



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

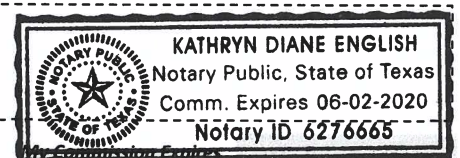
DocuSigned by:

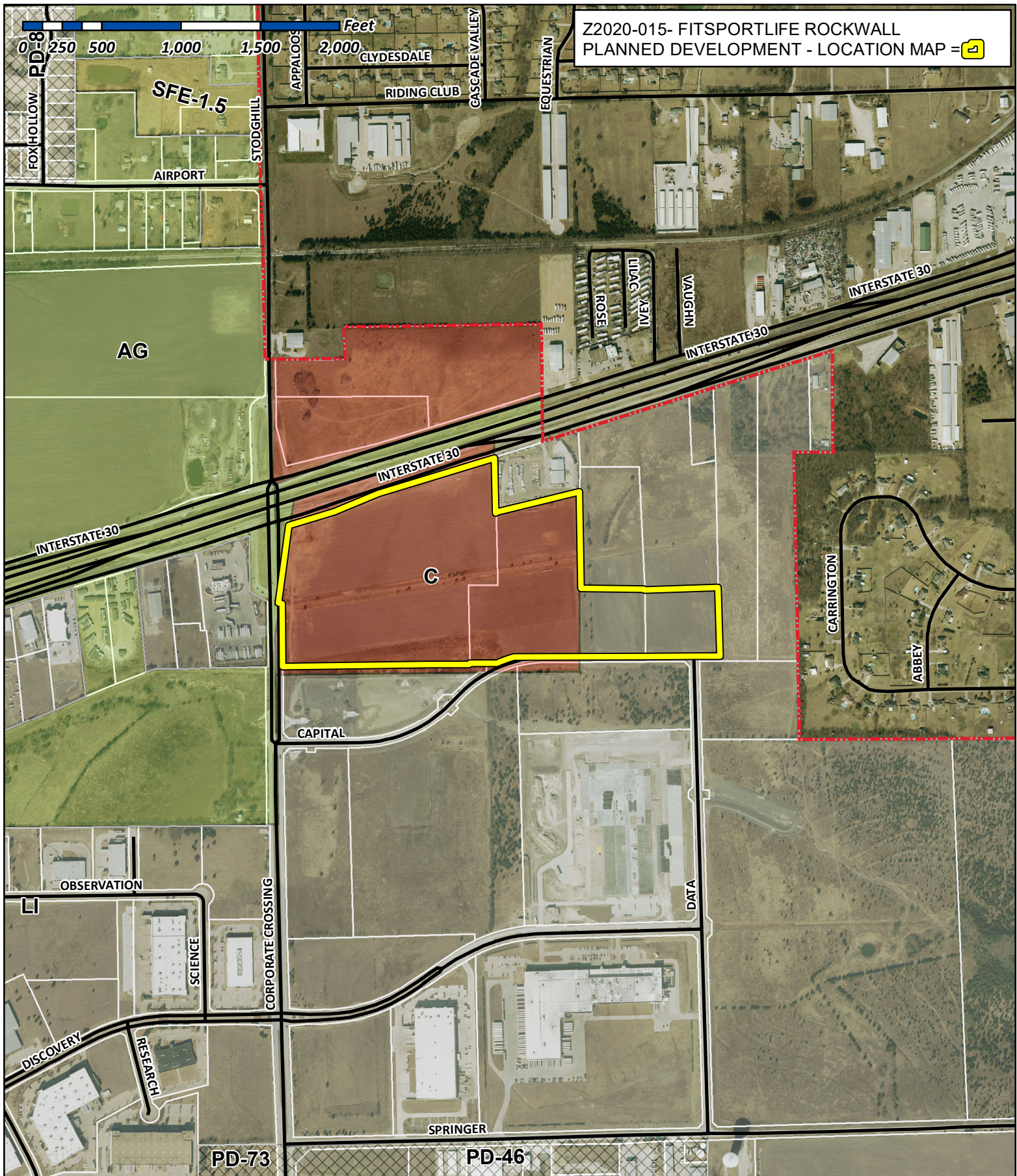
Luke Alverson

Notary Public in and for the State of Texas

12495043CCFB403...

Kathryn Diane English

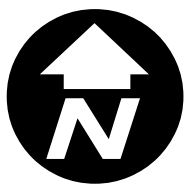




City of Rockwall

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.

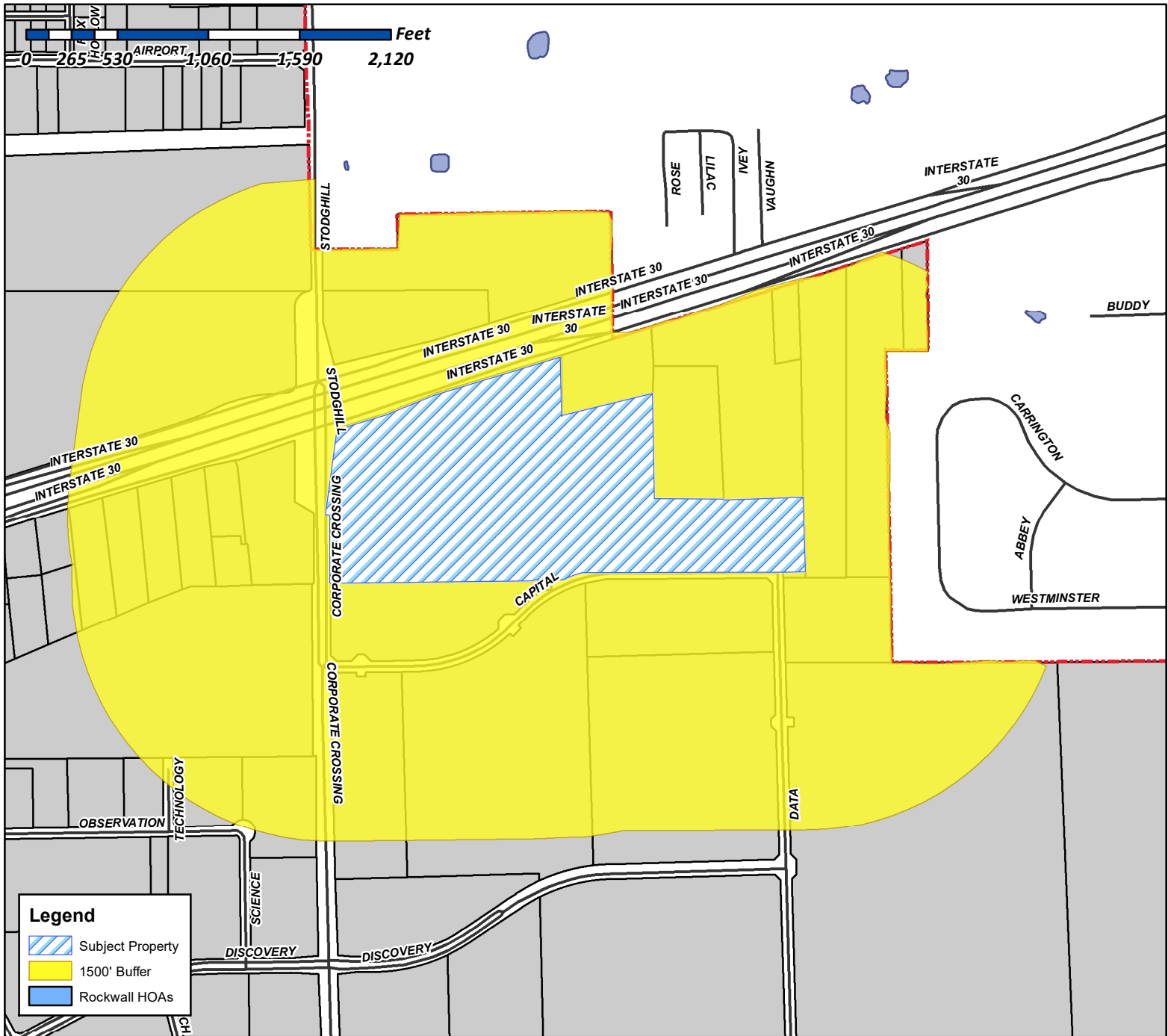
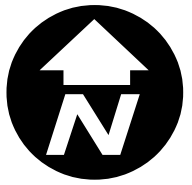




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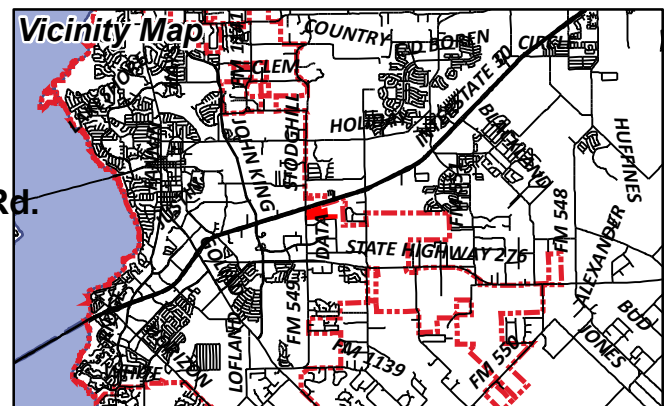
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Case Number: Z2020-015
Case Name: Zoning Change (C & LI to PD)
Case Type: Zoning
Zoning: Commercial (C) District
Case Address: SEC Corporate Crossing & Frontage Rd.

Date Created: 3/26/2020

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

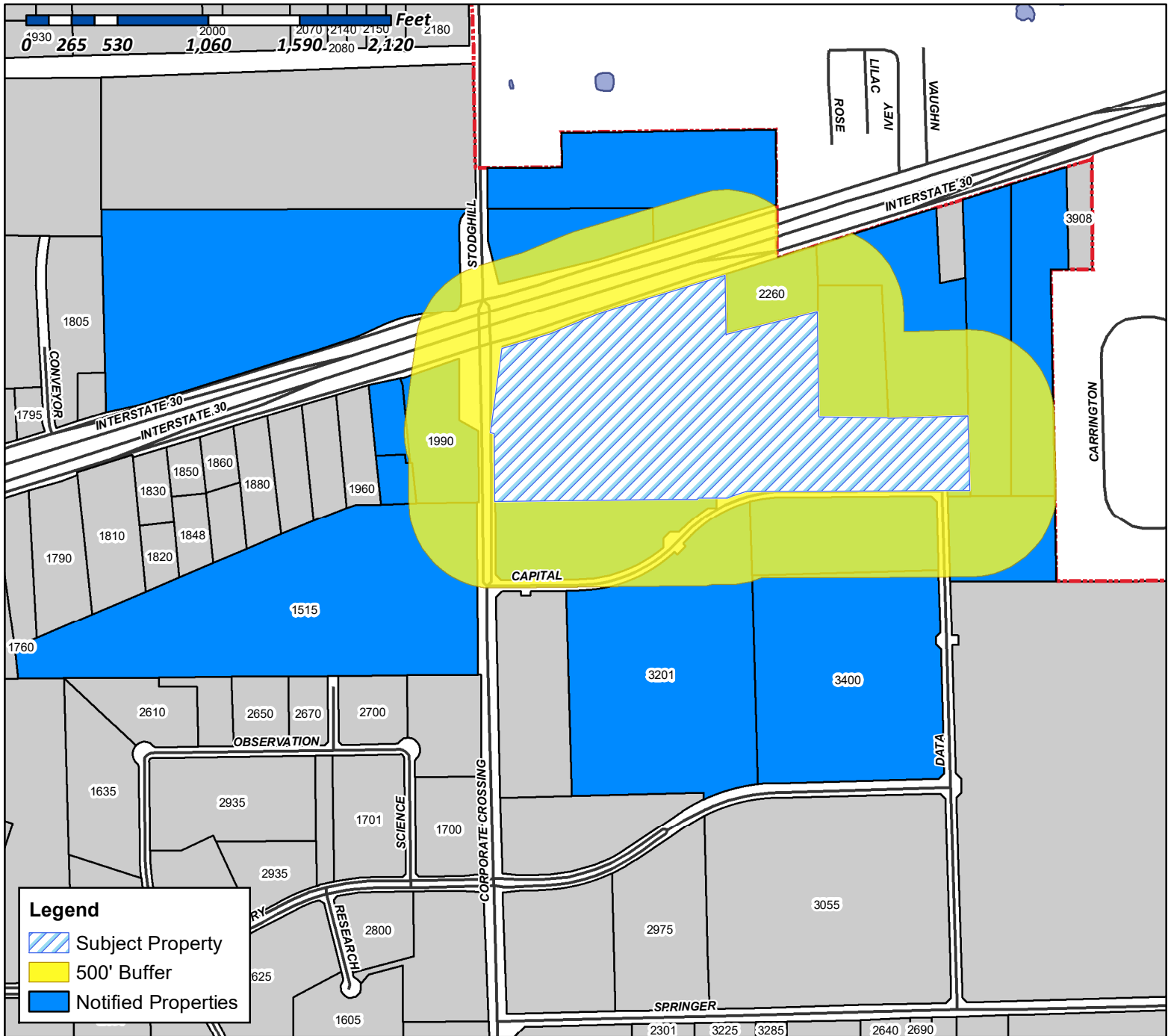




City of Rockwall

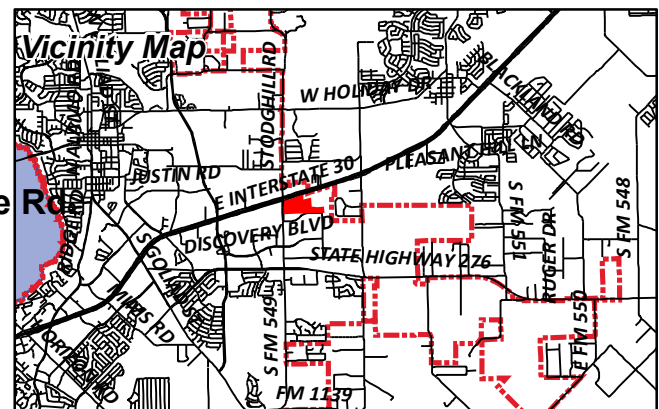
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LOVES TRAVEL STOPS & COUNTRY STORES INC
10601 NORTH PENNSYLVANIA
OKLAHOMA CITY, OK 73126

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

FIELD NOTES

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 NOS. 20140000007944, 20140000007994, AND 20140000012808, OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS (O.P.R.R.C.T.), AND BEING 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 SCHWMMER 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 SCHWMMER 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 SCHWMMER 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 SCHWMMER TRACT;

THENCE S 89°43'47" W, ALONG THE SOUTH LINE SAID CAPSTAR TRACTS RECORDED IN INSTRUMENT NO. 20140000007944 AND INSTRUMENT NO. 20140000007994, 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. 20140000007994, 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. 20140000007994, 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. 20140000007994 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.

