



PLANNING AND ZONING CASE CHECKLIST

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

P&Z CASE # 22020-015 P&Z DATE 04/14/20 CC DATE 05/04/20 APPROVED/DENIED
ARCHITECTURAL REVIEW BOARD DATE _____ HPAB DATE _____ PARK BOARD DATE _____

ZONING APPLICATION
<input type="checkbox"/> SPECIFIC USE PERMIT
<input type="checkbox"/> ZONING CHANGE
<input type="checkbox"/> PD CONCEPT PLAN
<input checked="" type="checkbox"/> PD DEVELOPMENT PLAN

SITE PLAN APPLICATION
<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> LANDSCAPE PLAN
<input type="checkbox"/> TREESCAPE PLAN
<input type="checkbox"/> PHOTOMETRIC PLAN
<input type="checkbox"/> BUILDING ELEVATIONS
<input type="checkbox"/> MATERIAL SAMPLES
<input type="checkbox"/> COLOR RENDERING

PLATTING APPLICATION
<input type="checkbox"/> MASTER PLAT
<input type="checkbox"/> PRELIMINARY PLAT
<input type="checkbox"/> FINAL PLAT
<input type="checkbox"/> REPLAT
<input type="checkbox"/> ADMINISTRATIVE/MINOR PLAT
<input type="checkbox"/> VACATION PLAT
<input type="checkbox"/> LANDSCAPE PLAN
<input type="checkbox"/> TREESCAPE PLAN

<input type="checkbox"/> COPY OF ORDINANCE (ORD.# _____)
<input checked="" type="checkbox"/> APPLICATIONS
<input checked="" type="checkbox"/> RECEIPT
<input checked="" type="checkbox"/> LOCATION MAP
<input checked="" type="checkbox"/> HOA MAP
<input checked="" type="checkbox"/> PON MAP
<input type="checkbox"/> FLU MAP
<input type="checkbox"/> NEWSPAPER PUBLIC NOTICE
<input type="checkbox"/> 500-FT. BUFFER PUBLIC NOTICE
<input type="checkbox"/> PROJECT REVIEW
<input type="checkbox"/> STAFF REPORT
<input type="checkbox"/> CORRESPONDENCE
<input type="checkbox"/> COPY-ALL PLANS REQUIRED
<input type="checkbox"/> COPY-MARK-UPS
<input type="checkbox"/> CITY COUNCIL MINUTES-LASERFICHE
<input type="checkbox"/> MINUTES-LASERFICHE
<input type="checkbox"/> PLAT FILED DATE _____
<input type="checkbox"/> CABINET # _____
<input type="checkbox"/> SLIDE # _____
NOTES: _____

ZONING MAP UPDATED _____



DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO. 22020-005

NOTE: THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.

DIRECTOR OF PLANNING:

CITY ENGINEER:

Please check the appropriate box below to indicate the type of development request [SELECT ONLY ONE BOX]:

Platting Application Fees:

- Master Plat (\$100.00 + \$15.00 Acre)¹
- Preliminary Plat (\$200.00 + \$15.00 Acre)¹
- Final Plat (\$300.00 + \$20.00 Acre)¹
- Replat (\$300.00 + \$20.00 Acre)¹
- Amending or Minor Plat (\$150.00)
- Plat Reinstatement Request (\$100.00)

Site Plan Application Fees:

- Site Plan (\$250.00 + \$20.00 Acre)¹
- Amended Site Plan/Elevations/Landscaping Plan (\$100.00)

Zoning Application Fees:

- Zoning Change (\$200.00 + \$15.00 Acre)¹
- Specific Use Permit (\$200.00 + \$15.00 Acre)¹
- PD Development Plans (\$200.00 + \$15.00 Acre)¹

Other Application Fees:

- Tree Removal (\$75.00)
- Variance Request (\$100.00)

Notes:

¹: In determining the fee, please use the exact acreage when multiplying by the per acre amount. For requests on less than one acre, round up to one (1) acre.

PROPERTY INFORMATION [PLEASE PRINT]

Address NA

Subdivision NA

Lot NA

Block NA

General Location Southeast corner of Corporate Crossing and IH 30 Frontage Road

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

Current Zoning Commercial & Light Industrial

Current Use Vacant

Proposed Zoning Planned Development

Proposed Use Mixed Use

Acreage 55.8 Acres

Lots [Current] NA

Lots [Proposed] 13

SITE PLANS AND PLATS: By checking this box you acknowledge that due to the passage of HB3167 the City no longer has flexibility with regard to its approval process, and failure to address any of staff's comments by the date provided on the Development Calendar will result in the denial of your case.

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

Owner Capstar Holdings Corporation

Applicant Structured Real Estate

Contact Person Luke Alverson

Contact Person Stephen Doyle

Address 5420 Lyndon B Johnson Freeway
Suite 500

Address 1046 W Kinzie St, Ste 301

City, State & Zip Dallas, Texas 75240

City, State & Zip Chicago, Illinois 60642

Phone

Phone 847-951-8974

E-Mail

E-Mail steved@structuredrea.com

NOTARY VERIFICATION [REQUIRED]

Before me, the undersigned authority, on this day DocuSigned by: Luke Alverson personally appeared Luke Alverson [Owner] the undersigned, who stated the information on this application to be true and certified the following:

"I hereby certify that I am the owner for the purpose of this application; all information submitted herein is true and correct; and the application fee of \$ _____, to cover the cost of this application, has been paid to the City of Rockwall on this the _____ day of _____, 20 _____. By signing this application, I agree that the City of Rockwall (i.e. "City") is authorized and permitted to provide information contained within this application to the public. The City is also authorized and permitted to reproduce any copyrighted information submitted in conjunction with this application, if such reproduction is associated or in response to a request for public information."

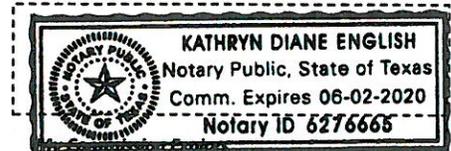
Given under my hand and seal of office on this the _____ day of _____, 20 ____.

Owner's Signature

DocuSigned by:

12495043CCFB403...

Notary Public in and for the State of Texas





**DEVELOPMENT REVIEW COMMITTEE (DRC)
CITY OF ROCKWALL, PLANNING & ZONING DEPARTMENT**

Phone: (972) 771-7745

Email: Planning@Rockwall.com

External Review: Wayne Carter, Charter Communications
Jim Friske, Charter Communications
Dinah Wood, Atmos
Randy Voight, Oncor
Phillip Dickerson, Oncor
Brian Duncan, AT&T
Javier Fernandez, RISD
Brenda Callaway, TXDOT
Stephen Geiger, Farmer's Electric
Frank Spataro, Farmer's Electric

Internal Review: Amy Williams, Engineering
John Shannon, Building Inspections
Ariana Hargrove, Fire
Andy Hesser, Parks
Andy Villarreal, Police

From: Planning & Zoning Department

Date: 3/20/2020

To assist the Planning Department in evaluating the attached request, we are sending it to you for your review and comments. Please return any comments and/or plan mark-ups to us within five (5) days. Internal staff will also be required to have all comments input into CRW no later than Friday, 03/26/2020. Planning staff will assemble all comments received in time for our regularly scheduled DRC meeting on 3/26/2020 at 2:00 p.m. The Planning and Zoning Commission work session will be held on 4/14/2020 at 6:00 p.m. You are welcome to attend both meetings. If you have any questions, please contact us at (972) 771-7745.

Project Number: Z2020-015
Project Name: FitSportLife Rockwall
Project Type: ZONING
Applicant Name: STEPHEN DOYLE
Owner Name: LUKE ALVERSON
Project Description:



RECEIPT

Project Number: Z2020-015

Job Address:

Receipt Number: B88703

Printed: 3/30/2020 8:09 am

Fee Description	Account Number	Fee Amount
ZONING	01-4280	\$1,037.00

Total Fees Paid:

\$1,037.00

Date Paid: 3/30/2020 12:00:00AM

Paid By: STEPHEN DOYLE

Pay Method: CHECK 6098

Received By: AG



DEVELOPMENT APPLICATION

City of Rockwall
 Planning and Zoning Department
 385 S. Goliad Street
 Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO. _____

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Given under my hand and seal of office on this the _____ day of _____, 20 ____.

Owner's Signature

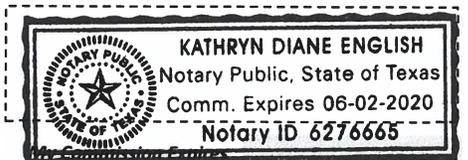
DocuSigned by:

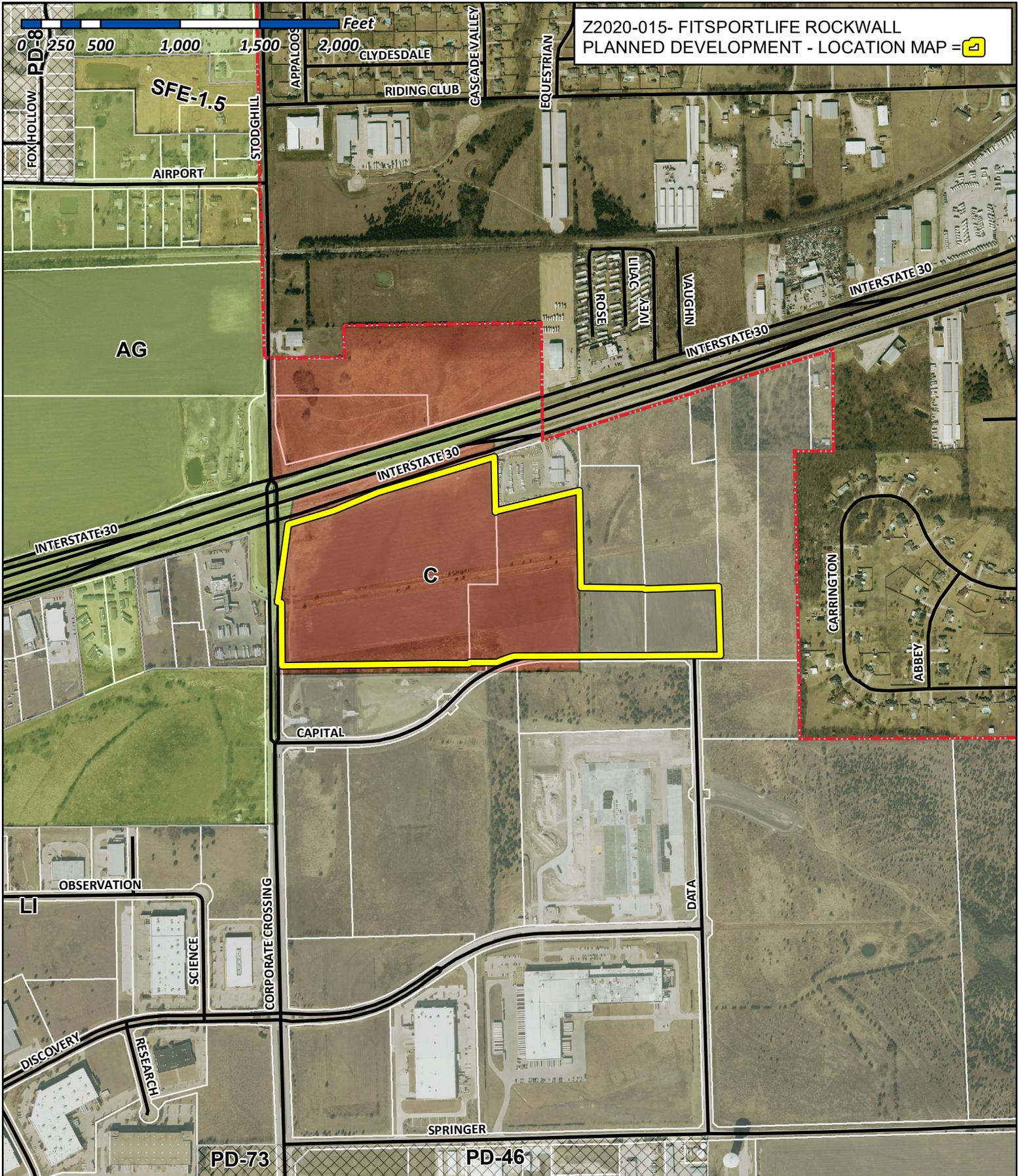
Luke Alverson

Notary Public in and for the State of Texas

12495043CCFB403...

Kathryn Diane English





City of Rockwall

Planning & Zoning Department
 385 S. Goliad Street
 Rockwall, Texas 75032
 (P): (972) 771-7745
 (W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

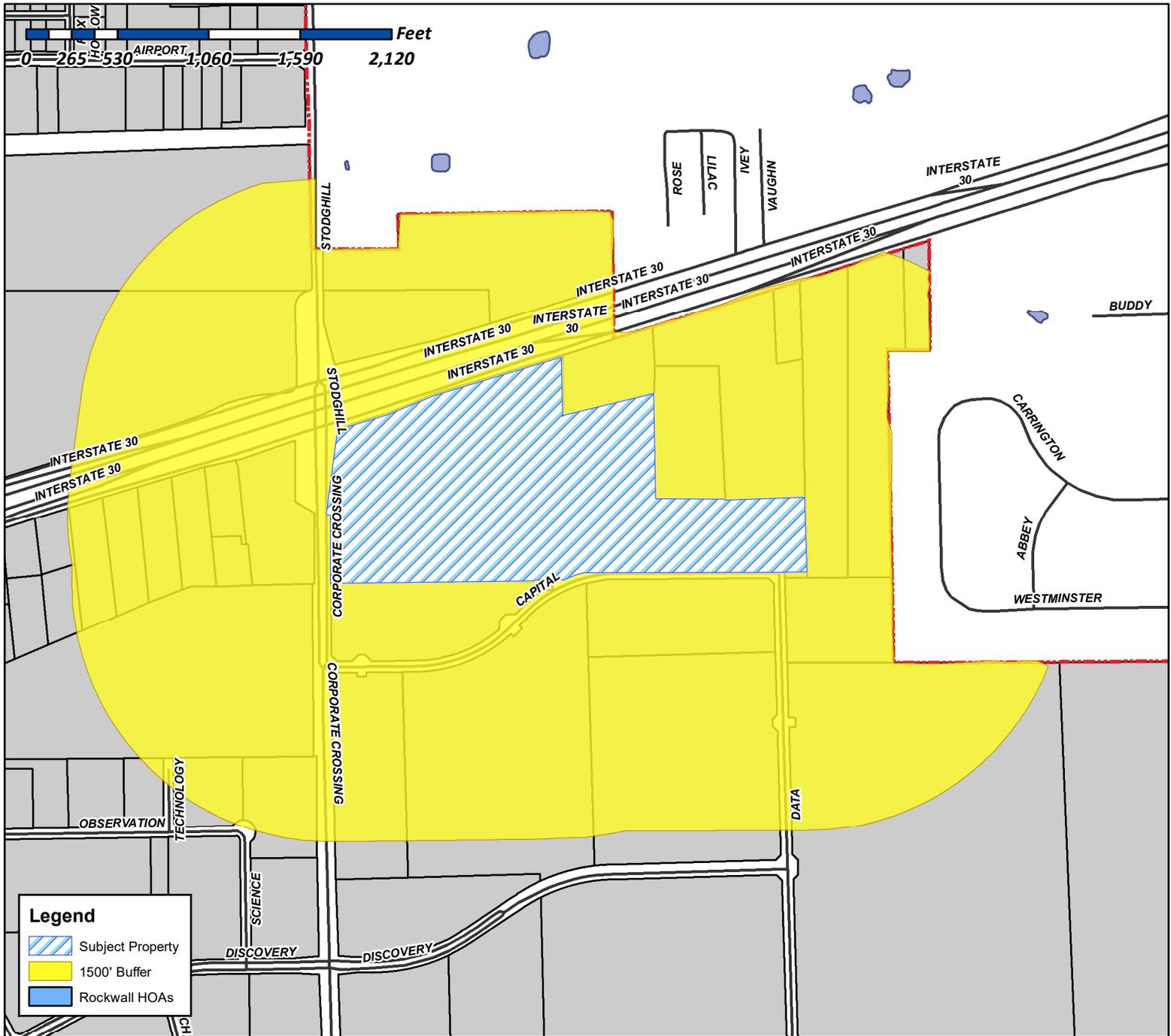
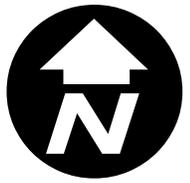




City of Rockwall

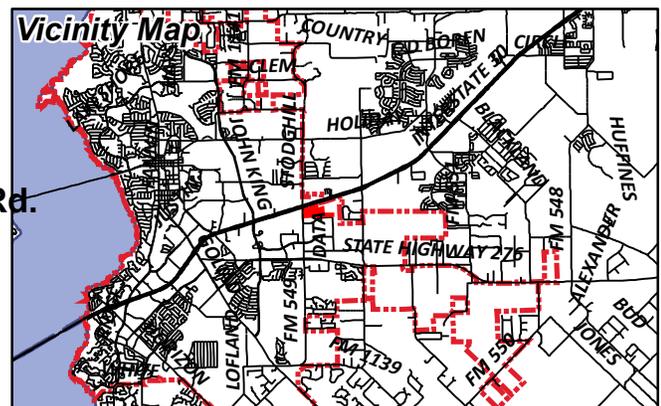
Planning & Zoning Department
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Case Number: Z2020-015
Case Name: Zoning Change (C & LI to PD)
Case Type: Zoning
Zoning: Commercial (C) District
Case Address: SEC Corporate Crossing & Frontage Rd.

Date Created: 3/26/2020
 For Questions on this Case Call (972) 771-7745

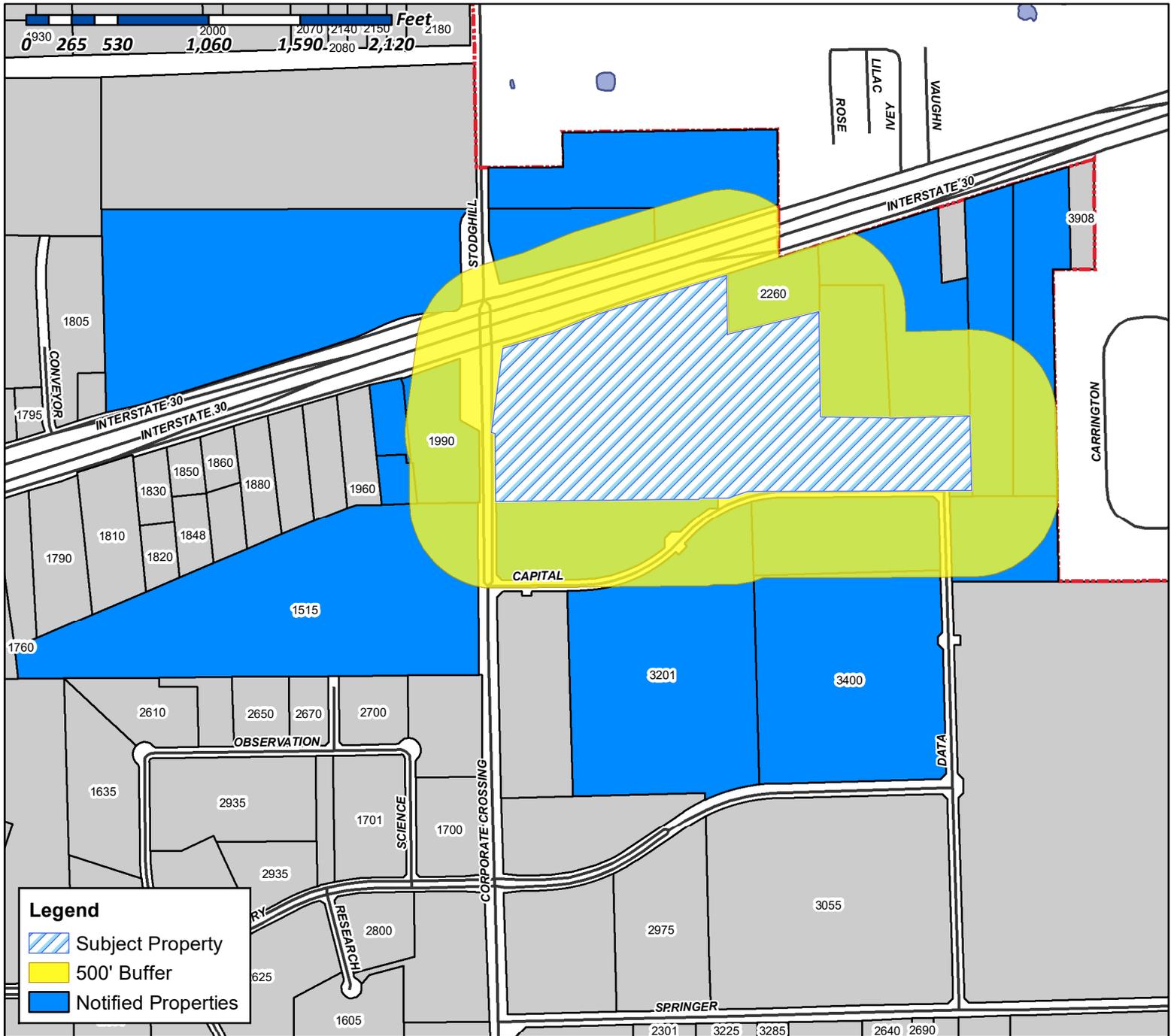




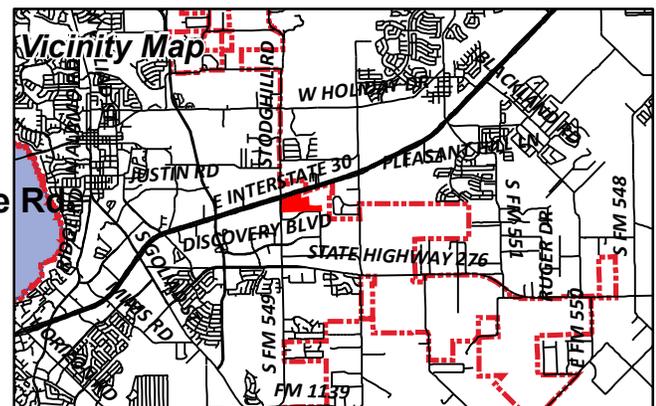
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 For Questions on this Case Call (972) 771-7745

LOVES TRAVEL STOPS & COUNTRY STORES INC
10601 NORTH PENNSYLVANIA
OKLAHOMA CITY, OK 73126

WALLIS RUSTY FAMILY LTD PARTNERSHIP #2
12277 SHILOH RD
DALLAS, TX 75228

CURRENT RESIDENT
1515 CORPORATE CROSSING
ROCKWALL, TX 75087

CURRENT RESIDENT
1990 E-130
ROCKWALL, TX 75087

ROBINO GIANLUCA & MARY C GOSS
2036 STRADELLA RD
LOS ANGELES, CA 90077

CURRENT RESIDENT
2260 E-130
ROCKWALL, TX 75087

ROCKWALL ECONOMIC DEVELOPMENT
CORPORATION
2610 OBSERVATION TRAIL SUITE 104
ROCKWALL, TX 75032

BAKER SCHWIMMER VENTURES LP
2633 MCKINNEY AVE STE 130-510
DALLAS, TX 75204

CURRENT RESIDENT
3201 CAPITAL BLVD
ROCKWALL, TX 75087

CURRENT RESIDENT
3400 DISCOVERY
ROCKWALL, TX 75087

CAPSTAR HOLDINGS CORPORATION
C/O CSW INDUSTRIALS
5420 LYNDON B JOHNSON FREEWAY SUITE 500
DALLAS, TX 75240

GLOBAL WELLS INVESTMENT GROUP LLC
6185 KIMBALL AVENUE
CHINO, CA 91708

ROCKWALL ECONOMIC DEVELOPMENT CORP
697 E INTERSTATE 30
ROCKWALL, TX 75087

HITT FAMILY LIMITED PARTNERSHIP
7836 YAMINI DR
DALLAS, TX 75230

ROCKWALL 549/130 PARTNERS LP
8750 N CENTRAL EXPWY SUITE 1735
DALLAS, TX 75231

MIRANDA VINOD
9105 BRIARCREST DR
ROWLETT, TX 75088

STAG ROCKWALL L.P. A DELAWARE LIMITED
PARTNERSHIP
STAG INDUSTRIAL HOLDINGS LLC
ONE FEDERAL STREET 23RD FLOOR
BOSTON, MA 2110

JOWERS INC
PO BOX 1870
ROCKWALL, TX 75087

LOVE'S COUNTRY STORES INC
PO BOX 26210
OKLAHOMA CITY, OK 73126

PHASE 17 INVESTMENTS LP
PO BOX 601638
DALLAS, TX 75360



CONCEPT
PLANNED DISTRICT SITE PLAN
1"=100'-0"

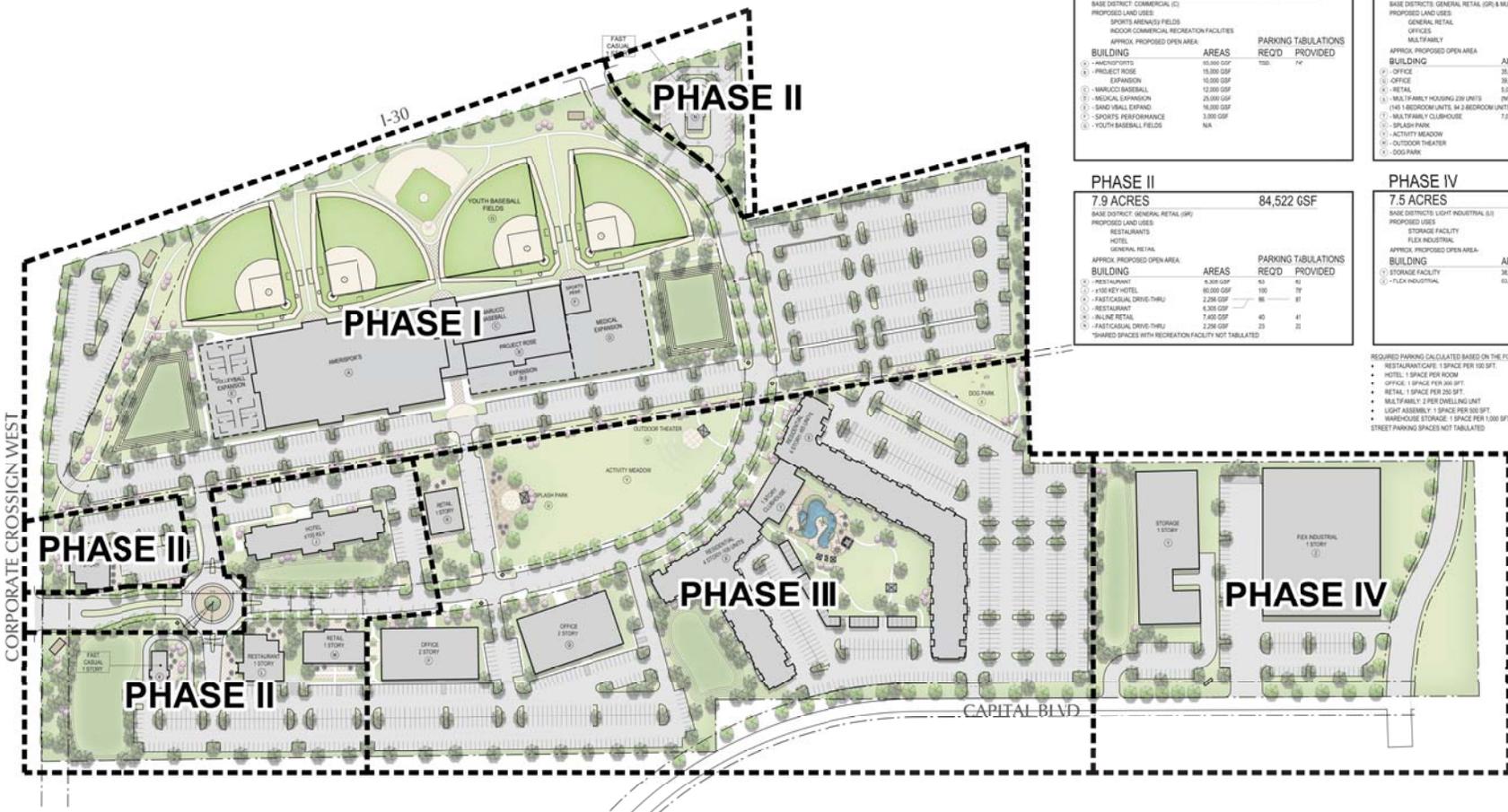
SITE PLAN LEGEND	
USES	AREAS
1 - AMERISPORTS	85,000 GSF
2 - PROJECT ROSE EXPANSION	15,000 GSF
3 - MEDICAL EXPANSION	12,000 GSF
4 - MEDICAL EXPANSION	25,000 GSF
5 - SAND WALL EXPAND	16,000 GSF
6 - SPORTS PAV.	3,000 GSF
7 - YOUTH BASEBALL FIELDS	NA
8 - RESTAURANT	4,000 GSF
9 - 150 KEY HOTELS	80,000 GSF
10 - FAST CASUAL DRIVE-THRU	2,250 GSF
11 - RESTAURANT	4,000 GSF
12 - IN-LINE RETAIL	7,400 GSF
13 - FAST CASUAL DRIVE-THRU	2,250 GSF
14 - OFFICE	20,000 GSF
15 - OFFICE	38,200 GSF
16 - RETAIL	5,000 GSF
17 - MULTIFAMILY HOUSING	230 UNITS
18 - (140) 1-BEDROOM UNITS IN 2-BEDROOM UNITS	
19 - MULTIFAMILY CLUBHOUSE	1,000 GSF
20 - SPLASH PARK	
21 - ACTIVITY MEADOW	
22 - OUTDOOR THEATER	
23 - DOG PARK	
24 - STORAGE FACILITY	31,800 GSF
25 - FLEX INDUSTRIAL	45,000 GSF

- FLOOR PLAN KEYNOTES
1. DETENTION BASIN
 2. DEVELOPMENT MONUMENT SIGNAGE
 3. WAY-FINDING SIGNAGE
 4. FOOD TRUCK ALLEY
 5. LANDSCAPE BUFFER



PROPOSED LANDUSE MAP
ITS





PHASE I
21 ACRES 125,000 GSF

BASE DISTRICT: COMMERCIAL (C)
PROPOSED LAND USES:
SPORTS ARENAS/ FIELDS
INDOOR COMMERCIAL RECREATION FACILITIES
APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - MICROSPORTS	10,000 GSF	100 147
② - PROJECT ROSE	10,000 GSF	
③ - EXPANSION	10,000 GSF	
④ - MARUCCI BASEBALL	12,000 GSF	
⑤ - MEDICAL EXPANSION	20,000 GSF	
⑥ - SAND USUAL EXPAND	16,000 GSF	
⑦ - SPORTS PERFORMANCE	3,000 GSF	
⑧ - YOUTH BASEBALL FIELDS	N/A	

PHASE III
17.9 ACRES 69,000 GSF

BASE DISTRICTS: GENERAL RETAIL (GR) & MULTIFAMILY (MF-14)
PROPOSED LAND USES:
GENERAL RETAIL
OFFICES
MULTIFAMILY
APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - OFFICE	28,200 GSF	130 200
② - OFFICE	30,200 GSF	130 200
③ - RETAIL	5,000 GSF	10 10
④ - MULTIFAMILY HOUSING (20 UNITS)		NOT TABULATED 478 500
⑤ - MULTIFAMILY CLUBHOUSE (145 1-BEDROOM UNITS, 84 2-BEDROOM UNITS)	7,000 GSF	
⑥ - SPLASH PARK		
⑦ - ACTIVITY MEADOW		
⑧ - OUTDOOR THEATER		
⑨ - DOG PARK		

PHASE II
7.9 ACRES 84,522 GSF

BASE DISTRICT: GENERAL RETAIL (GR)
PROPOSED LAND USES:
RESTAURANTS
HOTEL
GENERAL RETAIL
APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - RESTAURANT	6,200 GSF	51 43
② - 150 KEY HOTEL	80,000 GSF	100 79
③ - FAST CASUAL DRIVE-THRU	2,200 GSF	86 87
④ - RESTAURANT	6,300 GSF	
⑤ - IN-LINE RETAIL	7,400 GSF	40 41
⑥ - FAST CASUAL DRIVE-THRU	2,200 GSF	23 22

*SHARED SPACES WITH RECREATION FACILITY NOT TABULATED

PHASE IV
7.5 ACRES 101,200 GSF

BASE DISTRICTS: LIGHT INDUSTRIAL (LI)
PROPOSED LAND USES:
STORAGE FACILITY
FLEX INDUSTRIAL
APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - STORAGE FACILITY	28,200 GSF	28 24
② - FLEX INDUSTRIAL	60,000 GSF	40 44

- REQUIRED PARKING CALCULATED BASED ON THE FOLLOWING CRITERIA:
- RESTAURANT/CAFE: 1 SPACE PER 100 SFT.
 - HOTEL: 1 SPACE PER ROOM.
 - OFFICE: 1 SPACE PER 400 SFT.
 - RETAIL: 1 SPACE PER 200 SFT.
 - MULTIFAMILY: 2 PER DWELLING UNIT.
 - LIGHT ASSEMBLY: 1 SPACE PER 500 SFT.
 - WAREHOUSE STORAGE: 1 SPACE PER 1,000 SFT.
 - STREET PARKING SPACES NOT TABULATED.

CONCEPT
PLANNED DISTRICT PHASING PLAN
1"=100'-0"





SOUTH ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



WEST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



EAST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



NORTH ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



SOUTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



SOUTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



EAST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



NORTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



WEST ELEVATION
DEVELOPMENT SIGNAGE NEAR HIGHWAY
SCALE: 1/8" = 1'-0"



WEST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



MATERIAL LEGEND

- RED BRICK VENEER
- STONE VENEER
- WOOD PANEL
- STUCCO
- STUCCO
- VERTICAL LAP SIDING
- CORRUGATED METAL SIDING
- TRIM
- DARK CEMENTITIOUS PANEL



FRONT ELEVATION
RETAIL BUILDING "R"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RETAIL BUILDING "M"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
FAST-CASUAL BUILDING "K" + "N"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RESTAURANT BUILDING "H" + "L"
SCALE: 1/8" = 1'-0"

MATERIAL LEGEND	
	STONE VENEER
	WOOD PANEL
	STUCCO
	CORRUGATED METAL SIDING



FRONT ELEVATION
RESIDENTIAL 4-STORY BUILDING "S"
SCALE: 1/8" = 1'-0"

FRONT ELEVATION
RESIDENTIAL 1-STORY CLUBHOUSE "T"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RESIDENTIAL 4-STORY BUILDING "S"
SCALE: 1/8" = 1'-0"

MATERIAL LEGEND	
	BUFF BRICK VENEER
	DARK CEMENTITIOUS PANEL
	WOOD PANEL
	LIGHT ACCENT PANEL



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "Q"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "P"
SCALE: 1/8" = 1'-0"



MATERIAL LEGEND	
	BUFF BRICK VENEER
	DARK STUCCO
	LIGHT STUCCO
	WOOD PANEL
	LAP SIDING
	TRIM



FRONT ELEVATION
 4-STORY HOTEL BUILDING "J"
 SCALE: 1/8" = 1'-0"











ARCHITECTS PA

Concept Plan Information

FitSportLife Rockwall

March 20, 2020

It is proposed to create a Planned District (PD) Development that encompasses 55.8 acres (+/-) located to the south and east of the intersection between Corporate Crossing West and Interstate Hwy 30. The extents of this district are illustrated in the aerial photograph shown below.

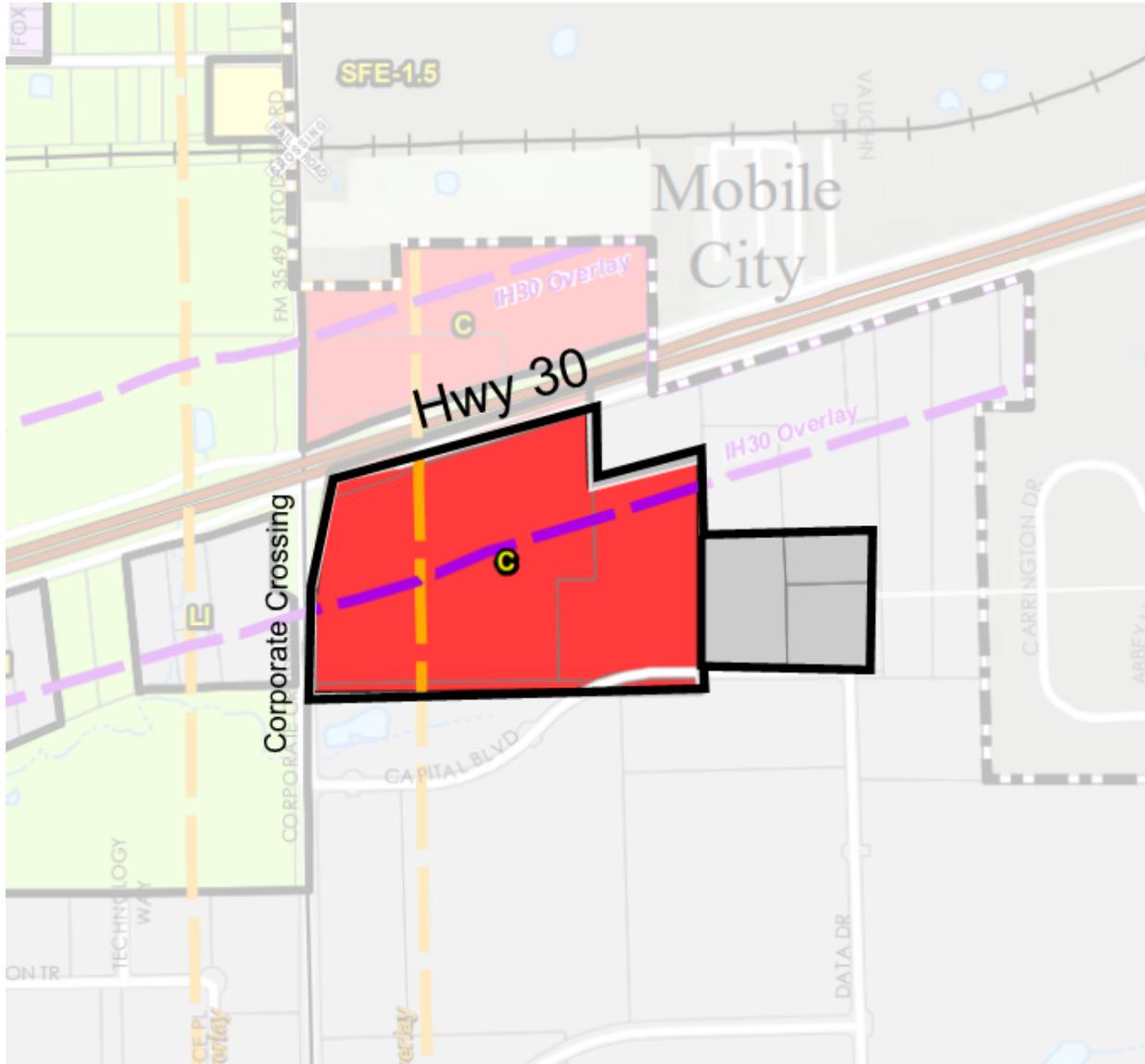


VICINITY MAP

NTS



Presently the site is zoned for Commercial and Light Industrial uses and includes both an IH30 and FM549 Overlay District. Surrounding sites are zoned for light industrial and agricultural uses.



VICINITY MAP

NTS

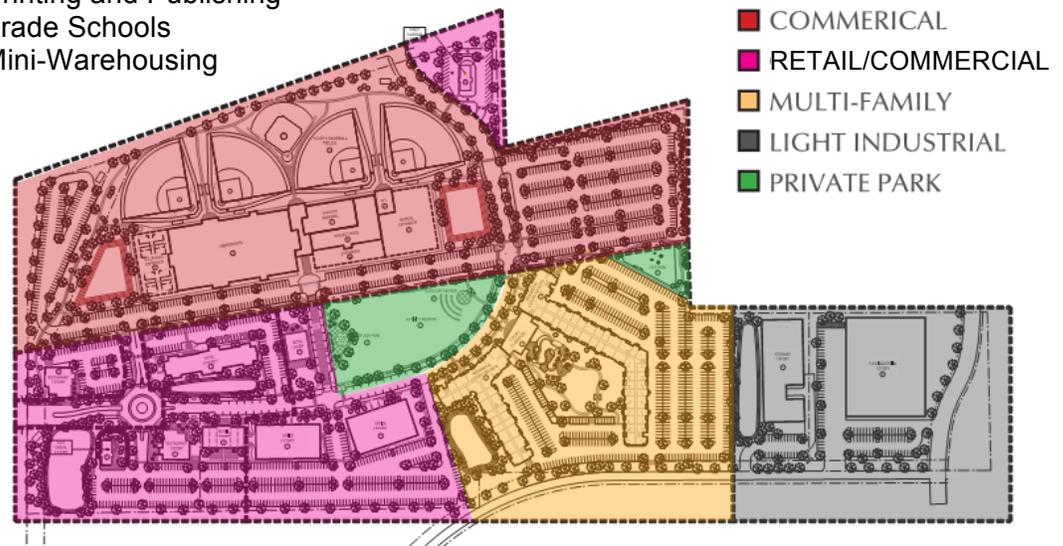


The PD will reference and amend the standards established in the Unified Development Code for the following districts:

- Commercial (C) District
- General Retail (GR) District
- Multifamily (MF- 14) District
- Light Industrial (LI) District
- General Overlay Districts

The intent is to provide the following land uses but also allow for the potential for all uses included in the commercial zoning code, to be able to react to the commercial product as the market dictates for each phase:

- Indoor commercial recreational facilities
- Private Sports Arenas
- General Office and Corporate Headquarters
- Multifamily Development
- A limited or Full-Service Hotel
- General Retail Stores
- Neighborhood Convenience Centers
- Food Trucks/Trailers
- Retail outlets with gasoline products
- Restaurant and Restaurants with drive throughs
- Permitted land uses typical in light industrial districts, such as:
 - Machine Shops
 - Breweries
 - Light Assembly and Fabrication
 - Printing and Publishing
 - Trade Schools
 - Mini-Warehousing



PROPOSED LANDUSE MAP

NTS



The Planned District's primary objective is to create a modern Main Street that connects a variety of complimentary land uses with quality open space. The Main Street is articulated in a way that creates a unique pedestrian experience along an aesthetically pleasing streetscape. Buildings will be constructed close to the public Main street, set back from the curb an approximately uniform distance. Parking areas will be located behind and therefor concealed by the buildings that front the main street. Pedestrian elements such as benches, trash receptacles, etc. will be incorporated into the streetscape at regular intervals to ensure the site works at a pedestrian scale.

In addition to being consistent with the vision and goals championed in Rockwall's Comprehensive City Plan, we believe the PD District meets the purpose of Planned Districts outlined in Article 10 of the Unified Development Code by doing the following:

- Providing for a superior design of lots and buildings.
- Providing for increased recreation and open space intended for public use.
- Providing amenities that will be of special benefit to the community
- Providing an appropriate balance between the intensity of development and the ability to provide adequate supporting public facilities and services.



TRAFFIC IMPACT ANALYSIS FOR
MIXED-USE DEVELOPMENT
IN ROCKWALL, TEXAS

DeShazo Project No. 20021

Prepared for:

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March 19, 2020



Traffic. Transportation Planning. Parking. Design.

Texas Registered Engineering Firm F-3199

Traffic Impact Analysis for
Mixed-Use Development in City of Rockwall

~ DeShazo Project No. 19115 ~

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EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

The proposed project is planned to be built in four phases and will be fully constructed by 2024. The area is approximately 66 acres. **Table 1** shows the development program summary for the site development.

Table 1. Development Program Summary

Use	Phase No.	Quantity
Alethic Club	I	146,000 SF
Restaurant	II	6,305 SF
Hotel	II	100 Rooms
Fast Food with Drive Thru	II	2,256 GSF
Restaurant	II	6,305 GSF
Retail	II	7,400 GSF
Fast Food with Drive Thru	II	2,256 GSF
Office	III	35,800 GSF
Office	III	39,200 GSF
Retail	III	5,000 GSF
Multifamily Housing	III	274 Units
Storage Facility	IV	31,800 GSF
Flex Industrial	IV	63,000 GSF

The analysis of the traffic generated by the proposed development resulted in no significant impact on the local roadway system. Below is a summary of findings from this TIA.

FINDING: Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

FINDING: Based upon the 2024 background & 2024 background-plus site buildout analysis all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB shared left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB shared left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

RECOMMENDATIONS:

IH 30 WBFR at N Stodghill Road: The intersection is expected to operate at LOS E at buildout conditions during the AM peak hour. It is recommended to optimize the traffic signal after the full buildout to improve the level of service from LOS E to LOS D at this intersection (**Appendix D**).

Capital Blvd at Corporate Crossing:

- The WB left turning movement is currently expected to operate at LOS E during the peak hour with a maximum 95th percentile queue of about 1 vehicle only. Therefore, no mitigation measures are recommended.

Discovery Blvd at Corporate Crossing:

- The EB left-through movement is currently operating at LOS E with a maximum 95th percentile queue of about 4 vehicles and is expected to operate at LOS F with maximum 95th percentile queue of 8 vehicles. This is not an uncommon situation on a stop controlled intersection for a vehicle of Minor Street making a through/left turn movement. The proposed development does not possess any impact on this movement. Therefore, no mitigation measures are recommended
- The WB left turning movement is expected to operate at LOS F with a maximum 95th percentile queue of less than 1 vehicle. Therefore, no mitigation measures are recommended.

Driveway 2/Gas Station Driveway at Corporate Crossing:

- The WB shared left-through movement is expected to operate at LOS F during the peak hour with a maximum 95th percentile queue of about 11 vehicles. It is recommended to perform a traffic signal warrant study to determine whether the intersection warrants a signal after full buildout in future.

FINDING: Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT's requirement of a left turn storage lane for all raised median openings.

FINDING: All the site driveways proposed for this study meet TxDOT's driveway spacing requirements except for the spacing between the Driveway 3 and Driveway 4. A variance of lesser spacing requirement for these driveways with the City of Rockwall can be persuaded.

FINDING: Based on AASHTO Green Book, all the proposed site driveways meet the required intersection sight distance.

FINDING: Based upon the link analysis, IH 30 EBFR and Corporate Crossing Blvd are expected to operate at an acceptable level of service (**Refer Table 7**).

END OF SUMMARY

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INTRODUCTION

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas. The proposed project is planned to be built in four phases and will be fully constructed by 2024.

A site location map and preliminary site plan are provided in **Exhibit 1** and **Exhibit 2**, respectively.

PURPOSE

City of Rockwall is requiring that a TIA be completed for the subject site as part of permit application. The purpose of the TIA is to determine if any improvements to the adjacent transportation system are needed in order to maintain a satisfactory level of service, an acceptable level of safety, and appropriate access for the proposed development.

TRAFFIC IMPACT ANALYSIS - METHODOLOGY

To achieve this objective, this analysis summarizes the traffic operational characteristics of the background conditions within a designated study area and the projected incremental impact of the Project as determined through standardized engineering analyses. The standard methodology used to conduct the traffic impact analysis is described below.

1. Collect current traffic volume data on a typical day throughout the study area to represent existing traffic conditions.
2. Apply growth factors to the existing volumes to project future background traffic at the site buildout year conditions.
3. Project traffic generated by the proposed development using trip generation, trip distribution and traffic assignment as described below.
 - a. Trip generation is calculated in terms of “trip ends” – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends).
 - b. Trip distribution and assignment of site-generated trips to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic; trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.
4. Determine site-plus-background traffic by adding the projected site-generated traffic to the background traffic.
5. Analyze existing, background and background-plus-site traffic volumes to evaluate the roadway conditions in the vicinity of the proposed development.
6. If needed, mitigation measures are recommended based upon the analysis to improve roadway operational conditions.

ANALYSIS SCENARIOS

This TIA analyzed the following peak hour periods that are considered the most critical conditions on the public roadway system related to the proposed Project. The proposed project is planned to be built in four phases and will be fully constructed by 2024.

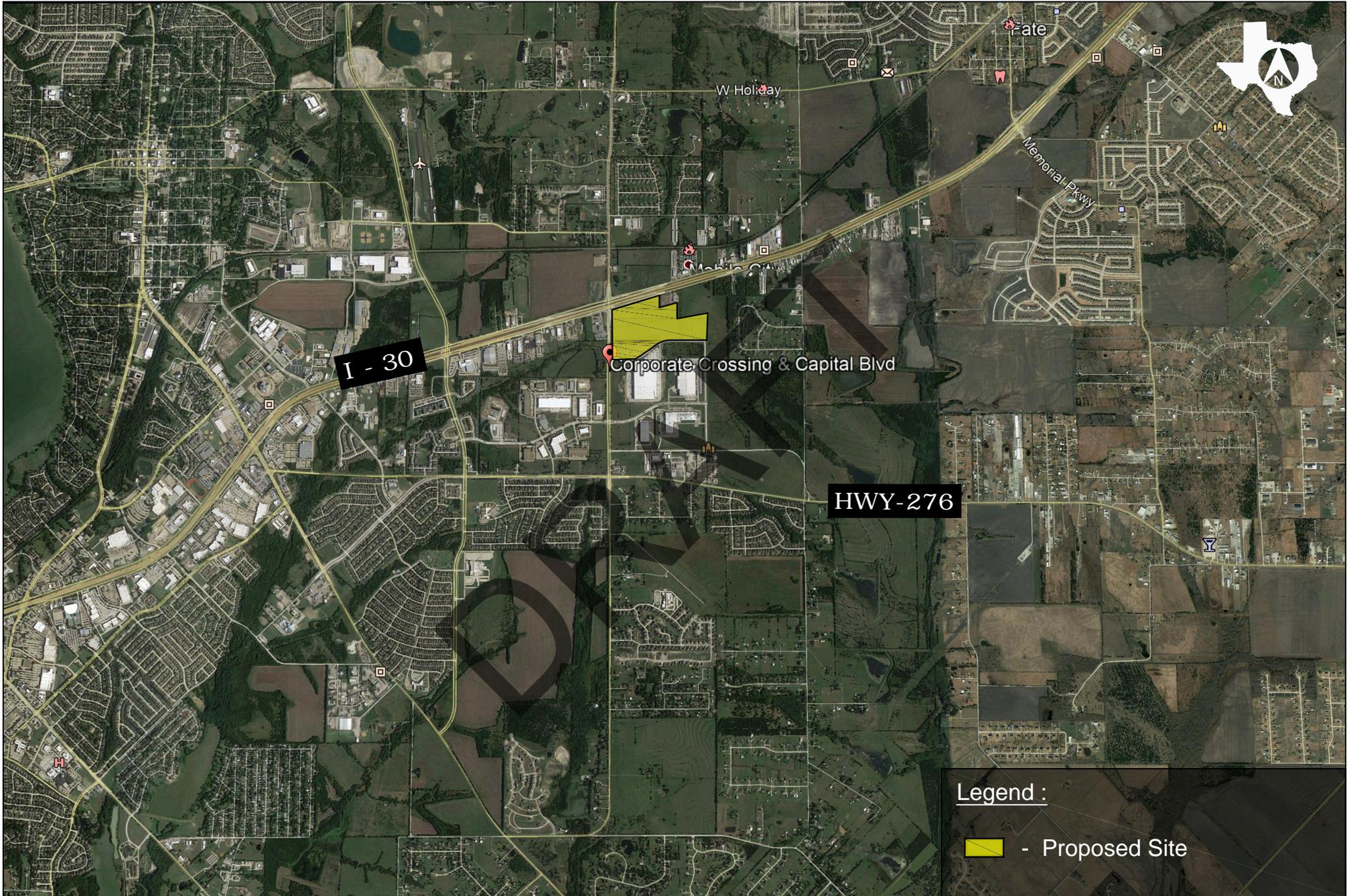
Roadway Peak Hours Analyzed:

- Weekday: AM peak hour of adjacent street traffic
- Weekday: PM peak hour of adjacent street traffic

Development scenarios considered in this analysis are summarized in **Table 2**.

Table 2. Development Scenarios Analyzed

Scenario	Development Program	Traffic Volumes
2020 Existing	None Added	Existing 2020 Volumes
2024 Background	None Added	Existing 2020 volumes grown at 2% per year for 4 years
2024 Background + Site	Mixed-Use Development	Existing 2020 volumes grown at 2% per year for 4 years plus site traffic
2029 Horizon	None Added	2024 background volumes grown at 1% per year for 5 years
2029 Horizon + Site	Mixed-Use Development	2024 background volumes grown at 1% per year for 5 years plus site traffic



SITE LOCATION MAP

TIA for Mixed Use Development in Rockwall, Texas

PROJECT #: 20021

DATE: FEB 2020

EXHIBIT

1



SITE PLAN LEGEND		PARKING TABULATIONS	
*RENTABLE SQUARE FOOTAGE EXCLUDES MULTIFAMILY			
PHASE I 125,000 GSF*		REQ'D	PROVIDED
(A) - ROCKWALL COURTS	62,000 GSF	TBD	747
(B) - PROJECT ROSE	15,000 GSF		
(C) - MARRUCCI BASEBALL	12,000 GSF		
(D) - MEDICAL EXPANSION	18,000 GSF		
(E) - SAND VBALL EXPAND.	18,000 GSF		
(F) - YOUTH BASEBALL FIELDS	N/A		
PHASE II 84,522 GSF*		REQ'D	PROVIDED
(G) - RESTAURANT	6,305 GSF	63	63
(H) - +100 KEY HOTEL	60,000 GSF	100	79 +21 SHARED WITH PHASE I
(I) - FAST/CASUAL DRIVE-THRU	2,256 GSF	86	87
(J) - RESTAURANT	6,305 GSF		
(K) - IN-LINE RETAIL	7,400 GSF	40	41
(L) - FAST/CASUAL DRIVE-THRU	2,256 GSF	23	28
PHASE III 69,000 GSF*		REQ'D	PROVIDED
(M) - OFFICE	35,800 GSF	120	250 + UNASSIGNED STREET SPACES
(N) - OFFICE	39,200 GSF	130	
(O) - RETAIL	5,000 GSF	10	(SHARED WITH HOTEL)
(P) - MULTIFAMILY HOUSING	274 UNITS	548	603
(169 1-BEDROOM UNITS, 105 2-BEDROOM UNITS)			
(Q) - MULTIFAMILY CLUBHOUSE	7,000 GSF	-	-
(R) - SPLASH PARK		-	-
(S) - ACTIVITY MEADOW		-	-
(T) - OUTDOOR THEATER		-	-
(U) - DOG PARK		-	-
PHASE IV 101,200 GSF*		REQ'D	PROVIDED
(V) - STORAGE FACILITY	31,800 GSF	32	24 SHOWN WITH ROOM FOR MORE
(W) - FLEX INDUSTRIAL	63,000 GSF	63	89

REQUIRED PARKING CALCULATED BASED ON THE FOLLOWING CRITERIA:

- RESTAURANT/CAFE: 1 SPACE PER 100 SFT.
- HOTEL: 1 SPACE PER ROOM
- OFFICE: 1 SPACE PER 300 SFT.
- RETAIL: 1 SPACE PER 250 SFT.
- MULTIFAMILY: 2 PER DWELLING UNIT
- LIGHT ASSEMBLY: 1 SPACE PER 500 SFT.
- WAREHOUSE STORAGE: 1 SPACE PER 1,000 SFT.

EXHIBIT 2. PRELIMINARY SITE PLAN



ROCK WALL, TX MIXED USE | SITE PLAN

COMMERCE PARKWAY AND I-30 | ROCKWALL, TX

657519 | 02.06.2020



EXISTING AND PROPOSED LAND USE

The study parameters used in this TIA are based upon the requirements of TxDOT/City of Rockwall and are consistent with the standard industry practices used in similar studies.

SITE LOCATION AND STUDY AREA

The proposed Mixed-Use development, will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

Roadway Intersections:

- N Stodghill Road at I-30 WBFR: Signalized
- N Stodghill Road at I-30 EBFR: Signalized
- Corporate Crossing at Capital Blvd: Stop Controlled on Capital Blvd
- Corporate Crossing at Discovery Blvd: Stop Controlled on Discovery Blvd
- I-30 EBFR at Driveway 1: Stop Controlled on Driveway 1
- Corporate Crossing at Gas Station Driveway/Driveway 2: Stop Controlled on Gas Station Driveway/Driveway 2
- Capital Blvd at Driveway 3: Stop Controlled on Driveway 3
- Capital Blvd at Driveway 4: Stop Controlled on Driveway 4

EXISTING SITE AND DEVELOPMENT

The site is currently vacant. There is a Loves gas station opposite of the proposed development on West side of Corporate Crossing and there are existing warehouses south of the proposed development. There are no any sidewalks and bike lanes for the pedestrian and bike activities around the proposed site at existing condition. The proposed development will consist of about 66 Mixed-Use Acres. The development will consist of mixed-use development with residential, retail, restaurant, and fast food with drive thru, sports, office, and storage facility and flex industry. The development is going to be built in four phases and is expected to be fully built by 2024. Based on City of Rockwall's thoroughfare plan, a street is going to be connected to the IH30 EBFR from Capital Blvd (from the right end of the phase IV) of the proposed development in the future. This future connection will serve a few traffic of the proposed development. This connection is expected to serve the existing and future developments that will be built south of IH 30 EBFR.

EXISTING AND PROPOSED TRANSPORTATION SYSTEM

Thoroughfare System

- I-30 Frontage Road:
 - Existing operation and cross-section: Two lanes, one-way
 - Speed Limit: 45 mph (posted speed limit adjacent to site)
 - TxDOT Functional Classification: Frontage Road , 2 lanes, one-way
- Corporate Crossing:
 - Existing operation and cross-section: Four lanes, two-way
 - Speed Limit: 50 mph (posted speed limit adjacent to site)
 - TxDOT Functional Classification: Major Collector, 4 lanes, divided

A summary of the existing and proposed intersection/roadway geometry and traffic control are shown in **Exhibit 3 and Exhibit 4** respectively.

Existing Traffic Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, March 3, 2020. Traffic volumes are graphically summarized in **Appendix A** and detailed 15-minute-count data sheets are provided in **Appendix B**.

Projected Background Traffic Volumes

Background traffic growth is defined as the normal traffic growth that is not directly related to the subject development of this study. Historical traffic volumes in the area have fluctuated in the last several years. A growth rate of **2%** per year was used in this analysis till buildout (2024) and **1%** per year was used for from buildout to horizon year (2029). Future background traffic volumes estimate for the buildout years were calculated by applying the assumed growth rate for the study area intersections. These volumes are graphically summarized in **Appendix A**.

SITE-TRAFFIC CHARACTERISTICS

Traffic generated by the Project is projected by first determining the number of trips generated by the planned land use, then distributing and assigning projected site-related trips to the roadway system.

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation manual (10th Edition) is an accepted source for calculating trip generation for common land uses for which sufficient published data is available.

Trip generation is summarized in trip ends – a trip end is a one-way vehicular trip entering or leaving a site (i.e., one vehicle arriving and departing represents two trip ends). This analysis evaluates typical weekday AM and PM peak hour conditions of the local street traffic.

Adjustments for Internal capture were considered for adjustment of the base ITE data for this analysis. The internal capture of 13% for AM and 17% for PM used in this analysis are based on the ITE trip generation software.

A “pass-by trip” is a site-generated trip end that originates from the traffic volume that is otherwise passing by the site on the adjacent street. Hence, pass-by trips are reflected in the overall site driveway volumes but are not added to (i.e., already included in) the local roadway volume. Pass-by rates are published by ITE. For simplicity, in this analysis, the “total” site-generated trip ends were included in the driveway volumes, and only the net increase in trip ends were added to the adjacent street traffic.

The analysis considered a 4% and 5% pass-by trip reduction for AM and PM, respectively.

Table 3 provides a summary of the calculated trip ends generated by the project. Excerpts from ITE Trip Generation data are provided in the Appendix section of this report. Supplemental information used in the trip generation calculations is provided in **Appendix C**.

Table 3. Projected Trip Generation

ITE Code	ITE Land Use	Quantity	Weekday Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
110	General Light Industrial-Phase IV	63,000 SF	312	44	39	5	40	5	35
150	Warehousing-Phase IV	31,800 SF	96	29	22	7	32	9	23
221	Multifamily Housing(Mid-Rise)-Phase III	274 DU	1,491	99	26	73	117	71	46
310	Hotel-Phase II	100 Rooms	836	47	28	19	60	31	29
493	Athletic Club - Phase I	146,000 SF	4,610	461	281	180	918	569	349
710	General Office Building- Phase III	35,800 SF	392	60	52	8	43	7	36
710	General Office Building- Phase III	39,200 SF	428	63	54	9	47	8	39
932	High-Turnover (Sit-Down) Restaurant- Phase II	6,305 SF	707	63	35	28	62	38	24
932	High-Turnover (Sit-Down) Restaurant-Phase II	6,305 SF	707	63	35	28	62	38	24
934	Fast Food with Drive-Thru-Phase II	2,256 SF	1,062	91	46	45	74	38	36
934	Fast Food with Drive-Thru-Phase II	2,256 SF	1,062	91	46	45	74	38	36
820	Shopping Center-Phase II	7,400 SF	1,024	155	96	59	79	38	41
820	Shopping Center-Phase III	5,000 SF	784	154	95	59	59	28	31
		<i>Subtotals:</i>	13,513	1,420	855	565	1,667	918	749
		<i>13% AM and 17% PM Internal Capture:</i>	0	185	92	92	283	142	142
		<i>4% AM and 5% PM Pass by Trips:</i>	0	57	28	28	83	42	42
		Totals:	13,513	1,179	734	444	1,300	735	566

TRIP DISTRIBUTION AND ASSIGNMENT

Traffic for the proposed development was distributed and assigned to the study area roadway network based upon the roadway network and regional travel flow [or existing traffic patterns]. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

SITE-GENERATED TRAFFIC VOLUMES

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 3**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

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ROADWAY INTERSECTION ANALYSIS

INTERSECTION CAPACITY ANALYSIS - METHODOLOGY

The level of performance of infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic, an operational analysis of roadway intersection capacity is the most detailed type of analysis. An industry-standardized methodology for this type of analysis is presented in the *Highway Capacity Manual (HCM)*. HCM uses the term “level of service” (LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS is described as follows.

- LOS A = free, unobstructed flow
- LOS B = reasonably free flow
- LOS C = stable flow
- LOS D = approaching unstable flow
- LOS E = unstable flow, operating at design capacity
- LOS F = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C (or better) is desirable, although LOS D is considered to be acceptable. Nevertheless, periods of LOS E or F conditions are not uncommon for brief periods of time at major transportation facilities. In some cases, measures to add more capacity—either through operational changes and/or physical improvements—can be identified to increase efficiency and sometimes improve the level of service.

For traffic-signal-controlled (“signalized”) intersections and STOP-controlled (“unsignalized”) intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections, the average delay per vehicle can be effectively calculated for the entire intersection. However, the average delay per vehicle for unsignalized intersections is calculated by only approach or by individual traffic maneuvers that must stop or yield right-of-way. For unsignalized intersections of a minor street or driveway and a major roadway, the analysis methodology often breaks down and yields low levels of service (often, LOS F) that cannot be mitigated unless a traffic signal is installed. However, for a traffic signal to be installed, the responsible agency that governs the right-of-way must issue its approval subject to very specific warrant criteria being met and several other operational considerations being satisfied. Neither level of service nor delay is considered a criterion for traffic signal installation.

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	Unsignalized Intersection (Average Delay per Vehicle)
LOS A	≤ 10	≤ 10
LOS B	>10 - ≤20	>10 - ≤15
LOS C	>20 - ≤35	>15 - ≤25
LOS D	>35 - ≤55	>25 - ≤35
LOS E	>55 - ≤80	>35 - ≤50
LOS F	>80	>50

NOTE: Signalized intersection operational parameters and operational results in this TIA were obtained directly from the optimized software output and may differ slightly from actual traffic signal operations.

2020 EXISTING – INTERSECTION ANALYSIS

Existing traffic volumes were analyzed to determine current operational conditions. Intersection capacity analyses presented in this study were performed using the **SYNCHRO** software package. **Table 4** provides a summary of peak period intersectional operational conditions. Detailed traffic volumes and software output for all intersection analysis is provided in **Appendix A** and **Appendix D**, respectively.

Table 4. Existing Intersection Analysis

Intersections	Traffic Movement		2020 Existing.			
			AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road		Signalized Intersection	B (17.4)		B (15.8)	
<u>IH 30 EBFR at</u> N Stodghill Road			B (12.9)		B (16.6)	
<u>Capital Blvd at</u> Corporate Crossing	WBL WBR SBL	Unsignalized Intersection	C (22.9)		C (22.2)	
			B (10.8)		B (11.1)	
			A (9.3)		A (9.2)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL		A (8.7)		A (8.3)	
	EBLT		D (32.0)		E (41.1)	4.0
	EBR		A (9.8)		B (10.1)	
	WBL		D (34.4)		C (20.7)	
	WBTR	C (16.4)		B (11.7)		
	SBL	A (9.1)		A (8.4)		
<u>Driveway 1 at</u> IH 30 EBFR	NBR	Unsignalized Intersection	- -		- -	
			- -		- -	
<u>Gas Station Driveway /Driveway 2 at</u> Corporate Crossing	EBR WBLT WBR SBL SBT		A (10.0)		A (10.0)	
			- -		- -	
			- -		- -	
			- -		- -	
			- -		- -	
<u>Driveway 3 at</u> Capital Blvd	EBL SB	Unsignalized Intersection	- -		- -	
			- -		- -	
<u>Driveway 4 at</u> Capital Blvd	EBL SB	Unsignalized Intersection	- -		- -	
			- -		- -	

KEY:

*A, B, C, D, E, F = Level-of-Service for each intersection approach
NB, SB, EB, WB = North-, South-, East-, Westbound approach*

L, T, R = Left, Through, Right Approach turning movement

AM = AM Peak Hour of Adjacent Street

PM = PM Peak Hour of Adjacent Street

NOTE: Signalized intersection operational parameters and operational results were obtained directly from the optimized software output and may differ slightly from actual traffic signal operations.

Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

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2024 BACKGROUND AND BACKGROUND PLUS SITE – INTERSECTION ANALYSIS

The development is expected to be completed by 2024. Therefore, year 2024 background (no build) and background-plus site traffic volumes were analyzed to determine the incremental change in operational conditions during peak periods *without* and *with* site-related traffic. The LOS results are provided in **Table 5**.

