148	390
4:15			4	1	5	16:15			68	31	99	17:00 18:00			184	139	323
4:30			2	0	2	16:30			64	35	99	18:00 19:00			134	63	197
4:45			2	7	9	16:45			52	42	94	19:00 20:00			41	26	67
5:00			4	10	14	17:00			56	46	102	20:00 21:00			30	23	53
5:15			1	11	12	17:15			48	26	74	21:00 22:00			26	31	57
5:30			8	42	50	17:30			37	36	73	22:00 23:00			35	22	57
5:45			16	39	55	17:45			43	31	74	23:00 00:00			28	16	44
6:00			25	42	67	18:00			44	18	62	STATISTICS					
6:15			11	35	46	18:15			46	18	64		NB	SB	EB	WB	TOTAL
6:30			26	40	66	18:30			26	16	42	Peak Period	00:00	to	12:00		
6:45			21	62	83	18:45			18	11	29	Volume			775	914	1689
7:00			28	65	93	19:00			10	9	19	Peak Hour			7:30	6:45	6:45
7:15			35	73	108	19:15			15	5	20	Peak Volume			169	252	374
7:30			38	52	90	19:30			4	6	10	Peak Hour Factor			0.880	0.863	0.866
7:45			48	34	82	19:45			12	6	18	Peak Period	12:00	to	00:00		
8:00			40	27	67	20:00			10	8	18	Volume			1172	889	2061
8:15			43	50	93	20:15			7	4	11	Peak Hour			16:00	16:15	16:15
8:30			37	31	68	20:30			8	7	15	Peak Volume			242	154	394
8:45			33	29	62	20:45			5	4	9	Peak Hour Factor			0.890	0.837	0.966
9:00			25	48	73	21:00			9	2	11	Peak Period	07:00	to	09:00		
9:15			12	30	42	21:15			6	13	19	Volume			302	361	663
9:30			16	20	36	21:30			5	5	10	Peak Hour			7:30	7:00	7:00
9:45			21	17	38	21:45			6	11	17	Peak Volume			169	224	373
10:00			19	17	36	22:00			24	9	33	Peak Hour Factor			0.880	0.767	0.863
10:15			18	15	33	22:15			5	7	12	Peak Period	16:00	to	18:00		
10:30			11	10	21	22:30			6	4	10	Volume			426	287	713
10:45			16	16	32	22:45			0	2	2	Peak Hour			16:00	16:15	16:15
11:00			47	15	62	23:00			4	3	7	Peak Volume			242	154	394
11:15			22	15	37	23:15			5	6	11	Peak Hour Factor			0.890	0.837	0.966
11:30			40	16	56	23:30			11	6	17						
11:45			51	26	77	23:45			8	1	9						
TOTALS	0	0	775	914	1689	TOTALS	0	0	1172	889	2061						
SPLIT %	0%	0%	46%	54%	45%	SPLIT %	0%	0%	57%	43%	55%						

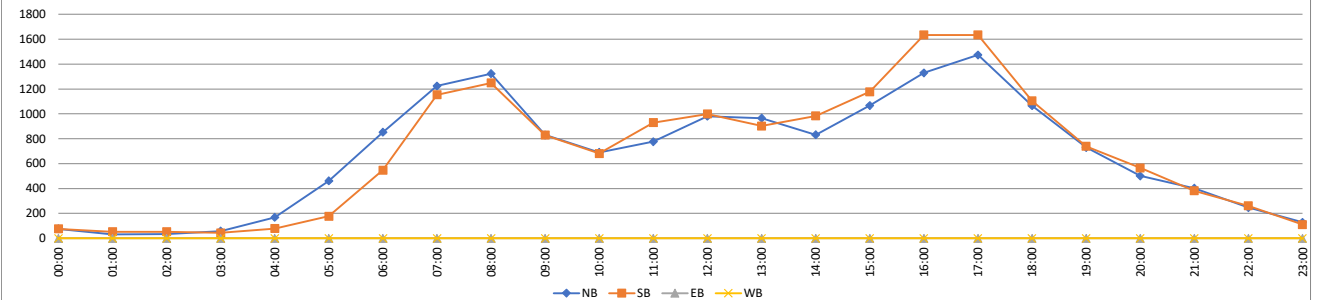


VOLUME**S Belt Line Rd Bet Dividend Dr & Hackberry Rd**

Day: Thursday
Date: 10/2/2025

City: Coppell
Project #: 25_470309_002

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						16,252	16,361	0	0	32,613							
15-Minutes Interval												Hourly Intervals					
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	28	25			53	12:00	223	290			513	00:00	01:00	76	76		152
0:15	20	21			41	12:15	229	218			447	01:00	02:00	32	53		85
0:30	12	18			30	12:30	273	256			529	02:00	03:00	35	52		87
0:45	16	12			28	12:45	256	235			491	03:00	04:00	58	44		102
1:00	10	10			20	13:00	241	257			498	04:00	05:00	168	78		246
1:15	6	11			17	13:15	225	221			446	05:00	06:00	462	177		639
1:30	6	17			23	13:30	260	250			510	06:00	07:00	852	547		1399
1:45	10	15			25	13:45	240	174			414	07:00	08:00	1224	1153		2377
2:00	12	24			36	14:00	187	238			425	08:00	09:00	1323	1248		2571
2:15	9	6			15	14:15	212	206			418	09:00	10:00	831	829		1660
2:30	4	12			16	14:30	180	278			458	10:00	11:00	690	681		1371
2:45	10	10			20	14:45	253	262			515	11:00	12:00	776	929		1705
3:00	5	7			12	15:00	245	324			569	12:00	13:00	981	999		1980
3:15	14	10			24	15:15	251	252			503	13:00	14:00	966	902		1868
3:30	20	15			35	15:30	275	275			550	14:00	15:00	832	984		1816
3:45	19	12			31	15:45	296	327			623	15:00	16:00	1067	1178		2245
4:00	24	15			39	16:00	279	393			672	16:00	17:00	1330	1634		2964
4:15	25	16			41	16:15	379	419			798	17:00	18:00	1474	1635		3109
4:30	52	24			76	16:30	301	434			735	18:00	19:00	1066	1105		2171
4:45	67	23			90	16:45	371	388			759	19:00	20:00	730	739		1469
5:00	68	31			99	17:00	442	504			946	20:00	21:00	501	565		1066
5:15	82	39			121	17:15	348	410			758	21:00	22:00	402	382		784
5:30	148	63			211	17:30	366	376			742	22:00	23:00	247	261		508
5:45	164	44			208	17:45	318	345			663	23:00	00:00	129	110		239
6:00	163	100			263	18:00	295	332			627	STATISTICS					
6:15	178	126			304	18:15	295	285			580		NB	SB	EB	WB	TOTAL
6:30	197	139			336	18:30	244	277			521	Peak Period	00:00	to	12:00		
6:45	314	182			496	18:45	232	211			443	Volume	6527	5867			12394
7:00	253	207			460	19:00	210	212			422	Peak Hour	7:45	7:30			7:45
7:15	326	246			572	19:15	170	195			365	Peak Volume	1353	1283			2599
7:30	288	356			644	19:30	187	189			376	Peak Hour Factor	0.947	0.901			0.927
7:45	357	344			701	19:45	163	143			306	Peak Period	12:00	to	00:00		
8:00	340	320			660	20:00	140	178			318	Volume	9725	10494			20219
8:15	312	263			575	20:15	127	139			266	Peak Hour	16:45	16:15			16:15
8:30	344	319			663	20:30	126	111			237	Peak Volume	1527	1745			3238
8:45	327	346			673	20:45	108	137			245	Peak Hour Factor	0.864	0.866			0.856
9:00	217	264			481	21:00	114	121			235	Peak Period	07:00	to	09:00		
9:15	212	222			434	21:15	89	111			200	Volume	2547	2401			4948
9:30	209	172			381	21:30	112	82			194	Peak Hour	7:45	7:30			7:45
9:45	193	171			364	21:45	87	68			155	Peak Volume	1353	1283			2599
10:00	178	171			349	22:00	80	97			177	Peak Hour Factor	0.947	0.901			0.927
10:15	157	160			317	22:15	73	77			150	Peak Period	16:00	to	18:00		
10:30	181	181			362	22:30	47	54			101	Volume	2804	3269			6073
10:45	174	169			343	22:45	47	33			80	Peak Hour	16:45	16:15			16:15
11:00	157	229			386	23:00	29	26			55	Peak Volume	1527	1745			3238
11:15	178	206			384	23:15	46	35			81	Peak Hour Factor	0.864	0.866			0.856
11:30	219	245			464	23:30	30	20			50						
11:45	222	249			471	23:45	24	29			53						
TOTALS	6527	5867	0	0	12394	TOTALS	9725	10494	0	0	20219						
SPLIT %	53%	47%	0%	0%	38%	SPLIT %	48%	52%	0%	0%	62%						



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Belt Line Rd & Dividend Dr
City: Coppell
Control: Signalized

Project ID: 25-470310-001
Date: 10/2/2025

Data - Total

NS/EW Streets:	S Belt Line Rd				S Belt Line Rd				Dividend Dr				Dividend Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	30	133	22	3	9	113	11	1	4	2	10	0	17	2	3	0	360
6:45 AM	56	236	21	4	18	191	18	0	7	1	4	0	5	3	1	0	565
7:00 AM	45	183	27	9	19	183	19	0	12	6	8	0	17	5	1	0	534
7:15 AM	59	224	31	8	20	229	28	1	9	1	7	0	11	4	0	0	632
7:30 AM	35	222	35	3	28	339	28	2	13	4	24	0	22	7	6	0	768
7:45 AM	42	267	45	7	28	322	25	1	8	10	5	0	15	5	2	0	782
8:00 AM	13	285	37	4	39	306	15	4	7	3	7	0	14	4	6	0	744
8:15 AM	18	261	32	3	32	239	34	1	13	10	13	0	19	9	1	0	685
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	298	1811	250	41	193	1922	178	10	73	37	78	0	120	39	20	0	5070
PEAK HR :	12.42%	75.46%	10.42%	1.71%	8.38%	83.46%	7.73%	0.43%	38.83%	19.68%	41.49%	0.00%	67.04%	21.79%	11.17%	0.00%	
PEAK HR VOL :	07:30 AM - 08:30 AM				127	1206	102	8	41	27	49	0	70	25	15	0	TOTAL
PEAK HR FACTOR :	0.643	0.908	0.828	0.607	0.814	0.889	0.750	0.500	0.788	0.675	0.510	0.000	0.795	0.694	0.625	0.000	0.952
	0.907				0.909				0.713				0.786				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	16	272	11	0	12	342	4	3	34	5	47	0	47	13	19	0	825
4:45 PM	12	345	14	2	13	288	11	3	37	5	39	0	50	15	13	1	848
5:00 PM	11	421	14	1	17	400	4	0	42	9	48	0	44	21	20	1	1053
5:15 PM	5	317	14	2	16	324	3	4	25	7	38	0	43	14	14	0	826
5:30 PM	11	364	2	1	8	298	10	2	18	4	35	0	40	7	9	0	809
5:45 PM	10	305	4	1	15	288	9	1	14	3	32	0	23	9	7	0	721
6:00 PM	8	278	8	4	7	257	1	1	31	4	21	0	37	7	3	0	667
6:15 PM	6	279	9	0	13	228	4	0	14	4	32	0	21	4	1	0	615
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	79	2581	76	11	101	2425	46	14	215	41	292	0	305	90	86	2	6364
PEAK HR :	2.88%	93.96%	2.77%	0.40%	3.91%	93.77%	1.78%	0.54%	39.23%	7.48%	53.28%	0.00%	63.15%	18.63%	17.81%	0.41%	
PEAK HR VOL :	04:30 PM - 05:30 PM				58	1354	22	10	138	26	172	0	184	63	66	2	TOTAL
PEAK HR FACTOR :	0.688	0.805	0.946	0.625	0.853	0.846	0.500	0.625	0.821	0.722	0.896	0.000	0.920	0.750	0.825	0.500	0.843
	0.815				0.857				0.848				0.916				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Belt Line Rd & Dividend Dr
City: Coppell
Control: Signalized

Project ID: 25-470310-001
Date: 10/2/2025

Data - Cars

NS/EW Streets:	S Belt Line Rd				S Belt Line Rd				Dividend Dr				Dividend Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	29	129	22	3	6	103	11	1	3	2	7	0	16	2	2	0	336
6:45 AM	56	227	20	4	15	179	18	0	7	1	3	0	3	2	1	0	536
7:00 AM	43	179	27	9	19	180	19	0	11	6	6	0	14	4	1	0	518
7:15 AM	58	213	31	8	18	220	28	1	9	1	7	0	11	4	0	0	609
7:30 AM	31	213	33	3	25	332	28	2	13	4	24	0	19	7	5	0	739
7:45 AM	41	258	45	7	24	310	25	1	8	10	4	0	13	5	2	0	753
8:00 AM	12	274	35	4	37	297	15	4	6	3	5	0	12	2	4	0	710
8:15 AM	15	249	31	3	28	235	34	1	13	10	11	0	14	9	0	0	653
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	285	1742	244	41	172	1856	178	10	70	37	67	0	102	35	15	0	4854
PEAK HR :	07:30 AM - 08:30 AM				114	1174	102	8	40	27	44	0	58	23	11	0	TOTAL
PEAK HR VOL :	99	994	144	17	114	1174	102	8	40	27	44	0	58	23	11	0	2855
PEAK HR FACTOR :	0.604	0.907	0.800	0.607	0.770	0.884	0.750	0.500	0.769	0.675	0.458	0.000	0.763	0.639	0.550	0.000	0.948
	0.893				0.903				0.677				0.742				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	14	270	10	0	11	333	3	3	33	5	46	0	45	13	19	0	805
4:45 PM	12	335	14	2	11	280	11	3	37	4	37	0	49	13	12	1	821
5:00 PM	11	411	14	1	17	388	4	0	41	9	45	0	44	21	20	1	1027
5:15 PM	5	305	14	2	16	318	3	4	24	7	36	0	43	14	14	0	805
5:30 PM	9	362	2	1	8	289	10	2	18	4	35	0	40	7	9	0	796
5:45 PM	10	300	3	1	13	283	9	1	14	3	29	0	23	9	7	0	705
6:00 PM	7	270	8	4	7	252	1	1	31	4	21	0	34	7	3	0	650
6:15 PM	5	275	9	0	12	222	4	0	14	4	30	0	19	4	1	0	599
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	73	2528	74	11	95	2365	45	14	212	40	279	0	297	88	85	2	6208
PEAK HR :	04:30 PM - 05:30 PM				55	1319	21	10	135	25	164	0	181	61	65	2	TOTAL
PEAK HR VOL :	42	1321	52	5	55	1319	21	10	135	25	164	0	181	61	65	2	3458
PEAK HR FACTOR :	0.750	0.804	0.929	0.625	0.809	0.850	0.477	0.625	0.823	0.694	0.891	0.000	0.923	0.726	0.813	0.500	0.842
	0.812				0.859				0.853				0.898				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Belt Line Rd & Dividend Dr
City: Coppell
Control: Signalized

Project ID: 25-470310-001
Date: 10/2/2025

Data - HT

NS/EW Streets:	S Belt Line Rd				S Belt Line Rd				Dividend Dr				Dividend Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	1	4	0	0	3	10	0	0	1	0	3	0	1	0	1	0	24
6:45 AM	0	9	1	0	3	12	0	0	0	0	1	0	2	1	0	0	29
7:00 AM	2	4	0	0	0	3	0	0	1	0	2	0	3	1	0	0	16
7:15 AM	1	11	0	0	2	9	0	0	0	0	0	0	0	0	0	0	23
7:30 AM	4	9	2	0	3	7	0	0	0	0	0	0	3	0	1	0	29
7:45 AM	1	9	0	0	4	12	0	0	0	0	1	0	2	0	0	0	29
8:00 AM	1	11	2	0	2	9	0	0	1	0	2	0	2	2	2	0	34
8:15 AM	3	12	1	0	4	4	0	0	0	0	2	0	5	0	1	0	32
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	13	69	6	0	21	66	0	0	3	0	11	0	18	4	5	0	216
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	9	41	5	0	13	32	0	0	1	0	5	0	12	2	4	0	124
PEAK HR FACTOR :	0.563	0.854	0.625	0.000	0.813	0.667	0.000	0.000	0.250	0.000	0.625	0.000	0.600	0.250	0.500	0.000	0.912
	0.859				0.703				0.500				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	2	2	1	0	1	9	1	0	1	0	1	0	2	0	0	0	20
4:45 PM	0	10	0	0	2	8	0	0	0	1	2	0	1	2	1	0	27
5:00 PM	0	10	0	0	0	12	0	0	1	0	3	0	0	0	0	0	26
5:15 PM	0	12	0	0	0	6	0	0	1	0	2	0	0	0	0	0	21
5:30 PM	2	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	13
5:45 PM	0	5	1	0	2	5	0	0	0	0	3	0	0	0	0	0	16
6:00 PM	1	8	0	0	0	5	0	0	0	0	0	0	3	0	0	0	17
6:15 PM	1	4	0	0	1	6	0	0	0	0	2	0	2	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	6	53	2	0	6	60	1	0	3	1	13	0	8	2	1	0	156
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	2	34	1	0	3	35	1	0	3	1	8	0	3	2	1	0	94
PEAK HR FACTOR :	0.250	0.708	0.250	0.000	0.375	0.729	0.250	0.000	0.750	0.250	0.667	0.000	0.375	0.250	0.250	0.000	0.870
	0.771				0.813				0.750				0.375				

Location: S Belt Line Rd & Dividend Dr
City: Coppell

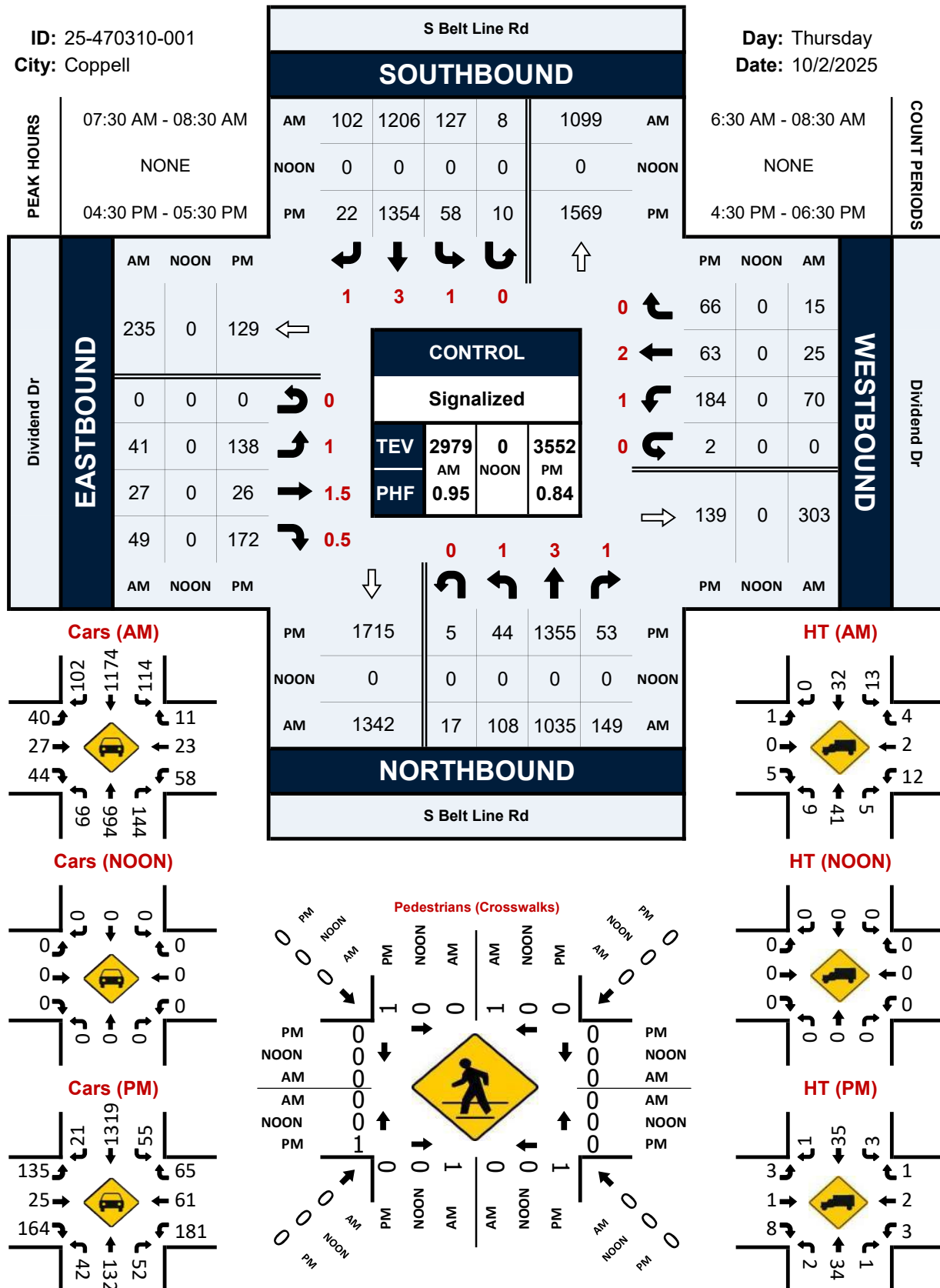
Data - Pedestrians (Crosswalks)

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:30 PM	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s : PEAK HR : PEAK HR VOL : PEAK HR FACTOR :	EB 1	WB 0	EB 0	WB 1	NB 0	SB 0	NB 1	SB 0	TOTAL 3
	100.00%	0.00%	0.00%	100.00%			100.00%	0.00%	
	04:30 PM - 05:30 PM								TOTAL 3
	1	0	0	1	0	0	1	0	3
	0.250			0.250			0.250		0.750
	0.250		0.250				0.250		

S Belt Line Rd & Dividend Dr**Peak Hour Turning Movement Count**

ID: 25-470310-001
City: Coppell

Day: Thursday
Date: 10/2/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: N/S Belt Line Rd & Hackberry Rd
City: Coppell
Control: Signalized

Project ID: 25-470310-002
Date: 10/2/2025

Data - Total

NS/EW Streets:	N/S Belt Line Rd				N/S Belt Line Rd				Hackberry Rd				Hackberry Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
6:30 AM	14	198	78	0	17	127	3	0	2	1	7	0	8	1	5	0	461
6:45 AM	22	355	77	1	10	167	0	0	3	2	6	0	6	0	7	0	656
7:00 AM	21	253	71	0	11	190	0	0	2	0	11	0	6	2	8	0	575
7:15 AM	13	321	104	0	14	244	1	1	4	2	13	0	10	4	10	0	741
7:30 AM	23	295	125	0	26	323	0	0	3	3	5	0	21	6	5	0	835
7:45 AM	25	349	129	1	27	328	2	1	6	3	12	0	18	3	13	0	917
8:00 AM	18	336	111	2	21	292	4	0	4	5	9	0	17	3	18	0	840
8:15 AM	20	301	102	3	27	230	2	0	6	4	9	0	13	5	17	0	739
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	156	2408	797	7	153	1901	12	2	30	20	72	0	99	24	83	0	5764
	4.63%	71.50%	23.66%	0.21%	7.40%	91.92%	0.58%	0.10%	24.59%	16.39%	59.02%	0.00%	48.06%	11.65%	40.29%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	79	1301	469	3	88	1187	7	2	17	13	39	0	66	16	46	0	3333
PEAK HR FACTOR :	0.790	0.932	0.909	0.375	0.815	0.905	0.438	0.500	0.708	0.650	0.750	0.000	0.786	0.667	0.639	0.000	0.909
	0.919				0.897				0.821				0.842				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
4:30 PM	6	281	43	5	25	431	2	0	4	4	4	0	37	3	25	0	870
4:45 PM	5	335	49	0	20	361	4	1	1	1	9	0	39	0	25	0	850
5:00 PM	2	409	55	3	16	528	3	1	2	1	9	0	58	4	38	0	1129
5:15 PM	5	314	35	4	14	415	2	1	1	2	7	0	53	4	29	0	886
5:30 PM	3	330	52	1	21	363	1	0	1	1	11	0	39	5	21	0	849
5:45 PM	1	295	33	1	22	305	4	0	3	2	11	0	28	4	18	0	727
6:00 PM	2	293	50	0	22	358	2	0	1	2	4	0	19	3	17	0	773
6:15 PM	2	273	32	2	9	283	1	0	3	2	5	0	18	1	15	0	646
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	26	2530	349	16	149	3044	19	3	16	15	60	0	291	24	188	0	6730
	0.89%	86.61%	11.95%	0.55%	4.63%	94.68%	0.59%	0.09%	17.58%	16.48%	65.93%	0.00%	57.85%	4.77%	37.38%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	18	1339	182	12	75	1735	11	3	8	8	29	0	187	11	117	0	3735
PEAK HR FACTOR :	0.750	0.818	0.827	0.600	0.750	0.821	0.688	0.750	0.500	0.500	0.806	0.000	0.806	0.688	0.770	0.000	0.827
	0.827				0.832				0.938				0.788				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N/S Belt Line Rd & Hackberry Rd
City: Coppell
Control: Signalized

Project ID: 25-470310-002
Date: 10/2/2025

Data - Cars

NS/EW Streets:	N/S Belt Line Rd				N/S Belt Line Rd				Hackberry Rd				Hackberry Rd			
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU
6:30 AM	14	191	77	0	16	114	3	0	2	1	7	0	8	1	5	0
6:45 AM	22	345	76	1	10	152	0	0	2	2	6	0	6	0	7	0
7:00 AM	21	246	65	0	10	183	0	0	2	0	10	0	6	2	8	0
7:15 AM	13	311	102	0	14	234	1	1	4	1	13	0	9	4	8	0
7:30 AM	23	279	121	0	24	315	0	0	3	3	5	0	21	6	5	0
7:45 AM	24	341	126	1	27	314	2	1	6	3	11	0	17	3	11	0
8:00 AM	18	319	111	2	20	283	4	0	4	5	9	0	16	3	17	0
8:15 AM	20	286	102	3	26	219	2	0	6	4	9	0	13	5	17	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	155	2318	780	7	147	1814	12	2	29	19	70	0	96	24	78	0
	4.75%	71.10%	23.93%	0.21%	7.44%	91.85%	0.61%	0.10%	24.58%	16.10%	59.32%	0.00%	48.48%	12.12%	39.39%	0.00%
PEAK HR :	07:15 AM - 08:15 AM				85	1146	7	2	17	12	38	0	63	16	41	0
PEAK HR VOL :	78	1250	460	3	0.787	0.910	0.438	0.500	0.708	0.600	0.731	0.000	0.750	0.667	0.603	0.000
PEAK HR FACTOR :	0.813	0.916	0.913	0.375	0.901				0.838				0.833			
	0.910				0.901				0.838				0.833			
TOTAL	5551				5551				5551				5551			
3218	3218				3218				3218				3218			
0.907	0.907				0.907				0.907				0.907			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU
4:30 PM	6	276	43	5	25	418	2	0	4	4	4	0	36	3	25	0
4:45 PM	5	325	48	0	19	354	4	1	1	1	9	0	38	0	24	0
5:00 PM	2	400	55	3	16	512	3	1	2	1	9	0	58	4	37	0
5:15 PM	5	304	35	4	14	407	2	1	1	2	7	0	53	4	28	0
5:30 PM	3	325	52	1	20	354	1	0	1	1	11	0	39	5	20	0
5:45 PM	1	290	33	1	22	298	4	0	3	2	11	0	28	4	17	0
6:00 PM	2	283	50	0	22	348	2	0	1	2	4	0	19	3	17	0
6:15 PM	2	269	31	2	9	273	1	0	3	2	5	0	17	1	15	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	26	2472	347	16	147	2964	19	3	16	15	60	0	288	24	183	0
	0.91%	86.40%	12.13%	0.56%	4.69%	94.61%	0.61%	0.10%	17.58%	16.48%	65.93%	0.00%	58.18%	4.85%	36.97%	0.00%
PEAK HR :	04:30 PM - 05:30 PM				74	1691	11	3	8	8	29	0	185	11	114	0
PEAK HR VOL :	18	1305	181	12	0.740	0.826	0.688	0.750	0.500	0.500	0.806	0.000	0.797	0.688	0.770	0.000
PEAK HR FACTOR :	0.750	0.816	0.823	0.600	0.836				0.938				0.783			
	0.824				0.836				0.938				0.783			
TOTAL	6580				6580				6580				6580			
3650	3650				3650				3650				3650			
0.827	0.827				0.827				0.827				0.827			

National Data & Surveying Services

Intersection Turning Movement Count

Location: N/S Belt Line Rd & Hackberry Rd
City: Coppell
Control: Signalized

Project ID: 25-470310-002
Date: 10/2/2025

Data - HT

NS/EW Streets:	N/S Belt Line Rd				N/S Belt Line Rd				Hackberry Rd				Hackberry Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
6:30 AM	0	7	1	0	1	13	0	0	0	0	0	0	0	0	0	0	22
6:45 AM	0	10	1	0	0	15	0	0	1	0	0	0	0	0	0	0	27
7:00 AM	0	7	6	0	1	7	0	0	0	0	1	0	0	0	0	0	22
7:15 AM	0	10	2	0	0	10	0	0	0	1	0	0	1	0	2	0	26
7:30 AM	0	16	4	0	2	8	0	0	0	0	0	0	0	0	0	0	30
7:45 AM	1	8	3	0	0	14	0	0	0	0	1	0	1	0	2	0	30
8:00 AM	0	17	0	0	1	9	0	0	0	0	0	0	1	0	1	0	29
8:15 AM	0	15	0	0	1	11	0	0	0	0	0	0	0	0	0	0	27
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	90	17	0	6	87	0	0	1	1	2	0	3	0	5	0	213
	0.93%	83.33%	15.74%	0.00%	6.45%	93.55%	0.00%	0.00%	25.00%	25.00%	50.00%	0.00%	37.50%	0.00%	62.50%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	1	51	9	0	3	41	0	0	0	1	1	0	3	0	5	0	115
PEAK HR FACTOR :	0.250	0.750	0.563	0.000	0.375	0.732	0.000	0.000	0.000	0.250	0.250	0.000	0.750	0.000	0.625	0.000	0.958
	0.763				0.786				0.500				0.667				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
4:30 PM	0	5	0	0	0	13	0	0	0	0	0	0	1	0	0	0	19
4:45 PM	0	10	1	0	1	7	0	0	0	0	0	0	1	0	1	0	21
5:00 PM	0	9	0	0	0	16	0	0	0	0	0	0	0	0	1	0	26
5:15 PM	0	10	0	0	0	8	0	0	0	0	0	0	0	0	1	0	19
5:30 PM	0	5	0	0	1	9	0	0	0	0	0	0	0	0	1	0	16
5:45 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	1	0	13
6:00 PM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	20
6:15 PM	0	4	1	0	0	10	0	0	0	0	0	0	1	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	58	2	0	2	80	0	0	0	0	0	0	3	0	5	0	150
	0.00%	96.67%	3.33%	0.00%	2.44%	97.56%	0.00%	0.00%					37.50%	0.00%	62.50%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	34	1	0	1	44	0	0	0	0	0	0	2	0	3	0	85
PEAK HR FACTOR :	0.000	0.850	0.250	0.000	0.250	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.750	0.000	0.817
	0.795				0.703								0.625				

Project ID: 25-470310-002
Date: 10/2/2025

National Data & Surveying Services
Intersection Turning Movement Count

Location: N/S Belt Line Rd & Hackberry Rd
City: Coppell

Project ID: 25-470310-002
Date: 10/2/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N/S Belt Line Rd		N/S Belt Line Rd		Hackberry Rd		Hackberry Rd			
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
	6:30 AM	0	0	0	0	0	0	0		0
	6:45 AM	0	0	0	0	0	0	0		0
	7:00 AM	2	0	0	0	0	2	0		4
	7:15 AM	2	0	0	0	0	1	0		3
	7:30 AM	2	2	0	0	1	2	0		7
	7:45 AM	0	0	0	0	0	0	0		0
	8:00 AM	0	0	0	0	0	0	0		0
8:15 AM	0	0	0	0	0	0	0	0		
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL	
APPROACH %'s :	6	2	0	0	1	5	0	0	14	
	75.00%	25.00%			16.67%	83.33%				
PEAK HR :	07:15 AM - 08:15 AM								TOTAL	
PEAK HR VOL :	4	2	0	0	1	3	0	0	10	
PEAK HR FACTOR :	0.500	0.250			0.250	0.375			0.357	
	0.375				0.333					

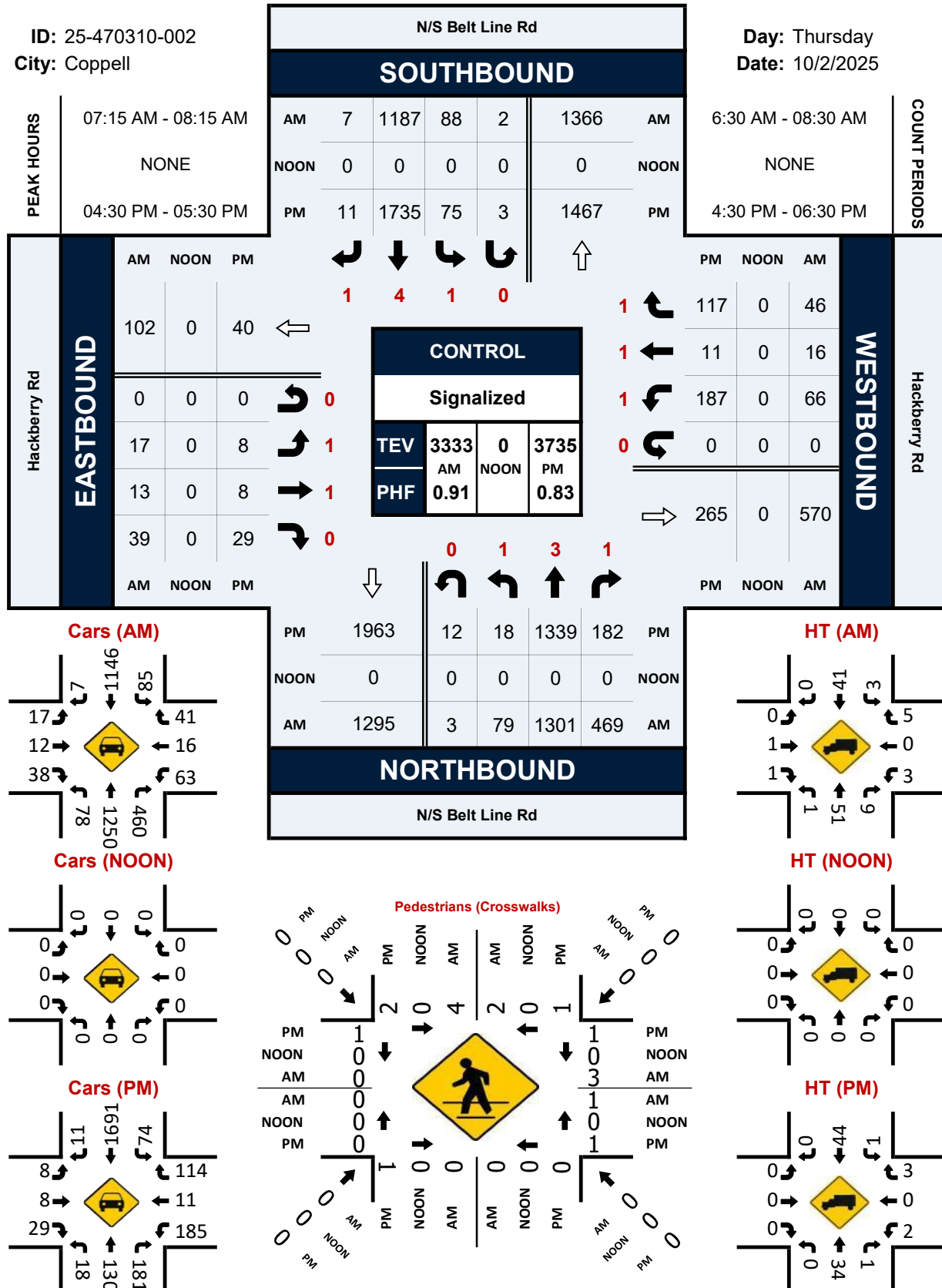
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
	4:30 PM	1	1	0	0	1	0	0		0
	4:45 PM	0	0	1	0	0	0	0		1
	5:00 PM	0	0	0	0	0	0	0		0
	5:15 PM	1	0	0	0	0	1	0		0
	5:30 PM	0	0	0	0	0	0	0		0
	5:45 PM	0	0	0	0	0	0	0		0
	6:00 PM	0	0	0	0	0	0	0		0
6:15 PM	0	0	0	0	0	0	0	0		
TOTAL VOLUMES : APPROACH %'s :	EB 2	WB 1	EB 1	WB 0	NB 1	SB 1	NB 0	SB 1	TOTAL 7	
	66.67%	33.33%	100.00%	0.00%	50.00%	50.00%	0.00%	100.00%		
	PEAK HR : 04:30 PM - 05:30 PM								TOTAL	
PEAK HR VOL : PEAK HR FACTOR :	2 0.500	1 0.250	1 0.250	0 0.250	1 0.250	1 0.250	0 0.250	1 0.250	7 0.583	