TITLE COMMITMENT SCHEDULE "B" ITEMS (SEE NOTE 5)			
EXCEPTION NO.	SHOWN GRAPHICALLY	LOCATED ON SUBJECT TRACT	DESCRIPTION
10f	YES	YES	THE EASEMENT TO BLACKLAND WATER SUPPLY CORPORATION RECORDED IN VOL. 75, PG. 606, D.R.R.C.T. IS LOCATED ON THE SUBJECT TRACTS 1 AND 2.
10g	YES	YES	THE EASEMENT TO THE CITY OF ROCKWALL RECORDED IN VOL. 1831, PG. 255, D.R.R.C.T. IS LOCATED ON THE SUBJECT TRACT 2.
10h	NO	YES	THE SUBJECT TRACT IS A PORTION OF THE LANDS DESCRIBED IN THE DOCUMENT RECORDED IN VOL. 100, PG. 328, D.R.R.C.T.
10i	NO	TOO VAGUE	DUE TO THE VAGUE DESCRIPTION, SURVEYOR CANNOT LOCATE THE EASEMENT RECORDED IN VOL. 33, PG. 87, D.R.R.C.T.
10j	NO	YES	SUBJECT TRACTS 1 AND 3 ARE A PORTION OF THE LANDS DESCRIBED IN EXHIBIT "B" OF THE DOCUMENT RECORDED IN VOL. 3495, PG. 306, D.R.R.C.T. SUBJECT TRACT 2 IS NOT A PORTION OF THE LANDS DESCRIBED IN THE DOCUMENT RECORDED IN VOL. 3495, PG. 306, D.R.R.C.T.
10k	YES	YES	THE EASEMENT TO THE NORTH TEXAS MUNICIPAL WATER DISTRICT RECORDED IN VOL. 4958, PG. 76, D.R.R.C.T. IS LOCATED ON THE SUBJECT TRACTS 1 AND 2.
10l	NO	YES	SUBJECT TRACT 2 IS A PORTION OF THE LANDS DESCRIBED IN EXHIBIT "B" OF THE DOCUMENT RECORDED IN VOL. 6102, PG. 129, D.R.R.C.T.
10m	YES	YES	THE EASEMENT TO THE STATE OF TEXAS RECORDED IN INST. NO. 20140000005811, O.P.R.R.C.T. IS LOCATED ON THE SUBJECT TRACT 2.
10n	YES	YES	THE EASEMENT TO ONCOR ELECTRIC DELIVERY CO. RECORDED IN INST. NO. 20160000001811, O.P.R.R.C.T. IS LOCATED ON THE SUBJECT TRACT 2.
10o	YES	YES	THE EASEMENT TO THE CITY OF ROCKWALL RECORDED IN INST. NO. 20140000005288, O.P.R.R.C.T. IS LOCATED ON THE SUBJECT TRACT 2.
10p 10q	YES	NO	THE LANDS DESCRIBED IN EXHIBIT "A" OF THE DOCUMENT RECORDED IN INST. NO. 201900000018171, O.P.R.R.C.T., DIRECTLY ABUT THE NORTH LINE OF THE SUBJECT TRACT.

NOTES

1. ACCORDING TO SURVEYOR'S INTERPRETATION OF INFORMATION SHOWN ON THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) "FLOOD INSURANCE RATE MAP" (FIRM), MAP No. 48397C0045L, MAP REVISED SEPTEMBER 26, 2008, ALL OF THE SUBJECT TRACT LIES WITHIN ZONE "X", "AREA OF MINIMAL FLOOD HAZARD" AS DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, FEDERAL INSURANCE ADMINISTRATION, OR THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
2. THE ABOVE REFERENCED "FIRM" MAP IS FOR USE IN ADMINISTERING THE "NFIP"; IT DOES NOT NECESSARILY SHOW ALL AREAS POTENTIALLY SUBJECT TO FLOODING, PARTICULARLY AREAS WHICH COULD BE FLOODED BY SEVERE, CONCENTRATED RAINFALL COUPLED WITH INADEQUATE LOCAL DRAINAGE SYSTEMS. THERE MAY BE OTHER STREAMS, CREEKS, LOW AREAS, DRAINAGE SYSTEMS OR OTHER SURFACE OR SUBSURFACE CONDITIONS EXISTING ON OR NEAR THE SUBJECT PROPERTY WHICH ARE NOT STUDIED OR ADDRESSED AS PART OF THE "NFIP".
3. NO UNDERGROUND UTILITIES WERE LOCATED DURING THE COURSE OF THIS SURVEY.
4. ALL BEARINGS SHOWN HEREON ARE CORRELATED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NAD OF 1983, AS DERIVED BY FIELD OBSERVATIONS UTILIZING THE RTK NETWORK ADMINISTRATED BY ALLTERRA CENTRAL, INC.
5. THIS SURVEY WAS PREPARED WITH BENEFIT OF A CURRENT COPY OF COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, OF No. LT-1978-1900781903102-MF, EFFECTIVE DATE DECEMBER 4, 2019, ISSUED DATE DECEMBER 13, 2019.
6. THE SUBJECT TRACT CONTAINS ZERO STRIPED PARKING SPACES.

SURVEYOR'S STATEMENT

TO CAPSTAR HOLDINGS CORPORATION, A NEVADA CORPORATION, STRUCTURED REA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, FIDELITY NATIONAL TITLE INSURANCE COMPANY, AND FNF LAWYERS TITLE OF TEXAS, INC.:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH LAWS REGULATING SURVEYING IN THE STATE OF TEXAS, AND WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, 9, 13, AND 14 OF TABLE A THEREOF.

THE FIELDWORK WAS COMPLETE ON JANUARY 14TH, 2020.

DATE OF PLAT OR MAP: _____

"THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF AARON L. STRINGFELLOW, RPLS. NO. 6373 ON February 12, 2020. IT IS NOT TO BE USED FOR RECORDING, CONSTRUCTION, BIDDING, OR PERMIT PURPOSES. THIS DOCUMENT IS NOT TO BE RELIED UPON AS A COMPLETE SURVEY AND SHALL NOT BE RECORDED."

AARON L. STRINGFELLOW, R.P.L.S.
STATE OF TEXAS NO. 6373
E-MAIL: AaronLS@WierAssociates.com

PRELIMINARY
FOR REVIEW PURPOSES ONLY
THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

ALTA/NSPS
LAND TITLE SURVEY

PREPARED BY:
WIER & ASSOCIATES, INC.
ENGINEERS
SURVEYORS
LAND PLANNERS

SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700
2201 E. LAMAR BLVD.,
Firm Registration No. F-2776
www.WierAssociates.com
Texas Board of Professional Land Surveying Registration No. 10033900

REVISIONS	DATE	BY

ALTA/NSPS LAND TITLE SURVEY
55.784 ACRES OF LAND
LOCATED IN THE ROBERT BOYD IRVINE SURVEY, ABSTRACT No. 120
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

COPYRIGHT ©
WIER & ASSOCIATES, INC.
LAST SHEET EDIT
DATE 2/12/2020
WA# 19144

SHEET NO.
2 OF 2



SITE PLAN LEGEND

USES	AREAS
1. AMERISPORTS	85,000 GSF
2. PROJECT ROSE	15,000 GSF
3. MEDICAL EXPANSION	15,000 GSF
4. MARUCCI BASEBALL	12,000 GSF
5. MEDICAL EXPANSION	25,000 GSF
6. SAND HALL EXPAND	15,000 GSF
7. SPORTS PLAZA	3,000 GSF
8. YOUTH BASEBALL FIELDS	NA
9. RESTAURANT	6,000 GSF
10. FIVE KEY HOTEL	60,000 GSF
11. FAST CASUAL DRIVE THRU	2,250 GSF
12. RESTAURANT	3,500 GSF
13. IN-LINE RETAIL	7,400 GSF
14. FAST CASUAL DRIVE THRU	2,250 GSF
15. OFFICE	30,000 GSF
16. OFFICE	30,000 GSF
17. RETAIL	5,000 GSF
18. MULTIFAMILY HOUSING	220 UNITS
19. (140 1-BEDROOM UNITS, 80 2-BEDROOM UNITS)	
20. MULTIFAMILY CLUSTERHOUSE	1,000 GSF
21. SPLASH PARK	
22. ACTIVITY MEADOW	
23. OUTDOOR THEATER	
24. DOG PARK	
25. STORAGE FACILITY	31,800 GSF
26. FLEX INDUSTRIAL	45,000 GSF

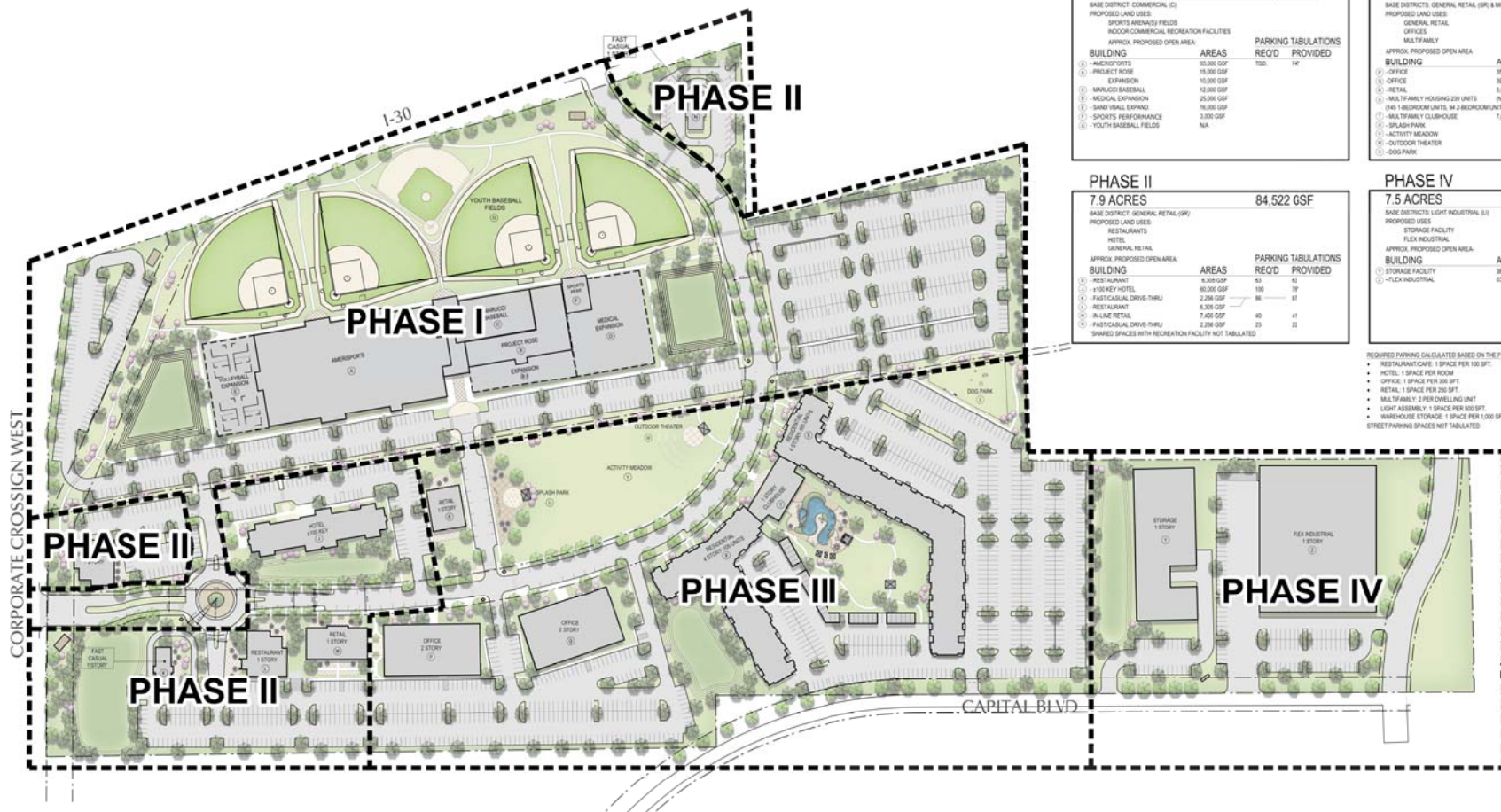
- FLOOR PLAN KEYNOTES**
1. DETENTION BASIN
 2. DEVELOPMENT MONUMENT SIGNAGE
 3. WAY-FINDING SIGNAGE
 4. FOOD TRUCK ALLEY
 5. LANDSCAPE BUFFER



PROPOSED LANDUSE MAP

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 - AMERISPORTS	65,000 GSF	100 14
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	10,000 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	20,000 GSF	100 200
2 - OFFICE	30,000 GSF	100 100
3 - RETAIL	5,000 GSF	50 10
4 - MULTIFAMILY HOUSING (200 UNITS)		400 500
5 - (140) 1-BEDROOM UNITS, 34 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	6,000 GSF	50 40
2 - 150 KEY HOTEL	60,000 GSF	100 70
3 - FAST CASUAL DRIVE-THRU	2,000 GSF	50 20
4 - RESTAURANT	6,300 GSF	50 20
5 - IN-LINE RETAIL	7,400 GSF	40 20
6 - FAST CASUAL DRIVE-THRU	2,200 GSF	20 10

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	30,000 GSF	20 20
2 - FLEX INDUSTRIAL	70,000 GSF	50 50

REQUIRED PARKING CALCULATED BASED ON THE FOLLOWING RATIO:

- RESTAURANT/CAFE: 1 SPACE PER 100 SFT.
- HOTEL: 1 SPACE PER ROOM
- OFFICE: 1 SPACE PER 100 SFT.
- RETAIL: 1 SPACE PER 250 SFT.
- MULTIFAMILY: 2 SPACE 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"

FitSportLife ROCKWALL | PHASE II/PHASE III

CORPORATE CROSSING WEST AND I-30 | ROCKWALL, TEXAS

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"

FitSportLife ROCKWALL | PHASE II

CORPORATE CROSSING WEST AND I-30 | ROCKWALL, TEXAS

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"



FitSportLife ROCKWALL | PHASE II

CORPORATE CROSSING WEST AND I-30 | ROCKWALL, TEXAS

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



3515 W. 75TH STREET, SUITE 201, PRAIRIE VILLAGE, KS 66208

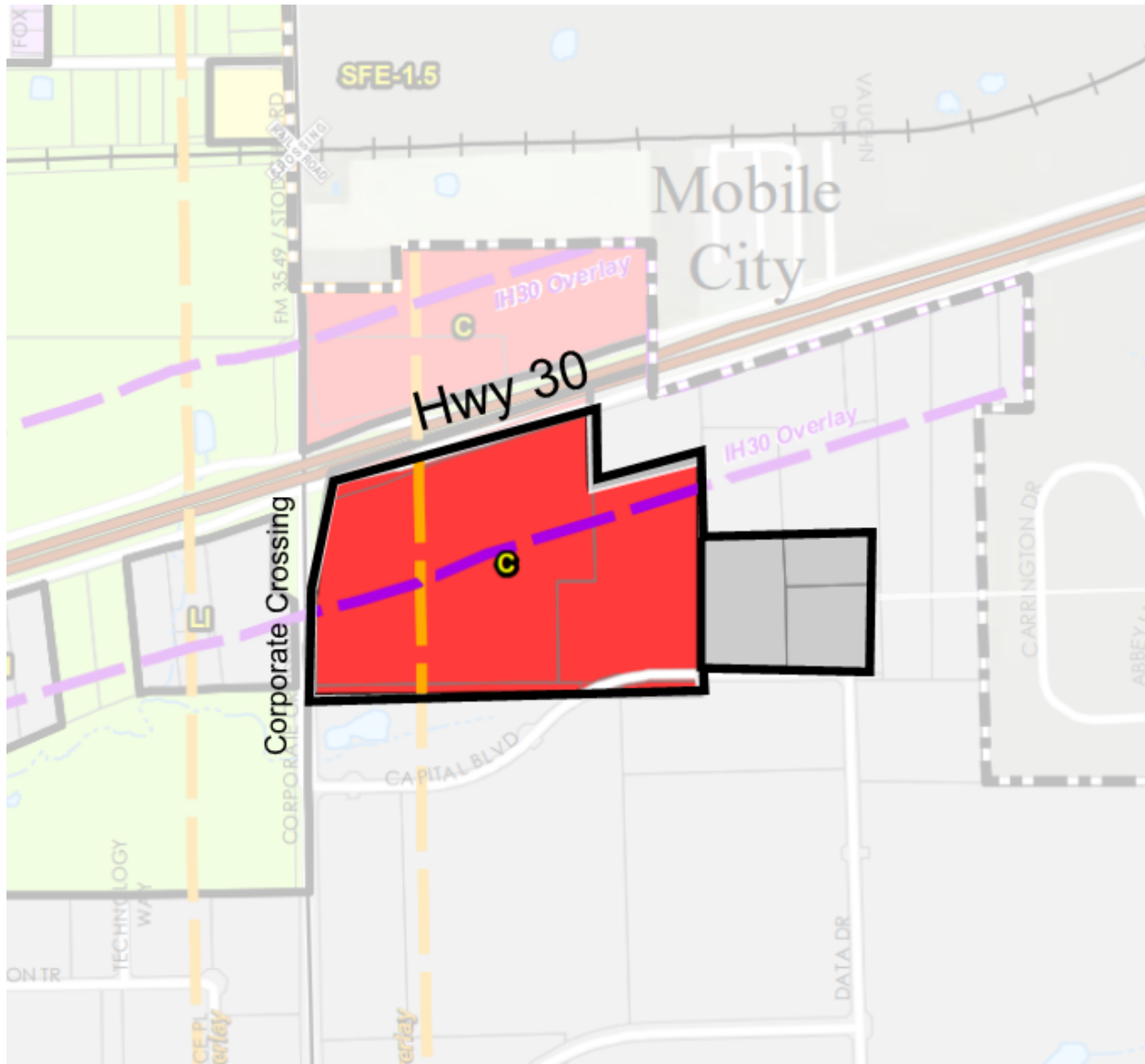
P. 913.831.1415 | F. 913.831.1563 | NSPJARCH.COM