Table 5. 2024 Intersection Analysis

Intersections	Traffic Movement		2024 Background		2024 Background + Site			
			AM	PM	AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road With Splits Optimization		Signalized Intersection	B (18.5)	B (17.0)	E (65.2)		D (46.1)	
					D (49.2)			
<u>IH 30 EBFR at</u> N Stodghill Road			B (13.2)	B (17.4)	B (19.7)		C (27.0)	
<u>Capital Blvd at</u> Corporate Crossing	WBL WBR SBL	Unsignalized Intersection	D (25.7)	C (24.8)	E (40.2)	<1.0	E (40.6)	1.0
			B (11.1)	B (11.4)	B (12.1)		B (12.6)	
			A (9.5)	A (9.4)	B (10.4)		B (10.3)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (8.9)	A (8.4)	A (9.1)		A (8.7)	
			E (37.7)	F (61.8)	E (48.8)	<1.0	F (>100)	8.0
			A (10.0)	B (10.3)	B (10.2)		B (10.7)	
			F (40.9)	C (23.2)	F (54.0)	<1.0	D (30.6)	
			C (17.7)	B (12.3)	C (21.0)		B (13.8)	
			A (9.4)	A (8.6)	A (9.9)		A (9.0)	
<u>Driveway 1 at</u> IH 30 EBFR	NBR			- -	- -	B (10.5)		B (12.7)
<u>Gas Station Driveway /Driveway 2 at</u> Corporate Crossing	EBR WBLT WBR SBL SBT		B (10.2)	B (10.1)	B (10.4)		A (10.0)	
			- -	- -	F (>100)	8.0	F (>100)	11.0
			- -	- -	C (18.0)		D (25.6)	
			- -	- -	B (13.6)		B (14.6)	
			- -	- -	A (2.4)		A (2.6)	
<u>Driveway 3 at</u> Capital Blvd	EBL SB		- -	- -	A (7.3)		A (7.3)	
			- -	- -	A (8.5)		A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL SB		- -	- -	A (7.3)		A (7.3)	
			- -	- -	A (8.4)		A (8.4)	

Based upon the 2024 background & 2024 background-plus site buildout analysis all the intersections are expected to operate at LOS D, or better during the peak hour periods with the exception of:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

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2029 HORIZON AND HORIZON-PLUS-SITE – INTERSECTION ANALYSIS

2029 horizon (no build) and horizon-plus-buildout traffic volumes were analyzed to determine the incremental change in operational conditions during peak periods *without* and *with* site-related traffic. The LOS results are provided in **Table 6**.

Table 6. 2029 Intersection Analysis

Intersections	Traffic Movement		2029 Horizon		2029 Horizon + Site			
			AM	PM	AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road With Splits Optimization		Signalized Intersection	B (19.2)	B (17.9)	E (70.7)		D (45.7)	
					D (52.2)			
<u>IH 30 EBFR at</u> N Stodghill Road			B (13.5)	B (18.3)	C (21.1)		C (28.7)	
<u>Capital Blvd at</u> Corporate Crossing	WBL	Unsignalized Intersection	D (27.8)	D (26.9)	E (44.4)	<1.0	E (45.4)	1.0
	WBR		B (11.3)	B (11.6)	B (12.4)		B (12.9)	
	SBL		A (9.7)	A (9.6)	B (10.7)		B (10.5)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL	Unsignalized Intersection	A (9.0)	A (8.5)	A (9.3)		A (8.8)	
	EBLT		E (42.9)	F (85.8)	F (56.3)	1.0	F (>100)	10.0
	EBR		B (10.1)	B (10.4)	B (10.4)		B (10.8)	
	WBL		E (46.2)	D (25.3)	F (62.7)	<1.0	D (33.9)	
	WBTR		C (18.7)	B (12.6)	C (22.3)		B (14.2)	
	SBL		A (9.5)	A (8.6)	B (10.1)		A (9.1)	
<u>Driveway 1 at</u> IH 30 EBFR	NBR		- -	- -	B (10.6)		B (12.9)	
<u>Gas Station Driveway /Driveway 2 at</u> Corporate Crossing	EBR	Unsignalized Intersection	B (10.3)	B (10.2)	A (10.0)		A (10.0)	
	WBLT		- -	- -	F (>100)	9.0	F (>100)	11.0
	WBR		- -	- -	C (18.8)		D (27.5)	
	SBL		- -	- -	B (14.2)		C (15.2)	
	SBT		- -	- -	A (2.7)		A (3.0)	
<u>Driveway 3 at</u> Capital Blvd	EBL	Unsignalized Intersection	- -	- -	A (7.3)		A (7.3)	
	SB		- -	- -	A (8.5)		A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL	Unsignalized Intersection	- -	- -	A (7.3)		A (7.3)	
	SB		- -	- -	A (8.4)		A (8.4)	

Based upon the 2029 horizon & 2029 horizon-plus site buildout analysis all the intersections are expected to operate at LOS D, or better during the peak hour periods with the exception of:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2029 horizon plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2029 horizon plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is expected to operate at LOS E and LOS F during the AM peak hour for 2029 horizon and 2029 horizon plus site conditions respectively.
- The EB left-through movement is expected to operate at LOS F during the PM peak hour for both 2029 horizon and 2029 horizon plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2029 horizon and 2029 horizon plus site conditions.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB left-through movement is expected to operate at LOS F for AM and PM peak hour for 2029 horizon plus site conditions.

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ROADWAY LINK ANALYSIS - METHODOLOGY

A roadway link is a roadway segment between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretical roadway capacity. The capacity of the roadway link is a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Roadway link capacity is less critical than intersection capacity; however, it can provide a gauge of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions). In the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG), the metropolitan planning agency for the Dallas-Melissa region, has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principles presented in the *Highway Capacity Manual* with "regional calibration" factors applied. Though these per-lane capacities, or "Service Volumes" (summarized in the table below), are intended for modelling purposes, they do provide a reasonable gauge of theoretical capacity.

Area Type	Hourly Service Volumes by Roadway Function					
	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	725	650	725	650	475	425
Urban/Commercial	850	775	825	750	525	475
Suburban Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume to capacity ratio is calculated – a v/c ratio of less than 1.0 indicates that the roadway is operating under capacity. NCTCOG's level of service denominations are as follows.

- Volume: Capacity Ratio \leq 45% is *LOS A/B*
- Volume: Capacity Ratio $>$ 45% and \leq 65% is *LOS C*
- Volume: Capacity Ratio $>$ 65% and \leq 80% is *LOS D*
- Volume: Capacity Ratio $<$ 80% and \leq 100% is *LOS E*
- Volume: Capacity Ratio \geq 100% is *LOS F*

ROADWAY LINK ANALYSIS - RESULTS

For purpose of the roadway link analysis, the area is considered suburban residential. Existing peak hour volumes, the growth rate factor and peak hour projected site-generated trips were used to conduct the roadway link analysis which is summarized in **Table 10**.

Table 10. Roadway Link Capacity Analysis Results Summary

Roadway	Direction	Classification for Analysis	*Hourly Volume	# LANES	MEDIAN DIVIDED?	CAPACITY		V/C	LOS
						Per Lane	Roadway		
2020 Existing:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	477	2	One-Way	900	1,800	0.27	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	674	2	Y	900	1,800	0.37	A/B
	SB	Minor Arterial	542	2	Y	900	1,800	0.30	A/B
2024 Background:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	516	2	One-Way	900	1,800	0.29	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	730	2	Y	900	1,800	0.41	A/B
	SB	Minor Arterial	582	2	Y	900	1,800	0.32	A/B
2024 Background Plus Site:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	785	2	One-Way	900	1,800	0.44	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	1,109	2	Y	900	1,800	0.62	C
	SB	Minor Arterial	950	2	Y	900	1,800	0.53	C
2029 Horizon:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	543	2	One-Way	900	1,800	0.30	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	767	2	Y	900	1,800	0.43	A/B
	SB	Minor Arterial	609	2	Y	900	1,800	0.34	A/B
2029 Horizon Plus Site:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	811	2	One-Way	900	1,800	0.45	C
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	1,146	2	Y	900	1,800	0.64	C
	SB	Minor Arterial	976	2	Y	900	1,800	0.54	C

Based upon the roadway link analysis:

I-30 EBFR:

- Currently operates at LOS A/B at existing conditions.
- Expected to operate at LOS C for 2024 full buildout conditions as well as for 2029 horizon plus site condition.

Corporate Crossing:

- Both the NB and SB movements currently operates at LOS A/B at existing conditions.
- Both the NB and SB movements are expected to operate at LOS C for 2024 full buildout conditions as well as for 2029 horizon plus site conditions.

SITE ACCESS REVIEW

Intersection sight distance, driveway spacing and deceleration lane requirements were also evaluated as part of this TIA.

INTERSECTION SIGHT DISTANCE

INTERSECTION SIGHT CRITERIA:

Sight distance is the metric used to describe the ability of a motorist to physically see (via a direct line of sight) objects and/or other vehicles to a degree sufficient to allow safe and efficient use of a roadway in the intended manner. The sight distance is a function of the major roadway's geometric characteristics and 85th percentile speed.

INTERSECTION SIGHT DISTANCE REVIEW FOR PROJECT

The sight distance requirements are based on the *AASHTO Green Book* Exhibit 9-54 and Exhibit 9-55 (**Appendix E**). **Table 11** provides the Intersection sight distance summary for this study.

Table 11. Intersection Sight Distance Summary

Intersections	Speed Limit (mph)	For Left Turn		For Right Turn		Meets Requirements
		Required (Ft)	Provided (Ft)	Required (Ft)	Provided (Ft)	
Driveway 1 at I-30 EBFR	45	-	-	430	~700	Yes
Driveway 2 at Corporate Crossing	50	555	~600	480	~600	Yes
Driveway 3 at Capital Blvd	30	335	>335	290	>290	Yes
Driveway 4 at Capital Blvd	30	335	>335	290	>290	Yes

[Note: This does not rule out the potential that other impediments such as landscaping, signage, etc. may exist.]

DRIVEWAY SPACING REVIEW

TXDOT SPACING CRITERIA:

The TxDOT *Access Management Manual* provides guidelines for new driveways along roadways based upon the posted speed limit. Based upon Tables 2-1, 2-2 (**Appendix E**) from TxDOT's *Access Management Manual*, the minimum driveway connection spacing is 360 feet for a speed limit greater than or equal to 45 mph such as I-30 EBFR/WBFR and 425 feet for a speed limit greater than or equal to 50 mph such as Corporate Crossing. TxDOT considers the spacing between access points as inside-edge-(of driveway pavement)-to-inside-edge.

- **TxDOT's criteria for Other State Highway Connection:**
 - For 50 MPH: 425 feet
- **TxDOT's criteria for Frontage Road Connection:**
 - For 45 MPH: 360 feet

City of Rockwall Driveway Spacing Criterial:

Based upon City of Rockwall's *Standards of Design and Construction*, a driveway spacing of 50 feet is required between the driveways for a local street like Capital Blvd.

DRIVEWAY SPACING REVIEW FOR PROJECT:

A summary of the driveway spacing provided for each of the proposed site access points is presented in **Table 12**.

Table 12. Driveway Spacing Summary

Spacing Between	Required (Ft)	Provided (Ft)	Meets Requirements
Driveway 1 and N Stodghill Road	360	~1050	Yes
Driveway 2 and I-30 EBFR	425	~650	Yes
Driveway 2 and Capital Blvd	425	~670	Yes
Driveway 3 and Driveway 4	50	~25	No

All the proposed site driveways meet TxDOT’s driveway spacing criteria except for the spacing between Driveway 3 and Driveway 4.

DECELERATION LANE ANALYSIS

DECELERATION LANE CRITERIA:

The TxDOT criteria for providing right-turn deceleration auxiliary lanes are outlined in *Table 2-3 (Appendix E)* of the *Access Management Manual*. The threshold for roadways with a posted speed limit greater than 45 MPH is 50 vehicles per hour (or, 60 vehicles per hour for posted speed limit of 45 MPH or lower). For raised medians, left-turn deceleration lanes (“bays”) are required for all left-turn opportunities. Additionally, table 3-11 from TxDOT Roadway Design Manual was used in the determination of left-turn deceleration auxiliary lanes.

A summary of the projected peak hour driveway volumes is included in **Appendix A** for each scenario analyzed.

DECELERATION LANE RECOMMENDATIONS:

Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT’s requirement of a left turn storage lane for all raised median openings.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

The proposed project is planned to be built in four phases and will be fully constructed by 2024. The area is approximately 66 acres. **Table 1** shows the development program summary for the site development.

Table 1. Development Program Summary

Use	Phase No.	Quantity
Alethic Club	I	146,000 SF
Restaurant	II	6,305 SF
Hotel	II	100 Rooms
Fast Food with Drive Thru	II	2,256 GSF
Restaurant	II	6,305 GSF
Retail	II	7,400 GSF
Fast Food with Drive Thru	II	2,256 GSF
Office	III	35,800 GSF
Office	III	39,200 GSF
Retail	III	5,000 GSF
Multifamily Housing	III	274 Units
Storage Facility	IV	31,800 GSF
Flex Industrial	IV	63,000 GSF

The analysis of the traffic generated by the proposed development resulted in no significant impact on the local roadway system. Below is a summary of findings from this TIA.

FINDING: Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

FINDING: Based upon the 2024 background & 2024 background-plus site buildout analysis all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB shared left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB shared left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

RECOMMENDATIONS:

IH 30 WBFR at N Stodghill Road: The intersection is expected to operate at LOS E at buildout conditions during the AM peak hour. It is recommended to optimize the traffic signal after the full buildout to improve the level of service from LOS E to LOS D at this intersection (**Appendix D**).

Capital Blvd at Corporate Crossing:

- The WB left turning movement is currently expected to operate at LOS E during the peak hour with a maximum 95th percentile queue of about 1 vehicle only. Therefore, no mitigation measures are recommended.

Discovery Blvd at Corporate Crossing:

- The EB left-through movement is currently operating at LOS E with a maximum 95th percentile queue of about 4 vehicles and is expected to operate at LOS F with maximum 95th percentile queue of 8 vehicles. This is not an uncommon situation on a stop controlled intersection for a vehicle of Minor Street making a through/left turn movement. The proposed development does not possess any impact on this movement. Therefore, no mitigation measures are recommended
- The WB left turning movement is expected to operate at LOS F with a maximum 95th percentile queue of less than 1 vehicle. Therefore, no mitigation measures are recommended.

Driveway 2/Gas Station Driveway at Corporate Crossing:

- The WB shared left-through movement is expected to operate at LOS F during the peak hour with a maximum 95th percentile queue of about 11 vehicles. It is recommended to perform a traffic signal warrant study to determine whether the intersection warrants a signal after full buildout in future.

FINDING: Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT's requirement of a left turn storage lane for all raised median openings.

FINDING: All the site driveways proposed for this study meet TxDOT's driveway spacing requirements except for the spacing between the Driveway 3 and Driveway 4. A variance of lesser spacing requirement for these driveways with the City of Rockwall can be persuaded.

FINDING: Based on AASHTO Green Book, all the proposed site driveways meet the required intersection sight distance.

FINDING: Based upon the link analysis, IH 30 EBFR and Corporate Crossing Blvd are expected to operate at an acceptable level of service (**Refer Table 7**).

END OF MEMO

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Exhibit 3. Existing Roadway Geometry and Traffic Control

North ^
Not to Scale

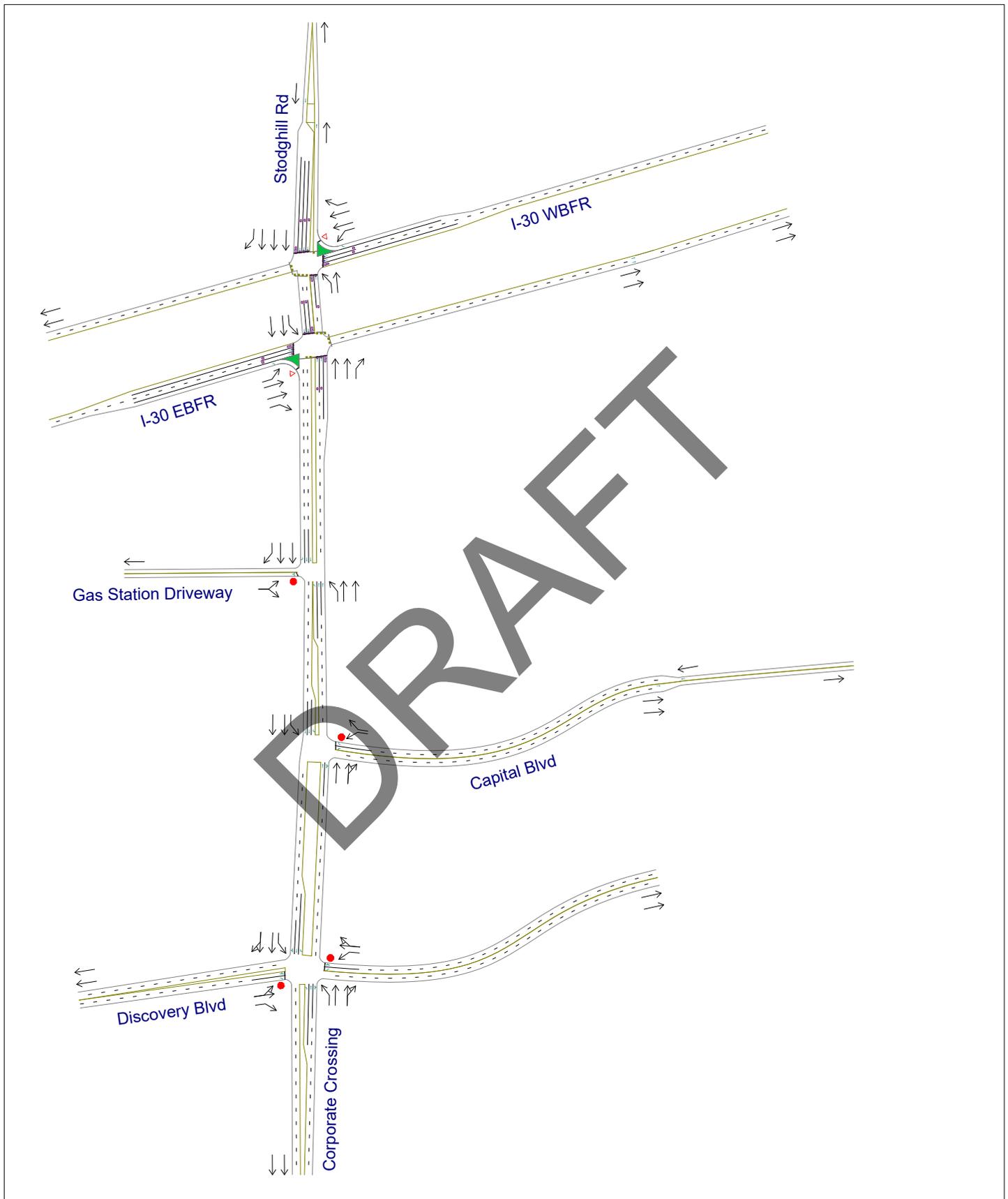
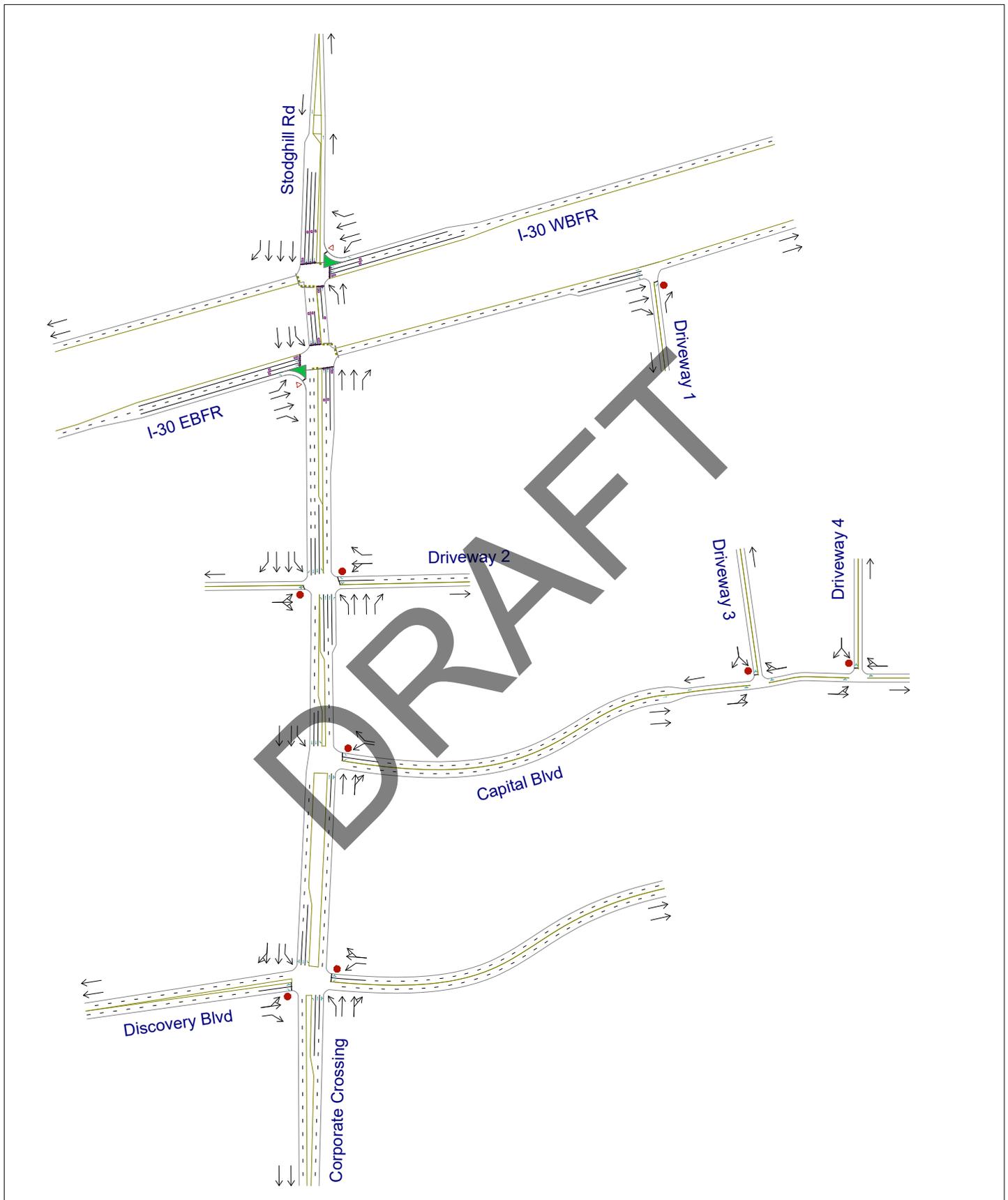


Exhibit 4. Proposed Roadway Geometry and Traffic Control

North ^
Not to Scale

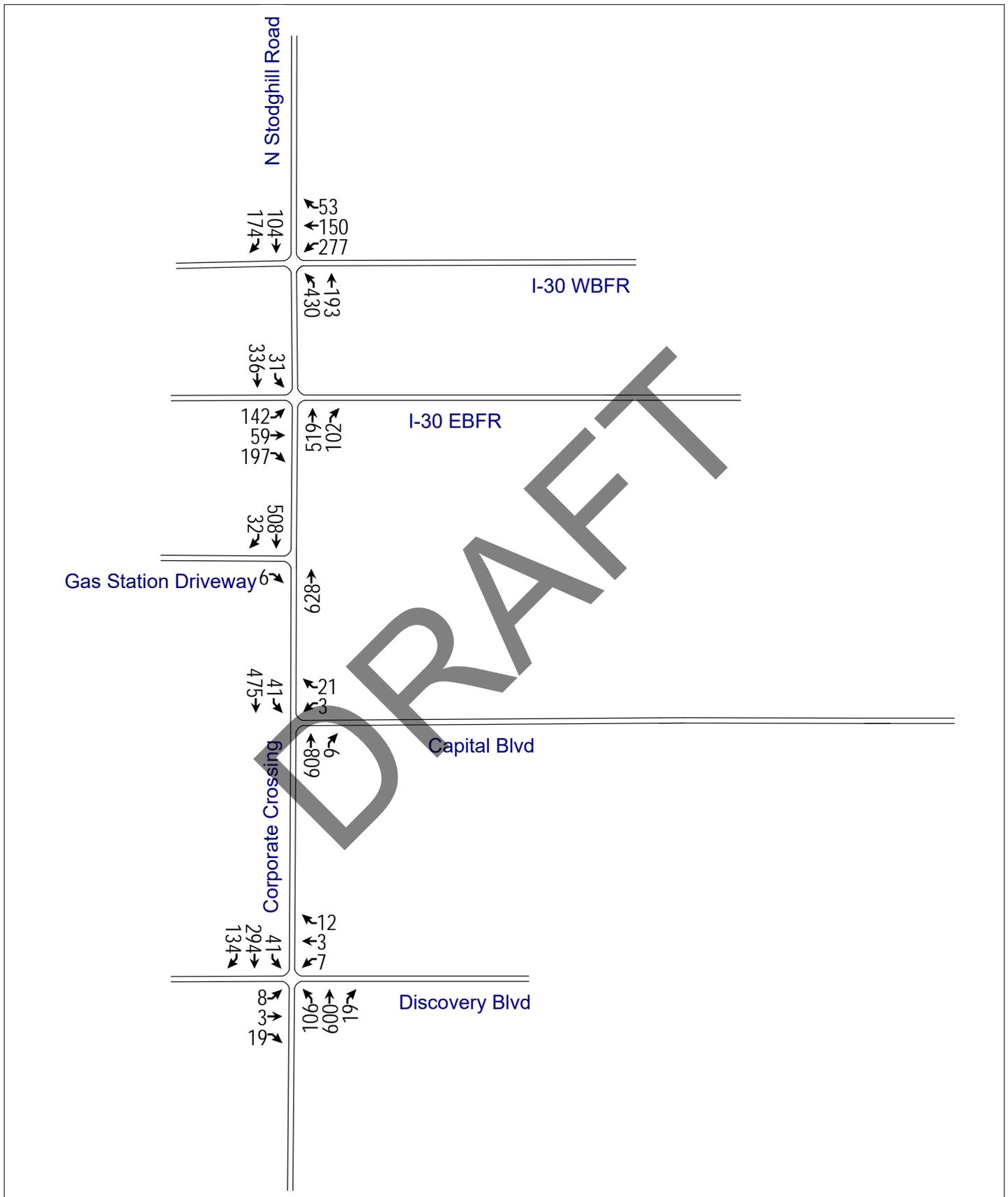


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Appendix A. Traffic Volume Exhibits

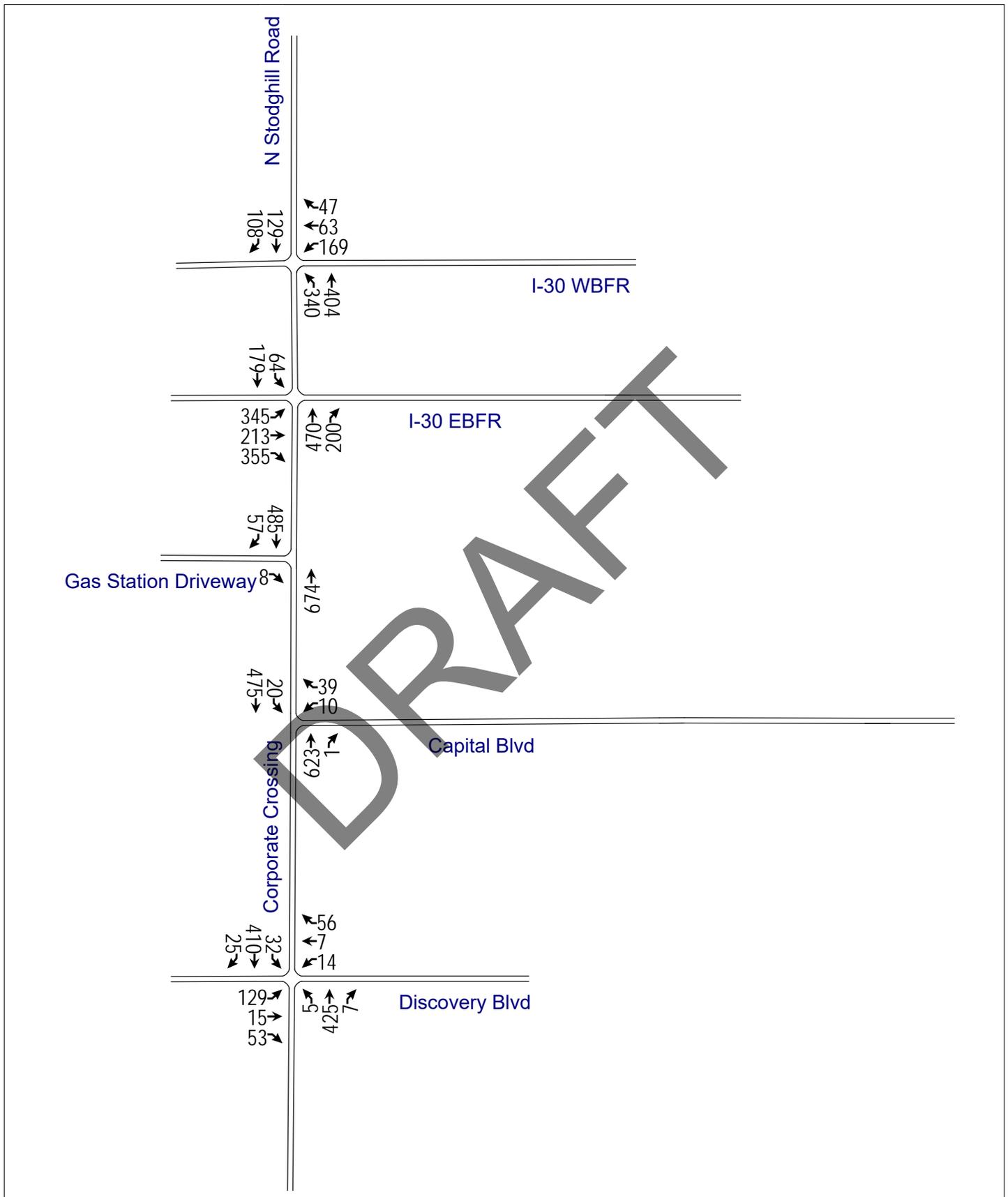
A1. 2020 Existing AM Peak Hour Traffic Volumes

North ^
Not to Scale



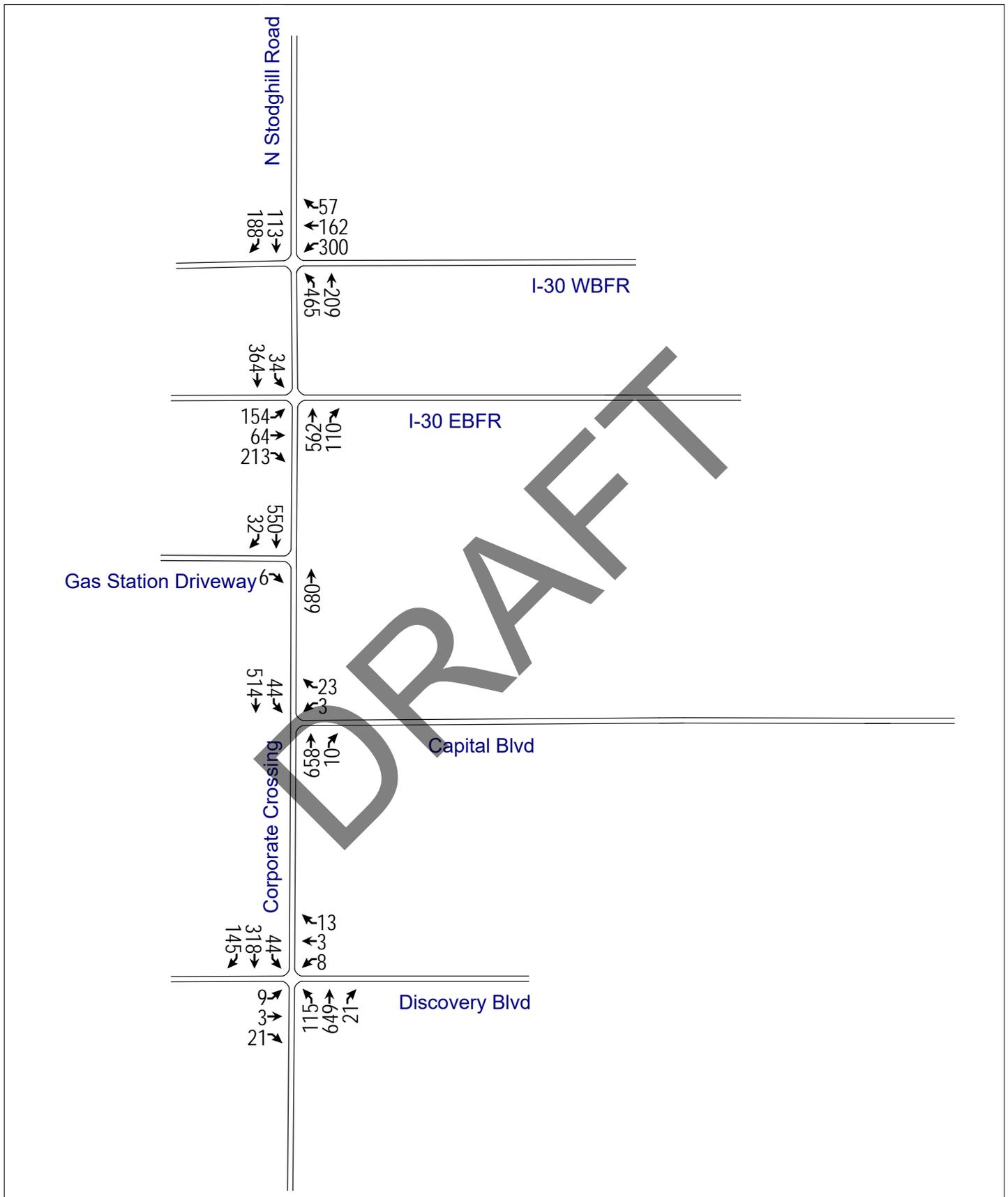
A2. 2020 Existing PM Peak Hour Traffic Volumes

North ^
Not to Scale



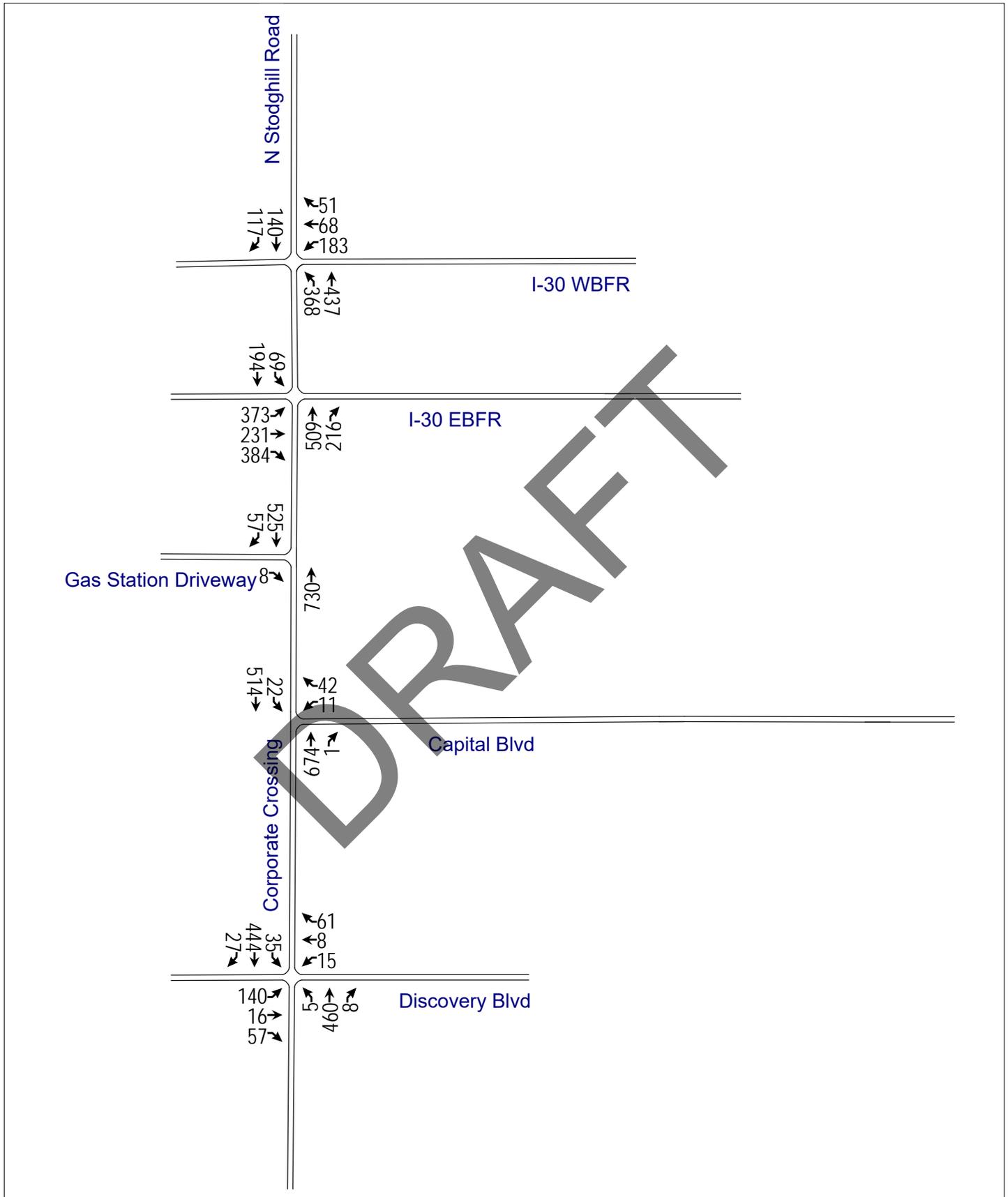
A3. 2024 Background AM Peak Hour Traffic Volumes

North ^
Not to Scale



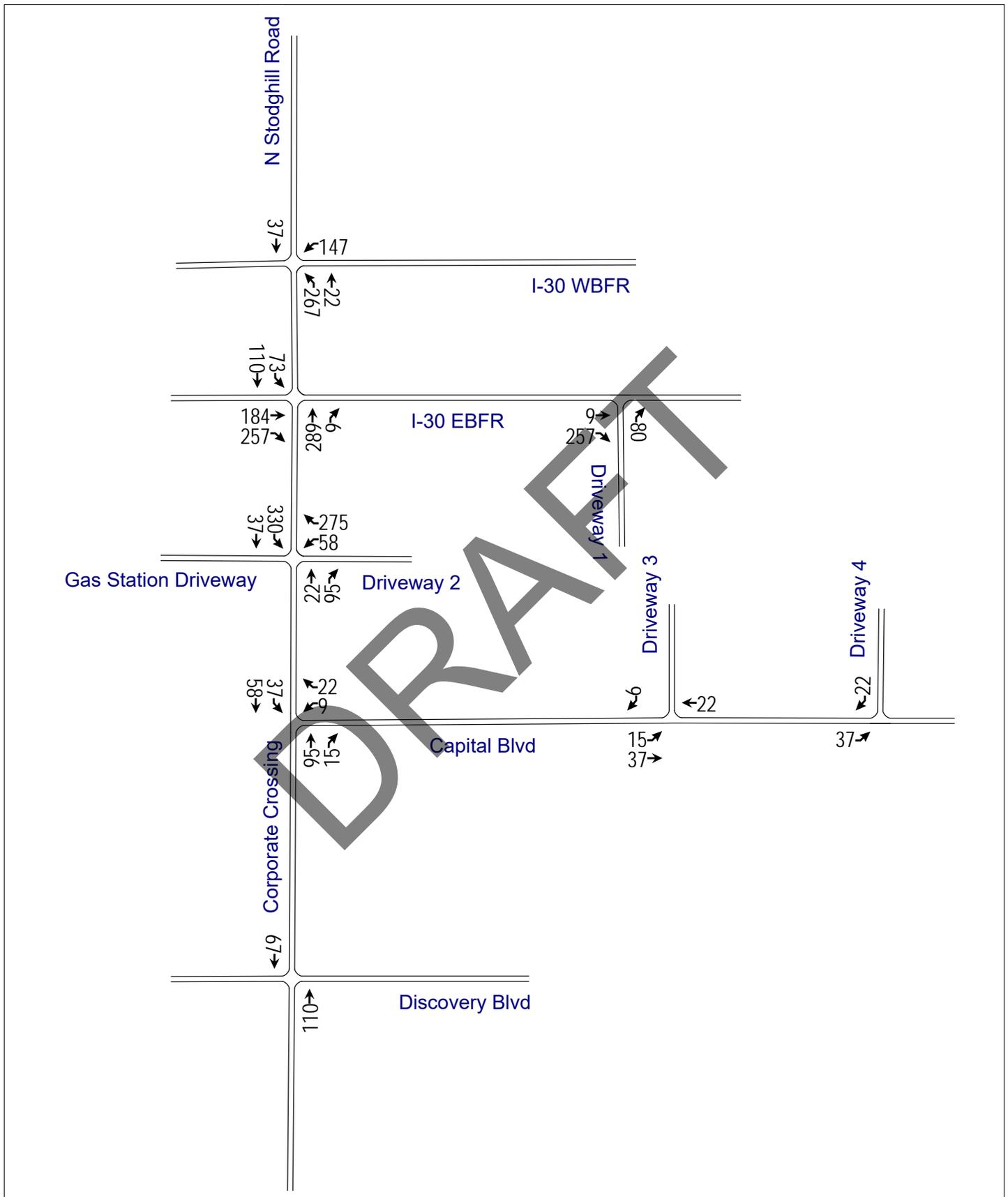
A4. 2024 Background PM Peak Hour Traffic Volumes

North ^
Not to Scale



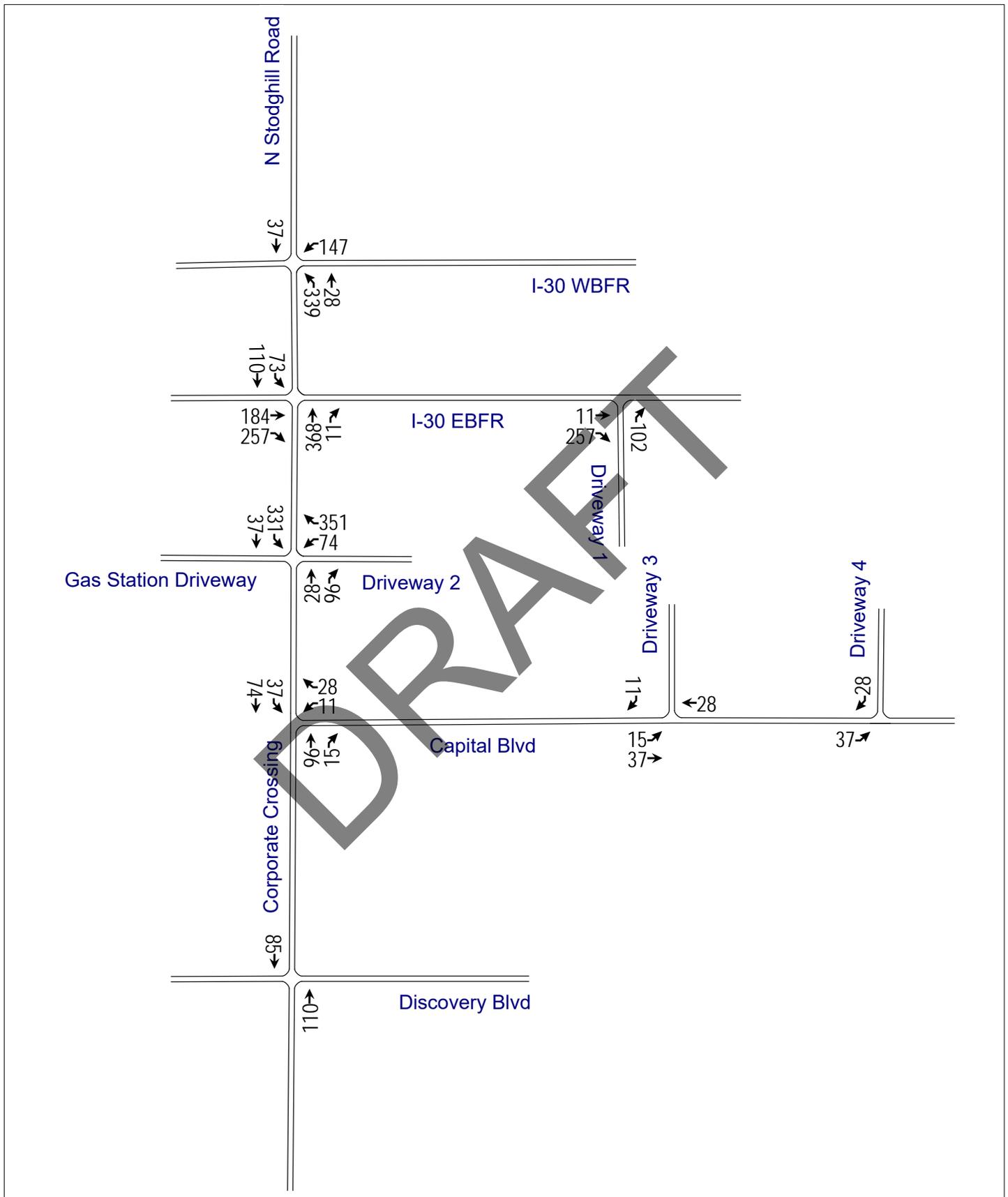
A5. 2024 Site Generated AM Peak Hour Traffic Volumes

North ^
Not to Scale



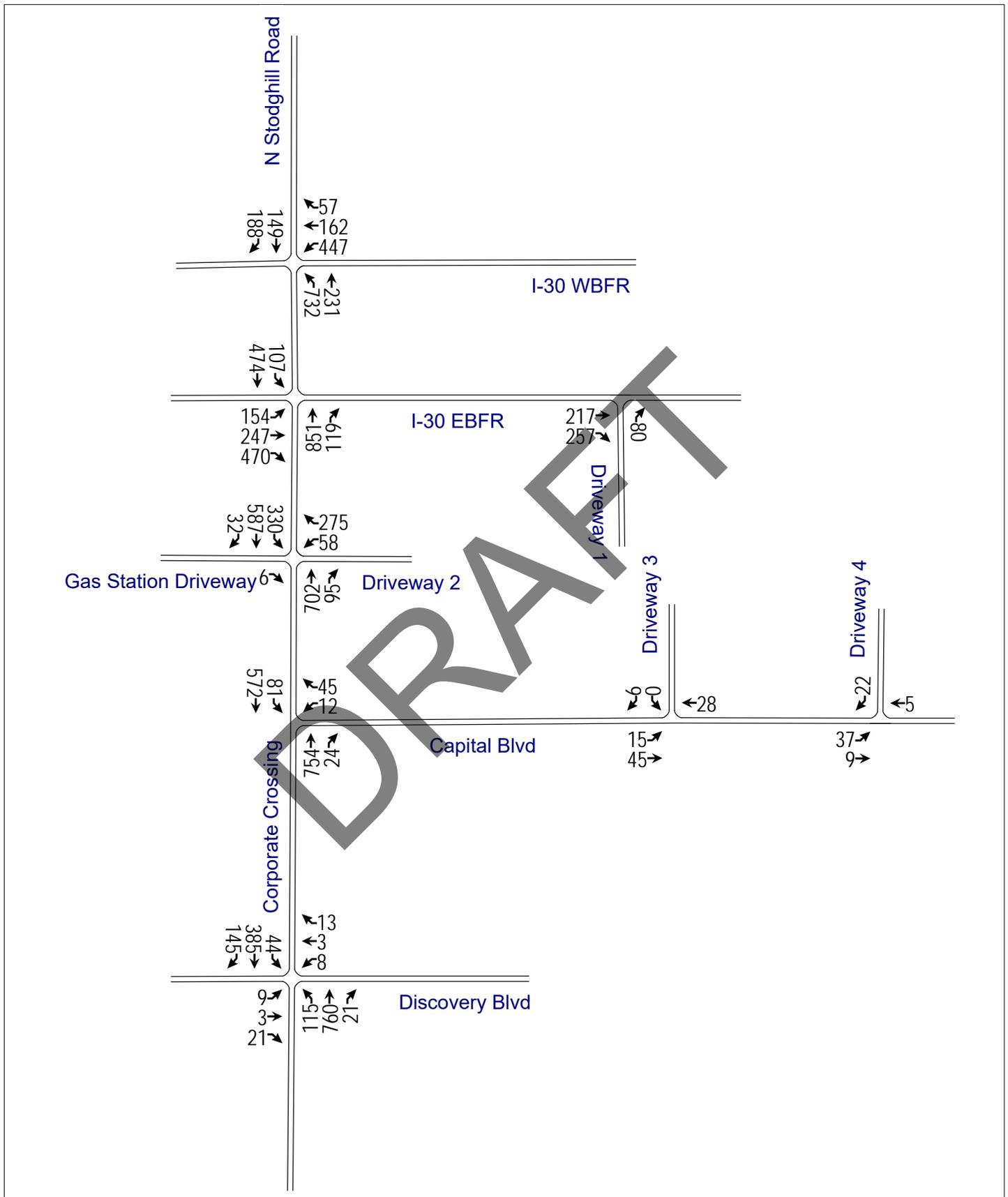
A6. 2024 Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



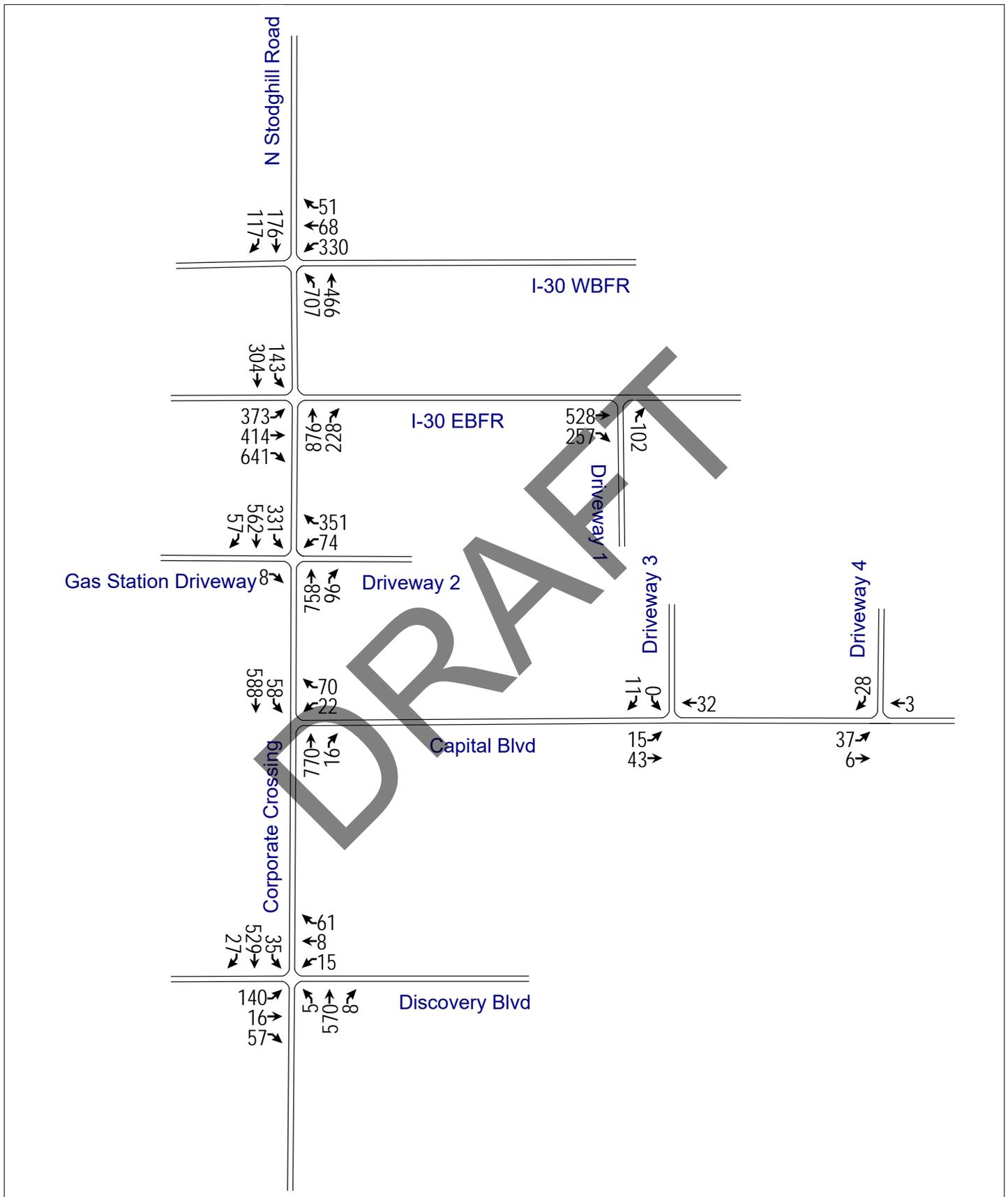
A7. 2024 Background Plus Site Generated AM Peak Hour Traffic Volumes

North ^
Not to Scale



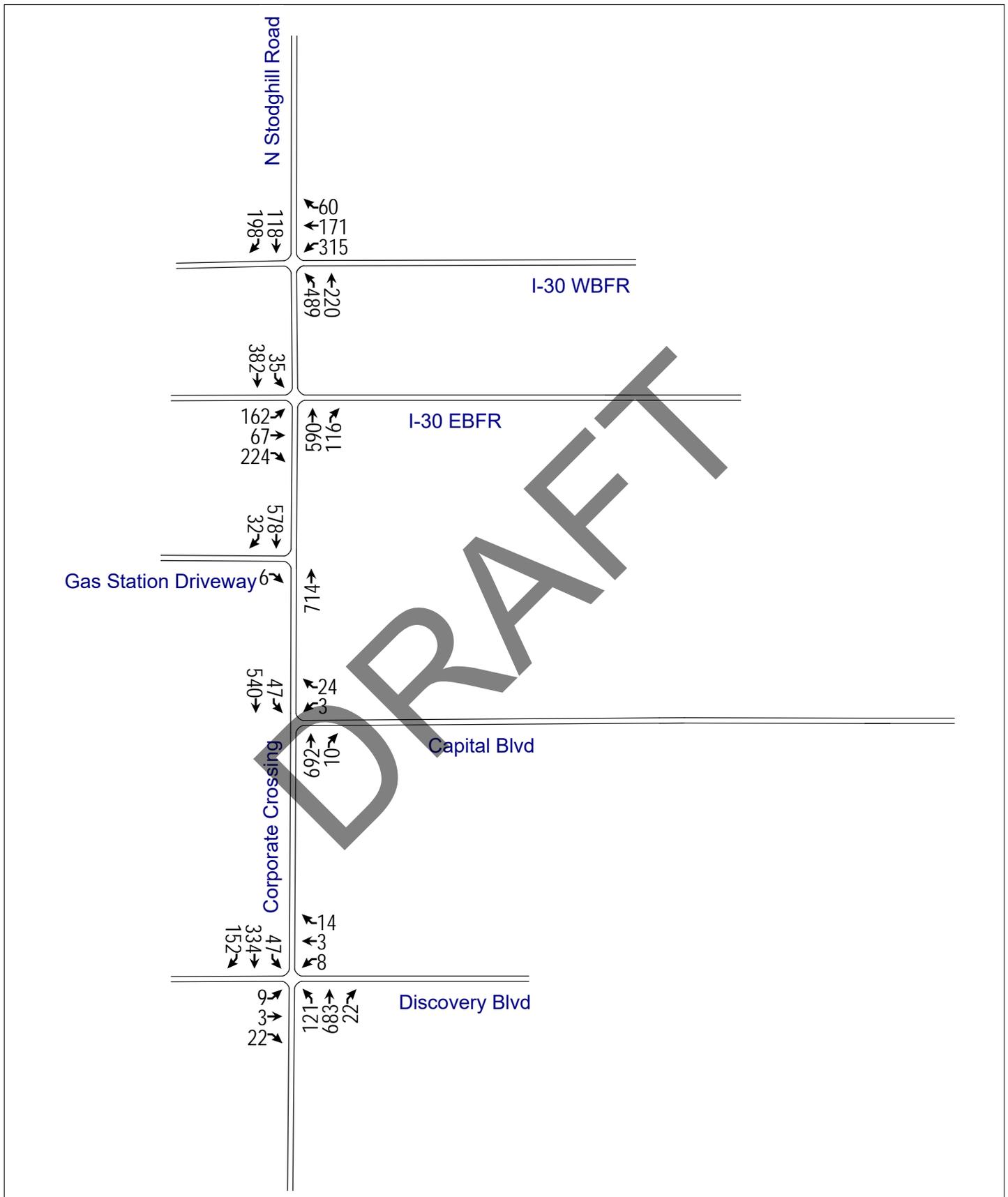
A8. 2024 Background Plus Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



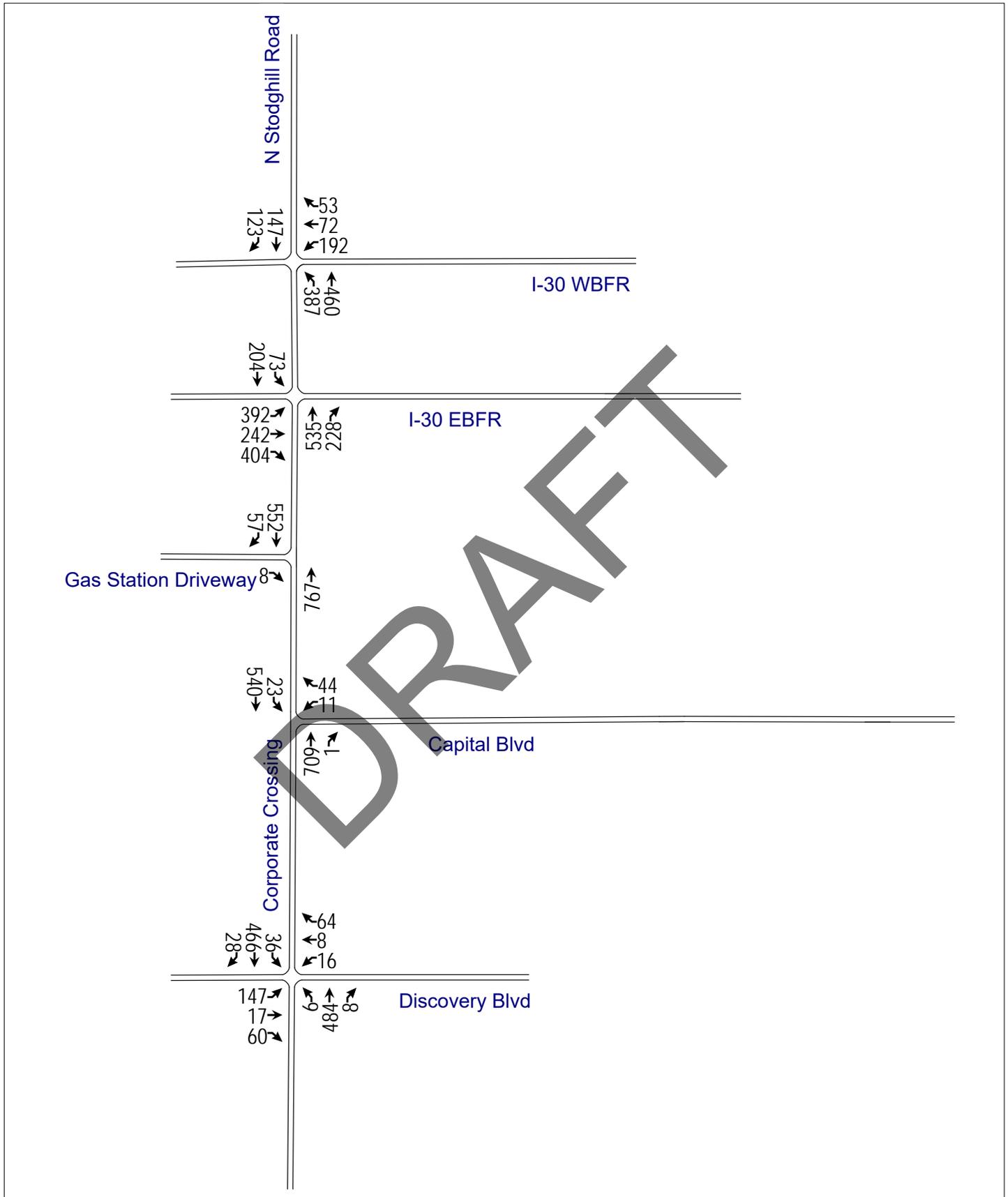
A9. 2029 Horizon AM Peak Hour Traffic Volumes

North ^
Not to Scale



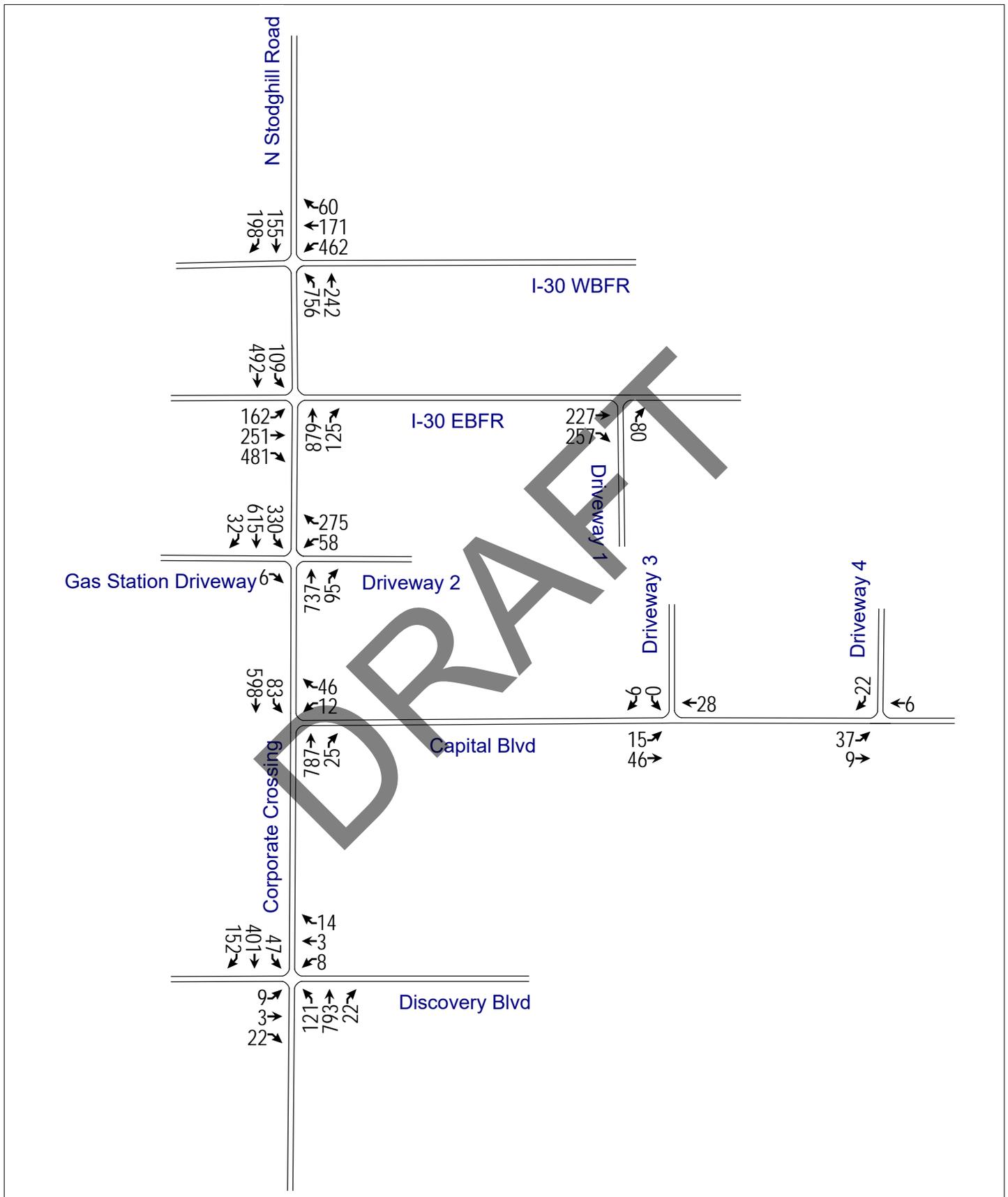
A10. 2029 Horizon PM Peak Hour Traffic Volumes

North ^
Not to Scale



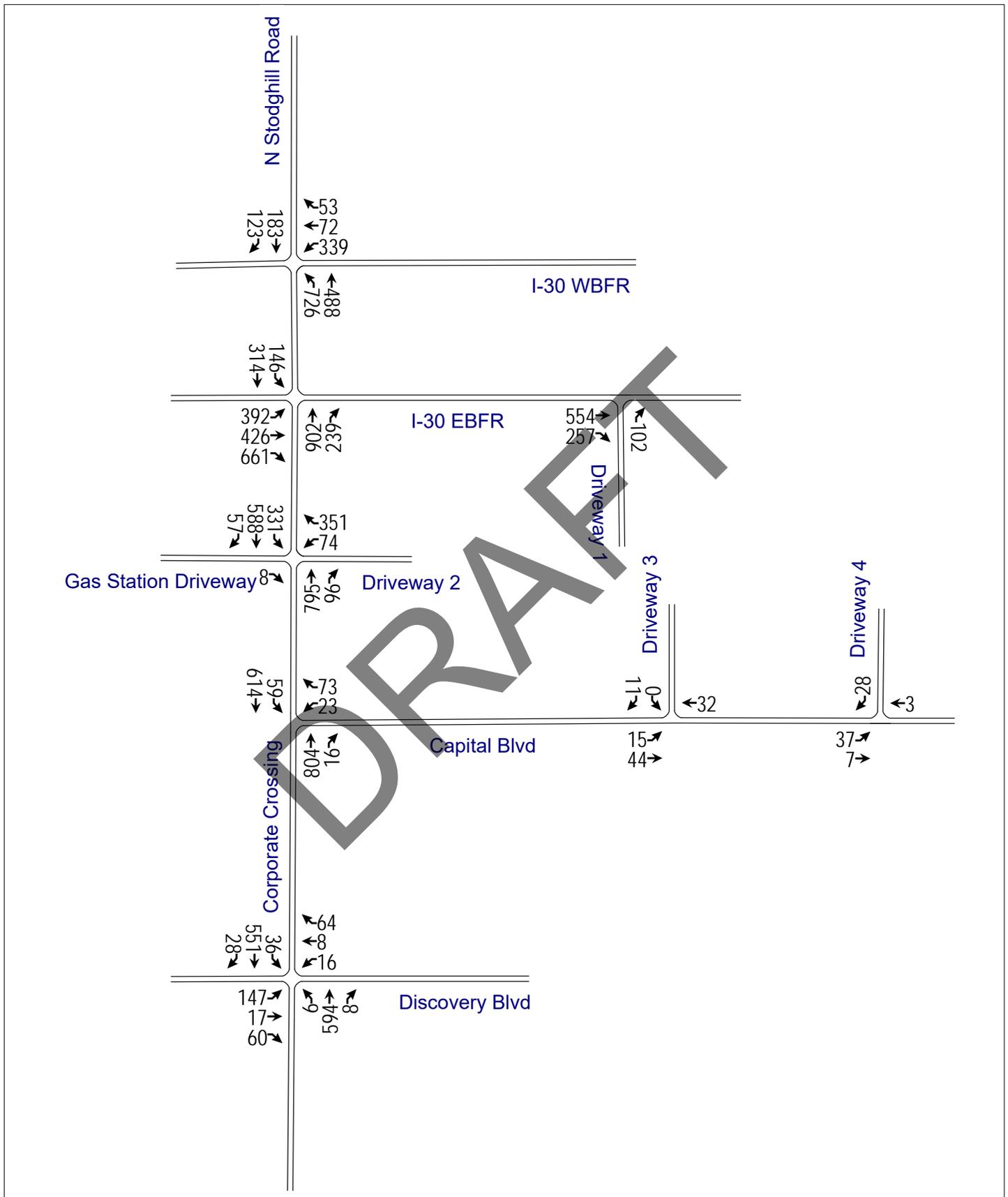
A11. 2029 Horizon Plus Site Generated AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