N/S Belt Line Rd & Hackberry Rd

Peak Hour Turning Movement Count

ID: 25-470310-002
City: Coppell

Day: Thursday
Date: 10/2/2025



National Data & Surveying Services
Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy

City: Coppell

Project ID: 25-470310-003

Date: 10/2/2025

Data - Total

NS/EW Streets:		N Belt Line Rd				N Belt Line Rd				I-635 WBFR/W Lyndon B Johnson Fwy				I-635 WBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	2	3	0	0	0	5	1	0	0	0	0	0	0	1.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	6:30 AM	27	245	0	0	0	124	11	0	0	0	0	0	68	6	69	26	578
	6:45 AM	39	347	0	2	0	174	11	0	0	0	0	0	106	13	93	29	814
	7:00 AM	17	251	0	1	0	195	10	0	0	0	0	0	108	15	92	33	722
	7:15 AM	37	365	0	1	0	254	12	0	0	0	0	0	103	20	81	23	896
	7:30 AM	30	348	0	0	0	322	20	0	0	0	0	0	170	32	110	40	1072
	7:45 AM	24	396	0	1	0	348	19	0	0	0	0	0	180	32	116	32	1148
	8:00 AM	30	352	0	4	0	302	18	0	0	0	0	0	121	12	111	50	1000
8:15 AM	42	332	0	0	0	231	19	0	0	0	0	0	110	19	104	39	896	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		246	2636	0	9	0	1950	122	0	0	0	0	0	966	149	776	272	7126
		8.51%	91.18%	0.00%	0.31%	0.00%	94.11%	5.89%	0.00%					44.66%	6.89%	35.88%	12.58%	
PEAK HR		07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:		126	1428	0	5	0	1203	76	0	0	0	0	0	581	95	441	161	4116
PEAK HR FACTOR:		0.750	0.902	0.000	0.313	0.000	0.864	0.950	0.000	0.000	0.000	0.000	0.000	0.807	0.742	0.950	0.805	0.896
		0.926				0.871								0.888				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	2	3	0	0	0	5	1	0	0	0	0	0	0	1.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:30 PM	48	274	0	0	0	425	58	1	0	0	0	0	100	40	70	81	1097
	4:45 PM	81	326	0	0	0	348	46	0	0	0	0	0	112	31	83	87	1114
	5:00 PM	73	378	0	0	0	524	77	0	0	0	0	0	99	48	85	87	1371
	5:15 PM	63	287	0	0	0	431	60	0	0	0	0	0	124	43	70	77	1155
	5:30 PM	74	310	0	1	0	359	47	0	0	0	0	0	107	25	81	69	1073
	5:45 PM	66	287	0	0	0	318	35	0	0	0	0	0	115	20	84	63	988
	6:00 PM	36	241	0	1	0	314	43	0	0	0	0	0	111	20	66	56	888
6:15 PM	41	256	0	1	0	293	25	0	0	0	0	0	81	10	64	67	838	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		482	2359	0	3	0	3012	391	1	0	0	0	0	849	237	603	587	8524
		16.95%	82.95%	0.00%	0.11%	0.00%	88.48%	11.49%	0.03%					37.30%	10.41%	26.49%	25.79%	
PEAK HR:		04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:		265	1265	0	0	0	1728	241	1	0	0	0	0	435	162	308	332	4737
PEAK HR FACTOR:		0.818	0.837	0.000	0.000	0.000	0.824	0.782	0.250	0.000	0.000	0.000	0.000	0.877	0.844	0.906	0.954	0.864
		0.848				0.819								0.969				

National Data & Surveying Services
Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Project ID: 25-470310-003
Date: 10/2/2025

Data - Cars

NS/EW Streets:		N Belt Line Rd				N Belt Line Rd				I-635 WBFR/W Lyndon B Johnson Fwy				I-635 WBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	2	3	0	0	0	5	1	0	0	0	0	0	0	1.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	6:30 AM	26	239	0	0	0	111	13	0	0	0	0	0	68	6	65	24	552
	6:45 AM	38	341	0	1	0	161	9	0	0	0	0	0	103	13	90	28	784
	7:00 AM	15	240	0	1	0	189	8	0	0	0	0	0	105	15	89	29	691
	7:15 AM	35	356	0	1	0	243	12	0	0	0	0	0	97	19	79	23	865
	7:30 AM	29	333	0	0	0	315	20	0	0	0	0	0	167	32	104	39	1039
	7:45 AM	23	385	0	1	0	336	16	0	0	0	0	0	179	32	114	31	1117
	8:00 AM	28	340	0	4	0	291	17	0	0	0	0	0	117	12	107	48	964
8:15 AM	40	323	0	0	0	224	17	0	0	0	0	0	106	19	99	39	867	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %s :		234	2557	0	8	0	1870	112	0	0	0	0	0	942	148	747	261	6879
PEAK HR :		07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :		120	1381	0	5	0	1166	70	0	0	0	0	0	569	95	424	157	3987
PEAK HR FACTOR :		0.750	0.897	0.000	0.313	0.000	0.868	0.875	0.000	0.000	0.000	0.000	0.000	0.795	0.742	0.930	0.818	0.892
		0.921				0.878								0.874				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	2	3	0	0	0	5	1	0	0	0	0	0	0	1.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:30 PM	46	269	0	0	0	411	58	1	0	0	0	0	96	40	69	81	1071
	4:45 PM	76	317	0	0	0	340	46	0	0	0	0	0	109	31	82	86	1087
	5:00 PM	71	369	0	0	0	511	76	0	0	0	0	0	98	48	83	86	1342
	5:15 PM	57	281	0	0	0	421	60	0	0	0	0	0	123	43	68	77	1130
	5:30 PM	72	305	0	1	0	350	47	0	0	0	0	0	106	25	81	69	1056
	5:45 PM	64	284	0	0	0	311	35	0	0	0	0	0	113	20	82	63	972
	6:00 PM	34	233	0	1	0	304	43	0	0	0	0	0	107	20	64	56	862
6:15 PM	37	251	0	1	0	284	23	0	0	0	0	0	77	10	64	66	813	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %s :		457	2309	0	3	0	2932	388	1	0	0	0	0	829	237	593	584	8333
PEAK HR :		04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :		250	1236	0	0	0	1683	240	1	0	0	0	0	426	162	302	330	4630
PEAK HR FACTOR :		0.822	0.837	0.000	0.000	0.000	0.823	0.789	0.250	0.000	0.000	0.000	0.000	0.866	0.844	0.910	0.959	0.863
		0.844				0.819								0.968				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Project ID: 25-470310-003
Date: 10/2/2025

Data - HT

NS/EW Streets:	N Belt Line Rd				N Belt Line Rd				I-635 WBFR/W Lyndon B Johnson Fwy				I-635 WBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	2 NL	3 NT	0 NR	0 NU	0 SL	5 ST	1 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1.5 WL	1.5 WT	1 WR	0 WU	
6:30 AM	1	6	0	0	0	13	0	0	0	0	0	0	0	0	4	2	26
6:45 AM	1	6	0	1	0	13	2	0	0	0	0	0	3	0	3	1	30
7:00 AM	2	11	0	0	0	6	2	0	0	0	0	0	3	0	3	4	31
7:15 AM	2	9	0	0	0	11	0	0	0	0	0	0	6	1	2	0	31
7:30 AM	1	15	0	0	0	7	0	0	0	0	0	0	3	0	6	1	33
7:45 AM	1	11	0	0	0	12	3	0	0	0	0	0	1	0	2	1	31
8:00 AM	2	12	0	0	0	11	1	0	0	0	0	0	4	0	4	2	36
8:15 AM	2	9	0	0	0	7	2	0	0	0	0	0	4	0	5	0	29
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	12	79	0	1	0	80	10	0	0	0	0	0	24	1	29	11	247
	13.04%	85.87%	0.00%	1.09%	0.00%	88.89%	11.11%	0.00%	0	0	0	0	36.92%	1.54%	44.62%	16.92%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	6	47	0	0	0	37	6	0	0	0	0	0	12	0	17	4	129
PEAK HR FACTOR :	0.750	0.783	0.000	0.000	0.000	0.771	0.500	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.708	0.500	0.896
	0.828				0.717								0.825				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	2 NL	3 NT	0 NR	0 NU	0 SL	5 ST	1 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1.5 WL	1.5 WT	1 WR	0 WU	
4:30 PM	2	5	0	0	0	14	0	0	0	0	0	0	4	0	1	0	26
4:45 PM	5	9	0	0	0	8	0	0	0	0	0	0	3	0	1	1	27
5:00 PM	2	9	0	0	0	13	1	0	0	0	0	0	1	0	2	1	29
5:15 PM	6	6	0	0	0	10	0	0	0	0	0	0	1	0	2	0	25
5:30 PM	2	5	0	0	0	9	0	0	0	0	0	0	1	0	0	0	17
5:45 PM	2	3	0	0	0	7	0	0	0	0	0	0	2	0	2	0	16
6:00 PM	2	8	0	0	0	10	0	0	0	0	0	0	4	0	2	0	26
6:15 PM	4	5	0	0	0	9	2	0	0	0	0	0	4	0	0	1	25
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	25	50	0	0	0	80	3	0	0	0	0	0	20	1	10	3	191
	33.33%	66.67%	0.00%	0.00%	0.00%	96.39%	3.61%	0.00%	0	0	0	0	60.61%	0.00%	30.30%	9.09%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	15	29	0	0	0	45	1	0	0	0	0	0	9	0	6	2	107
PEAK HR FACTOR :	0.625	0.806	0.000	0.000	0.000	0.804	0.250	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.750	0.500	0.922
	0.786				0.821								0.850				

Location: N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Project ID: 25-470310-003
Date: 10/2/2025

Data - Bikes

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy
City: Coppell

Project ID: 25-470310-003
Date: 10/2/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N Belt Line Rd		N Belt Line Rd		I-635 WBFR/W Lyndon B Johnson Fwy		I-635 WBFR/W Lyndon B Johnson Fwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	0	1	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	1	0	1	2
					0.00%	100.00%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	1
PEAK HR FACTOR :								0.250	0.250

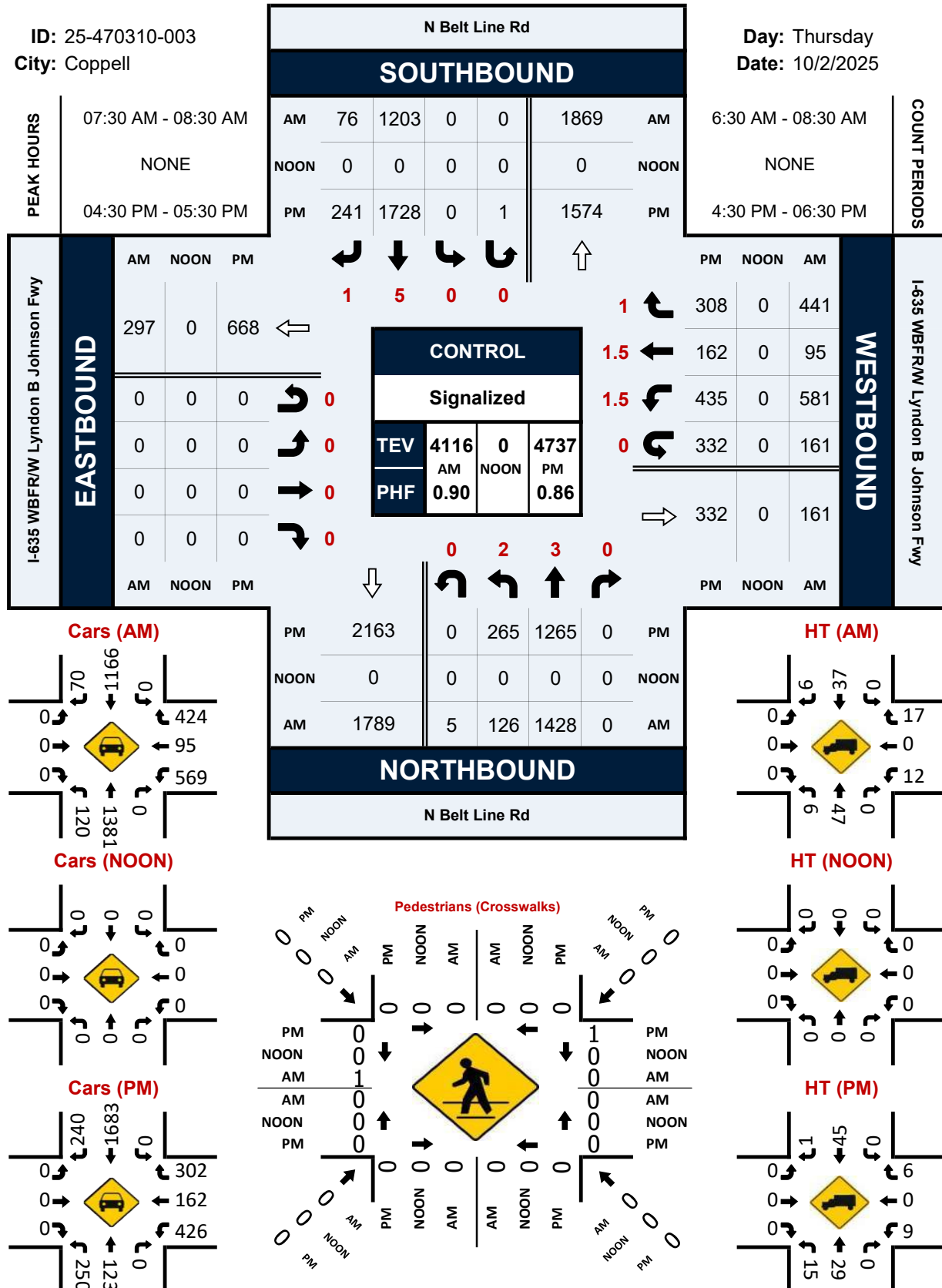
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	1	0	1
6:15 PM	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	0	0	0	0	1	1	0	3
	100.00%	0.00%			0.00%	100.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :						0.250			0.250

N Belt Line Rd & I-635 WBFR/W Lyndon B Johnson Fwy

Peak Hour Turning Movement Count

ID: 25-470310-003
City: Coppell

Day: Thursday
Date: 10/2/2025



NS/EW Streets:	N Belt Line Rd				N Belt Line Rd				I-635 EBFR/W Lyndon B Johnson Fwy				I-635 EBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:30 AM	0	210	32	0	43	152	0	0	54	19	44	0	0	0	0	0	554
6:45 AM	0	325	38	0	42	238	0	1	63	6	39	0	0	0	0	0	752
7:00 AM	0	214	49	1	54	241	0	0	63	3	42	0	0	0	0	0	667
7:15 AM	0	325	84	0	76	289	0	0	70	12	54	0	0	0	0	0	910
7:30 AM	0	300	62	0	88	394	0	0	105	10	49	0	0	0	0	0	1008
7:45 AM	0	291	64	0	118	420	0	0	120	23	72	0	0	0	0	0	1108
8:00 AM	0	289	66	2	90	341	0	0	79	18	55	0	0	0	0	0	940
8:15 AM	0	280	61	0	74	265	0	0	109	13	44	0	0	0	0	0	846
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	2234	456	3	585	2340	0	1	663	104	399	0	0	0	0	0	6785
	0.00%	82.96%	16.93%	0.11%	19.99%	79.97%	0.00%	0.03%	56.86%	8.92%	34.22%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																
PEAK HR VOL :	0	1205	276	2	372	1444	0	0	374	63	230	0	0	0	0	0	3966
PEAK HR FACTOR :	0.000	0.927	0.821	0.250	0.788	0.860	0.000	0.000	0.779	0.685	0.799	0.000	0.000	0.000	0.000	0.000	0.895
	0.906				0.844				0.776								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:30 PM	0	314	131	0	117	399	0	0	28	10	40	0	0	0	0	0	1039
4:45 PM	0	348	138	0	122	342	0	2	37	11	44	0	0	0	0	0	1044
5:00 PM	0	435	174	0	156	463	0	0	19	18	30	0	0	0	0	0	1295
5:15 PM	0	339	160	1	155	398	0	0	29	14	46	0	0	0	0	0	1142
5:30 PM	0	342	133	0	141	330	0	0	22	17	46	0	0	0	0	0	1031
5:45 PM	0	345	114	0	104	334	0	0	13	14	34	0	0	0	0	0	958
6:00 PM	0	258	114	0	122	302	0	0	21	16	56	0	0	0	0	0	889
6:15 PM	0	276	103	0	108	261	0	1	16	11	57	0	0	0	0	0	833
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	2657	1067														

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 EBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Project ID: 25-470310-004
Date: 10/2/2025

Data - Cars

NS/EW Streets:	N Belt Line Rd				N Belt Line Rd				I-635 EBFR/W Lyndon B Johnson Fwy				I-635 EBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:30 AM	0	204	29	0	39	143	0	0	53	15	42	0	0	0	0	0	525
6:45 AM	0	319	30	0	40	223	0	1	61	6	37	0	0	0	0	0	717
7:00 AM	0	201	43	1	50	237	0	0	63	3	41	0	0	0	0	0	639
7:15 AM	0	314	83	0	73	277	0	0	69	12	51	0	0	0	0	0	879
7:30 AM	0	286	59	0	86	385	0	0	100	9	49	0	0	0	0	0	974
7:45 AM	0	282	59	0	114	410	0	0	120	23	71	0	0	0	0	0	1079
8:00 AM	0	276	63	2	87	328	0	0	79	17	53	0	0	0	0	0	905
8:15 AM	0	270	56	0	71	258	0	0	107	13	44	0	0	0	0	0	819
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0.00%	83.51%	16.38%	0.12%	19.84%	80.12%	0.00%	0.04%	57.29%	8.61%	34.09%	0.00%	0	0	0	0	6537
PEAK HR :	07:15 AM - 08:15 AM				360	1400	0	0	368	61	224	0	0	0	0	0	TOTAL
PEAK HR VOL :	0	1158	264	2	0.789	0.854	0.000	0.000	0.767	0.663	0.789	0.000	0.000	0.000	0.000	0.000	3837
PEAK HR FACTOR :	0.000	0.922	0.795	0.250	0.840				0.763				0.889				0.889
	0.897																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:30 PM	0	307	130	0	116	384	0	0	27	10	37	0	0	0	0	0	1011
4:45 PM	0	337	134	0	119	335	0	2	35	11	43	0	0	0	0	0	1016
5:00 PM	0	424	173	0	154	452	0	0	19	17	29	0	0	0	0	0	1268
5:15 PM	0	327	160	1	151	389	0	0	29	14	44	0	0	0	0	0	1115
5:30 PM	0	335	132	0	139	321	0	0	22	17	42	0	0	0	0	0	1008
5:45 PM	0	341	111	0	102	326	0	0	12	13	32	0	0	0	0	0	937
6:00 PM	0	248	111	0	119	291	0	0	21	13	53	0	0	0	0	0	856
6:15 PM	0	268	103	0	108	248	0	1	15	11	54	0	0	0	0	0	808
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0.00%	71.03%	28.94%	0.03%	26.83%	73.09%	0.00%	0.08%	29.03%	17.10%	53.87%	0.00%	0	0	0	0	8019
PEAK HR :	04:30 PM - 05:30 PM				540	1560	0	2	110	52	153	0	0	0	0	0	TOTAL
PEAK HR VOL :	0	1395	597	1	0.877	0.863	0.000	0.250	0.786	0.765	0.869	0.000	0.000	0.000	0.000	0.000	4410
PEAK HR FACTOR :	0.000	0.823	0.863	0.250	0.867				0.885				0.869				0.869
	0.835																

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 EBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Project ID: 25-470310-004
Date: 10/2/2025

Data - HT

NS/EW Streets:	N Belt Line Rd				N Belt Line Rd				I-635 EBFR/W Lyndon B Johnson Fwy				I-635 EBFR/W Lyndon B Johnson Fwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:30 AM	0	6	3	0	4	9	0	0	1	4	2	0	0	0	0	0	29
6:45 AM	0	6	8	0	2	15	0	0	2	0	2	0	0	0	0	0	35
7:00 AM	0	13	6	0	4	4	0	0	0	0	1	0	0	0	0	0	28
7:15 AM	0	11	1	0	3	12	0	0	1	0	3	0	0	0	0	0	31
7:30 AM	0	14	3	0	2	9	0	0	5	1	0	0	0	0	0	0	34
7:45 AM	0	9	5	0	4	10	0	0	0	0	1	0	0	0	0	0	29
8:00 AM	0	13	3	0	3	13	0	0	0	1	2	0	0	0	0	0	35
8:15 AM	0	10	5	0	3	7	0	0	2	0	0	0	0	0	0	0	27
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	82	34	0	25	79	0	0	11	6	11	0	0	0	0	0	248
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	47	12	0	12	44	0	0	6	2	6	0	0	0	0	0	129
PEAK HR FACTOR :	0.000	0.839	0.600	0.000	0.750	0.846	0.000	0.000	0.300	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.921
	0.868				0.875				0.583								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	5 NT	1 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1.3 EL	0.3 ET	1.3 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:30 PM	0	7	1	0	1	15	0	0	1	0	3	0	0	0	0	0	28
4:45 PM	0	11	4	0	3	7	0	0	2	0	1	0	0	0	0	0	28
5:00 PM	0	11	1	0	2	11	0	0	0	1	1	0	0	0	0	0	27
5:15 PM	0	12	0	0	4	9	0	0	0	0	2	0	0	0	0	0	27
5:30 PM	0	7	1	0	2	9	0	0	0	0	4	0	0	0	0	0	23
5:45 PM	0	4	3	0	2	8	0	0	1	1	2	0	0	0	0	0	21
6:00 PM	0	10	3	0	3	11	0	0	0	3	3	0	0	0	0	0	33
6:15 PM	0	8	0	0	0	13	0	0	1	0	3	0	0	0	0	0	25
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	70	13	0	17	83	0	0	5	5	19	0	0	0	0	0	212
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	41	6	0	10	42	0	0	3	1	7	0	0	0	0	0	110
PEAK HR FACTOR :	0.000	0.854	0.375	0.000	0.625	0.700	0.000	0.000	0.375	0.250	0.583	0.000	0.000	0.000	0.000	0.000	0.982
	0.783				0.813				0.688								

Location: N Belt Line Rd & I-635 EBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: Signalized

Data - Bikes

NS/EW Streets:		N Belt Line Rd				N Belt Line Rd				I-635 EBFR/W Lyndon B Johnson Fwy				I-635 EBFR/W Lyndon B Johnson Fwy				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	5	1	0	2	3	0	0	1.3	0.3	1.3	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
	0.00%				100.00%				0.00%				0.00%					
PEAK HR :																	TOTAL 0	
PEAK HR VOL :																		
PEAK HR FACTOR :																		
0.000					0.000				0.000				0.000					

PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	5	1	0	2	3	0	0	1.3	0.3	1.3	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
	0.00%				100.00%				0.00%				0.00%					
PEAK HR :																	TOTAL 0	
PEAK HR VOL :																		
PEAK HR FACTOR :																		
0.000					0.000				0.000				0.000					

National Data & Surveying Services
Intersection Turning Movement Count

Location: N Belt Line Rd & I-635 EBFR/W Lyndon B Johnson Fwy
City: Coppell

Project ID: 25-470310-004
Date: 10/2/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N Belt Line Rd		N Belt Line Rd		I-635 EBFR/W Lyndon B Johnson Fwy		I-635 EBFR/W Lyndon B Johnson Fwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	0	1	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	1	1	2	4
					0.00%	100.00%	33.33%	66.67%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	1
PEAK HR FACTOR :								0.250	0.250

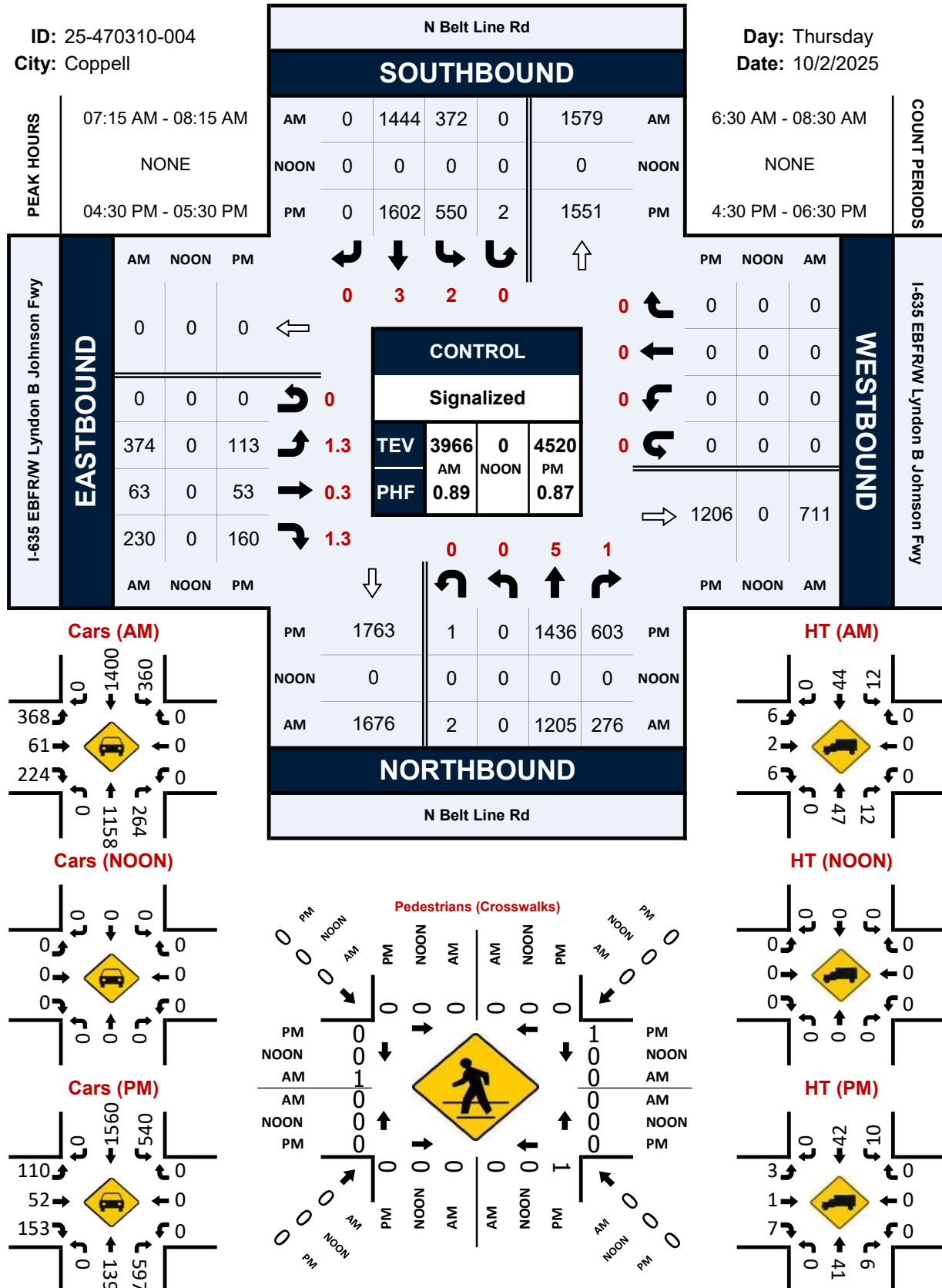
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	1	0	1
6:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	1	0	1	1	0	3
			0.00%	100.00%	0.00%	100.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	1	0	1	0	0	2
PEAK HR FACTOR :				0.250		0.250			0.250

N Belt Line Rd & I-635 EBFR/W Lyndon B Johnson Fwy

Peak Hour Turning Movement Count

ID: 25-470310-004
City: Coppell

Day: Thursday
Date: 10/2/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Point W Blvd & Dividend Dr/Samsung eComm Dwy
City: Coppell
Control: 1-Way Stop(NB)

Project ID: 25-470310-005
Date: 10/2/2025

Data - Total

NS/EW Streets:	Point W Blvd				Point W Blvd				Dividend Dr/Samsung eComm Dwy				Dividend Dr/Samsung eComm Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	0	0	9	0	0	0	0	0	0	21	0	0	4	3	0	0	37
6:45 AM	0	0	7	0	0	0	0	0	0	23	1	0	6	5	0	0	42
7:00 AM	2	0	6	0	0	0	0	0	0	21	1	0	8	7	0	0	45
7:15 AM	3	0	16	0	0	0	0	0	0	28	1	0	5	6	0	0	59
7:30 AM	11	0	6	0	0	0	0	0	0	27	5	0	8	5	0	0	62
7:45 AM	4	0	9	0	0	0	0	0	0	46	1	0	7	7	0	0	74
8:00 AM	3	0	6	0	0	0	0	0	0	31	4	0	4	10	0	0	58
8:15 AM	3	0	10	0	0	0	0	0	0	40	9	0	5	17	0	1	85
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	26	0	69	0	0	0	0	0	0	237	22	0	47	60	0	1	462
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	21	0	31	0	0	0	0	0	0	144	19	0	24	39	0	1	279
PEAK HR FACTOR :	0.477	0.000	0.775	0.000	0.000	0.000	0.000	0.000	0.000	0.783	0.528	0.000	0.750	0.574	0.000	0.250	0.821
	0.765								0.832				0.696				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	6	0	6	0	0	0	0	0	0	19	0	0	21	15	0	0	67
4:45 PM	0	0	4	0	0	0	0	0	0	26	5	0	19	21	0	2	77
5:00 PM	3	0	4	0	0	0	0	0	0	24	1	0	27	28	0	0	87
5:15 PM	1	0	8	0	0	0	0	0	0	12	3	0	13	19	0	0	56
5:30 PM	3	0	6	0	0	0	0	0	0	10	3	0	20	17	0	0	59
5:45 PM	2	0	11	0	0	0	0	0	0	11	3	0	25	12	0	0	64
6:00 PM	1	0	3	0	0	0	0	0	0	4	2	0	15	12	0	0	37
6:15 PM	2	0	3	0	0	0	0	0	0	9	2	0	12	21	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	18	0	45	0	0	0	0	0	0	115	19	0	152	145	0	2	496
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	10	0	22	0	0	0	0	0	0	81	9	0	80	83	0	2	287
PEAK HR FACTOR :	0.417	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.779	0.450	0.000	0.741	0.741	0.000	0.250	0.825
	0.667								0.726				0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Point W Blvd & Dividend Dr/Samsung eComm Dwy
City: Coppell
Control: 1-Way Stop(NB)

Project ID: 25-470310-005
Date: 10/2/2025

Data - Cars

NS/EW Streets:	Point W Blvd				Point W Blvd				Dividend Dr/Samsung eComm Dwy				Dividend Dr/Samsung eComm Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	0	0	9	0	0	0	0	0	0	18	0	0	4	2	0	0	33
6:45 AM	0	0	7	0	0	0	0	0	0	21	1	0	6	4	0	0	39
7:00 AM	2	0	6	0	0	0	0	0	0	20	1	0	7	5	0	0	41
7:15 AM	3	0	15	0	0	0	0	0	0	28	1	0	5	6	0	0	58
7:30 AM	11	0	6	0	0	0	0	0	0	27	5	0	7	5	0	0	61
7:45 AM	4	0	9	0	0	0	0	0	0	45	1	0	7	7	0	0	73
8:00 AM	3	0	6	0	0	0	0	0	0	31	4	0	2	10	0	0	56
8:15 AM	3	0	10	0	0	0	0	0	0	39	9	0	5	15	0	0	81
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	26	0	68	0	0	0	0	0	0	229	22	0	43	54	0	0	442
	27.66%	0.00%	72.34%	0.00%					0.00%	91.24%	8.76%	0.00%	44.33%	55.67%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	21	0	31	0	0	0	0	0	0	142	19	0	21	37	0	0	271
PEAK HR FACTOR :	0.477	0.000	0.775	0.000	0.000	0.000	0.000	0.000	0.000	0.789	0.528	0.000	0.750	0.617	0.000	0.000	0.836
			0.765							0.839				0.725			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	6	0	6	0	0	0	0	0	0	19	0	0	20	13	0	0	64
4:45 PM	0	0	4	0	0	0	0	0	0	21	5	0	19	20	0	2	71
5:00 PM	3	0	4	0	0	0	0	0	0	21	1	0	27	27	0	0	83
5:15 PM	1	0	7	0	0	0	0	0	0	10	3	0	13	18	0	0	52
5:30 PM	3	0	6	0	0	0	0	0	0	10	3	0	18	16	0	0	56
5:45 PM	2	0	11	0	0	0	0	0	0	11	3	0	24	11	0	0	62
6:00 PM	1	0	3	0	0	0	0	0	0	4	2	0	15	11	0	0	36
6:15 PM	2	0	3	0	0	0	0	0	0	8	2	0	12	19	0	0	46
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	18	0	44	0	0	0	0	0	0	104	19	0	148	135	0	2	470
	29.03%	0.00%	70.97%	0.00%					0.00%	84.55%	15.45%	0.00%	51.93%	47.37%	0.00%	0.70%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	10	0	21	0	0	0	0	0	0	71	9	0	79	78	0	2	270
PEAK HR FACTOR :	0.417	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.845	0.450	0.000	0.731	0.722	0.000	0.250	0.813
			0.646							0.769				0.736			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Point W Blvd & Dividend Dr/Samsung eComm Dwy
City: Coppell
Control: 1-Way Stop(NB)

Project ID: 25-470310-005
Date: 10/2/2025

Data - HT

NS/EW Streets:	Point W Blvd				Point W Blvd				Dividend Dr/Samsung eComm Dwy				Dividend Dr/Samsung eComm Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
6:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	4
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	1	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	1	0	0	0	0	0	0	8	0	0	4	6	0	1	20
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	36.36%	54.55%	0.00%	9.09%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	3	2	0	1	8
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.375	0.250	0.000	0.250	0.500
										0.500				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
5:15 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	1	0	0	0	0	0	0	11	0	0	4	10	0	0	26
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	28.57%	71.43%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	0	10	0	0	1	5	0	0	17
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.625	0.000	0.000	0.708
			0.250							0.500				0.500			

Project ID: 25-470310-005
Date: 10/2/2025

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: Point W Blvd & Dividend Dr/Samsung eComm Dwy
City: Coppell

Project ID: 25-470310-005
Date: 10/2/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Point W Blvd		Point W Blvd		Dividend Dr/Samsung eComm Dwy		Dividend Dr/Samsung eComm Dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	1	0	1
PEAK HR :	07:30 AM - 08:30 AM						100.00%	0.00%	TOTAL
PEAK HR VOL :	0		0		0		0		0
PEAK HR FACTOR :									