NSPJ

ARCHITECTS PA

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

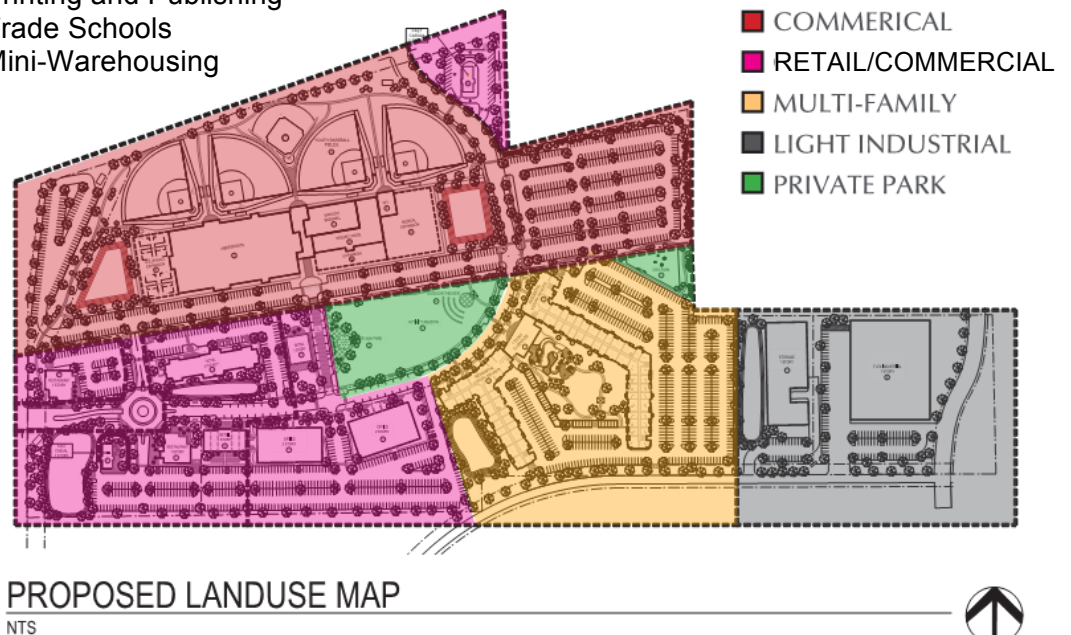


The PD will reference and amend the standards established in the Unified Development Code for the following districts:

- 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



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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Prepared by:

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214.748.6740

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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- Table 3. Projected Trip Generation
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- Table 9. Driveway Spacing Summary

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- Exhibit 1. Site Location Map
- Exhibit 2. Preliminary Site Plan
- Exhibit 3. Existing Roadway Geometry and Traffic Control
- Exhibit 4. Proposed Roadway Geometry and Traffic Control

LIST OF APPENDICES:

- Appendix A. Traffic Volume Exhibits
- Appendix B. Existing Traffic Count Data
- Appendix C. Site-Generated Traffic Supplement
- Appendix D. Detailed Intersection Capacity Analysis Results
- Appendix E. TxDOT Driveway Spacing and Deceleration Lane Criteria

DRAFT

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

DRAFT

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
(J)	- FAST/CASUAL DRIVE-THRU	2,256 GSF	86	87
(K)	- RESTAURANT	6,305 GSF		
(L)	- IN-LINE RETAIL	7,400 GSF	40	41
(M)	- FAST/CASUAL DRIVE-THRU	2,256 GSF	23	28
PHASE III		69,000 GSF*	REQ'D	PROVIDED
(N)	- OFFICE	35,800 GSF	120	250 + UNASSIGNED STREET SPACES
(P)	- OFFICE	39,200 GSF	130	
(O)	- RETAIL	5,000 GSF	10	(SHARED WITH HOTEL)
(R)	- MULTIFAMILY HOUSING	274 UNITS	548	603
		(169 1-BEDROOM UNITS, 105 2-BEDROOM UNITS)	-	
(S)	- MULTIFAMILY CLUBHOUSE	7,000 GSF	-	
(T)	- SPLASH PARK		-	
(U)	- ACTIVITY MEADOW		-	
(V)	- OUTDOOR THEATER		-	
(W)	- DOG PARK		-	
PHASE IV		101,200 GSF*	REQ'D	PROVIDED
(X)	- STORAGE FACILITY	31,800 GSF	32	24 SHOWN WITH ROOM FOR MORE
(Y)	- 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

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	Atletic 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
		Subtotals:	13,513	1,420	855	565	1,667	918	749
		13% AM and 17% PM Internal Capture:	0	185	92	92	283	142	142
		4% AM and 5% PM Pass by Trips:	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	$>10 - \leq 20$	$>10 - \leq 15$
LOS C	$>20 - \leq 35$	$>15 - \leq 25$
LOS D	$>35 - \leq 55$	$>25 - \leq 35$
LOS E	$>55 - \leq 80$	$>35 - \leq 50$
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) B (10.8) A (9.3)		C (22.2) B (11.1) A (9.2)	
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (8.7) D (32.0) A (9.8) D (34.4) C (16.4) A (9.1)		A (8.3) E (41.1) B (10.1) C (20.7) B (11.7) A (8.4)	4.0
<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.

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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		Signalized Intersection	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) B (11.1) A (9.5)	C (24.8) B (11.4) A (9.4)	E (40.2) B (12.1) B (10.4)	<1.0	E (40.6) B (12.6) B (10.3)	1.0
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (8.9) E (37.7) A (10.0) E (40.9) C (17.7) A (9.4)	A (8.4) F (61.8) B (10.3) C (23.2) B (12.3) A (8.6)	A (9.1) E (48.8) B (10.2) F (54.0) C (21.0) A (9.9)	<1.0 <1.0	A (8.7) F (>100) B (10.7) D (30.6) B (13.8) A (9.0)	8.0
<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) F (>100) C (18.0) B (13.6) A (2.4)	8.0	A (10.0) F (>100) D (25.6) B (14.6) A (2.6)	11.0
<u>Driveway 3 at</u> Capital Blvd	EBL SB		- - - -	- - - -	A (7.3) A (8.5)		A (7.3) A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL SB		- - - -	- - - -	A (7.3) A (8.4)		A (7.3) 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 (52.2)		D (45.7)	
<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 WBR SBL	Unsignalized Intersection	D (27.8) B (11.3) A (9.7)	D (26.9) B (11.6) A (9.6)	E (44.4) B (12.4) B (10.7)	<1.0	E (45.4) B (12.9) B (10.5)	1.0
<u>Discovery Blvd at</u> Corporate Crossing	NBL EBLT EBR WBL WBTR SBL		A (9.0) E (42.9) B (10.1) E (46.2) C (18.7) A (9.5)	A (8.5) F (85.8) B (10.4) D (25.3) B (12.6) A (8.6)	A (9.3) F (56.3) B (10.4) F (62.7) C (22.3) B (10.1)	1.0 1.0	A (8.8) F (>100) B (10.8) D (33.9) B (14.2) A (9.1)	10.0
<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 WBLT WBR SBL SBT		B (10.3)	B (10.2)	A (10.0) F (>100) C (18.8) B (14.2) A (2.7)	9.0	A (10.0) F (>100) D (27.5) C (15.2) A (3.0)	11.0
<u>Driveway 3 at</u> Capital Blvd	EBL SB		- - - -	- - - -	A (7.3) A (8.5)		A (7.3) A (8.5)	
<u>Driveway 4 at</u> Capital Blvd	EBL SB		- - - -	- - - -	A (7.3) A (8.4)		A (7.3) 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

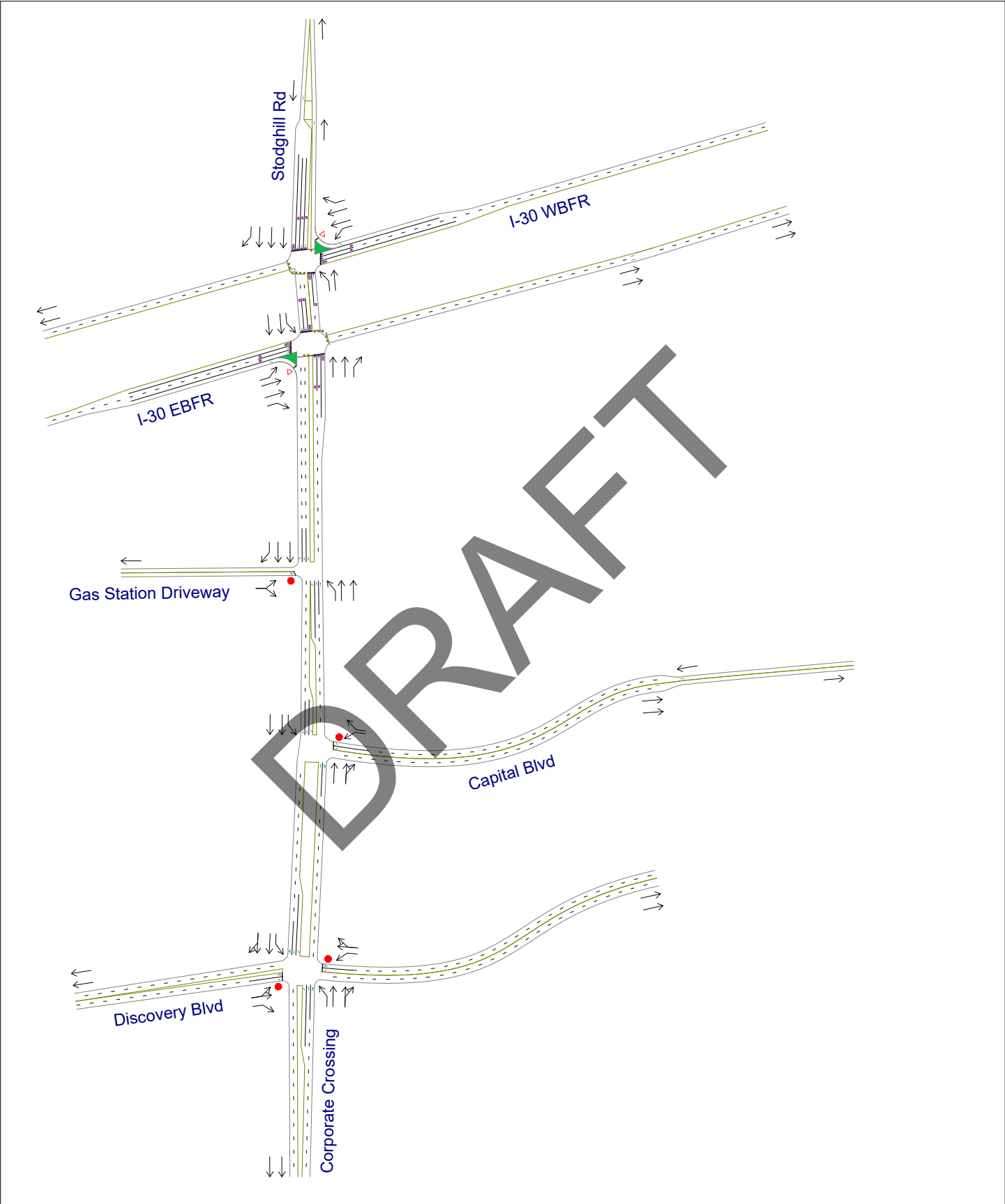
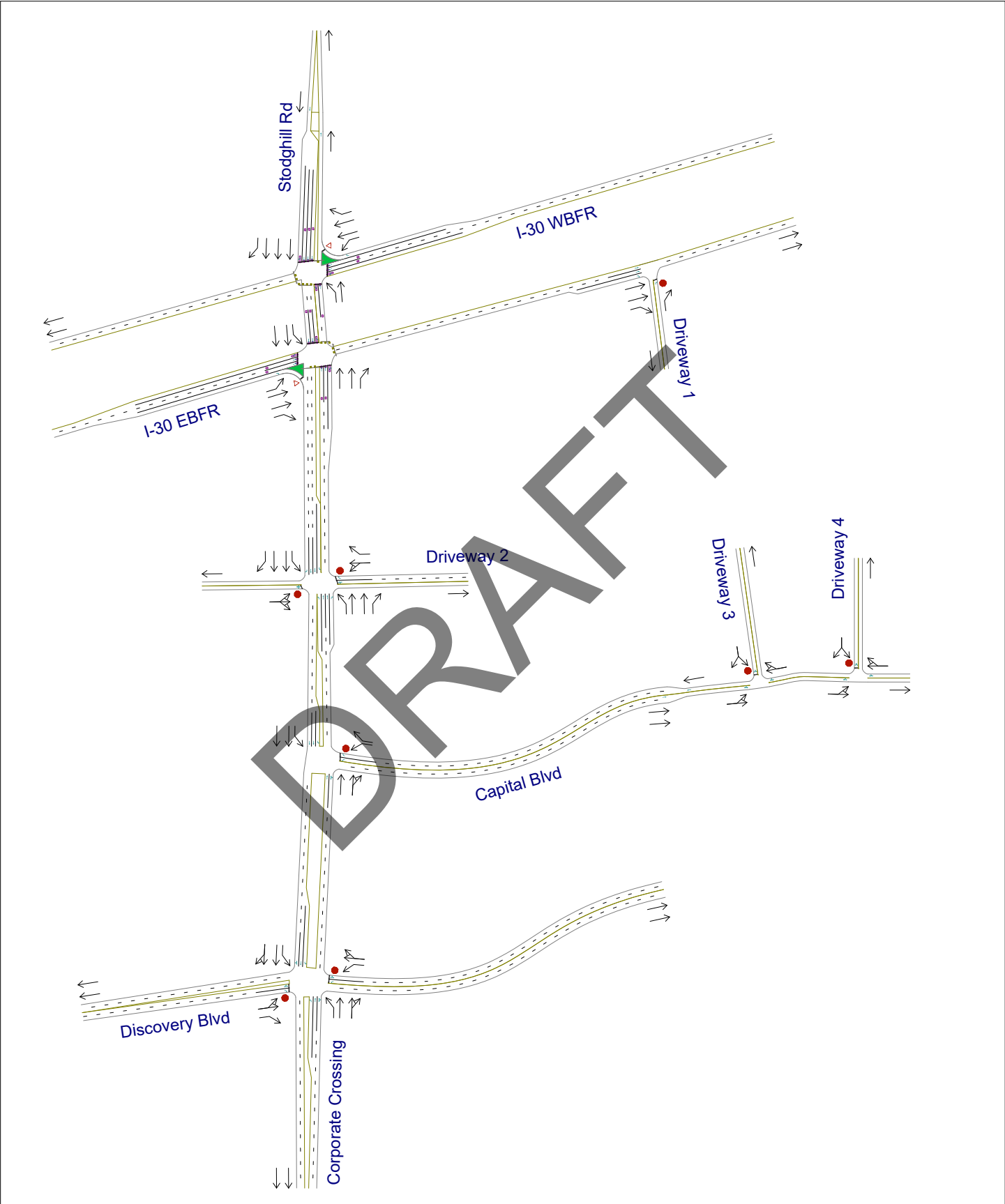