A12. 2029 Horizon Plus Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



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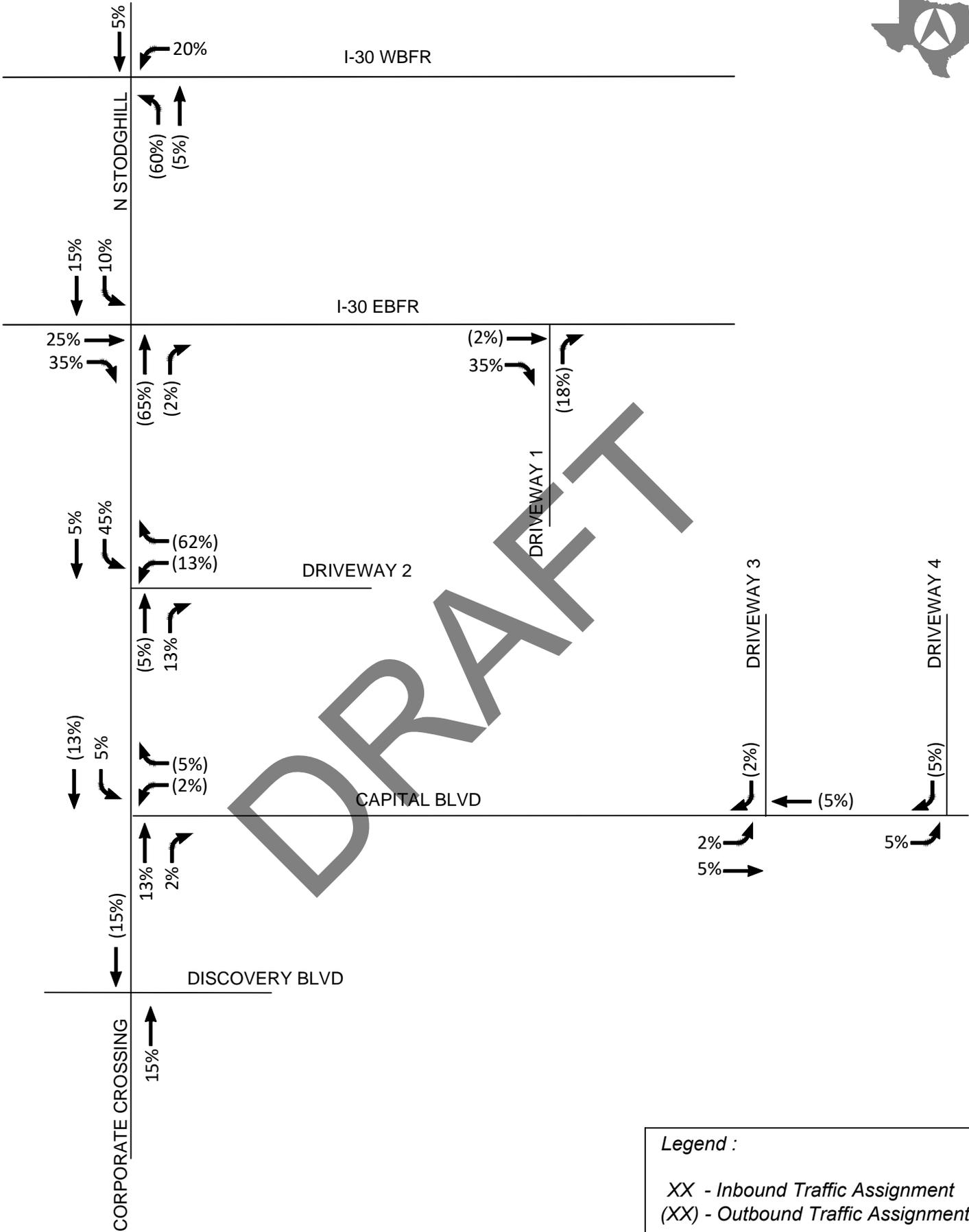
Appendix B. Existing Traffic Count Data

Intersection Traffic Movements													DeShazo Group, Inc.				
Location: N Stodghill Road at IH 30 WBFR City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(1) Data Source: CJ Hensch													Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Signalized				
Time of Count		Northbound on N Stodghill Road				Southbound on N Stodghill Road				Eastbound on IH 30 WBFR				Westbound on IH 30 WBFR			
Begin	End	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	7:15 AM	0	88	37	-	-	-	21	24	-	-	-	-	0	76	30	9
7:15 AM	7:30 AM	0	96	44	-	-	-	22	32	-	-	-	-	0	82	43	9
7:30 AM	7:45 AM	0	114	46	-	-	-	32	50	-	-	-	-	0	87	37	14
7:45 AM	8:00 AM	0	114	56	-	-	-	28	50	-	-	-	-	0	60	41	21
8:00 AM	8:15 AM	0	106	47	-	-	-	22	42	-	-	-	-	0	48	29	9
8:15 AM	8:30 AM	0	80	53	-	-	-	24	52	-	-	-	-	0	43	17	12
8:30 AM	8:45 AM	0	84	48	-	-	-	26	32	-	-	-	-	0	35	18	15
8:45 AM	9:00 AM	0	82	36	-	-	-	14	25	-	-	-	-	0	35	15	10
Intersection PHV:		0	430	193	0	0	0	104	174	0	0	0	0	0	277	150	53
PHF:		0.00	0.94	0.86	0.00	0.00	0.00	0.81	0.87	0.00	0.00	0.00	0.00	0.00	0.80	0.87	0.63
Intersection Peak Hour: 7:15 AM - 8:15 AM													Intersection PHF: 0.91				
Study Area PHV:		0	430	193	0	0	0	104	174	0	0	0	0	0	277	150	53
PHF:		0.00	0.94	0.86	0.00	0.00	0.00	0.81	0.87	0.00	0.00	0.00	0.00	0.00	0.80	0.87	0.63
Study Peak Hour: 7:15 AM - 8:15 AM													Study Area PHF: 0.91				
4:30 PM	4:45 PM	0	98	95	0	-	-	34	21	-	-	-	-	0	37	13	10
4:45 PM	5:00 PM	0	78	96	0	-	-	28	20	-	-	-	-	0	41	19	13
5:00 PM	5:15 PM	0	76	103	0	-	-	32	31	-	-	-	-	0	56	15	13
5:15 PM	5:30 PM	0	88	110	0	-	-	35	36	-	-	-	-	0	35	16	11
5:30 PM	5:45 PM	0	63	102	0	-	-	23	37	-	-	-	-	0	35	18	16
5:45 PM	6:00 PM	0	67	89	0	-	-	27	24	-	-	-	-	0	37	15	22
6:00 PM	6:15 PM	0	70	90	0	-	-	29	22	-	-	-	-	0	30	22	8
6:15 PM	6:30 PM	0	62	62	0	-	-	24	33	-	-	-	-	0	32	17	6
Intersection PHV:		0	340	404	0	0	0	129	108	0	0	0	0	0	169	63	47
PHF:		0.00	0.87	0.92	0.00	0.00	0.00	0.92	0.75	0.00	0.00	0.00	0.00	0.00	0.75	0.83	0.90
Intersection Peak Hour: 4:30 PM - 5:30 PM													Intersection PHF: 0.95				
Study Area PHV:		0	340	404	0	0	0	129	108	0	0	0	0	0	169	63	47
PHF:		0.00	0.87	0.92	0.00	0.00	0.00	0.92	0.75	0.00	0.00	0.00	0.00	0.00	0.75	0.83	0.90
Study Peak Hour: 4:30 PM - 5:30 PM													Study Area PHF: 0.95				
Observations:																	

Intersection Traffic Movements										DeShazo Group, Inc.							
Location: Corporate Crossing at Discovery Boulevard										Data Collector(s): Camera							
City/State: Rockwall, Texas										Weather Conditions: Mild/Normal Conditions							
Day/Date: Tuesday, March 3, 2020.										Traffic Control: Unsignalized							
Project-ID #: 20014-(4)										Description: Minor-Street STOP Controlled							
Data Source: CJ Hensch																	
Time of Count		Northbound on Corporate Crossing				Southbound on Corporate Crossing				Eastbound on Discovery Blvd				Westbound on Discovery Blvd			
Begin	End	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	7:15 AM	0	31	108	6	0	10	74	25	0	1	2	3	0	1	1	1
7:15 AM	7:30 AM	0	23	142	5	0	6	83	30	0	1	0	4	0	1	1	1
7:30 AM	7:45 AM	0	29	161	3	0	12	103	37	0	1	1	9	0	1	0	4
7:45 AM	8:00 AM	0	36	161	5	0	14	51	39	0	3	1	3	0	2	1	4
8:00 AM	8:15 AM	0	18	136	6	0	9	57	28	0	3	1	3	0	3	1	3
8:15 AM	8:30 AM	0	21	114	0	0	7	61	34	0	7	1	2	0	0	1	3
8:30 AM	8:45 AM	0	6	99	2	0	2	75	18	0	2	2	1	0	1	0	5
8:45 AM	9:00 AM	0	15	106	0	0	6	62	15	0	6	0	3	0	1	2	4
Intersection PHV:		0	106	600	19	0	41	294	134	0	8	3	19	0	7	3	12
PHF:		0.00	0.74	0.93	0.79	0.00	0.73	0.71	0.86	0.00	0.67	0.75	0.53	0.00	0.58	0.75	0.75
Intersection Peak Hour: 7:15 AM - 8:15 AM										Intersection PHF: 0.86							
Study Area PHV:		0	106	600	19	0	41	294	134	0	8	3	19	0	7	3	12
PHF:		0.00	0.74	0.93	0.79	0.00	0.73	0.71	0.86	0.00	0.67	0.75	0.53	0.00	0.58	0.75	0.75
Study Peak Hour: 7:15 AM - 8:15 AM										Study Area PHF: 0.86							
4:30 PM	4:45 PM	0	0	91	3	0	9	122	11	0	29	4	16	0	5	2	22
4:45 PM	5:00 PM	0	2	113	2	0	9	83	4	0	39	4	7	0	3	2	11
5:00 PM	5:15 PM	0	3	96	1	0	9	104	5	0	41	5	21	0	6	2	14
5:15 PM	5:30 PM	0	0	125	1	0	5	101	5	0	20	2	9	0	0	1	9
5:30 PM	5:45 PM	0	3	93	0	0	1	105	4	0	25	1	10	0	0	3	10
5:45 PM	6:00 PM	0	1	97	0	0	0	111	3	0	15	0	17	0	0	0	1
6:00 PM	6:15 PM	0	1	100	2	0	0	106	4	0	19	0	13	0	2	1	2
6:15 PM	6:30 PM	0	1	88	0	0	0	101	2	0	13	1	11	0	0	0	3
Intersection PHV:		0	5	425	7	0	32	410	25	0	129	15	53	0	14	7	56
PHF:		0.00	0.42	0.85	0.58	0.00	0.89	0.84	0.57	0.00	0.79	0.75	0.63	0.00	0.58	0.88	0.64
Intersection Peak Hour: 4:30 PM - 5:30 PM										Intersection PHF: 0.94							
Study Area PHV:		0	5	425	7	0	32	410	25	0	129	15	53	0	14	7	56
PHF:		0.00	0.42	0.85	0.58	0.00	0.89	0.84	0.57	0.00	0.79	0.75	0.63	0.00	0.58	0.88	0.64
Study Peak Hour: 4:30 PM - 5:30 PM										Study Area PHF: 0.94							
Observations:																	

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Appendix C. Site-Generated Traffic Supplement



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Legend :
 XX - Inbound Traffic Assignment
 (XX) - Outbound Traffic Assignment



I-30 WBFR

N STODGHILL

I-30 EBFR

-60% →
+60% ↘
+60% ↗

-10% ↓
+10% ↘

+30% ↗
-10% ↘

DRIVEWAY 2

DRIVEWAY 1

DRIVEWAY 3

DRIVEWAY 4

-30% ↑
+30% ↗

CAPITAL BLVD

DISCOVERY BLVD

CORPORATE CROSSING

DRAFT

Legend :

XX - Inbound Traffic Assignment
(XX) - Outbound Traffic Assignment

Appendix D. Detailed Intersection Capacity Analysis Results

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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	0	0	0	277	150	53	430	193	0	0	104	174
Future Volume (vph)	0	0	0	277	150	53	430	193	0	0	104	174
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
Adj. Flow (vph)	0	0	0	304	165	58	473	212	0	0	114	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	304	165	58	473	212	0	0	114	191
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				17.7	17.7	17.7	47.8	52.3			27.6	27.6
Actuated g/C Ratio				0.22	0.22	0.22	0.61	0.66			0.35	0.35
v/c Ratio				0.77	0.21	0.13	0.53	0.17			0.06	0.28
Control Delay				42.6	25.4	0.6	11.2	3.9			18.2	4.5
Queue Delay				0.0	0.0	0.0	0.3	0.2			0.0	0.0
Total Delay				42.6	25.4	0.6	11.5	4.1			18.2	4.5
LOS				D	C	A	B	A			B	A
Approach Delay							32.6				9.6	
Approach LOS							C	A			A	
Queue Length 50th (ft)				140	34	0	57	25			13	0
Queue Length 95th (ft)				#235	61	0	267	41			27	43
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				460	920	505	1080	1429			1773	676
Starvation Cap Reductn				0	0	0	183	686			0	0
Spillback Cap Reductn				0	0	0	0	0			84	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.66	0.18	0.11	0.53	0.29			0.07	0.28

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	79
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.4
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
Cycle Length:	90
Actuated Cycle Length:	79
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.4
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM

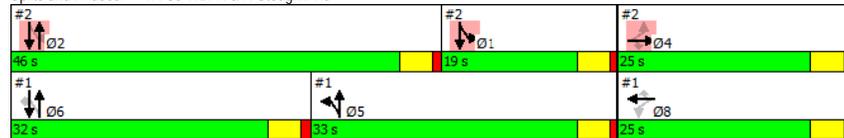
Intersection Capacity Utilization 62.8% ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existing
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↕↕	↕					↕↕	↕	↕	↕↕	
Traffic Volume (vph)	142	59	197	0	0	0	0	519	102	31	336	0
Future Volume (vph)	142	59	197	0	0	0	0	519	102	31	336	0
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
Adj. Flow (vph)	158	66	219	0	0	0	0	577	113	34	373	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	66	219	0	0	0	0	577	113	34	373	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	17.7	17.7	17.7					41.6	41.6	47.8	52.3	
Actuated g/C Ratio	0.22	0.22	0.22					0.53	0.53	0.61	0.66	
v/c Ratio	0.40	0.08	0.42					0.31	0.13	0.06	0.16	
Control Delay	29.3	24.1	6.5					11.6	2.7	11.7	12.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay	29.3	24.1	6.5					11.7	2.7	11.7	12.8	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.3						10.2			12.7	
Approach LOS		B						B			B	
Queue Length 50th (ft)	66	13	0					82	0	13	79	
Queue Length 95th (ft)	122	30	52					123	24	m22	145	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	460	920	573					1863	886	720	2716	
Starvation Cap Reductn	0	0	0					0	0	0	1702	
Spillback Cap Reductn	0	0	0					75	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.34	0.07	0.38					0.32	0.13	0.05	0.37	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 79

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 12.9

Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: AM

Intersection Capacity Utilization 62.8% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2020 Existng
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	6	0	628	508	32
Future Vol, veh/h	0	6	0	628	508	32
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	-	170	-	-	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	0	7	0	683	552	35
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	894	276	587	0	-	0
Stage 1	552	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	281	721	984	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	281	721	984	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	10	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	984	-	721	-	-	
HCM Lane V/C Ratio	-	-	0.009	-	-	
HCM Control Delay (s)	0	-	10	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2020 Existng
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	21	608	9	41	475
Future Vol, veh/h	3	21	608	9	41	475
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	24	699	10	47	546
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1071	355	0	0	709	0
Stage 1	704	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	216	641	-	-	886	-
Stage 1	452	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	205	641	-	-	886	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.3	0	0.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	205	641	886	-
HCM Lane V/C Ratio	-	-	0.017	0.038	0.053	-
HCM Control Delay (s)	-	-	22.9	10.8	9.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2020 Existing
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	8	3	19	7	3	12	106	600	19	41	294	134
Future Vol, veh/h	8	3	19	7	3	12	106	600	19	41	294	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	9	3	21	8	3	13	115	652	21	45	320	146
Major/Minor	Minor2	Minor1		Major1			Major2					
Conflicting Flow All	1041	1386	233	1145	1449	337	466	0	0	673	0	0
Stage 1	483	483	-	893	893	-	-	-	-	-	-	-
Stage 2	558	903	-	252	556	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	184	142	769	154	130	659	1092	-	-	914	-	-
Stage 1	534	551	-	303	358	-	-	-	-	-	-	-
Stage 2	482	354	-	730	511	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	156	121	769	130	111	659	1092	-	-	914	-	-
Mov Cap-2 Maneuver	156	121	-	130	111	-	-	-	-	-	-	-
Stage 1	478	524	-	271	320	-	-	-	-	-	-	-
Stage 2	418	317	-	671	486	-	-	-	-	-	-	-
Approach	EB	WB		NB			SB					
HCM Control Delay, s	17.9	22.1		1.3			0.8					
HCM LOS	C	C										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1092	-	-	145	769	130	332	914	-	-		
HCM Lane V/C Ratio	0.106	-	-	0.082	0.027	0.059	0.049	0.049	-	-		
HCM Control Delay (s)	8.7	-	-	32	9.8	34.4	16.4	9.1	-	-		
HCM Lane LOS	A	-	-	D	A	D	C	A	-	-		
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.1	0.2	0.2	0.2	-	-		

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↙	↖	↗	↘	↙	↖
Traffic Volume (vph)	0	0	0	169	63	47	340	404	0	0	129	108
Future Volume (vph)	0	0	0	169	63	47	340	404	0	0	129	108
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
Adj. Flow (vph)	0	0	0	186	69	52	374	444	0	0	142	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	186	69	52	374	444	0	0	142	119
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0			5.0	5.0	
Minimum Split (s)				22.5	22.5	22.5	9.5			22.5	22.5	
Total Split (s)				41.0	41.0	41.0	25.0			39.0	39.0	
Total Split (%)				39.0%	39.0%	39.0%	23.8%			37.1%	37.1%	
Yellow Time (s)				3.5	3.5	3.5	3.5			3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0	1.0			1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0			0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5	4.5			4.5	4.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode				None	None	None	None			Max	Max	
Act Effct Green (s)				25.3	25.3	25.3	45.7	50.2		34.7	34.7	
Actuated g/C Ratio				0.30	0.30	0.30	0.54	0.59		0.41	0.41	
v/c Ratio				0.35	0.07	0.09	0.51	0.40		0.07	0.17	
Control Delay				24.5	20.2	0.3	17.9	13.6		17.1	4.6	
Queue Delay				0.0	0.0	0.0	0.1	0.4		0.0	0.0	
Total Delay				24.5	20.2	0.3	18.0	14.0		17.1	4.6	
LOS				C	C	A	B	B		B	A	
Approach Delay					19.5			15.8			11.4	
Approach LOS					B			B			B	
Queue Length 50th (ft)				76	13	0	93	110		16	0	
Queue Length 95th (ft)				130	28	2	292	343		35	36	
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				769	1537	749	935	1319		2088	720	
Starvation Cap Reductn				0	0	0	73	429		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				0.24	0.04	0.07	0.43	0.50		0.07	0.17	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 84.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.8

Intersection LOS: B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM

Lane Group	01	02	04	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	
Total Split (s)	20.0	44.0	41.0	
Total Split (%)	19%	42%	39%	
Yellow Time (s)	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	Max	None	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
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

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM

Intersection Capacity Utilization 61.2%
Analysis Period (min) 15

ICU Level of Service B

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existing
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗					↕	↗	↔	↕	↗
Traffic Volume (vph)	345	213	355	0	0	0	0	470	200	64	179	0
Future Volume (vph)	345	213	355	0	0	0	0	470	200	64	179	0
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
Adj. Flow (vph)	383	237	394	0	0	0	0	522	222	71	199	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	383	237	394	0	0	0	0	522	222	71	199	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	25.3	25.3	25.3					39.8	39.8	45.7	50.2	
Actuated g/C Ratio	0.30	0.30	0.30					0.47	0.47	0.54	0.59	
v/c Ratio	0.72	0.22	0.53					0.31	0.26	0.14	0.09	
Control Delay	34.6	22.1	5.0					15.8	3.3	17.5	14.1	
Queue Delay	0.3	0.0	0.0					0.0	0.0	0.0	0.1	
Total Delay	34.9	22.1	5.0					15.9	3.3	17.5	14.2	
LOS	C	C	A					B	A	B	B	
Approach Delay		20.3						12.1			15.1	
Approach LOS		C						B			B	
Queue Length 50th (ft)	179	48	0					86	0	23	33	
Queue Length 95th (ft)	276	76	58					155	43	53	61	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	769	1537	910					1664	861	693	2506	
Starvation Cap Reductn	0	0	0					0	0	0	1472	
Spillback Cap Reductn	85	0	0					117	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.56	0.15	0.43					0.34	0.26	0.10	0.19	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 84.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 16.6
Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

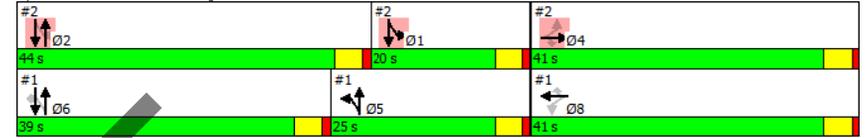
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: PM

Intersection Capacity Utilization 61.2%
Analysis Period (min) 15

ICU Level of Service B

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2020 Existng
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	8	0	674	485	57
Future Vol, veh/h	0	8	0	674	485	57
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	-	170	-	-	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	0	9	0	733	527	62

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	894	264	589	0	0
Stage 1	527	-	-	-	-
Stage 2	367	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	281	734	982	-	-
Stage 1	557	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	281	734	982	-	-
Mov Cap-2 Maneuver	281	-	-	-	-
Stage 1	557	-	-	-	-
Stage 2	671	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	982	-	734	-	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	0	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2020 Existng
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	10	39	623	1	20	475
Future Vol, veh/h	10	39	623	1	20	475
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	45	716	1	23	546

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1036	359	0	0	717
Stage 1	717	-	-	-	-
Stage 2	319	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	227	638	-	-	880
Stage 1	445	-	-	-	-
Stage 2	710	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	221	638	-	-	880
Mov Cap-2 Maneuver	221	-	-	-	-
Stage 1	445	-	-	-	-
Stage 2	692	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	221	638	880	-
HCM Lane V/C Ratio	-	-	0.052	0.07	0.026	-
HCM Control Delay (s)	-	-	22.2	11.1	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

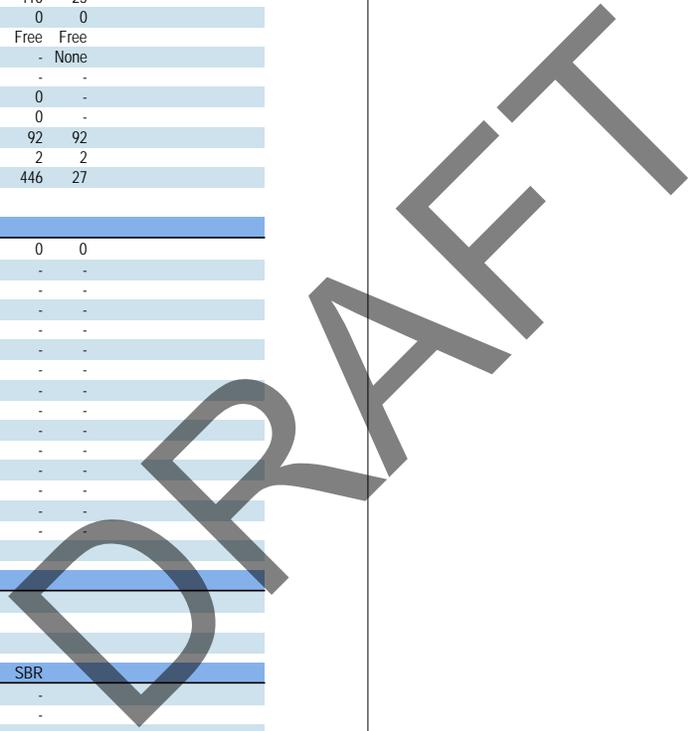
2020 Existing
 Timing Plan: PM

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	129	15	53	14	7	56	5	425	7	32	410	25
Future Vol, veh/h	129	15	53	14	7	56	5	425	7	32	410	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	140	16	58	15	8	61	5	462	8	35	446	27

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	775	1010	237	777
Stage 1	530	530	-	476
Stage 2	245	480	-	301
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	288	238	764	287
Stage 1	500	525	-	539
Stage 2	737	553	-	683
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	251	229	764	244
Mov Cap-2 Maneuver	251	229	-	244
Stage 1	498	508	-	536
Stage 2	666	550	-	592

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.8	13.3	0.1	0.6
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	249	764	244	607	1088	-	-
HCM Lane V/C Ratio	0.005	-	-	0.629	0.075	0.062	0.113	0.032	-	-
HCM Control Delay (s)	8.3	-	-	41.1	10.1	20.7	11.7	8.4	-	-
HCM Lane LOS	A	-	-	E	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.8	0.2	0.2	0.4	0.1	-	-



2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕			↕	↔
Traffic Volume (vph)	0	0	0	300	162	57	465	209	0	0	113	188
Future Volume (vph)	0	0	0	300	162	57	465	209	0	0	113	188
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
Adj. Flow (vph)	0	0	0	330	178	63	511	230	0	0	124	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	330	178	63	511	230	0	0	124	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				18.6	18.6	18.6	47.8	52.3			27.5	27.5
Actuated g/C Ratio				0.23	0.23	0.23	0.60	0.65			0.34	0.34
v/c Ratio				0.80	0.22	0.14	0.58	0.19			0.07	0.30
Control Delay				44.9	25.3	0.8	12.9	4.0			18.5	4.5
Queue Delay				0.0	0.0	0.0	0.4	0.2			0.0	0.0
Total Delay				44.9	25.3	0.8	13.2	4.2			18.5	4.5
LOS				D	C	A	B	A			B	A
Approach Delay					34.0			10.4			9.7	
Approach LOS					C			B			A	
Queue Length 50th (ft)				155	37	0	62	27			15	0
Queue Length 95th (ft)				#279	65	3	292	44			28	44
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				454	909	500	1061	1412			1751	681
Starvation Cap Reductn				0	0	0	177	653			0	0
Spillback Cap Reductn				0	0	0	0	0			92	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.73	0.20	0.13	0.58	0.30			0.07	0.30

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	79.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	18.5
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM

Intersection Capacity Utilization 67.2%

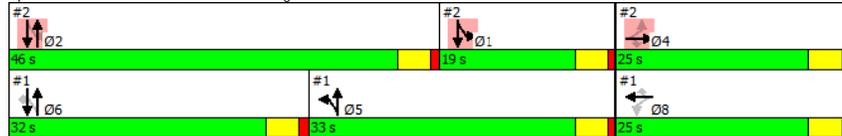
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔					↕↕	↕	↔	↔↔	
Traffic Volume (vph)	154	64	213	0	0	0	0	562	110	34	364	0
Future Volume (vph)	154	64	213	0	0	0	0	562	110	34	364	0
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
Adj. Flow (vph)	171	71	237	0	0	0	0	624	122	38	404	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	71	237	0	0	0	0	624	122	38	404	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	18.6	18.6	18.6					41.5	41.5	47.8	52.3	
Actuated g/C Ratio	0.23	0.23	0.23					0.52	0.52	0.60	0.65	
v/c Ratio	0.42	0.09	0.43					0.34	0.14	0.08	0.17	
Control Delay	29.4	24.1	6.4					12.2	2.7	12.1	13.0	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay	29.4	24.1	6.4					12.2	2.7	12.1	13.4	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.2						10.7			13.3	
Approach LOS		B						B			B	
Queue Length 50th (ft)	72	14	0					94	0	15	87	
Queue Length 95th (ft)	131	31	54					134	25	m24	m154	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	454	909	582					1840	881	685	2682	
Starvation Cap Reductn	0	0	0					0	0	0	1672	
Spillback Cap Reductn	0	0	0					97	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.38	0.08	0.41					0.36	0.14	0.06	0.40	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 13.2
Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

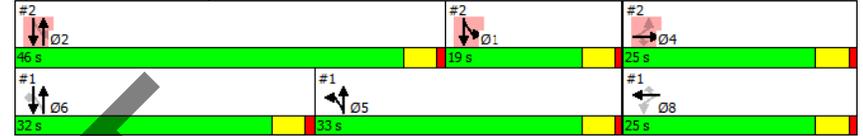
Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

Intersection Capacity Utilization 67.2%
ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	6	0	680	550	35
Future Vol, veh/h	0	6	0	680	550	35
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	-	170	-	-	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	0	7	0	739	598	38
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	968	299	636	0	-	0
Stage 1	598	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	251	697	943	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	251	697	943	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	10.2	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	943	-	697	-	-	
HCM Lane V/C Ratio	-	-	0.009	-	-	
HCM Control Delay (s)	0	-	10.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	23	658	10	44	514
Future Vol, veh/h	3	23	658	10	44	514
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	26	756	11	51	591
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1160	384	0	0	767	0
Stage 1	762	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	189	614	-	-	842	-
Stage 1	421	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	177	614	-	-	842	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.8	0	0.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	177	614	842	-
HCM Lane V/C Ratio	-	-	0.019	0.043	0.06	-
HCM Control Delay (s)	-	-	25.7	11.1	9.5	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

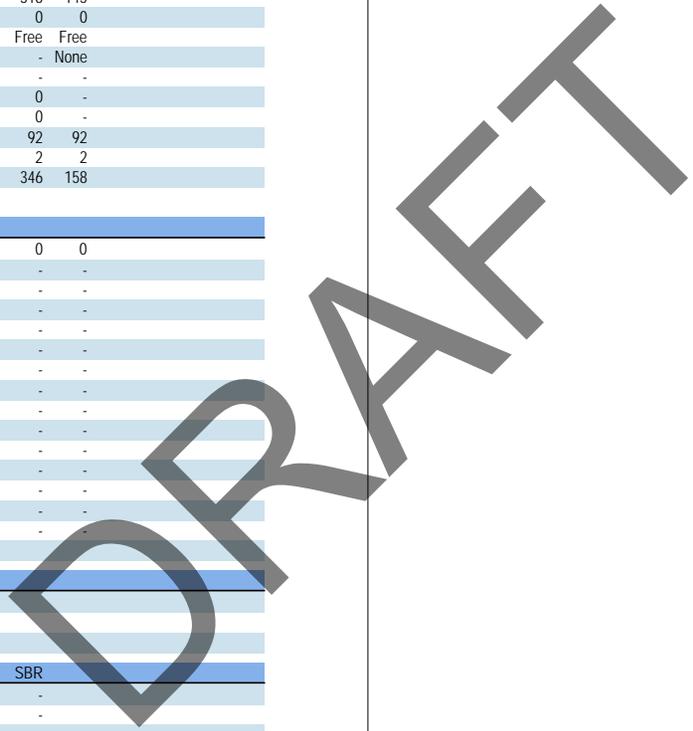
2024 Background
 Timing Plan: AM

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	21	8	3	13	115	649	21	44	318	145
Future Vol, veh/h	9	3	21	8	3	13	115	649	21	44	318	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	10	3	23	9	3	14	125	705	23	48	346	158

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1125	1499	252	1238
Stage 1	521	521	-	967
Stage 2	604	978	-	271
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	160	121	748	132
Stage 1	507	530	-	273
Stage 2	452	327	-	712
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	133	101	748	109
Mov Cap-2 Maneuver	133	101	-	109
Stage 1	447	501	-	241
Stage 2	385	288	-	648

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	25.4	1.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1057	-	-	123	748	109	301	871	-	-
HCM Lane V/C Ratio	0.118	-	-	0.106	0.031	0.08	0.058	0.055	-	-
HCM Control Delay (s)	8.9	-	-	37.7	10	40.9	17.7	9.4	-	-
HCM Lane LOS	A	-	-	E	B	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.1	0.3	0.2	0.2	-	-



2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕			↕	↔
Traffic Volume (vph)	0	0	0	183	68	51	368	437	0	0	140	117
Future Volume (vph)	0	0	0	183	68	51	368	437	0	0	140	117
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
Adj. Flow (vph)	0	0	0	201	75	56	404	480	0	0	154	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	201	75	56	404	480	0	0	154	129
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.3	27.3	27.3	46.3	50.9			34.8	34.8
Actuated g/C Ratio				0.31	0.31	0.31	0.53	0.58			0.40	0.40
v/c Ratio				0.36	0.07	0.10	0.56	0.44			0.08	0.18
Control Delay				24.8	20.4	0.7	20.0	14.8			18.3	4.8
Queue Delay				0.0	0.0	0.0	0.1	0.4			0.0	0.0
Total Delay				24.8	20.4	0.7	20.1	15.2			18.3	4.8
LOS				C	C	A	C	B			B	A
Approach Delay					19.7			17.5				12.1
Approach LOS					B			B				B
Queue Length 50th (ft)				83	14	0	103	222			18	0
Queue Length 95th (ft)				147	31	3	327	386			39	38
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				747	1494	731	903	1282			2029	709
Starvation Cap Reductn				0	0	0	62	385			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				0.27	0.05	0.08	0.48	0.54			0.08	0.18

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	87.2
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	17.0
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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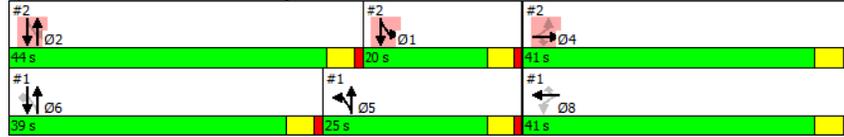
2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM

Intersection Capacity Utilization 65.4%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↔	↔	↕↕	
Traffic Volume (vph)	373	231	384	0	0	0	0	509	216	69	194	0
Future Volume (vph)	373	231	384	0	0	0	0	509	216	69	194	0
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
Adj. Flow (vph)	414	257	427	0	0	0	0	566	240	77	216	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	257	427	0	0	0	0	566	240	77	216	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	27.3	27.3	27.3					39.9	39.9	46.3	50.9	
Actuated g/C Ratio	0.31	0.31	0.31					0.46	0.46	0.53	0.58	
v/c Ratio	0.75	0.23	0.54					0.35	0.28	0.17	0.10	
Control Delay	35.9	22.3	5.1					17.5	3.5	19.1	14.9	
Queue Delay	0.4	0.0	0.0					0.0	0.0	0.0	0.1	
Total Delay	36.2	22.3	5.1					17.5	3.5	19.1	15.0	
LOS	D	C	A					B	A	B	B	
Approach Delay		20.8						13.3			16.1	
Approach LOS		C						B			B	
Queue Length 50th (ft)	198	53	0					102	0	26	38	
Queue Length 95th (ft)	318	86	62					178	46	58	66	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	747	1494	915					1617	853	646	2436	
Starvation Cap Reductn	0	0	0					0	0	89	1447	
Spillback Cap Reductn	70	0	0					127	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.61	0.17	0.47					0.38	0.28	0.14	0.22	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 87.2												
Natural Cycle: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.75												
Intersection Signal Delay: 17.4												
Intersection LOS: B												

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Intersection Capacity Utilization 65.4%
Analysis Period (min) 15
ICU Level of Service C

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	9	0	730	525	62
Future Vol, veh/h	0	9	0	730	525	62
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	-	170	-	-	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	0	10	0	793	571	67

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	968	286	638	0	- 0
Stage 1	571	-	-	-	-
Stage 2	397	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	251	711	942	-	-
Stage 1	529	-	-	-	-
Stage 2	648	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	251	711	942	-	-
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	529	-	-	-	-
Stage 2	648	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	942	-	711	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	11	42	674	1	22	514
Future Vol, veh/h	11	42	674	1	22	514
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	48	775	1	25	591

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1122	388	0 0	776	0
Stage 1	776	-	-	-	-
Stage 2	346	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	200	611	-	-	836
Stage 1	414	-	-	-	-
Stage 2	688	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	194	611	-	-	836
Mov Cap-2 Maneuver	194	-	-	-	-
Stage 1	414	-	-	-	-
Stage 2	667	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	194	611	836	-
HCM Lane V/C Ratio	-	-	0.065	0.079	0.03	-
HCM Control Delay (s)	-	-	24.8	11.4	9.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2024 Background
 Timing Plan: PM

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	140	16	57	15	8	61	5	460	8	35	444	27
Future Vol, veh/h	140	16	57	15	8	61	5	460	8	35	444	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	152	17	62	16	9	66	5	500	9	38	483	29

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	839	1093	256	841
Stage 1	574	574	-	515
Stage 2	265	519	-	326
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	259	213	743	258
Stage 1	471	501	-	511
Stage 2	717	531	-	661
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	221	204	743	214
Mov Cap-2 Maneuver	221	204	-	214
Stage 1	469	483	-	508
Stage 2	639	528	-	563

Approach	EB	WB	NB	SB
HCM Control Delay, s	48	14.2	0.1	0.6
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1050	-	-	219	743	214	567	1052	-	-
HCM Lane V/C Ratio	0.005	-	-	0.774	0.083	0.076	0.132	0.036	-	-
HCM Control Delay (s)	8.4	-	-	61.8	10.3	23.2	12.3	8.6	-	-
HCM Lane LOS	A	-	-	F	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	5.5	0.3	0.2	0.5	0.1	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
Future Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
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
Adj. Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				20.5	20.5	20.5	52.8	57.3			27.6	27.6
Actuated g/C Ratio				0.24	0.24	0.24	0.61	0.66			0.32	0.32
v/c Ratio				1.17	0.21	0.13	0.90	0.21			0.10	0.32
Control Delay				133.7	28.3	0.6	29.9	3.0			21.9	5.1
Queue Delay				0.5	0.0	0.0	50.1	0.6			0.0	0.0
Total Delay				134.2	28.3	0.6	80.0	3.6			22.0	5.1
LOS				F	C	A	E	A			C	A
Approach Delay							96.9				12.5	
Approach LOS							F				B	
Queue Length 50th (ft)				-346	43	0	430	24			24	0
Queue Length 95th (ft)				#536	72	2	#658	35			40	48
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				418	837	471	962	1299			1612	643
Starvation Cap Reductn				0	0	0	317	721			0	0
Spillback Cap Reductn				22	0	0	0	0			269	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				1.24	0.21	0.13	1.25	0.44			0.12	0.32

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	86.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.17
Intersection Signal Delay:	65.2
Intersection LOS:	E

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 99.2%

ICU Level of Service F

Analysis Period (min) 15

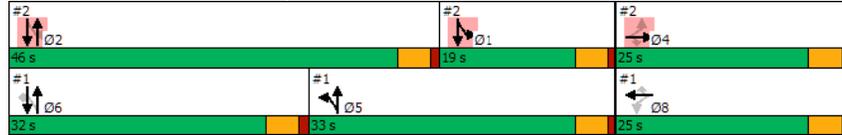
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↕↕	↔	↕↕	↔
Traffic Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
Future Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
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
Adj. Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	20.5	20.5	20.5					41.6	41.6	52.8	57.3	
Actuated g/C Ratio	0.24	0.24	0.24					0.48	0.48	0.61	0.66	
v/c Ratio	0.41	0.33	0.77					0.56	0.16	0.29	0.23	
Control Delay	32.4	29.4	17.3					18.2	3.2	25.3	14.7	
Queue Delay	0.0	0.0	0.0					0.4	0.0	0.2	2.7	
Total Delay	32.4	29.4	17.3					18.6	3.2	25.5	17.5	
LOS	C	C	B					B	A	C	B	
Approach Delay		23.4						16.7			18.9	
Approach LOS		C						B			B	
Queue Length 50th (ft)	84	68	60					200	0	56	162	
Queue Length 95th (ft)	144	104	#229					261	30	m60	m151	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	418	837	676					1693	826	482	2469	
Starvation Cap Reductn	0	0	0					0	0	84	1795	
Spillback Cap Reductn	0	0	0					285	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.41	0.33	0.77					0.67	0.16	0.30	0.78	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 86.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 19.7

Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 99.2% ICU Level of Service F

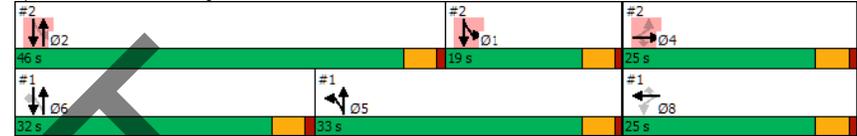
Analysis Period (min) 15

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: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓					↑
Traffic Vol, veh/h	217	257	0	0	0	80
Future Vol, veh/h	217	257	0	0	0	80
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
Veh in Median Storage, #	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	236	279	0	0	0	87

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	0
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	10.5
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	741	-	-
HCM Lane V/C Ratio	0.117	-	-
HCM Control Delay (s)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2024 Background Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	48.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓			↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
Traffic Vol, veh/h	0	0	6	58	0	275	0	702	95	330	587	32
Future Vol, veh/h	0	0	6	58	0	275	0	702	95	330	587	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	7	63	0	299	0	763	103	359	638	35

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1738	2222	319	1852
Stage 1	1356	1356	-	815
Stage 2	382	866	-	1037
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	56	43	677	-
Stage 1	157	216	-	338
Stage 2	612	369	-	247
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	10	11	677	-
Mov Cap-2 Maneuver	10	11	-	-
Stage 1	157	55	-	338
Stage 2	292	369	-	62

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	287.1	0	6.2
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	677	18	571	773	-	-
HCM Lane V/C Ratio	-	-	-	0.01	3.502	0.523	0.464	-	-
HCM Control Delay (s)	0	-	-	10.5	1563.2	18	13.6	2.4	-
HCM Lane LOS	A	-	-	B	F	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	8.4	3	2.5	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	12	45	754	24	81	572
Future Vol, veh/h	12	45	754	24	81	572
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	52	867	28	93	657

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1396	448	0	895
Stage 1	881	-	-	-
Stage 2	515	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	132	558	-	754
Stage 1	365	-	-	-
Stage 2	565	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	116	558	-	754
Mov Cap-2 Maneuver	116	-	-	-
Stage 1	365	-	-	-
Stage 2	496	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	116	558	754	-
HCM Lane V/C Ratio	-	-	0.119	0.093	0.123	-
HCM Control Delay (s)	-	-	40.2	12.1	10.4	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.4	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	15	45	28	0	0	9
Future Vol, veh/h	15	45	28	0	0	9
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	-
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	16	49	30	0	0	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	30	0	111
Stage 1	-	-	30
Stage 2	-	-	81
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1583	-	886
Stage 1	-	-	993
Stage 2	-	-	942
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	877
Mov Cap-2 Maneuver	-	-	877
Stage 1	-	-	983
Stage 2	-	-	942

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	1044
HCM Lane V/C Ratio	0.01	-	-	-	0.009
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	9	5	0	0	22
Future Vol, veh/h	37	9	5	0	0	22
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	-
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	40	10	5	0	0	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	5	0	-	0	95
Stage 1	-	-	-	-	5
Stage 2	-	-	-	-	90
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1616	-	-	-	905
Stage 1	-	-	-	-	1018
Stage 2	-	-	-	-	934
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	882
Mov Cap-2 Maneuver	-	-	-	-	882
Stage 1	-	-	-	-	993
Stage 2	-	-	-	-	934

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	1078
HCM Lane V/C Ratio	0.025	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	21	8	3	13	115	760	21	44	385	145
Future Vol, veh/h	9	3	21	8	3	13	115	760	21	44	385	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
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	10	3	23	9	3	14	125	826	23	48	418	158

Major/Minor	Minor2	Minor1	Major1	Major2		
Conflicting Flow All	1258	1692	288	1395	1760	425
Stage 1	593	593	-	1088	1088	-
Stage 2	665	1099	-	307	672	-
Critical Hdwy	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	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	128	92	709	101	84	578
Stage 1	459	492	-	230	290	-
Stage 2	416	287	-	678	453	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	76	709	82	69	578
Mov Cap-2 Maneuver	104	76	-	82	69	-
Stage 1	401	462	-	201	253	-
Stage 2	350	251	-	612	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.2	32	1.2	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	993	-	-	95	709	82	243	785	-	-
HCM Lane V/C Ratio	0.126	-	-	0.137	0.032	0.106	0.072	0.061	-	-
HCM Control Delay (s)	9.1	-	-	48.8	10.2	54	21	9.9	-	-
HCM Lane LOS	A	-	-	E	B	F	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.5	0.1	0.3	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	0	0	0	330	68	51	707	466	0	0	176	117
Future Volume (vph)	0	0	0	330	68	51	707	466	0	0	176	117
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
Adj. Flow (vph)	0	0	0	363	75	56	777	512	0	0	193	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	363	75	56	777	512	0	0	193	129
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0			5.0	5.0	
Minimum Split (s)				22.5	22.5	22.5	9.5			22.5	22.5	
Total Split (s)				41.0	41.0	41.0	25.0			39.0	39.0	
Total Split (%)				39.0%	39.0%	39.0%	23.8%			37.1%	37.1%	
Yellow Time (s)				3.5	3.5	3.5	3.5			3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0	1.0			1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0			0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5	4.5			4.5	4.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode				None	None	None	None			Max	Max	
Act Effct Green (s)				31.7	31.7	31.7	55.2	59.7		34.6	34.6	
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.59		0.34	0.34	
v/c Ratio				0.65	0.07	0.10	1.02	0.46		0.11	0.20	
Control Delay				35.4	23.4	0.6	59.6	10.4		23.7	5.4	
Queue Delay				0.0	0.0	0.0	30.9	2.8		0.0	0.0	
Total Delay				35.4	23.4	0.6	90.5	13.3		23.7	5.4	
LOS				D	C	A	F	B		C	A	
Approach Delay					29.6			59.8			16.4	
Approach LOS					C			E			B	
Queue Length 50th (ft)				198	17	0	-599	111		32	0	
Queue Length 95th (ft)				296	33	3	#842	218		51	40	
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				645	1290	646	763	1107		1752	630	
Starvation Cap Reductn				0	0	0	174	467		0	0	
Spillback Cap Reductn				0	0	0	0	0		64	0	
Storage Cap Reductn				0	0	0	0	0		0	0	
Reduced v/c Ratio				0.56	0.06	0.09	1.32	0.80		0.11	0.20	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 100.5												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.02												
Intersection Signal Delay: 46.1												
Intersection LOS: D												

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 99.6%

ICU Level of Service F

Analysis Period (min) 15

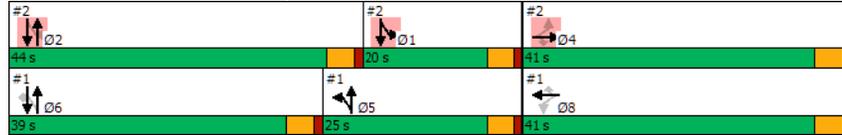
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↕↕	↔	↕↕	↔
Traffic Volume (vph)	373	414	641	0	0	0	0	876	228	143	304	0
Future Volume (vph)	373	414	641	0	0	0	0	876	228	143	304	0
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
Adj. Flow (vph)	414	460	712	0	0	0	0	973	253	159	338	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	460	712	0	0	0	0	973	253	159	338	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	31.7	31.7	31.7					39.7	39.7	55.2	59.7	
Actuated g/C Ratio	0.32	0.32	0.32					0.40	0.40	0.55	0.59	
v/c Ratio	0.74	0.41	0.84					0.70	0.33	0.42	0.16	
Control Delay	39.4	27.9	19.0					29.5	5.8	44.7	18.4	
Queue Delay	3.7	0.0	0.0					1.2	0.0	0.0	1.0	
Total Delay	43.1	27.9	19.0					30.7	5.8	44.7	19.4	
LOS	D	C	B					C	A	D	B	
Approach Delay		27.9						25.5			27.5	
Approach LOS		C						C			C	
Queue Length 50th (ft)	235	121	124					289	13	75	84	
Queue Length 95th (ft)	346	165	306					368	64	166	122	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	645	1290	899					1396	759	383	2103	
Starvation Cap Reductn	0	0	0					0	0	0	1486	
Spillback Cap Reductn	150	0	0					214	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.84	0.36	0.79					0.82	0.33	0.42	0.55	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 100.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 27.0

Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

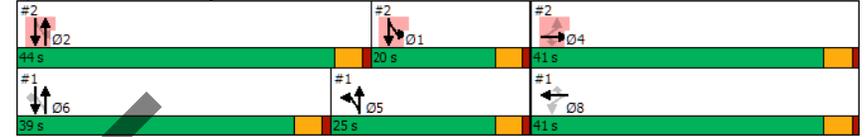
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 99.6%
Analysis Period (min) 15

ICU Level of Service F

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	528	257	0	0	0	102
Future Vol, veh/h	528	257	0	0	0	102
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
Veh in Median Storage, #	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	574	279	0	0	0	111

Major/Minor	Major1	Minor1
Conflicting Flow All	0	427
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	6.94
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.32
Pot Cap-1 Maneuver	-	576
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	576
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	12.7
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	576	-	-
HCM Lane V/C Ratio	0.192	-	-
HCM Control Delay (s)	12.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2024 Background Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	95.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑	↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	0	0	8	74	0	351	0	758	96	331	562	57
Future Vol, veh/h	0	0	8	74	0	351	0	758	96	331	562	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	9	80	0	382	0	824	104	360	611	62

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1743	2259	306	1902
Stage 1	1331	1331	-	876
Stage 2	412	928	-	1026
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	55	41	690	-
Stage 1	163	222	-	310
Stage 2	588	345	-	251
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	6	8	690	-
Mov Cap-2 Maneuver	6	8	-	14
Stage 1	163	46	-	310
Stage 2	176	345	-	51

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	\$ 486.6	0	6.6
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	690	14	545	733	-	-
HCM Lane V/C Ratio	-	-	-	0.013	5.745	0.7	0.491	-	-
HCM Control Delay (s)	0	-	-	10.3	2673.3	25.6	14.6	2.6	-
HCM Lane LOS	A	-	-	B	F	D	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	11	5.5	2.7	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	22	70	770	16	58	588
Future Vol, veh/h	22	70	770	16	58	588
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	80	885	18	67	676

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1366	452	0	903
Stage 1	894	-	-	-
Stage 2	472	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	138	555	-	749
Stage 1	360	-	-	-
Stage 2	594	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	126	555	-	749
Mov Cap-2 Maneuver	126	-	-	-
Stage 1	360	-	-	-
Stage 2	541	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	126	555	749	-
HCM Lane V/C Ratio	-	-	0.201	0.145	0.089	-
HCM Control Delay (s)	-	-	40.6	12.6	10.3	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.3	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	15	43	32	0	0	11
Future Vol, veh/h	15	43	32	0	0	11
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	-
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	16	47	35	0	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	35	0	114
Stage 1	-	-	35
Stage 2	-	-	79
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1576	-	882
Stage 1	-	-	987
Stage 2	-	-	944
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1576	-	873
Mov Cap-2 Maneuver	-	-	873
Stage 1	-	-	977
Stage 2	-	-	944

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	1038
HCM Lane V/C Ratio	0.01	-	-	-	0.012
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	6	3	0	0	28
Future Vol, veh/h	37	6	3	0	0	28
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	-
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	40	7	3	0	0	30

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	3	0	90
Stage 1	-	-	3
Stage 2	-	-	87
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1619	-	910
Stage 1	-	-	1020
Stage 2	-	-	936
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1619	-	887
Mov Cap-2 Maneuver	-	-	887
Stage 1	-	-	995
Stage 2	-	-	936

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.025	-	-	-	0.028
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	15.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	140	16	57	15	8	61	5	570	8	35	529	27
Future Vol, veh/h	140	16	57	15	8	61	5	570	8	35	529	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
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	152	17	62	16	9	66	5	620	9	38	575	29

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	991	1305	302	1007
Stage 1	666	666	-	635
Stage 2	325	639	-	372
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	200	159	694	195
Stage 1	415	456	-	433
Stage 2	661	469	-	621
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	167	152	694	157
Mov Cap-2 Maneuver	167	152	-	157
Stage 1	413	438	-	431
Stage 2	583	467	-	521

Approach	EB	WB	NB	SB
HCM Control Delay, s	100.8	16.8	0.1	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	970	-	-	165	694	157	483	949	-	-
HCM Lane V/C Ratio	0.006	-	-	1.028	0.089	0.104	0.155	0.04	-	-
HCM Control Delay (s)	8.7	-	-	133.7	10.7	30.6	13.8	9	-	-
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	8.3	0.3	0.3	0.5	0.1	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	0	0	0	315	171	60	489	220	0	0	118	198
Future Volume (vph)	0	0	0	315	171	60	489	220	0	0	118	198
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
Adj. Flow (vph)	0	0	0	346	188	66	537	242	0	0	130	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	346	188	66	537	242	0	0	130	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				19.2	19.2	19.2	47.9	52.4			27.5	27.5
Actuated g/C Ratio				0.24	0.24	0.24	0.59	0.65			0.34	0.34
v/c Ratio				0.82	0.22	0.14	0.62	0.20			0.07	0.32
Control Delay				46.6	25.4	1.2	14.1	4.1			18.6	4.5
Queue Delay				0.0	0.0	0.0	0.4	0.2			0.0	0.0
Total Delay				46.6	25.4	1.2	14.6	4.3			18.6	4.5
LOS				D	C	A	B	A			B	A
Approach Delay					34.9			11.4			9.8	
Approach LOS					C			B			A	
Queue Length 50th (ft)				165	40	0	66	29			16	0
Queue Length 95th (ft)				#301	68	5	312	46			30	45
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				450	901	497	1050	1400			1737	684
Starvation Cap Reductn				0	0	0	177	638			0	0
Spillback Cap Reductn				0	0	0	0	0			99	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.77	0.21	0.13	0.62	0.32			0.08	0.32

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	80.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	19.2
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: AM

Intersection Capacity Utilization 70.1%

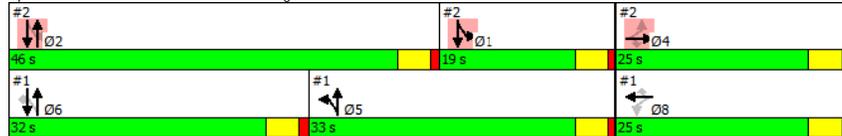
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↕↕	↕					↕↕	↕	↕	↕↕	
Traffic Volume (vph)	162	67	224	0	0	0	0	590	116	35	382	0
Future Volume (vph)	162	67	224	0	0	0	0	590	116	35	382	0
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
Adj. Flow (vph)	180	74	249	0	0	0	0	656	129	39	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	74	249	0	0	0	0	656	129	39	424	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	19.2	19.2	19.2					41.6	41.6	47.9	52.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.52	0.52	0.59	0.65	
v/c Ratio	0.43	0.09	0.44					0.36	0.15	0.08	0.18	
Control Delay	29.6	24.1	6.3					12.6	2.6	12.3	13.3	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.4	
Total Delay	29.6	24.1	6.3					12.6	2.6	12.3	13.7	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.3						11.0			13.6	
Approach LOS		B						B			B	
Queue Length 50th (ft)	77	15	0					100	0	15	92	
Queue Length 95th (ft)	137	32	55					142	26	m23	m156	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	450	901	588					1824	878	660	2660	
Starvation Cap Reductn	0	0	0					0	0	0	1666	
Spillback Cap Reductn	0	0	0					112	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.40	0.08	0.42					0.38	0.15	0.06	0.43	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 13.5
Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

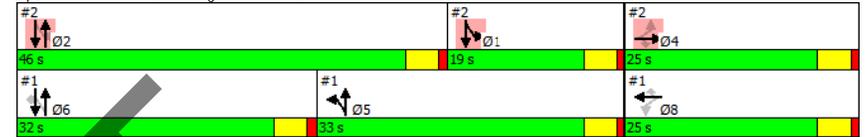
2029 Horizon
Timing Plan: AM

Intersection Capacity Utilization 70.1% ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2029 Horizon
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	7	0	714	578	36
Future Vol, veh/h	0	7	0	714	578	36
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	-	170	-	-	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	0	8	0	776	628	39
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1016	314	667	0	-	0
Stage 1	628	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	234	682	919	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	234	682	919	-	-	-
Mov Cap-2 Maneuver	234	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	10.3	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	919	-	682	-	-	
HCM Lane V/C Ratio	-	-	0.011	-	-	
HCM Control Delay (s)	0	-	10.3	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	24	692	10	47	540
Future Vol, veh/h	3	24	692	10	47	540
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	28	795	11	54	621
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1220	403	0	0	806	0
Stage 1	801	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	172	597	-	-	814	-
Stage 1	402	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	161	597	-	-	814	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.1	0	0.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	161	597	814	-
HCM Lane V/C Ratio	-	-	0.021	0.046	0.066	-
HCM Control Delay (s)	-	-	27.8	11.3	9.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	22	8	3	14	121	683	22	47	334	152
Future Vol, veh/h	9	3	22	8	3	14	121	683	22	47	334	152
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	10	3	24	9	3	15	132	742	24	51	363	165

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1185	1578	264	1303
Stage 1	548	548	-	1018
Stage 2	637	1030	-	285
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	144	108	734	118
Stage 1	488	515	-	254
Stage 2	432	309	-	698
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	117	89	734	96
Mov Cap-2 Maneuver	117	89	-	96
Stage 1	426	484	-	221
Stage 2	363	269	-	630

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	27.5	1.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1035	-	-	108	734	96	282	843	-	-
HCM Lane V/C Ratio	0.127	-	-	0.121	0.033	0.091	0.066	0.061	-	-
HCM Control Delay (s)	9	-	-	42.9	10.1	46.2	18.7	9.5	-	-
HCM Lane LOS	A	-	-	E	B	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	0.1	0.3	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔		↕	↔
Traffic Volume (vph)	0	0	0	192	72	53	387	460	0	0	147	123
Future Volume (vph)	0	0	0	192	72	53	387	460	0	0	147	123
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
Adj. Flow (vph)	0	0	0	211	79	58	425	505	0	0	162	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	211	79	58	425	505	0	0	162	135
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				28.4	28.4	28.4	46.9	51.5			34.8	34.8
Actuated g/C Ratio				0.32	0.32	0.32	0.53	0.58			0.39	0.39
v/c Ratio				0.37	0.07	0.10	0.60	0.47			0.08	0.19
Control Delay				25.2	20.8	0.9	21.7	15.6			19.3	4.9
Queue Delay				0.0	0.0	0.0	0.2	0.5			0.0	0.0
Total Delay				25.2	20.8	0.9	21.9	16.1			19.3	4.9
LOS				C	C	A	C	B			B	A
Approach Delay					20.2			18.7				12.8
Approach LOS					C			B				B
Queue Length 50th (ft)				88	15	0	120	251			20	0
Queue Length 95th (ft)				162	34	4	358	424			42	40
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				733	1465	719	881	1258			1990	701
Starvation Cap Reductn				0	0	0	68	365			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				0.29	0.05	0.08	0.52	0.57			0.08	0.19

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	89
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.9
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM

Intersection Capacity Utilization 68.2%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗	↔	↕	↗	↔	↕	↗	↔	↕	↗
Traffic Volume (vph)	392	242	404	0	0	0	0	535	228	73	204	0
Future Volume (vph)	392	242	404	0	0	0	0	535	228	73	204	0
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
Adj. Flow (vph)	436	269	449	0	0	0	0	594	253	81	227	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	436	269	449	0	0	0	0	594	253	81	227	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	28.4	28.4	28.4					39.9	39.9	46.9	51.5	
Actuated g/C Ratio	0.32	0.32	0.32					0.45	0.45	0.53	0.58	
v/c Ratio	0.77	0.24	0.55					0.37	0.30	0.18	0.11	
Control Delay	37.4	22.5	5.1					18.7	3.7	20.1	15.4	
Queue Delay	1.0	0.0	0.0					0.1	0.0	0.1	0.2	
Total Delay	38.4	22.5	5.1					18.7	3.7	20.2	15.5	
LOS	D	C	A					B	A	C	B	
Approach Delay		21.8						14.2			16.8	
Approach LOS		C						B			B	
Queue Length 50th (ft)	212	56	0					111	0	27	41	
Queue Length 95th (ft)	356	95	65					197	49	61	71	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	733	1465	918					1586	848	616	2389	
Starvation Cap Reductn	0	0	0					0	0	89	1444	
Spillback Cap Reductn	118	0	0					127	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.71	0.18	0.49					0.41	0.30	0.15	0.24	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 89												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.77												
Intersection Signal Delay: 18.3												
Intersection LOS: B												

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

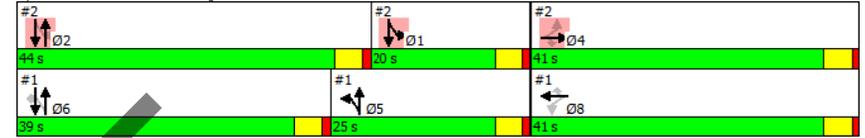
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Intersection Capacity Utilization 68.2%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2029 Horizon
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	9	0	767	552	65
Future Vol, veh/h	0	9	0	767	552	65
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	-	170	-	-	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	0	10	0	834	600	71

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1017	300	671	0	0
Stage 1	600	-	-	-	-
Stage 2	417	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	234	696	915	-	-
Stage 1	511	-	-	-	-
Stage 2	633	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	234	696	915	-	-
Mov Cap-2 Maneuver	234	-	-	-	-
Stage 1	511	-	-	-	-
Stage 2	633	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	915	-	696	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	11	44	709	1	23	540
Future Vol, veh/h	11	44	709	1	23	540
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	51	815	1	26	621

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1179	408	0	0	816
Stage 1	816	-	-	-	-
Stage 2	363	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	183	593	-	-	807
Stage 1	395	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	177	593	-	-	807
Mov Cap-2 Maneuver	177	-	-	-	-
Stage 1	395	-	-	-	-
Stage 2	652	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	177	593	807	-
HCM Lane V/C Ratio	-	-	0.071	0.085	0.033	-
HCM Control Delay (s)	-	-	26.9	11.6	9.6	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon
Timing Plan: PM

Intersection												
Int Delay, s/veh	12.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	147	17	60	16	8	64	6	484	8	36	466	28
Future Vol, veh/h	147	17	60	16	8	64	6	484	8	36	466	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	160	18	65	17	9	70	7	526	9	39	507	30
Major/Minor	Minor2	Minor1	Major1	Major2								
Conflicting Flow All	882	1149	269	886	1160	268	537	0	0	535	0	0
Stage 1	600	600	-	545	545	-	-	-	-	-	-	-
Stage 2	282	549	-	341	615	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	241	197	729	239	194	730	1027	-	-	1029	-	-
Stage 1	455	488	-	490	517	-	-	-	-	-	-	-
Stage 2	701	515	-	647	480	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	203	188	729	195	185	730	1027	-	-	1029	-	-
Mov Cap-2 Maneuver	203	188	-	195	185	-	-	-	-	-	-	-
Stage 1	452	469	-	487	513	-	-	-	-	-	-	-
Stage 2	619	511	-	544	462	-	-	-	-	-	-	-
Approach	EB	WB	NB	SB								
HCM Control Delay, s	65.6	14.9	0.1	0.6								
HCM LOS	F	B										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1027	-	-	201	729	195	550	1029	-	-		
HCM Lane V/C Ratio	0.006	-	-	0.887	0.089	0.089	0.142	0.038	-	-		
HCM Control Delay (s)	8.5	-	-	85.8	10.4	25.3	12.6	8.6	-	-		
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-		
HCM 95th %tile Q(veh)	0	-	-	6.9	0.3	0.3	0.5	0.1	-	-		

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔		↕	↔
Traffic Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
Future Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
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
Adj. Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				20.5	20.5	20.5	53.8	58.3			27.5	27.5
Actuated g/C Ratio				0.23	0.23	0.23	0.61	0.66			0.31	0.31
v/c Ratio				1.23	0.23	0.14	0.92	0.22			0.11	0.34
Control Delay				155.1	28.8	1.1	32.9	3.0			22.3	5.1
Queue Delay				0.7	0.0	0.0	49.2	0.7			0.0	0.0
Total Delay				155.8	28.8	1.1	82.1	3.8			22.3	5.1
LOS				F	C	A	F	A			C	A
Approach Delay					111.0			63.1				12.6
Approach LOS					F			E				B
Queue Length 50th (ft)				-366	46	0	454	25			25	0
Queue Length 95th (ft)				#557	75	4	#695	38			41	50
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				413	827	467	948	1284			1593	646
Starvation Cap Reductn				0	0	0	317	718			0	0
Spillback Cap Reductn				29	0	0	0	0			272	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				1.32	0.23	0.14	1.32	0.47			0.13	0.34
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 87.9												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.23												
Intersection Signal Delay: 70.7	Intersection LOS: E											

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: AM

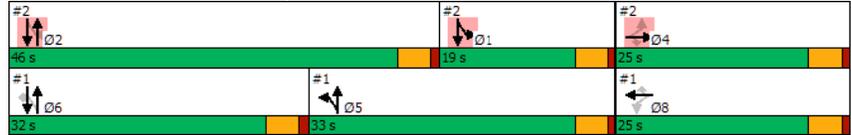
Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 102.1%
ICU Level of Service G
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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↘					↖	↗	↘	↕	↖
Traffic Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
Future Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
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
Adj. Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	20.5	20.5	20.5					41.6	41.6	53.8	58.3	
Actuated g/C Ratio	0.23	0.23	0.23					0.47	0.47	0.61	0.66	
v/c Ratio	0.44	0.34	0.81					0.58	0.17	0.29	0.23	
Control Delay	33.4	29.9	20.7					19.0	3.2	26.7	14.9	
Queue Delay	0.0	0.0	0.0					0.5	0.0	0.3	4.0	
Total Delay	33.4	29.9	20.7					19.5	3.2	26.9	18.9	
LOS	C	C	C					B	A	C	B	
Approach Delay		25.6						17.5			20.4	
Approach LOS		C						B			C	
Queue Length 50th (ft)	88	70	78					209	0	57	168	
Queue Length 95th (ft)	152	106	#259					272	31	m60	m150	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	413	827	661					1673	821	463	2439	
Starvation Cap Reductn	0	0	0					0	0	84	1787	
Spillback Cap Reductn	0	0	0					293	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.44	0.34	0.81					0.71	0.17	0.32	0.84	