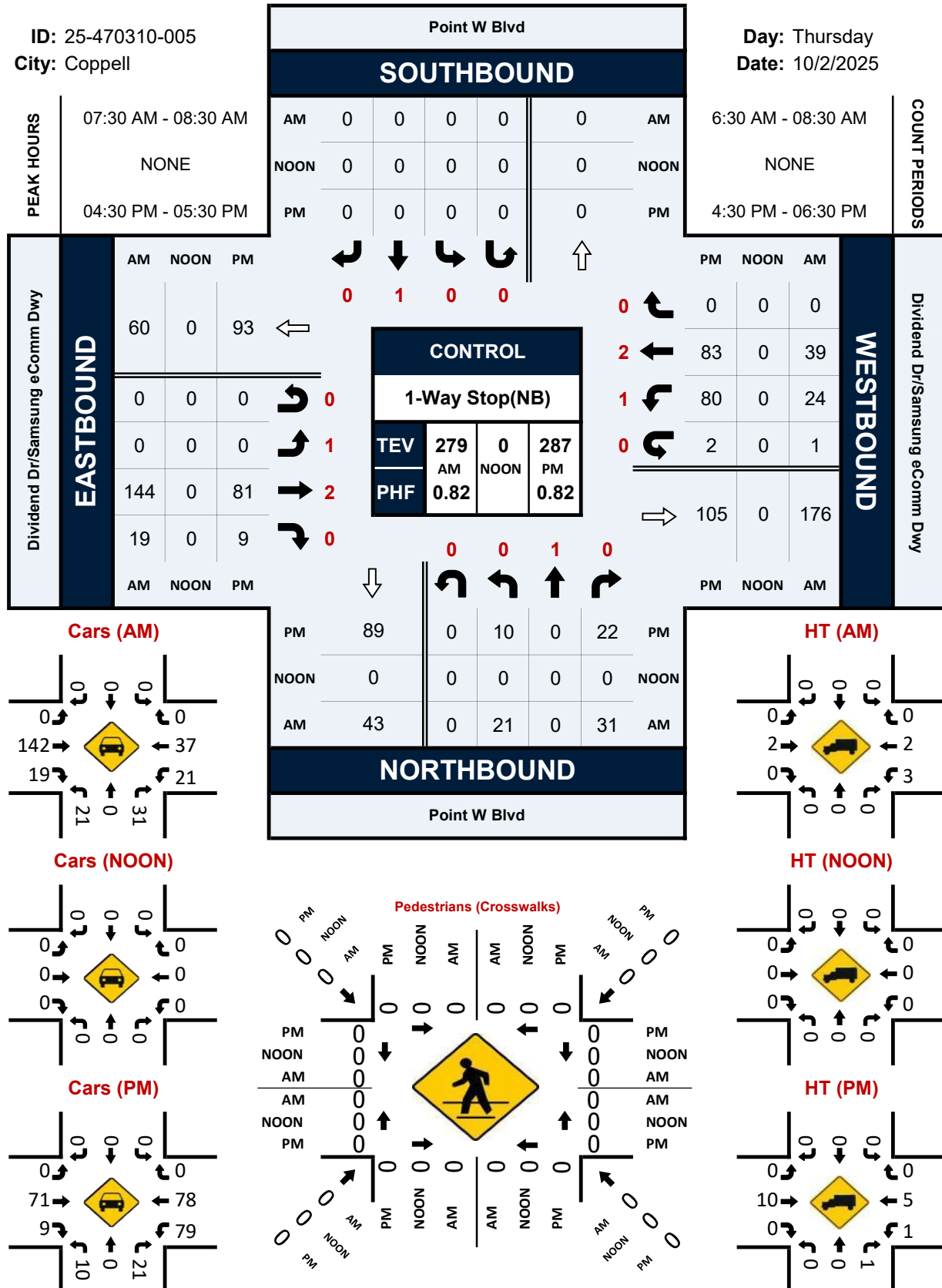
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
	0	0	0	0	0	0	0	0	0
	PEAK HR :								TOTAL
	PEAK HR VOL : PEAK HR FACTOR :								0

Point W Blvd & Dividend Dr/Samsung eComm Dwy

Peak Hour Turning Movement Count

ID: 25-470310-005
City: Coppell

Day: Thursday
Date: 10/2/2025



Project ID: 25-470310-006
Date: 10/2/2025

National Data & Surveying Services

Intersection Turning Movement Count

Location: Point W Blvd & I-635 WBFR/W Lyndon B Johnson Fwy
City: Coppell
Control: 1-Way Stop(SB)

Project ID: 25-470310-006
Date: 10/2/2025

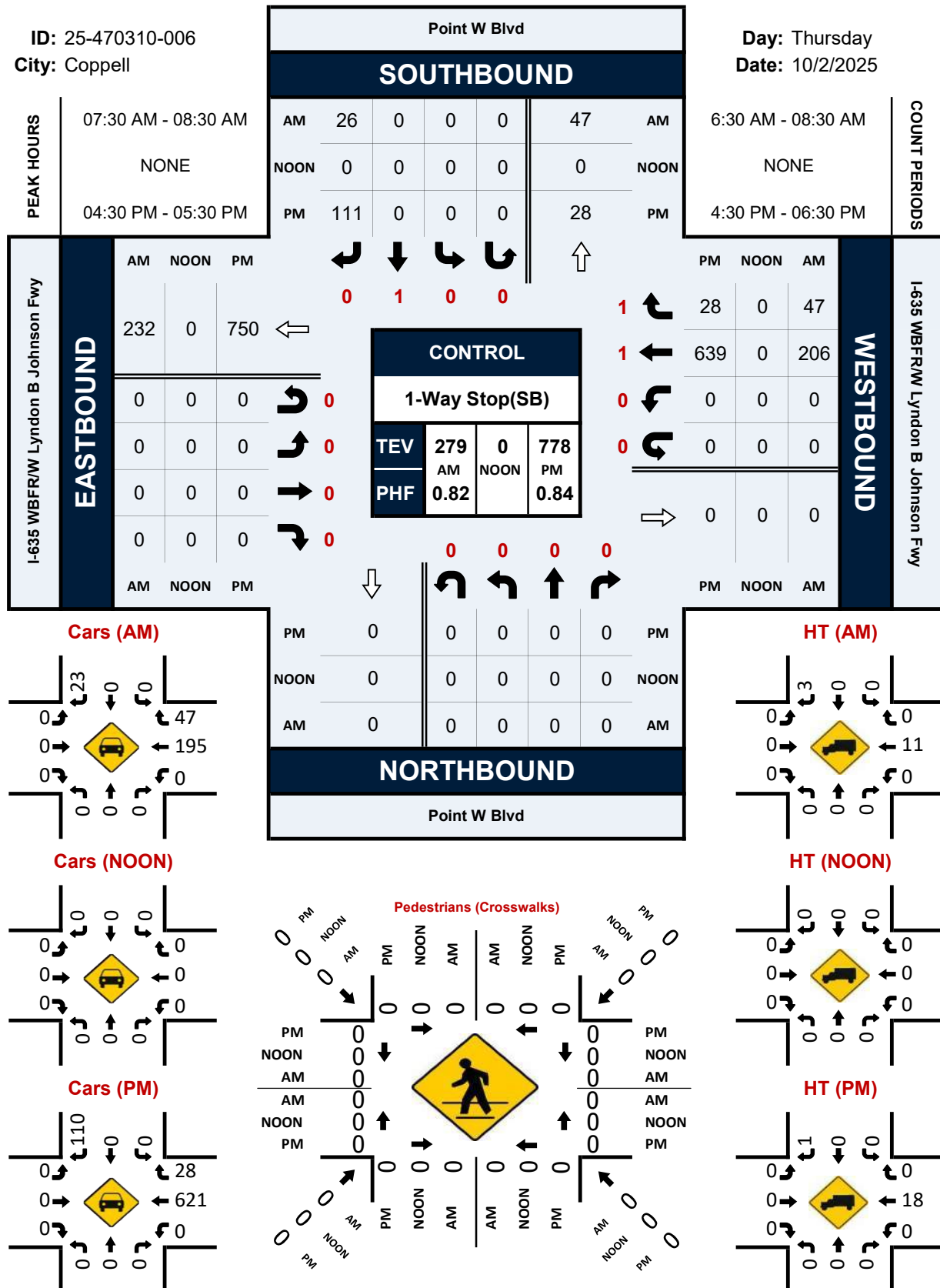
Data - Cars

NS/EW Streets:	Point W Blvd				Point W Blvd				I-635 WBFR/W Lyndon B Johnson Fwy				I-635 WBFR/W Lyndon B Johnson Fwy			
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU
6:30 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	36	6	0
6:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	38	10	0
7:00 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	27	8	0
7:15 AM	0	0	0	0	0	0	7	0	0	0	0	0	0	33	23	0
7:30 AM	0	0	0	0	0	0	12	0	0	0	0	0	0	55	16	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	45	12	0
8:00 AM	0	0	0	0	0	0	8	0	0	0	0	0	0	42	9	0
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	53	10	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	0	0	0	0	0	0	43	0	0	0	0	0	0	329	94	0
					0.00%	0.00%	100.00%	0.00%					0.00%	77.78%	22.22%	0.00%
PEAK HR :	07:30 AM - 08:30 AM				0	0	23	0	0	0	0	0	0	195	47	0
PEAK HR VOL :	0	0	0	0	0	0	0.479	0	0	0	0	0	0	0.886	0.734	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.479	0.000	0.000	0.000	0.000	0.000	0.000	0.852	0.734	0.000
							0.479							0.852		0.798

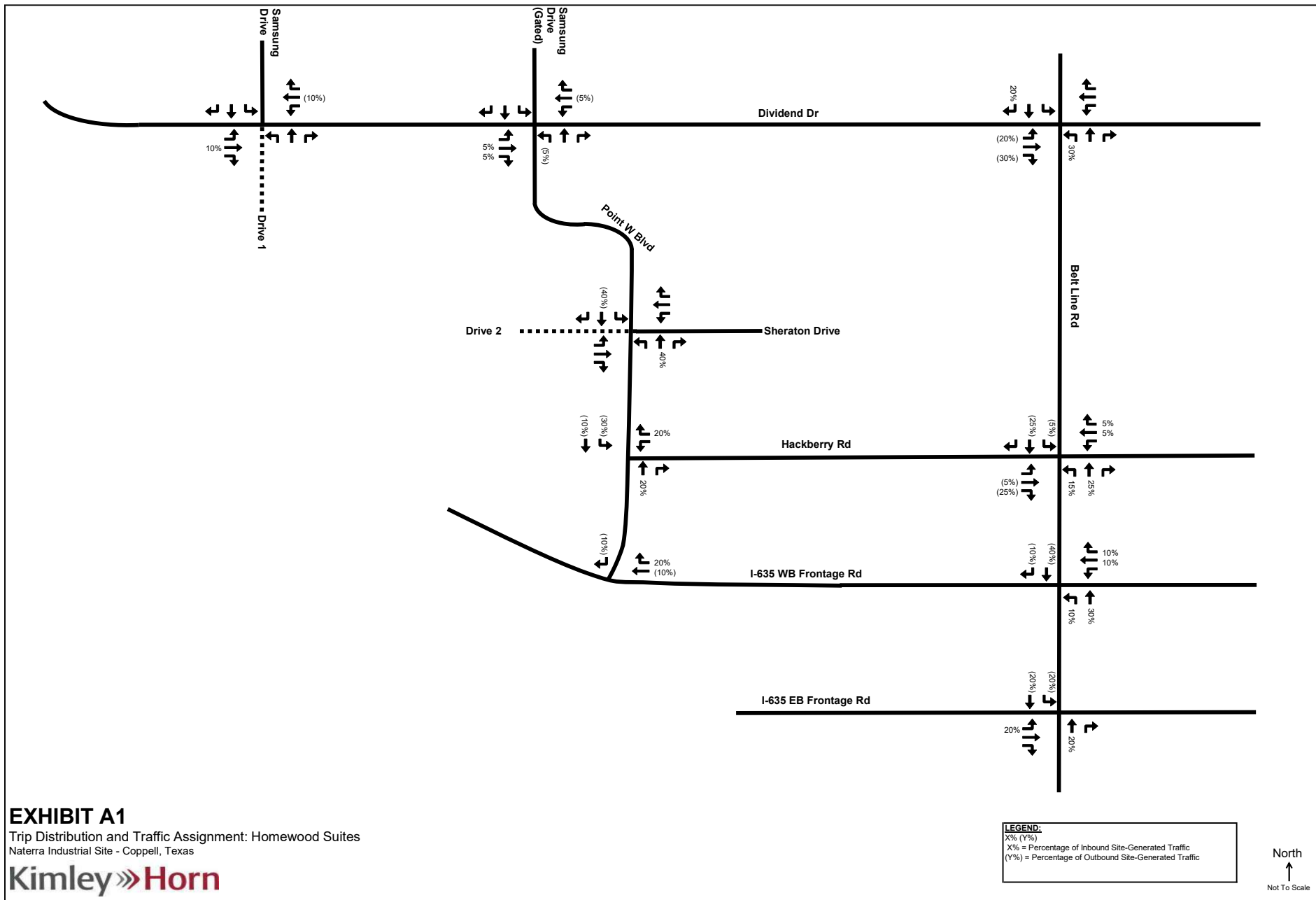
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU
4:30 PM	0	0	0	0	0	0	27	0	0	0	0	0	0	135	6	0
4:45 PM	0	0	0	0	0	0	27	0	0	0	0	0	0	152	3	0
5:00 PM	0	0	0	0	0	0	36	0	0	0	0	0	0	184	9	0
5:15 PM	0	0	0	0	0	0	20	0	0	0	0	0	0	150	10	0
5:30 PM	0	0	0	0	0	0	21	0	0	0	0	0	0	138	5	0
5:45 PM	0	0	0	0	0	0	22	0	0	0	0	0	0	110	8	0
6:00 PM	0	0	0	0	0	0	18	0	0	0	0	0	0	89	8	0
6:15 PM	0	0	0	0	0	0	21	0	0	0	0	0	0	73	3	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	0	0	0	0	0	0	192	0	0	0	0	0	0	1031	52	0
					0.00%	0.00%	100.00%	0.00%					0.00%	95.20%	4.80%	0.00%
PEAK HR :	04:30 PM - 05:30 PM				0	0	110	0	0	0	0	0	0	621	28	0
PEAK HR VOL :	0	0	0	0	0	0	0.764	0	0	0	0	0	0	0.844	0.700	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.764	0.000	0.000	0.000	0.000	0.000	0.000	0.841	0.700	0.000
							0.764							0.841		0.829

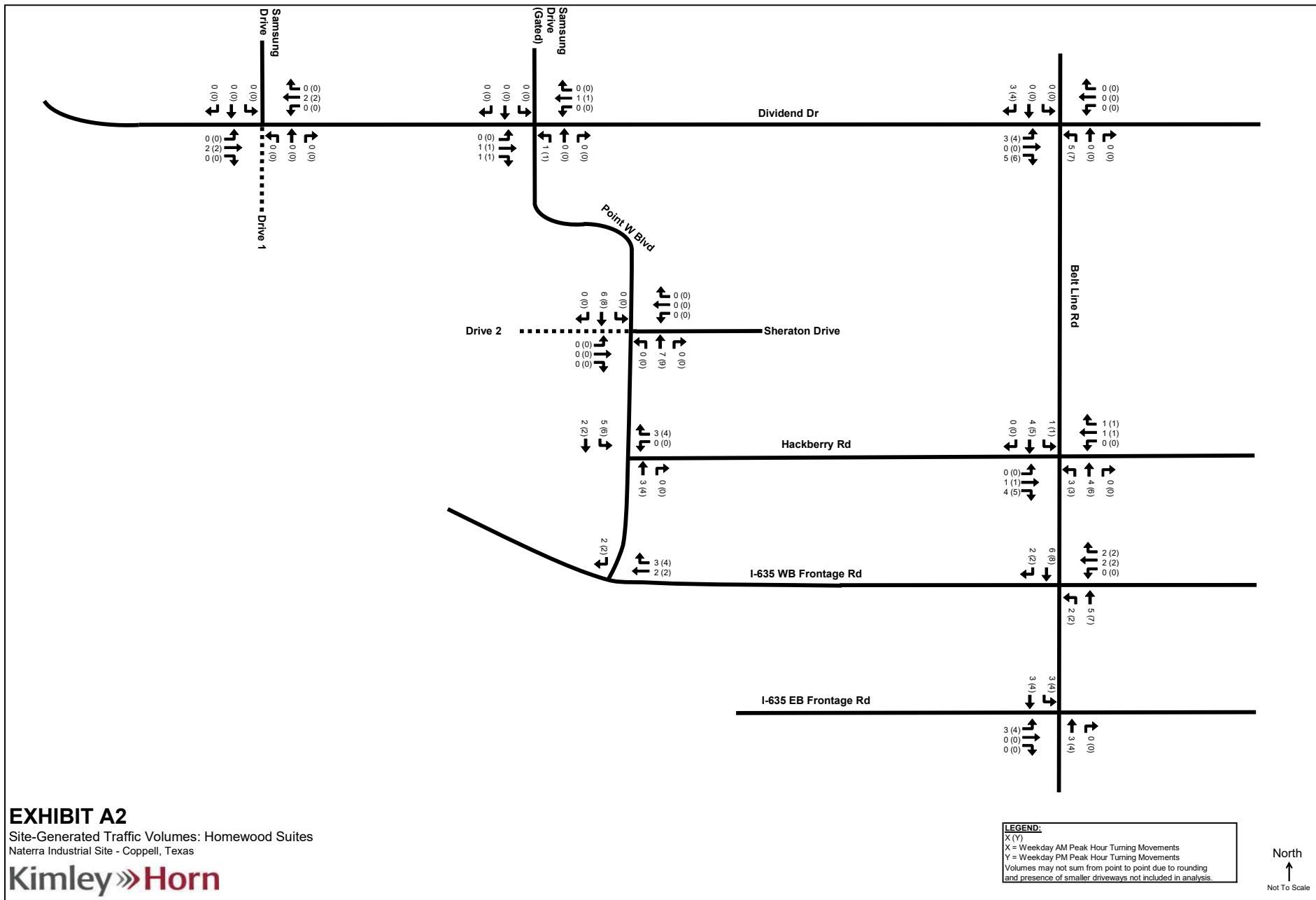
Project ID: 25-470310-006
Date: 10/2/2025

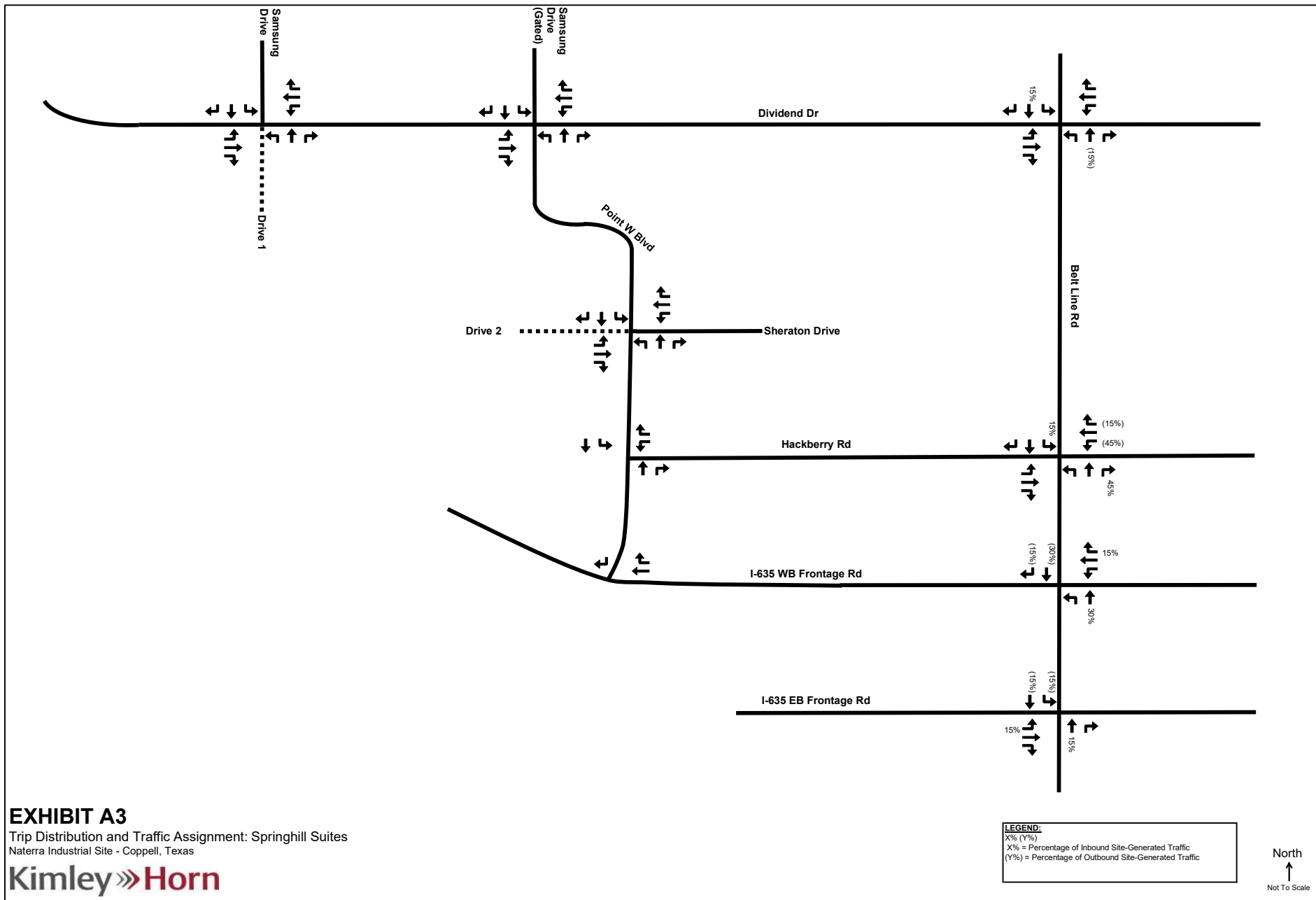
Day: Thursday
Date: 10/2/2025

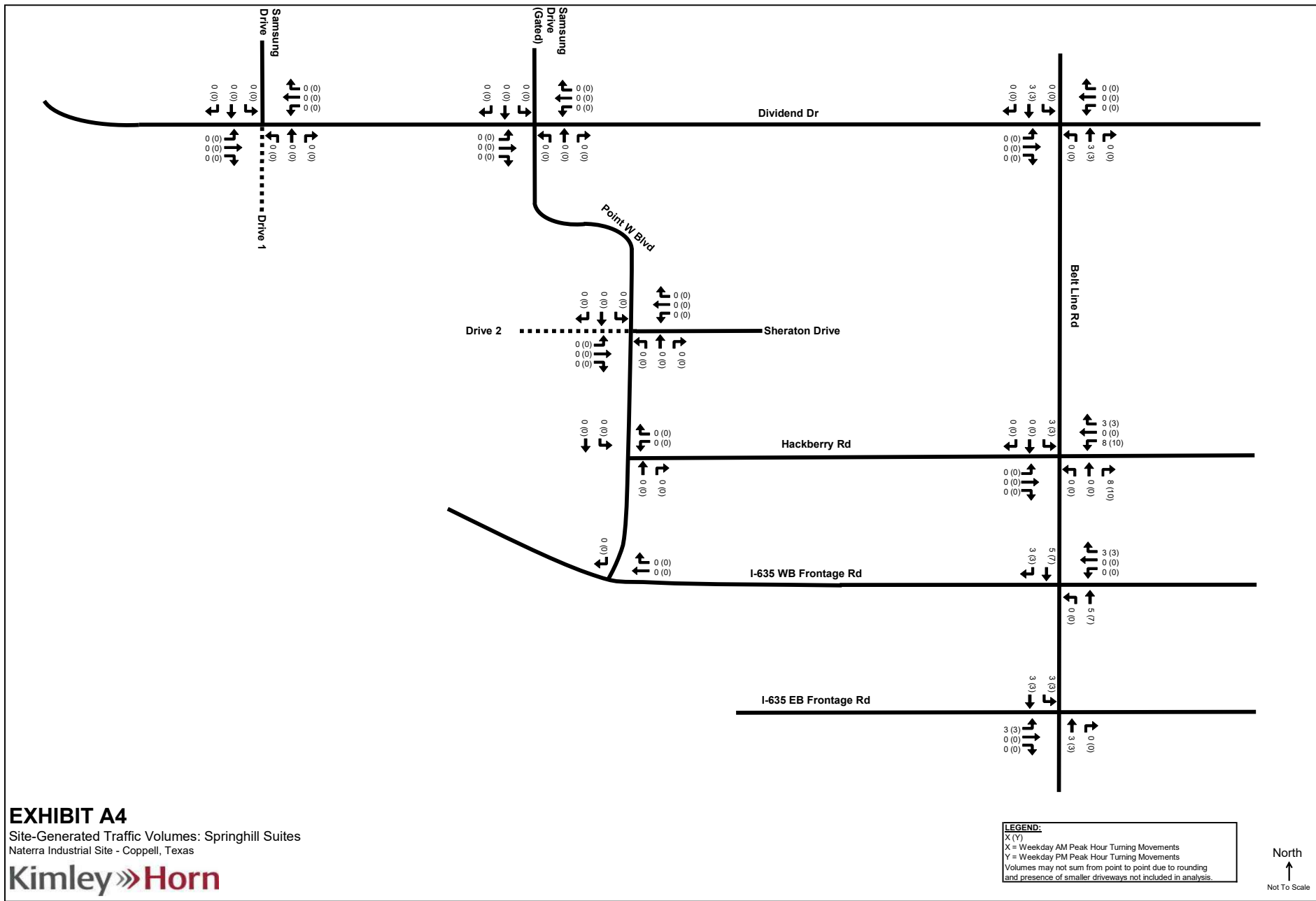


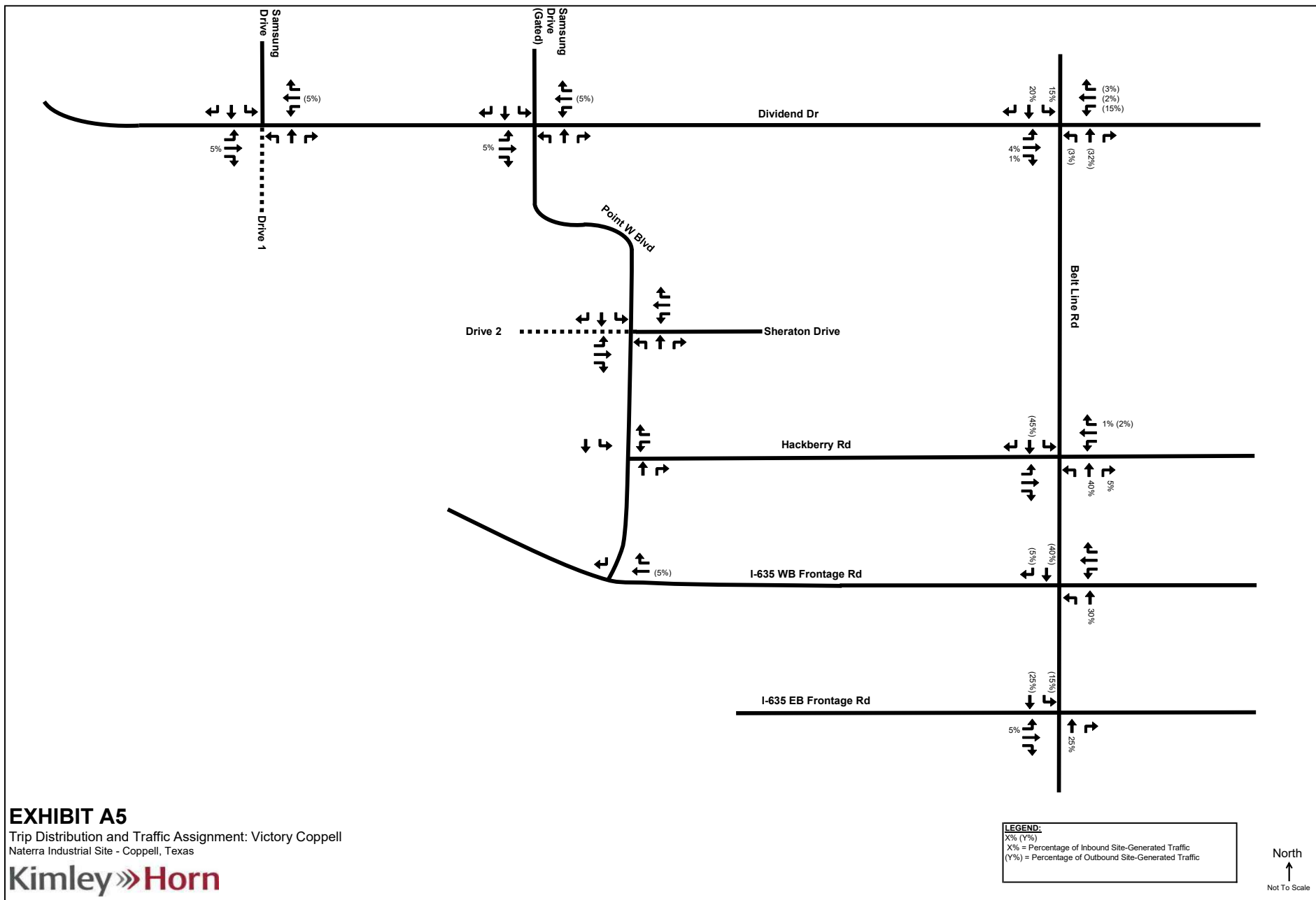
2. Additional Exhibits

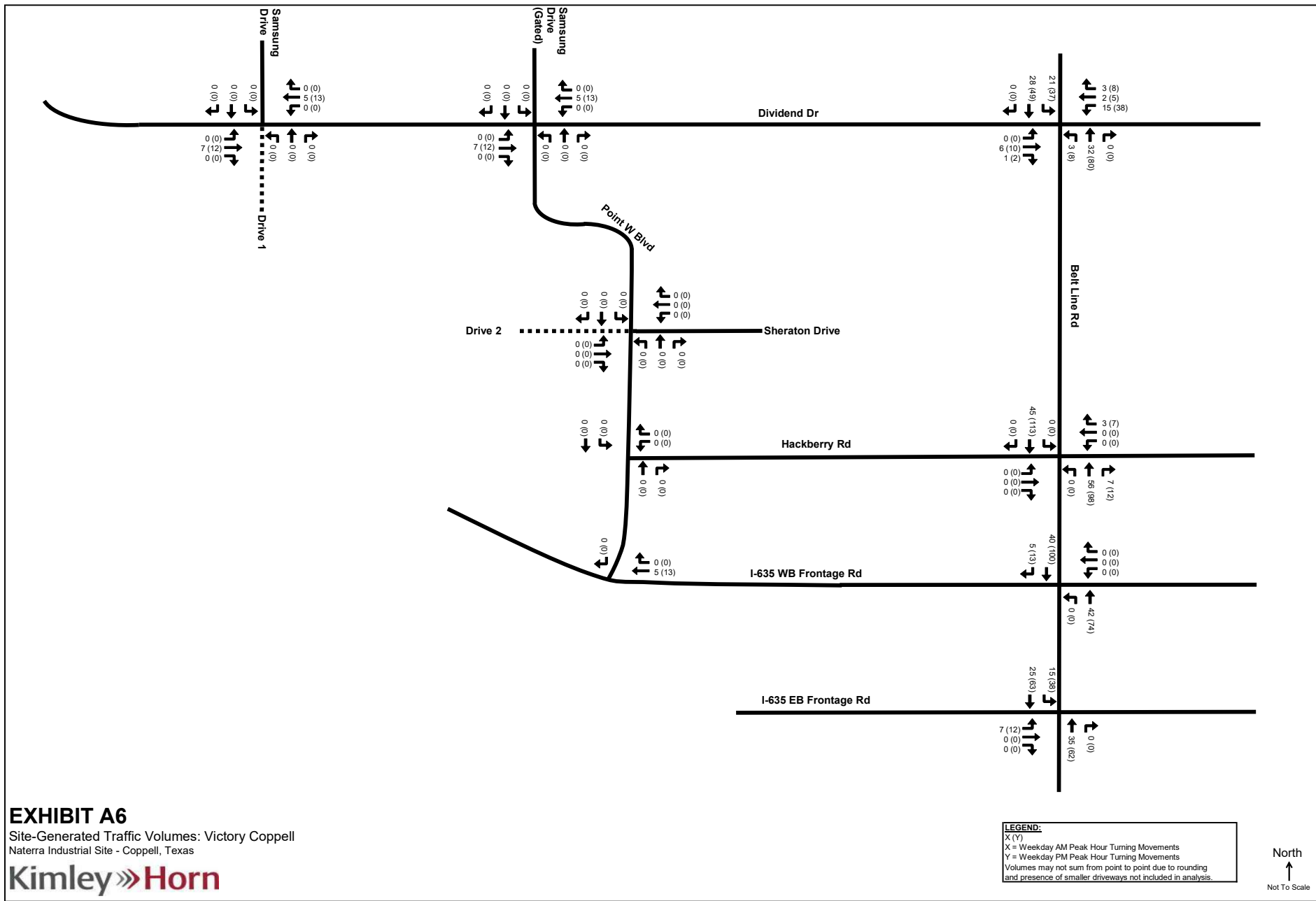












3. Synchro™ Outputs



SynchroTM Output – 2025 Existing Traffic

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	41	27	49	70	25	15	108	1035	149	127	1206	102
Future Volume (vph)	41	27	49	70	25	15	108	1035	149	127	1206	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.902			0.943			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3057	0	1491	2954	0	1616	4821	1516	1586	4868	1561
Flt Permitted	0.728			0.702			0.179			0.232		
Satd. Flow (perm)	1311	3057	0	1102	2954	0	304	4821	1516	387	4868	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			16				109			106
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1143			713			1538			980	
Travel Time (s)		26.0			16.2			23.3			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	10%	17%	8%	27%	8%	4%	3%	10%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	80	0	74	42	0	114	1089	157	134	1269	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

2025 Existing AM Naterra Industrial TIA 10:51 am 07/22/2024 2025 Existing AM
KH

Synchro 12 Report
Page 1

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	18.0	44.0		15.0	41.0		23.0	86.0	86.0	15.0	78.0	78.0
Total Split (%)	11.3%	27.5%		9.4%	25.6%		14.4%	53.8%	53.8%	9.4%	48.8%	48.8%
Maximum Green (s)	12.2	38.2		9.2	35.2		16.1	80.1	80.1	8.1	72.1	72.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	16.7	7.0		15.5	10.0		119.1	112.9	112.9	119.1	104.0	104.0
Actuated g/C Ratio	0.10	0.04		0.10	0.06		0.74	0.71	0.71	0.74	0.65	0.65
v/c Ratio	0.28	0.44		0.58	0.21		0.32	0.32	0.14	0.39	0.40	0.10
Control Delay (s/veh)	65.5	38.0		81.6	52.5		4.5	1.3	0.3	7.8	13.9	2.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	65.5	38.0		81.6	52.5		4.5	1.3	0.3	7.8	13.9	2.1
LOS	E	D		F	D		A	A	A	A	B	A
Approach Delay (s/veh)		47.6			71.1			1.4			12.5	
Approach LOS		D			E			A			B	
90th %ile Green (s)	10.9	9.7		9.2	8.0		16.1	107.2	107.2	9.5	100.6	100.6
90th %ile Term Code	Gap	Hold		Max	Gap		Hold	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	8.9	7.1		9.2	7.4		16.1	111.4	111.4	7.9	103.2	103.2
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	7.5	6.0		9.2	7.7		16.1	113.3	113.3	7.1	104.3	104.3
50th %ile Term Code	Gap	Min		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	6.2	6.0		9.1	8.9		16.1	114.2	114.2	6.3	104.4	104.4
30th %ile Term Code	Gap	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		6.1	17.9		16.1	118.3	118.3	5.2	107.4	107.4
10th %ile Term Code	Skip	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	41	15		72	14		4	13	0	28	217	0
Queue Length 95th (ft)	80	45		125	37		24	15	1	50	264	24
Internal Link Dist (ft)		1063			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	192	769		133	662		358	3401	1101	353	3163	1051
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.10		0.56	0.06		0.32	0.32	0.14	0.38	0.40	0.10
Intersection Summary												

2025 Existing AM Naterra Industrial TIA 10:51 am 07/22/2024 2025 Existing AM
KH

Synchro 12 Report
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Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	92 (58%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay (s/veh):	11.2
Intersection LOS:	B
Intersection Capacity Utilization:	55.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	13	39	66	16	46	79	1301	469	88	1187	7
Future Volume (vph)	17	13	39	66	16	46	79	1301	469	88	1187	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.887				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1617	0	1719	1900	1455	1787	4988	1583	1752	6346	1615
Flt Permitted	0.746			0.720			0.173			0.153		
Satd. Flow (perm)	1417	1617	0	1303	1900	1455	325	4988	1583	282	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			43			106			366			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	249			645			532			1538		
Travel Time (s)	5.7			14.7			8.1			23.3		
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
Heavy Vehicles (%)	0%	8%	3%	5%	0%	11%	1%	4%	2%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	57	0	73	18	51	87	1430	515	97	1304	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (%)	10.0%	28.1%		10.0%	28.1%	28.1%	12.5%	49.4%	49.4%	12.5%	49.4%	49.4%
Maximum Green (s)	10.2	39.2		10.2	39.2	39.2	13.1	73.1	73.1	13.1	73.1	73.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	16.4	7.3		15.2	12.2	12.2	120.5	114.4	114.4	120.5	115.2	115.2
Actuated g/C Ratio	0.10	0.05		0.10	0.08	0.08	0.75	0.72	0.72	0.75	0.72	0.72
v/c Ratio	0.12	0.50		0.50	0.12	0.24	0.29	0.40	0.42	0.35	0.29	0.01
Control Delay (s/veh)	63.5	45.4		73.6	71.0	2.8	2.3	0.9	0.8	8.7	4.0	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (s/veh)	63.5	45.4		73.6	71.0	2.8	2.3	1.0	1.0	8.7	4.0	0.0
LOS	E	D		E	E	A	A	A	A	A	A	A
Approach Delay (s/veh)		49.9			47.8			1.1			4.3	
Approach LOS		D			D			A			A	
90th %ile Green (s)	8.0	10.5		10.2	12.7	12.7	7.9	104.2	104.2	10.7	107.0	107.0
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	6.8	7.8		10.2	11.2	11.2	6.8	110.0	110.0	7.6	110.8	110.8
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	5.9	6.0		10.2	10.3	10.3	6.2	112.9	112.9	6.5	113.2	113.2
50th %ile Term Code	Gap	Min		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		8.8	20.6	20.6	5.7	114.9	114.9	5.9	115.1	115.1
30th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	0.0		6.4	6.4	6.4	5.0	130.0	130.0	5.0	130.0	130.0
10th %ile Term Code	Skip	Skip		Gap	Hold	Hold	Min	Coord	Coord	Min	Coord	Coord
Queue Length 50th (ft)	18	16		70	18	0	1	12	0	11	40	0
Queue Length 95th (ft)	m45	64		120	46	0	m2	m30	m2	29	56	m0
Internal Link Dist (ft)		169			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	194	428		159	465	436	377	3566	1235	342	4569	1192
Starvation Cap Reductn	0	0		0	0	0	0	767	172	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.13		0.46	0.04	0.12	0.23	0.51	0.48	0.28	0.29	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 100 (63%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 160
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay (s/veh): 5.1 Intersection LOS: A
Intersection Capacity Utilization 55.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	581	95	441	126	1428	0	0	1203	76
Future Volume (vph)	0	0	0	581	95	441	126	1428	0	0	1203	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.964		0.950					
Satd. Flow (prot)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1495
Flt Permitted				0.950	0.964		0.950					
Satd. Flow (perm)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						160						167
Link Speed (mph)		55			55			45				45
Link Distance (ft)		628			982			664				532
Travel Time (s)		7.8			12.2			10.1				8.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	5%	3%	0%	0%	3%	8%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	323	429	490	140	1587	0	0	1337	84
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1 3	1 2 3			2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
9: Belt Line & IH 635 WBFR