Exhibit 4. Proposed Roadway Geometry and Traffic Control

North ^
Not to Scale

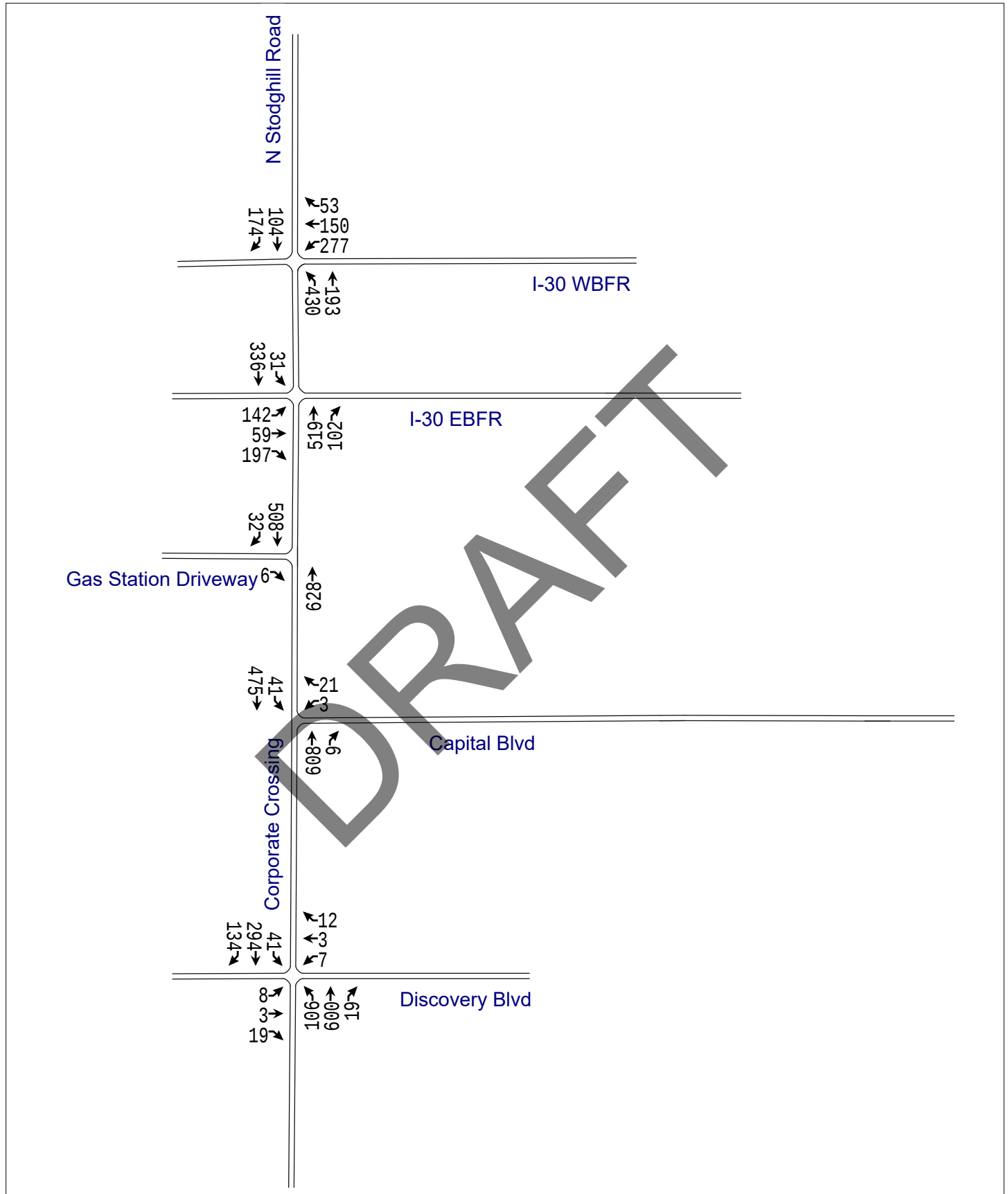


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Appendix A. Traffic Volume Exhibits

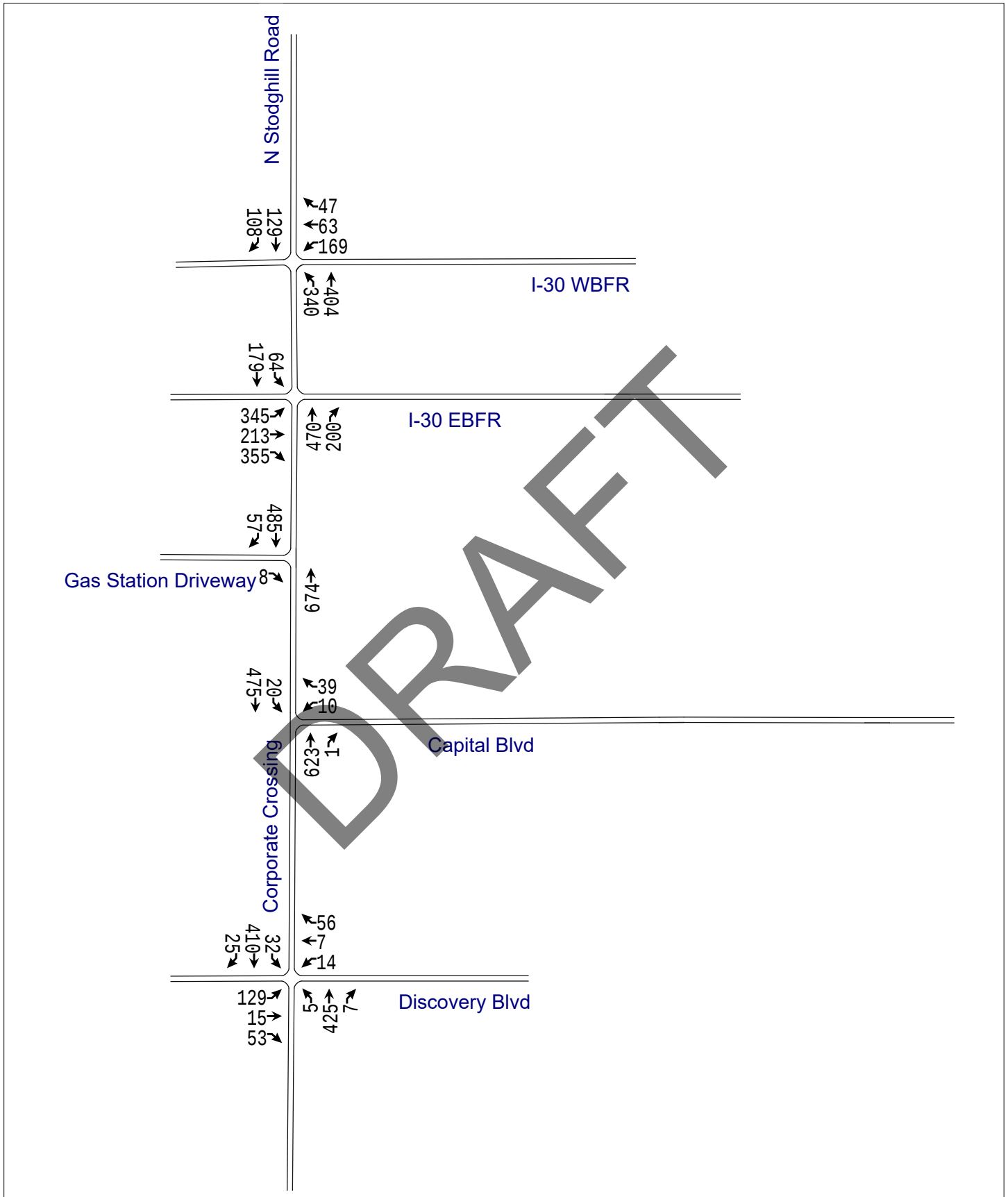
A1. 2020 Existing AM Peak Hour Traffic Volumes

North ^
Not to Scale



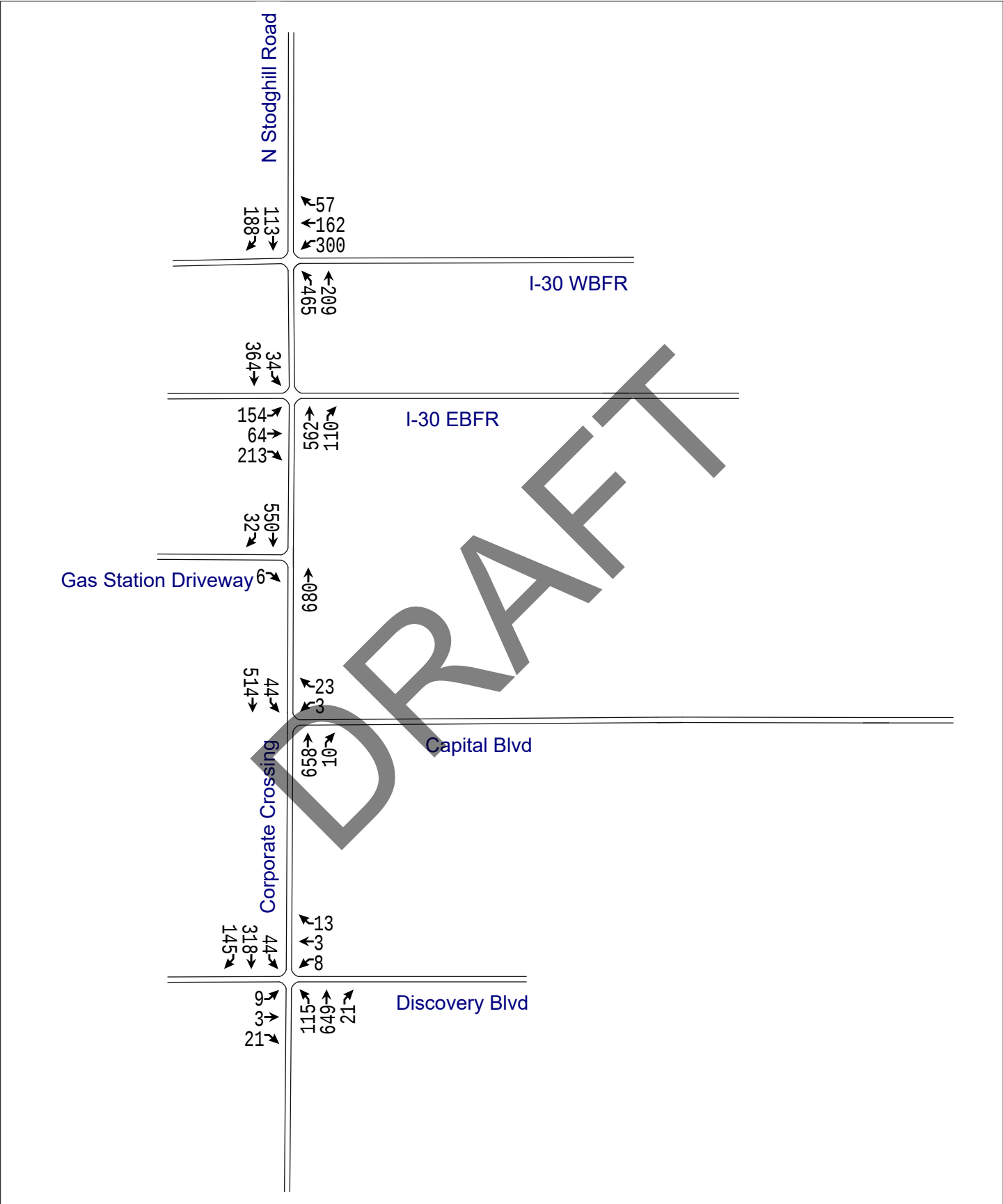
A2. 2020 Existing PM Peak Hour Traffic Volumes

North ^
Not to Scale



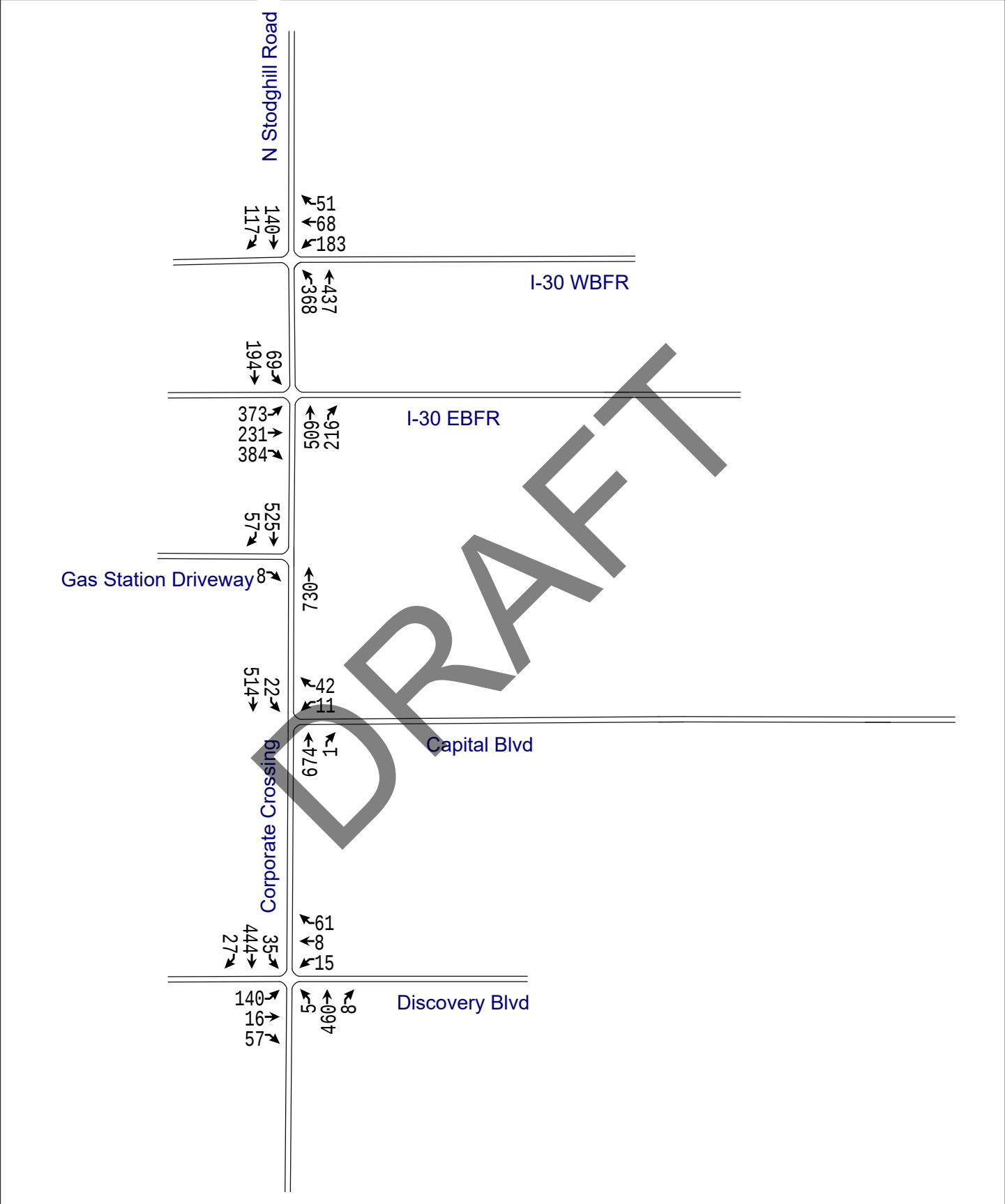
A3. 2024 Background AM Peak Hour Traffic Volumes