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 87.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 21.1
 Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G

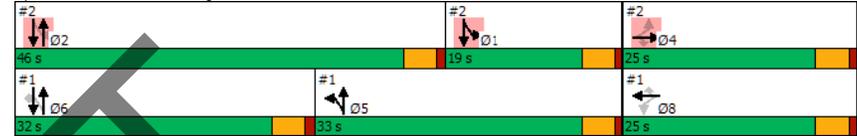
Analysis Period (min) 15

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: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	227	257	0	0	0	80
Future Vol, veh/h	227	257	0	0	0	80
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
Veh in Median Storage, #	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	247	279	0	0	0	87

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	0
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	735	-	-
HCM Lane V/C Ratio	0.118	-	-
HCM Control Delay (s)	10.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	62.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑	↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	0	0	6	58	0	275	0	737	95	330	615	32
Future Vol, veh/h	0	0	6	58	0	275	0	737	95	330	615	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	7	63	0	299	0	801	103	359	668	35

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1787	2290	334	1905
Stage 1	1386	1386	-	853
Stage 2	401	904	-	1052
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	51	39	662	-
Stage 1	151	209	-	320
Stage 2	597	354	-	242
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	8	8	662	-
Mov Cap-2 Maneuver	8	8	-	14
Stage 1	151	43	-	320
Stage 2	275	354	-	50

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	\$ 384.6	0	6.5
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	890	-	-	662	14	555	748	-	-
HCM Lane V/C Ratio	-	-	-	0.01	4.503	0.539	0.48	-	-
HCM Control Delay (s)	0	-	-	10.5	2119.1	18.8	14.2	2.7	-
HCM Lane LOS	A	-	-	B	F	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	8.8	3.2	2.6	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕	↕	↔	↔
Traffic Vol, veh/h	12	46	787	25	83	598
Future Vol, veh/h	12	46	787	25	83	598
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	53	905	29	95	687

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1454	467	0	934
Stage 1	920	-	-	-
Stage 2	534	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	121	542	-	729
Stage 1	349	-	-	-
Stage 2	552	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	105	542	-	729
Mov Cap-2 Maneuver	105	-	-	-
Stage 1	349	-	-	-
Stage 2	480	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	105	542	729	-
HCM Lane V/C Ratio	-	-	0.131	0.098	0.131	-
HCM Control Delay (s)	-	-	44.4	12.4	10.7	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.4	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	15	46	28	0	0	9
Future Vol, veh/h	15	46	28	0	0	9
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	-
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	16	50	30	0	0	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	30	0	112
Stage 1	-	-	30
Stage 2	-	-	82
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1583	-	885
Stage 1	-	-	993
Stage 2	-	-	941
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	876
Mov Cap-2 Maneuver	-	-	876
Stage 1	-	-	983
Stage 2	-	-	941

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	1044
HCM Lane V/C Ratio	0.01	-	-	-	0.009
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	9	6	0	0	22
Future Vol, veh/h	37	9	6	0	0	22
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	-
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	40	10	7	0	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	7	0	97
Stage 1	-	-	7
Stage 2	-	-	90
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1614	-	902
Stage 1	-	-	1016
Stage 2	-	-	934
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1614	-	879
Mov Cap-2 Maneuver	-	-	879
Stage 1	-	-	991
Stage 2	-	-	934

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1614	-	-	-	1075
HCM Lane V/C Ratio	0.025	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	22	8	3	14	121	793	22	47	401	152
Future Vol, veh/h	9	3	22	8	3	14	121	793	22	47	401	152
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	-
Grade, %	-	0	-	0	-	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	10	3	24	9	3	15	132	862	24	51	436	165

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1318	1771	301	1460
Stage 1	621	621	-	1138
Stage 2	697	1150	-	322
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	115	82	695	90
Stage 1	442	477	-	214
Stage 2	398	271	-	664
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	91	66	695	71
Mov Cap-2 Maneuver	91	66	-	71
Stage 1	382	445	-	185
Stage 2	330	234	-	594

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.6	35.2	1.2	0.8
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	83	695	71	227	760	-	-
HCM Lane V/C Ratio	0.135	-	-	0.157	0.034	0.122	0.081	0.067	-	-
HCM Control Delay (s)	9.3	-	-	56.3	10.4	62.7	22.3	10.1	-	-
HCM Lane LOS	A	-	-	F	B	F	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.5	0.1	0.4	0.3	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔		↕	↔
Traffic Volume (vph)	0	0	0	339	72	53	726	488	0	0	183	123
Future Volume (vph)	0	0	0	339	72	53	726	488	0	0	183	123
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
Adj. Flow (vph)	0	0	0	373	79	58	798	536	0	0	201	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	373	79	58	798	536	0	0	201	135
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0			5.0	5.0	
Minimum Split (s)				22.5	22.5	22.5	9.5			22.5	22.5	
Total Split (s)				41.0	41.0	41.0	25.0			39.0	39.0	
Total Split (%)				39.0%	39.0%	39.0%	23.8%			37.1%	37.1%	
Yellow Time (s)				3.5	3.5	3.5	3.5			3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0	1.0			1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0			0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5	4.5			4.5	4.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode				None	None	None	None			Max	Max	
Act Effct Green (s)				32.5	32.5	32.5	55.2	59.7		34.6	34.6	
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.59		0.34	0.34	
v/c Ratio				0.66	0.07	0.10	1.06	0.49		0.12	0.21	
Control Delay				35.5	23.4	0.8	71.3	11.0		24.0	5.4	
Queue Delay				0.0	0.0	0.0	17.8	3.9		0.0	0.0	
Total Delay				35.5	23.4	0.8	89.1	14.8		24.0	5.4	
LOS				D	C	A	F	B		C	A	
Approach Delay					29.7			59.2			16.5	
Approach LOS					C			E			B	
Queue Length 50th (ft)				205	18	0	-636	129		34	0	
Queue Length 95th (ft)				305	35	4	#877	250		53	41	
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				640	1280	642	754	1098		1738	629	
Starvation Cap Reductn				0	0	0	174	463		0	0	
Spillback Cap Reductn				0	0	0	0	0		67	0	
Storage Cap Reductn				0	0	0	0	0		0	0	
Reduced v/c Ratio				0.58	0.06	0.09	1.38	0.84		0.12	0.21	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 101.2												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.06												
Intersection Signal Delay: 45.7												
Intersection LOS: D												

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	01	02	04	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	
Total Split (s)	20.0	44.0	41.0	
Total Split (%)	19%	42%	39%	
Yellow Time (s)	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	Max	None	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
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				

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 102.4% ICU Level of Service G

Analysis Period (min) 15

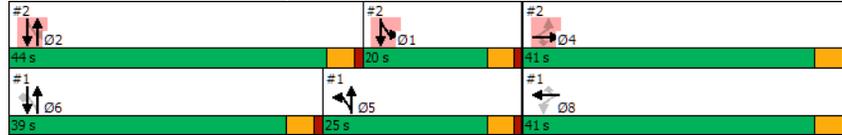
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↔	↔	↕	↕	↔	↔	↕	↕
Traffic Volume (vph)	392	426	661	0	0	0	0	902	239	146	314	0
Future Volume (vph)	392	426	661	0	0	0	0	902	239	146	314	0
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
Adj. Flow (vph)	436	473	734	0	0	0	0	1002	266	162	349	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	436	473	734	0	0	0	0	1002	266	162	349	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	32.5	32.5	32.5					39.6	39.6	55.2	59.7	
Actuated g/C Ratio	0.32	0.32	0.32					0.39	0.39	0.55	0.59	
v/c Ratio	0.77	0.42	0.87					0.72	0.35	0.44	0.17	
Control Delay	40.7	27.8	22.5					30.6	6.2	47.0	18.6	
Queue Delay	5.8	0.0	0.0					1.6	0.0	0.0	1.1	
Total Delay	46.5	27.8	22.5					32.2	6.2	47.0	19.7	
LOS	D	C	C					C	A	D	B	
Approach Delay		30.4						26.7			28.4	
Approach LOS		C						C			C	
Queue Length 50th (ft)	251	124	156					304	17	77	87	
Queue Length 95th (ft)	368	170	#411					383	71	169	133	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	640	1280	887					1385	758	369	2086	
Starvation Cap Reductn	0	0	0					0	0	0	1474	
Spillback Cap Reductn	149	0	0					213	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.89	0.37	0.83					0.85	0.35	0.44	0.57	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 101.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 28.7

Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

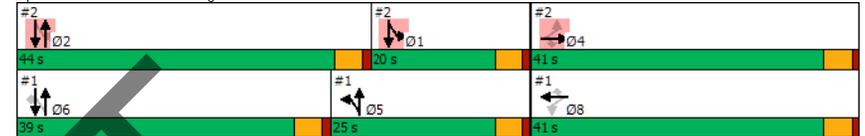
Intersection Capacity Utilization 102.4% ICU Level of Service G

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	554	257	0	0	0	102
Future Vol, veh/h	554	257	0	0	0	102
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
Veh in Median Storage, #	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	602	279	0	0	0	111

Major/Minor	Major1	Minor1
Conflicting Flow All	0	441
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	6.94
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.32
Pot Cap-1 Maneuver	-	564
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	564
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	12.9
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	564	-	-
HCM Lane V/C Ratio	0.197	-	-
HCM Control Delay (s)	12.9	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	120.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Vol, veh/h	0	0	8	74	0	351	0	795	96	331	588	57
Future Vol, veh/h	0	0	8	74	0	351	0	795	96	331	588	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	9	80	0	382	0	864	104	360	639	62

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1791	2327	320	1956
Stage 1	1359	1359	-	916
Stage 2	432	968	-	1040
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	51	37	676	-38
Stage 1	157	215	-	293
Stage 2	572	330	-	246
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	4	6	676	-11
Mov Cap-2 Maneuver	4	6	-	-11
Stage 1	157	34	-	293
Stage 2	159	330	-	-38

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	\$ 634.1	0	7
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	676	11	529	707	-	-
HCM Lane V/C Ratio	-	-	-	0.013	7.312	0.721	0.509	-	-
HCM Control Delay (s)	0	-	-	10.3	3511.5	27.5	15.2	3	-
HCM Lane LOS	A	-	-	B	F	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	11.3	5.9	2.9	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	23	73	804	16	59	614
Future Vol, veh/h	23	73	804	16	59	614
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	84	924	18	68	706

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1422	471	0	942
Stage 1	933	-	-	-
Stage 2	489	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	127	539	-	724
Stage 1	343	-	-	-
Stage 2	582	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	115	539	-	724
Mov Cap-2 Maneuver	115	-	-	-
Stage 1	343	-	-	-
Stage 2	527	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	115	539	724	-
HCM Lane V/C Ratio	-	-	0.23	0.156	0.094	-
HCM Control Delay (s)	-	-	45.4	12.9	10.5	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.5	0.3	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	15	44	32	0	0	11
Future Vol, veh/h	15	44	32	0	0	11
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	-
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	16	48	35	0	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	35	0	115
Stage 1	-	-	35
Stage 2	-	-	80
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1576	-	881
Stage 1	-	-	987
Stage 2	-	-	943
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1576	-	872
Mov Cap-2 Maneuver	-	-	872
Stage 1	-	-	977
Stage 2	-	-	943

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	1038
HCM Lane V/C Ratio	0.01	-	-	-	0.012
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	7	3	0	0	28
Future Vol, veh/h	37	7	3	0	0	28
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	-
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	40	8	3	0	0	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	3	0	-	0	91
Stage 1	-	-	-	-	3
Stage 2	-	-	-	-	88
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1619	-	-	909	1081
Stage 1	-	-	-	1020	-
Stage 2	-	-	-	935	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	886	1081
Mov Cap-2 Maneuver	-	-	-	886	-
Stage 1	-	-	-	995	-
Stage 2	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.025	-	-	-	0.028
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	21.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	147	17	60	16	8	64	6	594	8	36	551	28
Future Vol, veh/h	147	17	60	16	8	64	6	594	8	36	551	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	-
Grade, %	-	0	-	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	160	18	65	17	9	70	7	646	9	39	599	30

Major/Minor	Minor2	Minor1	Major1	Major2		
Conflicting Flow All	1034	1361	315	1052	1372	328
Stage 1	692	692	-	665	665	-
Stage 2	342	669	-	387	707	-
Critical Hdwy	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	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	186	147	681	181	145	668
Stage 1	400	443	-	416	456	-
Stage 2	646	454	-	608	436	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	153	140	681	142	138	668
Mov Cap-2 Maneuver	153	140	-	142	138	-
Stage 1	397	424	-	413	453	-
Stage 2	563	451	-	504	418	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	139	17.8	0.1	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	949	-	-	152	681	142	468	928	-	-
HCM Lane V/C Ratio	0.007	-	-	1.173	0.096	0.122	0.167	0.042	-	-
HCM Control Delay (s)	8.8	-	-	185.9	10.8	33.9	14.2	9.1	-	-
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	10	0.3	0.4	0.6	0.1	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)

1: I-30 WBFR & N Stodghill Rd

Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
Future Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
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
Adj. Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				33.0	33.0	33.0	34.0				23.0	23.0
Total Split (%)				36.7%	36.7%	36.7%	37.8%				25.6%	25.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.0	27.0	27.0	47.5	52.0			18.5	18.5
Actuated g/C Ratio				0.31	0.31	0.31	0.54	0.59			0.21	0.21
v/c Ratio				0.91	0.16	0.11	0.96	0.23			0.15	0.42
Control Delay				51.9	22.7	0.4	40.2	4.0			29.5	7.5
Queue Delay				2.8	0.0	0.0	44.0	0.7			0.1	0.0
Total Delay				54.7	22.7	0.4	84.2	4.8			29.6	7.5
LOS				D	C	A	F	A			C	A
Approach Delay					42.2			65.1				17.3
Approach LOS					D			E				B
Queue Length 50th (ft)				262	37	0	446	24			28	0
Queue Length 95th (ft)				#442	62	2	#721	36			46	56
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				574	1147	599	846	1113			1070	496
Starvation Cap Reductn				0	0	0	199	574			0	0
Spillback Cap Reductn				31	0	0	0	0			271	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.90	0.16	0.11	1.24	0.47			0.21	0.42

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 88
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 49.2
Intersection LOS: D

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)

1: I-30 WBFR & N Stodghill Rd

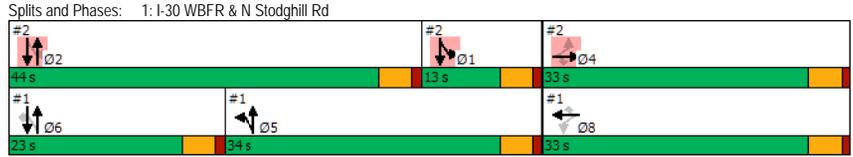
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	13.0	44.0	33.0
Total Split (%)	14%	49%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd
 Timing Plan: AM

Intersection Capacity Utilization 99.2% 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.



2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR
 Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑					↑↑	↑	↓	↓	↓
Traffic Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
Future Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
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
Adj. Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	33.0	33.0	33.0					44.0	44.0	13.0		
Total Split (%)	36.7%	36.7%	36.7%					48.9%	48.9%	14.4%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effect Green (s)	27.0	27.0	27.0					39.6	39.6	47.5	52.0	
Actuated g/C Ratio	0.31	0.31	0.31					0.45	0.45	0.54	0.59	
v/c Ratio	0.32	0.25	0.73					0.59	0.17	0.37	0.25	
Control Delay	25.3	23.6	15.9					20.6	3.5	32.0	18.4	
Queue Delay	0.0	0.0	0.0					0.9	0.0	0.0	5.7	
Total Delay	25.3	23.6	15.9					21.5	3.5	32.0	24.1	
LOS	C	C	B					C	A	C	C	
Approach Delay		19.8						19.3			25.6	
Approach LOS		B						B			C	
Queue Length 50th (ft)	73	60	85					210	0	56	166	
Queue Length 95th (ft)	126	91	210					273	31	m73	m202	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	574	1147	742					1591	784	334	2114	
Starvation Cap Reductn	0	0	0					0	0	0	1513	
Spillback Cap Reductn	0	0	0					348	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.30	0.24	0.70					0.76	0.17	0.36	0.88	

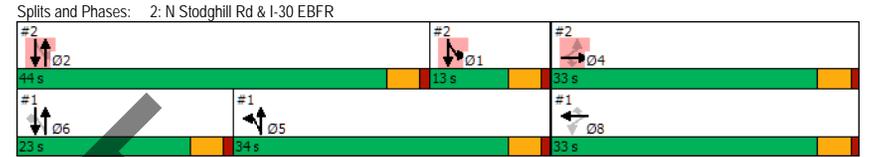
Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 88
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 20.9
 Intersection LOS: C

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR
 Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	34.0	23.0	33.0
Total Split (%)	38%	26%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR
 Timing Plan: AM

Intersection Capacity Utilization 99.2%
 ICU Level of Service F
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.



2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
Future Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
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
Adj. Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				33.0	33.0	33.0	34.0				23.0	23.0
Total Split (%)				36.7%	36.7%	36.7%	37.8%				25.6%	25.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.4	27.4	27.4	48.0	52.5			18.5	18.5
Actuated g/C Ratio				0.31	0.31	0.31	0.54	0.59			0.21	0.21
v/c Ratio				0.93	0.17	0.11	0.99	0.24			0.16	0.43
Control Delay				56.5	22.8	0.7	47.2	4.1			29.7	7.5
Queue Delay				12.0	0.0	0.0	37.2	0.9			0.1	0.0
Total Delay				68.5	22.8	0.7	84.4	5.0			29.8	7.5
LOS				E	C	A	F	A			C	A
Approach Delay					51.4			65.2				17.3
Approach LOS					D			E				B
Queue Length 50th (ft)				275	40	0	-478	25			29	0
Queue Length 95th (ft)				#463	66	3	#758	38			48	57
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				567	1135	594	836	1100			1059	502
Starvation Cap Reductn				0	0	0	199	571			0	0
Spillback Cap Reductn				53	0	0	0	0			274	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.99	0.17	0.11	1.30	0.50			0.22	0.43

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	88.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	52.2
Intersection LOS:	D

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM

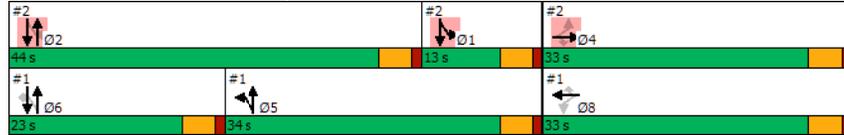
Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	13.0	44.0	33.0
Total Split (%)	14%	49%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G
 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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↔	↔	↔	↕	↕	↔	↕	↔
Traffic Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
Future Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
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
Adj. Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	33.0	33.0	33.0					44.0	44.0	13.0		
Total Split (%)	36.7%	36.7%	36.7%					48.9%	48.9%	14.4%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	27.4	27.4	27.4					39.5	39.5	48.0	52.5	
Actuated g/C Ratio	0.31	0.31	0.31					0.44	0.44	0.54	0.59	
v/c Ratio	0.33	0.26	0.75					0.62	0.18	0.38	0.26	
Control Delay	25.6	23.7	18.1					21.3	3.4	33.6	18.7	
Queue Delay	0.0	0.0	0.0					1.1	0.0	0.0	9.8	
Total Delay	25.6	23.7	18.1					22.5	3.4	33.6	28.5	
LOS	C	C	B					C	A	C	C	
Approach Delay		21.0						20.1			29.4	
Approach LOS		C						C			C	
Queue Length 50th (ft)	77	61	103					219	0	57	172	
Queue Length 95th (ft)	133	93	234					285	32	m72	m202	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	567	1135	727					1573	780	318	2091	
Starvation Cap Reductn	0	0	0					0	0	0	1506	
Spillback Cap Reductn	0	0	0					348	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.32	0.25	0.73					0.80	0.18	0.38	0.94	

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 88.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 22.7 Intersection LOS: C

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	34.0	23.0	33.0
Total Split (%)	38%	26%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

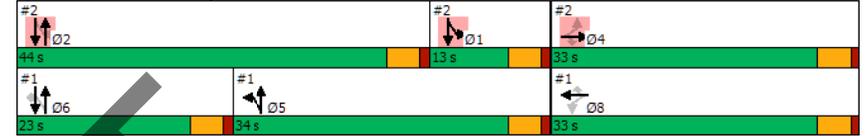
2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



Appendix E. TxDOT Driveway Spacing and Deceleration Lane Criteria

DRAFT

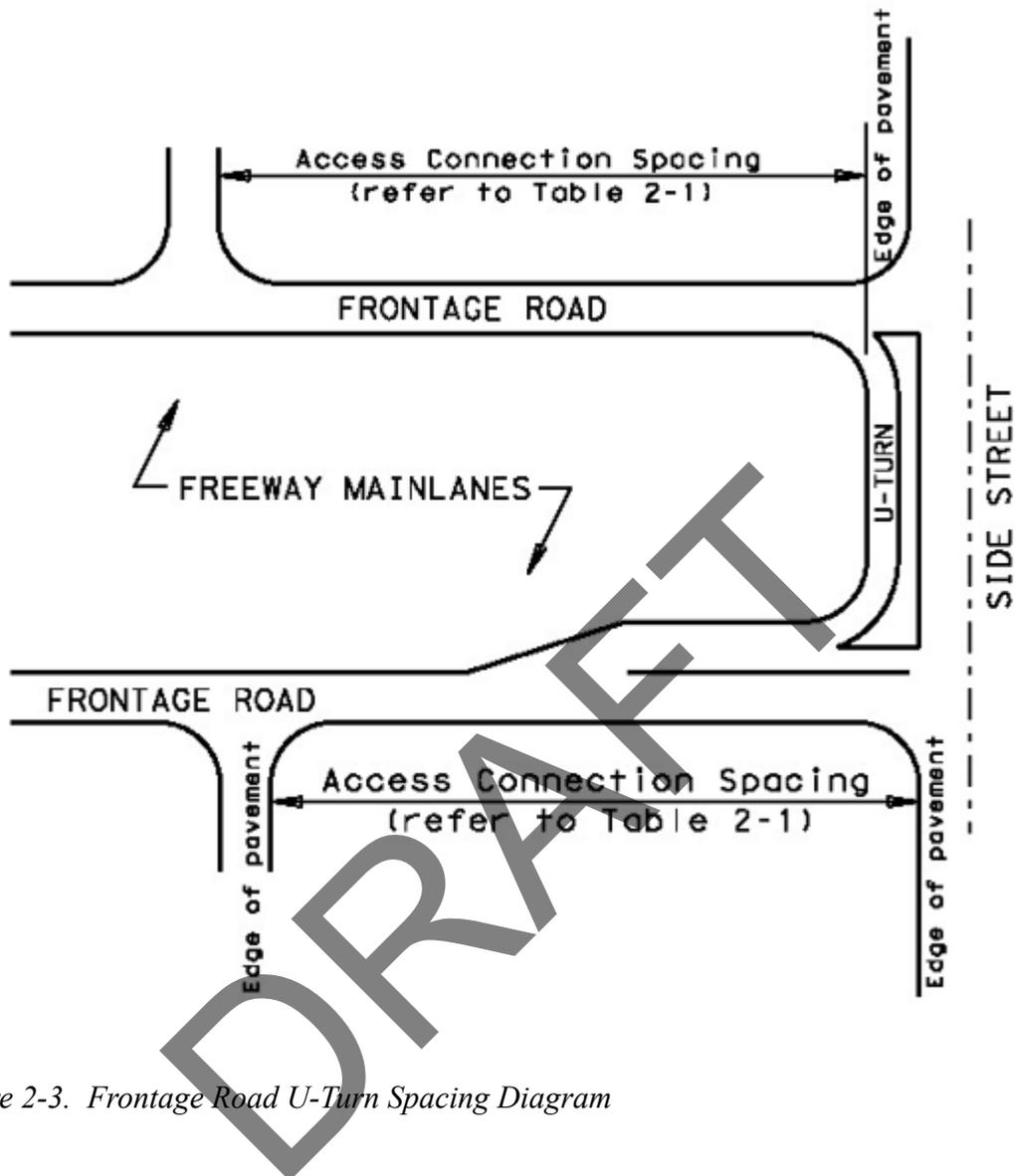


Figure 2-3. Frontage Road U-Turn Spacing Diagram

Table 2-1: Frontage Road Connection Spacing Criteria

Minimum Connection Spacing Criteria for Frontage Roads ⁽¹⁾⁽²⁾		
	Minimum Connection Spacing (feet)	
Posted Speed (mph)	One-Way Frontage Roads	Two-Way Frontage Roads
≤ 30	200	200
35	250	300
40	305	360
45	360	435
≥ 50	425	510

(1) Distances are for passenger cars on level grade. These distances may be adjusted for downgrades and/or significant truck traffic. Where present or projected traffic operations indicate specific needs, consideration may be given to intersection sight distance and operational gap acceptance measurement adjustments.

(2) When these values are not attainable, refer to the variance process as described in Chapter 2, Section 5.

Other State System Highways

This section applies to all state highway system routes that are not new highways on new alignments, freeway mainlanes, or frontage roads.

Table 2-2 provides minimum connection spacing criteria for other state system highways. However, a lesser connection spacing than set forth in this document may be allowed without variance in the situations described in Chapter 2, Section 5.

Table 2-2 does not apply to rural highways outside of metropolitan planning organization boundaries where there is little, if any, potential for development with current ADT volumes below 2000. For those highways, access location and design will be evaluated based on safety and traffic operation considerations. Such considerations may include traffic volumes, posted speed, turning volumes, presence or absence of shoulders, and roadway geometrics.

Table 2-2: Other State Highways Connection Spacing Criteria

Other State Highways Minimum Connection Spacing ⁽¹⁾⁽²⁾⁽³⁾	
Posted Speed (mph)	Distance (ft)
≤ 30	200
35	250
40	305
45	360
≥ 50	425

(1) Distances are for passenger cars on level grade. These distances may be adjusted for downgrades and/or significant truck traffic. Where present or projected traffic operations indicate specific needs, consideration may be given to intersection sight distance and operational gap acceptance measurement adjustments.

(2) When these values are not attainable, refer to the variance process as described in Chapter 2, Section 5.

(3) Access spacing values shown in this table do not apply to rural highways outside of metropolitan planning organization boundaries where there is little, if any, potential for development with current ADT levels below 2000. Access connection spacing below the values shown in this table may be approved based on safety and operational considerations as determined by TxDOT.

Corner clearance refers to the separation of access connections from roadway intersections. Table 2-2 provides minimum corner clearance criteria.

Where adequate access connection spacing cannot be achieved, the permitting authority may allow for a lesser spacing when shared access is established with an abutting property. Where no other alternatives exist, construction of an access connection may be allowed along the property line farthest from the intersection. To provide reasonable access under these conditions but also provide the safest operation, consideration should be given to designing the driveway connection to allow only the right-in turning movement or only the right-in/right out turning movements if feasible.

Auxiliary Lanes

This subsection describes the basic use and functional criteria associated with auxiliary lanes. Auxiliary lanes consist of left-turn and right-turn movements, deceleration, acceleration, and their associated transitions and storage requirements. Left-turn movements may pose challenges at driveways and street intersections. They may increase conflicts, delays, and crashes and often complicate traffic signal timing. These problems are especially acute at major highway intersections

where heavy left-turn movements take place, but also occur where left-turn movements enter or leave driveways serving adjacent land development. As with left-turn movements, right-turn movements pose problems at both driveways and street intersections. Right-turn movements increase conflicts, delays, and crashes, particularly where a speed differential of 10 mph or more exists between the speed of through traffic and the vehicles that are turning right.

Table 2-3 presents thresholds for auxiliary lanes. These thresholds represent examples of where left turn and right turn lanes should be considered. Refer to the TxDOT *Roadway Design Manual*, Chapter 3, for proper acceleration and deceleration lengths.

Table 2-3: Auxiliary Lane Thresholds

Median Type	Left Turn to or from Property		Right Turn to or from Property ⁽⁵⁾	
	Acceleration	Deceleration	Acceleration	Deceleration
Non-Traversable (Raised Median)	(2)	All	Right turn egress > 200 vph (4)	<ul style="list-style-type: none"> ◆ > 45 mph where right turn volume is > 50 vph (3) ◆ ≤ 45 where right turn volume is > 60 vph (3)
Traversable (Undivided Road)	(2)	(1)	Same as above	Same as Above

(1) Refer to Table 3-11, TxDOT *Roadway Design Manual*, for alternative left-turn-bay operational considerations.

(2) A left-turn acceleration lane may be required if it would provide a benefit to the safety and operation of the roadway. A left-turn acceleration lane would interfere with the left-turn ingress movements to any other access connection.

(3) Additional right-turn considerations:

- ◆ Conditions for providing an exclusive right-turn lane when the right-turn traffic volume projections are less than indicated in Table 2-3:
 - High crash experience
 - Heavier than normal peak flow movements on the main roadway
 - Large volume of truck traffic
 - Highways where sight distance is limited
- ◆ Conditions for NOT requiring a right-turn lane where right-turn volumes are more than indicated in Table 2-3:
 - Dense or built-out corridor where space is limited
 - Where queues of stopped vehicles would block the access to the right turn lane
 - Where sufficient length of property width is not available for the appropriate design

(4) The acceleration lane should not interfere with any downstream access connection.

- ◆ The distance from the end of the acceleration lane taper to the next unsignalized downstream access connection should be equal to or greater than the distances found in Table 2-2.
- ◆ Additionally, if the next access connection is signalized, the distance from the end of the acceleration lane taper to the back of the 90th percentile queue should be greater than or equal to the distances found Table 2-2.

(5) Continuous right-turn lanes can provide mobility benefits both for through movements and for the turning vehicles.^a Access connections within a continuous right turn lane should meet the spacing requirements found in Table 2-2. However, when combined with crossing left in movements, a continuous right-turn lane can introduce additional operational conflicts.

Table 3-11: Guide for Left-Turn Lanes on Two-Lane Highways

Opposing Volume (vph)	Advancing Volume (vph)			
	5 % Left Turns	10 % Left Turns	20 % Left Turns	30 % Left Turns
40 mph [60 km/h] Design Speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50 mph [80 km/h] Design Speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60 mph [100 km/h] Design Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Right-Turn Deceleration Lanes. Shoulders 10 ft [3.0 m] wide alongside the traffic lanes generally provide sufficient area for acceleration or deceleration of right-turning vehicles. Where the right turn lane is being constructed in addition to the through lanes and shoulders, the minimum right turn lane width is 10 ft [3.0 m] with a 2 ft [0.6 m] surfaced shoulder. Where speed change lanes are used, they should be provided symmetrically along both sides of the highway for both directions of traffic, thus presenting drivers with a balanced section.

A deceleration-acceleration lane on one side of a two-lane highway, such as at a “tee” intersection, results in the appearance of a three-lane highway and may result in driver confusion. In this regard, right-turn speed change lanes are generally inappropriate for “tee” intersection design except where a four lane (2 through, 1 median left turn, 1 right acceleration/deceleration) section is provided.

City of Rockwall Project Plan Review History



Project Number Z2020-015	Owner LUKE ALVERSON	Applied 3/20/2020	AG
Project Name FitSportLife Rockwall	Applicant STEPHEN DOYLE	Approved	
Type ZONING		Closed	
Subtype PD		Expired	
Status Staff Review		Status	

Site Address	City, State Zip	Zoning
Subdivision	Tract	General Plan
	Block	
	Lot No	
	Parcel No	

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed	Status	Remarks
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Building Inspections Di	Russell McDowell	3/23/2020		3/23/2020		APPROVED	
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ENGINEERING	Sarah Johnston	3/20/2020	3/27/2020	3/26/2020	6	COMMENTS	See Comments and markups
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(3/26/2020 3:40 PM SJ)

M - Proposed utilities must match those outlined in the Proposed Sports Complex Development Water and Wastewater System Capacity Analysis by Derek Chaney, Dated Jan. 22, 2020. Show Utilities.

M - Traffic Impact Analysis required. Review fees apply.

M - Fix "Roadway Detail" sheet. See attached

M - Sidewalks on both sides of every street section

M - Add note: if sidewalks are on the back of curb, the sidewalks are a minimum of 6' wide and lugged into curb

M - Private street for food trucks must be a minimum of 24' wide (face to face)

M - Under "General Notes" Letter C: All private drive aisles to be 25' back to back

M - Under "General Notes" Letter D: All private street aisles to be min 24' (face to face or edge to edge) wide drive aisle

The following items are for your information for engineering design.

I - Must meet engineering Standards of Design and Construction.

I - Must have detention.

I - Drainage areas that are 20 acres or over must use the unit hydrograph method for analysis. Review fees apply.

I - Sewer pro-rata is \$2,773.07/acre for the site.

I - Must loop a water line on the site.

I - must install a 12" water line along IH 30 frontage.

I - Must widen Capital Blvd.

I - Must install sidewalk along Corporate Crossing and capital Blvd.

I - There may be more comments as the engineering design progresses.

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed	Status	Remarks
FIRE	Ariana Hargrove	3/20/2020	3/27/2020	3/25/2020	5	APPROVED	
PLANNING	Ryan Miller	3/20/2020	3/27/2020	4/1/2020	12	COMMENTS	See Comments

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed Status	Remarks
Z2020-015; Zoning Change (C & LI to PD) for FitSportLife Rockwall						Please address the following comments (M= Mandatory Comments; I = Informational Comments)
I.1 This request is for the approval of a Zoning Change from a Commercial(C) District and a Light Industrial (LI) District to a Planned Development District (PD) for a 55.80-acre tract of land identified as Tract22, 22-2, & 24 of the R. Irvine Survey, Abstract No. 120, City of Rockwall, Rockwall County, Texas, zoned Commercial (C) District and Light Industrial (LI) District, and generally located at the southeast corner of the intersection of Corporate Crossing[FM-549] and the IH-30 Frontage Road						
I.2 For questions or comments concerning this case please contact Ryan Miller in the Planning Department at(972) 772-6441 or email rcmler@rockwall.com.						
M.3 For reference, include the case number (Z2020-015) in the lower right-hand corner of all pages on future submittals.						
I.4 According to the OURHometown Vision 2040 Comprehensive Plan the subject property is located within the IH-30 Corridor District, and according to the Future Land Use Map contained within this document the subject property is designated for Special Commercial Corridor district land uses. The proposed zoning request appears to generally conform to this designation; however, requests for Planned Development Districts are discretionary to the City Council pending a recommendation from the Planning and Zoning Commission.						
I.5 The OURHometown Vision 2040 Comprehensive Plan stipulates various goals for multi-family residential developments. The following aspects of the applicant's proposal either do not conform to the stated goals of the City's plan or there is not enough information to determine if the request conforms, and could be revised -- per staff's recommendations -- to bring the project closer to conformance with the plan:						
CH.08; Section 02.05; Goal #1: When proposed, only high quality appropriately located multi-family developments that represent a long-term investment in the community and that will create and retain value over time should be considered						
						<ul style="list-style-type: none"> • Policy #1 (Page 8-4). Condominium and apartment developments should be located adjacent to, and/or incorporated in, commercial developments to form activity centers (e.g. the Harbor District). In addition, these developments should conform to the commercial design standards(e.g. articulation, materials, etc.) to create continuity with adjacent commercial buildings. The Architectural Review Board(ARB) should be responsible for reviewing these developments to ensure compatibility with surrounding developments.
						<p>Staff Response to Applicant. While the request does appear to generally conform to this requirement of the Comprehensive Plan, staff has suggested that the buildings be brought closer to the edge of street and integrated into each other to create the appearance of vertical mixed use development in lieu of creating hard separations of land uses. This would bring the plan closer to conformance with the Comprehensive Plan and the IH-30 Corridor Planning Study. In addition, staff has incorporated the elevations into the Planned Development District ordinance to ensure future compliance; however, these will be subject to the recommendations of the Architectural Review Board(ARB).</p>
						<ul style="list-style-type: none"> • Policy #2 (Page 8-4). High-density condominium and apartment projects should be established in areas that can support a mix of land uses(e.g. hotel, office, retail, commercial, etc.) and have roadways that can accommodate higher volumes of traffic(e.g. IH-30). These areas are typically located away from existing single-family residential neighborhoods, east of John King Boulevard and are adjacent to commercial and office land uses
						<p>Staff Response to Applicant. The request is in substantial compliance with this policy.</p>
						<ul style="list-style-type: none"> • Policy #3 (Page 8-2). High-density developments that incorporate more than ten(10) units per gross acre should incorporate structured parking that is visually screened from public view on all sides of the development. This can be achieved by wrapping the parking garage with buildings or creating false façades. Surface parking should be reserved to accommodate visitors, office staff, and prospective residents.
						<ul style="list-style-type: none"> • Policy #4 (Page 8-2). If structured parking is not provided on a high-density development, garages dedicated to each unit should be provided

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed Status	Remarks
Staff Response to Applicant						<p>The applicant is proposing 100% surface parking with carport parking adjacent to the internal green space areas. Staff had recommended to the applicant that a wrap product that concealed the garage utilizing the buildings would be more appropriate in this area; however, the applicant has chosen to pursue surface parking. Based on what has submitted, staff would further recommend to the applicant that [1] garages be incorporated in lieu of the carport parking for the majority of the proposed units, and [2] heavy landscaping be utilized around the surface parking areas that are visible from Capital Boulevard. Based on the submitted plan, the applicant's request does not conform to these policies of the Comprehensive Plan.</p> <ul style="list-style-type: none"> • Policy #5 (Page 8-2). High-density developments should be highly amenitized and incorporate a mix of lifestyle amenities that can justify the density of the development, and provide these residents with similar levels of amenities that are provided in a master planned community. <p>Staff Response to Applicant. The applicant concept plan depicts some amenities (i.e. a central green space, dog park, splash pad, and amphitheater) and a 7,000 SF clubhouse area. Staff would request that the applicant provide a full list of all proposed amenities (i.e. the ones in the middle of the multi-family development) that will be provided with the multi-family development that can be tied down into the Planned Development District ordinance.</p> <ul style="list-style-type: none"> • Policy #6 (Page 8-2). Additional landscaping and canopy trees in landscape buffers and open space areas should be required to reduce the scale of buildings and increase the amount of green space provided for residents. <p>Staff Response to Applicant. Based on this policy staff will be requiring additional landscaping along Capital Boulevard; however, a full landscape plan will not be turned until site plan. This comment will need to be made as part of the site plan process.</p> <ul style="list-style-type: none"> • Policy #7 (Page 8-2). Higher-density projects should incorporate trail systems targeted at creating walkability and connectivity between land uses. <p>Staff Response to Applicant. The development appears to create logical pedestrian connections between land uses. Based on this, the applicant's request is in conformance with this policy of the Comprehensive Plan.</p> <p>I.6 For 'Area' references below please refer to the Area Map in Exhibit 'C' of the Draft Ordinance.</p> <p>M.7 The Light Industrial (LI) District tract of land identified as Area 5 cannot be platted without providing a public road to the remainder tract of land retained by the Capstar Holding Corporation, which is located directly north of Area 5. According to the City's subdivision requirements all tracts or parcels of land are required to have a minimum frontage on a public roadway. This will need to be addressed in this concept plan since the proposed conveyance and subsequent development of the Subject Property would be causing the remainder tract of land not to have the required frontage.</p> <p>M.8 The following items depicted in the exhibits do not comply with the requirements of the Unified Development Code (UDC):</p> <p>(1) The building elevations provided for Areas 1, 2, & 4 do not comply with the material requirements contained within the City's general overlay district standards. Specifically, these requirements stipulate 90% primary materials [masonry materials] with the remaining ten (10) percent permitted to be secondary materials (e.g. wood, metal, etc.). In addition, up to 50% of the building's façade is permitted to be cementitious materials and a minimum of 20% natural stone is required on all façades. Please remove the material legend from the zoning exhibit and correct the elevations to comply with the general overlay district requirements.</p> <p>M.9 The proposed signage does not conform with the City's sign standards. Please move the signage depicted in the Concept Building Elevations for Area 1 to a separate sheet and provide elevations of the other two (2) signs depicted along IH-30 and Corporate Crossing [FM-549].</p> <p>M.10 For the Draft Ordinance, please provide the minimum size of the one (1) and two (2) bedroom units for the proposed multi-family development.</p> <p>M.11 Please review the attached Draft Ordinance prior to the April 14, 2020 Planning and Zoning Commission Work Session meeting, and provide staff with your markups by no later than April 7, 2020. In reviewing the draft ordinance, please pay close attention to staff's suggestions concerning the limited land uses for the various Areas.</p>

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed Status	Remarks
I.12						Staff has identified the aforementioned items necessary to continue the submittal process. Please make these revisions and corrections, and provide any additional information that is requested. Revisions for this case will be due on April 7, 2020; however, it is encouraged for applicants to submit revisions as soon as possible to give staff ample time to review the case prior to the April 28, 2020 Planning and Zoning Commission Public Hearing Meeting. The Planning and Zoning Commission Work Session Meeting for this case will be held on April 14, 2020.
I.13						The projected City Council meeting dates for this case will be May 4, 2020 [1st Reading] and May 18, 2020 [2nd Reading].
I.14						Due to the current COVID-19 situation and the City's disaster declaration, the Planning and Zoning Commission Work Session Meeting will require a representative to answer the Planning and Zoning Commission's questions over the phone (i.e. the meeting will be held as regularly scheduled, but will be closed to applicants and the public). Staff is currently unsure of how the April 28, 2020 Planning and Zoning Commission Public Hearing will be held (i.e. virtually through zoom, closed to the public, or as regularly scheduled) and will inform applicants and the public of the City's plans closer to that date.



SITE PLAN LEGEND

USES	AREAS
1 - AMERISPORTS	15,000 GSF
2 - PROJECT ROSE EXPANSION	10,000 GSF
3 - MIRCO BASEBALL EXPANSION	12,000 GSF
4 - MEDICAL EXPANSION	25,000 GSF
5 - SAND VOLL BALL EXPAND	16,000 GSF
6 - SPORTS PERF.	3,000 GSF
7 - YOUTH BASEBALL FIELDS	N/A
8 - RESTAURANT	8,300 GSF
9 - 4100 KEY HOTEL	16,000 GSF
10 - FAST CASUAL DRIVE-THRU	2,200 GSF
11 - RESTAURANT	8,300 GSF
12 - IN-LINE RETAIL	7,400 GSF
13 - FAST CASUAL DRIVE-THRU	2,200 GSF
14 - OFFICE	35,800 GSF
15 - OFFICE	35,800 GSF
16 - RETAIL	5,500 GSF
17 - MULTIFAMILY HOUSING	200 UNITS
18 - MALE/FEMALE CLUBHOUSE (94 2-BEDROOM UNITS)	7,000 GSF
19 - SPLASH PARK	
20 - ACTIVITY MEADOW	
21 - OUTDOOR THEATER	
22 - COOL PARK	
23 - STORAGE FACILITY	31,800 GSF
24 - FLEX INDUSTRIAL	43,000 GSF

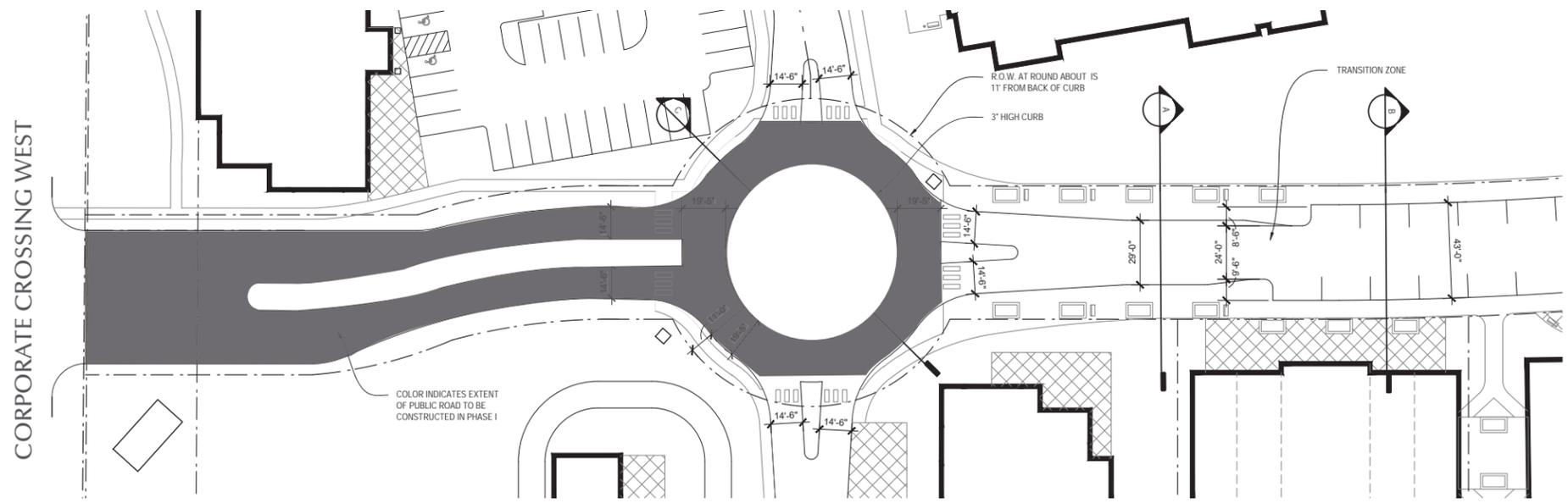


- FLOOR PLAN KEYNOTES**
1. DETENTION BASIN
 2. DEVELOPMENT MONUMENT SIGNAGE
 3. WAY-FINDING SIGNAGE
 4. FOOD TRUCK ALLEY
 5. LANDSCAPE BUFFER

CONCEPT PLANNED DISTRICT SITE PLAN
1"=100'-0"

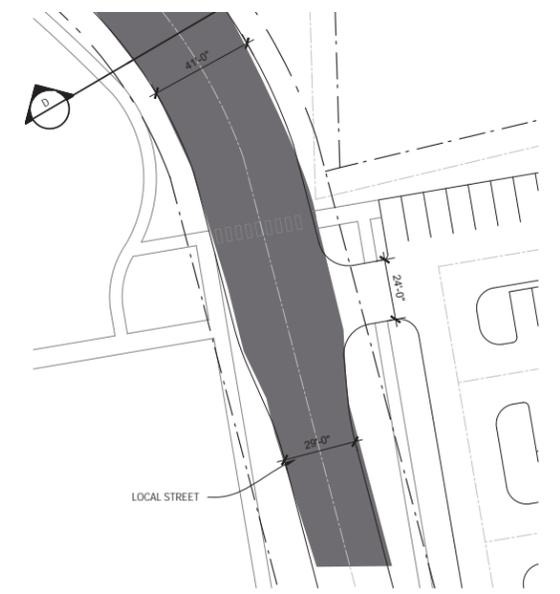
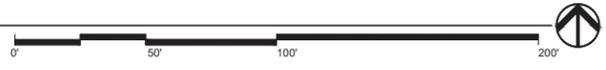
M - Proposed utilities must match those outlined in the Proposed Sports Complex Development Water and Wastewater System Capacity Analysis by Derek Chaney, Dated Jan. 22, 2020. Show Utilities.
M - Traffic Impact Analysis required. Review fees apply.
M- Fix the street design page

The following items are for your information for engineering design.
I - Must meet engineering Standards of Design and Construction.
I - Must have detention.
I - Drainage areas that are 20 acres or over must use the unit hydrograph method for analysis. Review fees apply.
I - Sewer pro-rata is \$2,773.07/acre for the site.
I - Must loop a water line on the site.
I - must install a 12" water line along IH 30 frontage.
I - Must widen Capital Blvd.
I - Must install sidewalk along Corporate Crossing and capital Blvd.
I - There may be more comments as the engineering design progresses.



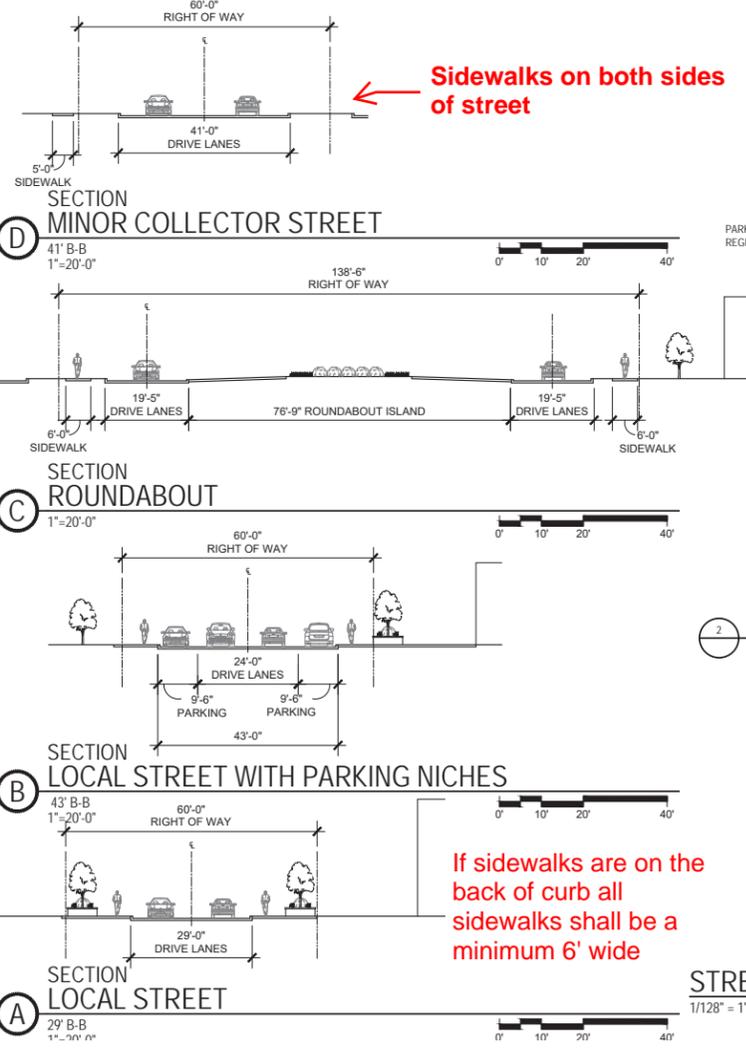
2 ENLARGED PARTIAL PLAN

1/32" = 1'-0"
PUBLIC STREET AT SITE ENTRANCE, ROUNDABOUT, AND TRANSITION FROM 29' TO 43'



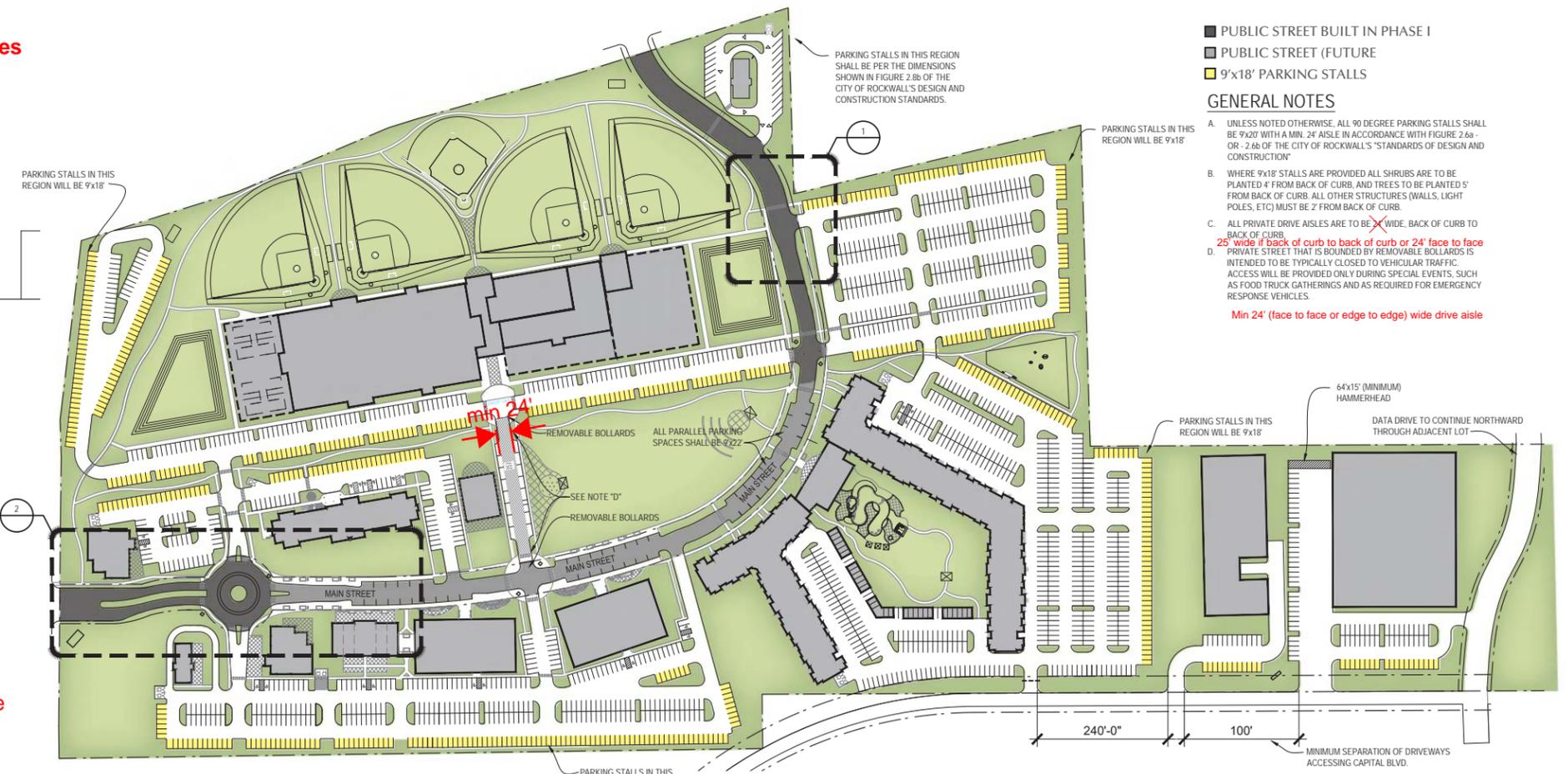
1 ENLARGED PARTIAL PLAN

1/32" = 1'-0"
PUBLIC STREET AT TRANSITION FROM 29' TO 41'



Sidewalks on both sides of street

If sidewalks are on the back of curb all sidewalks shall be a minimum 6' wide





DEVELOPMENT APPLICATION

City of Rockwall
 Planning and Zoning Department
 385 S. Goliad Street
 Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO. _____

NOTE: THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.

DIRECTOR OF PLANNING: _____

CITY ENGINEER: _____

Please check the appropriate box below to indicate the type of development request [SELECT ONLY ONE BOX]:

Platting Application Fees:

- Master Plat (\$100.00 + \$15.00 Acre)¹
- Preliminary Plat (\$200.00 + \$15.00 Acre)¹
- Final Plat (\$300.00 + \$20.00 Acre)¹
- Replat (\$300.00 + \$20.00 Acre)¹
- Amending or Minor Plat (\$150.00)
- Plat Reinstatement Request (\$100.00)

Site Plan Application Fees:

- Site Plan (\$250.00 + \$20.00 Acre)¹
- Amended Site Plan/Elevations/Landscaping Plan (\$100.00)

Zoning Application Fees:

- Zoning Change (\$200.00 + \$15.00 Acre)¹
- Specific Use Permit (\$200.00 + \$15.00 Acre)¹
- PD Development Plans (\$200.00 + \$15.00 Acre)¹

Other Application Fees:

- Tree Removal (\$75.00)
- Variance Request (\$100.00)

Notes:

¹: In determining the fee, please use the exact acreage when multiplying by the per acre amount. For requests on less than one acre, round up to one (1) acre.

PROPERTY INFORMATION [PLEASE PRINT]

Address NA

Subdivision NA

Lot NA

Block NA

General Location Southeast corner of Corporate Crossing and IH 30 Frontage Road

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

Current Zoning Commercial & Light Industrial

Current Use Vacant

Proposed Zoning Planned Development

Proposed Use Mixed Use

Acreage 55.8 Acres

Lots [Current] NA

Lots [Proposed] 13

SITE PLANS AND PLATS: By checking this box you acknowledge that due to the passage of HB3167 the City no longer has flexibility with regard to its approval process, and failure to address any of staff's comments by the date provided on the Development Calendar will result in the denial of your case.

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

Owner Capstar Holdings Corporation

Applicant Structured Real Estate

Contact Person Luke Alverson

Contact Person Stephen Doyle

Address 5420 Lyndon B Johnson Freeway
Suite 500

Address 1046 W Kinzie St, Ste 301

City, State & Zip Dallas, Texas 75240

City, State & Zip Chicago, Illinois 60642

Phone

Phone 847-951-8974

E-Mail

E-Mail steved@structuredrea.com

NOTARY VERIFICATION [REQUIRED]

Before me, the undersigned authority, on this day personally appeared LUKE ALVERSON [Owner] the undersigned, who stated the information on this application to be true and certified the following:

"I hereby certify that I am the owner for the purpose of this application; all information submitted herein is true and correct; and the application fee of \$ _____, to cover the cost of this application, has been paid to the City of Rockwall on this the _____ day of _____, 20 _____. By signing this application, I agree that the City of Rockwall (i.e. "City") is authorized and permitted to provide information contained within this application to the public. The City is also authorized and permitted to reproduce any copyrighted information submitted in conjunction with this application, if such reproduction is associated or in response to a request for public information."

Given under my hand and seal of office on this the _____ day of _____, 20 ____.

Owner's Signature

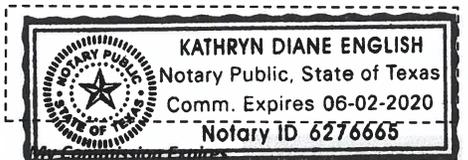
DocuSigned by:

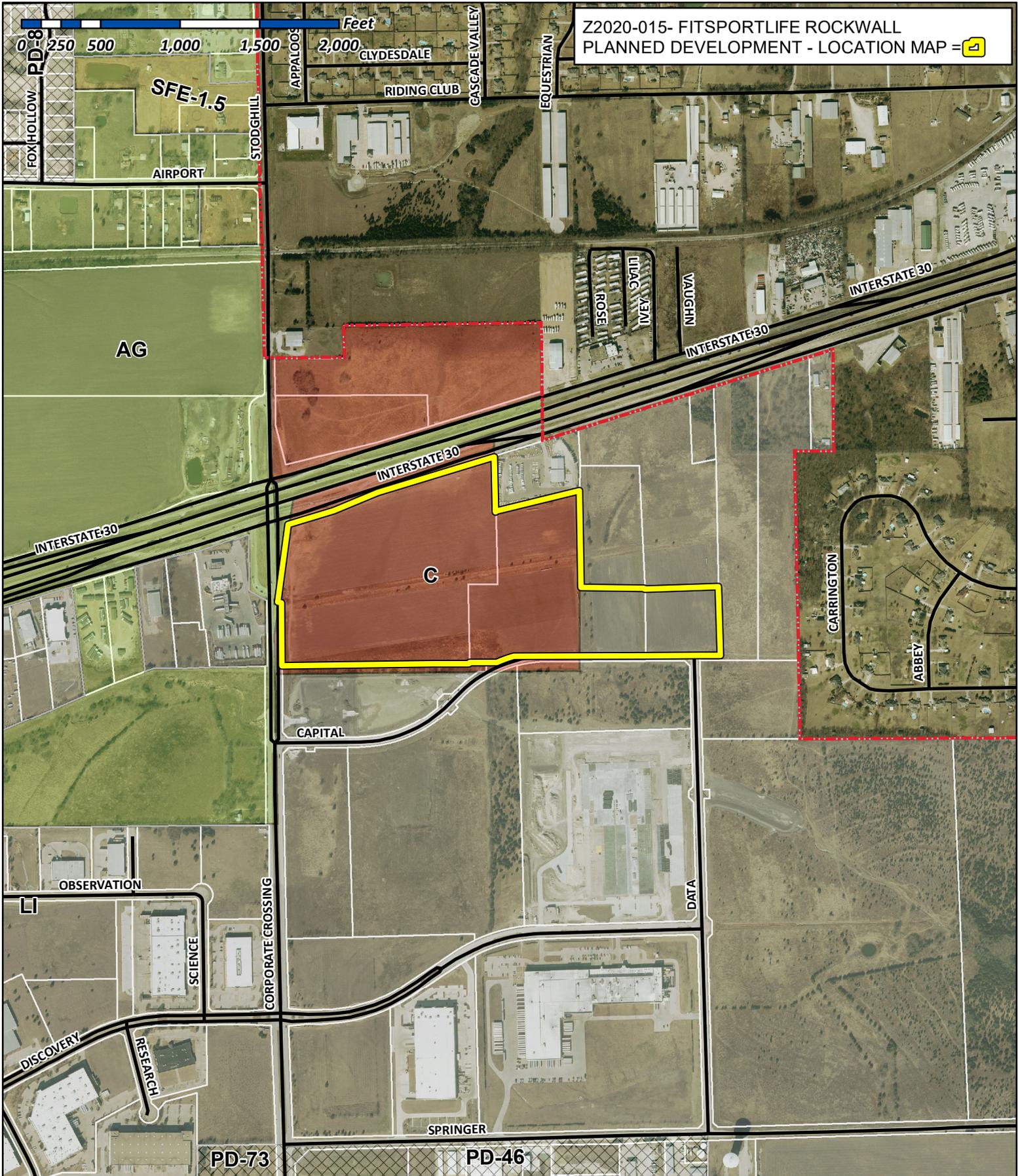
Luke Alverson

Notary Public in and for the State of Texas

12495043CCFB403...