						
Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				48.0	48.0	48.0					82.0	82.0
Total Split (%)				30.0%	30.0%	30.0%					51.3%	51.3%
Maximum Green (s)				41.1	41.1	41.1					75.8	75.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lag	Lag	Lag					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)				41.1	41.1	41.1	21.2	103.2			75.8	75.8
Actuated g/C Ratio				0.26	0.26	0.26	0.13	0.65			0.47	0.47
v/c Ratio				0.78	0.51	0.95	0.32	0.49			0.38	0.11
Control Delay (s/veh)				69.7	53.3	67.2	75.3	14.3			16.6	1.0
Queue Delay				0.0	0.0	0.0	0.0	1.6			0.0	0.0
Total Delay (s/veh)				69.7	53.3	67.2	75.3	15.9			16.6	1.0
LOS				E	D	E	E	B			B	A
Approach Delay (s/veh)					63.1			20.7			15.7	
Approach LOS					E			C			B	
90th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
10th %ile Term Code				Hold	Hold	Hold					Coord	Coord
Queue Length 50th (ft)				348	212	369	79	587			239	1
Queue Length 95th (ft)				#490	273	#603	m112	648			190	0
Internal Link Dist (ft)		548			902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)				413	843	517	441	3248			3539	796
Starvation Cap Reductn				0	0	0	0	1400			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.78	0.51	0.95	0.32	0.86			0.38	0.11
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	15.0	15.0	42.0	55.0	16.0	47.0
Total Split (%)	9%	9%	26%	34%	10%	29%
Maximum Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
50th %ile Term Code	Max	Max	Hold	Coord	Max	Max
30th %ile Green (s)	6.2	10.0	33.8	48.6	11.6	39.6
30th %ile Term Code	Max	Max	Hold	Coord	Max	Gap
10th %ile Green (s)	6.2	10.0	33.8	48.6	18.7	32.5
10th %ile Term Code	Max	Max	Hold	Coord	Max	Gap
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
9: Belt Line & IH 635 WBFR

Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 31.1	Intersection LOS: C
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing AM
10: Belt Line & IH 635 EBFR

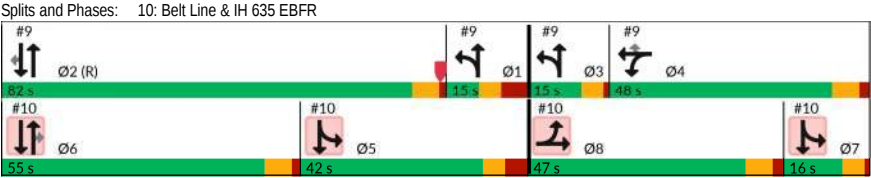
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	63	230	0	0	0	0	1205	276	372	1444	0
Future Volume (vph)	374	63	230	0	0	0	0	1205	276	372	1444	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25		25				25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Flt	0.896							0.850				
Flt Protected	0.950	0.994								0.950		
Satd. Flow (prot)	1681	1562	0	0	0	0	0	7399	1553	3400	5036	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1562	0	0	0	0	0	7399	1553	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	39							310				
Link Speed (mph)	50				50			45				45
Link Distance (ft)	676				657			722				664
Travel Time (s)	9.2				9.0			10.9				10.1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	3%	3%	0%	0%	0%	0%	4%	4%	3%	3%	0%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	378	371	0	0	0	0	0	1354	310	418	1622	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			24			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases									6			

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	47.0	47.0						55.0	55.0			
Total Split (%)	29.4%	29.4%						34.4%	34.4%			
Maximum Green (s)	40.2	40.2						48.6	48.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	38.5	38.5						48.6	48.6	43.3	106.5	
Actuated g/C Ratio	0.24	0.24						0.30	0.30	0.27	0.67	
v/c Ratio	0.93	0.92						0.60	0.45	0.45	0.48	
Control Delay (s/veh)	89.8	80.2						48.8	6.2	28.2	6.4	
Queue Delay	0.0	0.0						0.1	0.0	0.0	0.0	
Total Delay (s/veh)	89.8	80.2						48.9	6.2	28.2	6.4	
LOS	F	F						D	A	C	A	
Approach Delay (s/veh)		85.0						40.9			10.9	
Approach LOS		F						D			B	
90th %ile Green (s)	40.2	40.2						48.6	48.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	40.2	40.2						48.6	48.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	40.2	40.2						48.6	48.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	39.6	39.6						48.6	48.6			
30th %ile Term Code	Gap	Gap						Coord	Coord			
10th %ile Green (s)	32.5	32.5						48.6	48.6			
10th %ile Term Code	Gap	Gap						Coord	Coord			
Queue Length 50th (ft)	405	360						299	0	143	205	
Queue Length 95th (ft)	#594	#544						328	69	190	196	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340											
Base Capacity (vph)	422	421						2247	687	919	3350	
Starvation Cap Reductn	0	0						0	0	0	260	
Spillback Cap Reductn	0	0						110	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.90	0.88						0.63	0.45	0.45	0.52	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	15.0	82.0	15.0	48.0	42.0	16.0
Total Split (%)	9%	51%	9%	30%	26%	10%
Maximum Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
50th %ile Term Code	Max	Coord	Max	Max	Hold	Max
30th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.6
30th %ile Term Code	Max	Coord	Max	Max	Hold	Max
10th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	18.7
10th %ile Term Code	Max	Coord	Max	Hold	Hold	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 34.6	Intersection LOS: C
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



Naterra Industrial TIA
HCM 7th TWSC

2025 Existing AM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection													
Int Delay, s/veh	2.6												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱			↱	↱↱			↱↱		↱	↱↱	
Traffic Vol, veh/h	0	144	19	1	24	39	0	21	0	31	0	0	0
Future Vol, veh/h	0	144	19	1	24	39	0	21	0	31	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	1	0	100	13	5	0	0	0	0	0	0	0
Mvmt Flow	0	176	23	1	29	48	0	26	0	38	0	0	0

Major/Minor	Major1		Major2		Minor1		Minor2						
Conflicting Flow All	48	0	0	199	199	0	0	272	296	99	196	307	24
Stage 1	-	-	-	-	-	-	-	187	187	-	109	109	-
Stage 2	-	-	-	-	-	-	-	85	109	-	88	199	-
Critical Hdwy	4.1	-	-	8.4	4.36	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	3.5	2.33	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1573	-	-	711	1294	-	0	664	619	943	751	610	1054
Stage 1	-	-	-	-	-	-	0	802	749	-	891	809	-
Stage 2	-	-	-	-	-	-	0	919	809	-	916	740	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1573	-	-	1250	1250	-	-	648	604	943	703	595	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	648	604	-	703	595	-
Stage 1	-	-	-	-	-	-	-	802	749	-	869	790	-
Stage 2	-	-	-	-	-	-	-	897	790	-	879	740	-

Approach	EB		WB		NB		SB
HCM Control Delay, s/v	0		3.11		9.91		0
HCM LOS					A		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	797	1573	-	-	1250	-	-
HCM Lane V/C Ratio	0.08	-	-	-	0.024	-	-
HCM Control Delay (s/veh)	9.9	0	-	-	8	-	0
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing AM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	206	47	0	26
Future Vol, veh/h	0	0	206	47	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	0	0	12
Mvmt Flow	0	0	251	57	0	32

Major/Minor	Major2		Minor2				
Conflicting Flow All	-	0	-	251			
Stage 1	-	-	-	-			
Stage 2	-	-	-	-			
Critical Hdwy	-	-	-	6.32			
Critical Hdwy Stg 1	-	-	-	-			
Critical Hdwy Stg 2	-	-	-	-			
Follow-up Hdwy	-	-	-	3.408			
Pot Cap-1 Maneuver	-	-	0	764			
Stage 1	-	-	0	-			
Stage 2	-	-	0	-			
Platoon blocked, %	-	-	-	-			
Mov Cap-1 Maneuver	-	-	-	764			
Mov Cap-2 Maneuver	-	-	-	-			
Stage 1	-	-	-	-			
Stage 2	-	-	-	-			

Approach	WB		SB
HCM Control Delay, s/v	0		9.92
HCM LOS			A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	764
HCM Lane V/C Ratio	-	-	0.042
HCM Control Delay (s/veh)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing AM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	15	37	10	15	23
Future Vol, veh/h	87	15	37	10	15	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	16	40	11	16	25

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	103	46	0	0	51	0
Stage 1	46	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	895	1024	-	-	1555	-
Stage 1	977	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	885	1024	-	-	1555	-
Mov Cap-2 Maneuver	885	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.54	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 903	711	-
HCM Lane V/C Ratio	-	- 0.123	0.01	-
HCM Control Delay (s/veh)	-	- 9.5	7.3	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.4	0	-

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing AM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	1.1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	10	153	0	0	50	10	0	0	0	10	0	10	
Future Vol, veh/h	10	153	0	0	50	10	0	0	0	10	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	11	166	0	0	54	11	0	0	0	11	0	11	

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	65	0	-	166	0	0	215	253	83	165	248	33
Stage 1	-	-	-	-	-	-	188	188	-	60	60	-
Stage 2	-	-	-	-	-	-	27	65	-	105	188	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1535	-	0	1409	-	-	723	649	960	784	654	1034
Stage 1	-	-	0	-	-	-	796	743	-	945	844	-
Stage 2	-	-	0	-	-	-	986	840	-	889	743	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1535	-	-	1409	-	-	710	644	960	779	649	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	710	644	-	779	649	-
Stage 1	-	-	-	-	-	-	790	738	-	945	844	-
Stage 2	-	-	-	-	-	-	976	840	-	883	738	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.45	0	0	9.15
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1535	-	1409	-	-	888
HCM Lane V/C Ratio	-	-	0.007	-	-	-	-	0.024
HCM Control Delay (s/veh)	0	0	7.4	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	-	0	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	5	0	47	5	5	38	0
Future Vol, veh/h	0	0	0	5	0	5	0	47	5	5	38	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	5	0	51	5	5	41	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	103	109	41	106	106	54	41	0	0	57	0	0
Stage 1	52	52	-	54	54	-	-	-	-	-	-	-
Stage 2	51	57	-	52	52	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	877	781	1030	874	784	1013	1568	-	-	1548	-	-
Stage 1	961	851	-	959	850	-	-	-	-	-	-	-
Stage 2	962	848	-	961	851	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	869	779	1030	870	781	1013	1568	-	-	1548	-	-
Mov Cap-2 Maneuver	869	779	-	870	781	-	-	-	-	-	-	-
Stage 1	957	848	-	959	850	-	-	-	-	-	-	-
Stage 2	957	848	-	957	848	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			8.89			0			0.85		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1568	-	-	-	-	-	936	209	-	-		
HCM Lane V/C Ratio	-	-	-	-	-	-	0.012	0.004	-	-		
HCM Control Delay (s/veh)	0	-	-	0	0	8.9	7.3	0	-	-		
HCM Lane LOS	A	-	-	A	A	A	A	A	-	-		
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-	-		

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	138	26	172	184	63	66	44	1355	53	58	1354	22
Future Volume (vph)	138	26	172	184	63	66	44	1355	53	58	1354	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.870			0.923			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	2995	0	1711	3251	0	1662	4868	1531	1662	4868	1487
Flt Permitted	0.610			0.421			0.110			0.111		
Satd. Flow (perm)	1098	2995	0	758	3251	0	192	4868	1531	194	4868	1487
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)	145			79			145				145	
Link Speed (mph)	30			30			45				45	
Link Distance (ft)	1139			713			1538				980	
Travel Time (s)	25.9			16.2			23.3				14.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	4%	5%	2%	3%	2%	5%	3%	2%	5%	3%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	236	0	219	154	0	52	1613	63	69	1612	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11			11			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

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Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	20.0	44.0		17.0	41.0		16.0	83.0	83.0	16.0	83.0	83.0
Total Split (%)	12.5%	27.5%		10.6%	25.6%		10.0%	51.9%	51.9%	10.0%	51.9%	51.9%
Maximum Green (s)	14.2	38.2		11.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	28.7	9.5		28.7	15.1		107.3	100.4	100.4	105.9	101.0	101.0
Actuated g/C Ratio	0.18	0.06		0.18	0.09		0.67	0.63	0.63	0.66	0.63	0.63
v/c Ratio	0.66	0.90dr		0.88	0.41		0.25	0.53	0.06	0.37	0.52	0.03
Control Delay (s/veh)	66.7	43.2		96.6	34.4		6.3	4.9	0.2	14.5	18.7	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.7	43.2		96.6	34.4		6.3	4.9	0.2	14.5	18.7	0.0
LOS	E	D		F	C		A	A	A	B	B	A
Approach Delay (s/veh)		52.9			70.9			4.7			18.2	
Approach LOS		D			E			A			B	
90th %ile Green (s)	14.2	14.3		24.8	24.9		9.1	87.4	87.4	9.1	87.4	87.4
90th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	14.2	11.2		21.8	18.8		9.1	95.7	95.7	6.9	93.5	93.5
70th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	14.2	9.1		19.6	14.5		9.1	100.9	100.9	6.0	97.8	97.8
50th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	14.2	7.0		17.2	10.0		9.1	106.2	106.2	5.2	102.3	102.3
30th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	11.3	6.0		12.6	7.3		0.0	112.0	112.0	5.0	123.9	123.9
10th %ile Term Code	Gap	Min		Gap	Hold		Skip	Coord	Coord	Min	Coord	Coord
Queue Length 50th (ft)	151	49		208	38		3	35	1	21	344	0
Queue Length 95th (ft)	193	83		255	64		8	209	2	44	410	0
Internal Link Dist (ft)		1059			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	255	825		250	776		212	3055	1015	215	3072	992
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.29		0.88	0.20		0.25	0.53	0.06	0.32	0.52	0.03
Intersection Summary												

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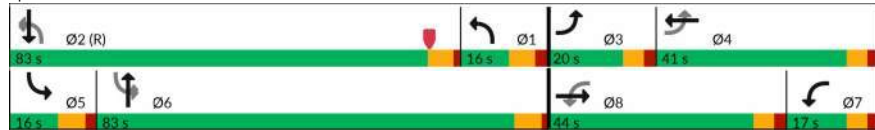
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Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	16 (10%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay (s/veh):	20.7
Intersection LOS:	C
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	8	29	187	11	117	18	1339	182	75	1735	11
Future Volume (vph)	8	8	29	187	11	117	18	1339	182	75	1735	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.883				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1678	0	1787	1900	1568	1805	5036	1599	1787	6346	1615
Flt Permitted	0.749			0.728			0.062			0.116		
Satd. Flow (perm)	1423	1678	0	1370	1900	1568	118	5036	1599	218	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			35			141			147			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	197			645			532			1538		
Travel Time (s)	4.5			14.7			8.1			23.3		
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	3%	1%	1%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	45	0	225	13	141	22	1613	219	90	2090	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8		4	2		6	6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	18.0		14.0	44.0	44.0	14.0	30.0	30.0	14.0	29.0	29.0
Total Split (s)	15.0	39.0		20.0	44.0	44.0	17.0	84.0	84.0	17.0	84.0	84.0
Total Split (%)	9.4%	24.4%		12.5%	27.5%	27.5%	10.6%	52.5%	52.5%	10.6%	52.5%	52.5%
Maximum Green (s)	9.2	33.2		14.2	38.2	38.2	10.1	78.1	78.1	10.1	78.1	78.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	22.2	6.9		19.9	19.7	19.7	118.6	109.6	109.6	115.9	116.4	116.4
Actuated g/C Ratio	0.14	0.04		0.12	0.12	0.12	0.74	0.69	0.69	0.72	0.73	0.73
v/c Ratio	0.05	0.43		1.09	0.06	0.45	0.15	0.47	0.19	0.39	0.45	0.01
Control Delay (s/veh)	58.8	42.8		147.3	63.8	14.2	4.4	4.4	0.7	12.3	5.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.8	42.8		147.3	63.8	14.2	4.4	4.5	0.7	12.3	5.9	0.0
LOS	E	D		F	E	B	A	A	A	B	A	A
Approach Delay (s/veh)		45.7			94.9			4.1			6.1	
Approach LOS		D			F			A			A	
90th %ile Green (s)	6.6	9.4		14.2	17.0	17.0	5.7	101.0	101.0	11.0	106.3	106.3
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	5.8	7.1		14.2	15.5	15.5	5.2	106.3	106.3	8.0	109.1	109.1
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.0	108.9	108.9	6.5	110.4	110.4
50th %ile Term Code	Skip	Min		Max	Hold	Hold	Min	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	0.0	109.5	109.5	5.9	122.3	122.3
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	0.0		14.2	14.2	14.2	0.0	122.2	122.2	5.0	134.1	134.1
10th %ile Term Code	Skip	Skip		Max	Hold	Hold	Skip	Coord	Coord	Min	Coord	Coord
Queue Length 50th (ft)	10	7		-247	12	0	1	112	4	15	143	0
Queue Length 95th (ft)	m25	m47		#349	33	52	m3	125	m9	m27	150	m0
Internal Link Dist (ft)		117			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	230	375		207	453	481	195	3448	1141	262	4618	1204
Starvation Cap Reductn	0	0		0	0	0	0	524	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.12		1.09	0.03	0.29	0.11	0.55	0.19	0.34	0.45	0.01

Intersection Summary

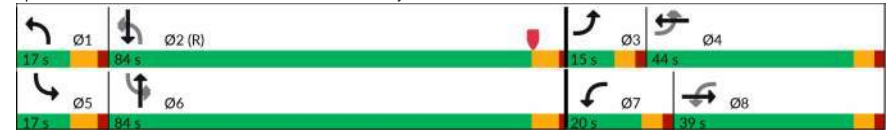
Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay (s/veh): 13.3
Intersection Capacity Utilization 62.6%
ICU Level of Service B
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	435	162	308	265	1265	0	0	1728	241
Future Volume (vph)	0	0	0	435	162	308	265	1265	0	0	1728	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	0.88
Frt						0.850						0.850
Flt Protected				0.950	0.972		0.950					
Satd. Flow (prot)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	2842
Flt Permitted				0.950	0.972		0.950					
Satd. Flow (perm)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	2842
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						116						245
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		683			982			664			532	
Travel Time (s)		8.5			12.2			10.1			8.1	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	6%	2%	0%	0%	3%	0%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	253	441	358	308	1471	0	0	2009	280
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			48			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1 3	1 2 3			2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
9: Belt Line & IH 635 WBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				40.0	40.0	40.0					75.0	75.0
Total Split (%)				25.0%	25.0%	25.0%					46.9%	46.9%
Maximum Green (s)				33.1	33.1	33.1					68.8	68.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lead	Lead	Lead					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effect Green (s)				30.2	30.2	30.2	30.3	114.1			68.8	68.8
Actuated g/C Ratio				0.19	0.19	0.19	0.19	0.71			0.43	0.43
v/c Ratio				0.83	0.70	0.91	0.49	0.41			0.63	0.21
Control Delay (s/veh)				84.8	66.9	70.0	49.9	3.8			25.3	2.5
Queue Delay				0.0	0.0	0.0	0.0	0.1			0.2	0.0
Total Delay (s/veh)				84.8	66.9	70.0	49.9	3.9			25.4	2.5
LOS				F	E	E	D	A			C	A
Approach Delay (s/veh)					72.3			11.9			22.6	
Approach LOS					E			B			C	
90th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				29.6	29.6	29.6					68.8	68.8
30th %ile Term Code				Gap	Gap	Gap					Coord	Coord
10th %ile Green (s)				22.1	22.1	22.1					68.8	68.8
10th %ile Term Code				Gap	Gap	Gap					Coord	Coord
Queue Length 50th (ft)				276	234	256	164	69			272	14
Queue Length 95th (ft)				374	284	#386	204	41			m285	m23
Internal Link Dist (ft)		603			902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)				333	687	419	625	3626			3212	1361
Starvation Cap Reductn				0	0	0	0	492			350	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.76	0.64	0.85	0.49	0.47			0.70	0.21
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
9: Belt Line & IH 635 WBFR

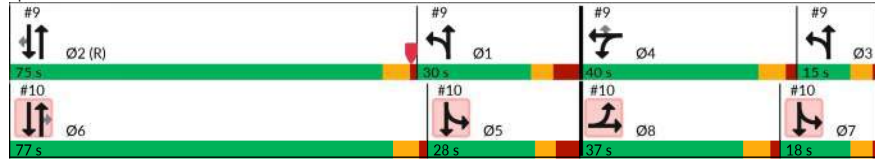
	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	30.0	15.0	28.0	77.0	18.0	37.0
Total Split (%)	19%	9%	18%	48%	11%	23%
Maximum Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	21.2	10.0	19.8	70.6	13.6	29.6
50th %ile Term Code	Max	Max	Max	Coord	Max	Gap
30th %ile Green (s)	21.2	13.5	19.8	70.6	17.7	25.5
30th %ile Term Code	Max	Max	Max	Coord	Max	Gap
10th %ile Green (s)	21.2	21.0	19.8	70.6	23.7	19.5
10th %ile Term Code	Hold	Max	Max	Coord	Max	Gap
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 29.1	Intersection LOS: C
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	113	53	160	0	0	0	0	1436	603	550	1602	0
Future Volume (vph)	113	53	160	0	0	0	0	1436	603	550	1602	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.893							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1665	1553	0	0	0	0	0	7471	1599	3433	5036	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1665	1553	0	0	0	0	0	7471	1599	3433	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34							372			
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		676			657			722			664	
Travel Time (s)		9.2			9.0			10.9			10.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	1%	2%	3%	0%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	117	258	0	0	0	0	0	1651	693	632	1841	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
10: Belt Line & IH 635 EBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	37.0	37.0						77.0	77.0			
Total Split (%)	23.1%	23.1%						48.1%	48.1%			
Maximum Green (s)	30.2	30.2						70.6	70.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	27.0	27.0						70.6	70.6	32.8	118.0	
Actuated g/C Ratio	0.17	0.17						0.44	0.44	0.21	0.74	
v/c Ratio	0.42	0.89						0.50	0.76	0.90	0.50	
Control Delay (s/veh)	63.4	86.5						32.7	22.4	63.8	4.6	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay (s/veh)	63.4	86.5						32.7	22.4	63.8	4.7	
LOS	E	F						C	C	E	A	
Approach Delay (s/veh)		79.3						29.7			19.8	
Approach LOS		E						C			B	
90th %ile Green (s)	30.2	30.2						70.6	70.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	30.2	30.2						70.6	70.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	29.6	29.6						70.6	70.6			
50th %ile Term Code	Gap	Gap						Coord	Coord			
30th %ile Green (s)	25.5	25.5						70.6	70.6			
30th %ile Term Code	Gap	Gap						Coord	Coord			
10th %ile Green (s)	19.5	19.5						70.6	70.6			
10th %ile Term Code	Gap	Gap						Coord	Coord			
Queue Length 50th (ft)	114	242						302	301	289	149	
Queue Length 95th (ft)	176	#362						317	433	#339	154	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	314	320						3296	913	703	3714	
Starvation Cap Reductn	0	0						0	0	0	563	
Spillback Cap Reductn	0	0						0	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.37	0.81						0.50	0.76	0.90	0.58	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	30.0	75.0	15.0	40.0	28.0	18.0
Total Split (%)	19%	47%	9%	25%	18%	11%
Maximum Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.6
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	21.2	68.8	13.5	29.6	19.8	17.7
30th %ile Term Code	Max	Coord	Max	Gap	Max	Max
10th %ile Green (s)	21.2	68.8	21.0	22.1	19.8	23.7
10th %ile Term Code	Hold	Coord	Max	Gap	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2025 Existing PM
10: Belt Line & IH 635 EBFR

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay (s/veh): 28.6
Intersection LOS: C
Intersection Capacity Utilization 80.3%
ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Belt Line & IH 635 EBFR



Naterra Industrial TIA
HCM 7th TWSC

2025 Existing PM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection													
Int Delay, s/veh	3.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	81	9	2	80	83	0	10	0	22	0	0	0
Future Vol, veh/h	0	81	9	2	80	83	0	10	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	12	0	0	1	6	0	0	0	5	0	0	0
Mvmt Flow	0	99	11	2	98	101	0	12	0	27	0	0	0
Major/Minor	Major1	Major2			Minor1			Minor2					
Conflicting Flow All	101	0	0	110	110	0	0	355	405	55	351	411	51
Stage 1	-	-	-	-	-	-	-	104	104	-	301	301	-
Stage 2	-	-	-	-	-	-	-	251	301	-	49	110	-
Critical Hdwy	4.1	-	-	6.4	4.12	-	-	7.5	6.5	7	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.5	2.21	-	-	3.5	4	3.35	3.5	4	3.3
Pot Cap-1 Maneuver	1504	-	-	1230	1486	-	0	581	538	991	585	534	1013
Stage 1	-	-	-	-	-	-	0	896	813	-	689	668	-
Stage 2	-	-	-	-	-	-	0	737	668	-	964	808	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1504	-	-	1477	1477	-	-	541	501	991	530	498	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	541	501	-	530	498	-
Stage 1	-	-	-	-	-	-	-	896	813	-	642	623	-
Stage 2	-	-	-	-	-	-	-	687	623	-	937	808	-
Approach	EB	WB			NB			SB					
HCM Control Delay, s/v	0	3.78			9.82			0					
HCM LOS					A			A					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1						
Capacity (veh/h)	787	1504	-	-	1477	-	-						
HCM Lane V/C Ratio	0.05	-	-	-	0.068	-	-						
HCM Control Delay (s/veh)	9.8	0	-	-	7.6	-	0						
HCM Lane LOS	A	A	-	-	A	-	A						
HCM 95th %tile Q(veh)	0.2	0	-	-	0.2	-	-						

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing PM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶	↶		↶
Traffic Vol, veh/h	0	0	639	28	0	111
Future Vol, veh/h	0	0	639	28	0	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	3	0	0	1
Mvmt Flow	0	0	761	33	0	132
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		761	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.21	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.309	
Pot Cap-1 Maneuver	-		0		407	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		407	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			18.03		
HCM LOS				C		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	407			
HCM Lane V/C Ratio	-	-	0.325			
HCM Control Delay (s/veh)	-	-	18			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	1.4			

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing PM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	14	18	10	35	54
Future Vol, veh/h	26	14	18	10	35	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	15	20	11	38	59

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	160	25	0	0	30
Stage 1	25	-	-	-	-
Stage 2	135	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	831	1051	-	-	1582
Stage 1	998	-	-	-	-
Stage 2	892	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	811	1051	-	-	1582
Mov Cap-2 Maneuver	811	-	-	-	-
Stage 1	998	-	-	-	-
Stage 2	869	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.3	0	2.88
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 881	708	-
HCM Lane V/C Ratio	-	- 0.049	0.024	-
HCM Control Delay (s/veh)	-	- 9.3	7.3	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.2	0.1	-

Naterra Industrial TIA
HCM 7th TWSC

2025 Existing PM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	1.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	10	80	0	0	83	10	0	0	0	10	0	10	
Future Vol, veh/h	10	80	0	0	83	10	0	0	0	10	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	11	87	0	0	90	11	0	0	0	11	0	11	

Major/Minor	Major1	Major2	Minor1	Minor2		
Conflicting Flow All	101	0	- 87	0	0	154
Stage 1	-	-	-	-	- 109	109
Stage 2	-	-	-	-	- 45	101
Critical Hdwy	4.14	-	- 4.14	-	- 7.54	6.54
Critical Hdwy Stg 1	-	-	-	-	- 6.54	5.54
Critical Hdwy Stg 2	-	-	-	-	- 6.54	5.54
Follow-up Hdwy	2.22	-	- 2.22	-	- 3.52	4.02
Pot Cap-1 Maneuver	1489	-	0 1507	-	- 798	686
Stage 1	-	-	0	-	- 885	804
Stage 2	-	-	0	-	- 963	811
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	1489	-	- 1507	-	- 784	681
Mov Cap-2 Maneuver	-	-	-	-	- 784	681
Stage 1	-	-	-	-	- 878	799
Stage 2	-	-	-	-	- 953	811

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.83	0	0	9.19
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	- 1489	- 1507	-	-	-	-	881
HCM Lane V/C Ratio	-	- 0.007	-	-	-	-	-	0.025
HCM Control Delay (s/veh)	0	0	7.4	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	-	0	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	5	0	27	5	5	84	0
Future Vol, veh/h	0	0	0	5	0	5	0	27	5	5	84	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	5	0	29	5	5	91	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	132	137	91	134	134	32	91	0	0	35	0	0
Stage 1	102	102	-	32	32	-	-	-	-	-	-	-
Stage 2	29	35	-	102	102	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	841	754	966	837	757	1042	1504	-	-	1577	-	-
Stage 1	904	811	-	984	868	-	-	-	-	-	-	-
Stage 2	988	866	-	904	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	833	751	966	834	754	1042	1504	-	-	1577	-	-
Mov Cap-2 Maneuver	833	751	-	834	754	-	-	-	-	-	-	-
Stage 1	901	808	-	984	868	-	-	-	-	-	-	-
Stage 2	982	866	-	901	808	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			8.93			0			0.41		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1504	-	-	-	-	927	101	-	-			
HCM Lane V/C Ratio	-	-	-	-	-	0.012	0.003	-	-			
HCM Control Delay (s/veh)	0	-	-	0	0	8.9	7.3	0	-			
HCM Lane LOS	A	-	-	A	A	A	A	A	-			
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-			



SynchroTM Output - 2027 Background Traffic

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩	↩↩	↩	↩	↩↩	↩
Traffic Volume (vph)	46	34	57	88	28	19	120	1112	155	153	1286	109
Future Volume (vph)	46	34	57	88	28	19	120	1112	155	153	1286	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.906			0.939			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3096	0	1531	2986	0	1631	4821	1516	1601	4868	1561
Flt Permitted	0.723			0.692			0.159			0.209		
Satd. Flow (perm)	1302	3096	0	1115	2986	0	273	4821	1516	352	4868	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			20				106			106
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1143			713			1538			980	
Travel Time (s)		26.0			16.2			23.3			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	9%	14%	7%	23%	7%	4%	3%	9%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	96	0	93	49	0	126	1171	163	161	1354	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

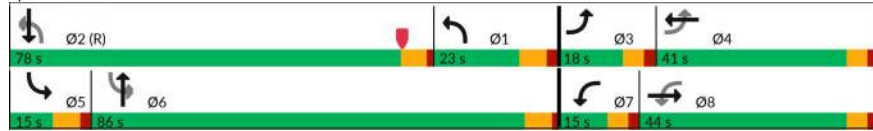
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	18.0	44.0		15.0	41.0		23.0	86.0	86.0	15.0	78.0	78.0
Total Split (%)	11.3%	27.5%		9.4%	25.6%		14.4%	53.8%	53.8%	9.4%	48.8%	48.8%
Maximum Green (s)	12.2	38.2		9.2	35.2		16.1	80.1	80.1	8.1	72.1	72.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	17.3	7.3		16.1	10.2		118.5	110.9	110.9	118.5	103.4	103.4
Actuated g/C Ratio	0.11	0.05		0.10	0.06		0.74	0.69	0.69	0.74	0.65	0.65
v/c Ratio	0.30	0.48		0.69	0.24		0.37	0.35	0.15	0.49	0.43	0.11
Control Delay (s/veh)	65.6	39.4		90.1	50.4		6.6	2.0	0.5	9.9	14.6	2.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	65.6	39.4		90.1	50.4		6.6	2.0	0.5	9.9	14.6	2.6
LOS	E	D		F	D		A	A	A	A	B	A
Approach Delay (s/veh)		48.1			76.4			2.2			13.3	
Approach LOS		D			E			A			B	
90th %ile Green (s)	11.5	10.6		9.2	8.3		16.1	103.0	103.0	12.8	99.7	99.7
90th %ile Term Code	Gap	Hold		Max	Gap		Hold	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	9.4	7.6		9.2	7.4		16.1	109.7	109.7	9.1	102.7	102.7
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	8.0	6.3		9.2	7.5		16.1	112.0	112.0	8.1	104.0	104.0
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	6.5	6.0		9.2	8.7		16.1	113.2	113.2	7.2	104.3	104.3
30th %ile Term Code	Gap	Min		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.2	19.0		16.1	116.4	116.4	6.0	106.3	106.3
10th %ile Term Code	Skip	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	46	19		91	15		6	14	1	35	238	3
Queue Length 95th (ft)	87	51		149	40		37	43	0	62	293	29
Internal Link Dist (ft)		1063			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	193	784		138	672		338	3340	1082	334	3146	1046
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.12		0.67	0.07		0.37	0.35	0.15	0.48	0.43	0.11
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	92 (58%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	12.6
Intersection LOS:	B
Intersection Capacity Utilization:	58.5%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	15	45	77	18	55	85	1414	503	96	1284	7
Future Volume (vph)	18	15	45	77	18	55	85	1414	503	96	1284	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.887				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1621	0	1736	1900	1468	1787	4988	1583	1752	6346	1615
Flt Permitted	0.744			0.715			0.150			0.127		
Satd. Flow (perm)	1414	1621	0	1306	1900	1468	282	4988	1583	234	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49				106			362			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	249			645			532			1538		
Travel Time (s)	5.7			14.7			8.1			23.3		
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
Heavy Vehicles (%)	0%	7%	3%	4%	0%	10%	1%	4%	2%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	65	0	85	20	60	93	1554	553	105	1411	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (%)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (s)	10.0%	28.1%		10.0%	28.1%	28.1%	12.5%	49.4%	49.4%	12.5%	49.4%	49.4%
Maximum Green (s)	10.2	39.2		10.2	39.2	39.2	13.1	73.1	73.1	13.1	73.1	73.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	19.2	7.4		16.9	15.1	15.1	117.7	110.2	110.2	117.7	112.1	112.1
Actuated g/C Ratio	0.12	0.05		0.11	0.09	0.09	0.74	0.69	0.69	0.74	0.70	0.70
v/c Ratio	0.11	0.54		0.52	0.11	0.26	0.35	0.45	0.46	0.42	0.32	0.01
Control Delay (s/veh)	63.1	44.8		73.3	70.2	2.9	4.5	1.1	1.0	14.6	4.3	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (s/veh)	63.1	44.8		73.3	70.2	2.9	4.5	1.3	1.2	14.6	4.3	0.0
LOS	E	D		E	E	A	A	A	A	B	A	A
Approach Delay (s/veh)		49.1			47.3			1.4			5.0	
Approach LOS		D			D			A			A	
90th %ile Green (s)	8.0	11.0		10.2	13.2	13.2	8.9	101.0	101.0	13.4	105.5	105.5
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	6.8	8.1		10.2	11.5	11.5	7.0	107.1	107.1	10.2	110.3	110.3
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	6.0	6.1		10.2	10.3	10.3	6.4	111.5	111.5	7.8	112.9	112.9
50th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		9.6	21.4	21.4	5.8	113.9	113.9	6.1	114.2	114.2
30th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.1	18.9	18.9	5.1	117.3	117.3	5.2	117.4	117.4
10th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	19	17		82	20	0	1	12	0	12	44	0
Queue Length 95th (ft)	m48	69		135	50	2	m2	m44	m4	m42	64	m0
Internal Link Dist (ft)		169			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	212	434		171	465	439	341	3434	1202	303	4444	1162
Starvation Cap Reductn	0	0		0	0	0	0	681	149	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.15		0.50	0.04	0.14	0.27	0.56	0.53	0.35	0.32	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 100 (63%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 160
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay (s/veh): 5.7
Intersection Capacity Utilization 59.1%
ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	21	604	101	464	133	1538	0	0	1303	89
Future Volume (vph)	0	0	21	604	101	464	133	1538	0	0	1303	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.964		0.950					
Satd. Flow (prot)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1509
Flt Permitted				0.950	0.964		0.950					
Satd. Flow (perm)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		253				160						167
Link Speed (mph)	55				55			45				45
Link Distance (ft)	628				982			664				532
Travel Time (s)	7.8				12.2			10.1				8.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	2%	0%	4%	5%	3%	2%	2%	3%	7%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	23	0	335	448	516	148	1709	0	0	1448	99
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48				24
Link Offset(ft)	0				0			0				0
Crosswalk Width(ft)	16				16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm		Prot	NA		NA	Perm
Protected Phases				4	4			1 3	1 2 3			2
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8						
Lane Configurations												
Traffic Volume (vph)												
Future Volume (vph)												
Ideal Flow (vphpl)												
Storage Length (ft)												
Storage Lanes												
Taper Length (ft)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Right Turn on Red												
Satd. Flow (RTOR)												
Link Speed (mph)												
Link Distance (ft)												
Travel Time (s)												
Peak Hour Factor												
Heavy Vehicles (%)												
Shared Lane Traffic (%)												
Lane Group Flow (vph)												
Enter Blocked Intersection												
Lane Alignment												
Median Width(ft)												
Link Offset(ft)												
Crosswalk Width(ft)												
Two way Left Turn Lane												
Headway Factor												
Turning Speed (mph)												
Number of Detectors												
Detector Template												
Leading Detector (ft)												
Trailing Detector (ft)												
Detector 1 Position(ft)												
Detector 1 Size(ft)												
Detector 1 Type												
Detector 1 Channel												
Detector 1 Extend (s)												
Detector 1 Queue (s)												
Detector 1 Delay (s)												
Detector 2 Position(ft)												
Detector 2 Size(ft)												
Detector 2 Type												
Detector 2 Channel												
Detector 2 Extend (s)												
Turn Type												
Protected Phases	1	3	5	6	7	8						
Permitted Phases												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				48.0	48.0	48.0					82.0	82.0
Total Split (%)				30.0%	30.0%	30.0%					51.3%	51.3%
Maximum Green (s)				41.1	41.1	41.1					75.8	75.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lag	Lag	Lag					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)	0.0			41.1	41.1	41.1	21.2	103.2			75.8	75.8
Actuated g/C Ratio	0.00			0.26	0.26	0.26	0.13	0.65			0.47	0.47
v/c Ratio	0.09			0.81	0.53	1.00	0.34	0.53			0.41	0.12
Control Delay (s/veh)	0.0			72.1	53.9	79.2	74.8	15.4			16.9	1.3
Queue Delay	0.0			0.0	0.0	0.0	0.0	3.1			0.0	0.0
Total Delay (s/veh)	0.0			72.1	53.9	79.2	74.8	18.5			16.9	1.3
LOS	A			E	D	E	E	B			B	A
Approach Delay (s/veh)					68.6			23.0			15.9	
Approach LOS					E			C			B	
90th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)	0			364	223	408	84	648			263	1
Queue Length 95th (ft)	0			#531	285	#662	m117	m705			206	13
Internal Link Dist (ft)	548				902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)	253			413	843	517	441	3248			3539	802
Starvation Cap Reductn	0			0	0	0	0	1400			0	0
Spillback Cap Reductn	0			0	0	0	0	0			0	0
Storage Cap Reductn	0			0	0	0	0	0			0	0
Reduced v/c Ratio	0.09			0.81	0.53	1.00	0.34	0.92			0.41	0.12