North ^
Not to Scale



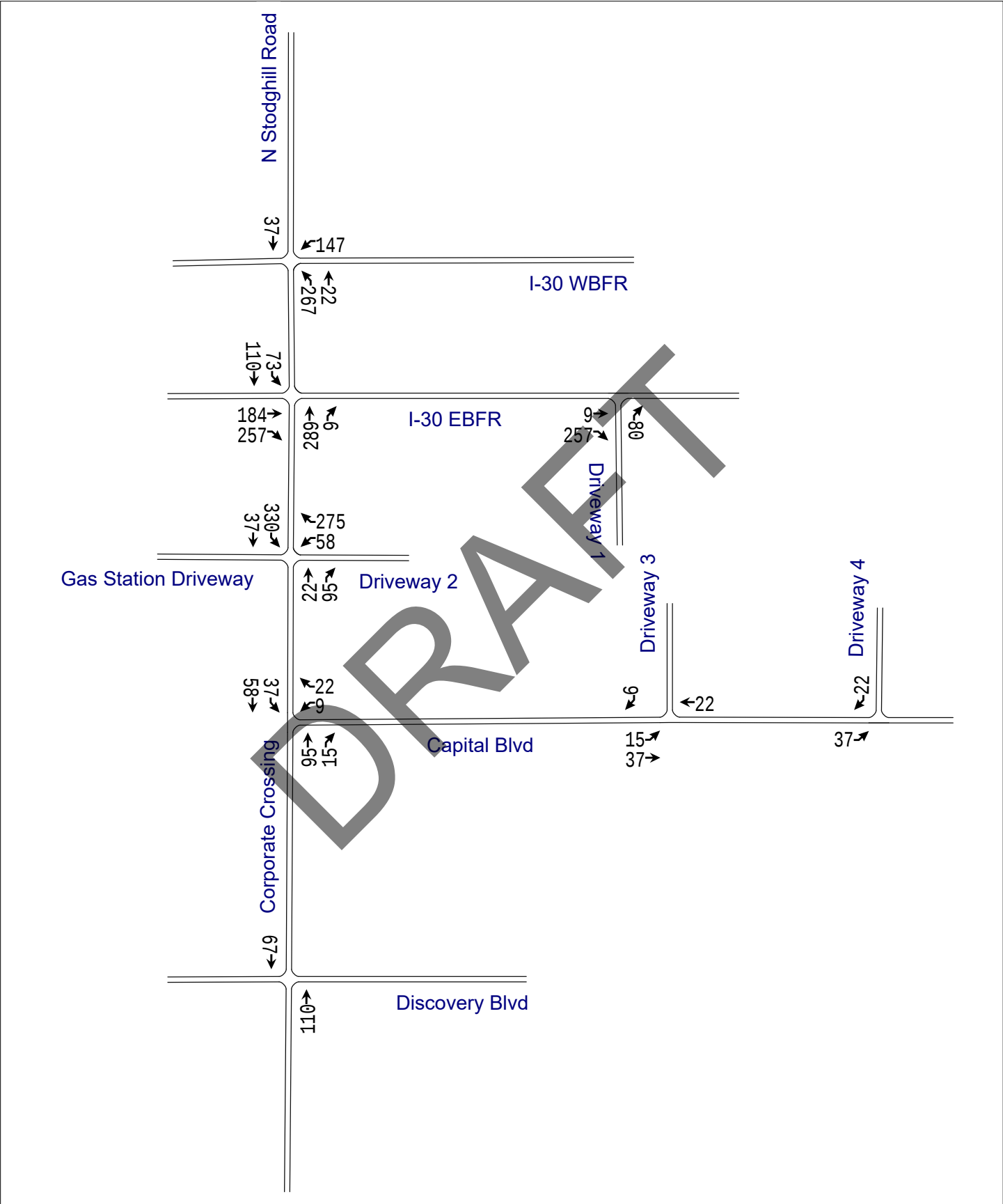
A4. 2024 Background PM Peak Hour Traffic Volumes

North ^
Not to Scale



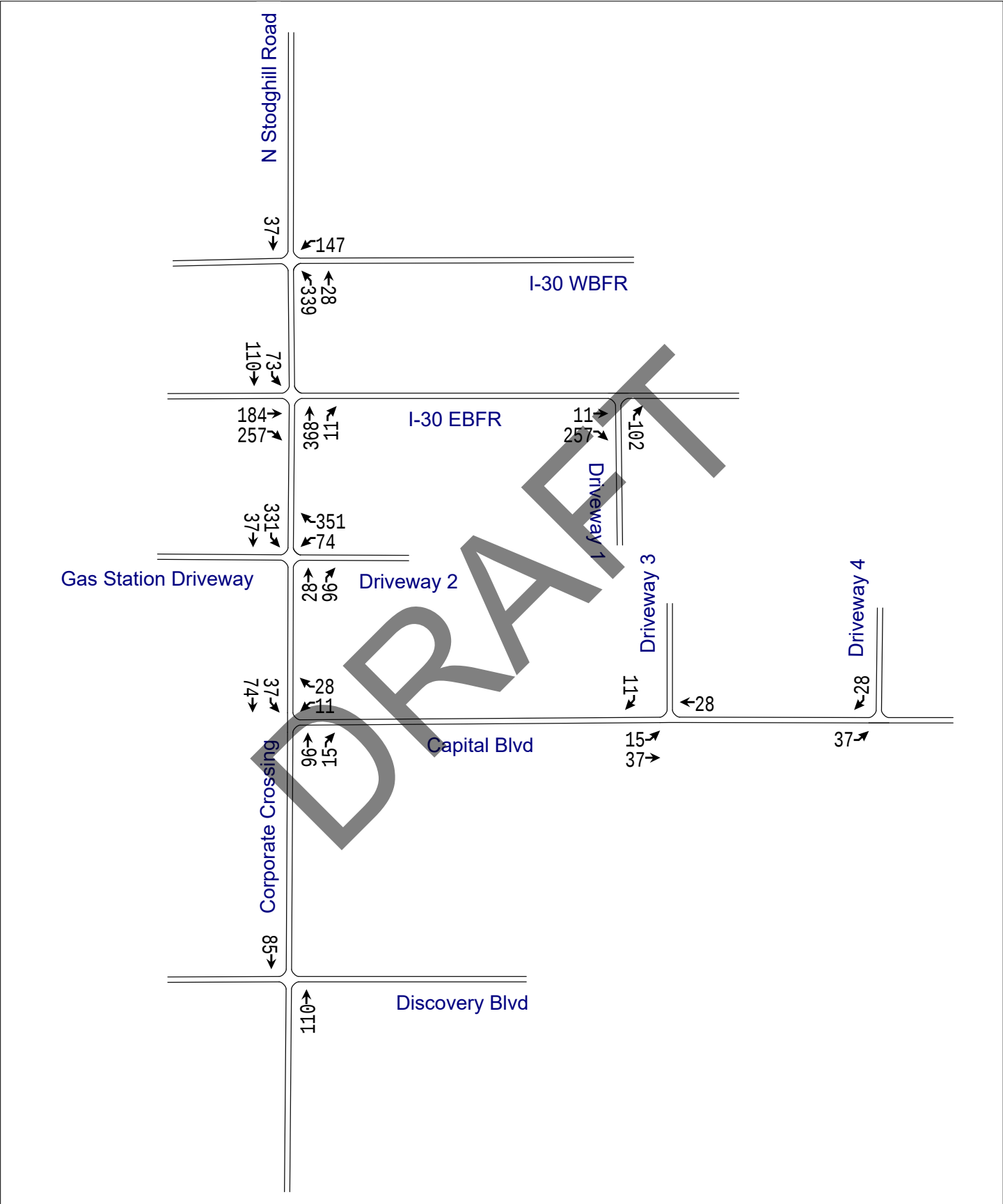
A5. 2024 Site Generated AM Peak Hour Traffic Volumes

North ^
Not to Scale



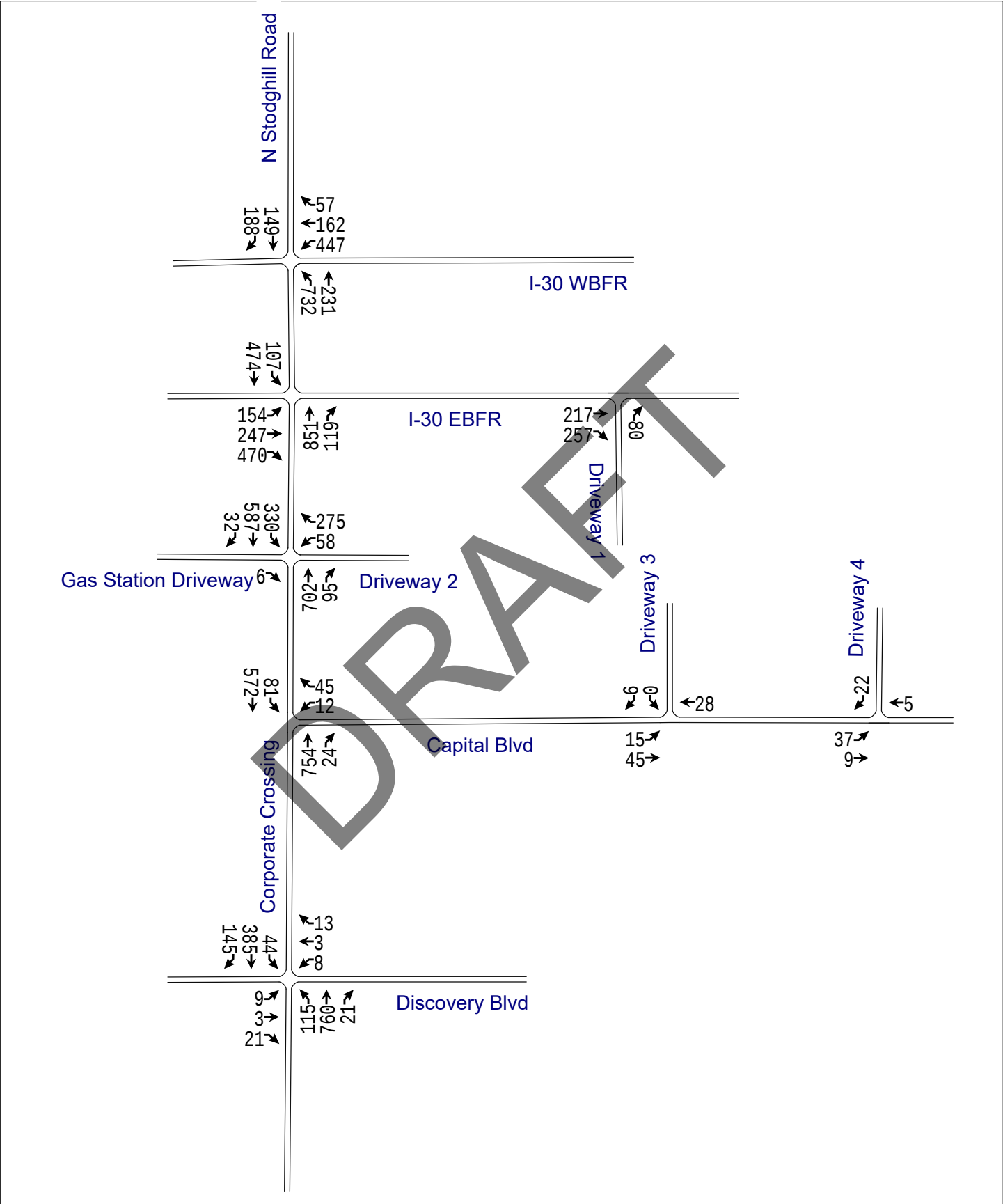
A6. 2024 Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



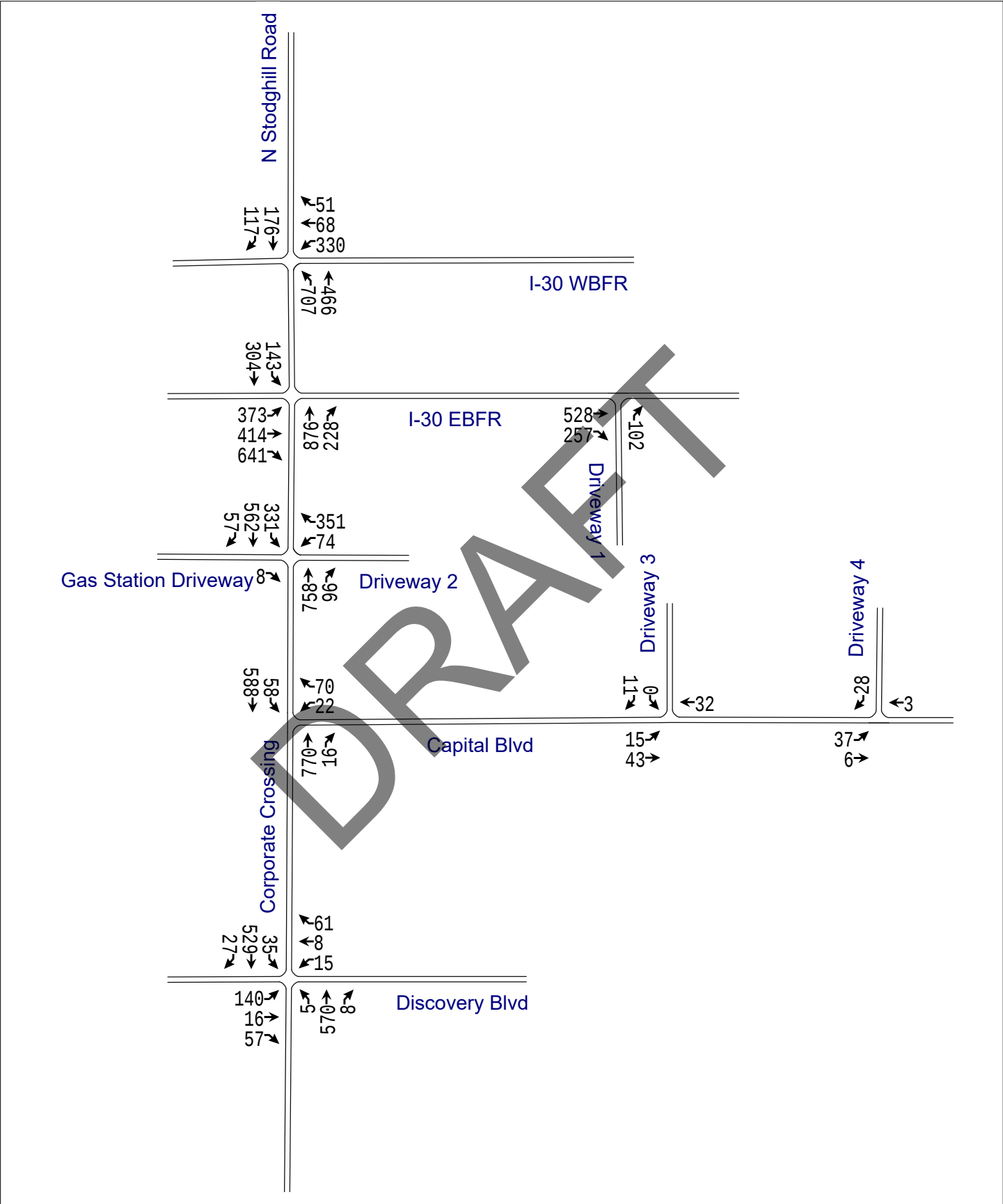
A7. 2024 Background Plus Site Generated AM Peak Hour Traffic Volumes