Kathryn Diane English





City of Rockwall

Planning & Zoning Department
 385 S. Goliad Street
 Rockwall, Texas 75032
 (P): (972) 771-7745
 (W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

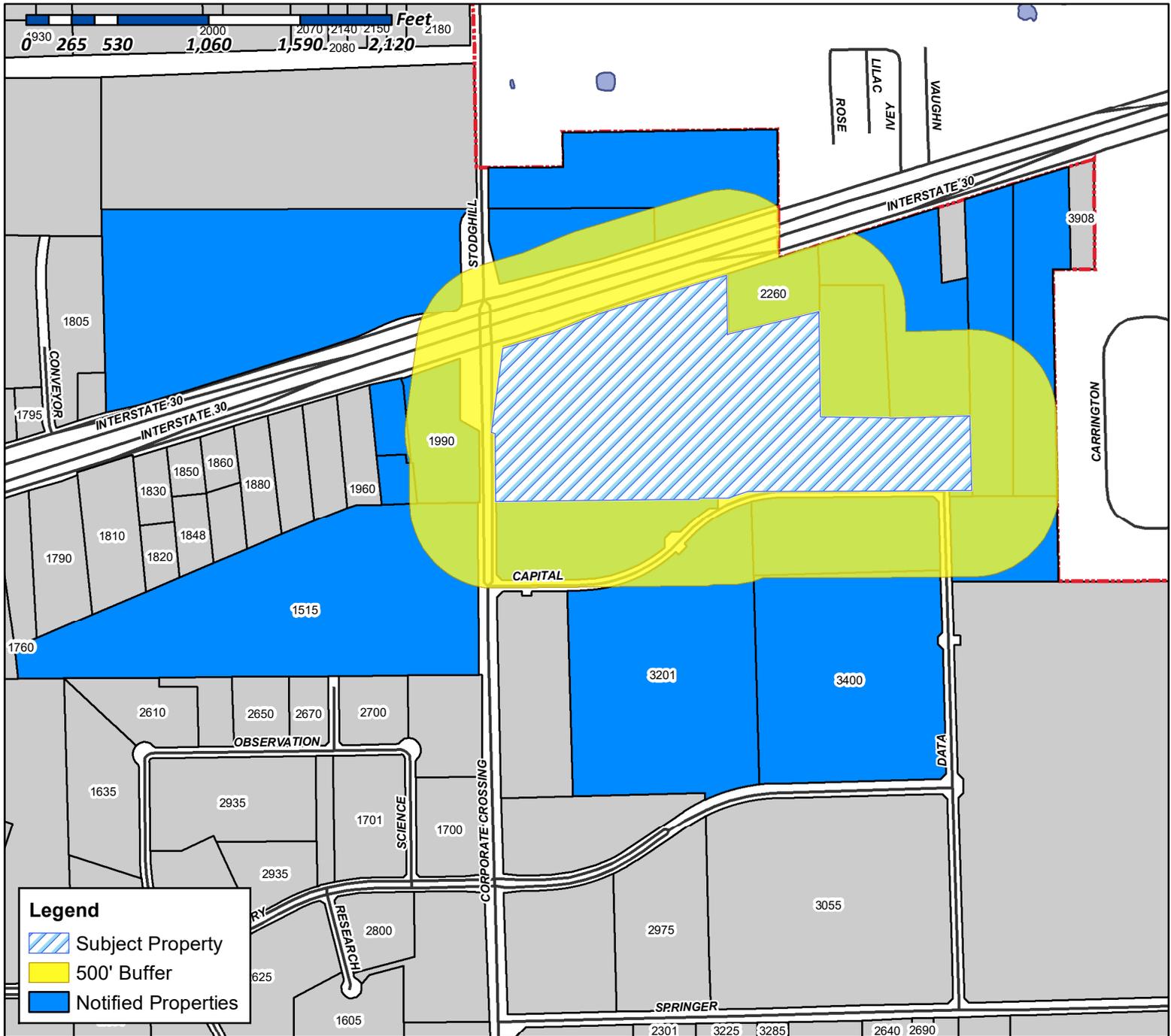




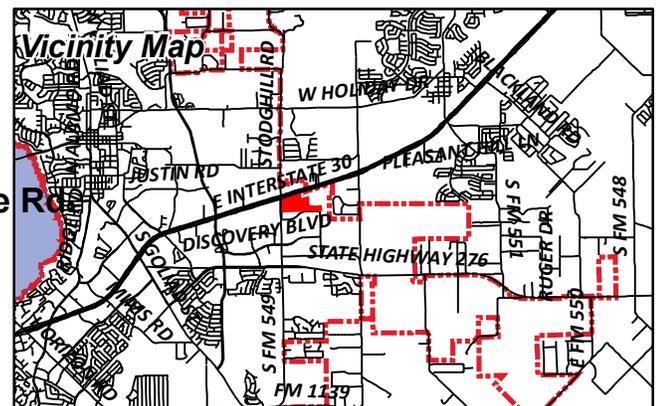
City of Rockwall

Planning & Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087
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Case Number: Z2020-015
Case Name: Zoning Change (C & LI to PD)
Case Type: Zoning
Zoning: Commercial (C) District
Case Address: SEC of Corporate Crossing & Frontage Rd



Date Created: 3/26/2020
For Questions on this Case Call (972) 771-7745

LOVES TRAVEL STOPS & COUNTRY STORES INC
10601 NORTH PENNSYLVANIA
OKLAHOMA CITY, OK 73126

WALLIS RUSTY FAMILY LTD PARTNERSHIP #2
12277 SHILOH RD
DALLAS, TX 75228

CURRENT RESIDENT
1515 CORPORATE CROSSING
ROCKWALL, TX 75087

CURRENT RESIDENT
1990 E-I30
ROCKWALL, TX 75087

ROBINO GIANLUCA & MARY C GOSS
2036 STRADELLA RD
LOS ANGELES, CA 90077

CURRENT RESIDENT
2260 E-I30
ROCKWALL, TX 75087

ROCKWALL ECONOMIC DEVELOPMENT
CORPORATION
2610 OBSERVATION TRAIL SUITE 104
ROCKWALL, TX 75032

BAKER SCHWIMMER VENTURES LP
2633 MCKINNEY AVE STE 130-510
DALLAS, TX 75204

CURRENT RESIDENT
3201 CAPITAL BLVD
ROCKWALL, TX 75087

CURRENT RESIDENT
3400 DISCOVERY
ROCKWALL, TX 75087

CAPSTAR HOLDINGS CORPORATION
C/O CSW INDUSTRIALS
5420 LYNDON B JOHNSON FREEWAY SUITE 500
DALLAS, TX 75240

GLOBAL WELLS INVESTMENT GROUP LLC
6185 KIMBALL AVENUE
CHINO, CA 91708

ROCKWALL ECONOMIC DEVELOPMENT CORP
697 E INTERSTATE 30
ROCKWALL, TX 75087

HITT FAMILY LIMITED PARTNERSHIP
7836 YAMINI DR
DALLAS, TX 75230

ROCKWALL 549/I30 PARTNERS LP
8750 N CENTRAL EXPWY SUITE 1735
DALLAS, TX 75231

MIRANDA VINOD
9105 BRIARCREST DR
ROWLETT, TX 75088

STAG ROCKWALL L.P. A DELAWARE LIMITED
PARTNERSHIP
STAG INDUSTRIAL HOLDINGS LLC
ONE FEDERAL STREET 23RD FLOOR
BOSTON, MA 2110

JOWERS INC
PO BOX 1870
ROCKWALL, TX 75087

LOVE'S COUNTRY STORES INC
PO BOX 26210
OKLAHOMA CITY, OK 73126

PHASE 17 INVESTMENTS LP
PO BOX 601638
DALLAS, TX 75360



SITE PLAN LEGEND

USES	AREAS
1 - AMERISPORTS	85,000 GSF
2 - PROJECT ROSE EXPANSION	15,000 GSF
3 - MEDICAL EXPANSION	12,000 GSF
4 - MEDICAL EXPANSION	25,000 GSF
5 - SAND WALL EXPAND	16,000 GSF
6 - SPORTS PAV.	3,000 GSF
7 - YOUTH BASEBALL FIELDS	NA
8 - RESTAURANT	4,000 GSF
9 - 150 KEY HOTELS	80,000 GSF
10 - FAST CASUAL DRIVE-THRU	2,250 GSF
11 - RESTAURANT	4,000 GSF
12 - IN-LINE RETAIL	7,400 GSF
13 - FAST CASUAL DRIVE-THRU	2,250 GSF
14 - OFFICE	20,000 GSF
15 - OFFICE	36,200 GSF
16 - RETAIL	5,000 GSF
17 - MULTIFAMILY HOUSING	230 UNITS
18 - (140) 1-BEDROOM UNITS IN 2-BEDROOM UNITS	
19 - MULTIFAMILY CLUBHOUSE	1,000 GSF
20 - SPLASH PARK	
21 - ACTIVITY MEADOW	
22 - OUTDOOR THEATER	
23 - DOG PARK	
24 - STORAGE FACILITY	31,800 GSF
25 - FLEX INDUSTRIAL	45,000 GSF

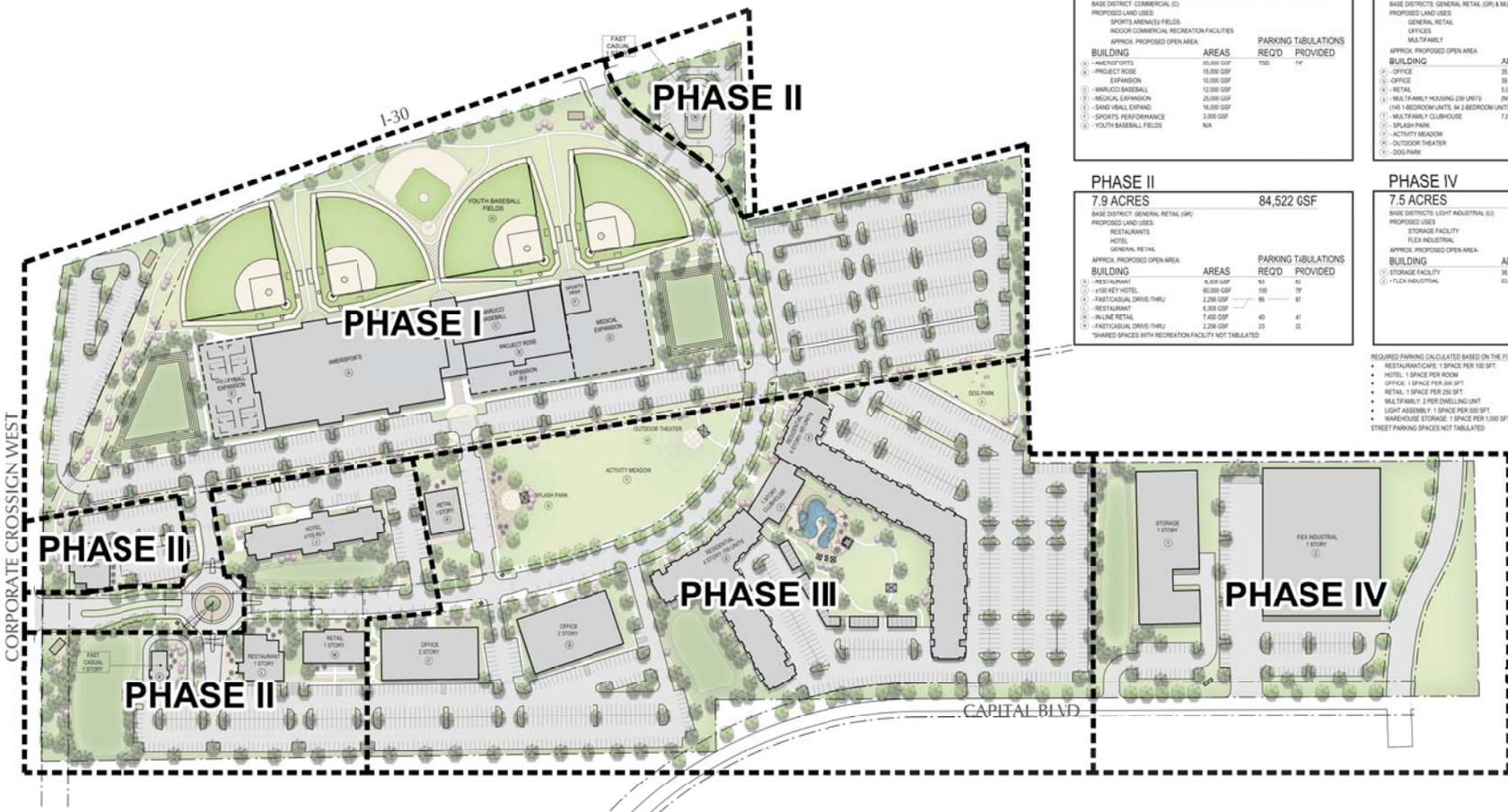


PROPOSED LANDUSE MAP

- FLOOR PLAN KEYNOTES**
1. DETENTION BASIN
 2. DEVELOPMENT MONUMENT SIGNAGE
 3. WAY-FINDING SIGNAGE
 4. FOOD TRUCK ALLEY
 5. LANDSCAPE BUFFER

CONCEPT PLANNED DISTRICT SITE PLAN
1"=100'-0"





PHASE I
21 ACRES 125,000 GSF

BASE DISTRICT: COMMERCIAL (C)
PROPOSED LAND USES:
SPORTS ARENAS/ FIELDS
INDOOR COMMERCIAL RECREATION FACILITIES

APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - MICROSPORTS	10,000 GSF	100 147
② - PROJECT ROSE	10,000 GSF	
③ - EXPANSION	10,000 GSF	
④ - MARUCCI BASEBALL	12,000 GSF	
⑤ - MEDICAL EXPANSION	20,000 GSF	
⑥ - SAND USUAL EXPAND	16,000 GSF	
⑦ - SPORTS PERFORMANCE	3,000 GSF	
⑧ - YOUTH BASEBALL FIELDS	N/A	

PHASE III
17.9 ACRES 69,000 GSF

BASE DISTRICTS: GENERAL RETAIL (GR) & MULTIFAMILY (MF-14)
PROPOSED LAND USES:
GENERAL RETAIL
OFFICES
MULTIFAMILY

APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - OFFICE	28,200 GSF	130 200
② - OFFICE	30,200 GSF	130 200
③ - OFFICE	10,000 GSF	100 150
④ - RETAIL	5,000 GSF	10 10
⑤ - MULTIFAMILY HOUSING (20 UNITS)		NOT TABULATED 478 500
⑥ - MULTIFAMILY CLUBHOUSE (145 1-BEDROOM UNITS, 84 2-BEDROOM UNITS)	7,000 GSF	
⑦ - SPLASH PARK		
⑧ - ACTIVITY MEADOW		
⑨ - OUTDOOR THEATER		
⑩ - DOG PARK		

PHASE II
7.9 ACRES 84,522 GSF

BASE DISTRICT: GENERAL RETAIL (GR)
PROPOSED LAND USES:
RESTAURANTS
HOTELS
GENERAL RETAIL

APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - RESTAURANT	6,200 GSF	51 43
② - 150 KEY HOTEL	80,000 GSF	100 78
③ - FAST CASUAL DRIVE-THRU	2,200 GSF	86 87
④ - RESTAURANT	6,300 GSF	
⑤ - IN-LINE RETAIL	7,400 GSF	40 41
⑥ - FAST CASUAL DRIVE-THRU	2,200 GSF	23 22

*SHARED SPACES WITH RECREATION FACILITY NOT TABULATED

PHASE IV
7.5 ACRES 101,200 GSF

BASE DISTRICTS: LIGHT INDUSTRIAL (LI)
PROPOSED LAND USES:
STORAGE FACILITY
FLEX INDUSTRIAL

APPROX. PROPOSED OPEN AREA:

BUILDING	AREAS	PARKING TABULATIONS
		REQ'D PROVIDED
① - STORAGE FACILITY	28,200 GSF	28 24
② - FLEX INDUSTRIAL	60,000 GSF	40 44

- REQUIRED PARKING CALCULATED BASED ON THE FOLLOWING CRITERIA:
- RESTAURANT/CAFE: 1 SPACE PER 100 SFT.
 - HOTEL: 1 SPACE PER ROOM.
 - OFFICE: 1 SPACE PER 400 SFT.
 - RETAIL: 1 SPACE PER 200 SFT.
 - MULTIFAMILY: 2 PER DWELLING UNIT.
 - LIGHT ASSEMBLY: 1 SPACE PER 500 SFT.
 - WAREHOUSE STORAGE: 1 SPACE PER 1,000 SFT.
 - STREET PARKING SPACES NOT TABULATED.

CONCEPT
PLANNED DISTRICT PHASING PLAN
1"=100'-0"





SOUTH ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



WEST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



EAST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



NORTH ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1" = 20'-0"



SOUTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



SOUTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



EAST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



NORTH ELEVATION
PARTIAL RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



WEST ELEVATION
DEVELOPMENT SIGNAGE NEAR HIGHWAY
SCALE: 1/8" = 1'-0"



WEST ELEVATION
RECREATION BUILDING "A" - "F"
SCALE: 1/8" = 1'-0"



MATERIAL LEGEND

- RED BRICK VENEER
- STONE VENEER
- WOOD PANEL
- STUCCO
- STUCCO
- VERTICAL LAP SIDING
- CORRUGATED METAL SIDING
- TRIM
- DARK CEMENTITIOUS PANEL



FRONT ELEVATION
RETAIL BUILDING "R"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RETAIL BUILDING "M"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
FAST-CASUAL BUILDING "K" + "N"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RESTAURANT BUILDING "H" + "L"
SCALE: 1/8" = 1'-0"

MATERIAL LEGEND	
	STONE VENEER
	WOOD PANEL
	STUCCO
	CORRUGATED METAL SIDING



FRONT ELEVATION
RESIDENTIAL 4-STORY BUILDING "S"
SCALE: 1/8" = 1'-0"

FRONT ELEVATION
RESIDENTIAL 1-STORY CLUBHOUSE "T"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
RESIDENTIAL 4-STORY BUILDING "S"
SCALE: 1/8" = 1'-0"

MATERIAL LEGEND	
	BUFF BRICK VENEER
	DARK CEMENTITIOUS PANEL
	WOOD PANEL
	LIGHT ACCENT PANEL



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "Q"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "P"
SCALE: 1/8" = 1'-0"



MATERIAL LEGEND	
	BUFF BRICK VENEER
	DARK STUCCO
	LIGHT STUCCO
	WOOD PANEL
	LAP SIDING
	TRIM



FRONT ELEVATION
 4-STORY HOTEL BUILDING "J"
 SCALE: 1/8" = 1'-0"









FitSportLife ROCKWALL | AXIAL VIEW OF OFFICE BUILDINGS
 CORPORATE CROSSING WEST AND I-30 | ROCKWALL, TEXAS



NSPJ

ARCHITECTS PA

Concept Plan Information

FitSportLife Rockwall

March 20, 2020

It is proposed to create a Planned District (PD) Development that encompasses 55.8 acres (+/-) located to the south and east of the intersection between Corporate Crossing West and Interstate Hwy 30. The extents of this district are illustrated in the aerial photograph shown below.

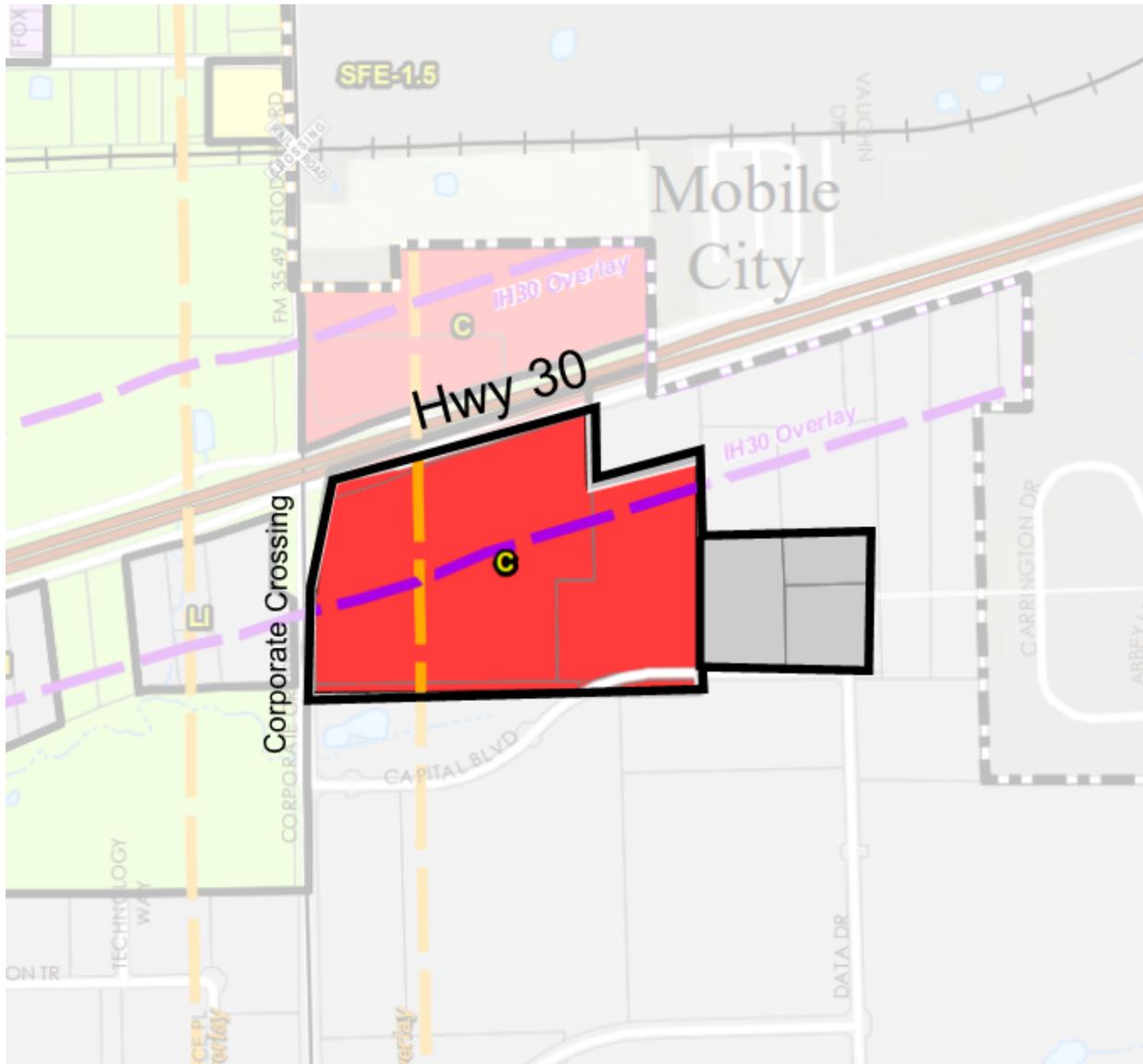


VICINITY MAP

NTS



Presently the site is zoned for Commercial and Light Industrial uses and includes both an IH30 and FM549 Overlay District. Surrounding sites are zoned for light industrial and agricultural uses.



VICINITY MAP

NTS

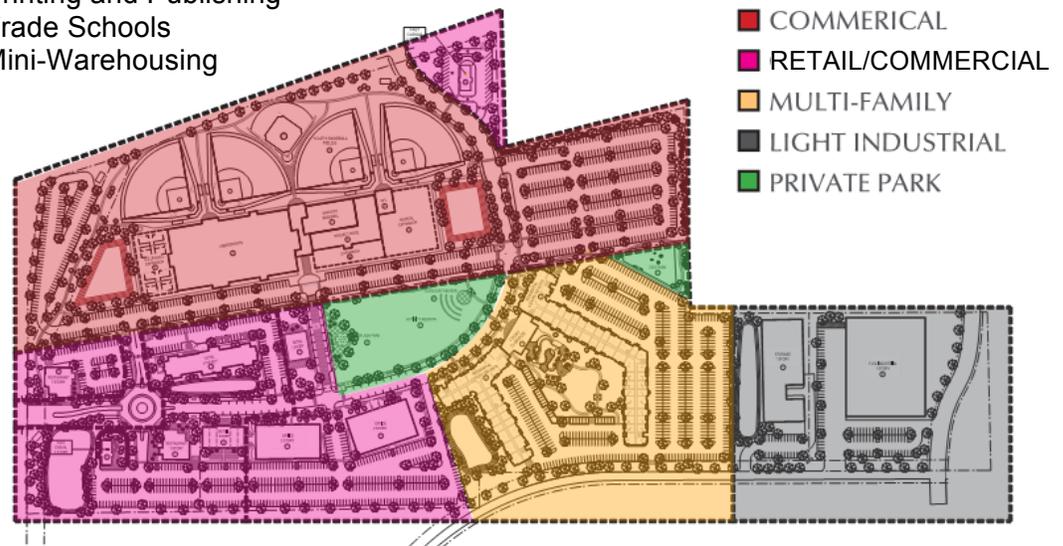


The PD will reference and amend the standards established in the Unified Development Code for the following districts:

- Commercial (C) District
- General Retail (GR) District
- Multifamily (MF- 14) District
- Light Industrial (LI) District
- General Overlay Districts

The intent is to provide the following land uses but also allow for the potential for all uses included in the commercial zoning code, to be able to react to the commercial product as the market dictates for each phase:

- Indoor commercial recreational facilities
- Private Sports Arenas
- General Office and Corporate Headquarters
- Multifamily Development
- A limited or Full-Service Hotel
- General Retail Stores
- Neighborhood Convenience Centers
- Food Trucks/Trailers
- Retail outlets with gasoline products
- Restaurant and Restaurants with drive throughs
- Permitted land uses typical in light industrial districts, such as:
 - Machine Shops
 - Breweries
 - Light Assembly and Fabrication
 - Printing and Publishing
 - Trade Schools
 - Mini-Warehousing



PROPOSED LANDUSE MAP

NTS



The Planned District's primary objective is to create a modern Main Street that connects a variety of complimentary land uses with quality open space. The Main Street is articulated in a way that creates a unique pedestrian experience along an aesthetically pleasing streetscape. Buildings will be constructed close to the public Main street, set back from the curb an approximately uniform distance. Parking areas will be located behind and therefor concealed by the buildings that front the main street. Pedestrian elements such as benches, trash receptacles, etc. will be incorporated into the streetscape at regular intervals to ensure the site works at a pedestrian scale.

In addition to being consistent with the vision and goals championed in Rockwall's Comprehensive City Plan, we believe the PD District meets the purpose of Planned Districts outlined in Article 10 of the Unified Development Code by doing the following:

- Providing for a superior design of lots and buildings.
- Providing for increased recreation and open space intended for public use.
- Providing amenities that will be of special benefit to the community
- Providing an appropriate balance between the intensity of development and the ability to provide adequate supporting public facilities and services.



TRAFFIC IMPACT ANALYSIS FOR
MIXED-USE DEVELOPMENT
IN ROCKWALL, TEXAS

DeShazo Project No. 20021

Prepared for:

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March 19, 2020



Traffic Impact Analysis for
Mixed-Use Development in City of Rockwall

~ DeShazo Project No. 19115 ~

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EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

The proposed project is planned to be built in four phases and will be fully constructed by 2024. The area is approximately 66 acres. **Table 1** shows the development program summary for the site development.

Table 1. Development Program Summary

Use	Phase No.	Quantity
Alethic Club	I	146,000 SF
Restaurant	II	6,305 SF
Hotel	II	100 Rooms
Fast Food with Drive Thru	II	2,256 GSF
Restaurant	II	6,305 GSF
Retail	II	7,400 GSF
Fast Food with Drive Thru	II	2,256 GSF
Office	III	35,800 GSF
Office	III	39,200 GSF
Retail	III	5,000 GSF
Multifamily Housing	III	274 Units
Storage Facility	IV	31,800 GSF
Flex Industrial	IV	63,000 GSF

The analysis of the traffic generated by the proposed development resulted in no significant impact on the local roadway system. Below is a summary of findings from this TIA.

FINDING: Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

FINDING: Based upon the 2024 background & 2024 background-plus site buildout analysis all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB shared left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB shared left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

RECOMMENDATIONS:

IH 30 WBFR at N Stodghill Road: The intersection is expected to operate at LOS E at buildout conditions during the AM peak hour. It is recommended to optimize the traffic signal after the full buildout to improve the level of service from LOS E to LOSD at this intersection (**Appendix D**).

Capital Blvd at Corporate Crossing:

- The WB left turning movement is currently expected to operate at LOS E during the peak hour with a maximum 95th percentile queue of about 1 vehicle only. Therefore, no mitigation measures are recommended.

Discovery Blvd at Corporate Crossing:

- The EB left-through movement is currently operating at LOS E with a maximum 95th percentile queue of about 4 vehicles and is expected to operate at LOS F with maximum 95th percentile queue of 8 vehicles. This is not an uncommon situation on a stop controlled intersection for a vehicle of Minor Street making a through/left turn movement. The proposed development does not possess any impact on this movement. Therefore, no mitigation measures are recommended
- The WB left turning movement is expected to operate at LOS F with a maximum 95th percentile queue of less than 1 vehicle. Therefore, no mitigation measures are recommended.

Driveway 2/Gas Station Driveway at Corporate Crossing:

- The WB shared left-through movement is expected to operate at LOS F during the peak hour with a maximum 95th percentile queue of about 11 vehicles. It is recommended to perform a traffic signal warrant study to determine whether the intersection warrants a signal after full buildout in future.

FINDING: Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT's requirement of a left turn storage lane for all raised median openings.

FINDING: All the site driveways proposed for this study meet TxDOT's driveway spacing requirements except for the spacing between the Driveway 3 and Driveway 4. A variance of lesser spacing requirement for these driveways with the City of Rockwall can be persuaded.

FINDING: Based on AASHTO Green Book, all the proposed site driveways meet the required intersection sight distance.

FINDING: Based upon the link analysis, IH 30 EBFR and Corporate Crossing Blvd are expected to operate at an acceptable level of service (**Refer Table 7**).

END OF SUMMARY

INTRODUCTION

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas. The proposed project is planned to be built in four phases and will be fully constructed by 2024.

A site location map and preliminary site plan are provided in **Exhibit 1** and **Exhibit 2**, respectively.

PURPOSE

City of Rockwall is requiring that a TIA be completed for the subject site as part of permit application. The purpose of the TIA is to determine if any improvements to the adjacent transportation system are needed in order to maintain a satisfactory level of service, an acceptable level of safety, and appropriate access for the proposed development.

TRAFFIC IMPACT ANALYSIS - METHODOLOGY

To achieve this objective, this analysis summarizes the traffic operational characteristics of the background conditions within a designated study area and the projected incremental impact of the Project as determined through standardized engineering analyses. The standard methodology used to conduct the traffic impact analysis is described below.

1. Collect current traffic volume data on a typical day throughout the study area to represent existing traffic conditions.
2. Apply growth factors to the existing volumes to project future background traffic at the site buildout year conditions.
3. Project traffic generated by the proposed development using trip generation, trip distribution and traffic assignment as described below.
 - a. Trip generation is calculated in terms of “trip ends” – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends).
 - b. Trip distribution and assignment of site-generated trips to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic; trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.
4. Determine site-plus-background traffic by adding the projected site-generated traffic to the background traffic.
5. Analyze existing, background and background-plus-site traffic volumes to evaluate the roadway conditions in the vicinity of the proposed development.
6. If needed, mitigation measures are recommended based upon the analysis to improve roadway operational conditions.

ANALYSIS SCENARIOS

This TIA analyzed the following peak hour periods that are considered the most critical conditions on the public roadway system related to the proposed Project. The proposed project is planned to be built in four phases and will be fully constructed by 2024.

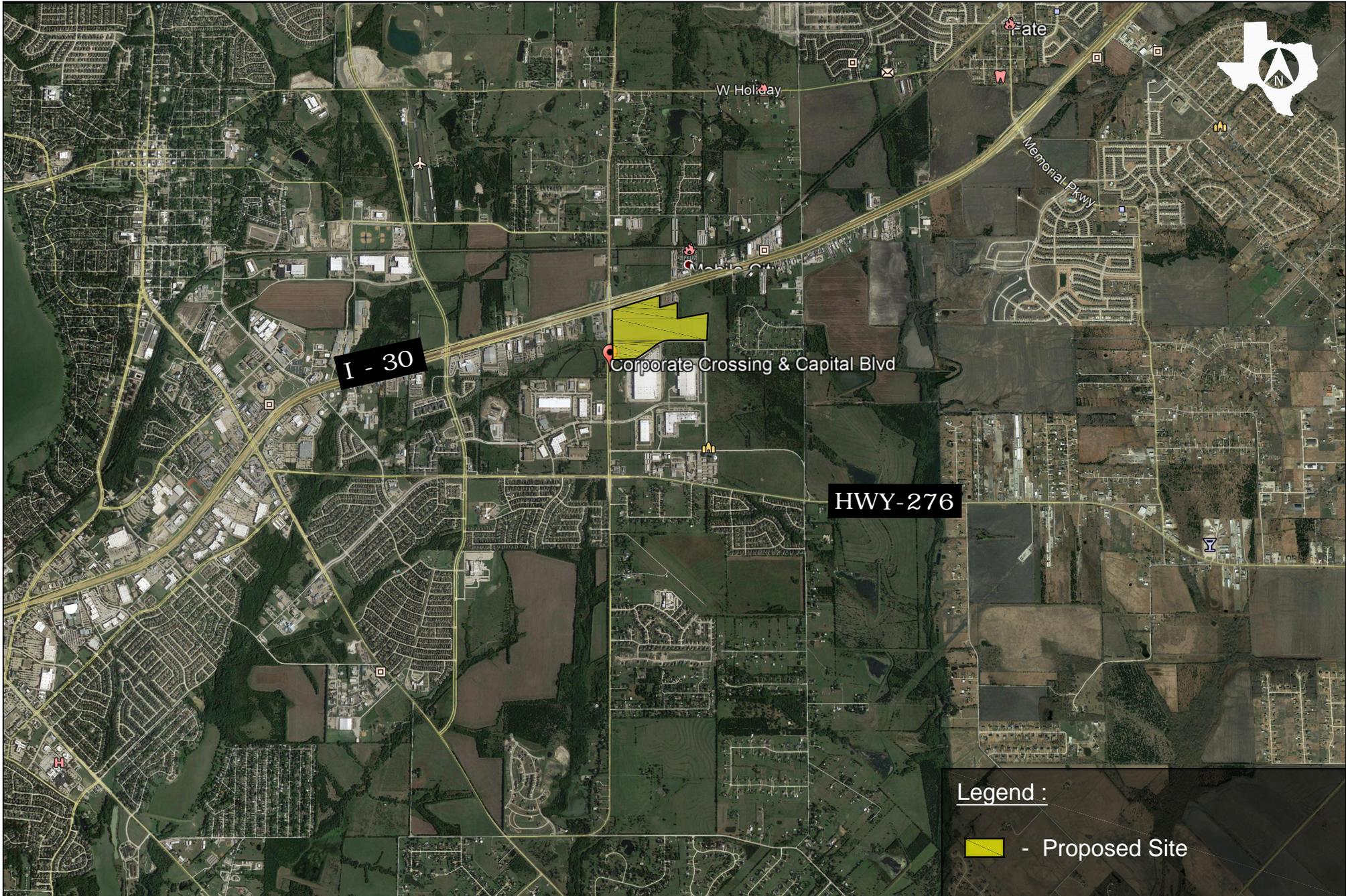
Roadway Peak Hours Analyzed:

- Weekday: AM peak hour of adjacent street traffic
- Weekday: PM peak hour of adjacent street traffic

Development scenarios considered in this analysis are summarized in **Table 2**.

Table 2. Development Scenarios Analyzed

Scenario	Development Program	Traffic Volumes
2020 Existing	None Added	Existing 2020 Volumes
2024 Background	None Added	Existing 2020 volumes grown at 2% per year for 4 years
2024 Background + Site	Mixed-Use Development	Existing 2020 volumes grown at 2% per year for 4 years plus site traffic
2029 Horizon	None Added	2024 background volumes grown at 1% per year for 5 years
2029 Horizon + Site	Mixed-Use Development	2024 background volumes grown at 1% per year for 5 years plus site traffic



SITE LOCATION MAP

TIA for Mixed Use Development in Rockwall, Texas

PROJECT #: 20021

DATE: FEB 2020

EXHIBIT

1



SITE PLAN LEGEND		PARKING TABULATIONS	
*RENTABLE SQUARE FOOTAGE EXCLUDES MULTIFAMILY			
PHASE I 125,000 GSF*		REQ'D	PROVIDED
(A) - ROCKWALL COURTS	62,000 GSF	TBD	747
(B) - PROJECT ROSE	15,000 GSF		
(C) - MARRUCCI BASEBALL	12,000 GSF		
(D) - MEDICAL EXPANSION	18,000 GSF		
(E) - SAND VBALL EXPAND.	18,000 GSF		
(F) - YOUTH BASEBALL FIELDS	N/A		
PHASE II 84,522 GSF*		REQ'D	PROVIDED
(G) - RESTAURANT	6,305 GSF	63	63
(H) - +100 KEY HOTEL	60,000 GSF	100	79 +21 SHARED WITH PHASE I
(I) - FAST/CASUAL DRIVE-THRU	2,256 GSF	86	87
(J) - RESTAURANT	6,305 GSF		
(K) - IN-LINE RETAIL	7,400 GSF	40	41
(L) - FAST/CASUAL DRIVE-THRU	2,256 GSF	23	28
PHASE III 69,000 GSF*		REQ'D	PROVIDED
(M) - OFFICE	35,800 GSF	120	250 + UNASSIGNED STREET SPACES
(N) - OFFICE	39,200 GSF	130	
(O) - RETAIL	5,000 GSF	10	(SHARED WITH HOTEL)
(P) - MULTIFAMILY HOUSING	274 UNITS	548	603
(169 1-BEDROOM UNITS, 105 2-BEDROOM UNITS)			
(Q) - MULTIFAMILY CLUBHOUSE	7,000 GSF	-	-
(R) - SPLASH PARK	-	-	-
(S) - ACTIVITY MEADOW	-	-	-
(T) - OUTDOOR THEATER	-	-	-
(U) - DOG PARK	-	-	-
PHASE IV 101,200 GSF*		REQ'D	PROVIDED
(V) - STORAGE FACILITY	31,800 GSF	32	24 SHOWN WITH ROOM FOR MORE
(W) - FLEX INDUSTRIAL	63,000 GSF	63	89

REQUIRED PARKING CALCULATED BASED ON THE FOLLOWING CRITERIA:

- RESTAURANT/CAFE: 1 SPACE PER 100 SFT.
- HOTEL: 1 SPACE PER ROOM
- OFFICE: 1 SPACE PER 300 SFT.
- RETAIL: 1 SPACE PER 250 SFT.
- MULTIFAMILY: 2 PER DWELLING UNIT
- LIGHT ASSEMBLY: 1 SPACE PER 500 SFT.
- WAREHOUSE STORAGE: 1 SPACE PER 1,000 SFT.

EXHIBIT 2. PRELIMINARY SITE PLAN



ROCK WALL, TX MIXED USE | SITE PLAN

COMMERCE PARKWAY AND I-30 | ROCKWALL, TX

657519 | 02.06.2020



EXISTING AND PROPOSED LAND USE

The study parameters used in this TIA are based upon the requirements of TxDOT/City of Rockwall and are consistent with the standard industry practices used in similar studies.

SITE LOCATION AND STUDY AREA

The proposed Mixed-Use development, will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

Roadway Intersections:

- N Stodghill Road at I-30 WBFR: Signalized
- N Stodghill Road at I-30 EBFR: Signalized
- Corporate Crossing at Capital Blvd: Stop Controlled on Capital Blvd
- Corporate Crossing at Discovery Blvd: Stop Controlled on Discovery Blvd
- I-30 EBFR at Driveway 1: Stop Controlled on Driveway 1
- Corporate Crossing at Gas Station Driveway/Driveway 2: Stop Controlled on Gas Station Driveway/Driveway 2
- Capital Blvd at Driveway 3: Stop Controlled on Driveway 3
- Capital Blvd at Driveway 4: Stop Controlled on Driveway 4

EXISTING SITE AND DEVELOPMENT

The site is currently vacant. There is a Loves gas station opposite of the proposed development on West side of Corporate Crossing and there are existing warehouses south of the proposed development. There are no any sidewalks and bike lanes for the pedestrian and bike activities around the proposed site at existing condition. The proposed development will consist of about 66 Mixed-Use Acres. The development will consist of mixed-use development with residential, retail, restaurant, and fast food with drive thru, sports, office, and storage facility and flex industry. The development is going to be built in four phases and is expected to be fully built by 2024. Based on City of Rockwall's thoroughfare plan, a street is going to be connected to the IH30 EBFR from Capital Blvd (from the right end of the phase IV) of the proposed development in the future. This future connection will serve a few traffic of the proposed development. This connection is expected to serve the existing and future developments that will be built south of IH 30 EBFR.

EXISTING AND PROPOSED TRANSPORTATION SYSTEM

Thoroughfare System

- I-30 Frontage Road:
 - Existing operation and cross-section: Two lanes, one-way
 - Speed Limit: 45 mph (posted speed limit adjacent to site)
 - TxDOT Functional Classification: Frontage Road , 2 lanes, one-way

- Corporate Crossing:
 - Existing operation and cross-section: Four lanes, two-way
 - Speed Limit: 50 mph (posted speed limit adjacent to site)
 - TxDOT Functional Classification: Major Collector, 4 lanes, divided

A summary of the existing and proposed intersection/roadway geometry and traffic control are shown in **Exhibit 3 and Exhibit 4** respectively.

Existing Traffic Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, March 3, 2020. Traffic volumes are graphically summarized in **Appendix A** and detailed 15-minute-count data sheets are provided in **Appendix B**.

Projected Background Traffic Volumes

Background traffic growth is defined as the normal traffic growth that is not directly related to the subject development of this study. Historical traffic volumes in the area have fluctuated in the last several years. A growth rate of 2% per year was used in this analysis till buildout (2024) and 1% per year was used for from buildout to horizon year (2029). Future background traffic volumes estimate for the buildout years were calculated by applying the assumed growth rate for the study area intersections. These volumes are graphically summarized in **Appendix A**.

SITE-TRAFFIC CHARACTERISTICS

Traffic generated by the Project is projected by first determining the number of trips generated by the planned land use, then distributing and assigning projected site-related trips to the roadway system.

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation manual (10th Edition) is an accepted source for calculating trip generation for common land uses for which sufficient published data is available.

Trip generation is summarized in trip ends – a trip end is a one-way vehicular trip entering or leaving a site (i.e., one vehicle arriving and departing represents two trip ends). This analysis evaluates typical weekday AM and PM peak hour conditions of the local street traffic.

Adjustments for Internal capture were considered for adjustment of the base ITE data for this analysis. The internal capture of 13% for AM and 17% for PM used in this analysis are based on the ITE trip generation software.

A “pass-by trip” is a site-generated trip end that originates from the traffic volume that is otherwise passing by the site on the adjacent street. Hence, pass-by trips are reflected in the overall site driveway volumes but are not added to (i.e., already included in) the local roadway volume. Pass-by rates are published by ITE. For simplicity, in this analysis, the “total” site-generated trip ends were included in the driveway volumes, and only the net increase in trip ends were added to the adjacent street traffic.

The analysis considered a 4% and 5% pass-by trip reduction for AM and PM, respectively.

Table 3 provides a summary of the calculated trip ends generated by the project. Excerpts from ITE Trip Generation data are provided in the Appendix section of this report. Supplemental information used in the trip generation calculations is provided in **Appendix C**.

Table 3. Projected Trip Generation

ITE Code	ITE Land Use	Quantity	Weekday Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
110	General Light Industrial-Phase IV	63,000 SF	312	44	39	5	40	5	35
150	Warehousing-Phase IV	31,800 SF	96	29	22	7	32	9	23
221	Multifamily Housing(Mid-Rise)-Phase III	274 DU	1,491	99	26	73	117	71	46
310	Hotel-Phase II	100 Rooms	836	47	28	19	60	31	29
493	Athletic Club - Phase I	146,000 SF	4,610	461	281	180	918	569	349
710	General Office Building- Phase III	35,800 SF	392	60	52	8	43	7	36
710	General Office Building- Phase III	39,200 SF	428	63	54	9	47	8	39
932	High-Turnover (Sit-Down) Restaurant- Phase II	6,305 SF	707	63	35	28	62	38	24
932	High-Turnover (Sit-Down) Restaurant-Phase II	6,305 SF	707	63	35	28	62	38	24
934	Fast Food with Drive-Thru-Phase II	2,256 SF	1,062	91	46	45	74	38	36
934	Fast Food with Drive-Thru-Phase II	2,256 SF	1,062	91	46	45	74	38	36
820	Shopping Center-Phase II	7,400 SF	1,024	155	96	59	79	38	41
820	Shopping Center-Phase III	5,000 SF	784	154	95	59	59	28	31
		<i>Subtotals:</i>	13,513	1,420	855	565	1,667	918	749
		<i>13% AM and 17% PM Internal Capture:</i>	0	185	92	92	283	142	142
		<i>4% AM and 5% PM Pass by Trips:</i>	0	57	28	28	83	42	42
		Totals:	13,513	1,179	734	444	1,300	735	566

TRIP DISTRIBUTION AND ASSIGNMENT

Traffic for the proposed development was distributed and assigned to the study area roadway network based upon the roadway network and regional travel flow [or existing traffic patterns]. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

SITE-GENERATED TRAFFIC VOLUMES

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 3**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

ROADWAY INTERSECTION ANALYSIS

INTERSECTION CAPACITY ANALYSIS - METHODOLOGY

The level of performance of infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic, an operational analysis of roadway intersection capacity is the most detailed type of analysis. An industry-standardized methodology for this type of analysis is presented in the *Highway Capacity Manual (HCM)*. HCM uses the term “level of service” (LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS is described as follows.

- LOS A = free, unobstructed flow
- LOS B = reasonably free flow
- LOS C = stable flow
- LOS D = approaching unstable flow
- LOS E = unstable flow, operating at design capacity
- LOS F = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C (or better) is desirable, although LOS D is considered to be acceptable. Nevertheless, periods of LOS E or F conditions are not uncommon for brief periods of time at major transportation facilities. In some cases, measures to add more capacity—either through operational changes and/or physical improvements—can be identified to increase efficiency and sometimes improve the level of service.

For traffic-signal-controlled (“signalized”) intersections and STOP-controlled (“unsignalized”) intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections, the average delay per vehicle can be effectively calculated for the entire intersection. However, the average delay per vehicle for unsignalized intersections is calculated by only approach or by individual traffic maneuvers that must stop or yield right-of-way. For unsignalized intersections of a minor street or driveway and a major roadway, the analysis methodology often breaks down and yields low levels of service (often, LOS F) that cannot be mitigated unless a traffic signal is installed. However, for a traffic signal to be installed, the responsible agency that governs the right-of-way must issue its approval subject to very specific warrant criteria being met *and* several other operational considerations being satisfied. Neither level of service nor delay is considered a criterion for traffic signal installation.

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	Unsignalized Intersection (Average Delay per Vehicle)
LOS A	≤ 10	≤ 10
LOS B	>10 - ≤20	>10 - ≤15
LOS C	>20 - ≤35	>15 - ≤25
LOS D	>35 - ≤55	>25 - ≤35
LOS E	>55 - ≤80	>35 - ≤50
LOS F	>80	>50

NOTE: Signalized intersection operational parameters and operational results in this TIA were obtained directly from the optimized software output and may differ slightly from actual traffic signal operations.

2020 EXISTING – INTERSECTION ANALYSIS

Existing traffic volumes were analyzed to determine current operational conditions. Intersection capacity analyses presented in this study were performed using the **SYNCHRO** software package. **Table 4** provides a summary of peak period intersectional operational conditions. Detailed traffic volumes and software output for all intersection analysis is provided in **Appendix A** and **Appendix D**, respectively.

Table 4. Existing Intersection Analysis

Intersections	Traffic Movement		2020 Existing.			
			AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road		Signalized Intersection	B (17.4)		B (15.8)	
<u>IH 30 EBFR at</u> N Stodghill Road			B (12.9)		B (16.6)	
<u>Capital Blvd at</u> Corporate Crossing	WBL WBR SBL	Unsignalized Intersection	C (22.9)		C (22.2)	
			B (10.8)		B (11.1)	
			A (9.3)		A (9.2)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (8.7)		A (8.3)	
			D (32.0)		E (41.1)	4.0
			A (9.8)		B (10.1)	
			D (34.4)		C (20.7)	
			C (16.4)		B (11.7)	
		A (9.1)		A (8.4)		
<u>Driveway 1 at</u> IH 30 EBFR	NBR		- -	- -		
			- -	- -		
<u>Gas Station Driveway /Driveway 2 at</u> Corporate Crossing	EBR WBLT WBR SBL SBT		A (10.0)		A (10.0)	
			- -	- -		
			- -	- -		
			- -	- -		
			- -	- -		
<u>Driveway 3 at</u> Capital Blvd	EBL SB		- -	- -		
			- -	- -		
<u>Driveway 4 at</u> Capital Blvd	EBL SB		- -	- -		
			- -	- -		

KEY:

*A, B, C, D, E, F = Level-of-Service for each intersection approach
NB, SB, EB, WB = North-, South-, East-, Westbound approach*

L, T, R = Left, Through, Right Approach turning movement

AM = AM Peak Hour of Adjacent Street

PM = PM Peak Hour of Adjacent Street

NOTE: Signalized intersection operational parameters and operational results were obtained directly from the optimized software output and may differ slightly from actual traffic signal operations.

Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

2024 BACKGROUND AND BACKGROUND PLUS SITE – INTERSECTION ANALYSIS

The development is expected to be completed by 2024. Therefore, year 2024 background (no build) and background-plus site traffic volumes were analyzed to determine the incremental change in operational conditions during peak periods *without* and *with* site-related traffic. The LOS results are provided in **Table 5**.

Table 5. 2024 Intersection Analysis

Intersections	Traffic Movement		2024 Background		2024 Background + Site			
			AM	PM	AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road With Splits Optimization		Signalized Intersection	B (18.5)	B (17.0)	E (65.2)		D (46.1)	
					D (49.2)			
<u>IH 30 EBFR at</u> N Stodghill Road			B (13.2)	B (17.4)	B (19.7)		C (27.0)	
<u>Capital Blvd at</u> Corporate Crossing	WBL WBR SBL	Unsignalized Intersection	D (25.7)	C (24.8)	E (40.2)	<1.0	E (40.6)	1.0
			B (11.1)	B (11.4)	B (12.1)		B (12.6)	
			A (9.5)	A (9.4)	B (10.4)		B (10.3)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (8.9)	A (8.4)	A (9.1)		A (8.7)	
			E (37.7)	F (61.8)	E (48.8)	<1.0	F (>100)	8.0
			A (10.0)	B (10.3)	B (10.2)		B (10.7)	
			E (40.9)	C (23.2)	F (54.0)	<1.0	D (30.6)	
			C (17.7)	B (12.3)	C (21.0)		B (13.8)	
			A (9.4)	A (8.6)	A (9.9)		A (9.0)	
<u>Driveway 1 at</u> IH 30 EBFR	NBR			- -	- -	B (10.5)		B (12.7)
			- -	- -				
<u>Gas Station Driveway / Driveway 2 at</u> Corporate Crossing	EBR WBLT WBR SBL SBT		B (10.2)	B (10.1)	B (10.4)		A (10.0)	
			- -	- -	F (>100)	8.0	F (>100)	11.0
			- -	- -	C (18.0)		D (25.6)	
			- -	- -	B (13.6)		B (14.6)	
			- -	- -	A (2.4)		A (2.6)	
<u>Driveway 3 at</u> Capital Blvd	EBL SB		- -	- -	A (7.3)		A (7.3)	
			- -	- -	A (8.5)		A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL SB		- -	- -	A (7.3)		A (7.3)	
			- -	- -	A (8.4)		A (8.4)	

Based upon the 2024 background & 2024 background-plus site buildout analysis all the intersections are expected to operate at LOS D, or better during the peak hour periods with the exception of:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

2029 HORIZON AND HORIZON-PLUS-SITE – INTERSECTION ANALYSIS

2029 horizon (no build) and horizon-plus-buildout traffic volumes were analyzed to determine the incremental change in operational conditions during peak periods *without* and *with* site-related traffic. The LOS results are provided in **Table 6**.

Table 6. 2029 Intersection Analysis

Intersections	Traffic Movement		2029 Horizon		2029 Horizon + Site			
			AM	PM	AM	Q (Veh)	PM	Q (Veh)
<u>IH 30 WBFR at</u> N Stodghill Road With Splits Optimization		Signalized Intersection	B (19.2)	B (17.9)	E (70.7) D (52.2)		D (45.7)	
			B (13.5)	B (18.3)	C (21.1)		C (28.7)	
<u>IH 30 EBFR at</u> N Stodghill Road			B (13.5)	B (18.3)	C (21.1)		C (28.7)	
<u>Capital Blvd at</u> Corporate Crossing	WBL	Unsignalized Intersection	D (27.8)	D (26.9)	E (44.4)	<1.0	E (45.4)	1.0
	WBR		B (11.3)	B (11.6)	B (12.4)		B (12.9)	
	SBL		A (9.7)	A (9.6)	B (10.7)		B (10.5)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL		A (9.0)	A (8.5)	A (9.3)		A (8.8)	
	EBLT		E (42.9)	F (85.8)	F (56.3)	1.0	F (>100)	10.0
	EBR		B (10.1)	B (10.4)	B (10.4)		B (10.8)	
	WBL		E (46.2)	D (25.3)	F (62.7)	<1.0	D (33.9)	
WBTR	C (18.7)	B (12.6)	C (22.3)		B (14.2)			
SBL	A (9.5)	A (8.6)	B (10.1)		A (9.1)			
<u>Driveway 1 at</u> IH 30 EBFR	NBR		- -	- -	B (10.6)		B (12.9)	
<u>Gas Station Driveway /Driveway 2 at</u> Corporate Crossing	EBR		B (10.3)	B (10.2)	A (10.0)		A (10.0)	
	WBLT		- -	- -	F (>100)	9.0	F (>100)	11.0
	WBR		- -	- -	C (18.8)		D (27.5)	
	SBL		- -	- -	B (14.2)		C (15.2)	
SBT		- -	- -	A (2.7)		A (3.0)		
<u>Driveway 3 at</u> Capital Blvd	EBL		- -	- -	A (7.3)		A (7.3)	
	SB		- -	- -	A (8.5)		A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL		- -	- -	A (7.3)		A (7.3)	
	SB		- -	- -	A (8.4)		A (8.4)	

Based upon the 2029 horizon & 2029 horizon-plus site buildout analysis all the intersections are expected to operate at LOS D, or better during the peak hour periods with the exception of:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2029 horizon plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2029 horizon plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB left-through movement is expected to operate at LOS E and LOS F during the AM peak hour for 2029 horizon and 2029 horizon plus site conditions respectively.
- The EB left-through movement is expected to operate at LOS F during the PM peak hour for both 2029 horizon and 2029 horizon plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2029 horizon and 2029 horizon plus site conditions.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB left-through movement is expected to operate at LOS F for AM and PM peak hour for 2029 horizon plus site conditions.

ROADWAY LINK ANALYSIS - METHODOLOGY

A roadway link is a roadway segment between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretical roadway capacity. The capacity of the roadway link is a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Roadway link capacity is less critical than intersection capacity; however, it can provide a gauge of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions). In the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG), the metropolitan planning agency for the Dallas-Melissa region, has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principles presented in the *Highway Capacity Manual* with "regional calibration" factors applied. Though these per-lane capacities, or "Service Volumes" (summarized in the table below), are intended for modelling purposes, they do provide a reasonable gauge of theoretical capacity.

Area Type	Hourly Service Volumes by Roadway Function					
	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	725	650	725	650	475	425
Urban/Commercial	850	775	825	750	525	475
Suburban Residential	925	8,75	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume to capacity ratio is calculated – a v/c ratio of less than 1.0 indicates that the roadway is operating under capacity. NCTCOG's level of service denominations are as follows.

- Volume: Capacity Ratio \leq 45% is *LOS A/B*
- Volume: Capacity Ratio $>$ 45% and \leq 65% is *LOS C*
- Volume: Capacity Ratio $>$ 65% and \leq 80% is *LOS D*
- Volume: Capacity Ratio $<$ 80% and \leq 100% is *LOS E*
- Volume: Capacity Ratio \geq 100% is *LOS F*

ROADWAY LINK ANALYSIS - RESULTS

For purpose of the roadway link analysis, the area is considered suburban residential. Existing peak hour volumes, the growth rate factor and peak hour projected site-generated trips were used to conduct the roadway link analysis which is summarized in **Table 10**.

Table 10. Roadway Link Capacity Analysis Results Summary

Roadway	Direction	Classification for Analysis	*Hourly Volume	# LANES	MEDIAN DIVIDED?	CAPACITY		V/C	LOS
						Per Lane	Roadway		
2020 Existing:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	477	2	One-Way	900	1,800	0.27	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	674	2	Y	900	1,800	0.37	A/B
	SB	Minor Arterial	542	2	Y	900	1,800	0.30	A/B
2024 Background:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	516	2	One-Way	900	1,800	0.29	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	730	2	Y	900	1,800	0.41	A/B
	SB	Minor Arterial	582	2	Y	900	1,800	0.32	A/B
2024 Background Plus Site:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	785	2	One-Way	900	1,800	0.44	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	1,109	2	Y	900	1,800	0.62	C
	SB	Minor Arterial	950	2	Y	900	1,800	0.53	C
2029 Horizon:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	543	2	One-Way	900	1,800	0.30	A/B
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	767	2	Y	900	1,800	0.43	A/B
	SB	Minor Arterial	609	2	Y	900	1,800	0.34	A/B
2029 Horizon Plus Site:									
IH 30 EBFR (between N Stodghill Road and Driveway 1)	EB	Frontage Road	811	2	One-Way	900	1,800	0.45	C
Corporate Crossing (between Capital Blvd and Driveway 2)	NB	Minor Arterial	1,146	2	Y	900	1,800	0.64	C
	SB	Minor Arterial	976	2	Y	900	1,800	0.54	C

Based upon the roadway link analysis:

I-30 EBFR:

- Currently operates at LOS A/B at existing conditions.
- Expected to operate at LOS C for 2024 full buildout conditions as well as for 2029 horizon plus site condition.

Corporate Crossing:

- Both the NB and SB movements currently operates at LOS A/B at existing conditions.
- Both the NB and SB movements are expected to operate at LOS C for 2024 full buildout conditions as well as for 2029 horizon plus site conditions.

SITE ACCESS REVIEW

Intersection sight distance, driveway spacing and deceleration lane requirements were also evaluated as part of this TIA.

INTERSECTION SIGHT DISTANCE

INTERSECTION SIGHT CRITERIA:

Sight distance is the metric used to describe the ability of a motorist to physically see (via a direct line of sight) objects and/or other vehicles to a degree sufficient to allow safe and efficient use of a roadway in the intended manner. The sight distance is a function of the major roadway's geometric characteristics and 85th percentile speed.

INTERSECTION SIGHT DISTANCE REVIEW FOR PROJECT

The sight distance requirements are based on the *AASHTO Green Book* Exhibit 9-54 and Exhibit 9-55 (**Appendix E**). **Table 11** provides the Intersection sight distance summary for this study.

Table 11. Intersection Sight Distance Summary

Intersections	Speed Limit (mph)	For Left Turn		For Right Turn		Meets Requirements
		Required (Ft)	Provided (Ft)	Required (Ft)	Provided (Ft)	
Driveway 1 at I-30 EBFR	45	-	-	430	~700	Yes
Driveway 2 at Corporate Crossing	50	555	~600	480	~600	Yes
Driveway 3 at Capital Blvd	30	335	>335	290	>290	Yes
Driveway 4 at Capital Blvd	30	335	>335	290	>290	Yes

[Note: This does not rule out the potential that other impediments such as landscaping, signage, etc. may exist.]

DRIVEWAY SPACING REVIEW

TXDOT SPACING CRITERIA:

The TxDOT *Access Management Manual* provides guidelines for new driveways along roadways based upon the posted speed limit. Based upon Tables 2-1, 2-2 (**Appendix E**) from TxDOT's *Access Management Manual*, the minimum driveway connection spacing is 360 feet for a speed limit greater than or equal to 45 mph such as I-30 EBFR/WBFR and 425 feet for a speed limit greater than or equal to 50 mph such as Corporate Crossing. TxDOT considers the spacing between access points as inside-edge-(of driveway pavement)-to-inside-edge.

- **TxDOT's criteria for Other State Highway Connection:**
 - For 50 MPH: 425 feet
- **TxDOT's criteria for Frontage Road Connection:**
 - For 45 MPH: 360 feet

City of Rockwall Driveway Spacing Criterial:

Based upon City of Rockwall's *Standards of Design and Construction*, a driveway spacing of 50 feet is required between the driveways for a local street like Capital Blvd.

DRIVEWAY SPACING REVIEW FOR PROJECT:

A summary of the driveway spacing provided for each of the proposed site access points is presented in **Table 12**.

Table 12. Driveway Spacing Summary

Spacing Between	Required (Ft)	Provided (Ft)	Meets Requirements
Driveway 1 and N Stodghill Road	360	~1050	Yes
Driveway 2 and I-30 EBFR	425	~650	Yes
Driveway 2 and Capital Blvd	425	~670	Yes
Driveway 3 and Driveway 4	50	~25	No

All the proposed site driveways meet TxDOT’s driveway spacing criteria except for the spacing between Driveway 3 and Driveway 4.

DECELERATION LANE ANALYSIS

DECELERATION LANE CRITERIA:

The TxDOT criteria for providing right-turn deceleration auxiliary lanes are outlined in *Table 2-3 (Appendix E)* of the *Access Management Manual*. The threshold for roadways with a posted speed limit greater than 45 MPH is 50 vehicles per hour (or, 60 vehicles per hour for posted speed limit of 45 MPH or lower). For raised medians, left-turn deceleration lanes (“bays”) are required for all left-turn opportunities. Additionally, table 3-11 from TxDOT Roadway Design Manual was used in the determination of left-turn deceleration auxiliary lanes.

A summary of the projected peak hour driveway volumes is included in **Appendix A** for each scenario analyzed.

DECELERATION LANE RECOMMENDATIONS:

Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT’s requirement of a left turn storage lane for all raised median openings.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Wier & Associates, Inc.**, to conduct a traffic impact analysis (TIA) for the proposed mixed-use development in Rockwall, Texas. The subject property will be located at the southeast corner of the intersection of Interstate Highway 30 and Corporate Crossing in Rockwall, Texas.

The proposed project is planned to be built in four phases and will be fully constructed by 2024. The area is approximately 66 acres. **Table 1** shows the development program summary for the site development.

Table 1. Development Program Summary

Use	Phase No.	Quantity
Alethic Club	I	146,000 SF
Restaurant	II	6,305 SF
Hotel	II	100 Rooms
Fast Food with Drive Thru	II	2,256 GSF
Restaurant	II	6,305 GSF
Retail	II	7,400 GSF
Fast Food with Drive Thru	II	2,256 GSF
Office	III	35,800 GSF
Office	III	39,200 GSF
Retail	III	5,000 GSF
Multifamily Housing	III	274 Units
Storage Facility	IV	31,800 GSF
Flex Industrial	IV	63,000 GSF

The analysis of the traffic generated by the proposed development resulted in no significant impact on the local roadway system. Below is a summary of findings from this TIA.

FINDING: Based upon the existing 2020 analysis, all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is currently operating at LOS E during PM peak hour for 2020 existing conditions.

FINDING: Based upon the 2024 background & 2024 background-plus site buildout analysis all study intersections are currently operating at LOS D or better during the peak hour periods with the following exceptions:

IH 30 WBFR at N Stodghill Road-

- The intersection is expected to operate at LOS E during the AM peak hour for 2024 background plus site conditions.

Capital Blvd at Corporate Crossing-

- The WB left turning movement is expected to operate at LOS E during both the AM and PM peak hour for 2024 background plus site conditions.

Discovery Blvd at Corporate Crossing-

- The EB shared left-through movement is expected to operate at LOS E during the AM peak hour for both 2024 background and 2024 background plus site conditions.
- The EB shared left-through movement is expected to operate at LOS F during the PM peak hour for both 2024 background and 2024 background plus site conditions.
- The WB left turning movement is expected to operate at LOS E and LOS F during AM peak hour for 2024 background and 2024 background plus site conditions respectively.

Driveway 2/Gas Station Driveway at Corporate Crossing-

- The WB shared left-through movement is expected to operate at LOS F for AM and PM peak hour for 2024 background plus site conditions.

RECOMMENDATIONS:

IH 30 WBFR at N Stodghill Road: The intersection is expected to operate at LOS E at buildout conditions during the AM peak hour. It is recommended to optimize the traffic signal after the full buildout to improve the level of service from LOS E to LOSD at this intersection (**Appendix D**).

Capital Blvd at Corporate Crossing:

- The WB left turning movement is currently expected to operate at LOS E during the peak hour with a maximum 95th percentile queue of about 1 vehicle only. Therefore, no mitigation measures are recommended.

Discovery Blvd at Corporate Crossing:

- The EB left-through movement is currently operating at LOS E with a maximum 95th percentile queue of about 4 vehicles and is expected to operate at LOS F with maximum 95th percentile queue of 8 vehicles. This is not an uncommon situation on a stop controlled intersection for a vehicle of Minor Street making a through/left turn movement. The proposed development does not possess any impact on this movement. Therefore, no mitigation measures are recommended
- The WB left turning movement is expected to operate at LOS F with a maximum 95th percentile queue of less than 1 vehicle. Therefore, no mitigation measures are recommended.

Driveway 2/Gas Station Driveway at Corporate Crossing:

- The WB shared left-through movement is expected to operate at LOS F during the peak hour with a maximum 95th percentile queue of about 11 vehicles. It is recommended to perform a traffic signal warrant study to determine whether the intersection warrants a signal after full buildout in future.

FINDING: Based upon the projected volumes derived in this study, the installation of an auxiliary right turn deceleration lane is expected to meet TxDOT requirement at the following location:

- EB right turn lane on IH 30 EBFR at Driveway 1.
- NB right turn lane on Corporate Crossing at Driveway 2

A SB left turn storage lane is recommended on Corporate Crossing at Driveway 2 based on TxDOT's requirement of a left turn storage lane for all raised median openings.

FINDING: All the site driveways proposed for this study meet TxDOT's driveway spacing requirements except for the spacing between the Driveway 3 and Driveway 4. A variance of lesser spacing requirement for these driveways with the City of Rockwall can be persuaded.

FINDING: Based on AASHTO Green Book, all the proposed site driveways meet the required intersection sight distance.

FINDING: Based upon the link analysis, IH 30 EBFR and Corporate Crossing Blvd are expected to operate at an acceptable level of service (**Refer Table 7**).