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	15.0	15.0	42.0	55.0	16.0	47.0
Total Split (%)	9%	9%	26%	34%	10%	29%
Maximum Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
30th %ile Term Code	Max	Max	Hold	Coord	Max	Max
10th %ile Green (s)	6.2	10.0	33.8	48.6	13.0	38.2
10th %ile Term Code	Max	Max	Hold	Coord	Max	Gap
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
9: Belt Line & IH 635 WBFR

Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay (s/veh): 33.1	Intersection LOS: C
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background AM
10: Belt Line & IH 635 EBFR

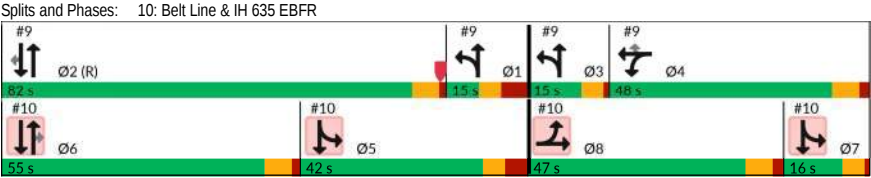
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	402	66	239	0	0	0	0	1295	287	408	1533	0
Future Volume (vph)	402	66	239	0	0	0	0	1295	287	408	1533	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Flt		0.896							0.850			
Flt Protected	0.950	0.994								0.950		
Satd. Flow (prot)	1681	1563	0	0	0	0	0	7399	1553	3400	5036	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1563	0	0	0	0	0	7399	1553	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31							319			
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		676			657			722			664	
Travel Time (s)		9.2			9.0			10.9			10.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	3%	3%	2%	2%	2%	2%	4%	4%	3%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	407	388	0	0	0	0	0	1455	322	458	1722	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	47.0	47.0						55.0	55.0			
Total Split (%)	29.4%	29.4%						34.4%	34.4%			
Maximum Green (s)	40.2	40.2						48.6	48.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	39.8	39.8						48.6	48.6	42.0	105.2	
Actuated g/C Ratio	0.25	0.25						0.30	0.30	0.26	0.66	
v/c Ratio	0.97	0.94						0.65	0.46	0.51	0.52	
Control Delay (s/veh)	96.7	85.8						49.9	6.5	29.2	6.7	
Queue Delay	0.0	0.3						0.4	0.0	0.0	0.0	
Total Delay (s/veh)	96.7	86.1						50.3	6.5	29.2	6.7	
LOS	F	F						D	A	C	A	
Approach Delay (s/veh)		91.5						42.3			11.5	
Approach LOS		F						D			B	
90th %ile Green (s)	40.2	40.2						48.6	48.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	40.2	40.2						48.6	48.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	40.2	40.2						48.6	48.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	40.2	40.2						48.6	48.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	38.2	38.2						48.6	48.6			
10th %ile Term Code	Gap	Gap						Coord	Coord			
Queue Length 50th (ft)	446	393						327	2	162	212	
Queue Length 95th (ft)	#663	#600						357	74	210	205	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	422	415						2247	693	892	3311	
Starvation Cap Reductn	0	0						0	0	0	143	
Spillback Cap Reductn	0	1						296	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.96	0.94						0.75	0.46	0.51	0.54	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	15.0	82.0	15.0	48.0	42.0	16.0
Total Split (%)	9%	51%	9%	30%	26%	10%
Maximum Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
30th %ile Term Code	Max	Coord	Max	Max	Hold	Max
10th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	13.0
10th %ile Term Code	Max	Coord	Max	Max	Hold	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay (s/veh): 36.4	Intersection LOS: D
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



Naterra Industrial TIA
HCM 7th TWSC

2027 Background AM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	158	21	25	47	0	23	0	32	0	0	0
Future Vol, veh/h	0	158	21	25	47	0	23	0	32	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	1	0	13	4	2	0	2	0	2	2	2
Mvmt Flow	0	193	26	30	57	0	28	0	39	0	0	0
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	57	0	0	218	0	0	295	324	109	215	337	29
Stage 1	-	-	-	-	-	-	205	205	-	118	118	-
Stage 2	-	-	-	-	-	-	90	118	-	96	218	-
Critical Hdwy	4.14	-	-	4.36	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.33	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	1545	-	-	1272	-	0	640	593	930	723	583	1040
Stage 1	-	-	-	-	-	0	783	730	-	874	797	-
Stage 2	-	-	-	-	-	0	914	797	-	900	721	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1545	-	-	1272	-	-	624	578	930	676	569	1040
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	578	-	676	569	-
Stage 1	-	-	-	-	-	-	783	730	-	853	778	-
Stage 2	-	-	-	-	-	-	892	778	-	862	721	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	0		2.74			10.11			0			
HCM LOS						B			A			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	772	1545	-	-	1272	-	-					
HCM Lane V/C Ratio	0.087	-	-	-	0.024	-	-					
HCM Control Delay (s/veh)	10.1	0	-	-	7.9	-	0					
HCM Lane LOS	B	A	-	-	A	-	A					
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-					

Naterra Industrial TIA
HCM 7th TWSC

2027 Background AM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	221	52	0	29
Future Vol, veh/h	0	0	221	52	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	5	0	2	11
Mvmt Flow	0	0	270	63	0	35
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		270	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.31	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.399	
Pot Cap-1 Maneuver	-		-		0 748	
Stage 1	-		-		0 -	
Stage 2	-		-		0 -	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		748	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			10.05		
HCM LOS				B		
Minor Lane/Major Mvmt	WBT	WBR SBLn1				
Capacity (veh/h)	-	-				
HCM Lane V/C Ratio	-	-				
HCM Control Delay (s/veh)	-	-				
HCM Lane LOS	-	B				
HCM 95th %tile Q(veh)	-	0.1				

Naterra Industrial TIA
HCM 7th TWSC

2027 Background AM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵		↵			↵
Traffic Vol, veh/h	91	19	41	10	21	26
Future Vol, veh/h	91	19	41	10	21	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	21	45	11	23	28

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	124	50	0	0	55
Stage 1	50	-	-	-	-
Stage 2	74	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	871	1018	-	-	1549
Stage 1	972	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	858	1018	-	-	1549
Mov Cap-2 Maneuver	858	-	-	-	-
Stage 1	972	-	-	-	-
Stage 2	935	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.72	0	3.29
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 882	804	-
HCM Lane V/C Ratio	-	- 0.136	0.015	-
HCM Control Delay (s/veh)	-	- 9.7	7.4	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.5	0	-

Naterra Industrial TIA
HCM 7th TWSC

2027 Background AM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↵	↕		↵	↕		↵	↕		↕	↕		
Traffic Vol, veh/h	10	168	0	0	59	10	0	0	0	10	0	10	
Future Vol, veh/h	10	168	0	0	59	10	0	0	0	10	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	11	183	0	0	64	11	0	0	0	11	0	11	

Major/Minor	Major1	Major2	Minor1	Minor2		
Conflicting Flow All	75	0	- 183	0	0	236
Stage 1	-	-	-	-	204	204
Stage 2	-	-	-	-	32	75
Critical Hdwy	4.14	-	- 4.14	-	7.54	6.54
Critical Hdwy Stg 1	-	-	-	-	6.54	5.54
Critical Hdwy Stg 2	-	-	-	-	6.54	5.54
Follow-up Hdwy	2.22	-	- 2.22	-	3.52	4.02
Pot Cap-1 Maneuver	1522	-	0 1390	-	698	628
Stage 1	-	0	-	-	778	731
Stage 2	-	0	-	-	980	832
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	- 1390	-	686	623
Mov Cap-2 Maneuver	-	-	-	-	686	623
Stage 1	-	-	-	-	773	726
Stage 2	-	-	-	-	970	832

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.41	0	0	9.24
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	- 1522	- 1390	-	-	-	-	871
HCM Lane V/C Ratio	-	- 0.007	-	-	-	-	-	0.025
HCM Control Delay (s/veh)	0	0	7.4	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	- 0	-	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	5	0	56	5	5	46	0
Future Vol, veh/h	0	0	0	5	0	5	0	56	5	5	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	5	0	61	5	5	50	0
Major/Minor												
	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	122	127	50	124	124	64	50	0	0	66	0	0
Stage 1	61	61	-	64	64	-	-	-	-	-	-	-
Stage 2	61	66	-	61	61	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	853	763	1018	850	766	1001	1557	-	-	1535	-	-
Stage 1	950	844	-	947	842	-	-	-	-	-	-	-
Stage 2	950	840	-	950	844	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	845	761	1018	847	763	1001	1557	-	-	1535	-	-
Mov Cap-2 Maneuver	845	761	-	847	763	-	-	-	-	-	-	-
Stage 1	947	841	-	947	842	-	-	-	-	-	-	-
Stage 2	945	840	-	947	841	-	-	-	-	-	-	-
Approach												
	EB			WB			NB			SB		
HCM Control Delay, s/v	0			8.97			0			0.72		
HCM LOS	A			A								
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1557	-	-	-	-	-	917	176	-	-		
HCM Lane V/C Ratio	-	-	-	-	-	-	0.012	0.004	-	-		
HCM Control Delay (s/veh)	0	-	-	0	0	9	7.4	0	-	-		
HCM Lane LOS	A	-	-	A	A	A	A	A	-	-		
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-	-		

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗↗	↖	↖	↖↗↗	↖
Traffic Volume (vph)	148	37	187	229	71	77	61	1493	55	97	1461	27
Future Volume (vph)	148	37	187	229	71	77	61	1493	55	97	1461	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.875			0.922				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3018	0	1711	3248	0	1678	4868	1531	1694	4868	1501
Flt Permitted	0.589			0.345			0.082			0.075		
Satd. Flow (perm)	1061	3018	0	621	3248	0	145	4868	1531	134	4868	1501
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		129			92				145			145
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1139			713			1538			980	
Travel Time (s)		25.9			16.2			23.3			14.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	3%	5%	2%	3%	2%	4%	3%	2%	3%	3%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	267	0	273	177	0	73	1777	65	115	1739	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

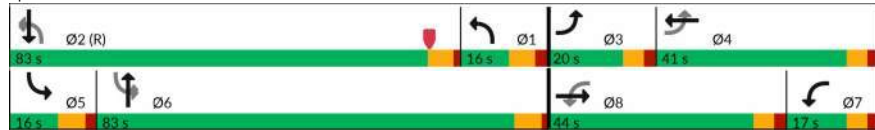
	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	20.0	44.0		17.0	41.0		16.0	83.0	83.0	16.0	83.0	83.0
Total Split (%)	12.5%	27.5%		10.6%	25.6%		10.0%	51.9%	51.9%	10.0%	51.9%	51.9%
Maximum Green (s)	14.2	38.2		11.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	35.5	11.6		35.5	21.8		99.1	89.6	89.6	99.1	91.0	91.0
Actuated g/C Ratio	0.22	0.07		0.22	0.14		0.62	0.56	0.56	0.62	0.57	0.57
v/c Ratio	0.60	0.97dr		0.91	0.34		0.41	0.65	0.07	0.63	0.63	0.03
Control Delay (s/veh)	57.4	53.9		95.6	29.7		17.0	8.4	0.6	35.1	25.5	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.4	53.9		95.6	29.7		17.0	8.4	0.6	35.1	25.5	0.1
LOS	E	D		F	C		B	A	A	D	C	A
Approach Delay (s/veh)		55.3			69.6			8.5			25.7	
Approach LOS		E			E			A			C	
90th %ile Green (s)	14.2	17.1		29.2	32.1		9.1	77.1	77.1	12.2	80.2	80.2
90th %ile Term Code	Max	Gap		Gap	Hold		Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	14.2	13.9		26.6	26.3		9.1	81.5	81.5	13.6	86.0	86.0
70th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	14.2	11.6		24.2	21.6		9.1	88.5	88.5	11.3	90.7	90.7
50th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	14.2	9.3		21.7	16.8		9.1	95.8	95.8	8.8	95.5	95.5
30th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	11.9	6.1		17.9	12.1		9.1	105.2	105.2	6.4	102.5	102.5
10th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	153	75		254	42		7	221	1	41	435	0
Queue Length 95th (ft)	193	111		298	67		46	240	7	104	505	0
Internal Link Dist (ft)		1059			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	296	818		300	786		177	2726	921	191	2768	915
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.33		0.91	0.23		0.41	0.65	0.07	0.60	0.63	0.03
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	16 (10%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	25.7
Intersection LOS:	C
Intersection Capacity Utilization:	74.3%
ICU Level of Service:	D
Analysis Period (min):	15
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	9	35	205	12	133	22	1497	211	82	1923	11
Future Volume (vph)	8	9	35	205	12	133	22	1497	211	82	1923	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.881				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1674	0	1787	1900	1568	1805	5036	1599	1787	6346	1615
Flt Permitted	0.748			0.722			0.045			0.087		
Satd. Flow (perm)	1421	1674	0	1358	1900	1568	86	5036	1599	164	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			42			160			152			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	197			645			532			1538		
Travel Time (s)	4.5			14.7			8.1			23.3		
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	3%	1%	1%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	53	0	247	14	160	27	1804	254	99	2317	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	18.0		14.0	44.0	44.0	14.0	30.0	30.0	14.0	29.0	29.0
Total Split (s)	15.0	39.0		20.0	44.0	44.0	17.0	84.0	84.0	17.0	84.0	84.0
Total Split (%)	9.4%	24.4%		12.5%	27.5%	27.5%	10.6%	52.5%	52.5%	10.6%	52.5%	52.5%
Maximum Green (s)	9.2	33.2		14.2	38.2	38.2	10.1	78.1	78.1	10.1	78.1	78.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)				31.0	31.0		17.0	17.0		16.0	16.0	
Pedestrian Calls (#/hr)				0	0		0	0		0	0	
Act Effct Green (s)	22.3	7.0		20.0	19.9	19.9	118.5	107.6	107.6	115.7	116.2	116.2
Actuated g/C Ratio	0.14	0.04		0.13	0.12	0.12	0.74	0.67	0.67	0.72	0.73	0.73
v/c Ratio	0.05	0.47		1.19	0.06	0.48	0.23	0.53	0.23	0.47	0.50	0.01
Control Delay (s/veh)	59.6	41.9		177.8	63.6	13.9	12.5	5.1	0.9	21.1	6.0	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.6	41.9		177.8	63.6	13.9	12.5	5.2	0.9	21.1	6.0	0.0
LOS	E	D		F	E	B	B	A	A	C	A	A
Approach Delay (s/veh)	44.7			111.7			4.7			6.6		
Approach LOS	D			F			A			A		
90th %ile Green (s)	6.6	9.8		14.2	17.4	17.4	5.9	97.5	97.5	14.1	105.7	105.7
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	5.8	7.3		14.2	15.7	15.7	5.4	103.1	103.1	11.0	108.7	108.7
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.0	106.6	106.6	8.8	110.4	110.4
50th %ile Term Code	Skip	Min		Max	Hold	Hold	Min	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	0.0	108.8	108.8	6.6	122.3	122.3
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	0.0		14.2	14.2	14.2	0.0	122.2	122.2	5.0	134.1	134.1
10th %ile Term Code	Skip	Skip		Max	Hold	Hold	Skip	Coord	Coord	Min	Coord	Coord
Queue Length 50th (ft)	9	8		~253	13	0	2	134	6	16	163	0
Queue Length 95th (ft)	m25	m51		#312	35	54	m8	143	m13	m62	169	m0
Internal Link Dist (ft)	117			565			452			1458		
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	231	380		207	453	496	173	3388	1125	233	4610	1202
Starvation Cap Reductn	0	0		0	0	0	0	331	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.14		1.19	0.03	0.32	0.16	0.59	0.23	0.42	0.50	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay (s/veh): 15.1
Intersection Capacity Utilization 67.0%
ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	37	453	171	325	278	1404	0	0	1913	269
Future Volume (vph)	0	0	37	453	171	325	278	1404	0	0	1913	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.972		0.950					
Satd. Flow (prot)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	1615
Flt Permitted				0.950	0.972		0.950					
Satd. Flow (perm)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162				116						203
Link Speed (mph)	55				55			45				45
Link Distance (ft)	683				982			664				532
Travel Time (s)	8.5				12.2			10.1				8.1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	0%	2%	0%	2%	6%	2%	2%	2%	3%	0%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	43	0	263	463	378	323	1633	0	0	2224	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48				24
Link Offset(ft)	0				0			0				0
Crosswalk Width(ft)	16				16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm		Prot	NA		NA	Perm
Protected Phases				4	4			1 3	1 2 3			2
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
9: Belt Line & IH 635 WBFR

						
Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				40.0	40.0	40.0					75.0	75.0
Total Split (%)				25.0%	25.0%	25.0%					46.9%	46.9%
Maximum Green (s)				33.1	33.1	33.1					68.8	68.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lead	Lead	Lead					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)		0.0		31.5	31.5	31.5	29.0	112.8			68.8	68.8
Actuated g/C Ratio		0.00		0.20	0.20	0.20	0.18	0.71			0.43	0.43
v/c Ratio		0.27		0.83	0.71	0.94	0.54	0.46			0.69	0.39
Control Delay (s/veh)		0.0		83.3	66.3	74.2	49.7	4.5			27.9	7.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.1			0.2	0.4
Total Delay (s/veh)		0.0		83.3	66.3	74.2	49.7	4.6			28.2	7.7
LOS		A		F	E	E	D	A			C	A
Approach Delay (s/veh)					73.1			12.0			25.7	
Approach LOS					E			B			C	
90th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				24.9	24.9	24.9					68.8	68.8
10th %ile Term Code				Gap	Gap	Gap					Coord	Coord
Queue Length 50th (ft)		0		290	248	283	171	87			311	44
Queue Length 95th (ft)		0		#393	299	#433	211	50			m378	m104
Internal Link Dist (ft)		603			902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)		162		333	687	419	599	3586			3212	810
Starvation Cap Reductn		0		0	0	0	0	491			322	180
Spillback Cap Reductn		0		0	0	0	0	0			0	0
Storage Cap Reductn		0		0	0	0	0	0			0	0
Reduced v/c Ratio		0.27		0.79	0.67	0.90	0.54	0.53			0.77	0.50
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
9: Belt Line & IH 635 WBFR

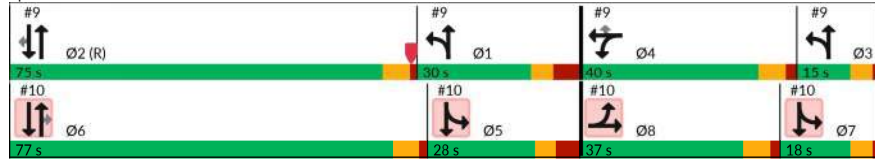
Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	30.0	15.0	28.0	77.0	18.0	37.0
Total Split (%)	19%	9%	18%	48%	11%	23%
Maximum Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	21.2	10.0	19.8	70.6	14.8	28.4
30th %ile Term Code	Max	Max	Max	Coord	Max	Gap
10th %ile Green (s)	21.2	18.2	19.8	70.6	20.9	22.3
10th %ile Term Code	Hold	Max	Max	Coord	Max	Gap
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay (s/veh): 30.0	Intersection LOS: C
Intersection Capacity Utilization 84.6%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	55	166	0	0	0	0	1563	627	617	1737	0
Future Volume (vph)	137	55	166	0	0	0	0	1563	627	617	1737	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.894							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25							365			
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		676			657			722			664	
Travel Time (s)		9.2			9.0			10.9			10.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	2%	4%	2%	2%	2%	2%	3%	1%	2%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	141	270	0	0	0	0	0	1797	721	709	1997	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

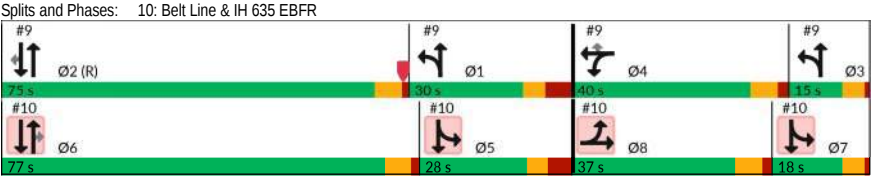
Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background PM
10: Belt Line & IH 635 EBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	37.0	37.0						77.0	77.0			
Total Split (%)	23.1%	23.1%						48.1%	48.1%			
Maximum Green (s)	30.2	30.2						70.6	70.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	28.3	28.3						70.6	70.6	31.5	116.7	
Actuated g/C Ratio	0.18	0.18						0.44	0.44	0.20	0.73	
v/c Ratio	0.48	0.92						0.55	0.79	1.05	0.54	
Control Delay (s/veh)	64.7	92.7						33.7	25.4	91.8	4.6	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay (s/veh)	64.7	92.7						33.7	25.4	91.8	4.8	
LOS	E	F						C	C	F	A	
Approach Delay (s/veh)		83.1						31.3			27.6	
Approach LOS		F						C			C	
90th %ile Green (s)	30.2	30.2						70.6	70.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	30.2	30.2						70.6	70.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	30.2	30.2						70.6	70.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	28.4	28.4						70.6	70.6			
30th %ile Term Code	Gap	Gap						Coord	Coord			
10th %ile Green (s)	22.3	22.3						70.6	70.6			
10th %ile Term Code	Gap	Gap						Coord	Coord			
Queue Length 50th (ft)	140	267						338	348	~327	157	
Queue Length 95th (ft)	210	#408						351	492	#428	160	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	314	313						3296	909	676	3674	
Starvation Cap Reductn	0	0						0	0	0	557	
Spillback Cap Reductn	0	0						0	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.45	0.86						0.55	0.79	1.05	0.64	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	30.0	75.0	15.0	40.0	28.0	18.0
Total Split (%)	19%	47%	9%	25%	18%	11%
Maximum Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	14.8
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	21.2	68.8	18.2	24.9	19.8	20.9
10th %ile Term Code	Hold	Coord	Max	Gap	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay (s/veh): 33.3	Intersection LOS: C
Intersection Capacity Utilization 84.6%	ICU Level of Service E
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



Naterra Industrial TIA
HCM 7th TWSC

2027 Background PM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱		↱	↱↱			↱↱		↱↱		
Traffic Vol, veh/h	0	97	10	83	100	0	11	0	23	0	0	0
Future Vol, veh/h	0	97	10	83	100	0	11	0	23	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	10	0	1	5	2	0	2	5	2	2	2
Mvmt Flow	0	118	12	101	122	0	13	0	28	0	0	0
Major/Minor	Major1	Major2		Minor1		Minor2						
Conflicting Flow All	122	0	0	130	0	0	388	449	65	384	455	61
Stage 1	-	-	-	-	-	-	124	124	-	324	324	-
Stage 2	-	-	-	-	-	-	263	324	-	59	130	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.5	6.54	7	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.5	4.02	3.35	3.52	4.02	3.32
Pot Cap-1 Maneuver	1463	-	-	1460	-	0	550	504	976	549	500	991
Stage 1	-	-	-	-	-	0	872	792	-	662	648	-
Stage 2	-	-	-	-	-	0	725	648	-	945	787	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1463	-	-	1460	-	-	512	469	976	496	465	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	469	-	496	465	-
Stage 1	-	-	-	-	-	-	872	792	-	616	603	-
Stage 2	-	-	-	-	-	-	674	603	-	918	787	-
Approach	EB	WB		NB		SB						
HCM Control Delay, s/v	0	3.47		10.05		0						
HCM LOS				B		A						
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	755	1463	-	-	1460	-	-					
HCM Lane V/C Ratio	0.055	-	-	-	0.069	-	-					
HCM Control Delay (s/veh)	10	0	-	-	7.6	-	0					
HCM Lane LOS	B	A	-	-	A	-	A					
HCM 95th %tile Q(veh)	0.2	0	-	-	0.2	-	-					

Naterra Industrial TIA
HCM 7th TWSC

2027 Background PM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	680	33	0	117
Future Vol, veh/h	0	0	680	33	0	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	3	0	2	1
Mvmt Flow	0	0	810	39	0	139
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		810	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.21	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.309	
Pot Cap-1 Maneuver	-		0		382	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		382	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			19.75		
HCM LOS				C		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	382			
HCM Lane V/C Ratio	-	-	0.365			
HCM Control Delay (s/veh)	-	-	19.8			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	1.6			

Naterra Industrial TIA
HCM 7th TWSC

2027 Background PM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	19	23	10	42	58
Future Vol, veh/h	27	19	23	10	42	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	21	25	11	46	63

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	185	30	0
Stage 1	30	-	-
Stage 2	154	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	804	1044	-
Stage 1	992	-	-
Stage 2	874	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	780	1044	-
Mov Cap-2 Maneuver	780	-	-
Stage 1	992	-	-
Stage 2	848	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.38	0	3.09
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	871	756
HCM Lane V/C Ratio	-	-	0.057	0.029
HCM Control Delay (s/veh)	-	-	9.4	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Naterra Industrial TIA
HCM 7th TWSC

2027 Background PM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	97	0	0	101	10	0	0	0	10	0	10
Future Vol, veh/h	10	97	0	0	101	10	0	0	0	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	105	0	0	110	11	0	0	0	11	0	11

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	121	0	-	105
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	2.22	-
Pot Cap-1 Maneuver	1465	-	0	1484
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1465	-	-	1484
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.7	0	0	9.33
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1465	-	1484	-	-	853
HCM Lane V/C Ratio	-	-	0.007	-	-	-	-	0.025
HCM Control Delay (s/veh)	0	0	7.5	-	0	-	-	9.3
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	-	0	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	5	0	37	5	5	95	0
Future Vol, veh/h	0	0	0	5	0	5	0	37	5	5	95	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	5	0	40	5	5	103	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	154	160	103	157	157	43	103	0	0	46	0	0
Stage 1	114	114	-	43	43	-	-	-	-	-	-	-
Stage 2	40	46	-	114	114	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	812	732	952	809	735	1027	1489	-	-	1562	-	-
Stage 1	891	801	-	971	859	-	-	-	-	-	-	-
Stage 2	975	857	-	891	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	805	730	952	806	732	1027	1489	-	-	1562	-	-
Mov Cap-2 Maneuver	805	730	-	806	732	-	-	-	-	-	-	-
Stage 1	887	798	-	971	859	-	-	-	-	-	-	-
Stage 2	969	857	-	887	798	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			9.03			0			0.37		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1489	-	-	-	-	903	90	-	-			
HCM Lane V/C Ratio	-	-	-	-	-	0.012	0.003	-	-			
HCM Control Delay (s/veh)	0	-	-	0	0	9	7.3	0	-			
HCM Lane LOS	A	-	-	A	A	A	A	A	-			
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-			



SynchroTM Output - 2027 Background Plus Site Traffic

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗↗	↖	↖	↖↗↗	↖
Traffic Volume (vph)	52	34	66	88	28	19	156	1112	155	153	1286	132
Future Volume (vph)	52	34	66	88	28	19	156	1112	155	153	1286	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.901			0.938				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3032	0	1531	2981	0	1646	4821	1516	1601	4868	1561
Flt Permitted	0.722			0.683			0.150			0.198		
Satd. Flow (perm)	1275	3032	0	1100	2981	0	260	4821	1516	334	4868	1561
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		72			21			106			106	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1143			713			1538			980	
Travel Time (s)		26.0			16.2			23.3			14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	11%	14%	7%	23%	6%	4%	3%	9%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	109	0	96	51	0	170	1209	168	166	1398	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	18.0	44.0		15.0	41.0		23.0	86.0	86.0	15.0	78.0	78.0
Total Split (%)	11.3%	27.5%		9.4%	25.6%		14.4%	53.8%	53.8%	9.4%	48.8%	48.8%
Maximum Green (s)	12.2	38.2		9.2	35.2		16.1	80.1	80.1	8.1	72.1	72.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	17.6	7.6		16.5	9.9		118.1	109.7	109.7	118.1	103.0	103.0
Actuated g/C Ratio	0.11	0.05		0.10	0.06		0.74	0.69	0.69	0.74	0.64	0.64
v/c Ratio	0.35	0.51		0.70	0.25		0.51	0.37	0.16	0.52	0.45	0.14
Control Delay (s/veh)	66.9	36.7		90.3	50.1		11.9	2.8	0.8	10.8	15.0	3.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.9	36.7		90.3	50.1		11.9	2.8	0.8	10.8	15.0	3.9
LOS	E	D		F	D		B	A	A	B	B	A
Approach Delay (s/veh)		47.1			76.4			3.6			13.7	
Approach LOS		D			E			A			B	
90th %ile Green (s)	12.2	11.4		9.2	8.4		16.1	100.8	100.8	14.2	98.9	98.9
90th %ile Term Code	Max	Hold		Max	Gap		Max	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	10.5	8.3		9.2	7.0		16.1	107.7	107.7	10.4	102.0	102.0
70th %ile Term Code	Gap	Hold		Max	Gap		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	8.8	6.4		9.2	6.8		16.1	111.4	111.4	8.6	103.9	103.9
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	7.2	6.0		9.2	8.0		16.1	112.7	112.7	7.7	104.3	104.3
30th %ile Term Code	Gap	Min		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.4	19.2		16.1	115.7	115.7	6.5	106.1	106.1
10th %ile Term Code	Skip	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	54	20		94	16		35	15	0	36	250	13
Queue Length 95th (ft)	98	53		153	41		71	62	5	65	310	44
Internal Link Dist (ft)		1063			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	187	778		140	672		331	3304	1072	325	3135	1042
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.14		0.69	0.08		0.51	0.37	0.16	0.51	0.45	0.14
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 92 (58%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay (s/veh): 13.4	Intersection LOS: B
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	16	51	77	24	61	103	1444	503	97	1292	7
Future Volume (vph)	18	16	51	77	24	61	103	1444	503	97	1292	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.886				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1631	0	1736	1900	1482	1787	4988	1583	1752	6346	1615
Flt Permitted	0.740			0.650			0.139			0.112		
Satd. Flow (perm)	1406	1631	0	1188	1900	1482	261	4988	1583	207	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58				106			355			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	249			645			532			1538		
Travel Time (s)	5.7			14.7			8.1			23.3		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	2%	4%	0%	9%	1%	4%	2%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	76	0	88	27	69	117	1641	572	110	1468	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8		4	2		6	6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (%)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (s)	10.0%	28.1%		10.0%	28.1%	28.1%	12.5%	49.4%	49.4%	12.5%	49.4%	49.4%
Maximum Green (s)	10.2	39.2		10.2	39.2	39.2	13.1	73.1	73.1	13.1	73.1	73.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	19.5	7.7		17.2	15.3	15.3	117.4	108.8	108.8	117.4	110.4	110.4
Actuated g/C Ratio	0.12	0.05		0.11	0.10	0.10	0.73	0.68	0.68	0.73	0.69	0.69
v/c Ratio	0.11	0.57		0.55	0.15	0.29	0.44	0.48	0.48	0.45	0.34	0.01
Control Delay (s/veh)	62.8	43.8		74.8	70.4	5.8	10.8	1.3	1.1	19.8	4.6	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (s/veh)	62.8	43.8		74.8	70.4	5.8	10.8	1.4	1.3	19.8	4.6	0.0
LOS	E	D		E	A	A	B	A	A	B	A	A
Approach Delay (s/veh)		47.8			48.3			1.9			5.6	
Approach LOS		D			D			A			A	
90th %ile Green (s)	8.0	11.6		10.2	13.8	13.8	12.4	98.8	98.8	15.0	101.4	101.4
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	6.8	8.5		10.2	11.9	11.9	9.0	105.3	105.3	11.6	107.9	107.9
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	6.0	6.3		10.2	10.5	10.5	6.9	109.9	109.9	9.2	112.2	112.2
50th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		9.9	21.7	21.7	6.3	112.8	112.8	6.9	113.4	113.4
30th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.0	18.8	18.8	5.4	117.3	117.3	5.3	117.2	117.2
10th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	19	20		85	27	0	2	13	0	17	50	0
Queue Length 95th (ft)	m42	73		136	60	12	m29	m54	m6	m51	65	m0
Internal Link Dist (ft)		169			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	214	443		167	465	443	324	3392	1190	286	4379	1147
Starvation Cap Reductn	0	0		0	0	0	0	631	144	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17		0.53	0.06	0.16	0.36	0.59	0.55	0.38	0.34	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 100 (63%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 160
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay (s/veh): 6.4
Intersection Capacity Utilization 59.7%
ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	21	604	113	476	145	1574	0	0	1315	91
Future Volume (vph)	0	0	21	604	113	476	145	1574	0	0	1315	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	0.88
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.965		0.950					
Satd. Flow (prot)	0	0	0	1610	3289	1553	3335	5036	0	0	7471	2656
Flt Permitted				0.950	0.965		0.950					
Satd. Flow (perm)	0	0	0	1610	3289	1553	3335	5036	0	0	7471	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		253				160						167
Link Speed (mph)	55				55			45				45
Link Distance (ft)	628				982			664				532
Travel Time (s)	7.8				12.2			10.1				8.1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	0%	2%	0%	4%	5%	3%	2%	2%	3%	7%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	24	0	343	471	541	165	1789	0	0	1494	103
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1		2	1	1	2			2	1
Detector Template			Left	Thru	Right	Left	Thru				Thru	Right
Leading Detector (ft)			20	100	20	20	100				100	20
Trailing Detector (ft)			0	0	0	0	0				0	0
Detector 1 Position(ft)			0	0	0	0	0				0	0
Detector 1 Size(ft)			20	6	20	20	6				6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 2 Position(ft)				94			94					94
Detector 2 Size(ft)				6			6					6
Detector 2 Type				Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)				0.0			0.0				0.0	
Turn Type			Split	NA	Perm	Prot	NA				NA	Perm
Protected Phases			4	4		1 3	1 2 3				2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
9: Belt Line & IH 635 WBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				48.0	48.0	48.0					82.0	82.0
Total Split (%)				30.0%	30.0%	30.0%					51.3%	51.3%
Maximum Green (s)				41.1	41.1	41.1					75.8	75.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lag	Lag	Lag					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)	0.0			41.1	41.1	41.1	21.2	103.2			75.8	75.8
Actuated g/C Ratio	0.00			0.26	0.26	0.26	0.13	0.65			0.47	0.47
v/c Ratio	0.09			0.83	0.56	1.05	0.37	0.55			0.42	0.08
Control Delay (s/veh)	0.0			73.9	54.6	91.6	75.2	16.6			16.7	1.1
Queue Delay	0.0			0.0	0.0	0.0	0.0	6.0			0.0	0.0
Total Delay (s/veh)	0.0			73.9	54.6	91.6	75.2	22.6			16.7	1.1
LOS	A			E	D	F	E	C			B	A
Approach Delay (s/veh)					74.2			27.0			15.7	
Approach LOS					E			C			B	
90th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)	0			375	236	~480	94	691			268	0
Queue Length 95th (ft)	0			#529	292	#686	m123	m715			194	2
Internal Link Dist (ft)	548				902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)	253			413	844	517	441	3248			3539	1346
Starvation Cap Reductn	0			0	0	0	0	1400			0	0
Spillback Cap Reductn	0			0	0	0	0	0			0	0
Storage Cap Reductn	0			0	0	0	0	0			0	0
Reduced v/c Ratio	0.09			0.83	0.56	1.05	0.37	0.97			0.42	0.08