North ^
Not to Scale



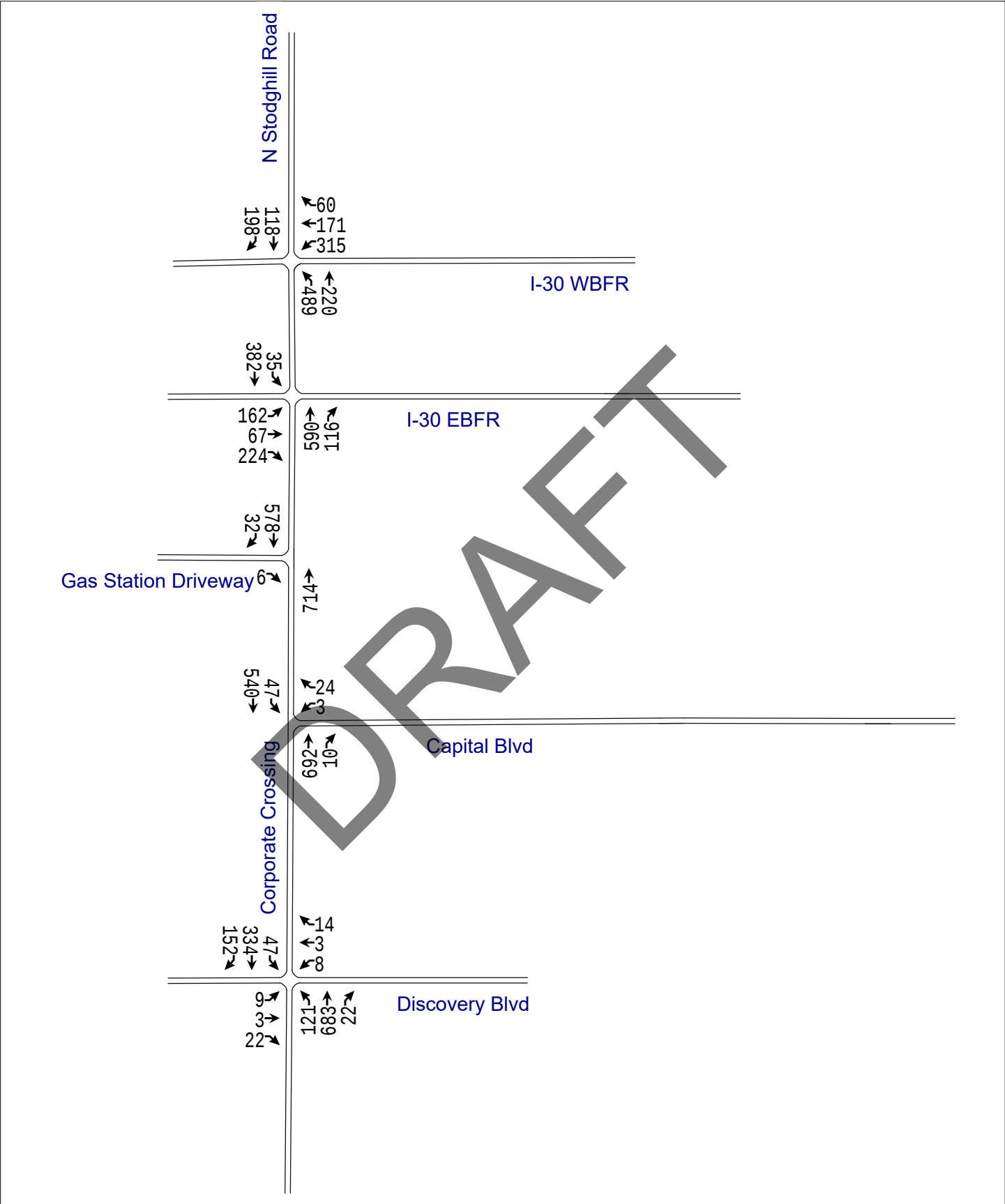
A8. 2024 Background Plus Site Generated PM Peak Hour Traffic Volumes

North ^
Not to Scale



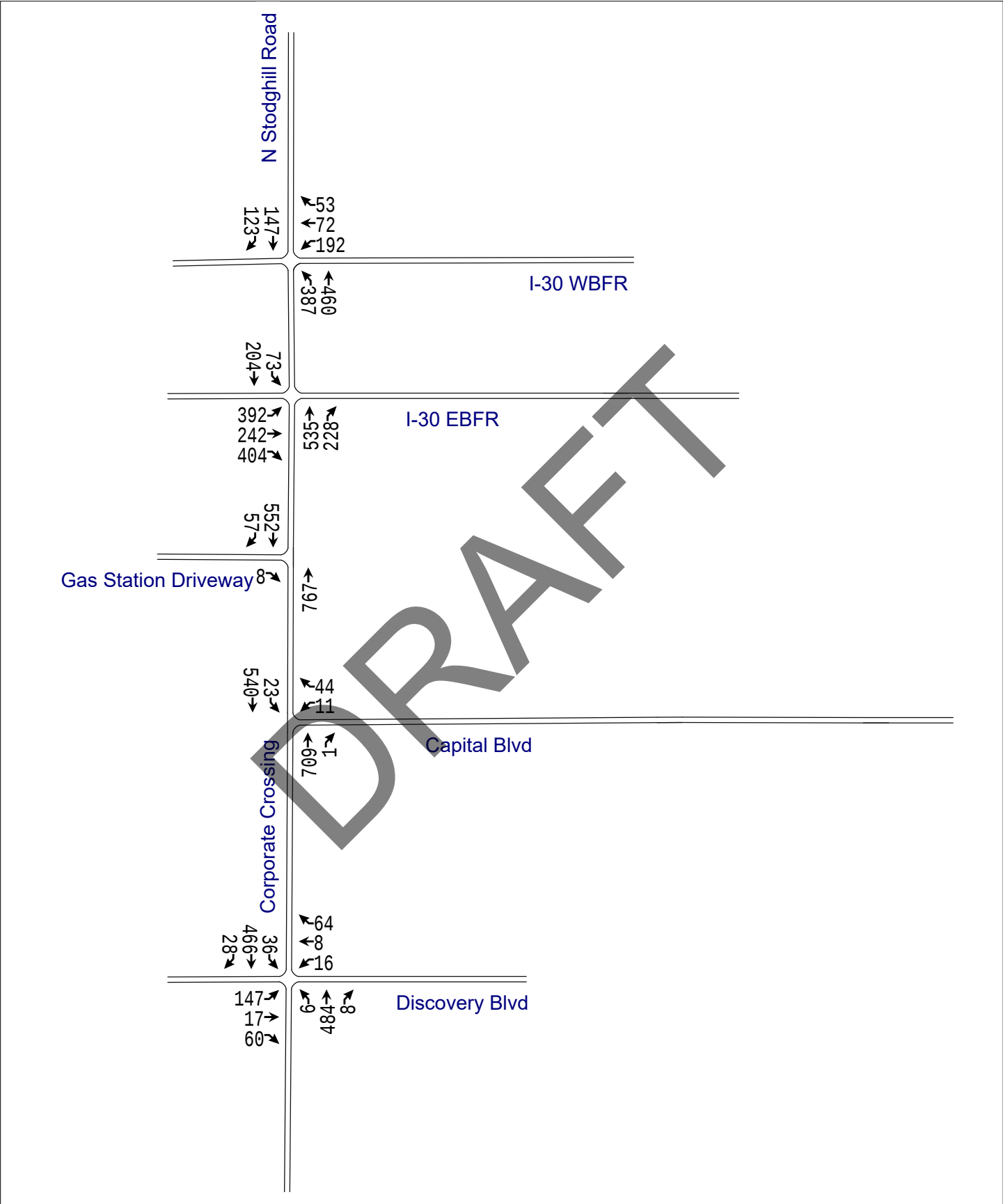
A9. 2029 Horizon AM Peak Hour Traffic Volumes

North ^
Not to Scale



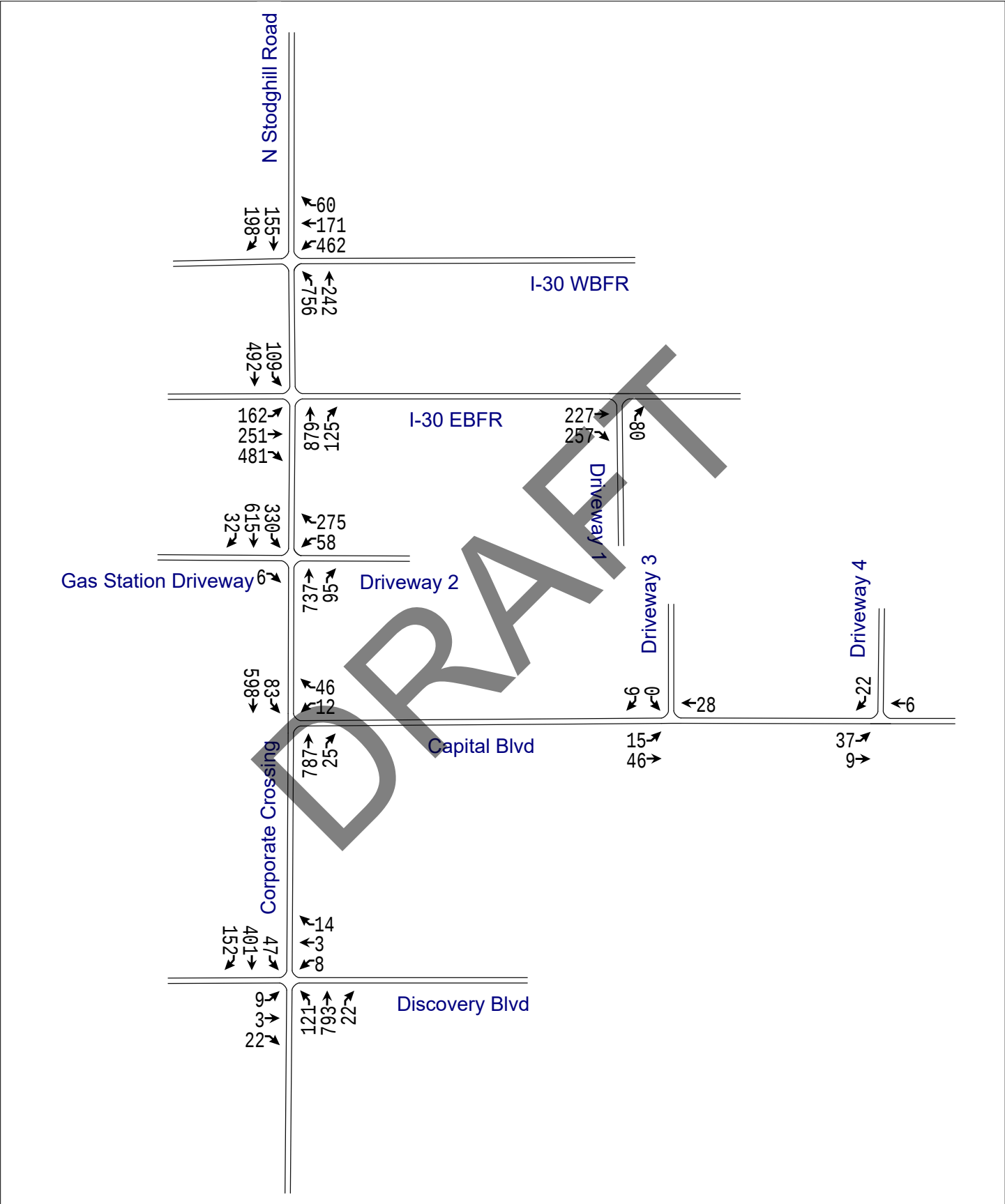
A10. 2029 Horizon PM Peak Hour Traffic Volumes

North ^
Not to Scale



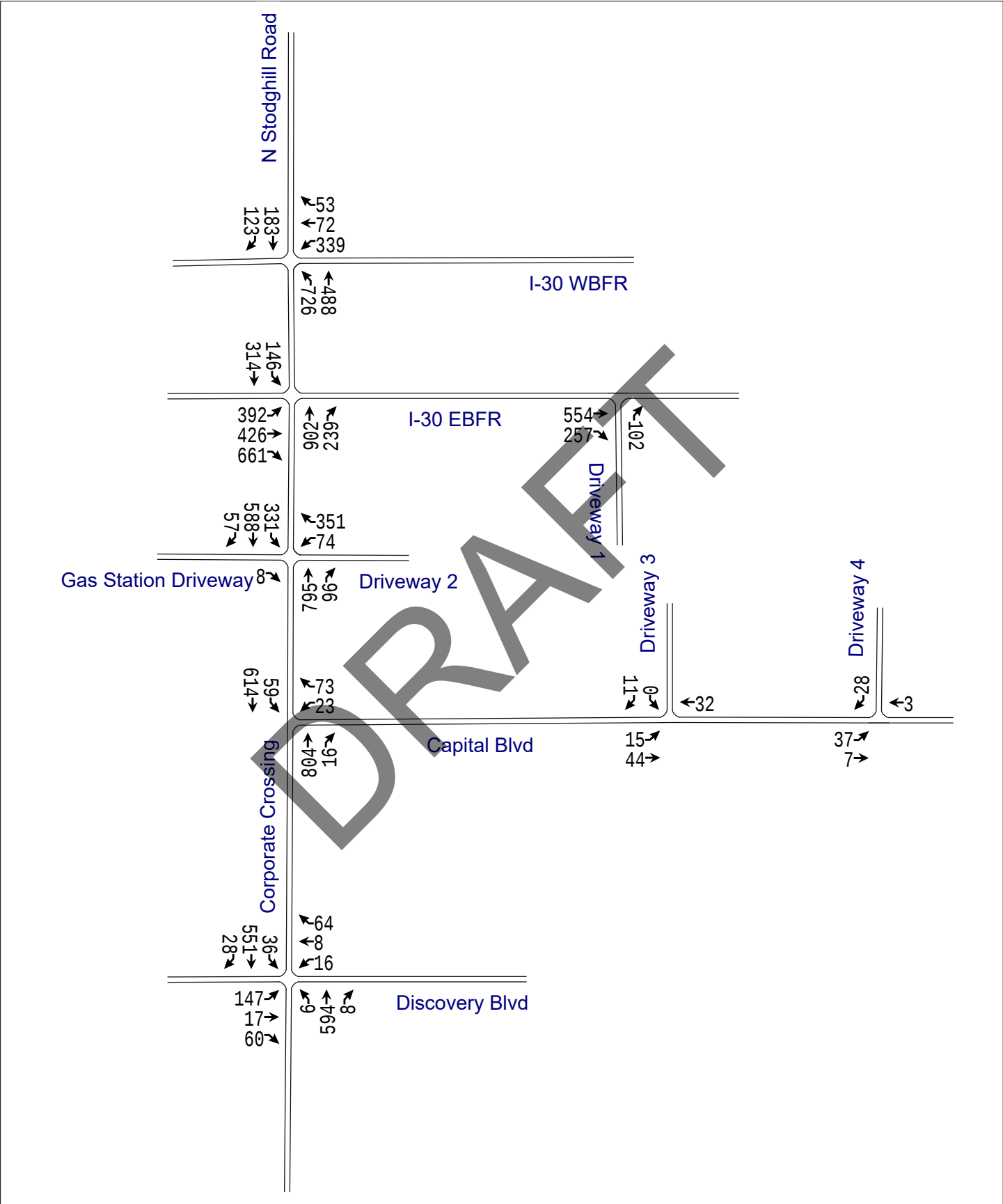
A11. 2029 Horizon Plus Site Generated AM Peak Hour Traffic Volumes