END OF MEMO

Exhibit 3. Existing Roadway Geometry and Traffic Control

North ^
Not to Scale

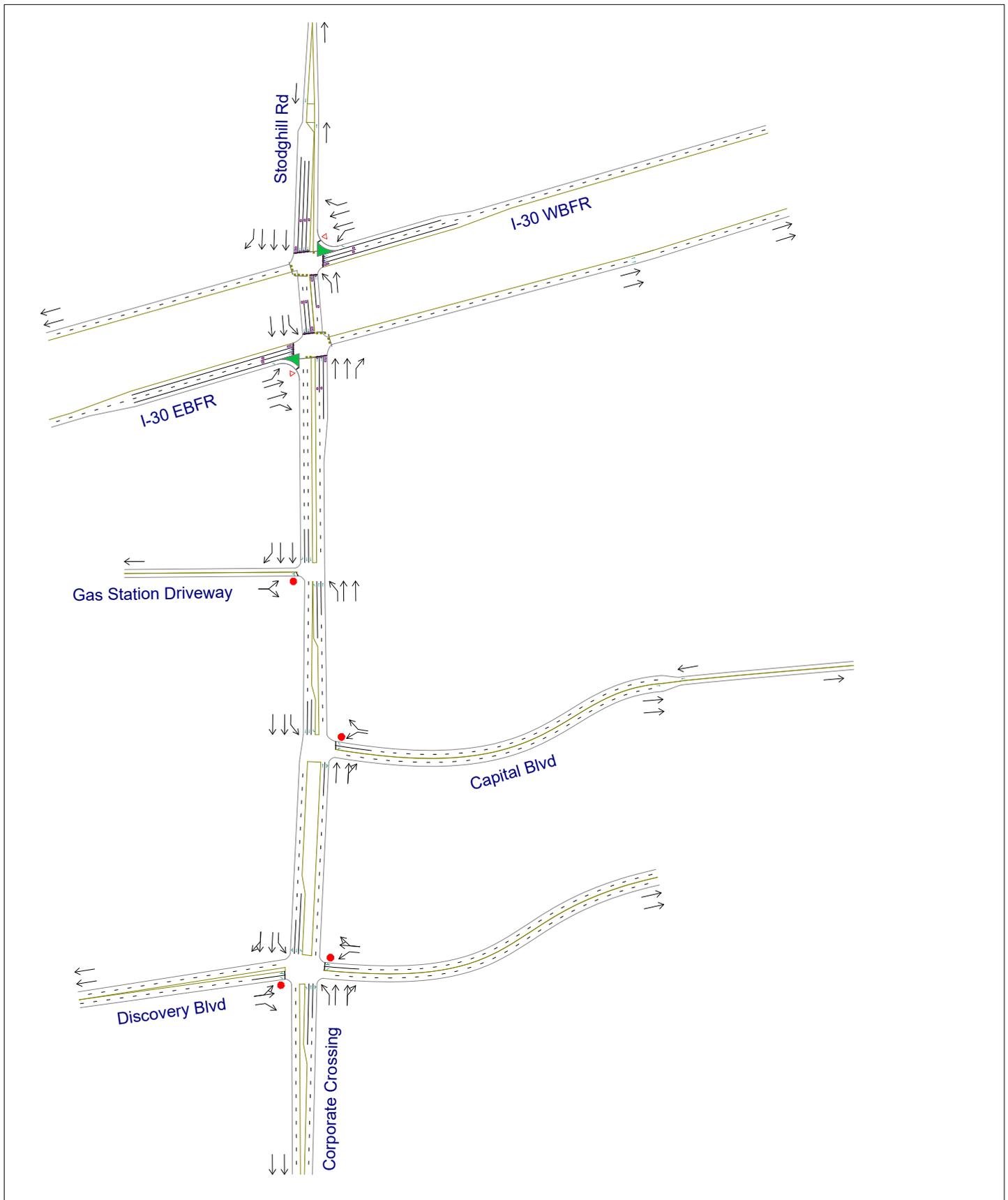
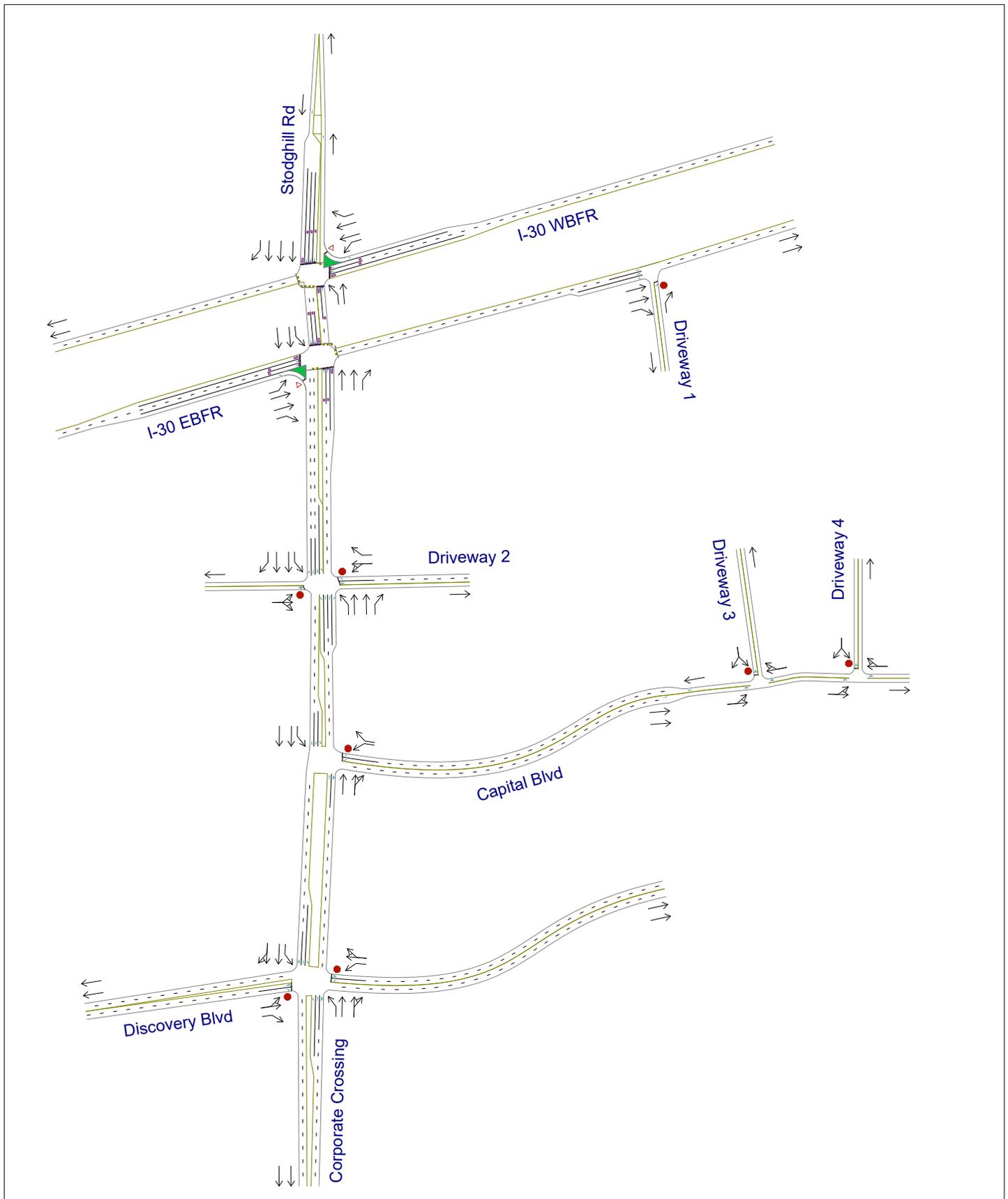


Exhibit 4. Proposed Roadway Geometry and Traffic Control

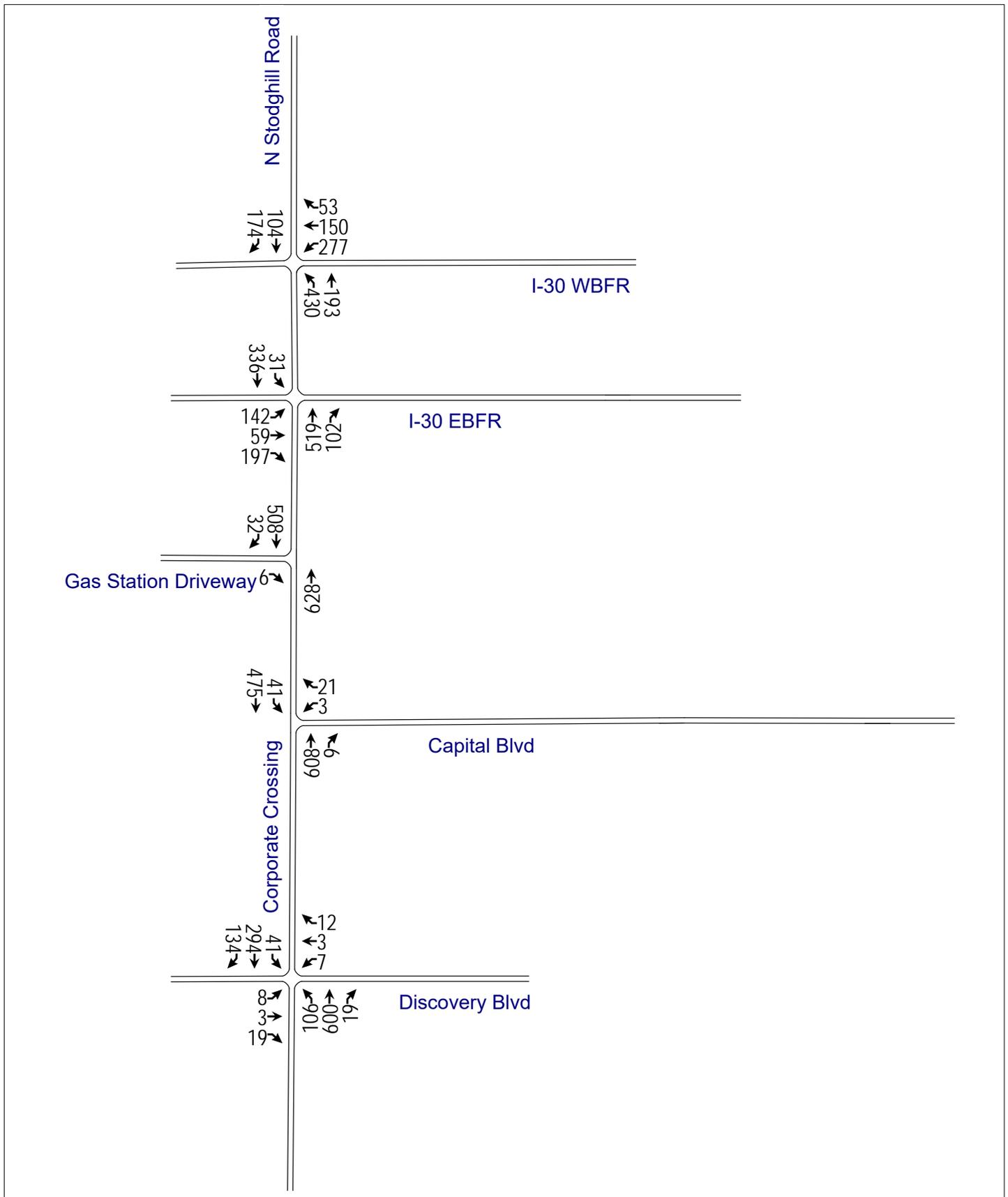
North ^
Not to Scale



Appendix A. Traffic Volume Exhibits

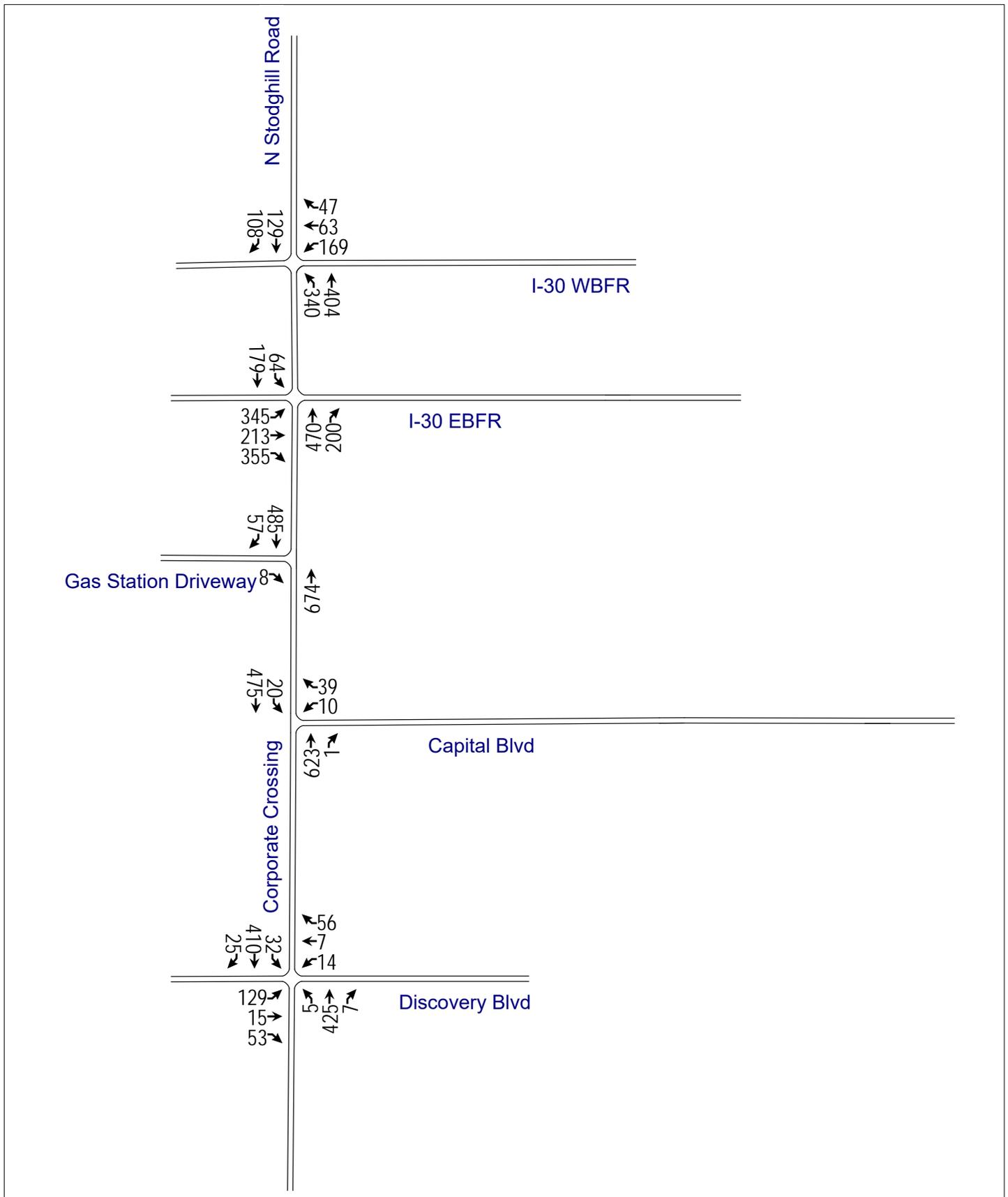
A1. 2020 Existing AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



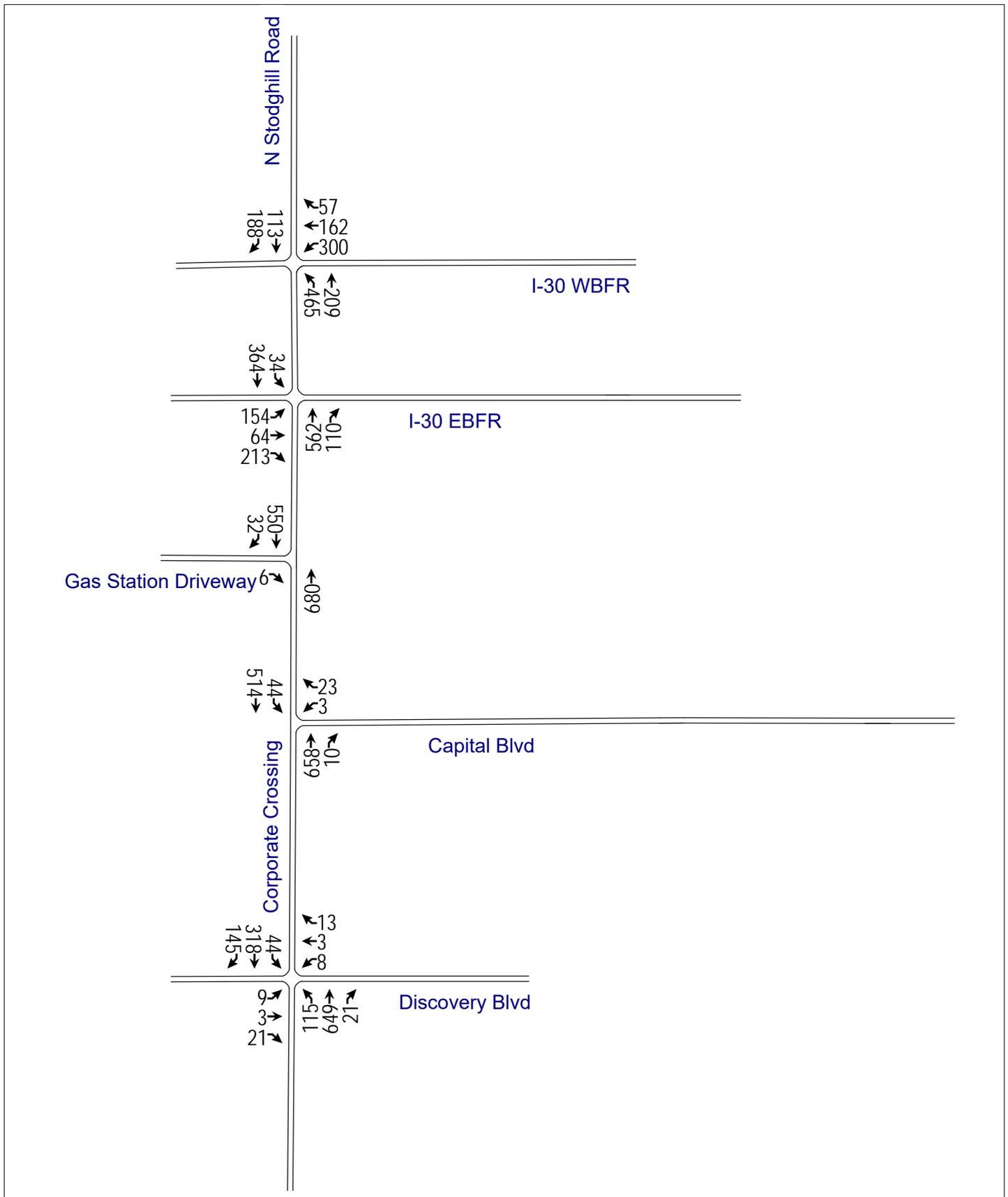
A2. 2020 Existing PM Peak Hour Traffic Volumes

**North ^
Not to Scale**



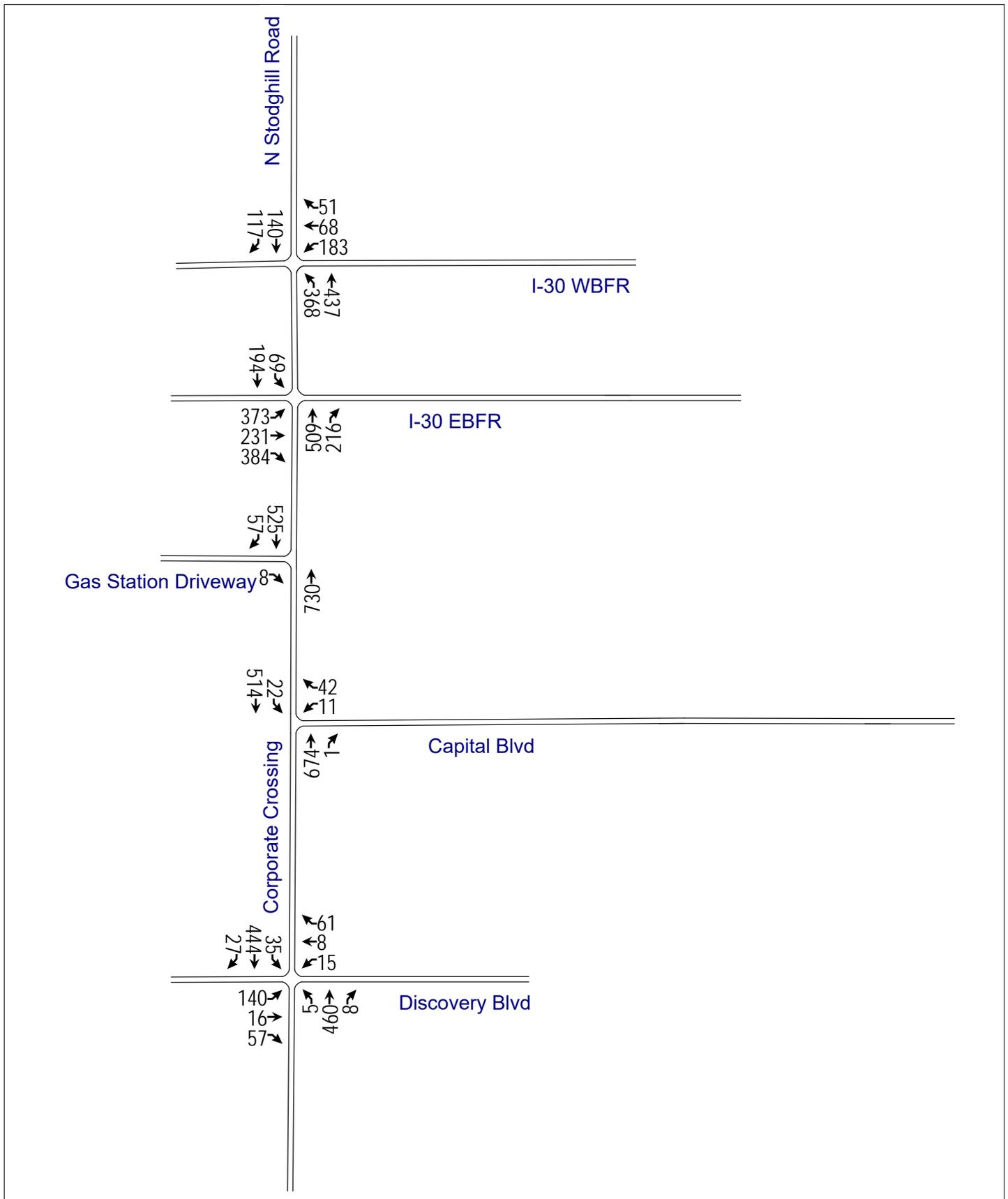
A3. 2024 Background AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



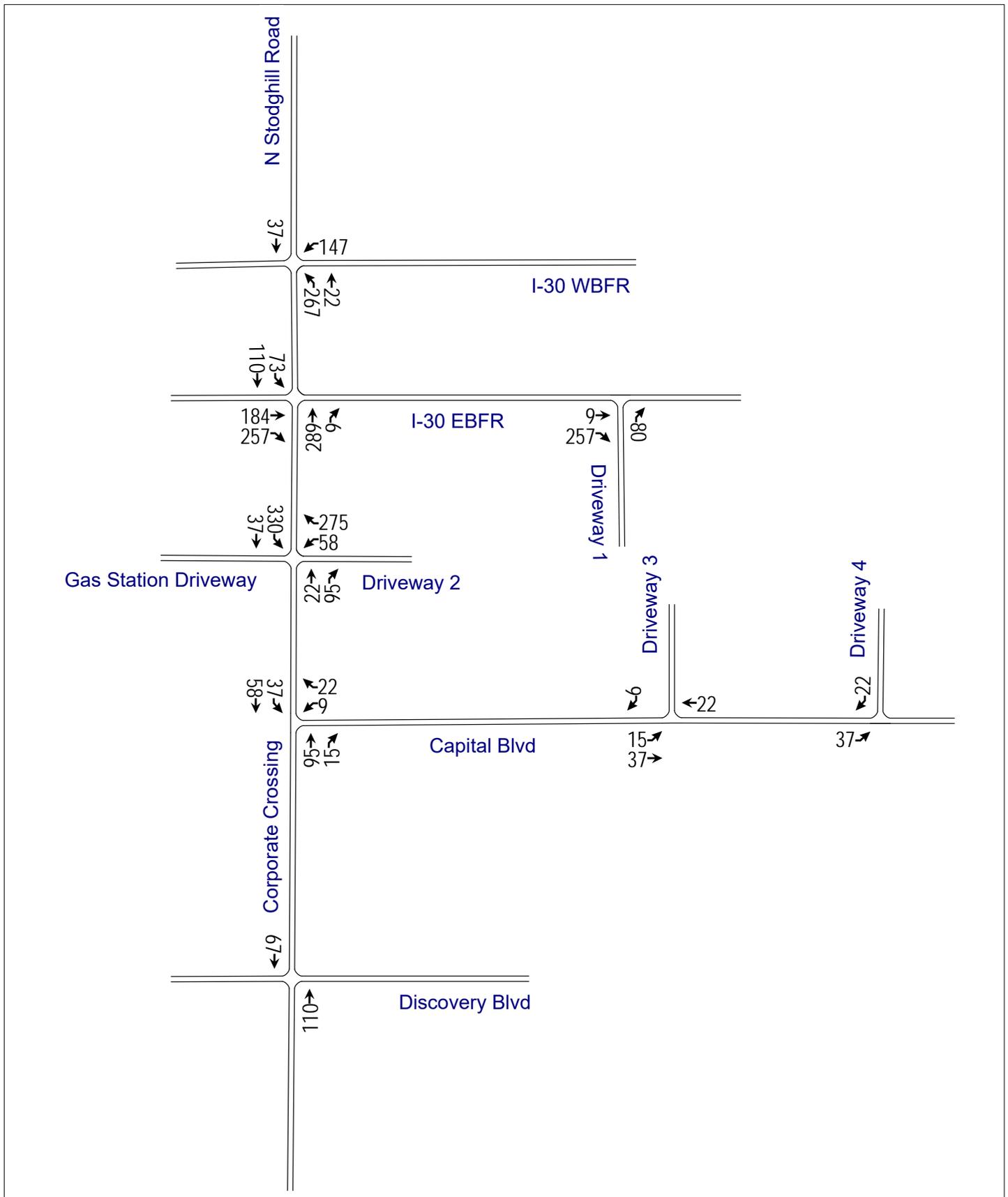
A4. 2024 Background PM Peak Hour Traffic Volumes

**North ^
Not to Scale**



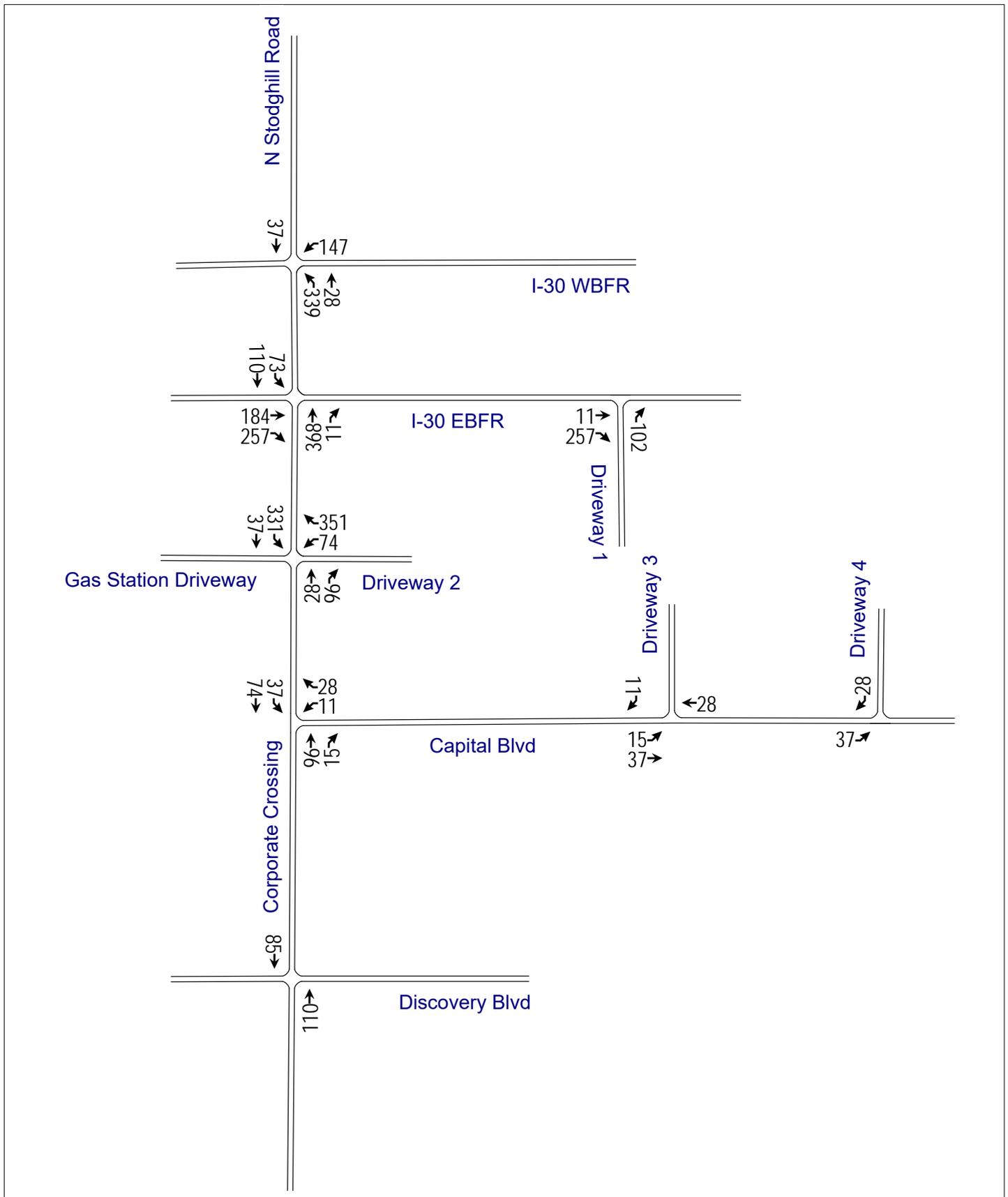
A5. 2024 Site Generated AM Peak Hour Traffic Volumes

North ^
Not to Scale



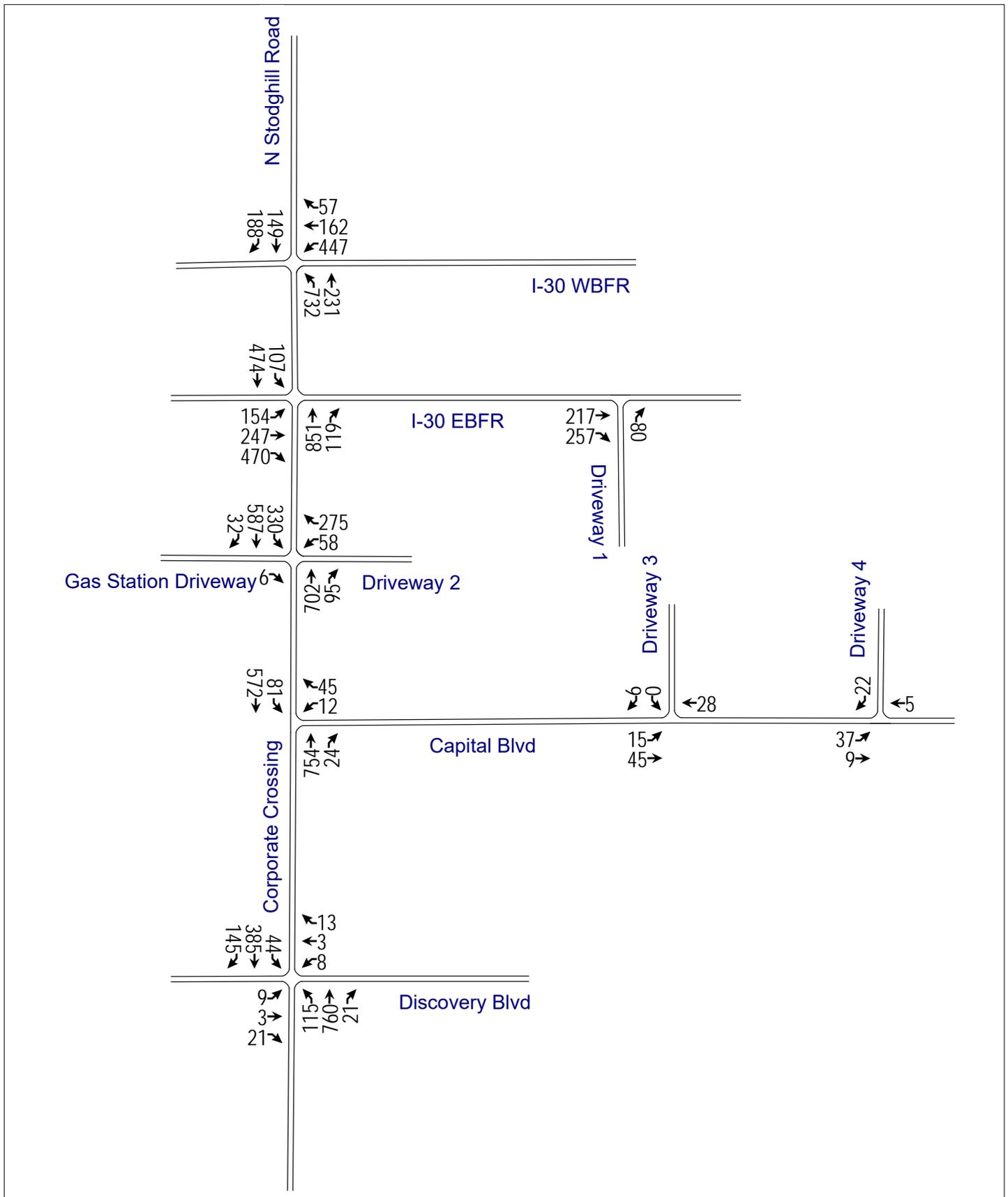
A6. 2024 Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



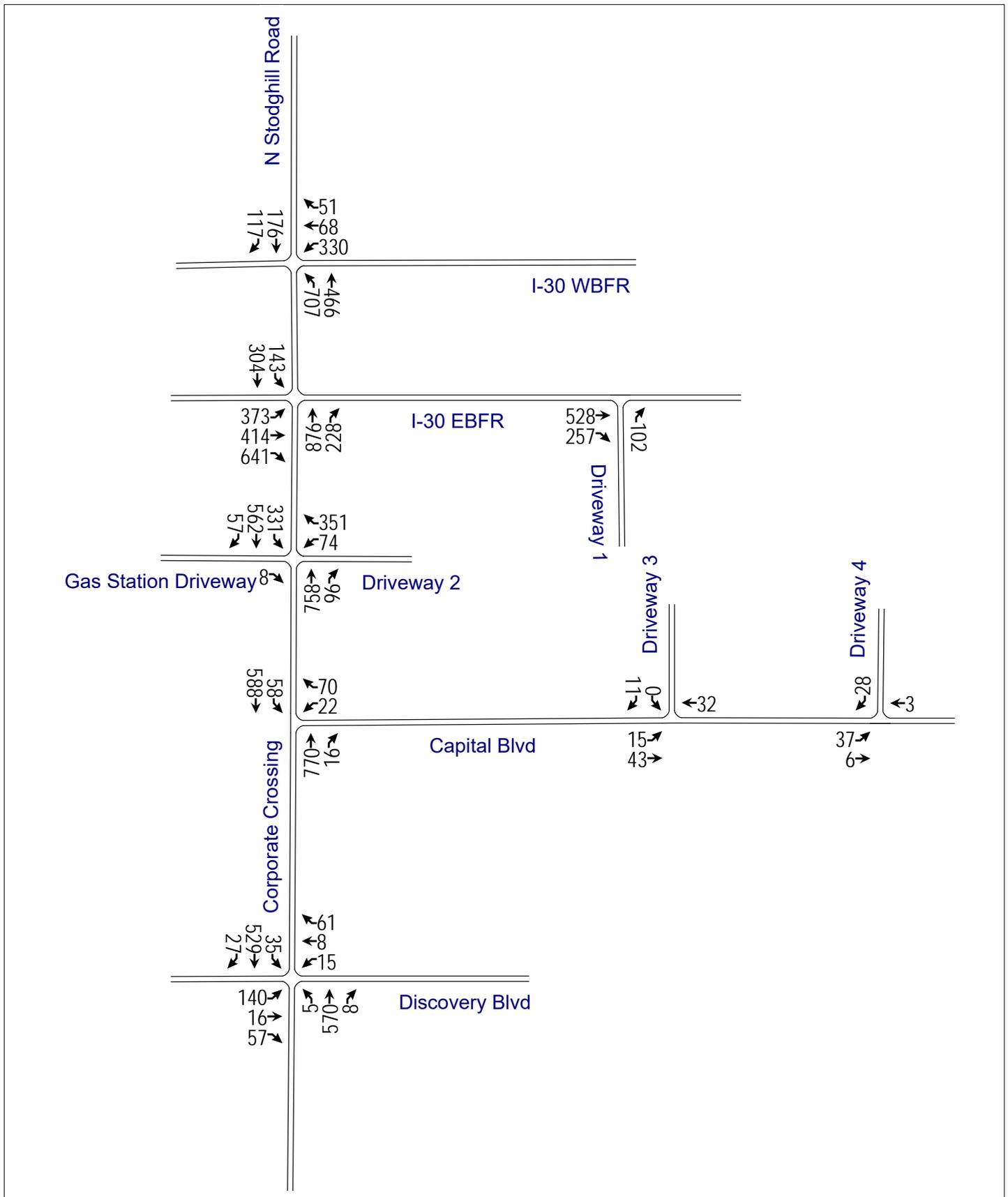
A7. 2024 Background Plus Site Generated AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



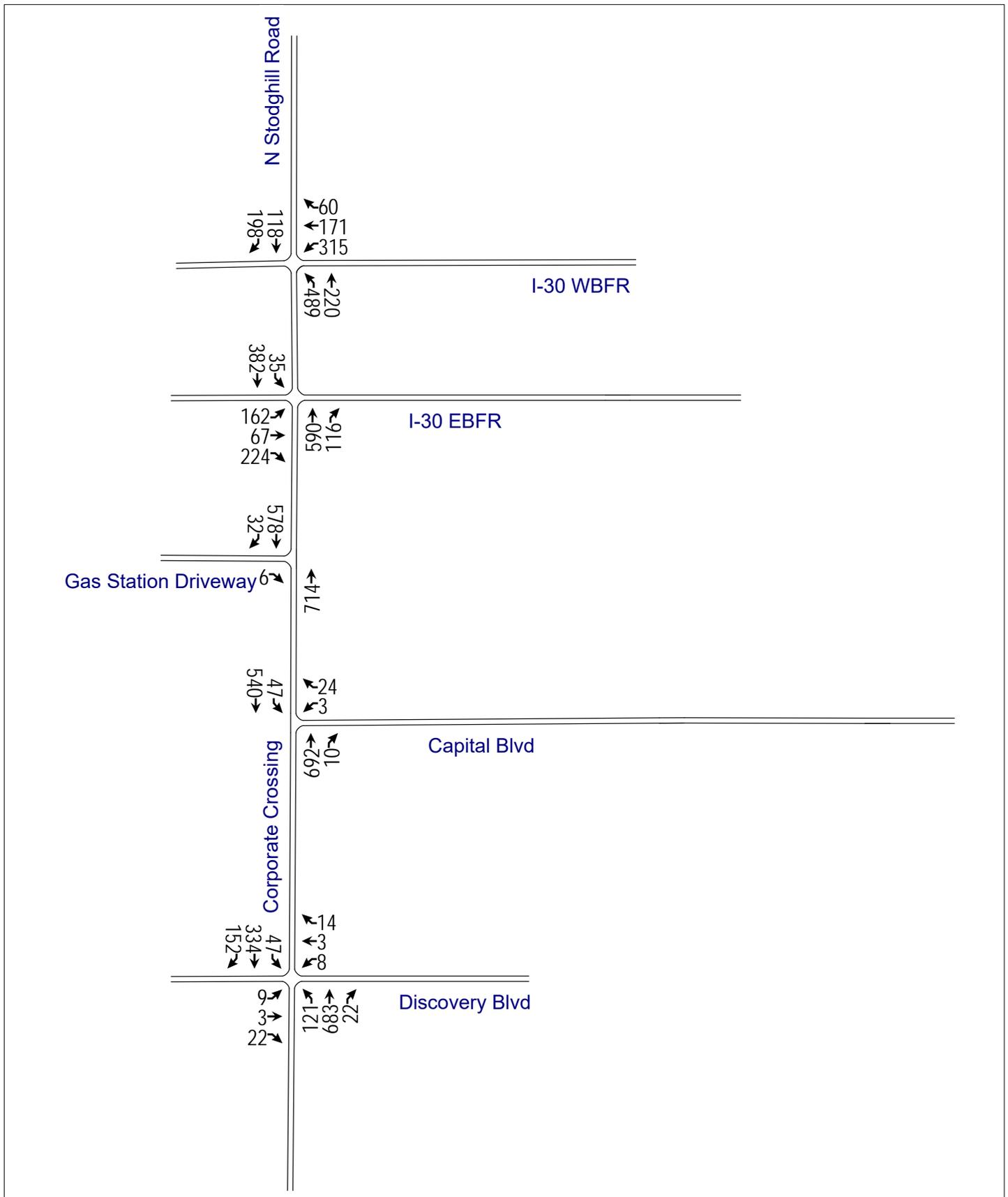
A8. 2024 Background Plus Site Generated PM Peak Hour Traffic Volumes

**North ^
Not to Scale**



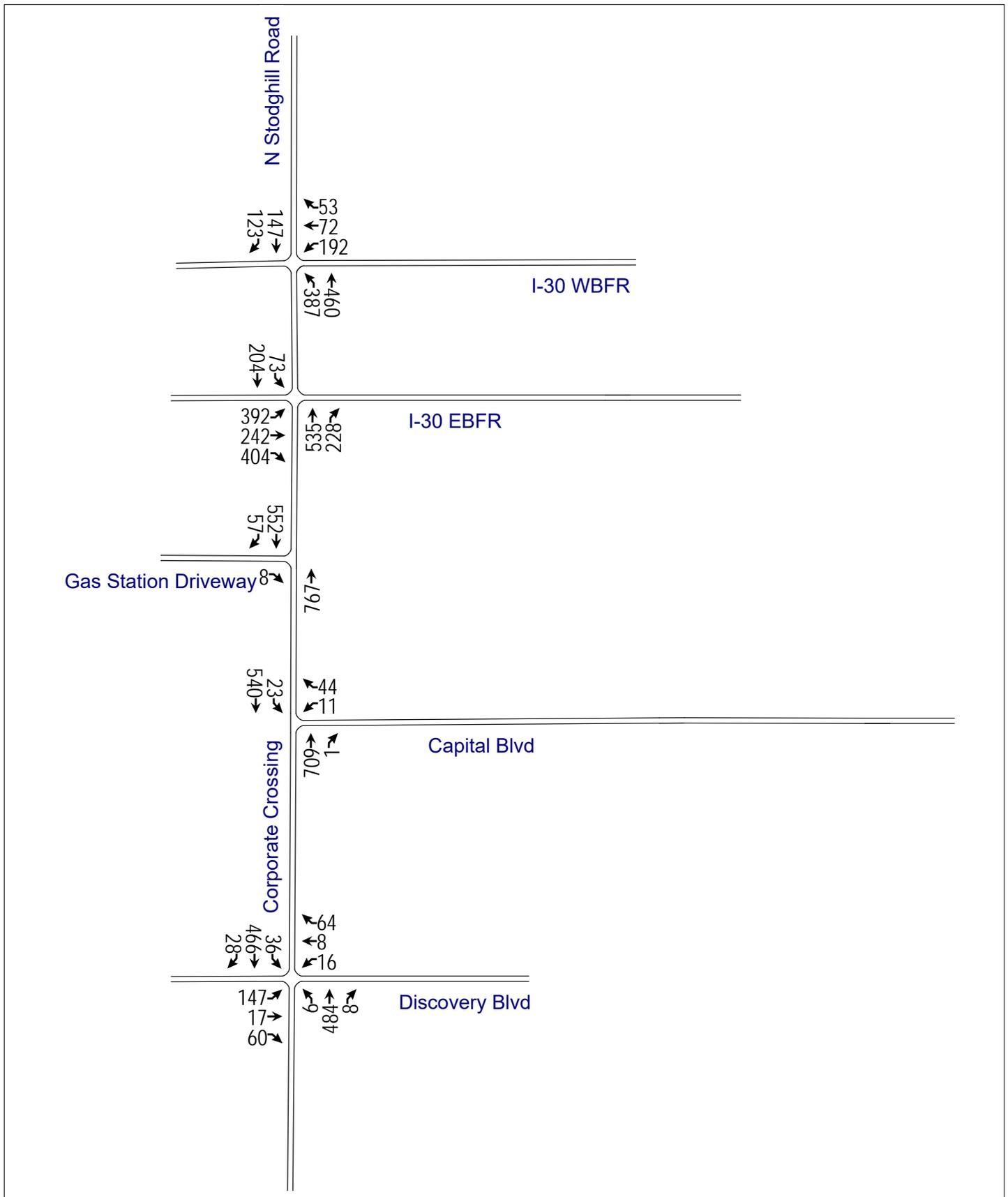
A9. 2029 Horizon AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



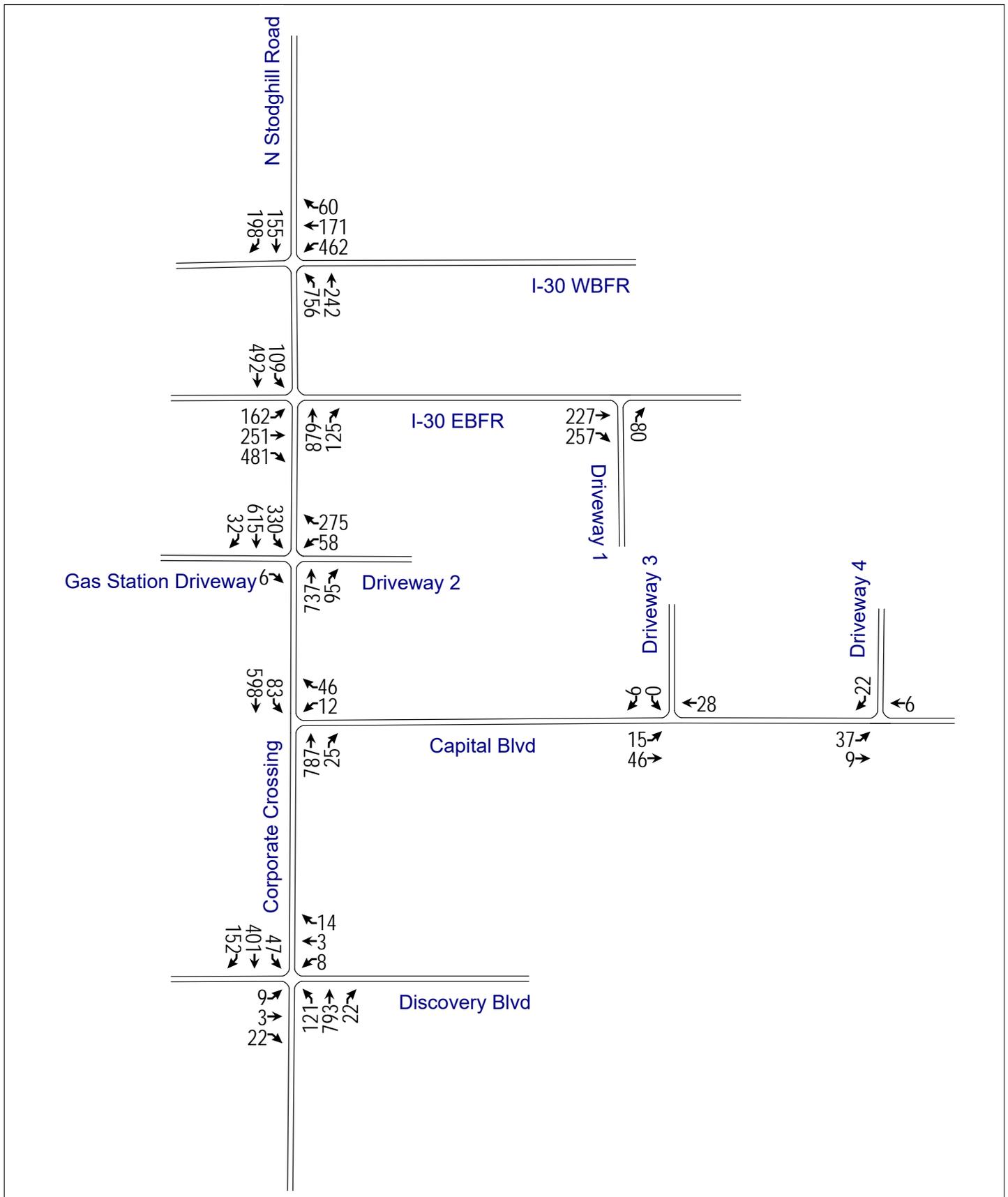
A10. 2029 Horizon PM Peak Hour Traffic Volumes

**North ^
Not to Scale**



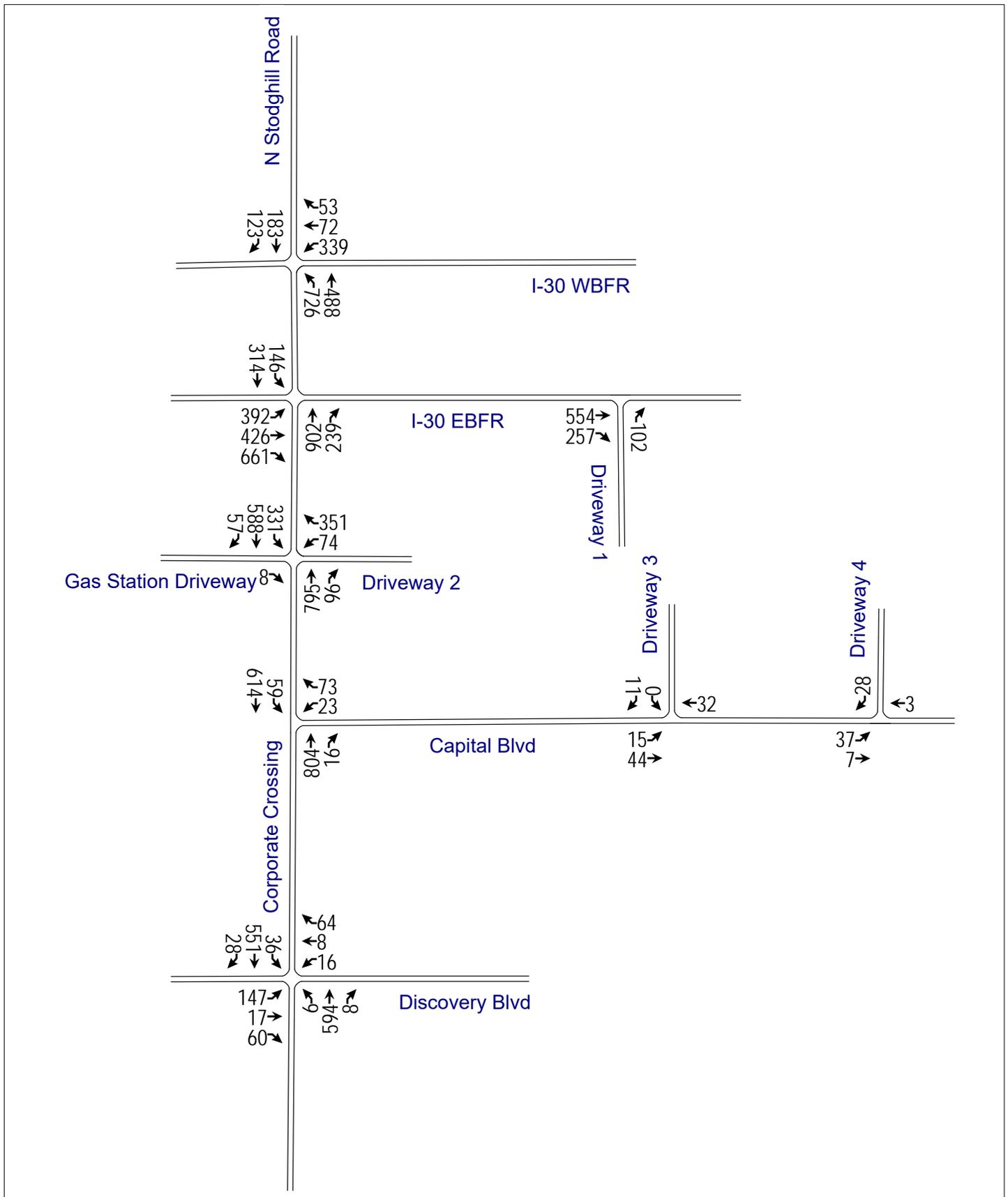
A11. 2029 Horizon Plus Site Generated AM Peak Hour Traffic Volumes

**North ^
Not to Scale**



A12. 2029 Horizon Plus Site Generated PM Peak Hour Traffic Volumes

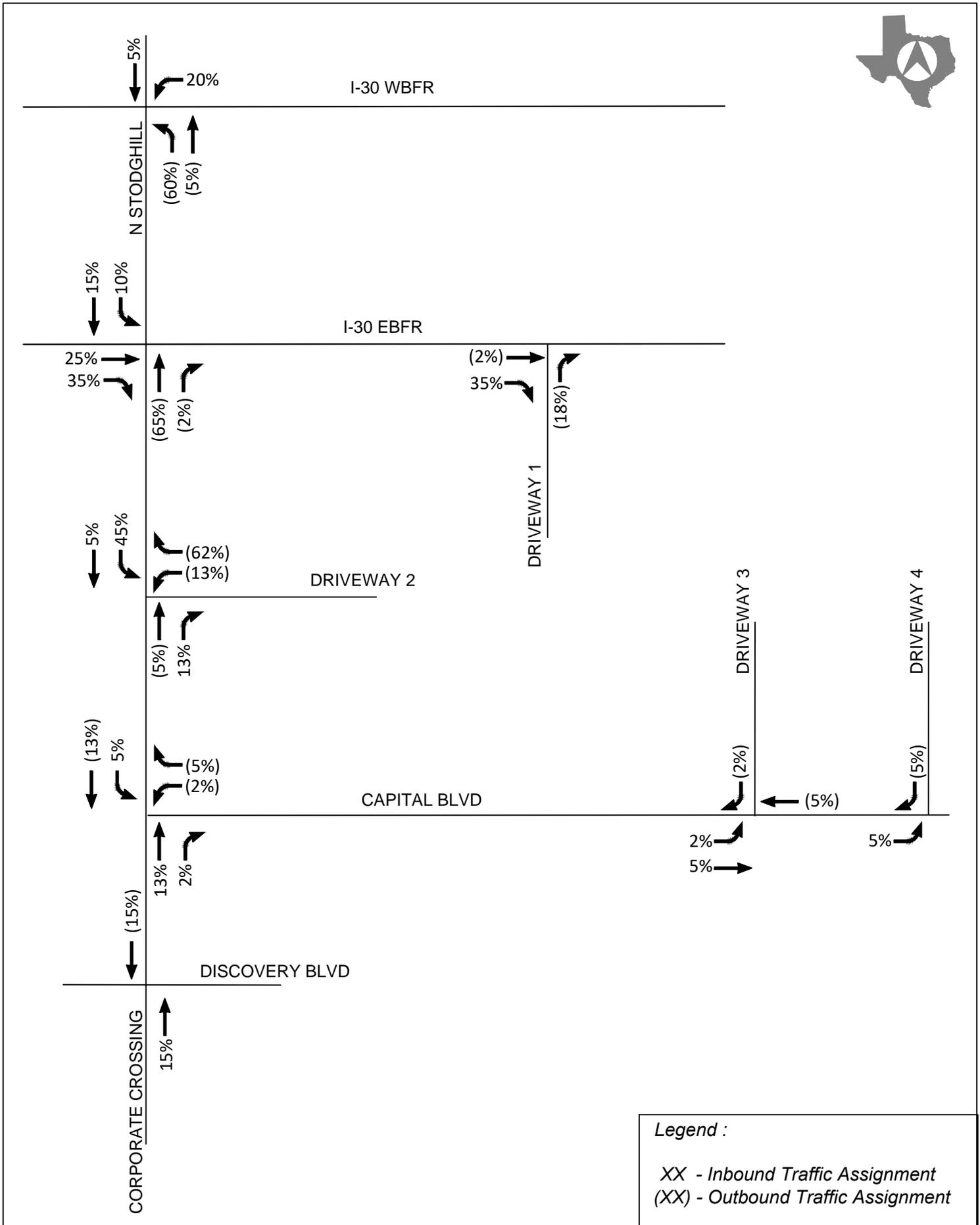
**North ^
Not to Scale**



Appendix B. Existing Traffic Count Data

Intersection Traffic Movements													DeShazo Group, Inc.				
Location: N Stodghill Road at IH 30 EBFR City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(2) Data Source: CJ Hensch													Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Signalized				
Time of Count		Northbound on N Stodghill Road				Southbound on N Stodghill Road				Eastbound on IH 30 EBFR				Westbound on IH 30 EBFR			
Begin	End	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	7:15 AM	-	-	106	16	0	6	88	-	6	21	13	47	-	-	-	-
7:15 AM	7:30 AM	-	-	117	15	0	6	97	-	11	23	16	43	-	-	-	-
7:30 AM	7:45 AM	-	-	143	33	0	9	108	-	12	19	9	54	-	-	-	-
7:45 AM	8:00 AM	-	-	131	29	0	12	70	-	5	35	13	42	-	-	-	-
8:00 AM	8:15 AM	-	-	128	25	0	4	61	-	16	21	21	58	-	-	-	-
8:15 AM	8:30 AM	-	-	102	17	0	6	58	-	9	32	10	57	-	-	-	-
8:30 AM	8:45 AM	-	-	102	14	0	5	53	-	18	27	24	55	-	-	-	-
8:45 AM	9:00 AM	-	-	98	17	0	6	40	-	9	19	16	56	-	-	-	-
Intersection PHV:		0	0	519	102	0	31	336	0	44	98	59	197	0	0	0	0
PHF:		0.00	0.00	0.91	0.77	0.00	0.65	0.78	0.00	0.69	0.70	0.70	0.85	0.00	0.00	0.00	0.00
Intersection Peak Hour: 7:15 AM - 8:15 AM													Intersection PHF: 0.90				
Study Area PHV:		0	0	519	102	0	31	336	0	44	98	59	197	0	0	0	0
PHF:		0.00	0.00	0.91	0.77	0.00	0.65	0.78	0.00	0.69	0.70	0.70	0.85	0.00	0.00	0.00	0.00
Study Peak Hour: 7:15 AM - 8:15 AM													Study Area PHF: 0.90				
4:30 PM	4:45 PM	-	-	126	43	0	15	52	-	16	58	47	103	-	-	-	-
4:45 PM	5:00 PM	-	-	106	54	0	14	43	-	24	68	41	84	-	-	-	-
5:00 PM	5:15 PM	-	-	114	56	0	16	47	-	32	65	55	78	-	-	-	-
5:15 PM	5:30 PM	-	-	124	47	0	19	37	-	13	69	70	90	-	-	-	-
5:30 PM	5:45 PM	-	-	97	37	0	9	44	-	22	68	77	73	-	-	-	-
5:45 PM	6:00 PM	-	-	92	34	0	8	39	-	24	62	46	84	-	-	-	-
6:00 PM	6:15 PM	-	-	98	26	0	16	33	-	19	57	45	83	-	-	-	-
6:15 PM	6:30 PM	-	-	86	28	0	10	36	-	15	39	27	75	-	-	-	-
Intersection PHV:		0	0	470	200	0	64	179	0	85	260	213	355	0	0	0	0
PHF:		0.00	0.00	0.93	0.89	0.00	0.84	0.86	0.00	0.66	0.94	0.76	0.86	0.00	0.00	0.00	0.00
Intersection Peak Hour: 4:30 PM - 5:30 PM													Intersection PHF: 0.97				
Study Area PHV:		0	0	470	200	0	64	179	0	85	260	213	355	0	0	0	0
PHF:		0.00	0.00	0.93	0.89	0.00	0.84	0.86	0.00	0.66	0.94	0.76	0.86	0.00	0.00	0.00	0.00
Study Peak Hour: 4:30 PM - 5:30 PM													Study Area PHF: 0.97				
Observations:																	

Appendix C. Site-Generated Traffic Supplement



Legend :
 XX - Inbound Traffic Assignment
 (XX) - Outbound Traffic Assignment



I-30 WBFR

N STODGHILL

I-30 EBFR

-60% →
+60% ↘
+60% ↗

-10% ↓
+10% ↘
+30% ↗
-10% ↘

DRIVEWAY 2

DRIVEWAY 1

DRIVEWAY 3

DRIVEWAY 4

-30% ↑
+30% ↗

CAPITAL BLVD

DISCOVERY BLVD

CORPORATE CROSSING

Legend :

XX - Inbound Traffic Assignment
(XX) - Outbound Traffic Assignment

Appendix D. Detailed Intersection Capacity Analysis Results

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	0	0	0	277	150	53	430	193	0	0	104	174
Future Volume (vph)	0	0	0	277	150	53	430	193	0	0	104	174
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
Adj. Flow (vph)	0	0	0	304	165	58	473	212	0	0	114	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	304	165	58	473	212	0	0	114	191
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0			5.0	5.0	
Minimum Split (s)				22.5	22.5	22.5	9.5			22.5	22.5	
Total Split (s)				25.0	25.0	25.0	33.0			32.0	32.0	
Total Split (%)				27.8%	27.8%	27.8%	36.7%			35.6%	35.6%	
Yellow Time (s)				3.5	3.5	3.5	3.5			3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0	1.0			1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0			0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5	4.5			4.5	4.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode				None	None	None	None			Max	Max	
Act Effct Green (s)				17.7	17.7	17.7	47.8	52.3		27.6	27.6	
Actuated g/C Ratio				0.22	0.22	0.22	0.61	0.66		0.35	0.35	
v/c Ratio				0.77	0.21	0.13	0.53	0.17		0.06	0.28	
Control Delay				42.6	25.4	0.6	11.2	3.9		18.2	4.5	
Queue Delay				0.0	0.0	0.0	0.3	0.2		0.0	0.0	
Total Delay				42.6	25.4	0.6	11.5	4.1		18.2	4.5	
LOS				D	C	A	B	A		B	A	
Approach Delay							32.6			9.6		
Approach LOS							C			A		
Queue Length 50th (ft)				140	34	0	57	25		13	0	
Queue Length 95th (ft)				#235	61	0	267	41		27	43	
Internal Link Dist (ft)		1684			1350			132		443		
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				460	920	505	1080	1429		1773	676	
Starvation Cap Reductn				0	0	0	183	686		0	0	
Spillback Cap Reductn				0	0	0	0	0		84	0	
Storage Cap Reductn				0	0	0	0	0		0	0	
Reduced v/c Ratio				0.66	0.18	0.11	0.53	0.29		0.07	0.28	

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	79
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.4
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
Cycle Length:	90
Actuated Cycle Length:	79
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.4
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: AM

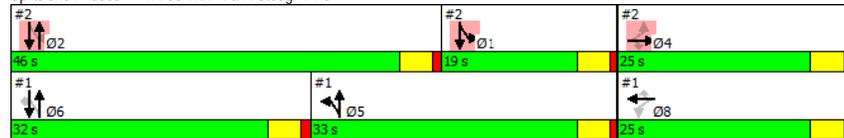
Intersection Capacity Utilization 62.8% ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existing
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↔	↔	↕↕	
Traffic Volume (vph)	142	59	197	0	0	0	0	519	102	31	336	0
Future Volume (vph)	142	59	197	0	0	0	0	519	102	31	336	0
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
Adj. Flow (vph)	158	66	219	0	0	0	0	577	113	34	373	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	66	219	0	0	0	0	577	113	34	373	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases								2		1	1	2
Permitted Phases	4	4	4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	17.7	17.7	17.7					41.6	41.6	47.8	52.3	
Actuated g/C Ratio	0.22	0.22	0.22					0.53	0.53	0.61	0.66	
v/c Ratio	0.40	0.08	0.42					0.31	0.13	0.06	0.16	
Control Delay	29.3	24.1	6.5					11.6	2.7	11.7	12.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay	29.3	24.1	6.5					11.7	2.7	11.7	12.8	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.3						10.2			12.7	
Approach LOS		B						B			B	
Queue Length 50th (ft)	66	13	0					82	0	13	79	
Queue Length 95th (ft)	122	30	52					123	24	m22	145	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	460	920	573					1863	886	720	2716	
Starvation Cap Reductn	0	0	0					0	0	0	1702	
Spillback Cap Reductn	0	0	0					75	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.34	0.07	0.38					0.32	0.13	0.05	0.37	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 12.9
Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: AM

Intersection Capacity Utilization 62.8% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2020 Existng
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	6	0	628	508	32
Future Vol, veh/h	0	6	0	628	508	32
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	-	170	-	-	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	0	7	0	683	552	35

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	894	276	587	0	0
Stage 1	552	-	-	-	-
Stage 2	342	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	281	721	984	-	-
Stage 1	541	-	-	-	-
Stage 2	691	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	281	721	984	-	-
Mov Cap-2 Maneuver	281	-	-	-	-
Stage 1	541	-	-	-	-
Stage 2	691	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	984	-	721	-	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	0	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2020 Existng
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	21	608	9	41	475
Future Vol, veh/h	3	21	608	9	41	475
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	24	699	10	47	546

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1071	355	0	0	709
Stage 1	704	-	-	-	-
Stage 2	367	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	216	641	-	-	886
Stage 1	452	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	205	641	-	-	886
Mov Cap-2 Maneuver	205	-	-	-	-
Stage 1	452	-	-	-	-
Stage 2	635	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	205	641	886	-
HCM Lane V/C Ratio	-	-	0.017	0.038	0.053	-
HCM Control Delay (s)	-	-	22.9	10.8	9.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2020 Existing
 Timing Plan: AM

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	8	3	19	7	3	12	106	600	19	41	294	134
Future Vol, veh/h	8	3	19	7	3	12	106	600	19	41	294	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	9	3	21	8	3	13	115	652	21	45	320	146

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1041	1386	233	1145	1449	337	466	0	0	673	0	0
Stage 1	483	483	-	893	893	-	-	-	-	-	-	-
Stage 2	558	903	-	252	556	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	184	142	769	154	130	659	1092	-	-	914	-	-
Stage 1	534	551	-	303	358	-	-	-	-	-	-	-
Stage 2	482	354	-	730	511	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	156	121	769	130	111	659	1092	-	-	914	-	-
Mov Cap-2 Maneuver	156	121	-	130	111	-	-	-	-	-	-	-
Stage 1	478	524	-	271	320	-	-	-	-	-	-	-
Stage 2	418	317	-	671	486	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.9		22.1		1.3		0.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1092	-	-	145	769	130	332	914	-	-
HCM Lane V/C Ratio	0.106	-	-	0.082	0.027	0.059	0.049	0.049	-	-
HCM Control Delay (s)	8.7	-	-	32	9.8	34.4	16.4	9.1	-	-
HCM Lane LOS	A	-	-	D	A	D	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.1	0.2	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	0	0	0	169	63	47	340	404	0	0	129	108
Future Volume (vph)	0	0	0	169	63	47	340	404	0	0	129	108
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
Adj. Flow (vph)	0	0	0	186	69	52	374	444	0	0	142	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	186	69	52	374	444	0	0	142	119
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				25.3	25.3	25.3	45.7	50.2			34.7	34.7
Actuated g/C Ratio				0.30	0.30	0.30	0.54	0.59			0.41	0.41
v/c Ratio				0.35	0.07	0.09	0.51	0.40			0.07	0.17
Control Delay				24.5	20.2	0.3	17.9	13.6			17.1	4.6
Queue Delay				0.0	0.0	0.0	0.1	0.4			0.0	0.0
Total Delay				24.5	20.2	0.3	18.0	14.0			17.1	4.6
LOS				C	C	A	B	B			B	A
Approach Delay					19.5			15.8			11.4	
Approach LOS					B			B			B	
Queue Length 50th (ft)				76	13	0	93	110			16	0
Queue Length 95th (ft)				130	28	2	292	343			35	36
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				769	1537	749	935	1319			2088	720
Starvation Cap Reductn				0	0	0	73	429			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				0.24	0.04	0.07	0.43	0.50			0.07	0.17

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	84.6
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	15.8
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM

Lane Group	Ø1	Ø2	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2020 Existing
Timing Plan: PM

Intersection Capacity Utilization 61.2%
Analysis Period (min) 15

ICU Level of Service B

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existing
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↔	↔	↕↕	
Traffic Volume (vph)	345	213	355	0	0	0	0	470	200	64	179	0
Future Volume (vph)	345	213	355	0	0	0	0	470	200	64	179	0
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
Adj. Flow (vph)	383	237	394	0	0	0	0	522	222	71	199	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	383	237	394	0	0	0	0	522	222	71	199	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	25.3	25.3	25.3					39.8	39.8	45.7	50.2	
Actuated g/C Ratio	0.30	0.30	0.30					0.47	0.47	0.54	0.59	
v/c Ratio	0.72	0.22	0.53					0.31	0.26	0.14	0.09	
Control Delay	34.6	22.1	5.0					15.8	3.3	17.5	14.1	
Queue Delay	0.3	0.0	0.0					0.0	0.0	0.0	0.1	
Total Delay	34.9	22.1	5.0					15.9	3.3	17.5	14.2	
LOS	C	C	A					B	A	B	B	
Approach Delay		20.3						12.1			15.1	
Approach LOS		C						B			B	
Queue Length 50th (ft)	179	48	0					86	0	23	33	
Queue Length 95th (ft)	276	76	58					155	43	53	61	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	769	1537	910					1664	861	693	2506	
Starvation Cap Reductn	0	0	0					0	0	0	1472	
Spillback Cap Reductn	85	0	0					117	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.56	0.15	0.43					0.34	0.26	0.10	0.19	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 84.6												
Natural Cycle: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.72												
Intersection Signal Delay: 16.6												
Intersection LOS: B												

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2020 Existng
Timing Plan: PM

Intersection Capacity Utilization 61.2%
Analysis Period (min) 15
ICU Level of Service B

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2020 Existng
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	8	0	674	485	57
Future Vol, veh/h	0	8	0	674	485	57
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	-	170	-	-	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	0	9	0	733	527	62

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	894	264	589	0	0
Stage 1	527	-	-	-	-
Stage 2	367	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	281	734	982	-	-
Stage 1	557	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	281	734	982	-	-
Mov Cap-2 Maneuver	281	-	-	-	-
Stage 1	557	-	-	-	-
Stage 2	671	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	982	-	734	-	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	0	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2020 Existng
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	10	39	623	1	20	475
Future Vol, veh/h	10	39	623	1	20	475
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	45	716	1	23	546

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1036	359	0	0	717
Stage 1	717	-	-	-	-
Stage 2	319	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	227	638	-	-	880
Stage 1	445	-	-	-	-
Stage 2	710	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	221	638	-	-	880
Mov Cap-2 Maneuver	221	-	-	-	-
Stage 1	445	-	-	-	-
Stage 2	692	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	221	638	880	-
HCM Lane V/C Ratio	-	-	0.052	0.07	0.026	-
HCM Control Delay (s)	-	-	22.2	11.1	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2020 Existing
 Timing Plan: PM

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	129	15	53	14	7	56	5	425	7	32	410	25
Future Vol, veh/h	129	15	53	14	7	56	5	425	7	32	410	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	140	16	58	15	8	61	5	462	8	35	446	27