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
9: Belt Line & IH 635 WBFR

	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	15.0	15.0	42.0	55.0	16.0	47.0
Total Split (%)	9%	9%	26%	34%	10%	29%
Maximum Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
30th %ile Term Code	Max	Max	Hold	Coord	Max	Max
10th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
10th %ile Term Code	Max	Max	Hold	Coord	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

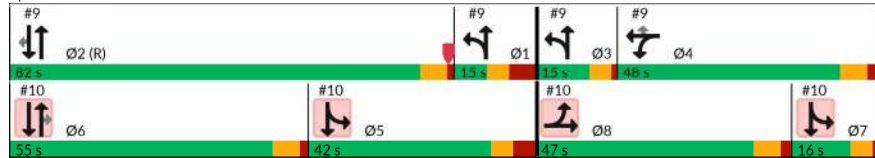
Intersection Summary

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay (s/veh): 36.2	Intersection LOS: D
Intersection Capacity Utilization 73.0%	ICU Level of Service C
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	426	66	239	0	0	0	0	1318	287	414	1539	0
Future Volume (vph)	426	66	239	0	0	0	0	1318	287	414	1539	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.898							0.850			
Flt Protected	0.950	0.993								0.950		
Satd. Flow (prot)	1681	1565	0	0	0	0	0	7399	1553	3400	5036	0
Flt Permitted	0.950	0.993								0.950		
Satd. Flow (perm)	1681	1565	0	0	0	0	0	7399	1553	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28							314			
Link Speed (mph)	50				50			45			45	
Link Distance (ft)	676				657			722			664	
Travel Time (s)	9.2				9.0			10.9			10.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	3%	3%	2%	2%	2%	2%	4%	4%	3%	3%	2%
Shared Lane Traffic (%)	11%											
Lane Group Flow (vph)	436	405	0	0	0	0	0	1515	330	476	1769	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			24			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

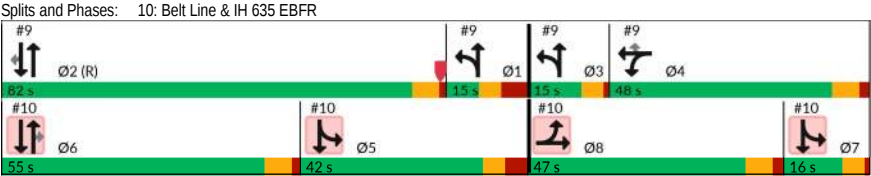
Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site AM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	47.0	47.0						55.0	55.0			
Total Split (%)	29.4%	29.4%						34.4%	34.4%			
Maximum Green (s)	40.2	40.2						48.6	48.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	40.2	40.2						48.6	48.6	41.6	104.8	
Actuated g/C Ratio	0.25	0.25						0.30	0.30	0.26	0.66	
v/c Ratio	1.03	0.98						0.67	0.48	0.54	0.54	
Control Delay (s/veh)	109.6	93.5						50.6	7.6	29.6	6.8	
Queue Delay	0.0	0.5						0.6	0.0	0.0	0.0	
Total Delay (s/veh)	109.6	94.0						51.2	7.6	29.6	6.8	
LOS	F	F						D	A	C	A	
Approach Delay (s/veh)		102.1						43.4			11.7	
Approach LOS		F						D			B	
90th %ile Green (s)	40.2	40.2						48.6	48.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	40.2	40.2						48.6	48.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	40.2	40.2						48.6	48.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	40.2	40.2						48.6	48.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	40.2	40.2						48.6	48.6			
10th %ile Term Code	Max	Max						Coord	Coord			
Queue Length 50th (ft)	~512	421						344	12	170	217	
Queue Length 95th (ft)	#707	#621						364	79	213	204	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	422	414						2247	690	884	3298	
Starvation Cap Reductn	0	0						0	0	0	97	
Spillback Cap Reductn	0	1						349	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	1.03	0.98						0.80	0.48	0.54	0.55	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	15.0	82.0	15.0	48.0	42.0	16.0
Total Split (%)	9%	51%	9%	30%	26%	10%
Maximum Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
30th %ile Term Code	Max	Coord	Max	Max	Hold	Max
10th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
10th %ile Term Code	Max	Coord	Max	Max	Hold	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay (s/veh): 39.0
Intersection LOS: D
Intersection Capacity Utilization 73.0%
ICU Level of Service C
Analysis Period (min) 15
- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site AM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	170	21	37	95	0	23	0	34	0	0	0
Future Vol, veh/h	0	170	21	37	95	0	23	0	34	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	0	9	3	2	0	2	0	2	2	2
Mvmt Flow	0	210	26	46	117	0	28	0	42	0	0	0
Major/Minor	Major1	Major2		Minor1		Minor2						
Conflicting Flow All	117	0	0	236	0	0	373	431	118	314	444	59
Stage 1	-	-	-	-	-	-	223	223	-	209	209	-
Stage 2	-	-	-	-	-	-	150	209	-	105	236	-
Critical Hdwy	4.14	-	-	4.28	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.29	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	1469	-	-	1279	-	0	564	515	918	616	507	995
Stage 1	-	-	-	-	-	0	765	718	-	774	728	-
Stage 2	-	-	-	-	-	0	843	728	-	889	709	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1469	-	-	1279	-	-	544	497	918	567	489	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	544	497	-	567	489	-
Stage 1	-	-	-	-	-	-	765	718	-	746	702	-
Stage 2	-	-	-	-	-	-	813	702	-	849	709	-
Approach	EB	WB		NB		SB						
HCM Control Delay, s/v	0	2.22		10.55		0						
HCM LOS				B		A						
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	719	1469	-	-	1279	-	-					
HCM Lane V/C Ratio	0.098	-	-	-	0.036	-	-					
HCM Control Delay (s/veh)	10.6	0	-	-	7.9	-	0					
HCM Lane LOS	B	A	-	-	A	-	A					
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-					

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site AM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶	↶		↶
Traffic Vol, veh/h	0	0	223	75	0	32
Future Vol, veh/h	0	0	223	75	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	5	0	2	13
Mvmt Flow	0	0	272	91	0	39
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		272	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.33	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.417	
Pot Cap-1 Maneuver	-		0		741	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		741	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			10.13		
HCM LOS				B		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	741			
HCM Lane V/C Ratio	-	-	0.053			
HCM Control Delay (s/veh)	-	-	10.1			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.2			

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site AM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	42	64	10	28	29
Future Vol, veh/h	91	42	64	10	28	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	1	2	1	5
Mvmt Flow	99	46	70	11	30	32
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	167	75	0	0	80	0
Stage 1	75	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	823	989	-	-	1524	-
Stage 1	948	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	806	989	-	-	1524	-
Mov Cap-2 Maneuver	806	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v10.06	0		0		3.64	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	856	884	-	
HCM Lane V/C Ratio	-	-	0.169	0.02	-	
HCM Control Delay (s/veh)	-	-	10.1	7.4	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site AM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	168	12	48	59	10	2	0	12	10	0	10
Future Vol, veh/h	10	168	12	48	59	10	2	0	12	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	2	2	2	0	2	17	2	2	2
Mvmt Flow	11	183	13	52	64	11	2	0	13	11	0	11
Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	75	0	0	196	0	0	347	390	98	287	391	38
Stage 1	-	-	-	-	-	-	211	211	-	174	174	-
Stage 2	-	-	-	-	-	-	136	179	-	113	217	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.5	6.54	7.24	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.5	4.02	3.47	3.52	4.02	3.32
Pot Cap-1 Maneuver	1522	-	-	1375	-	-	588	544	893	643	543	1026
Stage 1	-	-	-	-	-	-	777	727	-	811	754	-
Stage 2	-	-	-	-	-	-	859	750	-	880	722	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1522	-	-	1375	-	-	556	519	893	605	519	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	519	-	605	519	-
Stage 1	-	-	-	-	-	-	772	721	-	780	725	-
Stage 2	-	-	-	-	-	-	817	721	-	861	717	-
Approach	EB			WB			NB		SB			
HCM Control Delay, s/v	0.39			3.17			9.44		9.87			
HCM LOS							A		A			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	556	893	1522	-	-	1375	-	-	761			
HCM Lane V/C Ratio	0.004	0.015	0.007	-	-	0.038	-	-	0.029			
HCM Control Delay (s/veh)	11.5	9.1	7.4	-	-	7.7	-	-	9.9			
HCM Lane LOS	B	A	A	-	-	A	-	-	A			
HCM 95th %tile Q(veh)	0	0	0	-	-	0.1	-	-	0.1			

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	11	5	0	5	48	56	5	5	46	12
Future Vol, veh/h	2	0	11	5	0	5	48	56	5	5	46	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	9	2	2	2	2	2	2	2	2	0
Mvmt Flow	2	0	12	5	0	5	52	61	5	5	50	13

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	233	238	57	229	242	64	63	0
Stage 1	67	67	-	168	168	-	-	-
Stage 2	165	171	-	61	74	-	-	-
Critical Hdwy	7.1	6.52	6.29	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.5	4.018	3.381	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	726	663	990	726	660	1001	1540	-
Stage 1	948	839	-	834	759	-	-	-
Stage 2	842	757	-	950	833	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	694	637	990	690	634	1001	1540	-
Mov Cap-2 Maneuver	694	637	-	690	634	-	-	-
Stage 1	944	836	-	805	733	-	-	-
Stage 2	807	731	-	936	830	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	8.91		9.47		3.27		0.58	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	780	-	-	694	990	817	137	-	-
HCM Lane V/C Ratio	0.034	-	-	0.003	0.012	0.013	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.2	8.7	9.5	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	0	-	-

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗↗	↖	↖	↖↗↗	↖
Traffic Volume (vph)	169	37	220	229	71	77	72	1493	55	97	1461	33
Future Volume (vph)	169	37	220	229	71	77	72	1493	55	97	1461	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.872			0.922				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3006	0	1711	3248	0	1662	4868	1531	1694	4868	1516
Flt Permitted	0.589			0.263			0.061			0.054		
Satd. Flow (perm)	1061	3006	0	474	3248	0	107	4868	1531	96	4868	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		122			97				145			145
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1139			713			1538			980	
Travel Time (s)		25.9			16.2			23.3			14.8	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	2%	3%	5%	2%	3%	2%	5%	3%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	325	0	290	187	0	91	1890	70	123	1849	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

	↖	→	↗	↖	←	↖	↖	↑	↗	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	20.0	44.0		17.0	41.0		16.0	83.0	83.0	16.0	83.0	83.0
Total Split (%)	12.5%	27.5%		10.6%	25.6%		10.0%	51.9%	51.9%	10.0%	51.9%	51.9%
Maximum Green (s)	14.2	38.2		11.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	40.9	15.2		40.9	26.7		93.7	84.0	84.0	93.7	85.6	85.6
Actuated g/C Ratio	0.26	0.10		0.26	0.17		0.59	0.53	0.53	0.59	0.54	0.54
v/c Ratio	0.65	1.09dr		0.91	0.30		0.60	0.74	0.08	0.75	0.71	0.05
Control Delay (s/veh)	55.9	60.6		93.0	27.3		35.8	10.4	0.5	60.5	30.8	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.9	60.6		93.0	27.3		35.8	10.4	0.5	60.5	30.8	0.1
LOS	E	E		F	C		D	B	A	E	C	A
Approach Delay (s/veh)		58.8			67.2			11.2			32.0	
Approach LOS		E			E			B			C	
90th %ile Green (s)	14.2	21.4		28.0	35.2		9.1	77.1	77.1	9.1	77.1	77.1
90th %ile Term Code	Max	Gap		Max	Hold		Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	14.2	17.8		28.1	31.7		9.1	77.1	77.1	12.6	80.6	80.6
70th %ile Term Code	Max	Gap		Gap	Hold		Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	14.2	15.2		26.9	27.9		9.1	80.3	80.3	13.2	84.4	84.4
50th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	14.2	12.7		24.7	23.2		9.1	87.5	87.5	10.7	89.1	89.1
30th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	14.1	9.1		20.7	15.7		9.1	98.0	98.0	7.8	96.7	96.7
10th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	180	112		257	42		28	251	1	73	527	0
Queue Length 95th (ft)	210	133		285	61		84	245	4	#156	523	0
Internal Link Dist (ft)		1059			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	329	810		319	790		151	2555	872	165	2603	878
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.40		0.91	0.24		0.60	0.74	0.08	0.75	0.71	0.05
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 16 (10%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 29.8	Intersection LOS: C
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	14	62	205	14	135	27	1506	211	87	1951	11
Future Volume (vph)	8	14	62	205	14	135	27	1506	211	87	1951	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.878				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1668	0	1787	1900	1568	1805	5036	1599	1787	6346	1615
Flt Permitted	0.746			0.536			0.038			0.071		
Satd. Flow (perm)	1417	1668	0	1008	1900	1568	72	5036	1599	134	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			171			151			106
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		197			645			532			1538	
Travel Time (s)		4.5			14.7			8.1			23.3	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	3%	1%	1%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	96	0	259	18	171	34	1906	267	110	2470	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	18.0		14.0	44.0	44.0	14.0	30.0	30.0	14.0	29.0	29.0
Total Split (s)	15.0	39.0		20.0	44.0	44.0	17.0	84.0	84.0	17.0	84.0	84.0
Total Split (%)	9.4%	24.4%		12.5%	27.5%	27.5%	10.6%	52.5%	52.5%	10.6%	52.5%	52.5%
Maximum Green (s)	9.2	33.2		14.2	38.2	38.2	10.1	78.1	78.1	10.1	78.1	78.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	25.5	7.8		22.0	23.0	23.0	114.0	103.1	103.1	112.6	110.5	110.5
Actuated g/C Ratio	0.16	0.05		0.14	0.14	0.14	0.71	0.64	0.64	0.70	0.69	0.69
v/c Ratio	0.04	0.62		1.25	0.07	0.46	0.31	0.59	0.25	0.54	0.56	0.01
Control Delay (s/veh)	56.4	39.4		195.2	62.2	12.7	23.7	6.2	1.2	29.8	8.1	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.4	39.4		195.2	62.2	12.7	23.7	6.3	1.2	29.8	8.1	0.0
LOS	E	D		F	E	B	C	A	A	C	A	A
Approach Delay (s/veh)		41.0			120.2			5.9			9.0	
Approach LOS		D			F			A			A	
90th %ile Green (s)	6.6	12.3		14.2	19.9	19.9	6.4	93.5	93.5	15.6	102.7	102.7
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	5.8	8.6		14.2	17.0	17.0	5.6	100.1	100.1	12.7	107.2	107.2
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	0.0	6.2		14.2	26.2	26.2	5.2	104.8	104.8	10.4	110.0	110.0
50th %ile Term Code	Skip	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.0	107.3	107.3	8.1	110.4	110.4
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Min	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	0.0	109.6	109.6	5.8	122.3	122.3
10th %ile Term Code	Skip	Min		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	10	14		-304	16	0	2	146	7	41	184	0
Queue Length 95th (ft)	m23	m62		#318	38	43	m19	175	m14	m80	233	m0
Internal Link Dist (ft)		117			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	258	407		207	453	504	162	3243	1083	216	4383	1148
Starvation Cap Reductn	0	0		0	0	0	0	228	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.24		1.25	0.04	0.34	0.21	0.63	0.25	0.51	0.56	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay (s/veh): 17.7
Intersection LOS: B
Intersection Capacity Utilization 67.4%
ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	37	453	174	328	281	1415	0	0	1957	280
Future Volume (vph)	0	0	37	453	174	328	281	1415	0	0	1957	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.972		0.950					
Satd. Flow (prot)	0	0	0	1610	3324	1583	3303	5085	0	0	7471	1615
Flt Permitted				0.950	0.972		0.950					
Satd. Flow (perm)	0	0	0	1610	3324	1583	3303	5085	0	0	7471	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162				116						183
Link Speed (mph)	55				55			45				45
Link Distance (ft)	683				982			664				532
Travel Time (s)	8.5				12.2			10.1				8.1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	2%	2%	0%	2%	0%	2%	6%	2%	2%	2%	3%	0%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	45	0	276	488	400	343	1726	0	0	2387	341
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	2		1	1	2			2	1
Detector Template			Left	Thru	Right	Left	Thru				Thru	Right
Leading Detector (ft)			20	100	20	20	100				100	20
Trailing Detector (ft)			0	0	0	0	0				0	0
Detector 1 Position(ft)			0	0	0	0	0				0	0
Detector 1 Size(ft)			20	6	20	20	6				6	20
Detector 1 Type			CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex				CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	0.0				0.0	0.0
Detector 2 Position(ft)				94			94					94
Detector 2 Size(ft)				6			6					6
Detector 2 Type				CI+Ex			CI+Ex				CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)				0.0			0.0				0.0	
Turn Type			Split	NA	Perm	Prot	NA				NA	Perm
Protected Phases			4	4		1 3	1 2 3				2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
9: Belt Line & IH 635 WBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				40.0	40.0	40.0					75.0	75.0
Total Split (%)				25.0%	25.0%	25.0%					46.9%	46.9%
Maximum Green (s)				33.1	33.1	33.1					68.8	68.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lead	Lead	Lead					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)	0.0			32.5	32.5	32.5	28.0	111.8			68.8	68.8
Actuated g/C Ratio	0.00			0.20	0.20	0.20	0.18	0.70			0.43	0.43
v/c Ratio	0.28			0.84	0.72	0.97	0.59	0.49			0.74	0.43
Control Delay (s/veh)	0.0			84.0	66.4	80.8	50.2	5.0			30.5	11.0
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.1			0.4	0.5
Total Delay (s/veh)	0.0			84.0	66.4	80.8	50.2	5.1			30.9	11.5
LOS	A			F	E	F	D	A			C	B
Approach Delay (s/veh)					75.5			12.5			28.5	
Approach LOS					E			B			C	
90th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				30.0	30.0	30.0					68.8	68.8
10th %ile Term Code				Gap	Gap	Gap					Coord	Coord
Queue Length 50th (ft)	0			307	263	313	179	95			376	70
Queue Length 95th (ft)	0			387	297	#433	209	54			m418	m108
Internal Link Dist (ft)	603				902			584				452
Turn Bay Length (ft)						418						
Base Capacity (vph)	162			333	687	419	578	3554			3212	798
Starvation Cap Reductn	0			0	0	0	0	489			321	175
Spillback Cap Reductn	0			0	0	0	0	0			0	0
Storage Cap Reductn	0			0	0	0	0	0			0	0
Reduced v/c Ratio	0.28			0.83	0.71	0.95	0.59	0.56			0.83	0.55

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
9: Belt Line & IH 635 WBFR

	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	30.0	15.0	28.0	77.0	18.0	37.0
Total Split (%)	19%	9%	18%	48%	11%	23%
Maximum Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
30th %ile Term Code	Max	Max	Max	Coord	Max	Max
10th %ile Green (s)	21.2	13.1	19.8	70.6	18.7	24.5
10th %ile Term Code	Max	Max	Max	Coord	Max	Gap
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

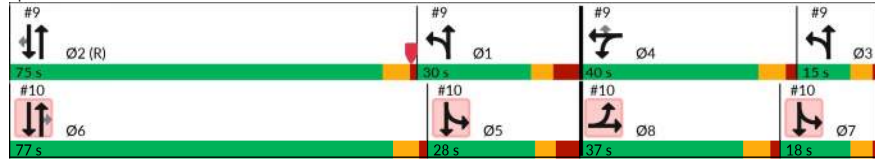
Intersection Summary

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay (s/veh): 31.9	Intersection LOS: C
Intersection Capacity Utilization 85.4%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	144	55	166	0	0	0	0	1569	627	639	1758	0
Future Volume (vph)	144	55	166	0	0	0	0	1569	627	639	1758	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.894							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21							359			
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		676			657			722			664	
Travel Time (s)		9.2			9.0			10.9			10.1	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	2%	4%	2%	2%	2%	2%	3%	1%	2%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	154	280	0	0	0	0	0	1868	746	761	2093	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	37.0	37.0						77.0	77.0			
Total Split (%)	23.1%	23.1%						48.1%	48.1%			
Maximum Green (s)	30.2	30.2						70.6	70.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	29.1	29.1						70.6	70.6	30.7	115.9	
Actuated g/C Ratio	0.18	0.18						0.44	0.44	0.19	0.72	
v/c Ratio	0.51	0.94						0.57	0.82	1.15	0.57	
Control Delay (s/veh)	65.3	96.8						34.1	28.3	125.7	4.6	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.2	
Total Delay (s/veh)	65.3	96.8						34.1	28.3	125.7	4.7	
LOS	E	F						C	C	F	A	
Approach Delay (s/veh)		85.6						32.5			37.0	
Approach LOS		F						C			D	
90th %ile Green (s)	30.2	30.2						70.6	70.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	30.2	30.2						70.6	70.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	30.2	30.2						70.6	70.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	30.2	30.2						70.6	70.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	24.5	24.5						70.6	70.6			
10th %ile Term Code	Gap	Gap						Coord	Coord			
Queue Length 50th (ft)	153	284						356	392	~387	161	
Queue Length 95th (ft)	218	#413						352	492	#455	158	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	314	310						3296	906	659	3649	
Starvation Cap Reductn	0	0						0	0	0	557	
Spillback Cap Reductn	0	0						0	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.49	0.90						0.57	0.82	1.15	0.68	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
10: Belt Line & IH 635 EBFR

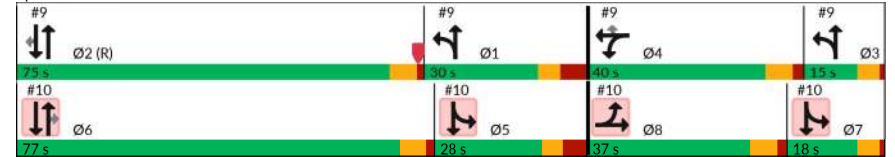
Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	30.0	75.0	15.0	40.0	28.0	18.0
Total Split (%)	19%	47%	9%	25%	18%	11%
Maximum Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	21.2	68.8	13.1	30.0	19.8	18.7
10th %ile Term Code	Max	Coord	Max	Gap	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2027 Background + Site PM
10: Belt Line & IH 635 EBFR

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay (s/veh): 38.6
Intersection LOS: D
Intersection Capacity Utilization 85.4%
ICU Level of Service E
Analysis Period (min) 15
- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Belt Line & IH 635 EBFR



Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site PM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection													
Int Delay, s/veh	2.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	0	141	10	86	114	0	11	0	34	0	0	0	
Future Vol, veh/h	0	141	10	86	114	0	11	0	34	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79	
Heavy Vehicles, %	2	8	0	1	5	2	0	2	3	2	2	2	
Mvmt Flow	0	178	13	109	144	0	14	0	43	0	0	0	
Major/Minor	Major1	Major2		Minor1		Minor2							
Conflicting Flow All	144	0	0	191	0	0	475	547	96	451	553	72	
Stage 1	-	-	-	-	-	-	185	185	-	362	362	-	
Stage 2	-	-	-	-	-	-	290	362	-	89	191	-	
Critical Hdwy	4.14	-	-	4.12	-	-	7.5	6.54	6.96	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.5	4.02	3.33	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1436	-	-	1387	-	0	478	443	939	492	439	975	
Stage 1	-	-	-	-	-	0	805	746	-	629	624	-	
Stage 2	-	-	-	-	-	0	699	624	-	908	741	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1436	-	-	1387	-	-	440	408	939	432	405	975	
Mov Cap-2 Maneuver	-	-	-	-	-	-	440	408	-	432	405	-	
Stage 1	-	-	-	-	-	-	805	746	-	580	575	-	
Stage 2	-	-	-	-	-	-	644	575	-	867	741	-	
Approach	EB	WB		NB		SB							
HCM Control Delay, s/v	0	3.36		10.31		0							
HCM LOS				B		A							
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1						
Capacity (veh/h)	735	1436	-	-	1387	-	-						
HCM Lane V/C Ratio	0.077	-	-	-	0.078	-	-						
HCM Control Delay (s/veh)	10.3	0	-	-	7.8	-	0						
HCM Lane LOS	B	A	-	-	A	-	A						
HCM 95th %tile Q(veh)	0.3	0	-	-	0.3	-	-						

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site PM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	691	39	0	128
Future Vol, veh/h	0	0	691	39	0	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	3	0	2	1
Mvmt Flow	0	0	833	47	0	154
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		833	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.21	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.309	
Pot Cap-1 Maneuver	-		0		370	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		370	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			21.49		
HCM LOS				C		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	370			
HCM Lane V/C Ratio	-	-	0.416			
HCM Control Delay (s/veh)	-	-	21.5			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	2			

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site PM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	25	29	10	74	69
Future Vol, veh/h	27	25	29	10	74	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	1	2	1	2
Mvmt Flow	29	27	32	11	80	75

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	273	37	0
Stage 1	37	-	-
Stage 2	236	-	-
Critical Hdwy	6.42	6.21	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.309	-
Pot Cap-1 Maneuver	717	1038	-
Stage 1	986	-	-
Stage 2	803	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	678	1038	-
Mov Cap-2 Maneuver	678	-	-
Stage 1	986	-	-
Stage 2	760	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.75	0	3.84
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	814	931
HCM Lane V/C Ratio	-	-	0.069	0.051
HCM Control Delay (s/veh)	-	-	9.8	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Naterra Industrial TIA
HCM 7th TWSC

2027 Background + Site PM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	97	3	14	101	10	11	0	44	10	0	10
Future Vol, veh/h	10	97	3	14	101	10	11	0	44	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	7	2	2	0	2	2	2	2	2
Mvmt Flow	11	105	3	15	110	11	12	0	48	11	0	11

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	121	0	0	109
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	4.24	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	2.27	-
Pot Cap-1 Maneuver	1465	-	1444	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1465	-	1444	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.68	0.84	9.05	9.62
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	708	1001	1465	-	-	1444	-	-	800
HCM Lane V/C Ratio	0.017	0.048	0.007	-	-	0.011	-	-	0.027
HCM Control Delay (s/veh)	10.2	8.8	7.5	-	-	7.5	-	-	9.6
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↰			↰			↰	
Traffic Vol, veh/h	11	0	44	5	0	5	14	37	5	5	95	3
Future Vol, veh/h	11	0	44	5	0	5	14	37	5	5	95	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	2	2	2	7	2	2	2	2	0
Mvmt Flow	12	0	48	5	0	5	15	40	5	5	103	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	186	192	105	188	191	43	107	0	0	46	0	0
Stage 1	116	116	-	73	73	-	-	-	-	-	-	-
Stage 2	71	76	-	114	117	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.218	-	-
Pot Cap-1 Maneuver	779	703	950	773	704	1027	1454	-	-	1562	-	-
Stage 1	894	800	-	936	834	-	-	-	-	-	-	-
Stage 2	944	832	-	891	798	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	763	693	950	723	694	1027	1454	-	-	1562	-	-
Mov Cap-2 Maneuver	763	693	-	723	694	-	-	-	-	-	-	-
Stage 1	891	797	-	926	825	-	-	-	-	-	-	-
Stage 2	929	823	-	843	796	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.15		9.3		1.88		0.35	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	440	-	-	763	950	849	87	-	-
HCM Lane V/C Ratio	0.01	-	-	0.016	0.05	0.013	0.003	-	-
HCM Control Delay (s/veh)	7.5	0	-	9.8	9	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	0	-	-



SynchroTM Output - 2032 Background Traffic

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	37	62	95	31	20	132	1224	171	167	1416	120
Future Volume (vph)	50	37	62	95	31	20	132	1224	171	167	1416	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3078	0	1517	2977	0	1616	4821	1516	1586	4868	1561
Flt Permitted	0.720			0.686			0.132			0.177		
Satd. Flow (perm)	1296	3078	0	1096	2977	0	224	4821	1516	296	4868	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			21				106			106
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1143			713			1538			980	
Travel Time (s)		26.0			16.2			23.3			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	10%	15%	8%	24%	8%	4%	3%	10%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	104	0	100	54	0	139	1288	180	176	1491	126
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	18.0	44.0		15.0	41.0		23.0	86.0	86.0	15.0	78.0	78.0
Total Split (%)	11.3%	27.5%		9.4%	25.6%		14.4%	53.8%	53.8%	9.4%	48.8%	48.8%
Maximum Green (s)	12.2	38.2		9.2	35.2		16.1	80.1	80.1	8.1	72.1	72.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	17.6	7.6		16.5	10.2		118.1	107.0	107.0	118.1	103.0	103.0
Actuated g/C Ratio	0.11	0.05		0.10	0.06		0.74	0.67	0.67	0.74	0.64	0.64
v/c Ratio	0.32	0.50		0.74	0.26		0.46	0.40	0.17	0.56	0.48	0.12
Control Delay (s/veh)	65.9	39.0		94.3	51.3		11.3	3.7	1.0	12.1	15.5	3.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	65.9	39.0		94.3	51.3		11.3	3.7	1.0	12.1	15.5	3.1
LOS	E	D		F	D		B	A	A	B	B	A
Approach Delay (s/veh)		48.1			79.2			4.0			14.3	
Approach LOS		D			E			A			B	
90th %ile Green (s)	12.1	11.5		9.2	8.6		16.1	97.8	97.8	17.1	98.8	98.8
90th %ile Term Code	Gap	Hold		Max	Gap		Max	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	9.9	7.9		9.2	7.2		16.1	104.5	104.5	14.0	102.4	102.4
70th %ile Term Code	Gap	Hold		Max	Gap		Hold	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	8.4	6.5		9.2	7.3		16.1	108.4	108.4	11.5	103.8	103.8
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	6.9	6.0		9.2	8.3		16.1	110.7	110.7	9.7	104.3	104.3
30th %ile Term Code	Gap	Min		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.7	19.5		16.1	113.5	113.5	8.4	105.8	105.8
10th %ile Term Code	Skip	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	50	21		99	17		20	27	0	39	274	7
Queue Length 95th (ft)	93	54		158	43		54	69	8	69	338	35
Internal Link Dist (ft)		1063			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	193	784		139	671		305	3223	1048	316	3134	1042
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.13		0.72	0.08		0.46	0.40	0.17	0.56	0.48	0.12
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	92 (58%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay (s/veh):	14.0
Intersection LOS:	B
Intersection Capacity Utilization:	62.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	16	49	84	19	60	94	1554	554	105	1412	8
Future Volume (vph)	20	16	49	84	19	60	94	1554	554	105	1412	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.887				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1617	0	1719	1900	1455	1787	4988	1583	1752	6346	1615
Flt Permitted	0.744			0.678			0.125			0.101		
Satd. Flow (perm)	1414	1617	0	1227	1900	1455	235	4988	1583	186	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			54			106			363			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	249			645			532			1538		
Travel Time (s)	5.7			14.7			8.1			23.3		
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
Heavy Vehicles (%)	0%	8%	3%	5%	0%	11%	1%	4%	2%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	72	0	92	21	66	103	1708	609	115	1552	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (%)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (s)	10.0%	28.1%		10.0%	28.1%	28.1%	12.5%	49.4%	49.4%	12.5%	49.4%	49.4%
Maximum Green (s)	10.2	39.2		10.2	39.2	39.2	13.1	73.1	73.1	13.1	73.1	73.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	19.7	7.7		17.3	15.3	15.3	117.3	107.7	107.7	117.3	110.6	110.6
Actuated g/C Ratio	0.12	0.05		0.11	0.10	0.10	0.73	0.67	0.67	0.73	0.69	0.69
v/c Ratio	0.12	0.56		0.57	0.12	0.28	0.42	0.51	0.51	0.48	0.35	0.01
Control Delay (s/veh)	62.8	45.0		75.5	70.0	4.8	10.0	1.8	1.2	25.7	4.5	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0
Total Delay (s/veh)	62.8	45.0		75.5	70.0	4.8	10.0	1.9	1.4	25.7	4.5	0.0
LOS	E	D		E	E	A	B	A	A	C	A	A
Approach Delay (s/veh)		49.1			48.8			2.1			6.0	
Approach LOS		D			D			A			A	
90th %ile Green (s)	8.3	11.6		10.2	13.5	13.5	11.8	97.6	97.6	16.2	102.0	102.0
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	7.1	8.4		10.2	11.5	11.5	8.6	104.1	104.1	12.9	108.4	108.4
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	6.2	6.3		10.2	10.3	10.3	6.6	108.7	108.7	10.4	112.5	112.5
50th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		10.2	22.0	22.0	6.0	111.4	111.4	8.0	113.4	113.4
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.6	19.4	19.4	5.2	116.6	116.6	5.4	116.8	116.8
10th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	20	19		89	21	0	1	16	0	22	51	0
Queue Length 95th (ft)	m50	m74		144	51	10	m28	m86	m9	m74	68	m0
Internal Link Dist (ft)		169			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	214	436		168	465	436	307	3356	1184	273	4387	1149
Starvation Cap Reductn	0	0		0	0	0	0	616	130	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.17		0.55	0.05	0.15	0.34	0.62	0.58	0.42	0.35	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 100 (63%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 160
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay (s/veh): 6.5
Intersection Capacity Utilization 62.7%
ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	21	667	111	512	147	1692	0	0	1433	97
Future Volume (vph)	0	0	21	667	111	512	147	1692	0	0	1433	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.964		0.950					
Satd. Flow (prot)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1495
Flt Permitted				0.950	0.964		0.950					
Satd. Flow (perm)	0	0	0	1610	3284	1553	3335	5036	0	0	7471	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		253				160						167
Link Speed (mph)	55				55			45				45
Link Distance (ft)	628				982			664				532
Travel Time (s)	7.8				12.2			10.1				8.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	2%	0%	4%	5%	3%	2%	2%	3%	8%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	23	0	370	494	569	163	1880	0	0	1592	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm		Prot	NA		NA	Perm
Protected Phases				4	4			1 3	1 2 3			2
Permitted Phases							4					2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				48.0	48.0	48.0					82.0	82.0
Total Split (%)				30.0%	30.0%	30.0%					51.3%	51.3%
Maximum Green (s)				41.1	41.1	41.1					75.8	75.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lag	Lag	Lag					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)		0.0		41.1	41.1	41.1	21.2	103.2			75.8	75.8
Actuated g/C Ratio		0.00		0.26	0.26	0.26	0.13	0.65			0.47	0.47
v/c Ratio		0.09		0.90	0.86dl	1.10	0.37	0.58			0.45	0.14
Control Delay (s/veh)		0.0		81.9	55.3	108.3	74.0	17.0			16.7	1.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	15.9			0.0	0.0
Total Delay (s/veh)		0.0		81.9	55.3	108.3	74.0	32.9			16.7	1.3
LOS		A		F	E	F	E	C			B	A
Approach Delay (s/veh)					83.2			36.1			15.7	
Approach LOS					F			D			B	
90th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)		0		414	250	~541	93	739			284	0
Queue Length 95th (ft)		0		#621	316	#785	m120	m775			213	5
Internal Link Dist (ft)		548			902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)		253		413	843	517	441	3248			3539	796
Starvation Cap Reductn		0		0	0	0	0	1400			0	0
Spillback Cap Reductn		0		0	0	0	0	0			0	0
Storage Cap Reductn		0		0	0	0	0	0			0	0
Reduced v/c Ratio		0.09		0.90	0.59	1.10	0.37	1.02			0.45	0.14
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
9: Belt Line & IH 635 WBFR