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: 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:																			

Intersection Traffic Movements												DeShazo Group, Inc.					
Location: Corporate Crossing at Capital Boulevard City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(3) Data Source: CJ Hensch												Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled					
Time of Count		Northbound on <i>Corporate Crosiing</i>				Southbound on <i>Corporate Crosiing</i>				Eastbound on <i>Capital Blvd</i>				Westbound on <i>Capital Blvd</i>			
Begin	End	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	7:15 AM	-	-	115	0	0	11	109	-	-	-	-	-	0	0	0	3
7:15 AM	7:30 AM	-	-	135	1	0	6	131	-	-	-	-	-	0	1	0	7
7:30 AM	7:45 AM	-	-	168	3	0	7	145	-	-	-	-	-	0	2	0	9
7:45 AM	8:00 AM	-	-	165	3	0	11	102	-	-	-	-	-	0	0	0	2
8:00 AM	8:15 AM	-	-	140	2	0	17	97	-	-	-	-	-	0	0	0	3
8:15 AM	8:30 AM	-	-	122	1	0	12	98	-	-	-	-	-	0	0	0	6
8:30 AM	8:45 AM	-	-	100	2	0	7	96	-	-	-	-	-	0	0	0	4
8:45 AM	9:00 AM	-	-	114	2	0	5	80	-	-	-	-	-	0	0	0	5
Intersection PHV:		0	0	608	9	0	41	475	0	0	0	0	0	0	3	0	21
PHF:		0.00	0.00	0.90	0.75	0.00	0.60	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.58
Intersection Peak Hour: 7:15 AM - 8:15 AM												Intersection PHF: 0.87					
Study Area PHV:		0	0	608	9	0	41	475	0	0	0	0	0	0	3	0	21
PHF:		0.00	0.00	0.90	0.75	0.00	0.60	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.58
Study Peak Hour: 7:15 AM - 8:15 AM												Study Area PHF: 0.87					
4:30 PM	4:45 PM	-	-	145	1	0	5	143	-	-	-	-	-	0	2	0	13
4:45 PM	5:00 PM	-	-	162	0	0	8	98	-	-	-	-	-	0	0	0	3
5:00 PM	5:15 PM	-	-	157	0	0	3	121	-	-	-	-	-	0	6	0	15
5:15 PM	5:30 PM	-	-	159	0	0	4	113	-	-	-	-	-	0	2	0	8
5:30 PM	5:45 PM	-	-	130	0	0	5	97	-	-	-	-	-	0	1	0	6
5:45 PM	6:00 PM	-	-	109	0	0	2	114	-	-	-	-	-	0	1	0	9
6:00 PM	6:15 PM	-	-	126	0	0	5	106	-	-	-	-	-	0	4	0	5
6:15 PM	6:30 PM	-	-	101	0	0	2	103	-	-	-	-	-	0	0	0	3
Intersection PHV:		0	0	623	1	0	20	475	0	0	0	0	0	0	10	0	39
PHF:		0.00	0.00	0.96	0.25	0.00	0.63	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.65
Intersection Peak Hour: 4:30 PM - 5:30 PM												Intersection PHF: 0.94					
Study Area PHV:		0	0	623	1	0	20	475	0	0	0	0	0	0	10	0	39
PHF:		0.00	0.00	0.96	0.25	0.00	0.63	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.65
Study Peak Hour: 4:30 PM - 5:30 PM												Study Area PHF: 0.94					
Observations:																	

Intersection Traffic Movements													DeShazo Group, Inc.				
Location: Corporate Crossing at Discovery Boulevard City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(4) Data Source: CJ Hensch													Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled				
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:																	

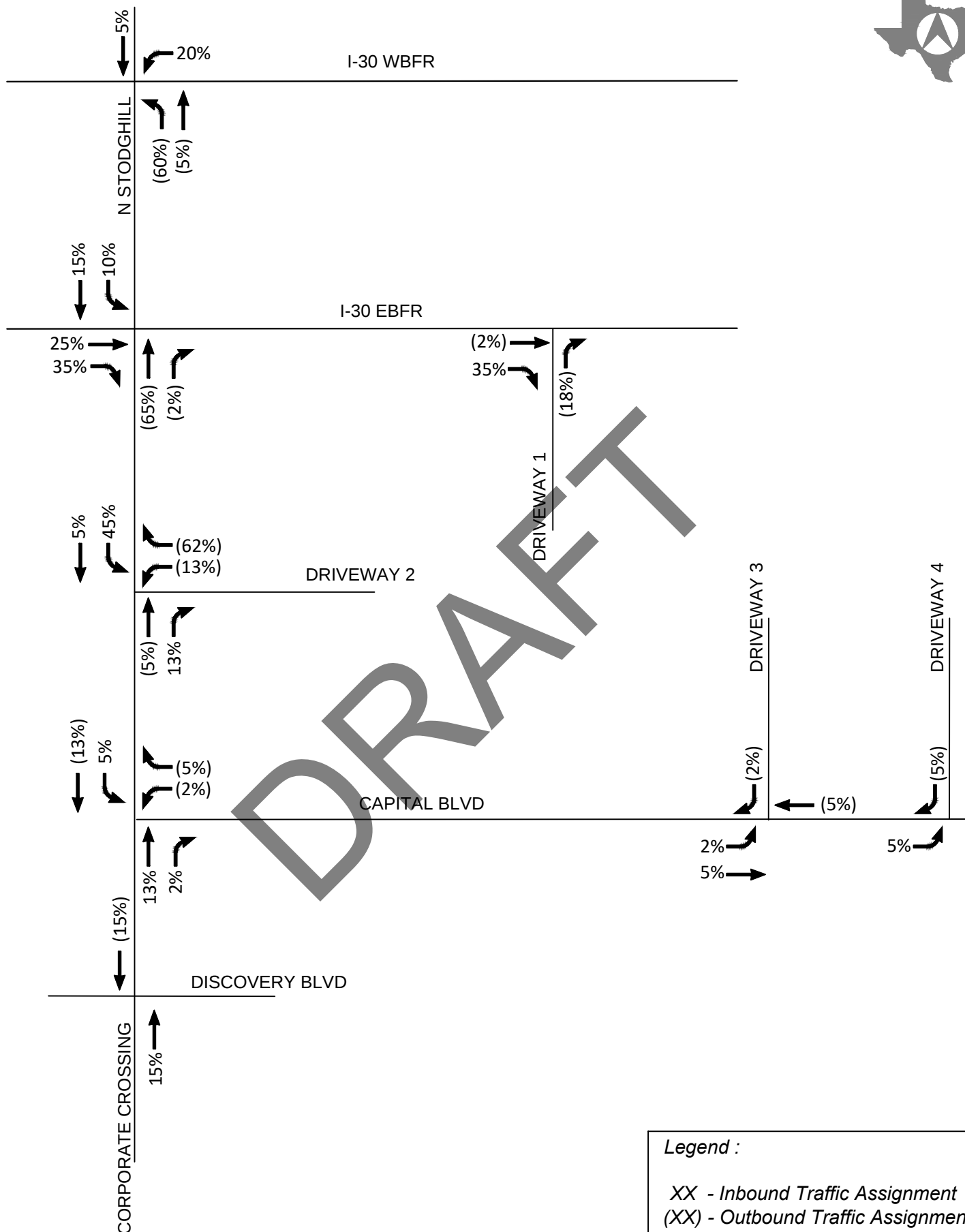
Intersection Traffic Movements												DeShazo Group, Inc.					
Location: Driveway at Corporate Crossing City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(5) Data Source: CJ Hensch												Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled					
Time of Count		Northbound on Corporate Crossing				Southbound on Corporate Crossing				Eastbound on Driveway				Westbound on Driveway			
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	0	122	-	-	-	117	10	0	0	-	1	-	-	-	-
7:15 AM	7:30 AM	0	0	136	-	-	-	136	6	0	0	-	0	-	-	-	-
7:30 AM	7:45 AM	0	0	182	-	-	-	156	6	0	0	-	1	-	-	-	-
7:45 AM	8:00 AM	0	0	164	-	-	-	105	6	0	0	-	1	-	-	-	-
8:00 AM	8:15 AM	0	0	146	-	-	-	111	14	0	0	-	4	-	-	-	-
8:15 AM	8:30 AM	0	0	129	-	-	-	106	11	0	0	-	4	-	-	-	-
8:30 AM	8:45 AM	0	0	107	-	-	-	104	6	0	0	-	1	-	-	-	-
8:45 AM	9:00 AM	0	0	118	-	-	-	86	11	0	0	-	2	-	-	-	-
Intersection PHV:		0	0	628	0	0	0	508	32	0	0	0	6	0	0	0	0
PHF:		0.00	0.00	0.86	0.00	0.00	0.00	0.81	0.57	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00
Intersection Peak Hour: 7:15 AM - 8:15 AM												Intersection PHF: 0.85					
Study Area PHV:		0	0	628	0	0	0	508	32	0	0	0	6	0	0	0	0
PHF:		0.00	0.00	0.86	0.00	0.00	0.00	0.81	0.57	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00
Study Peak Hour: 7:15 AM - 8:15 AM												Study Area PHF: 0.85					
4:30 PM	4:45 PM	0	0	165	-	-	-	139	19	0	0	-	4	-	-	-	-
4:45 PM	5:00 PM	0	0	167	-	-	-	104	18	0	0	-	0	-	-	-	-
5:00 PM	5:15 PM	0	0	174	-	-	-	122	12	0	0	-	2	-	-	-	-
5:15 PM	5:30 PM	0	0	168	-	-	-	120	8	0	0	-	2	-	-	-	-
5:30 PM	5:45 PM	0	0	136	-	-	-	99	17	0	1	-	3	-	-	-	-
5:45 PM	6:00 PM	0	0	118	-	-	-	109	16	0	0	-	3	-	-	-	-
6:00 PM	6:15 PM	0	0	130	-	-	-	108	13	0	0	-	2	-	-	-	-
6:15 PM	6:30 PM	0	0	108	-	-	-	102	11	0	0	-	4	-	-	-	-
Intersection PHV:		0	0	674	0	0	0	485	57	0	0	0	8	0	0	0	0
PHF:		0.00	0.00	0.97	0.00	0.00	0.00	0.87	0.75	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00
Intersection Peak Hour: 4:30 PM - 5:30 PM												Intersection PHF: 0.94					
Study Area PHV:		0	0	674	0	0	0	485	57	0	0	0	8	0	0	0	0
PHF:		0.00	0.00	0.97	0.00	0.00	0.00	0.87	0.75	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00
Study Peak Hour: 4:30 PM - 5:30 PM												Study Area PHF: 0.94					
Observations:																	

Intersection Traffic Movements													DeShazo Group, Inc.				
Location: Driveway at Capital Boulevard City/State: Rockwall, Texas Day/Date: Tuesday, March 3, 2020. Project-ID #: 20014-(6) Data Source: CJ Hensch													Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled				
Time of Count		Northbound on Driveway				Southbound on Driveway				Eastbound on Capital Blvd				Westbound on Capital 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	0	-	0	-	-	-	-	-	-	2	0	0	0	1	-
7:15 AM	7:30 AM	0	1	-	0	-	-	-	-	-	-	2	0	0	0	1	-
7:30 AM	7:45 AM	0	0	-	0	-	-	-	-	-	-	2	0	0	0	3	-
7:45 AM	8:00 AM	0	0	-	0	-	-	-	-	-	-	2	2	0	0	0	-
8:00 AM	8:15 AM	0	0	-	0	-	-	-	-	-	-	1	0	0	0	0	-
8:15 AM	8:30 AM	0	0	-	0	-	-	-	-	-	-	2	0	0	0	1	-
8:30 AM	8:45 AM	0	1	-	0	-	-	-	-	-	-	0	3	0	0	2	-
8:45 AM	9:00 AM	0	0	-	0	-	-	-	-	-	-	1	2	0	0	1	-
Intersection PHV:		0	1	0	0	0	0	0	0	0	0	8	2	0	0	5	0
PHF:		0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.25	0.00	0.00	0.42	0.00
Intersection Peak Hour: 7:00 AM - 8:00 AM													Intersection PHF: 0.80				
Study Area PHV:		0	1	0	0	0	0	0	0	0	0	8	2	0	0	5	0
PHF:		0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.25	0.00	0.00	0.42	0.00
Study Peak Hour: 7:00 AM - 8:00 AM													Study Area PHF: 0.80				
4:30 PM	4:45 PM	0	4	-	0	-	-	-	-	-	-	1	1	0	0	0	-
4:45 PM	5:00 PM	0	0	-	0	-	-	-	-	-	-	4	0	0	0	2	-
5:00 PM	5:15 PM	0	0	-	0	-	-	-	-	-	-	0	0	0	0	1	-
5:15 PM	5:30 PM	0	0	-	0	-	-	-	-	-	-	1	0	0	0	0	-
5:30 PM	5:45 PM	0	0	-	0	-	-	-	-	-	-	0	0	0	0	2	-
5:45 PM	6:00 PM	0	1	-	0	-	-	-	-	-	-	0	0	0	0	0	-
6:00 PM	6:15 PM	0	0	-	0	-	-	-	-	-	-	1	0	0	0	0	-
6:15 PM	6:30 PM	0	0	-	0	-	-	-	-	-	-	1	0	0	0	1	-
Intersection PHV:		0	4	0	0	0	0	0	0	0	0	6	1	0	0	3	0
PHF:		0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.25	0.00	0.00	0.38	0.00
Intersection Peak Hour: 4:30 PM - 5:30 PM													Intersection PHF: 0.58				
Study Area PHV:		0	4	0	0	0	0	0	0	0	0	6	1	0	0	3	0
PHF:		0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.25	0.00	0.00	0.38	0.00
Study Peak Hour: 4:30 PM - 5:30 PM													Study Area PHF: 0.58				
Observations:																	