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	775	1010	237	777
Stage 1	530	530	-	476
Stage 2	245	480	-	301
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	288	238	764	287
Stage 1	500	525	-	539
Stage 2	737	553	-	683
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	251	229	764	244
Mov Cap-2 Maneuver	251	229	-	244
Stage 1	498	508	-	536
Stage 2	666	550	-	592

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.8	13.3	0.1	0.6
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	249	764	244	607	1088	-	-
HCM Lane V/C Ratio	0.005	-	-	0.629	0.075	0.062	0.113	0.032	-	-
HCM Control Delay (s)	8.3	-	-	41.1	10.1	20.7	11.7	8.4	-	-
HCM Lane LOS	A	-	-	E	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.8	0.2	0.2	0.4	0.1	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↙	↕	↖	↗	↘	↙
Traffic Volume (vph)	0	0	0	300	162	57	465	209	0	0	113	188
Future Volume (vph)	0	0	0	300	162	57	465	209	0	0	113	188
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
Adj. Flow (vph)	0	0	0	330	178	63	511	230	0	0	124	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	330	178	63	511	230	0	0	124	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				18.6	18.6	18.6	47.8	52.3			27.5	27.5
Actuated g/C Ratio				0.23	0.23	0.23	0.60	0.65			0.34	0.34
v/c Ratio				0.80	0.22	0.14	0.58	0.19			0.07	0.30
Control Delay				44.9	25.3	0.8	12.9	4.0			18.5	4.5
Queue Delay				0.0	0.0	0.0	0.4	0.2			0.0	0.0
Total Delay				44.9	25.3	0.8	13.2	4.2			18.5	4.5
LOS				D	C	A	B	A			B	A
Approach Delay					34.0			10.4			9.7	
Approach LOS					C			B			A	
Queue Length 50th (ft)				155	37	0	62	27			15	0
Queue Length 95th (ft)				#279	65	3	292	44			28	44
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				454	909	500	1061	1412			1751	681
Starvation Cap Reductn				0	0	0	177	653			0	0
Spillback Cap Reductn				0	0	0	0	0			92	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.73	0.20	0.13	0.58	0.30			0.07	0.30

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	79.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	18.5
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
Cycle Length:	90
Actuated Cycle Length:	79.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	18.5
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: AM

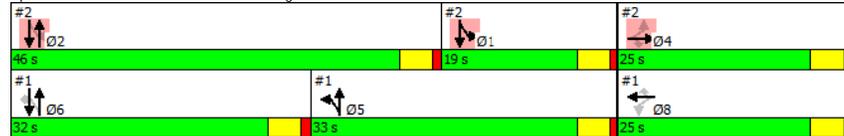
Intersection Capacity Utilization 67.2% ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔					↕↕	↕	↔	↔↔	
Traffic Volume (vph)	154	64	213	0	0	0	0	562	110	34	364	0
Future Volume (vph)	154	64	213	0	0	0	0	562	110	34	364	0
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
Adj. Flow (vph)	171	71	237	0	0	0	0	624	122	38	404	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	71	237	0	0	0	0	624	122	38	404	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	18.6	18.6	18.6					41.5	41.5	47.8	52.3	
Actuated g/C Ratio	0.23	0.23	0.23					0.52	0.52	0.60	0.65	
v/c Ratio	0.42	0.09	0.43					0.34	0.14	0.08	0.17	
Control Delay	29.4	24.1	6.4					12.2	2.7	12.1	13.0	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay	29.4	24.1	6.4					12.2	2.7	12.1	13.4	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.2						10.7			13.3	
Approach LOS		B						B			B	
Queue Length 50th (ft)	72	14	0					94	0	15	87	
Queue Length 95th (ft)	131	31	54					134	25	m24	m154	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	454	909	582					1840	881	685	2682	
Starvation Cap Reductn	0	0	0					0	0	0	1672	
Spillback Cap Reductn	0	0	0					97	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.38	0.08	0.41					0.36	0.14	0.06	0.40	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 13.2
Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: AM

Intersection Capacity Utilization 67.2% ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	6	0	680	550	35
Future Vol, veh/h	0	6	0	680	550	35
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	-	170	-	-	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	0	7	0	739	598	38

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	968	299	636	0	0
Stage 1	598	-	-	-	-
Stage 2	370	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	251	697	943	-	-
Stage 1	512	-	-	-	-
Stage 2	669	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	251	697	943	-	-
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	512	-	-	-	-
Stage 2	669	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	943	-	697	-	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	0	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	23	658	10	44	514
Future Vol, veh/h	3	23	658	10	44	514
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	26	756	11	51	591

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1160	384	0	0	767
Stage 1	762	-	-	-	-
Stage 2	398	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	189	614	-	-	842
Stage 1	421	-	-	-	-
Stage 2	647	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	177	614	-	-	842
Mov Cap-2 Maneuver	177	-	-	-	-
Stage 1	421	-	-	-	-
Stage 2	608	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	177	614	842	-
HCM Lane V/C Ratio	-	-	0.019	0.043	0.06	-
HCM Control Delay (s)	-	-	25.7	11.1	9.5	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2024 Background
 Timing Plan: AM

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	21	8	3	13	115	649	21	44	318	145
Future Vol, veh/h	9	3	21	8	3	13	115	649	21	44	318	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	10	3	23	9	3	14	125	705	23	48	346	158

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1125	1499	252	1238
Stage 1	521	521	-	967
Stage 2	604	978	-	271
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	160	121	748	132
Stage 1	507	530	-	273
Stage 2	452	327	-	712
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	133	101	748	109
Mov Cap-2 Maneuver	133	101	-	109
Stage 1	447	501	-	241
Stage 2	385	288	-	648

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	25.4	1.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1057	-	-	123	748	109	301	871	-	-
HCM Lane V/C Ratio	0.118	-	-	0.106	0.031	0.08	0.058	0.055	-	-
HCM Control Delay (s)	8.9	-	-	37.7	10	40.9	17.7	9.4	-	-
HCM Lane LOS	A	-	-	E	B	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.1	0.3	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	183	68	51	368	437	0	0	140	117
Future Volume (vph)	0	0	0	183	68	51	368	437	0	0	140	117
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
Adj. Flow (vph)	0	0	0	201	75	56	404	480	0	0	154	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	201	75	56	404	480	0	0	154	129
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.3	27.3	27.3	46.3	50.9			34.8	34.8
Actuated g/C Ratio				0.31	0.31	0.31	0.53	0.58			0.40	0.40
v/c Ratio				0.36	0.07	0.10	0.56	0.44			0.08	0.18
Control Delay				24.8	20.4	0.7	20.0	14.8			18.3	4.8
Queue Delay				0.0	0.0	0.0	0.1	0.4			0.0	0.0
Total Delay				24.8	20.4	0.7	20.1	15.2			18.3	4.8
LOS				C	C	A	C	B			B	A
Approach Delay					19.7			17.5			12.1	
Approach LOS					B			B			B	
Queue Length 50th (ft)				83	14	0	103	222			18	0
Queue Length 95th (ft)				147	31	3	327	386			39	38
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				747	1494	731	903	1282			2029	709
Starvation Cap Reductn				0	0	0	62	385			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				0.27	0.05	0.08	0.48	0.54			0.08	0.18

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	87.2
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	17.0
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background
Timing Plan: PM

Intersection Capacity Utilization 65.4%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	373	231	384	0	0	0	0	509	216	69	194	0
Future Volume (vph)	373	231	384	0	0	0	0	509	216	69	194	0
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
Adj. Flow (vph)	414	257	427	0	0	0	0	566	240	77	216	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	257	427	0	0	0	0	566	240	77	216	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	27.3	27.3	27.3					39.9	39.9	46.3	50.9	
Actuated g/C Ratio	0.31	0.31	0.31					0.46	0.46	0.53	0.58	
v/c Ratio	0.75	0.23	0.54					0.35	0.28	0.17	0.10	
Control Delay	35.9	22.3	5.1					17.5	3.5	19.1	14.9	
Queue Delay	0.4	0.0	0.0					0.0	0.0	0.0	0.1	
Total Delay	36.2	22.3	5.1					17.5	3.5	19.1	15.0	
LOS	D	C	A					B	A	B	B	
Approach Delay		20.8						13.3			16.1	
Approach LOS		C						B			B	
Queue Length 50th (ft)	198	53	0					102	0	26	38	
Queue Length 95th (ft)	318	86	62					178	46	58	66	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	747	1494	915					1617	853	646	2436	
Starvation Cap Reductn	0	0	0					0	0	89	1447	
Spillback Cap Reductn	70	0	0					127	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.61	0.17	0.47					0.38	0.28	0.14	0.22	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 87.2												
Natural Cycle: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.75												
Intersection Signal Delay: 17.4												
Intersection LOS: B												

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background
Timing Plan: PM

Intersection Capacity Utilization 65.4%
Analysis Period (min) 15
ICU Level of Service C

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	9	0	730	525	62
Future Vol, veh/h	0	9	0	730	525	62
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	-	170	-	-	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	0	10	0	793	571	67

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	968	286	638	0	- 0
Stage 1	571	-	-	-	-
Stage 2	397	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	251	711	942	-	-
Stage 1	529	-	-	-	-
Stage 2	648	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	251	711	942	-	-
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	529	-	-	-	-
Stage 2	648	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	942	-	711	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	11	42	674	1	22	514
Future Vol, veh/h	11	42	674	1	22	514
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	48	775	1	25	591

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1122	388	0	0	776 0
Stage 1	776	-	-	-	-
Stage 2	346	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14 -
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22 -
Pot Cap-1 Maneuver	200	611	-	-	836 -
Stage 1	414	-	-	-	-
Stage 2	688	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	194	611	-	-	836 -
Mov Cap-2 Maneuver	194	-	-	-	-
Stage 1	414	-	-	-	-
Stage 2	667	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	194	611	836	-
HCM Lane V/C Ratio	-	-	0.065	0.079	0.03	-
HCM Control Delay (s)	-	-	24.8	11.4	9.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2024 Background
 Timing Plan: PM

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	140	16	57	15	8	61	5	460	8	35	444	27
Future Vol, veh/h	140	16	57	15	8	61	5	460	8	35	444	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	152	17	62	16	9	66	5	500	9	38	483	29

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	839	1093	256	841
Stage 1	574	574	-	515
Stage 2	265	519	-	326
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	259	213	743	258
Stage 1	471	501	-	511
Stage 2	717	531	-	661
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	221	204	743	214
Mov Cap-2 Maneuver	221	204	-	214
Stage 1	469	483	-	508
Stage 2	639	528	-	563

Approach	EB	WB	NB	SB
HCM Control Delay, s	48	14.2	0.1	0.6
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1050	-	-	219	743	214	567	1052	-	-
HCM Lane V/C Ratio	0.005	-	-	0.774	0.083	0.076	0.132	0.036	-	-
HCM Control Delay (s)	8.4	-	-	61.8	10.3	23.2	12.3	8.6	-	-
HCM Lane LOS	A	-	-	F	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	5.5	0.3	0.2	0.5	0.1	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
Future Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
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
Adj. Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				20.5	20.5	20.5	52.8	57.3			27.6	27.6
Actuated g/C Ratio				0.24	0.24	0.24	0.61	0.66			0.32	0.32
v/c Ratio				1.17	0.21	0.13	0.90	0.21			0.10	0.32
Control Delay				133.7	28.3	0.6	29.9	3.0			21.9	5.1
Queue Delay				0.5	0.0	0.0	50.1	0.6			0.0	0.0
Total Delay				134.2	28.3	0.6	80.0	3.6			22.0	5.1
LOS				F	C	A	E	A			C	A
Approach Delay						96.9		61.6			12.5	
Approach LOS						F		E			B	
Queue Length 50th (ft)				-346	43	0	430	24			24	0
Queue Length 95th (ft)				#536	72	2	#658	35			40	48
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				418	837	471	962	1299			1612	643
Starvation Cap Reductn				0	0	0	317	721			0	0
Spillback Cap Reductn				22	0	0	0	0			269	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				1.24	0.21	0.13	1.25	0.44			0.12	0.32

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 86.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 65.2
Intersection LOS: E

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 99.2%

ICU Level of Service F

Analysis Period (min) 15

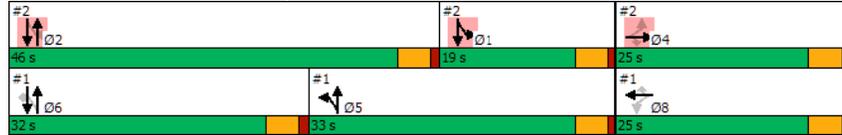
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↕↕	↔	↕↕	↔
Traffic Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
Future Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
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
Adj. Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	20.5	20.5	20.5					41.6	41.6	52.8	57.3	
Actuated g/C Ratio	0.24	0.24	0.24					0.48	0.48	0.61	0.66	
v/c Ratio	0.41	0.33	0.77					0.56	0.16	0.29	0.23	
Control Delay	32.4	29.4	17.3					18.2	3.2	25.3	14.7	
Queue Delay	0.0	0.0	0.0					0.4	0.0	0.2	2.7	
Total Delay	32.4	29.4	17.3					18.6	3.2	25.5	17.5	
LOS	C	C	B					B	A	C	B	
Approach Delay		23.4						16.7			18.9	
Approach LOS		C						B			B	
Queue Length 50th (ft)	84	68	60					200	0	56	162	
Queue Length 95th (ft)	144	104	#229					261	30	m60	m151	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	418	837	676					1693	826	482	2469	
Starvation Cap Reductn	0	0	0					0	0	84	1795	
Spillback Cap Reductn	0	0	0					285	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.41	0.33	0.77					0.67	0.16	0.30	0.78	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 86.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 19.7

Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 99.2% ICU Level of Service F

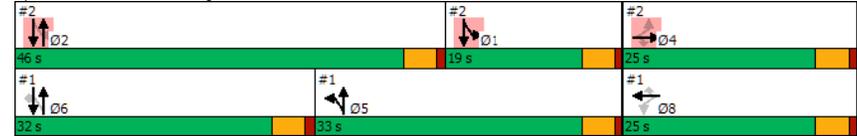
Analysis Period (min) 15

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: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓					↑
Traffic Vol, veh/h	217	257	0	0	0	80
Future Vol, veh/h	217	257	0	0	0	80
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
Veh in Median Storage, #	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	236	279	0	0	0	87

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	- 6.94
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	- 3.32
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	EB	NB
HCM Control Delay, s	0	10.5
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	741	-	-
HCM Lane V/C Ratio	0.117	-	-
HCM Control Delay (s)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2024 Background Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	48.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓				↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
Traffic Vol, veh/h	0	0	6	58	0	275	0	702	95	330	587	32
Future Vol, veh/h	0	0	6	58	0	275	0	702	95	330	587	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	0	-
Grade, %	-	0	-	-	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	7	63	0	299	0	763	103	359	638	35

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1738	2222	319	1852
Stage 1	1356	1356	-	815
Stage 2	382	866	-	1037
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	56	43	677	-
Stage 1	157	216	-	338
Stage 2	612	369	-	247
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	10	11	677	-
Mov Cap-2 Maneuver	10	11	-	18
Stage 1	157	55	-	338
Stage 2	292	369	-	62

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	287.1	0	6.2
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	677	18	571	773	-	-
HCM Lane V/C Ratio	-	-	-	0.01	3.502	0.523	0.464	-	-
HCM Control Delay (s)	0	-	-	10.5	1563.2	18	13.6	2.4	-
HCM Lane LOS	A	-	-	B	F	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	8.4	3	2.5	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔		↔	↔
Traffic Vol, veh/h	12	45	754	24	81	572
Future Vol, veh/h	12	45	754	24	81	572
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	52	867	28	93	657

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1396	448	0	895
Stage 1	881	-	-	-
Stage 2	515	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	132	558	-	754
Stage 1	365	-	-	-
Stage 2	565	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	116	558	-	754
Mov Cap-2 Maneuver	116	-	-	-
Stage 1	365	-	-	-
Stage 2	496	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	116	558	754	-
HCM Lane V/C Ratio	-	-	0.119	0.093	0.123	-
HCM Control Delay (s)	-	-	40.2	12.1	10.4	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.4	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	15	45	28	0	0	9
Future Vol, veh/h	15	45	28	0	0	9
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	-
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	16	49	30	0	0	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	30	0	111
Stage 1	-	-	30
Stage 2	-	-	81
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1583	-	886
Stage 1	-	-	993
Stage 2	-	-	942
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	877
Mov Cap-2 Maneuver	-	-	877
Stage 1	-	-	983
Stage 2	-	-	942

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	1044
HCM Lane V/C Ratio	0.01	-	-	-	0.009
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2024 Background Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	9	5	0	0	22
Future Vol, veh/h	37	9	5	0	0	22
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	-
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	40	10	5	0	0	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	5	0	-	0	95
Stage 1	-	-	-	-	5
Stage 2	-	-	-	-	90
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1616	-	-	-	905
Stage 1	-	-	-	-	1018
Stage 2	-	-	-	-	934
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	882
Mov Cap-2 Maneuver	-	-	-	-	882
Stage 1	-	-	-	-	993
Stage 2	-	-	-	-	934

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	1078
HCM Lane V/C Ratio	0.025	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2024 Background Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	21	8	3	13	115	760	21	44	385	145
Future Vol, veh/h	9	3	21	8	3	13	115	760	21	44	385	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	10	3	23	9	3	14	125	826	23	48	418	158

Major/Minor	Minor2	Minor1	Major1	Major2		
Conflicting Flow All	1258	1692	288	1395	1760	425
Stage 1	593	593	-	1088	1088	-
Stage 2	665	1099	-	307	672	-
Critical Hdwy	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	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	128	92	709	101	84	578
Stage 1	459	492	-	230	290	-
Stage 2	416	287	-	678	453	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	76	709	82	69	578
Mov Cap-2 Maneuver	104	76	-	82	69	-
Stage 1	401	462	-	201	253	-
Stage 2	350	251	-	612	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.2	32	1.2	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	993	-	-	95	709	82	243	785	-	-
HCM Lane V/C Ratio	0.126	-	-	0.137	0.032	0.106	0.072	0.061	-	-
HCM Control Delay (s)	9.1	-	-	48.8	10.2	54	21	9.9	-	-
HCM Lane LOS	A	-	-	E	B	F	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.5	0.1	0.3	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	0	0	0	330	68	51	707	466	0	0	176	117
Future Volume (vph)	0	0	0	330	68	51	707	466	0	0	176	117
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
Adj. Flow (vph)	0	0	0	363	75	56	777	512	0	0	193	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	363	75	56	777	512	0	0	193	129
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				31.7	31.7	31.7	55.2	59.7			34.6	34.6
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.59			0.34	0.34
v/c Ratio				0.65	0.07	0.10	1.02	0.46			0.11	0.20
Control Delay				35.4	23.4	0.6	59.6	10.4			23.7	5.4
Queue Delay				0.0	0.0	0.0	30.9	2.8			0.0	0.0
Total Delay				35.4	23.4	0.6	90.5	13.3			23.7	5.4
LOS				D	C	A	F	B			C	A
Approach Delay							29.6	59.8			16.4	
Approach LOS							C	E			B	
Queue Length 50th (ft)				198	17	0	-599	111			32	0
Queue Length 95th (ft)				296	33	3	#842	218			51	40
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				645	1290	646	763	1107			1752	630
Starvation Cap Reductn				0	0	0	174	467			0	0
Spillback Cap Reductn				0	0	0	0	0			64	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.56	0.06	0.09	1.32	0.80			0.11	0.20

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	100.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	46.1
Intersection LOS:	D

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 99.6%

ICU Level of Service F

Analysis Period (min) 15

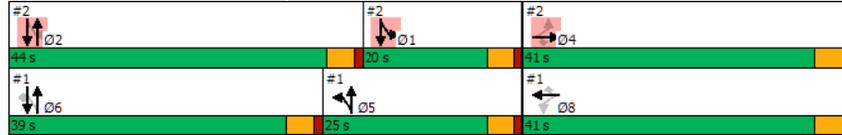
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↔					↕↕	↕↕	↔	↕↕	↔
Traffic Volume (vph)	373	414	641	0	0	0	0	876	228	143	304	0
Future Volume (vph)	373	414	641	0	0	0	0	876	228	143	304	0
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
Adj. Flow (vph)	414	460	712	0	0	0	0	973	253	159	338	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	460	712	0	0	0	0	973	253	159	338	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	31.7	31.7	31.7					39.7	39.7	55.2	59.7	
Actuated g/C Ratio	0.32	0.32	0.32					0.40	0.40	0.55	0.59	
v/c Ratio	0.74	0.41	0.84					0.70	0.33	0.42	0.16	
Control Delay	39.4	27.9	19.0					29.5	5.8	44.7	18.4	
Queue Delay	3.7	0.0	0.0					1.2	0.0	0.0	1.0	
Total Delay	43.1	27.9	19.0					30.7	5.8	44.7	19.4	
LOS	D	C	B					C	A	D	B	
Approach Delay		27.9						25.5			27.5	
Approach LOS		C						C			C	
Queue Length 50th (ft)	235	121	124					289	13	75	84	
Queue Length 95th (ft)	346	165	306					368	64	166	122	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	645	1290	899					1396	759	383	2103	
Starvation Cap Reductn	0	0	0					0	0	0	1486	
Spillback Cap Reductn	150	0	0					214	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.84	0.36	0.79					0.82	0.33	0.42	0.55	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 100.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 27.0

Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

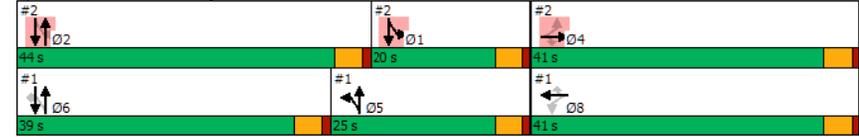
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 99.6%
Analysis Period (min) 15

ICU Level of Service F

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	528	257	0	0	0	102
Future Vol, veh/h	528	257	0	0	0	102
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
Veh in Median Storage, #	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	574	279	0	0	0	111

Major/Minor	Major1	Minor1
Conflicting Flow All	0	427
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	6.94
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.32
Pot Cap-1 Maneuver	-	576
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	576
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	12.7
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	576	-	-
HCM Lane V/C Ratio	0.192	-	-
HCM Control Delay (s)	12.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2024 Background Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	95.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑	↑	↑	↑↑			↑↑	↑
Traffic Vol, veh/h	0	0	8	74	0	351	0	758	96	331	562	57
Future Vol, veh/h	0	0	8	74	0	351	0	758	96	331	562	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	9	80	0	382	0	824	104	360	611	62

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1743	2259	306	1902
Stage 1	1331	1331	-	876
Stage 2	412	928	-	1026
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	55	41	690	-
Stage 1	163	222	-	310
Stage 2	588	345	-	251
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	6	8	690	-
Mov Cap-2 Maneuver	6	8	-	14
Stage 1	163	46	-	310
Stage 2	176	345	-	51

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	\$ 486.6	0	6.6
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	690	14	545	733	-	-
HCM Lane V/C Ratio	-	-	-	0.013	5.745	0.7	0.491	-	-
HCM Control Delay (s)	0	-	-	10.3	2673.3	25.6	14.6	2.6	-
HCM Lane LOS	A	-	-	B	F	D	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	11	5.5	2.7	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	22	70	770	16	58	588
Future Vol, veh/h	22	70	770	16	58	588
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	80	885	18	67	676

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1366	452	0	0	903
Stage 1	894	-	-	-	-
Stage 2	472	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	138	555	-	-	749
Stage 1	360	-	-	-	-
Stage 2	594	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	126	555	-	-	749
Mov Cap-2 Maneuver	126	-	-	-	-
Stage 1	360	-	-	-	-
Stage 2	541	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	126	555	749	-
HCM Lane V/C Ratio	-	-	0.201	0.145	0.089	-
HCM Control Delay (s)	-	-	40.6	12.6	10.3	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.3	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	15	43	32	0	0	11
Future Vol, veh/h	15	43	32	0	0	11
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	-
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	16	47	35	0	0	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	35	0	-	0	114
Stage 1	-	-	-	-	35
Stage 2	-	-	-	-	79
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1576	-	-	-	882
Stage 1	-	-	-	-	987
Stage 2	-	-	-	-	944
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1576	-	-	-	873
Mov Cap-2 Maneuver	-	-	-	-	873
Stage 1	-	-	-	-	977
Stage 2	-	-	-	-	944

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	1038
HCM Lane V/C Ratio	0.01	-	-	-	0.012
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2024 Background Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	6	3	0	0	28
Future Vol, veh/h	37	6	3	0	0	28
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	-
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	40	7	3	0	0	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	3	0	-	0	90
Stage 1	-	-	-	-	3
Stage 2	-	-	-	-	87
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1619	-	-	910	1081
Stage 1	-	-	-	1020	-
Stage 2	-	-	-	936	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	887	1081
Mov Cap-2 Maneuver	-	-	-	887	-
Stage 1	-	-	-	995	-
Stage 2	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.025	-	-	-	0.028
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2024 Background Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	15.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	140	16	57	15	8	61	5	570	8	35	529	27
Future Vol, veh/h	140	16	57	15	8	61	5	570	8	35	529	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
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	152	17	62	16	9	66	5	620	9	38	575	29

Major/Minor	Minor2	Minor1	Major1	Major2		
Conflicting Flow All	991	1305	302	1007	1315	315
Stage 1	666	666	-	635	635	-
Stage 2	325	639	-	372	680	-
Critical Hdwy	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	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	200	159	694	195	157	681
Stage 1	415	456	-	433	471	-
Stage 2	661	469	-	621	449	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	167	152	694	157	150	681
Mov Cap-2 Maneuver	167	152	-	157	150	-
Stage 1	413	438	-	431	469	-
Stage 2	583	467	-	521	431	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	100.8	16.8	0.1	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	970	-	-	165	694	157	483	949	-	-
HCM Lane V/C Ratio	0.006	-	-	1.028	0.089	0.104	0.155	0.04	-	-
HCM Control Delay (s)	8.7	-	-	133.7	10.7	30.6	13.8	9	-	-
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	8.3	0.3	0.3	0.5	0.1	-	-

2010 HCM Intersection Capacity Analysis

1: I-30 WBFR & N Stodghill Rd

2029 Horizon

Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↙	↕	↔	↔	↕	↗
Traffic Volume (vph)	0	0	0	315	171	60	489	220	0	0	118	198
Future Volume (vph)	0	0	0	315	171	60	489	220	0	0	118	198
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
Adj. Flow (vph)	0	0	0	346	188	66	537	242	0	0	130	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	346	188	66	537	242	0	0	130	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5	6		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				19.2	19.2	19.2	47.9	52.4			27.5	27.5
Actuated g/C Ratio				0.24	0.24	0.24	0.59	0.65			0.34	0.34
v/c Ratio				0.82	0.22	0.14	0.62	0.20			0.07	0.32
Control Delay				46.6	25.4	1.2	14.1	4.1			18.6	4.5
Queue Delay				0.0	0.0	0.0	0.4	0.2			0.0	0.0
Total Delay				46.6	25.4	1.2	14.6	4.3			18.6	4.5
LOS				D	C	A	B	A			B	A
Approach Delay					34.9			11.4			9.8	
Approach LOS					C			B			A	
Queue Length 50th (ft)				165	40	0	66	29			16	0
Queue Length 95th (ft)				#301	68	5	312	46			30	45
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				450	901	497	1050	1400			1737	684
Starvation Cap Reductn				0	0	0	177	638			0	0
Spillback Cap Reductn				0	0	0	0	0			99	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.77	0.21	0.13	0.62	0.32			0.08	0.32

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 19.2
Intersection LOS: B

2010 HCM Intersection Capacity Analysis

1: I-30 WBFR & N Stodghill Rd

2029 Horizon

Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: AM

Intersection Capacity Utilization 70.1%

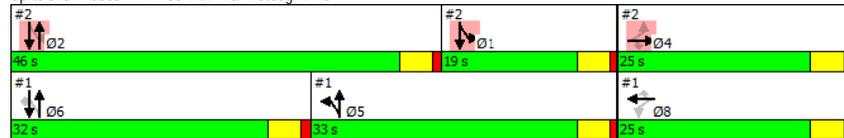
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↕↕	↕					↕↕	↕	↕	↕↕	
Traffic Volume (vph)	162	67	224	0	0	0	0	590	116	35	382	0
Future Volume (vph)	162	67	224	0	0	0	0	590	116	35	382	0
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
Adj. Flow (vph)	180	74	249	0	0	0	0	656	129	39	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	74	249	0	0	0	0	656	129	39	424	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	19.2	19.2	19.2					41.6	41.6	47.9	52.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.52	0.52	0.59	0.65	
v/c Ratio	0.43	0.09	0.44					0.36	0.15	0.08	0.18	
Control Delay	29.6	24.1	6.3					12.6	2.6	12.3	13.3	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.4	
Total Delay	29.6	24.1	6.3					12.6	2.6	12.3	13.7	
LOS	C	C	A					B	A	B	B	
Approach Delay		17.3						11.0			13.6	
Approach LOS		B						B			B	
Queue Length 50th (ft)	77	15	0					100	0	15	92	
Queue Length 95th (ft)	137	32	55					142	26	m23	m156	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	450	901	588					1824	878	660	2660	
Starvation Cap Reductn	0	0	0					0	0	0	1666	
Spillback Cap Reductn	0	0	0					112	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.40	0.08	0.42					0.38	0.15	0.06	0.43	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 80.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 13.5

Intersection LOS: B

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: AM

Intersection Capacity Utilization 70.1% ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Station Driveway

2029 Horizon
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	7	0	714	578	36
Future Vol, veh/h	0	7	0	714	578	36
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	-	170	-	-	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	0	8	0	776	628	39

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1016	314	667	0	0
Stage 1	628	-	-	-	-
Stage 2	388	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	234	682	919	-	-
Stage 1	494	-	-	-	-
Stage 2	655	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	234	682	919	-	-
Mov Cap-2 Maneuver	234	-	-	-	-
Stage 1	494	-	-	-	-
Stage 2	655	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	919	-	682	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	3	24	692	10	47	540
Future Vol, veh/h	3	24	692	10	47	540
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	28	795	11	54	621

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1220	403	0	0	806
Stage 1	801	-	-	-	-
Stage 2	419	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	172	597	-	-	814
Stage 1	402	-	-	-	-
Stage 2	632	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	161	597	-	-	814
Mov Cap-2 Maneuver	161	-	-	-	-
Stage 1	402	-	-	-	-
Stage 2	590	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	161	597	814	-
HCM Lane V/C Ratio	-	-	0.021	0.046	0.066	-
HCM Control Delay (s)	-	-	27.8	11.3	9.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2029 Horizon
 Timing Plan: AM

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	9	3	22	8	3	14	121	683	22	47	334	152
Future Vol, veh/h	9	3	22	8	3	14	121	683	22	47	334	152
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	10	3	24	9	3	15	132	742	24	51	363	165

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1185	1578	264	1303
Stage 1	548	548	-	1018
Stage 2	637	1030	-	285
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	144	108	734	118
Stage 1	488	515	-	254
Stage 2	432	309	-	698
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	117	89	734	96
Mov Cap-2 Maneuver	117	89	-	96
Stage 1	426	484	-	221
Stage 2	363	269	-	630

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	27.5	1.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1035	-	-	108	734	96	282	843	-	-
HCM Lane V/C Ratio	0.127	-	-	0.121	0.033	0.091	0.066	0.061	-	-
HCM Control Delay (s)	9	-	-	42.9	10.1	46.2	18.7	9.5	-	-
HCM Lane LOS	A	-	-	E	B	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	0.1	0.3	0.2	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	0	0	0	192	72	53	387	460	0	0	147	123
Future Volume (vph)	0	0	0	192	72	53	387	460	0	0	147	123
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
Adj. Flow (vph)	0	0	0	211	79	58	425	505	0	0	162	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	211	79	58	425	505	0	0	162	135
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	5			6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5			6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				28.4	28.4	28.4	46.9	51.5			34.8	34.8
Actuated g/C Ratio				0.32	0.32	0.32	0.53	0.58			0.39	0.39
v/c Ratio				0.37	0.07	0.10	0.60	0.47			0.08	0.19
Control Delay				25.2	20.8	0.9	21.7	15.6			19.3	4.9
Queue Delay				0.0	0.0	0.0	0.2	0.5			0.0	0.0
Total Delay				25.2	20.8	0.9	21.9	16.1			19.3	4.9
LOS				C	C	A	C	B			B	A
Approach Delay					20.2			18.7				12.8
Approach LOS					C			B				B
Queue Length 50th (ft)				88	15	0	120	251			20	0
Queue Length 95th (ft)				162	34	4	358	424			42	40
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				733	1465	719	881	1258			1990	701
Starvation Cap Reductn				0	0	0	68	365			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				0.29	0.05	0.08	0.52	0.57			0.08	0.19

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	89
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.9
Intersection LOS:	B

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
Cycle Length:	105
Actuated Cycle Length:	89
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.9
Intersection LOS:	B

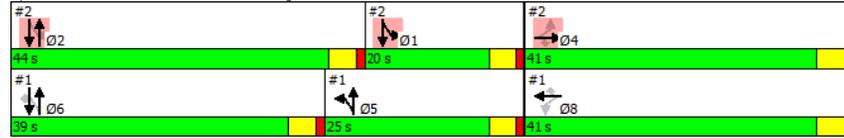
2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon
Timing Plan: PM

Intersection Capacity Utilization 68.2%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗					↕	↗	↔	↕	↗
Traffic Volume (vph)	392	242	404	0	0	0	0	535	228	73	204	0
Future Volume (vph)	392	242	404	0	0	0	0	535	228	73	204	0
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
Adj. Flow (vph)	436	269	449	0	0	0	0	594	253	81	227	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	436	269	449	0	0	0	0	594	253	81	227	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	28.4	28.4	28.4					39.9	39.9	46.9	51.5	
Actuated g/C Ratio	0.32	0.32	0.32					0.45	0.45	0.53	0.58	
v/c Ratio	0.77	0.24	0.55					0.37	0.30	0.18	0.11	
Control Delay	37.4	22.5	5.1					18.7	3.7	20.1	15.4	
Queue Delay	1.0	0.0	0.0					0.1	0.0	0.1	0.2	
Total Delay	38.4	22.5	5.1					18.7	3.7	20.2	15.5	
LOS	D	C	A					B	A	C	B	
Approach Delay		21.8						14.2			16.8	
Approach LOS		C						B			B	
Queue Length 50th (ft)	212	56	0					111	0	27	41	
Queue Length 95th (ft)	356	95	65					197	49	61	71	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	733	1465	918					1586	848	616	2389	
Starvation Cap Reductn	0	0	0					0	0	89	1444	
Spillback Cap Reductn	118	0	0					127	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.71	0.18	0.49					0.41	0.30	0.15	0.24	
Intersection Summary												
Cycle Length: 105												
Actuated Cycle Length: 89												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.77												
Intersection Signal Delay: 18.3												
Intersection LOS: B												

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon
Timing Plan: PM

Intersection Capacity Utilization 68.2%
Analysis Period (min) 15

ICU Level of Service C

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Gas Sttaion Driveway

2029 Horizon
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Vol, veh/h	0	9	0	767	552	65
Future Vol, veh/h	0	9	0	767	552	65
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	-	170	-	-	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	0	10	0	834	600	71

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1017	300	671	0	0
Stage 1	600	-	-	-	-
Stage 2	417	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	234	696	915	-	-
Stage 1	511	-	-	-	-
Stage 2	633	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	234	696	915	-	-
Mov Cap-2 Maneuver	234	-	-	-	-
Stage 1	511	-	-	-	-
Stage 2	633	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	915	-	696	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕↕	↕↕	↔	↔
Traffic Vol, veh/h	11	44	709	1	23	540
Future Vol, veh/h	11	44	709	1	23	540
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	51	815	1	26	621

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1179	408	0	0	816
Stage 1	816	-	-	-	-
Stage 2	363	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	183	593	-	-	807
Stage 1	395	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	177	593	-	-	807
Mov Cap-2 Maneuver	177	-	-	-	-
Stage 1	395	-	-	-	-
Stage 2	652	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	177	593	807	-
HCM Lane V/C Ratio	-	-	0.071	0.085	0.033	-
HCM Control Delay (s)	-	-	26.9	11.6	9.6	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-

2010 HCM Intersection Capacity Analysis
 8: Corporate Crossing & Discovery Blvd

2029 Horizon
 Timing Plan: PM

Intersection												
Int Delay, s/veh	12.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	147	17	60	16	8	64	6	484	8	36	466	28
Future Vol, veh/h	147	17	60	16	8	64	6	484	8	36	466	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	-	180	-	-	180	-	-
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	160	18	65	17	9	70	7	526	9	39	507	30

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	882	1149	269	886
Stage 1	600	600	-	545
Stage 2	282	549	-	341
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	241	197	729	239
Stage 1	455	488	-	490
Stage 2	701	515	-	647
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	203	188	729	195
Mov Cap-2 Maneuver	203	188	-	195
Stage 1	452	469	-	487
Stage 2	619	511	-	544

Approach	EB	WB	NB	SB
HCM Control Delay, s	65.6	14.9	0.1	0.6
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1027	-	-	201	729	195	550	1029	-	-
HCM Lane V/C Ratio	0.006	-	-	0.887	0.089	0.089	0.142	0.038	-	-
HCM Control Delay (s)	8.5	-	-	85.8	10.4	25.3	12.6	8.6	-	-
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	6.9	0.3	0.3	0.5	0.1	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↙	↘	↗	↖	↗	↘
Traffic Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
Future Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
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
Adj. Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				25.0	25.0	25.0	33.0				32.0	32.0
Total Split (%)				27.8%	27.8%	27.8%	36.7%				35.6%	35.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				20.5	20.5	20.5	53.8	58.3			27.5	27.5
Actuated g/C Ratio				0.23	0.23	0.23	0.61	0.66			0.31	0.31
v/c Ratio				1.23	0.23	0.14	0.92	0.22			0.11	0.34
Control Delay				155.1	28.8	1.1	32.9	3.0			22.3	5.1
Queue Delay				0.7	0.0	0.0	49.2	0.7			0.0	0.0
Total Delay				155.8	28.8	1.1	82.1	3.8			22.3	5.1
LOS				F	C	A	F	A			C	A
Approach Delay					111.0			63.1			12.6	
Approach LOS					F			E			B	
Queue Length 50th (ft)				-366	46	0	454	25			25	0
Queue Length 95th (ft)				#557	75	4	#695	38			41	50
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				413	827	467	948	1284			1593	646
Starvation Cap Reductn				0	0	0	317	718			0	0
Spillback Cap Reductn				29	0	0	0	0			272	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				1.32	0.23	0.14	1.32	0.47			0.13	0.34

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 87.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 70.7
Intersection LOS: E

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	19.0	46.0	25.0
Total Split (%)	21%	51%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

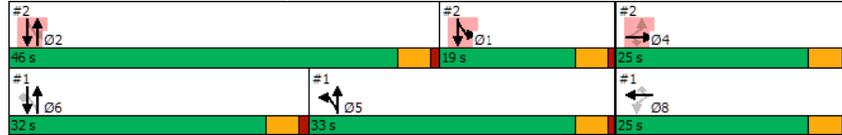
2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 102.1%
Analysis Period (min) 15

ICU Level of Service G

- 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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↘					↖	↗	↘	↖	↗
Traffic Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
Future Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
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
Adj. Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	25.0	25.0	25.0					46.0	46.0	19.0		
Total Split (%)	27.8%	27.8%	27.8%					51.1%	51.1%	21.1%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	20.5	20.5	20.5					41.6	41.6	53.8	58.3	
Actuated g/C Ratio	0.23	0.23	0.23					0.47	0.47	0.61	0.66	
v/c Ratio	0.44	0.34	0.81					0.58	0.17	0.29	0.23	
Control Delay	33.4	29.9	20.7					19.0	3.2	26.7	14.9	
Queue Delay	0.0	0.0	0.0					0.5	0.0	0.3	4.0	
Total Delay	33.4	29.9	20.7					19.5	3.2	26.9	18.9	
LOS	C	C	C					B	A	C	B	
Approach Delay		25.6						17.5			20.4	
Approach LOS		C						B			C	
Queue Length 50th (ft)	88	70	78					209	0	57	168	
Queue Length 95th (ft)	152	106	#259					272	31	m60	m150	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500					180				
Base Capacity (vph)	413	827	661					1673	821	463	2439	
Starvation Cap Reductn	0	0	0					0	0	84	1787	
Spillback Cap Reductn	0	0	0					293	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.44	0.34	0.81					0.71	0.17	0.32	0.84	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 87.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 21.1

Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	33.0	32.0	25.0
Total Split (%)	37%	36%	28%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G

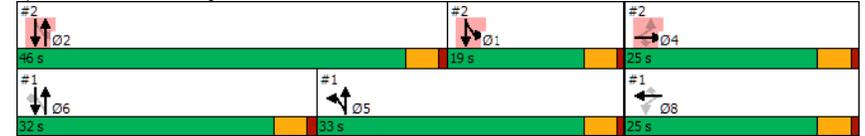
Analysis Period (min) 15

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: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	227	257	0	0	0	80
Future Vol, veh/h	227	257	0	0	0	80
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
Veh in Median Storage, #	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	247	279	0	0	0	87

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	0
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	735	-	-
HCM Lane V/C Ratio	0.118	-	-
HCM Control Delay (s)	10.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	62.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Vol, veh/h	0	0	6	58	0	275	0	737	95	330	615	32
Future Vol, veh/h	0	0	6	58	0	275	0	737	95	330	615	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	7	63	0	299	0	801	103	359	668	35

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1787	2290	334	1905
Stage 1	1386	1386	-	853
Stage 2	401	904	-	1052
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	51	39	662	-
Stage 1	151	209	-	320
Stage 2	597	354	-	242
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	8	8	662	-
Mov Cap-2 Maneuver	8	8	-	-
Stage 1	151	43	-	320
Stage 2	275	354	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	\$ 384.6	0	6.5
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	890	-	-	662	14	555	748	-	-
HCM Lane V/C Ratio	-	-	-	0.01	4.503	0.539	0.48	-	-
HCM Control Delay (s)	0	-	-	10.5	2119.1	18.8	14.2	2.7	-
HCM Lane LOS	A	-	-	B	F	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	8.8	3.2	2.6	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	12	46	787	25	83	598
Future Vol, veh/h	12	46	787	25	83	598
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	53	905	29	95	687

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1454	467	0	934
Stage 1	920	-	-	-
Stage 2	534	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	121	542	-	729
Stage 1	349	-	-	-
Stage 2	552	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	105	542	-	729
Mov Cap-2 Maneuver	105	-	-	-
Stage 1	349	-	-	-
Stage 2	480	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	105	542	729	-
HCM Lane V/C Ratio	-	-	0.131	0.098	0.131	-
HCM Control Delay (s)	-	-	44.4	12.4	10.7	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.4	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	15	46	28	0	0	9
Future Vol, veh/h	15	46	28	0	0	9
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	-
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	16	50	30	0	0	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	30	0	112
Stage 1	-	-	30
Stage 2	-	-	82
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1583	-	885
Stage 1	-	-	993
Stage 2	-	-	941
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	876
Mov Cap-2 Maneuver	-	-	876
Stage 1	-	-	983
Stage 2	-	-	941

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	1044
HCM Lane V/C Ratio	0.01	-	-	-	0.009
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	9	6	0	0	22
Future Vol, veh/h	37	9	6	0	0	22
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	-
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	40	10	7	0	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	7	0	97
Stage 1	-	-	7
Stage 2	-	-	90
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1614	-	902
Stage 1	-	-	1016
Stage 2	-	-	934
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1614	-	879
Mov Cap-2 Maneuver	-	-	879
Stage 1	-	-	991
Stage 2	-	-	934

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1614	-	-	-	1075
HCM Lane V/C Ratio	0.025	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon Plus Site Generated
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	9	3	22	8	3	14	121	793	22	47	401	152
Future Vol, veh/h	9	3	22	8	3	14	121	793	22	47	401	152
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	-
Grade, %	-	0	-	0	-	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	10	3	24	9	3	15	132	862	24	51	436	165

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1318	1771	301	1460
Stage 1	621	621	-	1138
Stage 2	697	1150	-	322
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	115	82	695	90
Stage 1	442	477	-	214
Stage 2	398	271	-	664
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	91	66	695	71
Mov Cap-2 Maneuver	91	66	-	71
Stage 1	382	445	-	185
Stage 2	330	234	-	594

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.6	35.2	1.2	0.8
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	83	695	71	227	760	-	-
HCM Lane V/C Ratio	0.135	-	-	0.157	0.034	0.122	0.081	0.067	-	-
HCM Control Delay (s)	9.3	-	-	56.3	10.4	62.7	22.3	10.1	-	-
HCM Lane LOS	A	-	-	F	B	F	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.5	0.1	0.4	0.3	0.2	-	-

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	0	0	339	72	53	726	488	0	0	183	123
Future Volume (vph)	0	0	0	339	72	53	726	488	0	0	183	123
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
Adj. Flow (vph)	0	0	0	373	79	58	798	536	0	0	201	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	373	79	58	798	536	0	0	201	135
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				41.0	41.0	41.0	25.0				39.0	39.0
Total Split (%)				39.0%	39.0%	39.0%	23.8%				37.1%	37.1%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				32.5	32.5	32.5	55.2	59.7			34.6	34.6
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.59			0.34	0.34
v/c Ratio				0.66	0.07	0.10	1.06	0.49			0.12	0.21
Control Delay				35.5	23.4	0.8	71.3	11.0			24.0	5.4
Queue Delay				0.0	0.0	0.0	17.8	3.9			0.0	0.0
Total Delay				35.5	23.4	0.8	89.1	14.8			24.0	5.4
LOS				D	C	A	F	B			C	A
Approach Delay					29.7			59.2			16.5	
Approach LOS					C			E			B	
Queue Length 50th (ft)				205	18	0	-636	129			34	0
Queue Length 95th (ft)				305	35	4	#877	250			53	41
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				640	1280	642	754	1098			1738	629
Starvation Cap Reductn				0	0	0	174	463			0	0
Spillback Cap Reductn				0	0	0	0	0			67	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.58	0.06	0.09	1.38	0.84			0.12	0.21

Intersection Summary	
Cycle Length:	105
Actuated Cycle Length:	101.2
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	45.7
Intersection LOS:	D

2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	20.0	44.0	41.0
Total Split (%)	19%	42%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
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2010 HCM Intersection Capacity Analysis
1: I-30 WBFR & N Stodghill Rd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection Capacity Utilization 102.4% ICU Level of Service G

Analysis Period (min) 15

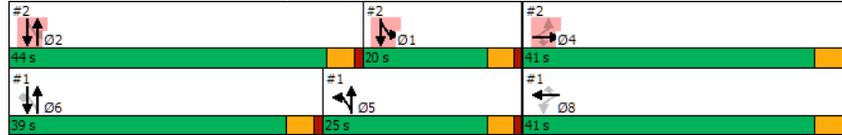
- Volume exceeds capacity, queue is theoretically infinite.

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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↔	↔	↕	↕	↕	↔	↕	↔
Traffic Volume (vph)	392	426	661	0	0	0	0	902	239	146	314	0
Future Volume (vph)	392	426	661	0	0	0	0	902	239	146	314	0
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
Adj. Flow (vph)	436	473	734	0	0	0	0	1002	266	162	349	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	436	473	734	0	0	0	0	1002	266	162	349	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	41.0	41.0	41.0					44.0	44.0	20.0		
Total Split (%)	39.0%	39.0%	39.0%					41.9%	41.9%	19.0%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	32.5	32.5	32.5					39.6	39.6	55.2	59.7	
Actuated g/C Ratio	0.32	0.32	0.32					0.39	0.39	0.55	0.59	
v/c Ratio	0.77	0.42	0.87					0.72	0.35	0.44	0.17	
Control Delay	40.7	27.8	22.5					30.6	6.2	47.0	18.6	
Queue Delay	5.8	0.0	0.0					1.6	0.0	0.0	1.1	
Total Delay	46.5	27.8	22.5					32.2	6.2	47.0	19.7	
LOS	D	C	C					C	A	D	B	
Approach Delay		30.4						26.7			28.4	
Approach LOS		C						C			C	
Queue Length 50th (ft)	251	124	156					304	17	77	87	
Queue Length 95th (ft)	368	170	#411					383	71	169	133	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	640	1280	887					1385	758	369	2086	
Starvation Cap Reductn	0	0	0					0	0	0	1474	
Spillback Cap Reductn	149	0	0					213	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.89	0.37	0.83					0.85	0.35	0.44	0.57	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 101.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 28.7

Intersection LOS: C

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	25.0	39.0	41.0
Total Split (%)	24%	37%	39%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

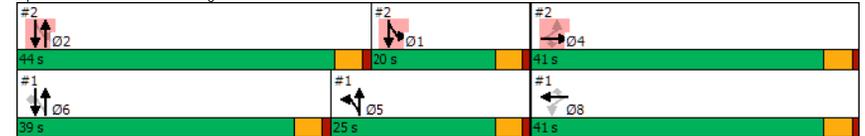
Intersection Capacity Utilization 102.4% ICU Level of Service G

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis
3: Driveway 1 & I-30 EBFR

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	554	257	0	0	0	102
Future Vol, veh/h	554	257	0	0	0	102
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
Veh in Median Storage, #	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	602	279	0	0	0	111

Major/Minor	Major1	Minor1
Conflicting Flow All	0	441
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	6.94
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.32
Pot Cap-1 Maneuver	-	564
Stage 1	-	0
Stage 2	-	0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	564
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	12.9
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	564	-	-
HCM Lane V/C Ratio	0.197	-	-
HCM Control Delay (s)	12.9	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-

2010 HCM Intersection Capacity Analysis
4: Corporate Crossing/N Stodghill Rd & Driveway 2

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	120.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑	↑	↑	↑↑		↑↑	↑	↑
Traffic Vol, veh/h	0	0	8	74	0	351	0	795	96	331	588	57
Future Vol, veh/h	0	0	8	74	0	351	0	795	96	331	588	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	170	-	-	-	-	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	9	80	0	382	0	864	104	360	639	62

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1791	2327	320	1956
Stage 1	1359	1359	-	916
Stage 2	432	968	-	1040
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	51	37	676	-38
Stage 1	157	215	-	293
Stage 2	572	330	-	246
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	4	6	676	-11
Mov Cap-2 Maneuver	4	6	-	-11
Stage 1	157	34	-	293
Stage 2	159	330	-	-38

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	\$ 634.1	0	7
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	676	11	529	707	-	-
HCM Lane V/C Ratio	-	-	-	0.013	7.312	0.721	0.509	-	-
HCM Control Delay (s)	0	-	-	10.3	3511.5	27.5	15.2	3	-
HCM Lane LOS	A	-	-	B	F	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	11.3	5.9	2.9	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis
5: Corporate Crossing & Capital Blvd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	23	73	804	16	59	614
Future Vol, veh/h	23	73	804	16	59	614
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	0	-	-	105	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	84	924	18	68	706

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	1422	471	0	942
Stage 1	933	-	-	-
Stage 2	489	-	-	-
Critical Hdwy	6.84	6.94	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	3.32	-	2.22
Pot Cap-1 Maneuver	127	539	-	724
Stage 1	343	-	-	-
Stage 2	582	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	115	539	-	724
Mov Cap-2 Maneuver	115	-	-	-
Stage 1	343	-	-	-
Stage 2	527	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	115	539	724	-
HCM Lane V/C Ratio	-	-	0.23	0.156	0.094	-
HCM Control Delay (s)	-	-	45.4	12.9	10.5	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.5	0.3	-

2010 HCM Intersection Capacity Analysis
6: Capital Blvd & Driveway 3

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	15	44	32	0	0	11
Future Vol, veh/h	15	44	32	0	0	11
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	-
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	16	48	35	0	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	35	0	115
Stage 1	-	-	35
Stage 2	-	-	80
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1576	-	881
Stage 1	-	-	987
Stage 2	-	-	943
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1576	-	872
Mov Cap-2 Maneuver	-	-	872
Stage 1	-	-	977
Stage 2	-	-	943

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	1038
HCM Lane V/C Ratio	0.01	-	-	-	0.012
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2010 HCM Intersection Capacity Analysis
7: Capital Blvd & Driveway 4

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	7	3	0	0	28
Future Vol, veh/h	37	7	3	0	0	28
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	-
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	40	8	3	0	0	30

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	3	0	91
Stage 1	-	-	3
Stage 2	-	-	88
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1619	-	909
Stage 1	-	-	1020
Stage 2	-	-	935
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1619	-	886
Mov Cap-2 Maneuver	-	-	886
Stage 1	-	-	995
Stage 2	-	-	935

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.025	-	-	-	0.028
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2010 HCM Intersection Capacity Analysis
8: Corporate Crossing & Discovery Blvd

2029 Horizon Plus Site Generated
Timing Plan: PM

Intersection												
Int Delay, s/veh	21.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	147	17	60	16	8	64	6	594	8	36	551	28
Future Vol, veh/h	147	17	60	16	8	64	6	594	8	36	551	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free						
RT Channelized	-	-	None									
Storage Length	-	-	0	0	-	180	-	-	180	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	-
Grade, %	-	0	-	0	-	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	160	18	65	17	9	70	7	646	9	39	599	30

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1034	1361	315	1052
Stage 1	692	692	-	665
Stage 2	342	669	-	387
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	186	147	681	181
Stage 1	400	443	-	416
Stage 2	646	454	-	608
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	153	140	681	142
Mov Cap-2 Maneuver	153	140	-	142
Stage 1	397	424	-	413
Stage 2	563	451	-	504

Approach	EB	WB	NB	SB
HCM Control Delay, s	139	17.8	0.1	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	949	-	-	152	681	142	468	928	-	-
HCM Lane V/C Ratio	0.007	-	-	1.173	0.096	0.122	0.167	0.042	-	-
HCM Control Delay (s)	8.8	-	-	185.9	10.8	33.9	14.2	9.1	-	-
HCM Lane LOS	A	-	-	F	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	10	0.3	0.4	0.6	0.1	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)

1: I-30 WBFR & N Stodghill Rd

Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↘	↙	↖	↗	↘	↙	↘
Traffic Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
Future Volume (vph)	0	0	0	447	162	57	732	231	0	0	149	188
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
Adj. Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	491	178	63	804	254	0	0	164	207
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				33.0	33.0	33.0	34.0				23.0	23.0
Total Split (%)				36.7%	36.7%	36.7%	37.8%				25.6%	25.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.0	27.0	27.0	47.5	52.0			18.5	18.5
Actuated g/C Ratio				0.31	0.31	0.31	0.54	0.59			0.21	0.21
v/c Ratio				0.91	0.16	0.11	0.96	0.23			0.15	0.42
Control Delay				51.9	22.7	0.4	40.2	4.0			29.5	7.5
Queue Delay				2.8	0.0	0.0	44.0	0.7			0.1	0.0
Total Delay				54.7	22.7	0.4	84.2	4.8			29.6	7.5
LOS				D	C	A	F	A			C	A
Approach Delay					42.2			65.1				17.3
Approach LOS					D			E				B
Queue Length 50th (ft)				262	37	0	446	24			28	0
Queue Length 95th (ft)				#442	62	2	#721	36			46	56
Internal Link Dist (ft)	1684				1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				574	1147	599	846	1113			1070	496
Starvation Cap Reductn				0	0	0	199	574			0	0
Spillback Cap Reductn				31	0	0	0	0			271	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.90	0.16	0.11	1.24	0.47			0.21	0.42

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 88
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 49.2
Intersection LOS: D

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)

1: I-30 WBFR & N Stodghill Rd

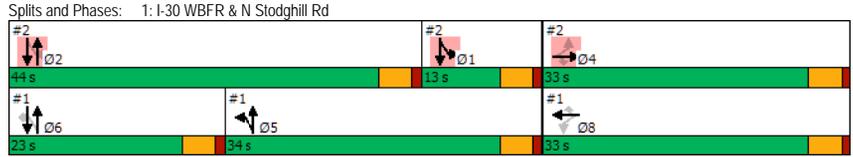
Timing Plan: AM

Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	13.0	44.0	33.0
Total Split (%)	14%	49%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd
 Timing Plan: AM

Intersection Capacity Utilization 99.2% 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.



2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR
 Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑					↑↑	↑	↑	↑↑	
Traffic Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
Future Volume (vph)	154	247	470	0	0	0	0	851	119	107	474	0
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
Adj. Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	274	522	0	0	0	0	946	132	119	527	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	33.0	33.0	33.0					44.0	44.0	13.0		
Total Split (%)	36.7%	36.7%	36.7%					48.9%	48.9%	14.4%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	27.0	27.0	27.0					39.6	39.6	47.5	52.0	
Actuated g/C Ratio	0.31	0.31	0.31					0.45	0.45	0.54	0.59	
v/c Ratio	0.32	0.25	0.73					0.59	0.17	0.37	0.25	
Control Delay	25.3	23.6	15.9					20.6	3.5	32.0	18.4	
Queue Delay	0.0	0.0	0.0					0.9	0.0	0.0	5.7	
Total Delay	25.3	23.6	15.9					21.5	3.5	32.0	24.1	
LOS	C	C	B					C	A	C	C	
Approach Delay		19.8						19.3			25.6	
Approach LOS		B						B			C	
Queue Length 50th (ft)	73	60	85					210	0	56	166	
Queue Length 95th (ft)	126	91	210					273	31	m73	m202	
Internal Link Dist (ft)		1283				1227		625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	574	1147	742					1591	784	334	2114	
Starvation Cap Reductn	0	0	0					0	0	0	1513	
Spillback Cap Reductn	0	0	0					348	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.30	0.24	0.70					0.76	0.17	0.36	0.88	

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 88
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 20.9
 Intersection LOS: C

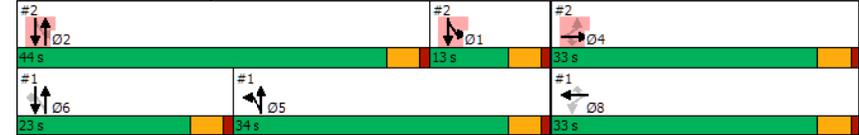
2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	34.0	23.0	33.0
Total Split (%)	38%	26%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis 2024 Background Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Intersection Capacity Utilization 99.2% ICU Level of Service F
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: N Stodghill Rd & I-30 EBFR



2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
Future Volume (vph)	0	0	0	462	171	60	756	242	0	0	155	198
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
Adj. Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	508	188	66	831	266	0	0	170	218
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8			5	5		6	
Permitted Phases				8		8	5	6				6
Detector Phase				8	8	8	5	5	6		6	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0				5.0	5.0
Minimum Split (s)				22.5	22.5	22.5	9.5				22.5	22.5
Total Split (s)				33.0	33.0	33.0	34.0				23.0	23.0
Total Split (%)				36.7%	36.7%	36.7%	37.8%				25.6%	25.6%
Yellow Time (s)				3.5	3.5	3.5	3.5				3.5	3.5
All-Red Time (s)				1.0	1.0	1.0	1.0				1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0				0.0	0.0
Total Lost Time (s)				4.5	4.5	4.5	4.5				4.5	4.5
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				None	None	None	None				Max	Max
Act Effct Green (s)				27.4	27.4	27.4	48.0	52.5			18.5	18.5
Actuated g/C Ratio				0.31	0.31	0.31	0.54	0.59			0.21	0.21
v/c Ratio				0.93	0.17	0.11	0.99	0.24			0.16	0.43
Control Delay				56.5	22.8	0.7	47.2	4.1			29.7	7.5
Queue Delay				12.0	0.0	0.0	37.2	0.9			0.1	0.0
Total Delay				68.5	22.8	0.7	84.4	5.0			29.8	7.5
LOS				E	C	A	F	A			C	A
Approach Delay					51.4			65.2			17.3	
Approach LOS					D			E			B	
Queue Length 50th (ft)				275	40	0	-478	25			29	0
Queue Length 95th (ft)				#463	66	3	#758	38			48	57
Internal Link Dist (ft)		1684			1350			132			443	
Turn Bay Length (ft)				415		370						500
Base Capacity (vph)				567	1135	594	836	1100			1059	502
Starvation Cap Reductn				0	0	0	199	571			0	0
Spillback Cap Reductn				53	0	0	0	0			274	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.99	0.17	0.11	1.30	0.50			0.22	0.43

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	88.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	52.2
Intersection LOS:	D

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM

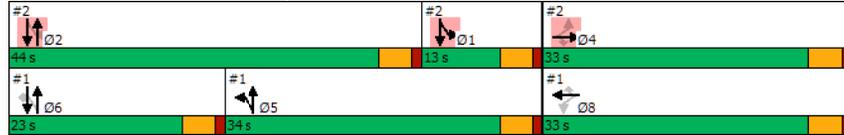
Lane Group	01	02	04
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	13.0	44.0	33.0
Total Split (%)	14%	49%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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	
Cycle Length:	90
Actuated Cycle Length:	88.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	52.2
Intersection LOS:	D

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 1: I-30 WBFR & N Stodghill Rd Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G
 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: 1: I-30 WBFR & N Stodghill Rd



2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔					↕↕	↕↕	↕↔	↕↔	↕↕
Traffic Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
Future Volume (vph)	162	251	481	0	0	0	0	879	125	109	492	0
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
Adj. Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	279	534	0	0	0	0	977	139	121	547	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	1	2
Permitted Phases	4		4						2	1	2	
Detector Phase	4	4	4					2	2	1	1	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0		
Minimum Split (s)	22.5	22.5	22.5					22.5	22.5	9.5		
Total Split (s)	33.0	33.0	33.0					44.0	44.0	13.0		
Total Split (%)	36.7%	36.7%	36.7%					48.9%	48.9%	14.4%		
Yellow Time (s)	3.5	3.5	3.5					3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5					4.5	4.5	4.5		
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None	None					Max	Max	None		
Act Effct Green (s)	27.4	27.4	27.4					39.5	39.5	48.0	52.5	
Actuated g/C Ratio	0.31	0.31	0.31					0.44	0.44	0.54	0.59	
v/c Ratio	0.33	0.26	0.75					0.62	0.18	0.38	0.26	
Control Delay	25.6	23.7	18.1					21.3	3.4	33.6	18.7	
Queue Delay	0.0	0.0	0.0					1.1	0.0	0.0	9.8	
Total Delay	25.6	23.7	18.1					22.5	3.4	33.6	28.5	
LOS	C	C	B					C	A	C	C	
Approach Delay		21.0						20.1			29.4	
Approach LOS		C						C			C	
Queue Length 50th (ft)	77	61	103					219	0	57	172	
Queue Length 95th (ft)	133	93	234					285	32	m72	m202	
Internal Link Dist (ft)		1283			1227			625			132	
Turn Bay Length (ft)	500		500						180			
Base Capacity (vph)	567	1135	727					1573	780	318	2091	
Starvation Cap Reductn	0	0	0					0	0	0	1506	
Spillback Cap Reductn	0	0	0					348	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.32	0.25	0.73					0.80	0.18	0.38	0.94	

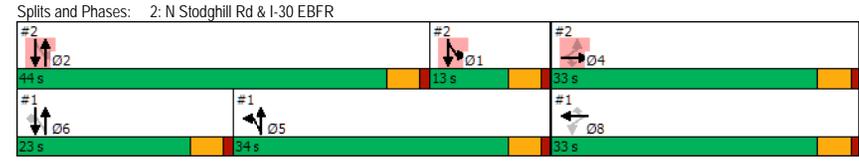
Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 88.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 22.7 Intersection LOS: C

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5
Total Split (s)	34.0	23.0	33.0
Total Split (%)	38%	26%	37%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Recall Mode	None	Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
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			

2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
 2: N Stodghill Rd & I-30 EBFR Timing Plan: AM

Intersection Capacity Utilization 102.1% ICU Level of Service G
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.



Appendix E. TxDOT Driveway Spacing and Deceleration Lane Criteria

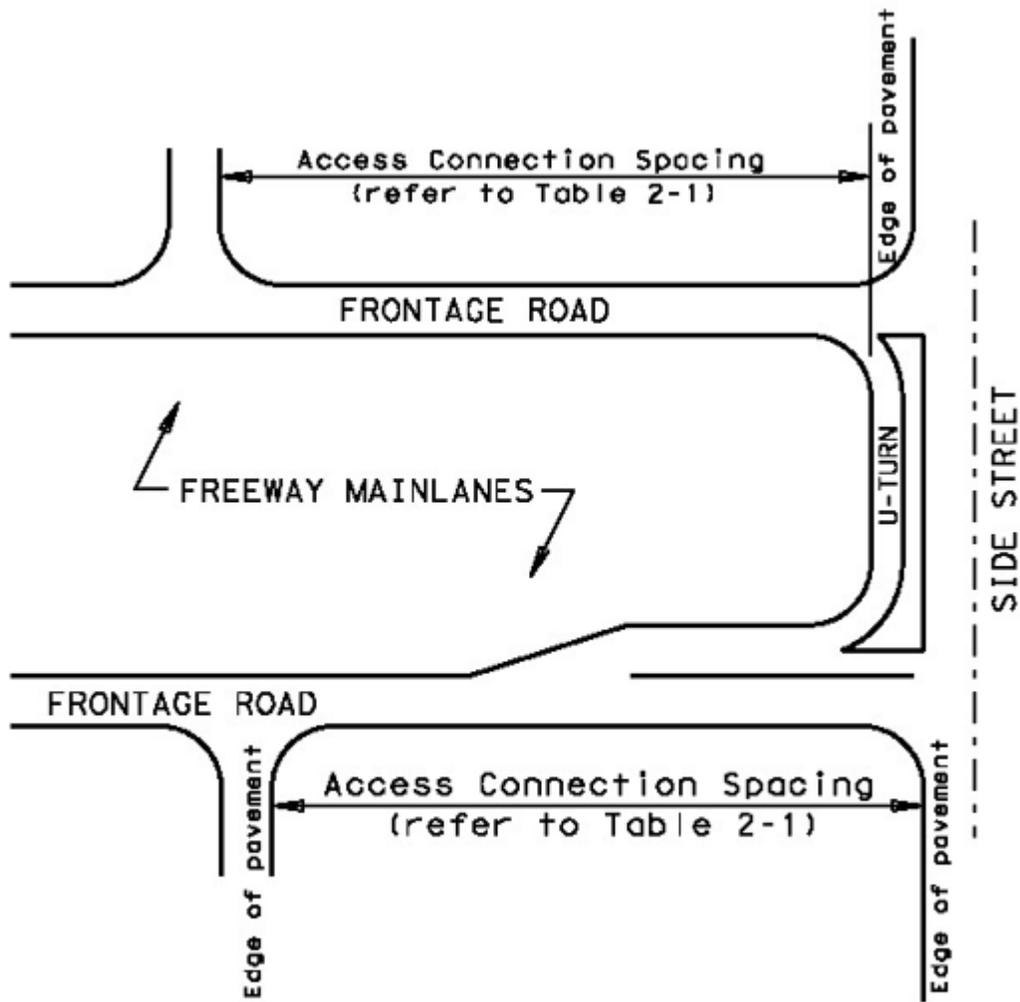


Figure 2-3. Frontage Road U-Turn Spacing Diagram

Table 2-1: Frontage Road Connection Spacing Criteria

Minimum Connection Spacing Criteria for Frontage Roads ⁽¹⁾⁽²⁾		
	Minimum Connection Spacing (feet)	
Posted Speed (mph)	One-Way Frontage Roads	Two-Way Frontage Roads
≤ 30	200	200
35	250	300
40	305	360
45	360	435
≥ 50	425	510

(1) Distances are for passenger cars on level grade. These distances may be adjusted for downgrades and/or significant truck traffic. Where present or projected traffic operations indicate specific needs, consideration may be given to intersection sight distance and operational gap acceptance measurement adjustments.