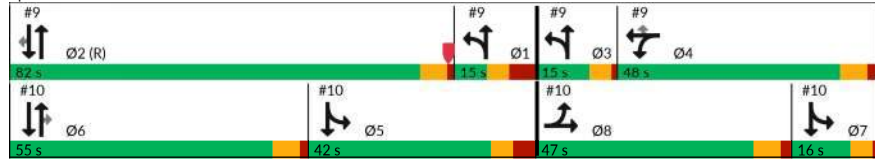
Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	15.0	15.0	42.0	55.0	16.0	47.0
Total Split (%)	9%	9%	26%	34%	10%	29%
Maximum Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
30th %ile Term Code	Max	Max	Max	Coord	Max	Max
10th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
10th %ile Term Code	Max	Max	Hold	Coord	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay (s/veh): 42.3	Intersection LOS: D
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	443	72	264	0	0	0	0	1425	317	448	1690	0
Future Volume (vph)	443	72	264	0	0	0	0	1425	317	448	1690	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.896							0.850			
Flt Protected	0.950	0.994								0.950		
Satd. Flow (prot)	1681	1563	0	0	0	0	0	7399	1553	3400	5036	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1563	0	0	0	0	0	7399	1553	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21						320				
Link Speed (mph)	50				50			45			45	
Link Distance (ft)	676				657			722			664	
Travel Time (s)	9.2				9.0			10.9			10.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	3%	3%	2%	2%	2%	2%	4%	4%	3%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	448	428	0	0	0	0	0	1601	356	503	1899	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			24			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	47.0	47.0						55.0	55.0			
Total Split (%)	29.4%	29.4%						34.4%	34.4%			
Maximum Green (s)	40.2	40.2						48.6	48.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	40.2	40.2						48.6	48.6	41.6	104.8	
Actuated g/C Ratio	0.25	0.25						0.30	0.30	0.26	0.66	
v/c Ratio	1.06	1.05						0.71	0.51	0.57	0.58	
Control Delay (s/veh)	116.7	111.4						51.6	9.2	29.9	7.1	
Queue Delay	0.0	0.9						1.0	0.0	0.0	0.0	
Total Delay (s/veh)	116.7	112.2						52.6	9.2	29.9	7.1	
LOS	F	F						D	A	C	A	
Approach Delay (s/veh)		114.5						44.7			11.9	
Approach LOS		F						D			B	
90th %ile Green (s)	40.2	40.2						48.6	48.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	40.2	40.2						48.6	48.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	40.2	40.2						48.6	48.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	40.2	40.2						48.6	48.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	40.2	40.2						48.6	48.6			
10th %ile Term Code	Max	Max						Coord	Coord			
Queue Length 50th (ft)	~540	~492						369	27	183	234	
Queue Length 95th (ft)	#764	#714						400	113	m227	234	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	422	408						2247	694	884	3298	
Starvation Cap Reductn	0	0						0	0	0	90	
Spillback Cap Reductn	0	1						358	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	1.06	1.05						0.85	0.51	0.57	0.59	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
10: Belt Line & IH 635 EBFR

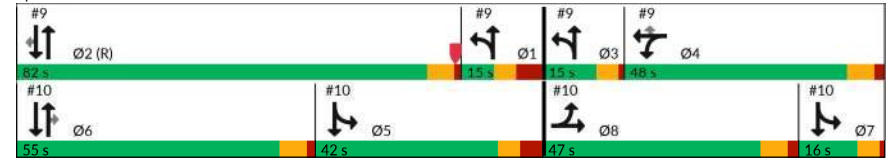
Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	15.0	82.0	15.0	48.0	42.0	16.0
Total Split (%)	9%	51%	9%	30%	26%	10%
Maximum Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
10th %ile Term Code	Max	Coord	Max	Max	Hold	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background AM
10: Belt Line & IH 635 EBFR

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay (s/veh): 41.3
Intersection LOS: D
Intersection Capacity Utilization 77.5%
ICU Level of Service D
Analysis Period (min) 15
- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Belt Line & IH 635 EBFR



Naterra Industrial TIA
HCM 7th TWSC

2032 Background AM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱		↱	↱↱			↱↱		↱↱		
Traffic Vol, veh/h	0	173	23	28	51	0	25	0	36	0	0	0
Future Vol, veh/h	0	173	23	28	51	0	25	0	36	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	1	0	15	5	2	0	2	0	2	2	2
Mvmt Flow	0	211	28	34	62	0	30	0	44	0	0	0

Major/Minor	Major1	Major2		Minor1		Minor2							
Conflicting Flow All	62	0	0	239	0	0	324	355	120	236	370	31	
Stage 1	-	-	-	-	-	-	225	225	-	130	130	-	
Stage 2	-	-	-	-	-	-	99	130	-	105	239	-	
Critical Hdwy	4.14	-	-	4.4	-	-	7.5	6.54	6.9	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.35	-	-	3.5	4.02	3.3	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1539	-	-	1235	-	0	610	569	916	699	559	1036	
Stage 1	-	-	-	-	-	0	763	716	-	859	787	-	
Stage 2	-	-	-	-	-	0	902	787	-	889	706	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1539	-	-	1235	-	-	593	553	916	647	543	1036	
Mov Cap-2 Maneuver	-	-	-	-	-	-	593	553	-	647	543	-	
Stage 1	-	-	-	-	-	-	763	716	-	836	766	-	
Stage 2	-	-	-	-	-	-	877	766	-	846	706	-	

Approach	EB	WB		NB		SB	
HCM Control Delay, s/v	0	2.83		10.34		0	
HCM LOS				B		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	749	1539	-	-	1235	-	-
HCM Lane V/C Ratio	0.099	-	-	-	0.028	-	-
HCM Control Delay (s/veh)	10.3	0	-	-	8	-	0
HCM Lane LOS	B	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-

Naterra Industrial TIA
HCM 7th TWSC

2032 Background AM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	244	57	0	32
Future Vol, veh/h	0	0	244	57	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	5	0	2	12
Mvmt Flow	0	0	298	70	0	39

Major/Minor	Major2	Minor2					
Conflicting Flow All	-	0	-	298	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.32	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.408	-	-	-
Pot Cap-1 Maneuver	-	-	0	719	-	-	-
Stage 1	-	-	0	-	-	-	-
Stage 2	-	-	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	719	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	WB	SB	
HCM Control Delay, s/v	0	10.29	
HCM LOS		B	

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	719
HCM Lane V/C Ratio	-	-	0.054
HCM Control Delay (s/veh)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Naterra Industrial TIA
HCM 7th TWSC

2032 Background AM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	20	46	11	22	28
Future Vol, veh/h	100	20	46	11	22	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	22	50	12	24	30
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	134	56	0	0	62	0
Stage 1	56	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	859	1011	-	-	1541	-
Stage 1	967	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	846	1011	-	-	1541	-
Mov Cap-2 Maneuver	846	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	9.87		0		3.24	
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	869	792	-	
HCM Lane V/C Ratio	-	-	0.15	0.016	-	
HCM Control Delay (s/veh)	-	-	9.9	7.4	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

Naterra Industrial TIA
HCM 7th TWSC

2032 Background AM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	11	185	0	0	64	11	0	0	0	11	0	11	
Future Vol, veh/h	11	185	0	0	64	11	0	0	0	11	0	11	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	12	201	0	0	70	12	0	0	0	12	0	12	
Major/Minor	Major1			Major2			Minor1		Minor2				
Conflicting Flow All	82	0	-	201	0	0	260	307	101	200	301	41	
Stage 1	-	-	-	-	-	-	225	225	-	76	76	-	
Stage 2	-	-	-	-	-	-	35	82	-	124	225	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1514	-	0	1368	-	-	672	606	935	741	611	1021	
Stage 1	-	-	0	-	-	-	757	716	-	925	831	-	
Stage 2	-	-	0	-	-	-	977	826	-	866	716	-	
Platoon blocked, %		-			-	-							
Mov Cap-1 Maneuver	1514	-	-	1368	-	-	659	601	935	735	606	1021	
Mov Cap-2 Maneuver	-	-	-	-	-	-	659	601	-	735	606	-	
Stage 1	-	-	-	-	-	-	751	711	-	925	831	-	
Stage 2	-	-	-	-	-	-	965	826	-	860	711	-	
Approach	EB			WB			NB		SB				
HCM Control Delay, s/v	0.42			0			0		9.33				
HCM LOS							A		A				
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	-	-	1514	-	1368	-	-	855					
HCM Lane V/C Ratio	-	-	0.008	-	-	-	-	0.028					
HCM Control Delay (s/veh)	0	0	7.4	-	0	-	-	9.3					
HCM Lane LOS	A	A	A	-	A	-	-	A					
HCM 95th %tile Q(veh)	-	-	0	-	0	-	-	0.1					

Intersection												
Int Delay, s/veh		1.1										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	6	0	61	6	6	50	0
Future Vol, veh/h	0	0	0	6	0	6	0	61	6	6	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	0	7	0	66	7	7	54	0
Major/Minor												
	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	134	140	54	137	137	70	54	0	0	73	0	0
Stage 1	67	67	-	70	70	-	-	-	-	-	-	-
Stage 2	66	73	-	67	67	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	838	751	1013	834	754	993	1551	-	-	1527	-	-
Stage 1	943	839	-	940	837	-	-	-	-	-	-	-
Stage 2	944	834	-	943	839	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	829	748	1013	830	751	993	1551	-	-	1527	-	-
Mov Cap-2 Maneuver	829	748	-	830	751	-	-	-	-	-	-	-
Stage 1	939	835	-	940	837	-	-	-	-	-	-	-
Stage 2	938	834	-	939	835	-	-	-	-	-	-	-
Approach												
	EB		WB		NB		SB					
HCM Control Delay, s/v	0		9.04		0		0.79					
HCM LOS	A		A									
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBLn1	EBLn2WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1551	-	-	-	-	904	193	-	-			
HCM Lane V/C Ratio	-	-	-	-	-	0.014	0.004	-	-			
HCM Control Delay (s/veh)	0	-	-	0	0	9	7.4	0	-			
HCM Lane LOS	A	-	-	A	A	A	A	A	-			
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-			

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	40	206	249	77	84	66	1639	61	104	1607	29
Future Volume (vph)	163	40	206	249	77	84	66	1639	61	104	1607	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.875			0.922			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3018	0	1711	3248	0	1678	4868	1531	1694	4868	1487
Flt Permitted	0.578			0.299			0.055			0.048		
Satd. Flow (perm)	1041	3018	0	538	3248	0	97	4868	1531	86	4868	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		122			100				145			145
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1139			713			1538			980	
Travel Time (s)		25.9			16.2			23.3			14.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	3%	5%	2%	3%	2%	4%	3%	2%	3%	3%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	293	0	296	192	0	79	1951	73	124	1913	35
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

2032 Background PM Naterra Industrial TIA 3:34 pm 10/08/2025 2032 Background PM
KH

Synchro 12 Report
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Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	20.0	44.0		17.0	41.0		16.0	83.0	83.0	16.0	83.0	83.0
Total Split (%)	12.5%	27.5%		10.6%	25.6%		10.0%	51.9%	51.9%	10.0%	51.9%	51.9%
Maximum Green (s)	14.2	38.2		11.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	39.9	13.4		39.9	25.9		94.7	84.7	84.7	94.7	86.6	86.6
Actuated g/C Ratio	0.25	0.08		0.25	0.16		0.59	0.53	0.53	0.59	0.54	0.54
v/c Ratio	0.61	1.02dr		0.90	0.32		0.54	0.76	0.08	0.77	0.73	0.04
Control Delay (s/veh)	54.4	58.2		91.4	27.7		31.4	10.8	0.6	65.4	30.9	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.4	58.2		91.4	27.7		31.4	10.8	0.6	65.4	30.9	0.1
LOS	D	E		F	C		C	B	A	E	C	A
Approach Delay (s/veh)		56.7			66.3			11.2			32.4	
Approach LOS		E			E			B			C	
90th %ile Green (s)	14.2	19.2		30.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
90th %ile Term Code	Max	Gap		Max	Hold		Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	14.2	15.8		29.1	30.7		9.1	77.1	77.1	13.6	81.6	81.6
70th %ile Term Code	Max	Gap		Gap	Hold		Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	14.2	13.4		27.4	26.6		9.1	81.4	81.4	13.4	85.7	85.7
50th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	14.2	11.0		24.8	21.6		9.1	88.8	88.8	11.0	90.7	90.7
30th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	12.9	7.6		20.8	15.5		9.1	99.3	99.3	7.9	98.1	98.1
10th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	163	94		267	44		24	254	1	79	547	0
Queue Length 95th (ft)	206	129		314	69		77	263	6	#191	605	0
Internal Link Dist (ft)		1059			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	320	813		328	792		147	2578	879	164	2635	871
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.36		0.90	0.24		0.54	0.76	0.08	0.76	0.73	0.04
Intersection Summary												

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KH

Synchro 12 Report
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Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	16 (10%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	125
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay (s/veh):	29.3
Intersection LOS:	C
Intersection Capacity Utilization:	79.3%
ICU Level of Service:	D
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	10	38	225	14	145	24	1642	231	90	2111	13
Future Volume (vph)	9	10	38	225	14	145	24	1642	231	90	2111	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.881				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1674	0	1787	1900	1568	1805	5036	1599	1787	6346	1615
Flt Permitted	0.746			0.719			0.037			0.066		
Satd. Flow (perm)	1417	1674	0	1353	1900	1568	70	5036	1599	124	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			46			175			152			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	197			645			532			1538		
Travel Time (s)	4.5			14.7			8.1			23.3		
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	3%	1%	1%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	58	0	271	17	175	29	1978	278	108	2543	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	18.0		14.0	44.0	44.0	14.0	30.0	30.0	14.0	29.0	29.0
Total Split (s)	15.0	39.0		20.0	44.0	44.0	17.0	84.0	84.0	17.0	84.0	84.0
Total Split (%)	9.4%	24.4%		12.5%	27.5%	27.5%	10.6%	52.5%	52.5%	10.6%	52.5%	52.5%
Maximum Green (s)	9.2	33.2		14.2	38.2	38.2	10.1	78.1	78.1	10.1	78.1	78.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max	Max	C-Max	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)				31.0	31.0	31.0	17.0	17.0	17.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)				0	0	0	0	0	0	0	0	0
Act Effct Green (s)	22.4	7.1		20.1	19.9	19.9	117.0	106.4	106.4	115.6	113.7	113.7
Actuated g/C Ratio	0.14	0.04		0.13	0.12	0.12	0.73	0.67	0.67	0.72	0.71	0.71
v/c Ratio	0.05	0.49		1.30	0.07	0.50	0.27	0.59	0.25	0.55	0.56	0.01
Control Delay (s/veh)	58.9	41.4		215.1	63.6	13.8	19.1	5.5	1.1	31.1	7.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.9	41.4		215.1	63.6	13.8	19.1	5.5	1.1	31.1	7.9	0.0
LOS	E	D		F	E	B	B	A	A	C	A	A
Approach Delay (s/veh)	44.1			133.5			5.2			8.8		
Approach LOS	D			F			A			A		
90th %ile Green (s)	6.7	10.1		14.2	17.6	17.6	6.0	95.9	95.9	15.4	105.3	105.3
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	5.9	7.5		14.2	15.8	15.8	5.4	101.5	101.5	12.4	108.5	108.5
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.1	105.3	105.3	10.1	110.3	110.3
50th %ile Term Code	Skip	Min		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.0	107.6	107.6	7.8	110.4	110.4
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Min	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	0.0		14.2	14.2	14.2	0.0	121.8	121.8	5.4	134.1	134.1
10th %ile Term Code	Skip	Skip		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	10	7		-305	15	0	2	144	6	44	182	0
Queue Length 95th (ft)	m26	m53		#359	40	55	m16	157	m17	m84	257	m0
Internal Link Dist (ft)	117			565			452			1458		
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	231	383		208	453	507	162	3349	1114	211	4510	1178
Starvation Cap Reductn	0	0		0	0	0	0	189	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	22	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.15		1.30	0.04	0.35	0.18	0.63	0.25	0.51	0.57	0.01

Intersection Summary

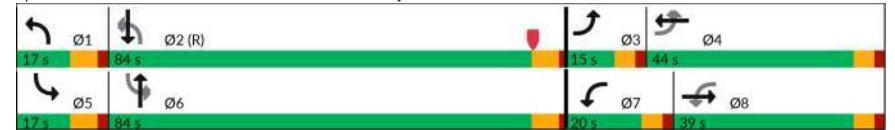
Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay (s/veh): 18.2
Intersection LOS: B
Intersection Capacity Utilization 71.3%
ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	37	500	188	359	306	1541	0	0	2100	295
Future Volume (vph)	0	0	37	500	188	359	306	1541	0	0	2100	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.972		0.950					
Satd. Flow (prot)	0	0	0	1610	3323	1583	3273	5085	0	0	7471	1615
Flt Permitted				0.950	0.972		0.950					
Satd. Flow (perm)	0	0	0	1610	3323	1583	3273	5085	0	0	7471	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162				116						173
Link Speed (mph)	55				55			45				45
Link Distance (ft)	683				982			664				532
Travel Time (s)	8.5				12.2			10.1				8.1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	0%	2%	0%	2%	7%	2%	2%	2%	3%	0%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	43	0	290	510	417	356	1792	0	0	2442	343
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48				24
Link Offset(ft)	0				0			0				0
Crosswalk Width(ft)	16				16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm		Prot	NA		NA	Perm
Protected Phases				4	4			1 3	1 2 3			2
Permitted Phases							4					2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8						
Lane Configurations												
Traffic Volume (vph)												
Future Volume (vph)												
Ideal Flow (vphpl)												
Storage Length (ft)												
Storage Lanes												
Taper Length (ft)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Right Turn on Red												
Satd. Flow (RTOR)												
Link Speed (mph)												
Link Distance (ft)												
Travel Time (s)												
Peak Hour Factor												
Heavy Vehicles (%)												
Shared Lane Traffic (%)												
Lane Group Flow (vph)												
Enter Blocked Intersection												
Lane Alignment												
Median Width(ft)												
Link Offset(ft)												
Crosswalk Width(ft)												
Two way Left Turn Lane												
Headway Factor												
Turning Speed (mph)												
Number of Detectors												
Detector Template												
Leading Detector (ft)												
Trailing Detector (ft)												
Detector 1 Position(ft)												
Detector 1 Size(ft)												
Detector 1 Type												
Detector 1 Channel												
Detector 1 Extend (s)												
Detector 1 Queue (s)												
Detector 1 Delay (s)												
Detector 2 Position(ft)												
Detector 2 Size(ft)												
Detector 2 Type												
Detector 2 Channel												
Detector 2 Extend (s)												
Turn Type												
Protected Phases	1	3	5	6	7	8						
Permitted Phases												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				40.0	40.0	40.0					75.0	75.0
Total Split (%)				25.0%	25.0%	25.0%					46.9%	46.9%
Maximum Green (s)				33.1	33.1	33.1					68.8	68.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lead	Lead	Lead					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)		0.0		33.1	33.1	33.1	27.4	111.2			68.8	68.8
Actuated g/C Ratio		0.00		0.21	0.21	0.21	0.17	0.70			0.43	0.43
v/c Ratio		0.27		0.87	0.74	1.00	0.64	0.51			0.76	0.43
Control Delay (s/veh)		0.0		86.7	67.0	87.4	51.0	5.1			31.3	11.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.1			0.5	0.6
Total Delay (s/veh)		0.0		86.7	67.0	87.4	51.0	5.2			31.8	12.4
LOS		A		F	E	F	D	A			C	B
Approach Delay (s/veh)					78.7			12.8			29.4	
Approach LOS					E			B			C	
90th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)		0		326	278	337	188	104			382	75
Queue Length 95th (ft)		0		#470	330	#518	229	54			m453	m162
Internal Link Dist (ft)		603			902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)		162		333	687	419	560	3534			3212	793
Starvation Cap Reductn		0		0	0	0	0	491			321	176
Spillback Cap Reductn		0		0	0	0	0	0			0	0
Storage Cap Reductn		0		0	0	0	0	0			0	0
Reduced v/c Ratio		0.27		0.87	0.74	1.00	0.64	0.59			0.84	0.56
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
9: Belt Line & IH 635 WBFR

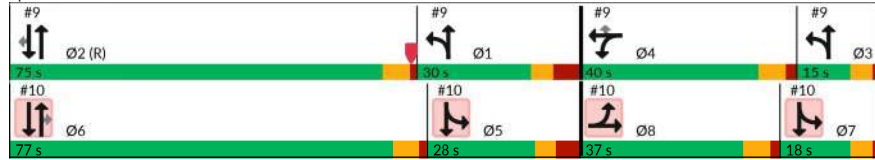
Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	30.0	15.0	28.0	77.0	18.0	37.0
Total Split (%)	19%	9%	18%	48%	11%	23%
Maximum Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
30th %ile Term Code	Max	Max	Max	Coord	Max	Max
10th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
10th %ile Term Code	Max	Max	Max	Coord	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
9: Belt Line & IH 635 WBFR

Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay (s/veh): 33.1	Intersection LOS: C
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	61	184	0	0	0	0	1719	693	677	1910	0
Future Volume (vph)	149	61	184	0	0	0	0	1719	693	677	1910	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.894							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17							346			
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		676			657			722			664	
Travel Time (s)		9.2			9.0			10.9			10.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	2%	4%	2%	2%	2%	2%	3%	1%	2%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	154	298	0	0	0	0	0	1976	797	778	2195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

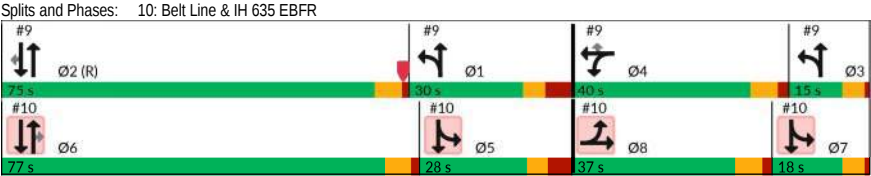
Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background PM
10: Belt Line & IH 635 EBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	37.0	37.0						77.0	77.0			
Total Split (%)	23.1%	23.1%						48.1%	48.1%			
Maximum Green (s)	30.2	30.2						70.6	70.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	30.2	30.2						70.6	70.6	29.6	114.8	
Actuated g/C Ratio	0.19	0.19						0.44	0.44	0.19	0.72	
v/c Ratio	0.49	0.97						0.60	0.89	1.23	0.61	
Control Delay (s/veh)	64.1	104.0						34.9	35.6	152.6	5.2	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.2	
Total Delay (s/veh)	64.1	104.0						34.9	35.6	152.6	5.4	
LOS	E	F						C	D	F	A	
Approach Delay (s/veh)		90.4						35.1			43.9	
Approach LOS		F						D			D	
90th %ile Green (s)	30.2	30.2						70.6	70.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	30.2	30.2						70.6	70.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	30.2	30.2						70.6	70.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	30.2	30.2						70.6	70.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	30.2	30.2						70.6	70.6			
10th %ile Term Code	Max	Max						Coord	Coord			
Queue Length 50th (ft)	153	313						384	492	~407	173	
Queue Length 95th (ft)	227	#495						396	667	#509	176	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	314	307						3296	898	635	3613	
Starvation Cap Reductn	0	0						0	0	0	557	
Spillback Cap Reductn	0	0						0	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.49	0.97						0.60	0.89	1.23	0.72	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	30.0	75.0	15.0	40.0	28.0	18.0
Total Split (%)	19%	47%	9%	25%	18%	11%
Maximum Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
10th %ile Term Code	Max	Coord	Max	Max	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay (s/veh): 43.4	Intersection LOS: D
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



Naterra Industrial TIA
HCM 7th TWSC

2032 Background PM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱		↱	↱↱			↱↱		↱↱		
Traffic Vol, veh/h	0	106	11	92	109	0	12	0	25	0	0	0
Future Vol, veh/h	0	106	11	92	109	0	12	0	25	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	12	0	1	6	2	0	2	5	2	2	2
Mvmt Flow	0	129	13	112	133	0	15	0	30	0	0	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	133	0	0	143	0	0	427	493	71	422	500	66
Stage 1	-	-	-	-	-	-	136	136	-	357	357	-
Stage 2	-	-	-	-	-	-	291	357	-	65	143	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.5	6.54	7	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.5	4.02	3.35	3.52	4.02	3.32
Pot Cap-1 Maneuver	1450	-	-	1445	-	0	516	475	967	516	471	983
Stage 1	-	-	-	-	-	0	859	783	-	633	627	-
Stage 2	-	-	-	-	-	0	698	627	-	938	778	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1450	-	-	1445	-	-	476	438	967	461	435	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	476	438	-	461	435	-
Stage 1	-	-	-	-	-	-	859	783	-	584	578	-
Stage 2	-	-	-	-	-	-	644	578	-	909	778	-

Approach	EB		WB		NB		SB
HCM Control Delay, s/v	0		3.52		10.3		0
HCM LOS					B		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	725	1450	-	-	1445	-	-
HCM Lane V/C Ratio	0.062	-	-	-	0.078	-	-
HCM Control Delay (s/veh)	10.3	0	-	-	7.7	-	0
HCM Lane LOS	B	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0.3	-	-

Naterra Industrial TIA
HCM 7th TWSC

2032 Background PM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	749	36	0	130
Future Vol, veh/h	0	0	749	36	0	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	3	0	2	1
Mvmt Flow	0	0	892	43	0	155

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	892
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.21
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.309
Pot Cap-1 Maneuver	-	-	0	342
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	342
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB		SB
HCM Control Delay, s/v	0		23.9
HCM LOS			C

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	342
HCM Lane V/C Ratio	-	-	0.452
HCM Control Delay (s/veh)	-	-	23.9
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	2.3

Naterra Industrial TIA
HCM 7th TWSC

2032 Background PM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	20	25	11	46	64
Future Vol, veh/h	30	20	25	11	46	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	22	27	12	50	70
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	203	33	0	0	39	0
Stage 1	33	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	786	1040	-	-	1571	-
Stage 1	989	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	760	1040	-	-	1571	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	9.52		0		3.08	
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	852	753	-	
HCM Lane V/C Ratio	-	-	0.064	0.032	-	
HCM Control Delay (s/veh)	-	-	9.5	7.4	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	

Naterra Industrial TIA
HCM 7th TWSC

2032 Background PM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	1.1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	11	106	0	0	110	11	0	0	0	11	0	11	
Future Vol, veh/h	11	106	0	0	110	11	0	0	0	11	0	11	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	12	115	0	0	120	12	0	0	0	12	0	12	
Major/Minor	Major1			Major2			Minor1		Minor2				
Conflicting Flow All	132	0	-	115	0	0	199	271	58	207	265	66	
Stage 1	-	-	-	-	-	-	139	139	-	126	126	-	
Stage 2	-	-	-	-	-	-	60	132	-	82	139	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1451	-	0	1471	-	-	742	635	996	732	640	984	
Stage 1	-	-	0	-	-	-	850	781	-	865	791	-	
Stage 2	-	-	0	-	-	-	945	786	-	918	781	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1451	-	-	1471	-	-	727	629	996	726	634	984	
Mov Cap-2 Maneuver	-	-	-	-	-	-	727	629	-	726	634	-	
Stage 1	-	-	-	-	-	-	843	774	-	865	791	-	
Stage 2	-	-	-	-	-	-	933	786	-	910	774	-	
Approach	EB			WB			NB		SB				
HCM Control Delay, s/v	0.71			0			0		9.43				
HCM LOS							A		A				
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	-	-	1451	-	1471	-	-	-	836				
HCM Lane V/C Ratio	-	-	0.008	-	-	-	-	-	0.029				
HCM Control Delay (s/veh)	0	0	7.5	-	0	-	-	-	9.4				
HCM Lane LOS	A	A	A	-	A	-	-	-	A				
HCM 95th %tile Q(veh)	-	-	0	-	0	-	-	-	0.1				

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	6	0	40	6	6	104	0
Future Vol, veh/h	0	0	0	6	0	6	0	40	6	6	104	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	0	7	0	43	7	7	113	0
Major/Minor												
	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	170	176	113	173	173	47	113	0	0	50	0	0
Stage 1	126	126	-	47	47	-	-	-	-	-	-	-
Stage 2	43	50	-	126	126	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	794	717	940	790	720	1023	1476	-	-	1557	-	-
Stage 1	878	792	-	967	856	-	-	-	-	-	-	-
Stage 2	971	853	-	878	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	785	714	940	787	717	1023	1476	-	-	1557	-	-
Mov Cap-2 Maneuver	785	714	-	787	717	-	-	-	-	-	-	-
Stage 1	874	788	-	967	856	-	-	-	-	-	-	-
Stage 2	965	853	-	874	788	-	-	-	-	-	-	-
Approach												
	EB		WB		NB		SB					
HCM Control Delay, s/v	0		9.11		0		0.4					
HCM LOS	A		A									
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1476	-	-	-	-	889	98	-	-			
HCM Lane V/C Ratio	-	-	-	-	-	0.015	0.004	-	-			
HCM Control Delay (s/veh)	0	-	-	0	0	9.1	7.3	0	-			
HCM Lane LOS	A	-	-	A	A	A	A	A	-			
HCM 95th %tile Q(veh)	0	-	-	-	-	0	0	-	-			



SynchroTM Output - 2032 Background Plus Site Traffic

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	37	71	95	31	20	168	1224	171	167	1416	143
Future Volume (vph)	56	37	71	95	31	20	168	1224	171	167	1416	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	3033	0	1531	2999	0	1631	4821	1516	1601	4868	1561
Flt Permitted	0.719			0.678			0.124			0.166		
Satd. Flow (perm)	1282	3033	0	1092	2999	0	213	4821	1516	280	4868	1561
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		77			22			106			106	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1143			713			1538			980	
Travel Time (s)		26.0			16.2			23.3			14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	11%	14%	7%	23%	7%	4%	3%	9%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	117	0	103	56	0	183	1330	186	182	1539	155
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	18.0	44.0		15.0	41.0		23.0	86.0	86.0	15.0	78.0	78.0
Total Split (%)	11.3%	27.5%		9.4%	25.6%		14.4%	53.8%	53.8%	9.4%	48.8%	48.8%
Maximum Green (s)	12.2	38.2		9.2	35.2		16.1	80.1	80.1	8.1	72.1	72.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	17.9	7.8		16.8	10.0		117.8	105.0	105.0	117.8	102.7	102.7
Actuated g/C Ratio	0.11	0.05		0.11	0.06		0.74	0.66	0.66	0.74	0.64	0.64
v/c Ratio	0.37	0.53		0.75	0.27		0.61	0.42	0.18	0.57	0.49	0.15
Control Delay (s/veh)	67.0	36.8		94.9	51.1		19.3	4.6	1.3	13.0	15.9	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	67.0	36.8		94.9	51.1		19.3	4.6	1.3	13.0	15.9	4.4
LOS	E	D		F	D		B	A	A	B	B	A
Approach Delay (s/veh)		47.1			79.5			5.8			14.7	
Approach LOS		D			E			A			B	
90th %ile Green (s)	12.2	11.7		9.2	8.7		16.1	96.4	96.4	18.3	98.6	98.6
90th %ile Term Code	Max	Hold		Max	Gap		Max	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	10.8	8.9		9.2	7.3		16.1	102.0	102.0	15.5	101.4	101.4
70th %ile Term Code	Gap	Hold		Max	Gap		Max	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	9.1	6.6		9.2	6.7		16.1	106.3	106.3	13.5	103.7	103.7
50th %ile Term Code	Gap	Gap		Max	Hold		Max	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	7.5	6.0		9.2	7.7		16.1	108.8	108.8	11.6	104.3	104.3
30th %ile Term Code	Gap	Min		Max	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.8	19.6		16.1	111.6	111.6	10.2	105.7	105.7
10th %ile Term Code	Skip	Min		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	58	22		102	18		47	45	0	40	287	18
Queue Length 95th (ft)	104	55		162	44		120	71	8	71	355	50
Internal Link Dist (ft)		1063			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	189	782		141	676		299	3164	1031	320	3125	1040
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.15		0.73	0.08		0.61	0.42	0.18	0.57	0.49	0.15
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 92 (58%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay (s/veh): 14.9	Intersection LOS: B
Intersection Capacity Utilization 64.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	17	55	84	25	66	112	1584	554	106	1420	8
Future Volume (vph)	20	17	55	84	25	66	112	1584	554	106	1420	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.885				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1630	0	1719	1900	1482	1787	4988	1583	1752	6346	1615
Flt Permitted	0.739			0.616			0.117			0.091		
Satd. Flow (perm)	1404	1630	0	1115	1900	1482	220	4988	1583	168	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62				106			356			106
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	249			645			532			1538		
Travel Time (s)	5.7			14.7			8.1			23.3		
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	7%	2%	5%	0%	9%	1%	4%	2%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	81	0	95	28	75	126	1780	622	119	1596	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (%)	16.0	45.0		16.0	45.0	45.0	20.0	79.0	79.0	20.0	79.0	79.0
Total Split (s)	10.0%	28.1%		10.0%	28.1%	28.1%	12.5%	49.4%	49.4%	12.5%	49.4%	49.4%
Maximum Green (s)	10.2	39.2		10.2	39.2	39.2	13.1	73.1	73.1	13.1	73.1	73.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	19.8	7.8		17.5	15.5	15.5	117.1	107.1	107.1	117.1	108.7	108.7
Actuated g/C Ratio	0.12	0.05		0.11	0.10	0.10	0.73	0.67	0.67	0.73	0.68	0.68
v/c Ratio	0.12	0.59		0.60	0.15	0.32	0.50	0.53	0.53	0.51	0.37	0.01
Control Delay (s/veh)	62.1	43.2		77.8	70.5	7.4	17.4	2.3	1.3	31.7	4.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0
Total Delay (s/veh)	62.1	43.2		77.8	70.5	7.4	17.4	2.5	1.6	31.7	4.9	0.0
LOS	E	D		E	A	A	B	A	A	C	A	A
Approach Delay (s/veh)		47.2			50.1			3.0			6.7	
Approach LOS		D			D			A			A	
90th %ile Green (s)	8.3	12.0		10.2	13.9	13.9	14.8	96.5	96.5	16.9	98.6	98.6
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	7.1	8.6		10.2	11.7	11.7	11.3	103.3	103.3	13.5	105.5	105.5
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	6.2	6.4		10.2	10.4	10.4	8.9	108.0	108.0	11.0	110.1	110.1
50th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		10.2	22.0	22.0	6.5	110.8	110.8	8.6	112.9	112.9
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		7.5	19.3	19.3	5.5	116.7	116.7	5.4	116.6	116.6
10th %ile Term Code	Skip	Min		Gap	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	21	20		92	28	0	15	20	0	27	62	0
Queue Length 95th (ft)	m47	m76		144	61	20	m56	m122	m10	m87	77	m0
Internal Link Dist (ft)		169			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	214	446		164	465	443	298	3337	1177	263	4312	1131
Starvation Cap Reductn	0	0		0	0	0	0	603	136	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.18		0.58	0.06	0.17	0.42	0.65	0.60	0.45	0.37	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 100 (63%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 160
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay (s/veh): 7.5
Intersection Capacity Utilization 63.3%
ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	21	667	123	524	159	1728	0	0	1445	99
Future Volume (vph)	0	0	21	667	123	524	159	1728	0	0	1445	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.965		0.950					
Satd. Flow (prot)	0	0	0	1610	3289	1553	3335	5036	0	0	7471	1509
Flt Permitted				0.950	0.965		0.950					
Satd. Flow (perm)	0	0	0	1610	3289	1553	3335	5036	0	0	7471	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		253				160						167
Link Speed (mph)	55				55			45				45
Link Distance (ft)	628				982			664				532
Travel Time (s)	7.8				12.2			10.1				8.1
Peak Hour Factor	0.88	0.88	0.88	0.89	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	0%	2%	0%	4%	5%	3%	2%	2%	3%	7%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	24	0	374	515	595	181	1964	0	0	1642	113
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Split	NA	Perm		Prot	NA		NA	Perm
Protected Phases				4	4			1 3	1 2 3		2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				48.0	48.0	48.0					82.0	82.0
Total Split (%)				30.0%	30.0%	30.0%					51.3%	51.3%
Maximum Green (s)				41.1	41.1	41.1					75.8	75.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lag	Lag	Lag					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)	0.0			41.1	41.1	41.1	21.2	103.2			75.8	75.8
Actuated g/C Ratio	0.00			0.26	0.26	0.26	0.13	0.65			0.47	0.47
v/c Ratio	0.09			0.91	0.87dl	1.15	0.41	0.60			0.46	0.14
Control Delay (s/veh)	0.0			83.4	56.0	125.8	74.4	18.1			16.4	1.4
Queue Delay	0.0			0.0	0.0	0.0	0.0	32.3			0.0	0.0
Total Delay (s/veh)	0.0			83.4	56.0	125.8	74.4	50.4			16.4	1.4
LOS	A			F	E	F	E	D			B	A
Approach Delay (s/veh)					90.9			52.4			15.5	
Approach LOS					F			D			B	
90th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				41.1	41.1	41.1					75.8	75.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)	0			419	263	~598	103	787			291	0
Queue Length 95th (ft)	0			#619	321	#809	m128	m788			209	8
Internal Link Dist (ft)	548				902			584			452	
Turn Bay Length (ft)						418						
Base Capacity (vph)	253			413	844	517	441	3248			3539	802
Starvation Cap Reductn	0			0	0	0	0	1400			0	0
Spillback Cap Reductn	0			0	0	0	0	0			0	0
Storage Cap Reductn	0			0	0	0	0	0			0	0
Reduced v/c Ratio	0.09			0.91	0.61	1.15	0.41	1.06			0.46	0.14

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	15.0	15.0	42.0	55.0	16.0	47.0
Total Split (%)	9%	9%	26%	34%	10%	29%
Maximum Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
30th %ile Term Code	Max	Max	Max	Coord	Max	Max
10th %ile Green (s)	6.2	10.0	33.8	48.6	11.0	40.2
10th %ile Term Code	Max	Max	Hold	Coord	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

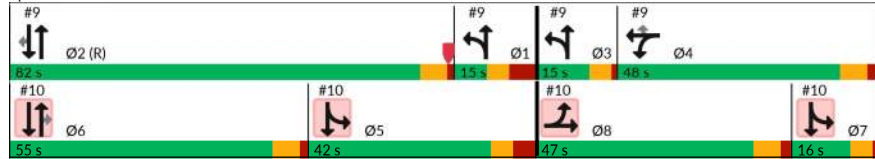
Intersection Summary

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
9: Belt Line & IH 635 WBFR

Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay (s/veh): 50.7	Intersection LOS: D
Intersection Capacity Utilization 78.9%	ICU Level of Service D
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	467	72	264	0	0	0	0	1448	317	454	1696	0
Future Volume (vph)	467	72	264	0	0	0	0	1448	317	454	1696	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.898							0.850			
Flt Protected	0.950	0.994								0.950		
Satd. Flow (prot)	1681	1566	0	0	0	0	0	7399	1553	3400	5036	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1566	0	0	0	0	0	7399	1553	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20							315			
Link Speed (mph)	50				50			45			45	
Link Distance (ft)	676				657			722			664	
Travel Time (s)	9.2				9.0			10.9			10.1	
Peak Hour Factor	0.88	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.88	0.87
Heavy Vehicles (%)	2%	3%	3%	2%	2%	2%	2%	2%	4%	3%	3%	2%
Shared Lane Traffic (%)	11%											
Lane Group Flow (vph)	473	444	0	0	0	0	0	1664	364	522	1927	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			24			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6	5 7	5 6 7		
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
10: Belt Line & IH 635 EBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	47.0	47.0						55.0	55.0			
Total Split (%)	29.4%	29.4%						34.4%	34.4%			
Maximum Green (s)	40.2	40.2						48.6	48.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	40.2	40.2						48.6	48.6	41.6	104.8	
Actuated g/C Ratio	0.25	0.25						0.30	0.30	0.26	0.66	
v/c Ratio	1.12	1.09						0.74	0.53	0.59	0.58	
Control Delay (s/veh)	133.9	122.3						52.5	10.3	30.3	6.9	
Queue Delay	0.0	0.0						1.6	0.0	0.0	0.0	
Total Delay (s/veh)	133.9	122.3						54.0	10.3	30.3	7.0	
LOS	F	F						D	B	C	A	
Approach Delay (s/veh)		128.3						46.2			11.9	
Approach LOS		F						D			B	
90th %ile Green (s)	40.2	40.2						48.6	48.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	40.2	40.2						48.6	48.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	40.2	40.2						48.6	48.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	40.2	40.2						48.6	48.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	40.2	40.2						48.6	48.6			
10th %ile Term Code	Max	Max						Coord	Coord			
Queue Length 50th (ft)	~597	~530						388	37	193	233	
Queue Length 95th (ft)	#809	#727						406	116	m231	229	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	422	408						2247	691	884	3298	
Starvation Cap Reductn	0	0						0	0	0	90	
Spillback Cap Reductn	0	0						378	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	1.12	1.09						0.89	0.53	0.59	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 108 (68%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
10: Belt Line & IH 635 EBFR

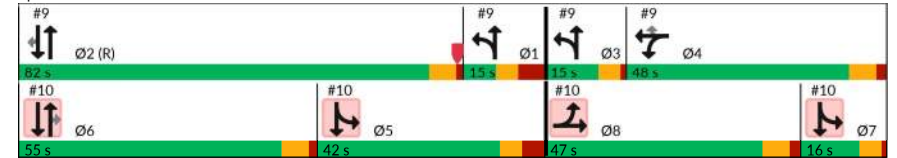
Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	15.0	82.0	15.0	48.0	42.0	16.0
Total Split (%)	9%	51%	9%	30%	26%	10%
Maximum Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	6.2	75.8	10.0	41.1	33.8	11.0
10th %ile Term Code	Max	Coord	Max	Max	Hold	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site AM
10: Belt Line & IH 635 EBFR

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay (s/veh): 44.6
Intersection LOS: D
Intersection Capacity Utilization 78.9%
ICU Level of Service D
Analysis Period (min) 15
- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Belt Line & IH 635 EBFR



Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site AM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	185	23	40	99	0	25	0	38	0	0	0
Future Vol, veh/h	0	185	23	40	99	0	25	0	38	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	83	83	82	82	83	84	84	84	85	84
Heavy Vehicles, %	2	2	0	9	3	2	0	2	0	2	2	2
Mvmt Flow	0	226	28	48	121	0	30	0	45	0	0	0
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	121	0	0	253	0	0	396	457	127	330	470	60
Stage 1	-	-	-	-	-	-	239	239	-	217	217	-
Stage 2	-	-	-	-	-	-	157	217	-	113	253	-
Critical Hdwy	4.14	-	-	4.28	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.29	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	1465	-	-	1259	-	0	543	499	906	600	490	992
Stage 1	-	-	-	-	-	0	748	706	-	765	722	-
Stage 2	-	-	-	-	-	0	836	722	-	880	696	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1465	-	-	1259	-	-	522	480	906	548	471	992
Mov Cap-2 Maneuver	-	-	-	-	-	-	522	480	-	548	471	-
Stage 1	-	-	-	-	-	-	748	706	-	736	694	-
Stage 2	-	-	-	-	-	-	804	694	-	836	696	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		2.27		10.76		0					
HCM LOS					B		A					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	700	1465	-	-	1259	-	-					
HCM Lane V/C Ratio	0.108	-	-	-	0.038	-	-					
HCM Control Delay (s/veh)	10.8	0	-	-	8	-	0					
HCM Lane LOS	B	A	-	-	A	-	A					
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-					

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site AM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↕	↕		↕
Traffic Vol, veh/h	0	0	246	80	0	35
Future Vol, veh/h	0	0	246	80	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	5	0	2	13
Mvmt Flow	0	0	300	98	0	43
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		300	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.33	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.417	
Pot Cap-1 Maneuver	-		0		714	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		714	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			10.36		
HCM LOS				B		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	714			
HCM Lane V/C Ratio	-	-	0.06			
HCM Control Delay (s/veh)	-	-	10.4			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.2			

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site AM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	43	69	11	29	31
Future Vol, veh/h	100	43	69	11	29	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	1	2	1	5
Mvmt Flow	109	47	75	12	32	34
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	178	81	0	0	87	0
Stage 1	81	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	812	982	-	-	1515	-
Stage 1	942	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	795	982	-	-	1515	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v10.23			0		3.59	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	843	870	-	
HCM Lane V/C Ratio	-	-	0.184	0.021	-	
HCM Control Delay (s/veh)	-	-	10.2	7.4	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-	

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site AM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	2.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	11	185	12	48	64	11	2	0	12	11	0	11	
Future Vol, veh/h	11	185	12	48	64	11	2	0	12	11	0	11	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	0	2	2	2	0	2	17	2	2	2	
Mvmt Flow	12	201	13	52	70	12	2	0	13	12	0	12	
Major/Minor	Major1			Major2			Minor1		Minor2				
Conflicting Flow All	82	0	0	214	0	0	371	417	107	304	418	41	
Stage 1	-	-	-	-	-	-	232	232	-	180	180	-	
Stage 2	-	-	-	-	-	-	139	186	-	124	238	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.5	6.54	7.24	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.5	4.02	3.47	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1514	-	-	1353	-	-	566	525	880	625	525	1021	
Stage 1	-	-	-	-	-	-	756	712	-	804	749	-	
Stage 2	-	-	-	-	-	-	855	745	-	866	707	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1514	-	-	1353	-	-	534	501	880	587	500	1021	
Mov Cap-2 Maneuver	-	-	-	-	-	-	534	501	-	587	500	-	
Stage 1	-	-	-	-	-	-	750	706	-	773	721	-	
Stage 2	-	-	-	-	-	-	813	716	-	847	701	-	
Approach	EB			WB			NB		SB				
HCM Control Delay, s/v	0.39			3.03			9.53		9.99				
HCM LOS							A		A				
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	534	880	1514	-	-	1353	-	-	-	-	746	-	-
HCM Lane V/C Ratio	0.004	0.015	0.008	-	-	0.039	-	-	-	-	0.032	-	-
HCM Control Delay (s/veh)	11.8	9.2	7.4	-	-	7.8	-	-	-	-	10	-	-
HCM Lane LOS	B	A	A	-	-	A	-	-	-	-	A	-	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0.1	-	-	-	-	0.1	-	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	11	6	0	6	48	61	6	6	50	12
Future Vol, veh/h	2	0	11	6	0	6	48	61	6	6	50	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	9	2	2	2	2	2	2	2	2	0
Mvmt Flow	2	0	12	7	0	7	52	66	7	7	54	13
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	245	251	61	241	254	70	67	0	0	73	0	0
Stage 1	74	74	-	174	174	-	-	-	-	-	-	-
Stage 2	171	177	-	67	80	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.29	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.381	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	713	652	985	713	649	993	1534	-	-	1527	-	-
Stage 1	940	833	-	828	755	-	-	-	-	-	-	-
Stage 2	836	753	-	943	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	681	626	985	676	623	993	1534	-	-	1527	-	-
Mov Cap-2 Maneuver	681	626	-	676	623	-	-	-	-	-	-	-
Stage 1	936	830	-	799	728	-	-	-	-	-	-	-
Stage 2	801	726	-	927	824	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	8.95			9.55			3.1			0.65		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	738	-	-	681	985	805	153	-	-			
HCM Lane V/C Ratio	0.034	-	-	0.003	0.012	0.016	0.004	-	-			
HCM Control Delay (s/veh)	7.4	0	-	10.3	8.7	9.5	7.4	0	-			
HCM Lane LOS	A	A	-	B	A	A	A	A	-			
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	0	-	-			

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	40	239	249	77	84	77	1639	61	104	1607	35
Future Volume (vph)	184	40	239	249	77	84	77	1639	61	104	1607	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	11	11	11	11	11	11
Storage Length (ft)	100		0	100		0	160		129	140		106
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.872			0.922				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3006	0	1711	3248	0	1662	4868	1531	1694	4868	1501
Flt Permitted	0.585			0.237			0.050			0.051		
Satd. Flow (perm)	1053	3006	0	427	3248	0	87	4868	1531	91	4868	1501
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		117			105				145			145
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1139			713			1538			980	
Travel Time (s)		25.9			16.2			23.3			14.8	
Peak Hour Factor	0.80	0.79	0.80	0.79	0.80	0.80	0.80	0.80	0.80	0.80	0.81	0.80
Heavy Vehicles (%)	2%	3%	5%	2%	3%	2%	5%	3%	2%	3%	3%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	350	0	315	201	0	96	2049	76	130	1984	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		6	6		2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	44.0		14.0	41.0		14.0	29.0	29.0	14.0	29.0	29.0
Total Split (s)	20.0	44.0		17.0	41.0		16.0	83.0	83.0	16.0	83.0	83.0
Total Split (%)	12.5%	27.5%		10.6%	25.6%		10.0%	51.9%	51.9%	10.0%	51.9%	51.9%
Maximum Green (s)	14.2	38.2		11.2	35.2		9.1	77.1	77.1	9.1	77.1	77.1
Yellow Time (s)	3.8	3.8		3.8	3.8		4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	1.0	1.0	1.5	1.0	1.0
Recall Mode	None	None		None	None		None	Max	Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0			28.0			16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	47.2	16.9		47.2	33.1		87.4	78.2	78.2	87.4	79.3	79.3
Actuated g/C Ratio	0.30	0.11		0.30	0.21		0.55	0.49	0.49	0.55	0.50	0.50
v/c Ratio	0.63	1.12dr		0.85	0.27		0.71	0.86	0.09	0.86	0.82	0.05
Control Delay (s/veh)	50.8	62.7		80.0	25.5		48.5	14.3	0.5	80.8	38.3	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.8	62.7		80.0	25.5		48.5	14.3	0.5	80.8	38.3	0.1
LOS	D	E		F	C		D	B	A	F	D	A
Approach Delay (s/veh)		58.0			58.8			15.3			40.1	
Approach LOS		E			E			B			D	
90th %ile Green (s)	14.2	23.3		26.1	35.2		9.1	77.1	77.1	9.1	77.1	77.1
90th %ile Term Code	Max	Gap		Max	Hold		Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	14.2	19.6		29.8	35.2		9.1	77.1	77.1	9.1	77.1	77.1
70th %ile Term Code	Max	Gap		Max	Hold		Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	14.2	16.9		30.9	33.6		9.1	77.1	77.1	10.7	78.7	78.7
50th %ile Term Code	Max	Gap		Gap	Hold		Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	14.2	14.3		31.5	31.6		9.1	77.3	77.3	12.5	80.7	80.7
30th %ile Term Code	Max	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	13.9	10.6		33.1	29.8		9.1	82.3	82.3	9.6	82.8	82.8
10th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	185	129		269	43		54	276	1	88	641	0
Queue Length 95th (ft)	228	147		#333	65		#101	266	2	#181	603	0
Internal Link Dist (ft)		1059			633			1458			900	
Turn Bay Length (ft)	100			100			160		129	140		106
Base Capacity (vph)	369	806		369	796		136	2378	821	151	2412	816
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.43		0.85	0.25		0.71	0.86	0.09	0.86	0.82	0.05
Intersection Summary												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD

Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 16 (10%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay (s/veh): 33.7	Intersection LOS: C
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 7: BELT LINE RD & DIVIDEND DR/DIVIDEND RD



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	15	65	225	16	147	29	1651	231	95	2139	13
Future Volume (vph)	9	15	65	225	16	147	29	1651	231	95	2139	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	200		200	200		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	1.00	
Frt		0.878				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1668	0	1787	1900	1568	1805	5036	1599	1787	6346	1615
Flt Permitted	0.744			0.508			0.038			0.051		
Satd. Flow (perm)	1414	1668	0	956	1900	1568	72	5036	1599	96	6346	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82				186			149			106
Link Speed (mph)	30				30			45			45	
Link Distance (ft)	197				645			532			1538	
Travel Time (s)	4.5				14.7			8.1			23.3	
Peak Hour Factor	0.79	0.79	0.79	0.78	0.79	0.79	0.79	0.79	0.80	0.80	0.79	0.80
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	3%	1%	1%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	101	0	288	20	186	37	2090	289	119	2708	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			12			12	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D,P+P	NA		D,P+P	NA	Perm	D,P+P	NA	Perm	D,P+P	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			4	2		6		2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.0	18.0		14.0	44.0	44.0	14.0	30.0	30.0	14.0	29.0	29.0
Total Split (s)	15.0	39.0		20.0	44.0	44.0	17.0	84.0	84.0	17.0	84.0	84.0
Total Split (%)	9.4%	24.4%		12.5%	27.5%	27.5%	10.6%	52.5%	52.5%	10.6%	52.5%	52.5%
Maximum Green (s)	9.2	33.2		14.2	38.2	38.2	10.1	78.1	78.1	10.1	78.1	78.1
Yellow Time (s)	3.8	3.8		3.8	3.8	3.8	4.9	4.9	4.9	4.9	4.9	4.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8	5.8	6.9	5.9	5.9	6.9	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Max	Max	None	C-Max	C-Max
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)					31.0	31.0		17.0	17.0		16.0	16.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	25.6	7.9		22.1	23.1	23.1	113.8	102.1	102.1	112.5	110.3	110.3
Actuated g/C Ratio	0.16	0.05		0.14	0.14	0.14	0.71	0.64	0.64	0.70	0.69	0.69
v/c Ratio	0.05	0.63		1.40	0.07	0.48	0.33	0.65	0.27	0.64	0.62	0.01
Control Delay (s/veh)	56.1	39.2		251.2	62.1	12.5	25.0	6.6	1.3	41.1	10.1	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0
Total Delay (s/veh)	56.1	39.2		251.2	62.1	12.5	25.0	6.7	1.6	41.1	10.1	0.0
LOS	E	D		F	E	B	C	A	A	D	B	A
Approach Delay (s/veh)		40.9			153.7			6.4			11.3	
Approach LOS		D			F			A			B	
90th %ile Green (s)	6.7	12.5		14.2	20.0	20.0	6.8	92.3	92.3	16.6	102.1	102.1
90th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
70th %ile Green (s)	5.9	8.9		14.2	17.2	17.2	5.7	98.7	98.7	13.8	106.8	106.8
70th %ile Term Code	Gap	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
50th %ile Green (s)	0.0	6.3		14.2	26.3	26.3	5.3	103.7	103.7	11.4	109.8	109.8
50th %ile Term Code	Skip	Gap		Max	Hold	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	5.0	106.4	106.4	9.0	110.4	110.4
30th %ile Term Code	Skip	Min		Max	Hold	Hold	Min	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	0.0	6.0		14.2	26.0	26.0	0.0	109.2	109.2	6.2	122.3	122.3
10th %ile Term Code	Skip	Min		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	Coord
Queue Length 50th (ft)	11	14		~370	18	0	3	164	8	66	223	0
Queue Length 95th (ft)	m24	m62		#376	41	43	m23	210	m17	m92	287	m0
Internal Link Dist (ft)		117			565			452			1458	
Turn Bay Length (ft)				80		80	200		200	200		200
Base Capacity (vph)	259	411		206	453	515	162	3212	1073	199	4373	1146
Starvation Cap Reductn	0	0		0	0	0	0	180	353	0	0	0
Spillback Cap Reductn	0	2		0	0	0	0	0	0	0	182	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.25		1.40	0.04	0.36	0.23	0.69	0.40	0.60	0.65	0.01

Intersection Summary

Area Type: Other

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
8: BELT LINE RD/Belt Line & Hackberry Road

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.40
Intersection Signal Delay (s/veh): 21.9
Intersection Capacity Utilization 71.8%
ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: BELT LINE RD/Belt Line & Hackberry Road



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
9: Belt Line & IH 635 WBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	37	500	191	362	309	1552	0	0	2144	306
Future Volume (vph)	0	0	37	500	191	362	309	1552	0	0	2144	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		418	0		0	0		0
Storage Lanes	0		0	1		1	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	0.97	0.91	1.00	1.00	0.81	1.00
Frt		0.850				0.850						0.850
Flt Protected				0.950	0.972		0.950					
Satd. Flow (prot)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	1615
Flt Permitted				0.950	0.972		0.950					
Satd. Flow (perm)	0	0	0	1610	3323	1583	3303	5085	0	0	7471	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162				116						159
Link Speed (mph)	55				55			45				45
Link Distance (ft)	683				982			664				532
Travel Time (s)	8.5				12.2			10.1				8.1
Peak Hour Factor	0.83	0.82	0.83	0.83	0.83	0.83	0.83	0.82	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	0%	2%	0%	2%	6%	2%	2%	2%	3%	0%
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	45	0	301	531	436	372	1893	0	0	2583	369
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			48			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2			2	1
Detector Template				Left	Thru	Right	Left	Thru			Thru	Right
Leading Detector (ft)				20	100	20	20	100			100	20
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	20	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1 3	1 2 3			2	
Permitted Phases						4						2

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
9: Belt Line & IH 635 WBFR

Lane Group	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	3	5	6	7	8
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
9: Belt Line & IH 635 WBFR

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4	4	4	1 3	1 2 3			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0					5.0	5.0
Minimum Split (s)				19.0	19.0	19.0					19.0	19.0
Total Split (s)				40.0	40.0	40.0					75.0	75.0
Total Split (%)				25.0%	25.0%	25.0%					46.9%	46.9%
Maximum Green (s)				33.1	33.1	33.1					68.8	68.8
Yellow Time (s)				5.0	5.0	5.0					4.9	4.9
All-Red Time (s)				1.9	1.9	1.9					1.3	1.3
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)				6.9	6.9	6.9					6.2	6.2
Lead/Lag				Lead	Lead	Lead					Lead	Lead
Lead-Lag Optimize?				Yes	Yes	Yes					Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Recall Mode				None	None	None					C-Max	C-Max
Act Effct Green (s)	0.0			33.1	33.1	33.1	27.4	111.2			68.8	68.8
Actuated g/C Ratio	0.00			0.21	0.21	0.21	0.17	0.70			0.43	0.43
v/c Ratio	0.28			0.90	0.87dl	1.04	0.66	0.54			0.80	0.47
Control Delay (s/veh)	0.0			91.5	68.6	98.6	51.1	5.6			35.9	16.1
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.1			0.9	0.7
Total Delay (s/veh)	0.0			91.5	68.6	98.6	51.1	5.7			36.8	16.8
LOS	A			F	E	F	D	A			D	B
Approach Delay (s/veh)					84.3			13.1			34.3	
Approach LOS					F			B			C	
90th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
90th %ile Term Code				Max	Max	Max					Coord	Coord
70th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
70th %ile Term Code				Max	Max	Max					Coord	Coord
50th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
50th %ile Term Code				Max	Max	Max					Coord	Coord
30th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
30th %ile Term Code				Max	Max	Max					Coord	Coord
10th %ile Green (s)				33.1	33.1	33.1					68.8	68.8
10th %ile Term Code				Max	Max	Max					Coord	Coord
Queue Length 50th (ft)	0			341	291	~389	195	117			473	138
Queue Length 95th (ft)	0			#465	330	#523	227	58			m475	m138
Internal Link Dist (ft)	603				902			584				452
Turn Bay Length (ft)						418						
Base Capacity (vph)	162			333	687	419	565	3534			3212	785
Starvation Cap Reductn	0			0	0	0	0	489			332	172
Spillback Cap Reductn	0			0	0	0	0	0			0	0
Storage Cap Reductn	0			0	0	0	0	0			0	0
Reduced v/c Ratio	0.28			0.90	0.77	1.04	0.66	0.62			0.90	0.60

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
9: Belt Line & IH 635 WBFR

	Ø1	Ø3	Ø5	Ø6	Ø7	Ø8
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	12.0	15.0	19.0	12.0	19.0
Total Split (s)	30.0	15.0	28.0	77.0	18.0	37.0
Total Split (%)	19%	9%	18%	48%	11%	23%
Maximum Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
Yellow Time (s)	4.0	4.0	4.0	4.9	4.0	5.0
All-Red Time (s)	4.8	1.0	4.2	1.5	1.0	1.8
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	None	Min	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
90th %ile Term Code	Max	Max	Max	Coord	Max	Max
70th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
70th %ile Term Code	Max	Max	Max	Coord	Max	Max
50th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
50th %ile Term Code	Max	Max	Max	Coord	Max	Max
30th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
30th %ile Term Code	Max	Max	Max	Coord	Max	Max
10th %ile Green (s)	21.2	10.0	19.8	70.6	13.0	30.2
10th %ile Term Code	Max	Max	Max	Coord	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

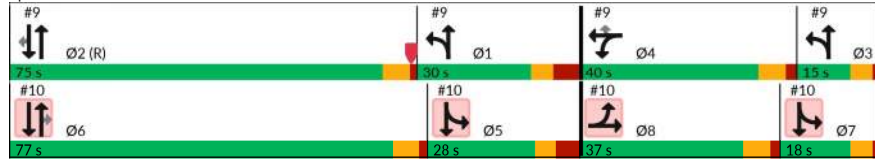
Intersection Summary

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
9: Belt Line & IH 635 WBFR

Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay (s/veh): 36.4	Intersection LOS: D
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min) 15	
Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 9: Belt Line & IH 635 WBFR



Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
10: Belt Line & IH 635 EBFR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	61	184	0	0	0	0	1725	693	699	1931	0
Future Volume (vph)	156	61	184	0	0	0	0	1725	693	699	1931	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	340		0	0		0	0		0	184		0
Storage Lanes	1		0	0		0	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.81	1.00	0.97	0.91	1.00
Frt		0.894							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1665	1555	0	0	0	0	0	7471	1599	3433	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14							339			
Link Speed (mph)	50				50			45			45	
Link Distance (ft)	676				657			722			664	
Travel Time (s)	9.2				9.0			10.9			10.1	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.83
Heavy Vehicles (%)	3%	2%	4%	2%	2%	2%	2%	3%	1%	2%	3%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	167	311	0	0	0	0	0	2054	825	832	2299	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12			24			24	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94							94		94	
Detector 2 Size(ft)		6							6		6	
Detector 2 Type		CI+Ex							CI+Ex		CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0							0.0		0.0	
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	8	8						6		5 7	5 6 7	
Permitted Phases										6		

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
10: Belt Line & IH 635 EBFR

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
Protected Phases	1	2	3	4	5	7
Permitted Phases						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
10: Belt Line & IH 635 EBFR

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8						6	6	5 7	5 6 7	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0	5.0			
Minimum Split (s)	19.0	19.0						19.0	19.0			
Total Split (s)	37.0	37.0						77.0	77.0			
Total Split (%)	23.1%	23.1%						48.1%	48.1%			
Maximum Green (s)	30.2	30.2						70.6	70.6			
Yellow Time (s)	5.0	5.0						4.9	4.9			
All-Red Time (s)	1.8	1.8						1.5	1.5			
Lost Time Adjust (s)	0.0	0.0						0.0	0.0			
Total Lost Time (s)	6.8	6.8						6.4	6.4			
Lead/Lag	Lead	Lead						Lead	Lead			
Lead-Lag Optimize?	Yes	Yes						Yes	Yes			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Recall Mode	None	None						Max	Max			
Act Effct Green (s)	30.2	30.2						70.6	70.6	29.6	114.8	
Actuated g/C Ratio	0.19	0.19						0.44	0.44	0.19	0.72	
v/c Ratio	0.53	1.02						0.62	0.92	1.31	0.64	
Control Delay (s/veh)	65.6	116.8						35.5	41.0	185.8	5.2	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.3	
Total Delay (s/veh)	65.6	116.8						35.5	41.0	185.8	5.5	
LOS	E	F						D	D	F	A	
Approach Delay (s/veh)		98.9						37.1			53.4	
Approach LOS		F						D			D	
90th %ile Green (s)	30.2	30.2						70.6	70.6			
90th %ile Term Code	Max	Max						Coord	Coord			
70th %ile Green (s)	30.2	30.2						70.6	70.6			
70th %ile Term Code	Max	Max						Coord	Coord			
50th %ile Green (s)	30.2	30.2						70.6	70.6			
50th %ile Term Code	Max	Max						Coord	Coord			
30th %ile Green (s)	30.2	30.2						70.6	70.6			
30th %ile Term Code	Max	Max						Coord	Coord			
10th %ile Green (s)	30.2	30.2						70.6	70.6			
10th %ile Term Code	Max	Max						Coord	Coord			
Queue Length 50th (ft)	168	~348						405	553	~469	178	
Queue Length 95th (ft)	235	#501						396	668	#532	174	
Internal Link Dist (ft)		596			577			642			584	
Turn Bay Length (ft)	340									184		
Base Capacity (vph)	314	304						3296	894	635	3613	
Starvation Cap Reductn	0	0						0	0	0	557	
Spillback Cap Reductn	0	0						0	0	0	0	
Storage Cap Reductn	0	0						0	0	0	0	
Reduced v/c Ratio	0.53	1.02						0.62	0.92	1.31	0.75	
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												
Actuated Cycle Length: 160												
Offset: 7 (4%), Referenced to phase 2:NBSB, Start of Red												

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
10: Belt Line & IH 635 EBFR

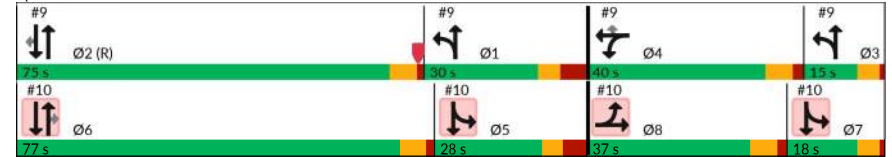
Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	19.0	12.0	19.0	15.0	12.0
Total Split (s)	30.0	75.0	15.0	40.0	28.0	18.0
Total Split (%)	19%	47%	9%	25%	18%	11%
Maximum Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
Yellow Time (s)	4.0	4.9	4.0	5.0	4.0	4.0
All-Red Time (s)	4.8	1.3	1.0	1.9	4.2	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	C-Max	None	None	Min	None
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
90th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
90th %ile Term Code	Max	Coord	Max	Max	Max	Max
70th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
70th %ile Term Code	Max	Coord	Max	Max	Max	Max
50th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
50th %ile Term Code	Max	Coord	Max	Max	Max	Max
30th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
30th %ile Term Code	Max	Coord	Max	Max	Max	Max
10th %ile Green (s)	21.2	68.8	10.0	33.1	19.8	13.0
10th %ile Term Code	Max	Coord	Max	Max	Max	Max
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Naterra Industrial TIA
Lanes, Volumes, Timings

2032 Background + Site PM
10: Belt Line & IH 635 EBFR

Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay (s/veh): 49.5	Intersection LOS: D
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min) 15	
- Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: Belt Line & IH 635 EBFR



Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site PM
17: Point W Blvd/Samsung Drive (Gated) & Dividend Dr

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	150	11	95	123	0	12	0	36	0	0	0
Future Vol, veh/h	0	150	11	95	123	0	12	0	36	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	78	84	84	84	85	84	85	85
Heavy Vehicles, %	2	8	0	1	5	2	0	2	3	2	2	2
Mvmt Flow	0	190	14	120	158	0	14	0	42	0	0	0
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	158	0	0	204	0	0	516	595	102	493	602	79
Stage 1	-	-	-	-	-	-	197	197	-	398	398	-
Stage 2	-	-	-	-	-	-	319	398	-	95	204	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.5	6.54	6.96	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.5	4.02	3.33	3.52	4.02	3.32
Pot Cap-1 Maneuver	1420	-	-	1372	-	0	446	416	930	459	412	966
Stage 1	-	-	-	-	-	0	792	737	-	599	601	-
Stage 2	-	-	-	-	-	0	672	601	-	901	732	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	1372	-	-	407	379	930	400	376	966
Mov Cap-2 Maneuver	-	-	-	-	-	-	407	379	-	400	376	-
Stage 1	-	-	-	-	-	-	792	737	-	546	548	-
Stage 2	-	-	-	-	-	-	613	548	-	860	732	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		3.41		10.57		0					
HCM LOS					B		A					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	703	1420	-	-	1372	-	-					
HCM Lane V/C Ratio	0.081	-	-	-	0.088	-	-					
HCM Control Delay (s/veh)	10.6	0	-	-	7.9	-	0					
HCM Lane LOS	B	A	-	-	A	-	A					
HCM 95th %tile Q(veh)	0.3	0	-	-	0.3	-	-					

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site PM
19: IH 635 WBFR & Point W Blvd

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↱	↱		↱
Traffic Vol, veh/h	0	0	760	42	0	141
Future Vol, veh/h	0	0	760	42	0	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	82	80	81	81
Heavy Vehicles, %	2	2	3	0	2	1
Mvmt Flow	0	0	927	53	0	174
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		927	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.21	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.309	
Pot Cap-1 Maneuver	-		0		327	
Stage 1	-		0		-	
Stage 2	-		0		-	
Platoon blocked, %	-		-			
Mov Cap-1 Maneuver	-		-		327	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB			SB		
HCM Control Delay, s/v	0			27.91		
HCM LOS				D		
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	327			
HCM Lane V/C Ratio	-	-	0.533			
HCM Control Delay (s/veh)	-	-	27.9			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	3			

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site PM
21: Point W Blvd & Hackberry Road

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵		↵			↵
Traffic Vol, veh/h	30	26	31	11	78	75
Future Vol, veh/h	30	26	31	11	78	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	1	2	1	2
Mvmt Flow	33	28	34	12	85	82

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	291	40	0	0	46
Stage 1	40	-	-	-	-
Stage 2	251	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209
Pot Cap-1 Maneuver	700	1035	-	-	1569
Stage 1	983	-	-	-	-
Stage 2	791	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	660	1035	-	-	1569
Mov Cap-2 Maneuver	660	-	-	-	-
Stage 1	983	-	-	-	-
Stage 2	746	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.91	0	3.79
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	794	918
HCM Lane V/C Ratio	-	-	0.077	0.054
HCM Control Delay (s/veh)	-	-	9.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Naterra Industrial TIA
HCM 7th TWSC

2032 Background + Site PM
26: Drive 1/Samsung Drive & Dividend Dr

Intersection													
Int Delay, s/veh	2.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↵	↕		↵	↕		↵	↕		↕	↕		
Traffic Vol, veh/h	11	106	3	14	110	11	11	0	44	11	0	11	
Future Vol, veh/h	11	106	3	14	110	11	11	0	44	11	0	11	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	0	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	0	7	2	2	0	2	2	2	2	2	
Mvmt Flow	12	115	3	15	120	12	12	0	48	12	0	12	

Major/Minor	Major1	Major2	Minor1	Minor2		
Conflicting Flow All	132	0	0	118	0	0
Stage 1	-	-	-	-	141	141
Stage 2	-	-	-	-	90	162
Critical Hdwy	4.14	-	-	4.24	-	-
Critical Hdwy Stg 1	-	-	-	-	6.5	5.54
Critical Hdwy Stg 2	-	-	-	-	6.5	5.54
Follow-up Hdwy	2.22	-	-	2.27	-	-
Pot Cap-1 Maneuver	1451	-	-	1432	-	-
Stage 1	-	-	-	-	854	779
Stage 2	-	-	-	-	913	763
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	1451	-	-	1432	-	-
Mov Cap-2 Maneuver	-	-	-	-	688	598
Stage 1	-	-	-	-	847	773
Stage 2	-	-	-	-	892	755

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.69	0.78	9.11	9.74
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	688	994	1451	-	-	1432	-	-	784
HCM Lane V/C Ratio	0.017	0.048	0.008	-	-	0.011	-	-	0.031
HCM Control Delay (s/veh)	10.3	8.8	7.5	-	-	7.5	-	-	9.7
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↰			↰			↰	
Traffic Vol, veh/h	11	0	44	6	0	6	14	40	6	6	104	3
Future Vol, veh/h	11	0	44	6	0	6	14	40	6	6	104	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	2	2	2	7	2	2	2	2	0
Mvmt Flow	12	0	48	7	0	7	15	43	7	7	113	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	202	208	115	203	207	47	116	0	0	50	0	0
Stage 1	128	128	-	77	77	-	-	-	-	-	-	-
Stage 2	74	80	-	126	129	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.218	-	-
Pot Cap-1 Maneuver	761	689	938	755	690	1023	1442	-	-	1557	-	-
Stage 1	881	790	-	932	831	-	-	-	-	-	-	-
Stage 2	940	828	-	878	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	745	678	938	705	680	1023	1442	-	-	1557	-	-
Mov Cap-2 Maneuver	745	678	-	705	680	-	-	-	-	-	-	-
Stage 1	877	787	-	922	822	-	-	-	-	-	-	-
Stage 2	924	819	-	829	786	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.22		9.38		1.76		0.39	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	409	-	-	745	938	835	95	-	-
HCM Lane V/C Ratio	0.011	-	-	0.016	0.051	0.016	0.004	-	-
HCM Control Delay (s/veh)	7.5	0	-	9.9	9	9.4	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	0	-	-