(2) When these values are not attainable, refer to the variance process as described in Chapter 2, Section 5.

Other State System Highways

This section applies to all state highway system routes that are not new highways on new alignments, freeway mainlanes, or frontage roads.

Table 2-2 provides minimum connection spacing criteria for other state system highways. However, a lesser connection spacing than set forth in this document may be allowed without variance in the situations described in Chapter 2, Section 5.

Table 2-2 does not apply to rural highways outside of metropolitan planning organization boundaries where there is little, if any, potential for development with current ADT volumes below 2000. For those highways, access location and design will be evaluated based on safety and traffic operation considerations. Such considerations may include traffic volumes, posted speed, turning volumes, presence or absence of shoulders, and roadway geometrics.

Table 2-2: Other State Highways Connection Spacing Criteria

Other State Highways Minimum Connection Spacing ⁽¹⁾⁽²⁾⁽³⁾	
Posted Speed (mph)	Distance (ft)
≤ 30	200
35	250
40	305
45	360
≥ 50	425

(1) Distances are for passenger cars on level grade. These distances may be adjusted for downgrades and/or significant truck traffic. Where present or projected traffic operations indicate specific needs, consideration may be given to intersection sight distance and operational gap acceptance measurement adjustments.

(2) When these values are not attainable, refer to the variance process as described in Chapter 2, Section 5.

(3) Access spacing values shown in this table do not apply to rural highways outside of metropolitan planning organization boundaries where there is little, if any, potential for development with current ADT levels below 2000. Access connection spacing below the values shown in this table may be approved based on safety and operational considerations as determined by TxDOT.

Corner clearance refers to the separation of access connections from roadway intersections. Table 2-2 provides minimum corner clearance criteria.

Where adequate access connection spacing cannot be achieved, the permitting authority may allow for a lesser spacing when shared access is established with an abutting property. Where no other alternatives exist, construction of an access connection may be allowed along the property line farthest from the intersection. To provide reasonable access under these conditions but also provide the safest operation, consideration should be given to designing the driveway connection to allow only the right-in turning movement or only the right-in/right out turning movements if feasible.

Auxiliary Lanes

This subsection describes the basic use and functional criteria associated with auxiliary lanes. Auxiliary lanes consist of left-turn and right-turn movements, deceleration, acceleration, and their associated transitions and storage requirements. Left-turn movements may pose challenges at driveways and street intersections. They may increase conflicts, delays, and crashes and often complicate traffic signal timing. These problems are especially acute at major highway intersections

where heavy left-turn movements take place, but also occur where left-turn movements enter or leave driveways serving adjacent land development. As with left-turn movements, right-turn movements pose problems at both driveways and street intersections. Right-turn movements increase conflicts, delays, and crashes, particularly where a speed differential of 10 mph or more exists between the speed of through traffic and the vehicles that are turning right.

Table 2-3 presents thresholds for auxiliary lanes. These thresholds represent examples of where left turn and right turn lanes should be considered. Refer to the TxDOT *Roadway Design Manual*, Chapter 3, for proper acceleration and deceleration lengths.

Table 2-3: Auxiliary Lane Thresholds

Median Type	Left Turn to or from Property		Right Turn to or from Property ⁽⁵⁾	
	Acceleration	Deceleration	Acceleration	Deceleration
Non-Traversable (Raised Median)	(2)	All	Right turn egress > 200 vph (4)	<ul style="list-style-type: none"> ◆ > 45 mph where right turn volume is > 50 vph (3) ◆ ≤ 45 where right turn volume is > 60 vph (3)
Traversable (Undivided Road)	(2)	(1)	Same as above	Same as Above

(1) Refer to Table 3-11, TxDOT *Roadway Design Manual*, for alternative left-turn-bay operational considerations.

(2) A left-turn acceleration lane may be required if it would provide a benefit to the safety and operation of the roadway. A left-turn acceleration lane would interfere with the left-turn ingress movements to any other access connection.

(3) Additional right-turn considerations:

- ◆ Conditions for providing an exclusive right-turn lane when the right-turn traffic volume projections are less than indicated in Table 2-3:
 - High crash experience
 - Heavier than normal peak flow movements on the main roadway
 - Large volume of truck traffic
 - Highways where sight distance is limited
- ◆ Conditions for NOT requiring a right-turn lane where right-turn volumes are more than indicated in Table 2-3:
 - Dense or built-out corridor where space is limited
 - Where queues of stopped vehicles would block the access to the right turn lane
 - Where sufficient length of property width is not available for the appropriate design

(4) The acceleration lane should not interfere with any downstream access connection.

- ◆ The distance from the end of the acceleration lane taper to the next unsignalized downstream access connection should be equal to or greater than the distances found in Table 2-2.
- ◆ Additionally, if the next access connection is signalized, the distance from the end of the acceleration lane taper to the back of the 90th percentile queue should be greater than or equal to the distances found Table 2-2.

(5) Continuous right-turn lanes can provide mobility benefits both for through movements and for the turning vehicles.^a Access connections within a continuous right turn lane should meet the spacing requirements found in Table 2-2. However, when combined with crossing left in movements, a continuous right-turn lane can introduce additional operational conflicts.

Table 3-11: Guide for Left-Turn Lanes on Two-Lane Highways

Opposing Volume (vph)	Advancing Volume (vph)			
	5 % Left Turns	10 % Left Turns	20 % Left Turns	30 % Left Turns
-				
40 mph [60 km/h] Design Speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50 mph [80 km/h] Design Speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60 mph [100 km/h] Design Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Right-Turn Deceleration Lanes. Shoulders 10 ft [3.0 m] wide alongside the traffic lanes generally provide sufficient area for acceleration or deceleration of right-turning vehicles. Where the right turn lane is being constructed in addition to the through lanes and shoulders, the minimum right turn lane width is 10 ft [3.0 m] with a 2 ft [0.6 m] surfaced shoulder. Where speed change lanes are used, they should be provided symmetrically along both sides of the highway for both directions of traffic, thus presenting drivers with a balanced section.

A deceleration-acceleration lane on one side of a two-lane highway, such as at a “tee” intersection, results in the appearance of a three-lane highway and may result in driver confusion. In this regard, right-turn speed change lanes are generally inappropriate for “tee” intersection design except where a four lane (2 through, 1 median left turn, 1 right acceleration/deceleration) section is provided.

CITY OF ROCKWALL

ORDINANCE NO. 20-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE [ORDINANCE NO. 20-02] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO CHANGE THE ZONING OF THE SUBJECT PROPERTY FROM A COMMERCIAL (C) DISTRICT AND LIGHT INDUSTRIAL (LI) DISTRICT TO PLANNED DEVELOPMENT DISTRICT XX (PD-XX) FOR COMMERCIAL/RETAIL, MULTI-FAMILY, AND LIGHT INDUSTRIAL LAND USES ON THE SUBJECT PROPERTY, BEING A 55.80-ACRE TRACT OF LAND IDENTIFIED AS TRACTS 22, 22-2, & 24 OF THE R. IRVINE SURVEY, ABSTRACT NO. 120, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS AND MORE FULLY DESCRIBED HEREIN BY EXHIBIT 'A' AND DEPICTED HEREIN BY EXHIBIT 'B'; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS (\$2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City has received a request by Stephen Doyle of Structured Real Estate on behalf of Luke Alverson of Capstar Holding Corporation for the approval of a zoning change from a Commercial (C) District and Light Industrial (LI) District to a Planned Development District for commercial/retail, multi-family, and light industrial land uses on a 55.80-acre tract of land identified as Tracts 22, 22-2, and 24 of the R. Irvine Survey, Abstract No. 120, City of Rockwall, Rockwall County, Texas and more fully described in *Exhibit 'A'* and depicted in *Exhibit 'B'* of this ordinance, which hereinafter shall be referred to as the *Subject Property* and incorporated by reference herein; and

WHEREAS, the Planning and Zoning Commission of the City of Rockwall and the governing body of the City of Rockwall in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally and to all persons interested in and situated in the affected area, and in the vicinity thereof, and the governing body in the exercise of its legislative discretion, has concluded that the Unified Development Code [*Ordinance No. 20-02*] should be amended as follows:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:

SECTION 1. That the *Subject Property* shall be used only in the manner and for the purposes authorized by this Planned Development District Ordinance and the Unified Development Code [*Ordinance No. 20-02*] of the City of Rockwall as heretofore amended, as amended herein by granting this zoning change, and as maybe amended in the future;

SECTION 2. Area Map. That the *Subject Property* shall generally consist of *Areas 1-7* as depicted in the *Area Map*, contained in *Exhibit 'C'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'C'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*,

SECTION 3. Concept Plan. That development of the *Subject Property* shall generally be in accordance with the *Concept Plan*, depicted in *Exhibit 'D'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'D'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*;

SECTION 4. Conceptual Building Elevations. That development of structures on the *Subject Property* shall generally be in accordance with the *Conceptual Building Elevations*, depicted in *Exhibit 'E'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'E'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*;

SECTION 5. Roadways/Streets Layouts and Cross Sections. That all roadways and streets developed on the *Subject Property* shall generally be in accordance with the *Roadway/Street Layouts and Cross Sections*, outlined in *Exhibit 'F'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'F'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*;

SECTION 6. Signage. That all signage on the *Subject Property* shall generally be in accordance with the *Signage Details*, outlined in *Exhibit 'G'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'G'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*;

SECTION 7. Permitted Land Uses and Development Standards. That development of the *Subject Property* shall generally be in accordance with the *Permitted Land Uses and Development Standards*, outlined in *Exhibit 'H'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'H'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*;

SECTION 8. Procedures. That -- *in addition to the procedures of the Unified Development Code (UDC)* -- any proposed development on the *Subject Property* shall adhere to the following additional procedures:

- (1) **PD Development Plans.** For all *Areas* depicted in *Exhibit 'C'*, any new development, development that represents a substantial change to the conceptual building elevations contained in *Exhibit 'E'*, and/or development that deviates from the concept plan contained in *Exhibit 'D'* shall be subject to the approval of a PD Development Plan in accordance to the procedures established in Article 10, *Planned Development Regulations*, of the Unified Development Code (UDC). The purpose of this PD Development Plan is to allow the Planning and Zoning Commission and City Council the ability to review any changes to ensure the following:
 - (a) The proposed development meets the general purpose and intent of the Planned Development District as stated in *Exhibit 'H'*; and,
 - (b) The proposed development will result in an improved project over what was originally approved in the Planned Development District; and,
 - (c) The proposed development will be an attractive and complementary contribution to Planned Development District; and,
 - (d) The proposed development will not have a negative impact on adjacent properties or inhibit adjacent properties from meeting the requirements and intent of this Planned Development District.

To ensure that a proposed project meets these guidelines a concept plan, landscape plan, and building elevations will be required to be submitted and reviewed by the

Director of Planning and Zoning. The Director of Planning and Zoning may, upon a determination of substantial compliance with this Planned Development District, waive the PD Development Plan requirement; however, if the Director of Planning and Zoning determines that a PD Development Plan is required, the Planning and Zoning Commission shall review the proposed request and make a recommendation to the City Council. Upon recommendation by the Planning and Zoning Commission, the City Council shall review the proposed request and approve or deny the application based on the above criteria. In approving a PD Development Plan, the Planning and Zoning Commission may recommend and the City Council may impose conditions necessary to mitigate any identified negative impacts to the adjacent properties, public streets, and/or open spaces in order to safeguard the intent of the Planned Development District. A PD Development Plan may be combined with a Specific Use Permit (SUP) and run concurrently as a single case.

- (2) Streetscape Plan. In conjunction with the submittal of a *Site Plan*, a *Streetscape Plan* showing the location and cut sheets and/or product specifications for all streetscape elements shall be provided. Examples of streetscape elements include benches, landscape planters and pots, landscape and right-of-way light fixtures, trash cans, and etcetera. The purpose of this plan is to ensure that all streetscape elements contribute to a consistent streetscape aesthetic.
- (3) Master Parks and Open Space Plan. Prior to or in conjunction with a *Site Plan* for a *Multi-Family Development or Structure* within *Area 4* as depicted in *Exhibit 'C'*, a *Master Parks and Open Space Plan* shall be submitted for *Areas 3, 4, & 6*. Should the *Concept Plan* contained in *Exhibit 'D'* of this ordinance be amended to exclude a *Multi-Family Development or Structure*, a separate *Site Plan* and *Master Parks and Open Space Plan* for *Areas 3 & 6* shall be submitted and approved prior to the acceptance of any application for subsequent development on the *Subject Property*. The Parks and Recreation Board shall review the *Master Parks and Open Space Plan* for compliance with the requirements of this Planned Development District ordinance and forward a recommendation with any conditions to the Planning and Zoning Commission. The Planning and Zoning Commission shall take into consideration the recommendations of the Parks and Recreation Board in reviewing and acting upon the *Site Plan*. The City Council shall review and approve these recommendations as part of the *Final Plat* for the *Multi Family Development or Structure*.
- (4) Waivers. In order to create a high quality, cohesive development while still providing the flexibility for creative design, an applicant proposing a development within the *Subject Property* may request a waiver to allow substantial changes -- *as determined by the Director of Planning and Zoning* -- to one (1) or more of the following in conjunction with a request for a PD Development Plan:
 - (a) Roadway Alignments and Design Standards
 - (b) Building Elevations and Layouts
 - (c) Signage Elevations and Locations
 - (d) Parking Requirements
 - (e) Inconsistent Streetscape Elements
 - (f) Building Setbacks

All other substantial changes shall be processed as an amendment to this ordinance. Requests for waivers shall not be required to submit to the Board of Adjustments (BOA) for approval. Waivers may only be approved by the City Council following a recommendation by the Planning and Zoning Commission. In the event that a waiver

for Building Elevations is made, the Architectural Review Board (ARB) shall review the case and provide a recommendation to the Planning and Zoning Commission and City Council.

SECTION 9. Penalty. That any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of *Two Thousand Dollars* (\$2,000.00) for each offense and each and every day such offense shall continue shall be deemed to constitute a separate offense;

SECTION 10. Severability. That if any section, paragraph, or provision of this ordinance or the application of that section, paragraph, or provision to any person, firm, corporation or situation is for any reason judged invalid, the adjudication shall not affect any other section, paragraph, or provision of this ordinance or the application of any other section, paragraph or provision to any other person, firm, corporation or situation, nor shall adjudication affect any other section, paragraph, or provision of the Unified Development Code, and the City Council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions for this ordinance are declared to be severable;

SECTION 11. Conflicts. The standards in this ordinance shall control in the event of a conflict between this ordinance and any provision of the Unified Development Code or any provision of the City Code, ordinance, resolution, rule, regulation, or procedure that provides a specific standard that is different from and inconsistent with this ordinance. References to zoning district regulations or other standards in the Unified Development Code (including references to the *Unified Development Code*), and references to overlay districts, in this ordinance or any of the Exhibits hereto are those in effect on the date this ordinance was passed and approved by the City Council of the City of Rockwall, Texas;

SECTION 12. Effective Date. That this ordinance shall take effect immediately from and after its passage;

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS THE 18TH DAY OF MAY, 2020.

Jim Pruitt, *Mayor*

ATTEST:

Kristy Cole, *City Secretary*

APPROVED AS TO FORM:

Frank J. Garza, *City Attorney*

1st Reading: May 4, 2020

2nd Reading: May 18, 2020

Exhibit 'A':
Legal Description

BEING A TRACT OF LAND LOCATED IN THE ROBERT BOYD IRVINE SURVEY, ABSTRACT NO. 120, ROCKWALL COUNTY, TEXAS, BEING A TRACT OF LAND DESCRIBED IN DEEDS TO CAPSTAR HOLDINGS CORPORATION, RECORDED IN INSTRUMENT NO.'s. 20140000007944, 20140000007994, AND 20140000012808, OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS (O.P.R.R.C.T.), AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A 5/8" IRON ROD FOUND WITH A CAP STAMPED TXDOT, BEING THE INTERSECTION OF THE EAST RIGHT-OF-WAY LINE OF CORPORATE CROSSING (VARIABLE WIDTH RIGHT-OF-WAY) WITH THE SOUTH RIGHT-OF-WAY LINE OF INTERSTATE HIGHWAY NO. 30 (IH-30) (VARIABLE WIDTH RIGHT-OF-WAY), FROM WHICH A NAIL IN POST BEARS S 01°15' W, 0.5 FEET;

THENCE ALONG THE SOUTHEAST RIGHT-OF-WAY LINE OF SAID IH-30 AS FOLLOWS:

- 1) N 72°51'57" E, 299.04 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED TXDOT;
- 2) N 67°03'28" E, 118.01 FEET TO A POINT;
- 3) N 72°46'09" E, 943.37 FEET TO A POINT, BEING THE MOST NORTHERLY NORTHEAST CORNER OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000012808, O.P.R.R.C.T., AND BEING IN THE WEST LINE OF A TRACT OF LAND DESCRIBED IN A DEED TO JOWERS, INC., RECORDED IN VOLUME 1215, PAGE 155, DEED RECORDS, ROCKWALL COUNTY, TEXAS (D.R.R.C.T.), FROM WHICH A 5/8" IRON ROD FOUND WITH A CAP STAMPED TXDOT BEARS N 70°29'31" E, 201.35 FEET;

THENCE S 01°36'16" E, DEPARTING THE SOUTHEAST RIGHT-OF-WAY LINE OF SAID IH-30, ALONG THE MOST NORTHERLY EAST LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000012808, O.P.R.R.C.T. AND THE WEST LINE OF SAID JOWERS TRACT, 329.08 FEET TO A POINT, BEING THE SOUTHWEST CORNER OF SAID JOWERS TRACT AND THE MOST NORTHERLY NORTHWEST CORNER OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007994, O.P.R.R.C.T.;

THENCE N 76°34'05" E, ALONG THE MOST NORTHERLY NORTH LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007994, O.P.R.R.C.T., AND THE SOUTH LINE OF SAID JOWERS TRACT, 540.70 FEET (DEED: 540.41 FEET) TO A 1/2" IRON ROD FOUND, BEING THE MOST NORTHERLY NORTHEAST CORNER OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007994, O.P.R.R.C.T., THE SOUTHEAST CORNER OF SAID JOWERS TRACT, AND IN THE WEST LINE OF A TRACT OF LAND DESCRIBED IN A DEED TO RUSTY WALLIS FAMILY LIMITED PARTNERSHIP #2, RECORDED IN VOLUME 2014, PAGE 173, D.R.R.C.T.;

THENCE S 01°41'51" E, ALONG THE MOST NORTHERLY EAST LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007994, O.P.R.R.C.T., AND THE WEST LINE OF SAID RUSTY WALLIS TRACT, 587.29 FEET (DEED: 586.64 FEET) TO A POINT;

THENCE N 89°40'04" E, ALONG THE MOST EASTERLY NORTH LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007994, O.P.R.R.C.T., AND THE SOUTH LINE OF SAID RUSTY WALLIS TRACT, 846.47 FEET (DEED: 846.55 FEET) TO A POINT, BEING THE MOST EASTERLY NORTHEAST CORNER OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007944, O.P.R.R.C.T., THE SOUTHEAST CORNER OF SAID RUSTY WALLIS TRACT, AND BEING IN THE WEST LINE OF A TRACT OF LAND DESCRIBED IN A DEED TO BAKER SCHWIMMER VENTURES, LP, RECORDED IN INSTRUMENT NO. 20180000018084, O.P.R.R.C.T., FROM WHICH A 1/2" IRON ROD FOUND BEARS N 01°15'57" W, 1230.29 FEET, SAID IRON ROD BEING THE NORTHWEST CORNER OF SAID BAKER SCHWIMMER TRACT;

THENCE S 01°15'57" E, ALONG THE MOST EASTERLY EAST LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 20140000007944, O.P.R.R.C.T., AND THE WEST LINE OF SAID BAKER SCHWIMMER TRACT, 449.60 FEET (DEED: 449.62 FEET) TO A 1/2" IRON ROD FOUND WITH A CAP, FROM WHICH A 3/4" IRON ROD FOUND BEARS S 01°15'57" E, 100.09 FEET, SAID 3/4" IRON ROD BEING THE SOUTHWEST CORNER OF SAID BAKER SCHWIMMER TRACT;

Exhibit 'A':
Legal Description

THENCE S 89°43'47" W, ALONG THE SOUTH LINE SAID CAPSTAR TRACTS RECORDED IN INSTRUMENT NO. 2014000007944 AND INSTRUMENT NO. 2014000007994, O.P.R.R.C.T., AT 120.95 FEET PASSING A 1/2" IRON ROD FOUND WITH A CAP STAMPED "WIER & ASSOC INC", SAID IRON BEING THE INTERSECTION OF THE EAST RIGHT-OF-WAY LINE OF DATA DRIVE (65' RIGHT-OF-WAY) WITH THE NORTH RIGHT-OF-WAY LINE OF CAPITAL BOULEVARD (VARIABLE WIDTH RIGHT-OF-WAY), AS SHOWN ON THE PLAT RECORDED IN CABINET I, SLIDE 13, PLAT RECORDS, ROCKWALL COUNTY, TEXAS (P.R.R.C.T.), THEN ALONG THE NORTH RIGHT-OF-WAY LINE OF CAPITAL BOULEVARD AND CONTINUING IN ALL A TOTAL DISTANCE OF 1457.24 FEET TO A POINT;

THENCE S 00°42'17" E, AT 66.41 FEET PASSING A 1/2" IRON ROD FOUND WITH A CAP STAMPED "WIER & ASSOC INC", BEING IN THE NORTH RIGHT-OF-WAY LINE OF SAID CAPITAL BOULEVARD, AND CONTINUING IN ALL A TOTAL DISTANCE OF 99.78 FEET (DEED: 100.00 FEET) TO A 1/2" IRON ROD FOUND WITH A CAP STAMPED "WIER & ASSOC INC";

THENCE S 89°10'38" W, ALONG THE MOST WESTERLY SOUTH LINE OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 2014000007994, O.P.R.R.C.T., AND THE NORTH LINE OF A TRACT OF LAND DESCRIBED IN A DEED TO ROCKWALL ECONOMIC DEVELOPMENT CORPORATION, RECORDED IN INSTRUMENT No. 20130000496918, O.P.R.R.C.T., 1290.09 FEET (DEED: 1290.14 FEET) TO A POINT, FROM WHICH A 1/2" IRON ROD FOUND BEARS N 79°03' E, 0.6 FEET, SAID POINT BEING THE SOUTHWEST CORNER OF SAID CAPSTAR TRACT RECORDED IN INSTRUMENT NO. 2014000007994, O.P.R.R.C.T., AND BEING IN THE EAST RIGHT-OF-WAY LINE OF SAID CORPORATE CROSSING;

THENCE ALONG THE WEST LINE OF SAID CAPSTAR TRACTS RECORDED IN INSTRUMENT NO. 2014000007994 AND INSTRUMENT NO. 20140000012808, O.P.R.R.C.T., AND THE EAST RIGHT-OF-WAY LINE OF SAID CORPORATE CROSSING AS FOLLOWS:

- 1) N 00°28'18" E, 53.84 FEET TO A POINT, FROM WHICH A 1/2" IRON ROD FOUND BEARS S 09°09' E, 0.3 FEET;
- 2) N 00°17'15" W, 5.72 FEET TO A POINT;
- 3) N 00°14'54" W, 395.43 FEET (DEED: 395.40 FEET) TO A POINT;
- 4) N 01°59'44" E, 93.57 FEET TO A POINT;
- 5) N 00°36'28" W, 69.67 FEET TO A POINT;

THENCE N 07°00'19" E, 330.90 FEET (DEED: 329.64 FEET) TO THE PLACE OF BEGINNING AND CONTAINING 55.784 ACRES (2,429,955 SQUARE FEET) OF LAND, MORE OR LESS.

Exhibit 'C':
Area Map

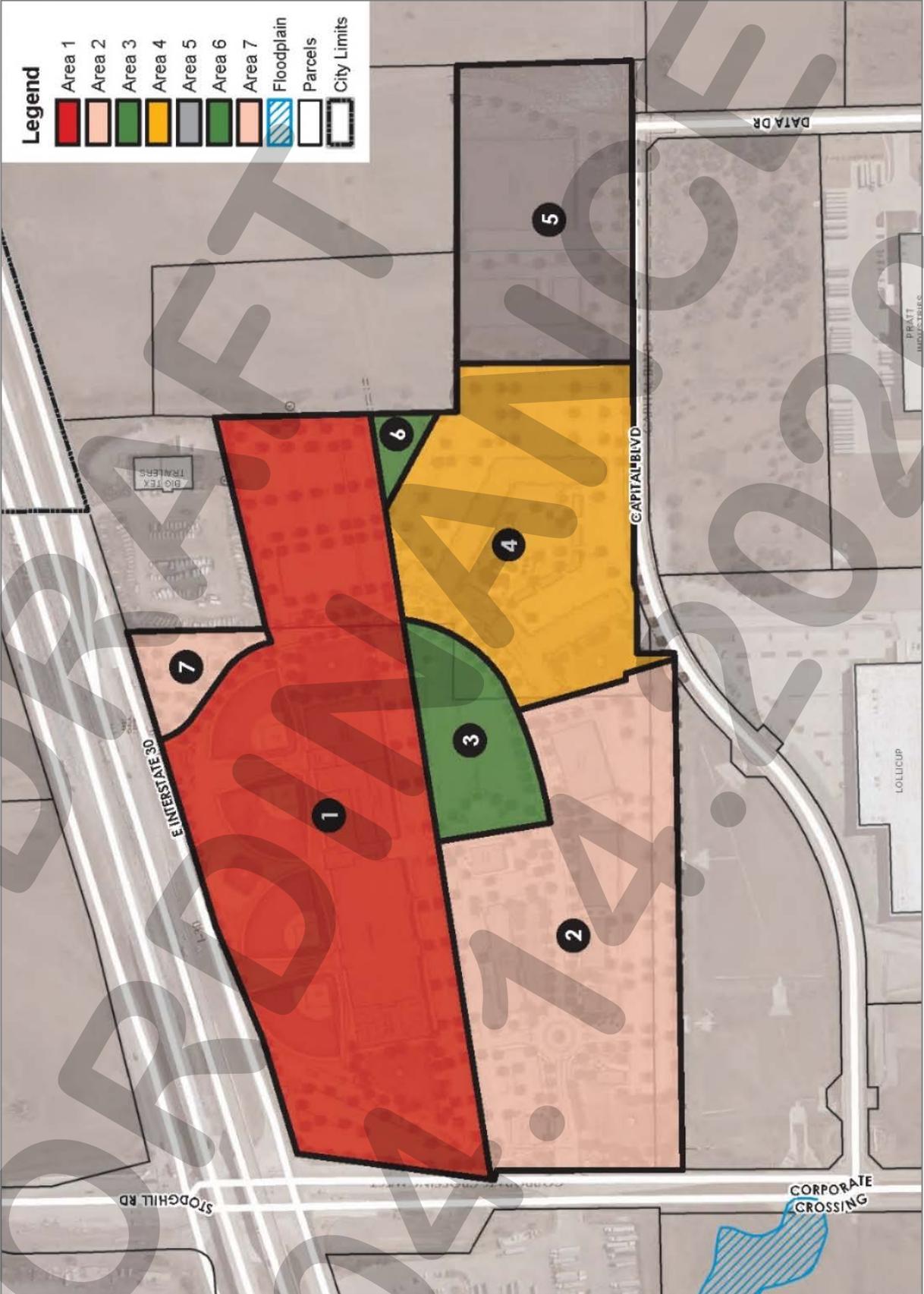
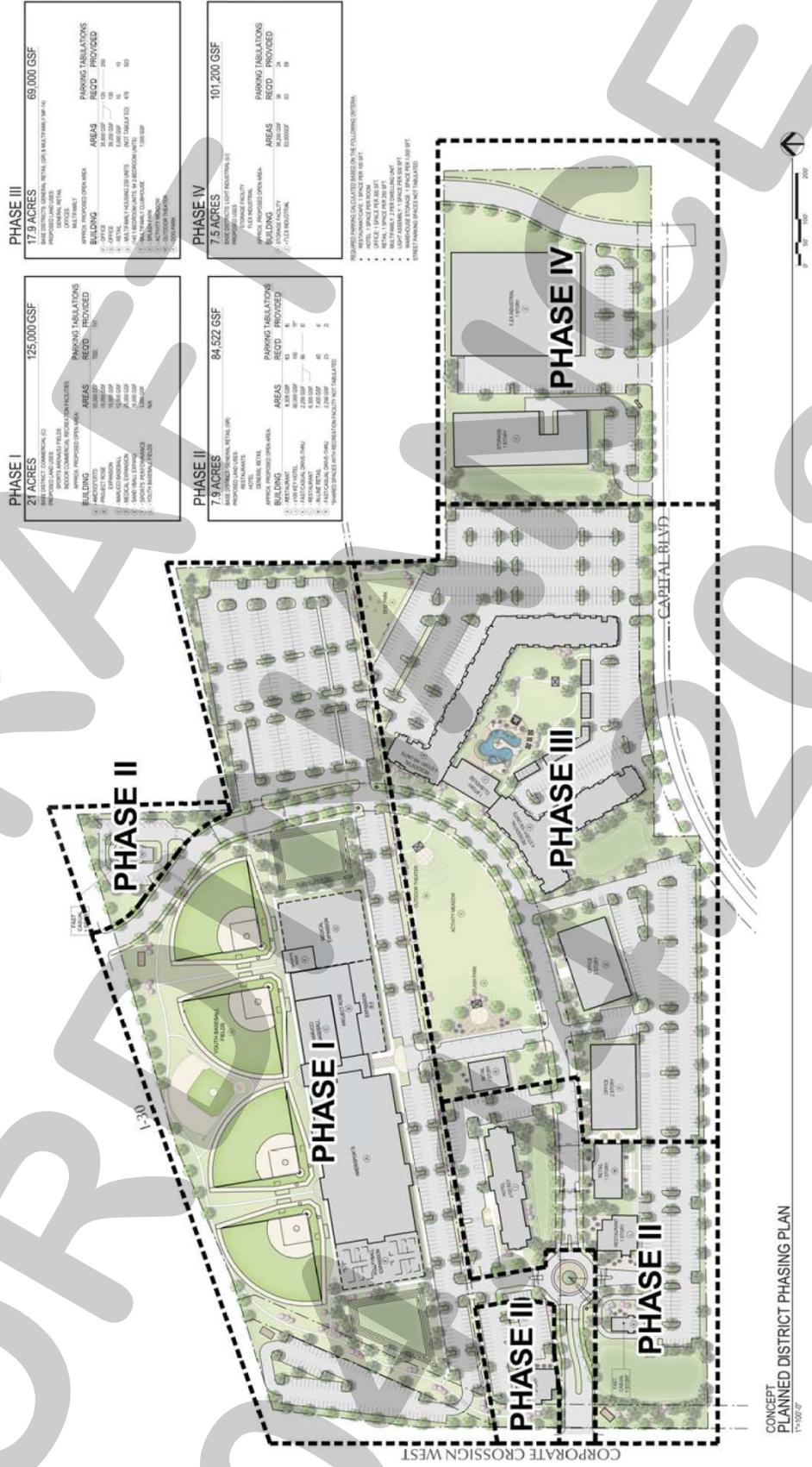


Exhibit 'D':
Concept Plan



DRAFT 2020

Exhibit 'E':
Conceptual Building Elevations: Area 1



NORTH ELEVATION
RECREATION BUILDING 'A' - 'F'
SCALE: 1" = 20'-0"



WEST ELEVATION
RECREATION BUILDING 'A' - 'F'
SCALE: 1" = 20'-0"



NORTH ELEVATION
RECREATION BUILDING 'A' - 'F'
SCALE: 1" = 20'-0"

Exhibit 'E':
Conceptual Building Elevations: Area 1

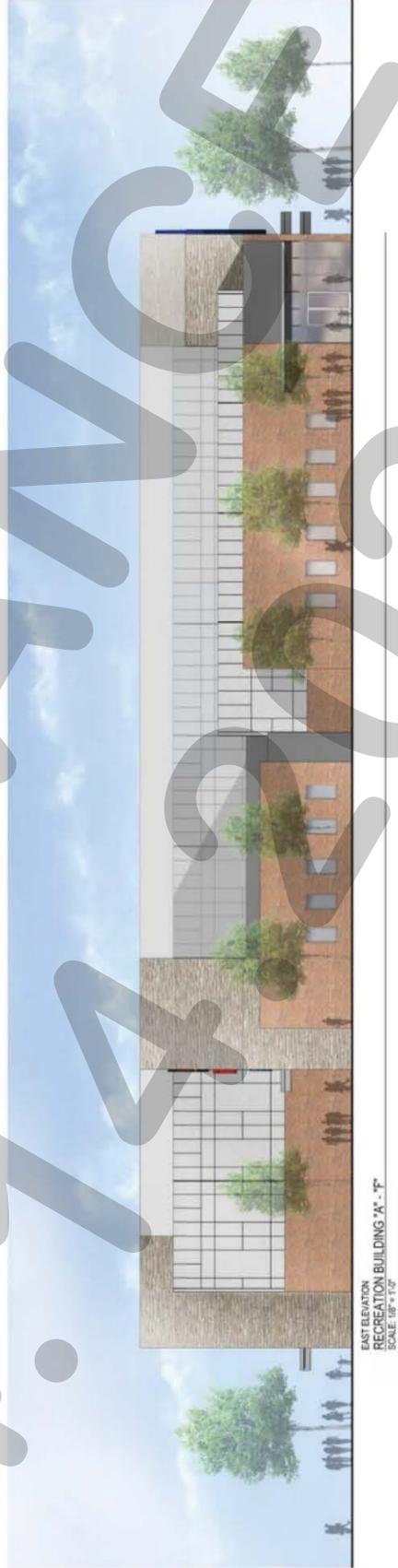
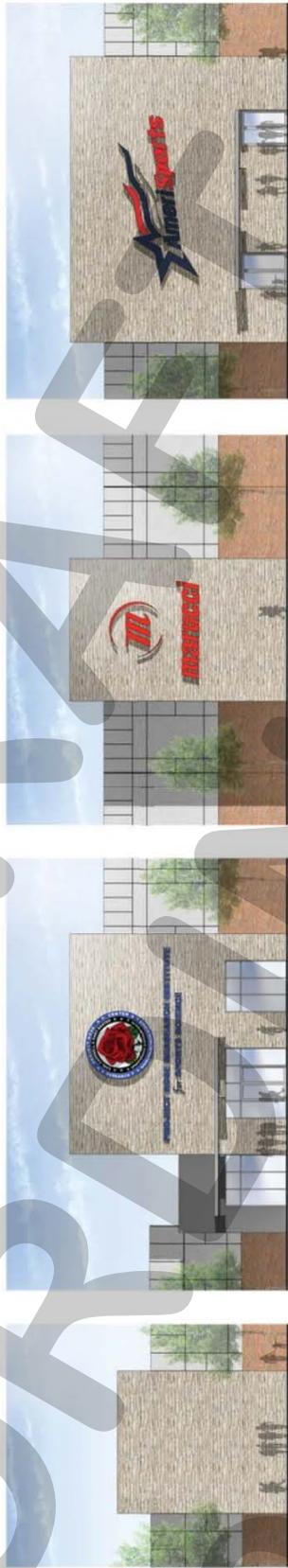


Exhibit 'E':
Conceptual Building Elevations: Area 1



NORTH ELEVATION
 PARTIAL RECREATION BUILDING "A" - "F"
 SCALE: 1/8" = 1'-0"



WEST ELEVATION
 RECREATION BUILDING "A" - "F"
 SCALE: 1/8" = 1'-0"

WEST ELEVATION
 DEVELOPMENT SIGNAGE NEAR HIGHWAY
 SCALE: 1/8" = 1'-0"

Exhibit 'E':
Conceptual Building Elevations: Area 2

MATERIAL LEGEND

	RED BRICK VENEER
	STONE VENEER
	WOOD PANEL
	STUCCO
	STUCCO
	VERTICAL LAP SIDING
	CORRUGATED METAL SIDING
	TRIM
	DARK CEMENTITIOUS PANEL



FRONT ELEVATION
 RETAIL BUILDING "M"
 SCALE 1/8" = 1'-0"



FRONT ELEVATION
 RETAIL BUILDING "R"
 SCALE 1/8" = 1'-0"



FRONT ELEVATION
 RESTAURANT BUILDING "H" + "L"
 SCALE 1/8" = 1'-0"

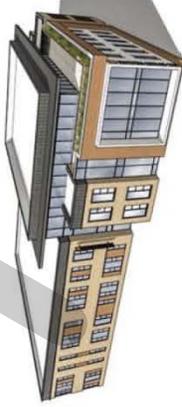


FRONT ELEVATION
 FAST-CASUAL BUILDING "K" + "N"
 SCALE 1/8" = 1'-0"

Exhibit 'E':
Conceptual Building Elevations: Area 2

MATERIAL LEGEND

	BUFF BRICK VENEER
	DARK CEMENTITIOUS PANEL
	WOOD PANEL
	LIGHT ACCENT PANEL



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "Q"
SCALE: 1/8" = 1'-0"



FRONT ELEVATION
2.5-STORY MEDICAL OFFICE BUILDING "P"
SCALE: 1/8" = 1'-0"

Exhibit 'E':
Conceptual Building Elevations: Area 2

MATERIAL LEGEND	
	BUFF BRICK VENEER
	DARK STUCCO
	LIGHT STUCCO
	WOOD PANEL
	LAP SIDING
	TRIM



FRONT ELEVATION
4-STORY HOTEL BUILDING "J"
SCALE: 1/8" = 1'-0"

Exhibit 'E':
Conceptual Building Elevations: Area 4



Exhibit 'F': Roadway/Street Layouts and Cross Sections



- PUBLIC STREET BUILT IN PHASE I
- PUBLIC STREET (FUTURE)
- 9'x18' PARKING STALLS

GENERAL NOTES

- A. UNLESS NOTED OTHERWISE, ALL 90 DEGREE PARKING STALLS SHALL BE 9'-0" WITH AN MIN. 24' WHEEL IN ACCORDANCE WITH FIGURE 2.8 - CAPACITY OF INDIVIDUAL'S STIMULANTS OF DESIGN AND CONSTRUCTION.
- B. 9'x18' PARKING STALLS OR PROPOSED ALL STALLS ARE TO BE PLANTED 4' FROM BACK OF CURB. ALL OTHER STRUCTURES (WALLS, LIGHT POLES, ETC) MUST BE 7' FROM BACK OF CURB.
- C. ALL PRIVATE DRIVE ASSES ARE TO BE 24" WIDE, BACK OF CURB TO BACK OF CURB.
- D. PRIVATE STREET THAT IS BOUNDED BY REMOVABLE BOLLARDS IS INTENDED TO BE PHYSICALLY CLOSED TO VEHICULAR TRAFFIC. SUCH AS FOOD TRUCK CORPENS AND AS REQUIRED FOR EMERGENCY RESPONSE VEHICLES.

PARKING STALLS IN THIS REGION WILL BE 9'x18'

PARKING STALLS IN THIS REGION SHALL BE PER THE DIMENSIONS SHOWN IN FIGURE 2.8 OF THE CITY OF ROCKWALL'S DESIGN AND CONSTRUCTION STANDARDS.

REMOVABLE BOLLARDS - ALL PARALLEL PARKING SPACES SHALL BE 7'-2"

REMOVABLE BOLLARDS - SEE NOTE "D"

64'-1/2" (MINIMUM) HAMMERHEAD

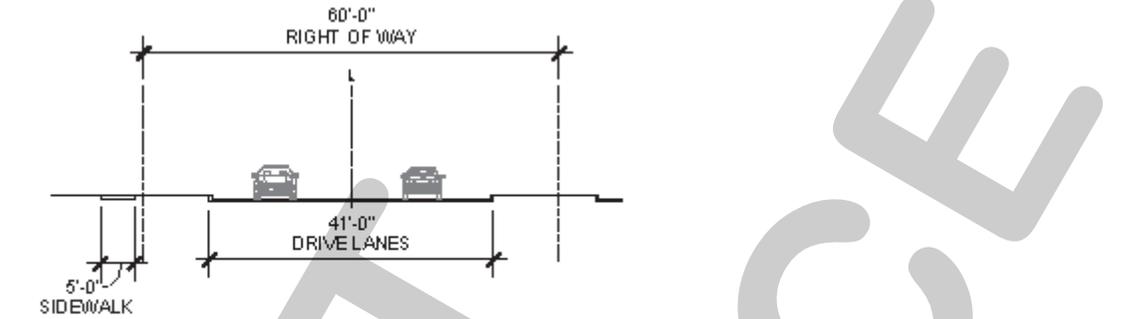
BACK DRIVE TO CONTINUE NORTHWARD THROUGH ADJACENT LOT

PARKING STALLS IN THIS REGION WILL BE 9'x18'

MINIMUM SEPARATION OF DRIVEWAYS ACCESSING CAPITAL BLVD.

STREET AND PARKING DIAGRAM
1/16" = 1'-0"

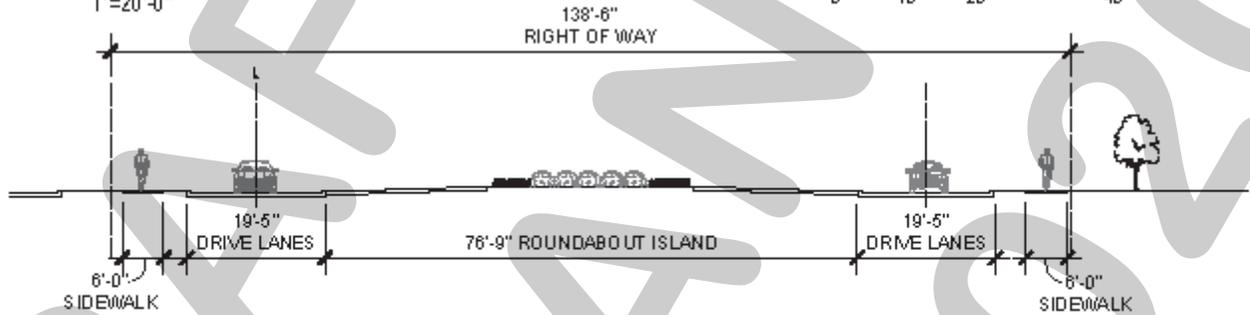
**Exhibit 'F':
Roadway/Street Layouts and Cross Sections**



**SECTION
MINOR COLLECTOR STREET**

(D) 41' B-B
1"=20'-0"

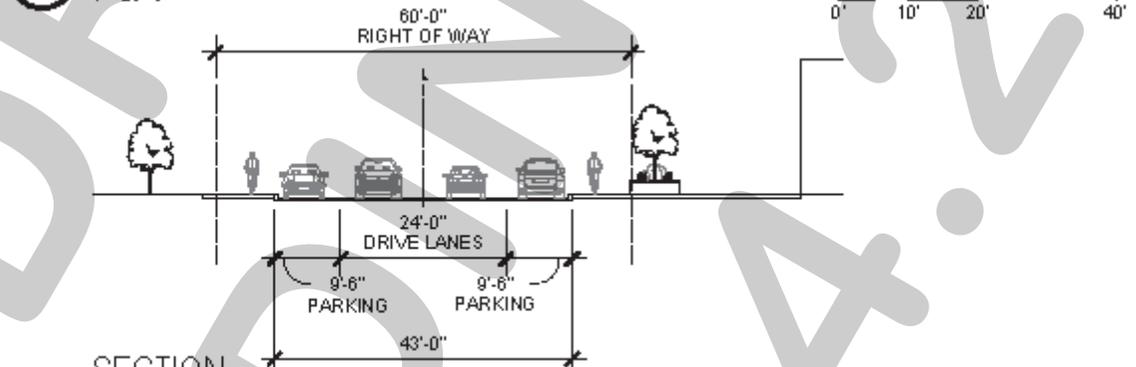
0' 10' 20' 40'



**SECTION
ROUNDABOUT**

(C) 1"=20'-0"

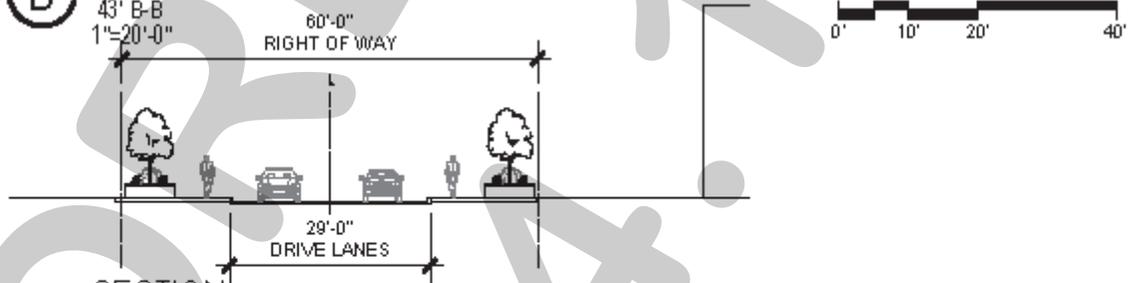
0' 10' 20' 40'



**SECTION
LOCAL STREET WITH PARKING NICHES**

(B) 43' B-B
1"=20'-0"

0' 10' 20' 40'



**SECTION
LOCAL STREET**

(A) 29' B-B

0' 10' 20' 40'

Exhibit 'F':
Roadway/Street Layouts and Cross Sections



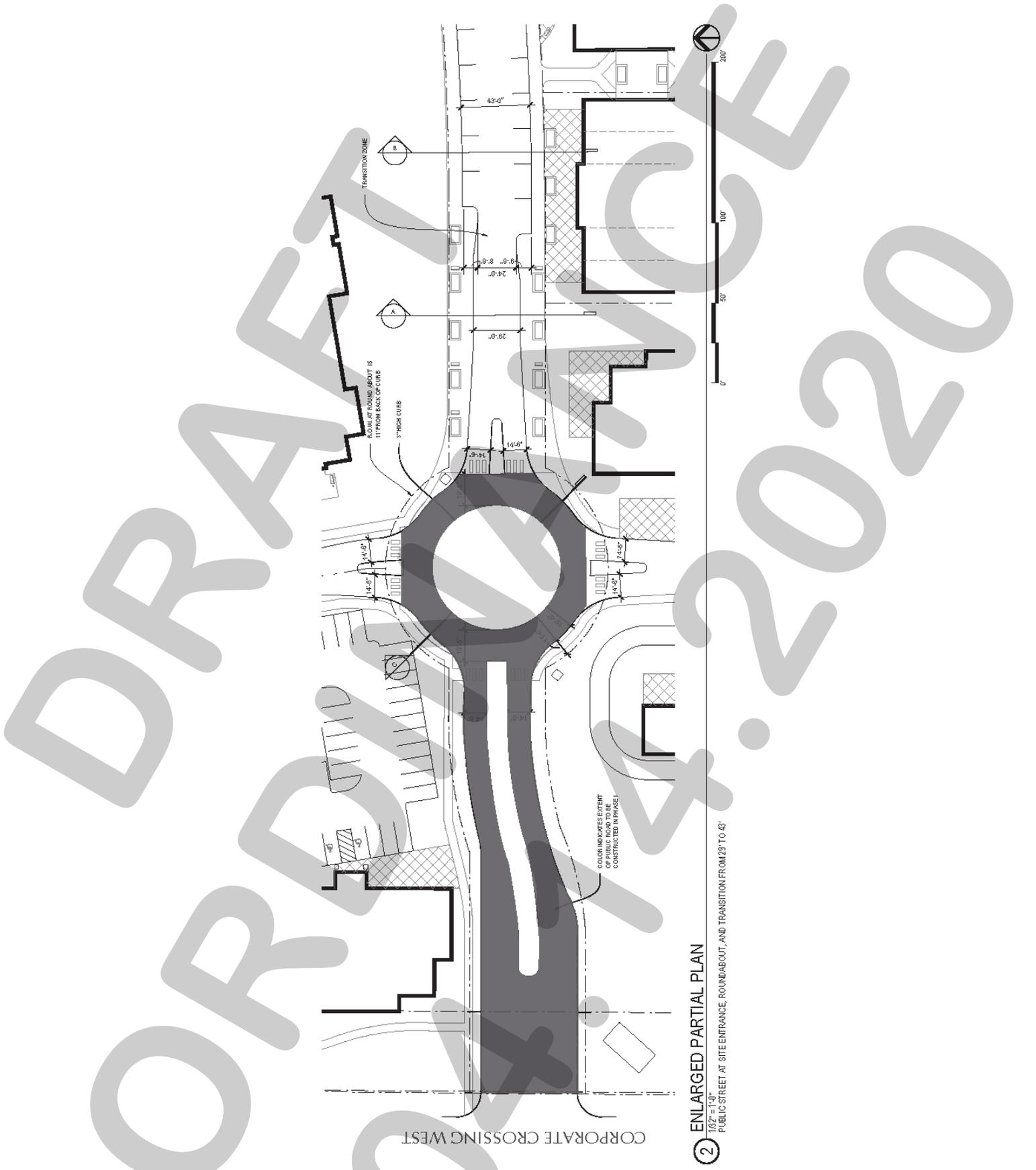
1

ENLARGED PARTIAL PLAN

1/32" = 1'-0"
PUBLIC STREET AT TRANSITION FROM 29' TO 41'



Exhibit 'F':
Roadway/Street Layouts and Cross Sections



CORPORATE CROSSING WEST

2 ENLARGED PARTIAL PLAN
 1/8" = 1'-0"
 PUBLIC STREET AT SITE ENTRANCE, ROUNDABOUT, AND TRANSITION FROM 2'S TO 4'S

Exhibit 'G':
Signage Details

DRAFT
ORDINANCE
04.14.2020

Exhibit 'H':
Permitted Land Uses and Development Standards

(A) *Purpose and Intent of the Planned Development District.*

The Planned Development District's primary objective is to create a modern Main Street that connects a variety of complimentary land uses with high quality open spaces. The Main Street is articulated in a way that creates a unique pedestrian experience along an aesthetically pleasing streetscape. Buildings will be constructed close to the public Main Street, setback from the curb at approximately uniform distances. Parking areas will be located behind buildings concealing them from the visibility of pedestrians, the front Main Street, and major roadways. Pedestrian elements (e.g. benches, trash receptacles, and etcetera) will be incorporated into the streetscape at regular intervals to ensure the site works at a pedestrian scale.

(B) *Permitted Land Uses and Development Standards.*

(1) *General Standards: Areas 1-7.*

(a) *Overlay Districts.* The subject property is located within both the FM-549 Overlay (FM-549 OV) and the IH-30 Overlay (IH-30 OV) Districts. All phases of the proposed development shall be required to conform to the *General Overlay District Standards* contained in Section 06, *Overlay Districts*, of Article 05, *District Development Standards*, of the Unified Development Code (UDC). These standards will govern in all cases where the Overlay District sets out a particular requirement that conflicts with other sections of the Unified Development Code (UDC); however, in cases of conflict with this Planned Development District ordinance, the Planned Development District ordinance shall be the controlling document.

(b) *Landscaping.*

(1) *Landscape Buffer for Capital Boulevard.* A minimum of a 20-foot landscape buffer shall be provided along the frontage of Capital Boulevard. This landscape buffer shall incorporate a minimum of three (3) canopy trees and two (2) accent trees per 100-linear feet of frontage and include a combination of ground cover, a *built-up* berm, and shrubbery along the entire length of the frontage.

(c) *Roadways.* All roadways shall adhere to City standards except as otherwise provided in *Exhibit 'F'* of this Planned Development District ordinance.

(d) *Signage.* All signage shall be reviewed by the Building Inspections Department through separate permit and shall be required to meet City standards; however, three (3) signs generally located in the locations indicated on the *Concept Plan* in *Exhibit 'D'* of this Planned Development District ordinance shall be permitted. These signs shall generally adhere to the signage details depicted in *Exhibit 'G'* of this Planned Development District ordinance.

(e) *Building Elevations.* The building elevations for *Areas 1, 2 & 4* shall conform to the *Conceptual Building Elevations* contained in *Exhibit 'E'* of this Planned Development District ordinance; however, building elevations submitted as part of a *Site Plan* and/or *PD Development Plan* are subject to review and recommendation from the Architectural Review Board (ARB). The ARB will also be charged with determining if the building elevations submitted through the *PD Development Plan* and/or *Site Plan* process conform to the *Conceptual Building Elevations* contained within this Planned

Exhibit 'H':
Permitted Land Uses and Development Standards

Development District ordinance; however, the ARB is not confined to only making recommendations that conform to the *Conceptual Building Elevations* contained within this Planned Development District ordinance. The Planning and Zoning Commission shall take into consideration the ARB's recommendations when approving a site plan or recommending a PD Development Plan to the City Council.

- (f) *Buried Utilities*. New transmission and distribution power-lines required to serve the *Subject Property* shall be placed underground, whether such lines are located internally or along the perimeter of the *Subject Property*, unless otherwise authorized by the City Council. The *Developer* shall not be required to re-locate existing overhead power-lines along the perimeter of the *Subject Property* as long as these lines remain in their current pre-developed state. Temporary power-lines constructed across undeveloped portions of the *Subject Property* intended to facilitate development, phasing, and/or looping may be allowed above ground, but shall not be considered existing lines at the time the area is developed, and if they are to become permanent facilities, such lines shall be placed underground pursuant to this paragraph.
- (g) *Variances*. The variance procedures and requirements stipulated by Article 11, *Development Applications and Review Procedures*, of the Unified Development Code (UDC) of the City of Rockwall -- *as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- shall apply to any application or request for variances to any provisions of this ordinance.

(2) *Area 1: Sports Complex*.

- (a) *Permitted Uses*. The areas identified as *Area 1* in *Exhibit 'C'* of this ordinance -- *which herein after shall be referred to as Area 1* -- shall be subject to the land uses permitted in the Commercial (C) District as stipulated by Article 04, *Permissible Uses*, of the Unified Development Code (UDC) of the City of Rockwall as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future; however, only the following land uses shall be permitted within *Area 1*:

Permitted By-Right. The following land uses are permitted *by-right*:

- Private Sports Arena, Stadium, and/or Track
- Tennis Courts (*i.e. Not Accessory to a Public or Private Country Club*)
- Commercial Parking Garage (*as an Accessory Use Only*)
- Office Building 5,000 SF or Greater
- Medical Office
- Public or Private Community or Recreation Club
- Health Club or Gym
- Public/Private Park or Playground
- Massage Therapist
- Research and Technology or Light Assembly
- Hospital (*with Associated Uses*)
- Medical Office

Specific Use Permit (SUP). The following land uses shall be permitted only by Specific Use Permit (SUP):

- Golf Driving Range

Notes.

Exhibit 'H':
Permitted Land Uses and Development Standards

(1) *All land uses are subject to any additional restrictions stipulated by Article 04, Permissible Uses, of the Unified Development Code (UDC).*

(b) *Density and Development Requirements.* Unless specifically provided by this Planned Development District ordinance, the density and dimensional standards stipulated for the Commercial (C) District as specified by Article 05, *District Development Standards*, of the Unified Development Code (UDC) of the City of Rockwall -- *as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- are applicable to all development within Area 1.

(3) *Areas 2 & 7: General Retail Areas.*

(a) *Permitted Uses.* The areas identified as Areas 2 & 7 in Exhibit 'C' of this ordinance -- *which herein after shall be referred to as Area 2 and Area 7* -- shall be subject to the land uses permitted in the General Retail (GR) District as stipulated by Article 04, *Permissible Uses*, of the Unified Development Code (UDC) of the City of Rockwall as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future, with the following additions:

Permitted By-Right. The following land uses are permitted *by-right*:

- Full-Service Hotel
- Limited-Service Hotel
- Theater
- Craft/Micro Brewery, Distillery and/or Winery
- Restaurant with 2,000 SF of More with Drive-Through or Drive-In

Specific Use Permit (SUP). The following land uses shall be permitted only by Specific Use Permit (SUP):

- College, University, or Seminary
- Convalescent Care Facility/Nursing Home
- Public or Private Primary School
- Public or Private Secondary School
- Banquet Facility/Event Hall
- Business School

Prohibited Uses. The following land uses shall be *prohibited*:

- Animal Boarding/Kennel without Outside Pens
- Community Garden
- Urban Farm
- Caretakers Quarters/Domestic Security Unit
- Convent, Monastery, or Temple
- Motel
- Cemetery/Mausoleum
- Daycare
- Emergency Ground Ambulance Services
- Group or Community Home
- Hospice
- Hospital
- Mortuary or Funeral Chapel
- Local Post Office

Exhibit 'H':
Permitted Land Uses and Development Standards

- Temporary Education Building for a Public or Private School
- Social Service Provider
- Temporary Carnival, Circus, or Amusement Ride
- Indoor Gun Club with Skeet or Target Range
- Astrologer, Hypnotist, or Psychic
- Portable Beverage Service Facility
- Temporary Christmas Tree Sales Lot and/or Similar Uses
- Garden Supply/Plant Nursery
- Rental Store without Outside Storage and/or Display
- Retail Store with Gasoline Sales (*Any Number of Dispensers*)
- Second Hand Dealer
- Trade School
- Minor Automotive Repair Garage
- Full Service Car Wash and Auto Detail
- Self Service Car Wash
- Service Station
- Mining and Extraction of Sand, Gravel, Oil and/or Other Materials
- Antenna for an Amateur Radio
- Commercial Freestanding Antenna
- Mounted Commercial Antenna
- Radio Broadcasting
- Railroad Yard or Shop
- Above Ground Utility/Transmission Lines

Notes.

(1) *All land uses are subject to any additional restrictions stipulated by Article 04, Permissible Uses, of the Unified Development Code (UDC).*

(b) *Density and Dimensional Requirements.* Unless specifically provided by this Planned Development District ordinance, the density and dimensional standards stipulated for the General Retail (GR) District as specified by Article 05, *District Development Standards*, of the Unified Development Code (UDC) of the City of Rockwall -- *as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- are applicable to all development within Areas 2 & 7.

(4) *Area 3 & 6: Private Parks.*

(a) *Permitted Uses.* The areas identified as Area 3 & 6 in *Exhibit 'C'* of this ordinance -- *which herein after shall be referred to as Area 3 and Area 6* -- shall be maintained as a private parkland and, unless otherwise denoted in this Planned Development District ordinance, only those land uses and improvements recommended by the Parks and Recreation Board and approved by the City Council shall be permitted in these areas.

(b) *Amenities.* At a minimum, the area identified as Area 3 shall incorporate the following amenities and improvements:

- (1) Splash Park
- (2) Activity Meadow
- (3) Outdoor Theater

At a minimum, the area identified as Area 6 shall incorporate the following amenities and improvements:

Exhibit 'H':
Permitted Land Uses and Development Standards

(1) Dog Park

(c) Development Schedule. Prior to or in conjunction with the acceptance (i.e. prior to Certificate of Occupancy) of the Multi-Family Development or Structure -- proposed for Area 4 in Exhibit 'C' --, private parkland (i.e. Areas 3 & 6) generally conforming to the Concept Plan in Exhibit 'D', incorporating all elements required by this Planned Development District ordinance, and adhering to the recommendations from the Parks and Recreation Board that are approved by the City Council shall be constructed, completed, and accepted by the City of Rockwall.

(5) Area 4: Multi-Family.

(c) Permitted Uses. The area identified as Area 4 in Exhibit 'C' of this ordinance -- which herein after shall be referred to as Area 4 -- shall be subject to the land uses permitted in the General Retail (GR) District as stipulated by Article 04, *Permissible Uses*, of the Unified Development Code (UDC) of the City of Rockwall as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future, with the following additions:

Permitted By-Right. The following land uses are permitted *by-right*:

- Multi-Family Development or Structure
- Full-Service Hotel
- Limited-Service Hotel
- Theater
- Craft/Micro Brewery, Distillery and/or Winery
- Restaurant with 2,000 SF of More with Drive-Through or Drive-In

Specific Use Permit (SUP). The following land uses shall be permitted only by Specific Use Permit (SUP):

- College, University, or Seminary
- Convalescent Care Facility/Nursing Home
- Public or Private Primary School
- Public or Private Secondary School
- Banquet Facility/Event Hall
- Business School

Prohibited Uses. The following land uses shall be *prohibited*:

- Animal Boarding/Kennel without Outside Pens
- Community Garden
- Urban Farm
- Caretakers Quarters/Domestic Security Unit
- Convent, Monastery, or Temple
- Motel
- Cemetery/Mausoleum
- Daycare
- Emergency Ground Ambulance Services
- Group or Community Home
- Hospice
- Hospital
- Mortuary or Funeral Chapel
- Local Post Office

Exhibit 'H':
Permitted Land Uses and Development Standards

- Temporary Education Building for a Public or Private School
- Social Service Provider
- Temporary Carnival, Circus, or Amusement Ride
- Indoor Gun Club with Skeet or Target Range
- Astrologer, Hypnotist, or Psychic
- Portable Beverage Service Facility
- Temporary Christmas Tree Sales Lot and/or Similar Uses
- Garden Supply/Plant Nursery
- Rental Store without Outside Storage and/or Display
- Retail Store with Gasoline Sales (*Any Amount of Dispensers*)
- Second Hand Dealer
- Trade School
- Minor Automotive Repair Garage
- Full Service Car Wash and Auto Detail
- Self Service Car Wash
- Service Station
- Mining and Extraction of Sand, Gravel, Oil and/or Other Materials
- Antenna for an Amateur Radio
- Commercial Freestanding Antenna
- Mounted Commercial Antenna
- Radio Broadcasting
- Railroad Yard or Shop
- Above Ground Utility/Transmission Lines

Notes.

(1) *All land uses are subject to any additional restrictions stipulated by Article 04, Permissible Uses, of the Unified Development Code (UDC).*

(d) Unit Composition. The unit composition for a *Multi-Family Development or Structure* shall generally conform to the unit composition stated in *Table 1: Unit Composition* below; however, in no case should the proposed development exceed 239 units.

Table 1: Unit Composition

<i>Unit Type</i>	<i>Minimum Net Unit Area (SF)</i>	<i>Number of Units (#)</i>	<i>Units as Percentage (%)</i>
<i>One (1) Bedroom</i>	X	145	60.67%
<i>Two (2) Bedroom</i>	X	94	39.33%
<i>Total Units:</i>		239	100.00%

(e) Density and Dimensional Requirements. Unless specifically provided by this Planned Development District ordinance, the density and dimensional standards stipulated for the General Retail (GR) District as specified by Article 05, *District Development Standards*, of the Unified Development Code (UDC) of the City of Rockwall -- *as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- are applicable to all development within *Area 4*; however, if a *Multi-Family Development or Structure* is proposed within *Area 4*, the density and dimensional standards stipulated for the Multi-Family 14 (MF-14) District as specified by Article 05, *District Development Standards*, of the Unified Development Code (UDC) of the City of Rockwall -- *as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- shall be applicable.

Exhibit 'H':
Permitted Land Uses and Development Standards

(6) Area 5: Light Industrial.

(a) Permitted Uses. The area identified as *Area 5* in *Exhibit 'C'* of this ordinance -- *which herein after shall be referred to as Area 5* -- shall be subject to the land uses permitted in the Light Industrial (LI) District as stipulated by Article 04, *Permissible Uses*, of the Unified Development Code (UDC) of the City of Rockwall as heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future, with the following additions:

Permitted By-Right. The following land uses are permitted *by-right*:

- Full-Service Hotel
- General Personal Service
- General Retail Store

Specific Use Permit (SUP). The following land uses shall be permitted only by Specific Use Permit (SUP):

- College, University, or Seminary
- Public or Private Primary School
- Public or Private Secondary School
- Furniture Upholstery/Refinishing and Resale
- Trade School
- Mini-Warehouse

Prohibited Uses. The following land uses shall be *prohibited*:

- Animal Shelter or Loafing Shed
- Community Garden
- Motel
- Cemetery/Mausoleum
- Church/House of Worship
- Crematorium
- Daycare
- Emergency Ground Ambulance Services
- Mortuary or Funeral Chapel
- Prison/Custodial Institution
- Rescue Mission or Shelter for the Homeless
- Social Service Provider
- Temporary Carnival, Circus, or Amusement Ride
- Indoor Gun Club with Skeet or Target Range
- Night Club, Discotheque, or Dance Hall
- Pawn Shop
- Retail Store with Gasoline Sales (*Any Number of Dispensers*)
- Taxidermist Shop
- Bail Bond Service
- Building and Landscape Material with Outside Storage
- Building and Landscape Material with Limited Outside Storage
- Building Maintenance, Service, and Sales without Outside Storage
- Commercial Cleaners
- Service Station
- Towing Service without Storage
- Asphalt or Concrete Batch Plant

Exhibit 'H':
Permitted Land Uses and Development Standards

- Environmentally Hazardous Materials
- Food Processing with No Animal Slaughtering
- Heavy Manufacturing
- Metal Plating/Electro Plating
- Mining and Extraction of Sand Gravel, Oil and/or Other
- Salvage or Reclamation of Products (*Indoors and Outdoors*)
- Heavy Construction/Trade Yard
- Outside Storage and/or Outside Display
- Bus Charter Service and Service Facility
- Airport, Heliport or Landing Field
- Railroad Yard or Shop
- Transit Passenger Facility
- Trucking Company

- (b) *Density and Dimensional Requirements*. Unless specifically provided by this Planned Development District ordinance, the density and development standards stipulated for the Light Industrial (LI) District as specified by Article 05, *District Development Standards*, of the Unified Development Code (UDC) of the City of Rockwall -- as *heretofore amended, as amended herein by granting this zoning change, and as may be amended in the future* -- are applicable to all development within Area 5.

Structured Real Estate
171 N Aberdeen St, Ste 400
312.702.1719
info@structuredrea.com



APRIL 20, 2020

Ryan Miller
Director of Planning & Zoning
City of Rockwall
385 S Goliad Street
Rockwall, TX

Dear Mr. Miller,

Structured Real Estate is requesting withdrawal of our PUD zoning submission, case Z2020-015 at this time.

Per our telephone discussion, this is related to the timing of our submittal in the midst of an environment that is not 'business as usual.' We are not canceling the development, but revising the timeline for when we pursue the approvals of the development.

Additionally, we want to be respectful of the workflow timing that the City requires with the Planning and Zoning Committee and City Council reviews and approvals, as well as the wishes of the land owner that we do not change the current zoning until we have closed on the property.

Respectfully,

Steve Doyle

A handwritten signature in blue ink that reads "Steve Doyle". The signature is fluid and cursive, with the first and last names clearly legible.

PRINCIPAL