File: C2X3HRS - 4L&12Mv_Peds.XLS

DRAFT

Appendix C. Site-Generated Traffic Supplement





N STODGHILL

I-30 WBFR

I-30 EBFR

-60%
+60%

DRIVEWAY 1

DRIVEWAY 3

DRIVEWAY 4

DRIVEWAY 2

CAPITAL BLVD

DISCOVERY BLVD

CORPORATE CROSSING

-10%
+10%
+30%
-10%
-30%
+30%

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		
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			9.2				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	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)	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

2020 Existing
Timing Plan: AM

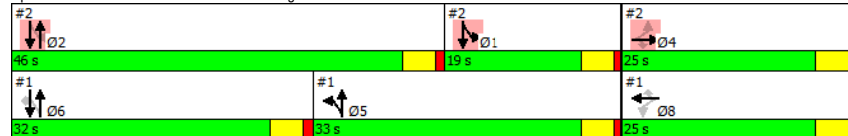
Intersection Capacity Utilization 62.8% ICU Level of Service B

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

	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	12	
Permitted Phases	4		4						2	12		
Detector Phase	4	4	4					2	2	1	12	
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

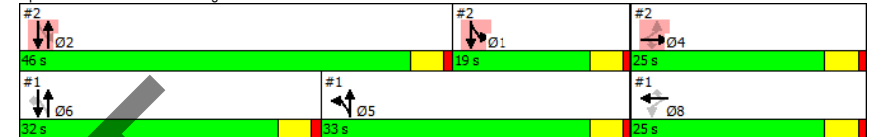
Intersection Capacity Utilization 62.8%

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	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		
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

TIA for Mixed Use Development in Rockwall, Texas

LBN

Synchro 10 Report

Page 1

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

TIA for Mixed Use Development in Rockwall, Texas

LBN

Synchro 10 Report

Page 2

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

#2 ↓↑ Ø2 44 s	#2 ↓↑ Ø1 20 s	#2 ↓↑ Ø4 41 s
#1 ↓↑ Ø6 39 s	#1 ↓↑ Ø5 25 s	#1 ↓↑ Ø8 41 s

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	12	
Permitted Phases	4		4						2	12		
Detector Phase	4	4	4					2	2	1	12	
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			

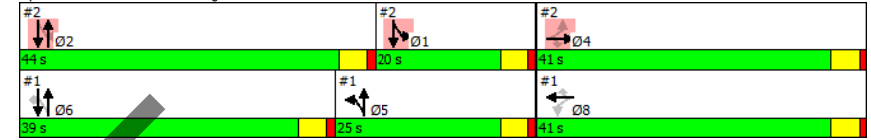
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

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	0
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	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	-	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	1019	235	473	0	0	470	0	0
Stage 1	530	530	-	476	476	-	-	-	-	-	-	-
Stage 2	245	480	-	301	543	-	-	-	-	-	-	-
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	288	238	764	287	236	767	1085	-	-	1088	-	-
Stage 1	500	525	-	539	555	-	-	-	-	-	-	-
Stage 2	737	553	-	683	518	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	251	229	764	244	227	767	1085	-	-	1088	-	-
Mov Cap-2 Maneuver	251	229	-	244	227	-	-	-	-	-	-	-
Stage 1	498	508	-	536	552	-	-	-	-	-	-	-
Stage 2	666	550	-	592	501	-	-	-	-	-	-	-

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			0	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	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)	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
Timing Plan: AM

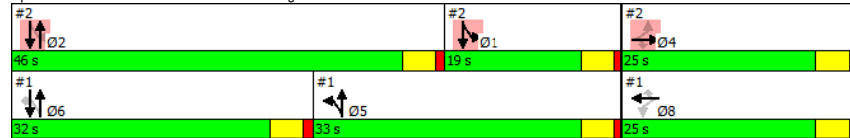
Intersection Capacity Utilization 67.2% ICU Level of Service C

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	
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)	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

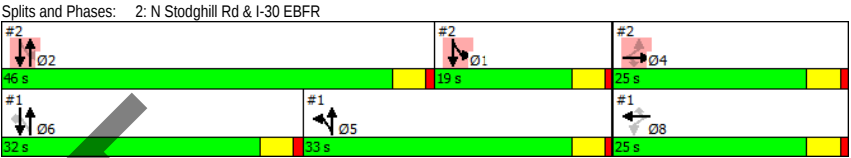
2024 Background
Timing Plan: AM

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.



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	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	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	1567	364	504	0	0	728	0	0
Stage 1	521	521	-	967	967	-	-	-	-	-	-	-
Stage 2	604	978	-	271	600	-	-	-	-	-	-	-
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	160	121	748	132	110	633	1057	-	-	871	-	-
Stage 1	507	530	-	273	331	-	-	-	-	-	-	-
Stage 2	452	327	-	712	488	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	133	101	748	109	92	633	1057	-	-	871	-	-
Mov Cap-2 Maneuver	133	101	-	109	92	-	-	-	-	-	-	-
Stage 1	447	501	-	241	292	-	-	-	-	-	-	-
Stage 2	385	288	-	648	461	-	-	-	-	-	-	-

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	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			

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

#2 ↓↑ Ø2 44 s	#2 ↓↑ Ø1 20 s	#2 ↓↑ Ø4 41 s
#1 ↓↑ Ø6 39 s	#1 ↓↑ Ø5 25 s	#1 ↓↑ Ø8 41 s

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	12		
Permitted Phases	4		4						2	12			
Detector Phase	4	4	4					2	2	1	12		
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			

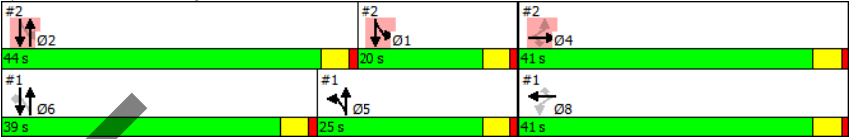
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

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	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	-	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	1103	255	512	0	0	509	0	0
Stage 1	574	574	-	515	515	-	-	-	-	-	-	-
Stage 2	265	519	-	326	588	-	-	-	-	-	-	-
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	259	213	743	258	210	744	1050	-	-	1052	-	-
Stage 1	471	501	-	511	533	-	-	-	-	-	-	-
Stage 2	717	531	-	661	494	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	221	204	743	214	201	744	1050	-	-	1052	-	-
Mov Cap-2 Maneuver	221	204	-	214	201	-	-	-	-	-	-	-
Stage 1	469	483	-	508	530	-	-	-	-	-	-	-
Stage 2	639	528	-	563	476	-	-	-	-	-	-	-

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		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	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)	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

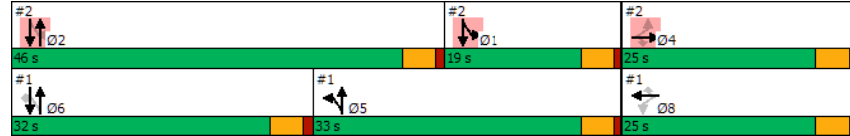
~ Volume exceeds capacity, queue is theoretically infinite.

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

	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

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			

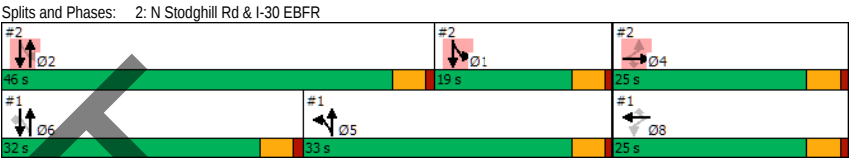
Intersection Capacity Utilization 99.2%ICU Level of Service F

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.



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	-	-
Stage 1	-	-
Stage 2	-	-
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	Stop	Free	Free	Free	Free	Free	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	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	~ 46
Stage 1	157	216	-	338
Stage 2	612	369	-	247
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	10	11	677	~ 18
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	EBLn1WBLn1WBLn2	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	-	-	10.4	1563.2	18	13.6
HCM Lane LOS	A	-	-	B	F	C	B
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		
Conflicting Flow All	1396	448	0	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	NBRWBLn1	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	-	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	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	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		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	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			

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

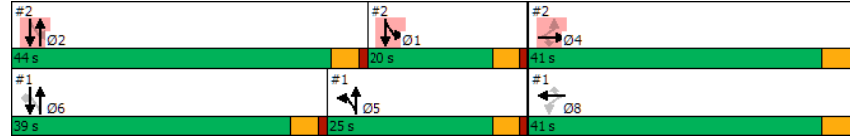
~ Volume exceeds capacity, queue is theoretically infinite.

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

	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

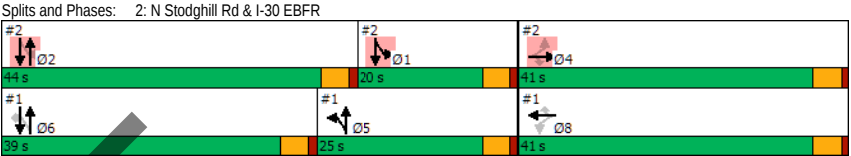
Intersection LOS: C

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			

Intersection Capacity Utilization 99.6%

ICU Level of Service F

Analysis Period (min) 15



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	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
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	Stop	Free	Free	Free	Free	Free	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	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	~42
Stage 1	163	222	-	310
Stage 2	588	345	-	251
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	6	8	690	~14
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	EBLn1WBLn1WBLn2	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
HCM Lane LOS	A	-	-	B	F	D	B
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	NBRWBLn1	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
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	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	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	
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)				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	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)	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

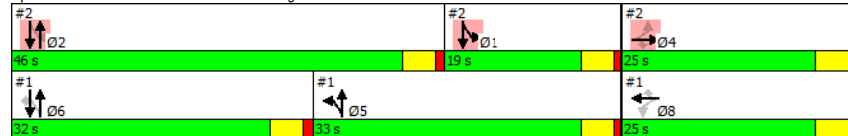
Intersection Capacity Utilization 70.1% ICU Level of Service C

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

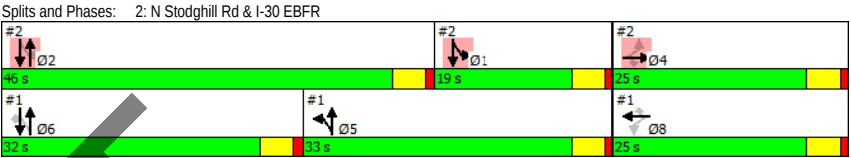
2029 Horizon
Timing Plan: AM

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.



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	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	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	1648	383	528	0	0	766	0	0
Stage 1	548	548	-	1018	1018	-	-	-	-	-	-	-
Stage 2	637	1030	-	285	630	-	-	-	-	-	-	-
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	144	108	734	118	98	615	1035	-	-	843	-	-
Stage 1	488	515	-	254	313	-	-	-	-	-	-	-
Stage 2	432	309	-	698	473	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	117	89	734	96	80	615	1035	-	-	843	-	-
Mov Cap-2 Maneuver	117	89	-	96	80	-	-	-	-	-	-	-
Stage 1	426	484	-	221	273	-	-	-	-	-	-	-
Stage 2	363	269	-	630	445	-	-	-	-	-	-	-

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	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	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			

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

#2 ↓ ↑ Ø2 44 s	#2 ↓ ↑ Ø1 20 s	#2 ↓ ↑ Ø4 41 s
#1 ↓ ↑ Ø6 39 s	#1 ↓ ↑ Ø5 25 s	#1 ↓ ↑ Ø8 41 s

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	12	
Permitted Phases	4		4						2	12		
Detector Phase	4	4	4					2	2	1	12	
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			

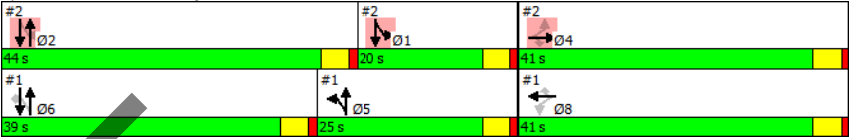
2010 HCM Intersection Capacity Analysis
2: N Stodghill Rd & I-30 EBFR

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	0
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	
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)				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	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)	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

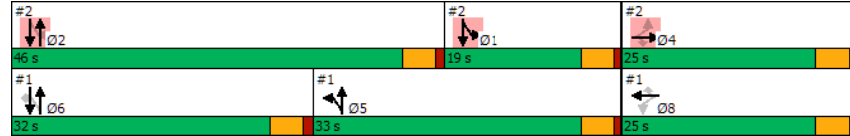
~ Volume exceeds capacity, queue is theoretically infinite.

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

	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

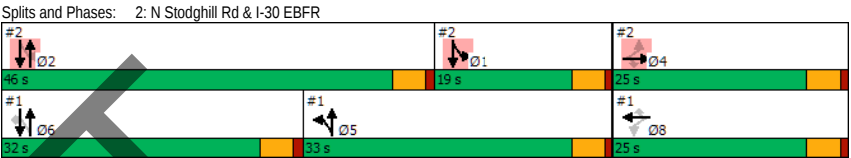
2029 Horizon Plus Site Generated
Timing Plan: AM

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.



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	-	-
Stage 1	-	-
Stage 2	-	-
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	Stop	Free	Free	Free	Free	Free	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	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	~ 42
Stage 1	151	209	-	320
Stage 2	597	354	-	242
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	8	8	662	~ 14
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		
Conflicting Flow All	1454	467	0	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	NBRWBLn1	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	-	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	0	97	7
Stage 1	-	-	-	7	-
Stage 2	-	-	-	90	-
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	1614	-	-	902	1075
Stage 1	-	-	-	1016	-
Stage 2	-	-	-	934	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	879	1075
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	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	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	1841	443
Stage 1	621	621	-	1138	1138	-
Stage 2	697	1150	-	322	703	-
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	115	82	695	90	74	562
Stage 1	442	477	-	214	275	-
Stage 2	398	271	-	664	438	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	91	66	695	71	60	562
Mov Cap-2 Maneuver	91	66	-	71	60	-
Stage 1	382	445	-	185	238	-
Stage 2	330	234	-	594	409	-

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	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			

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

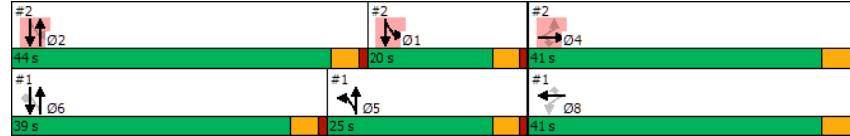
~ Volume exceeds capacity, queue is theoretically infinite.

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

	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	
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 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

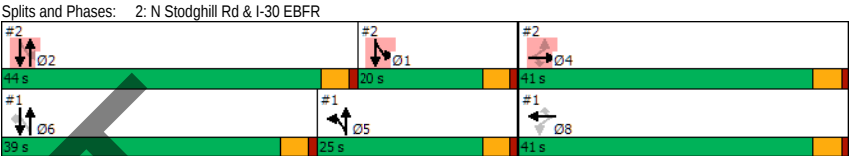
Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
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			

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.



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	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
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	Stop	Free	Free	Free	Free	Free	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	-	-	10.4	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		
Conflicting Flow All	1422	471	0	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	NBRWBLn1	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	-	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
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	Stop	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	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 Analysis2024 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

TIA for Mixed Use Development in Rockwall, Texas

LBN

Synchro 10 Report

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2010 HCM Intersection Capacity Analysis2024 Background Plus Site (With Splits Optimization)

1: I-30 WBFR & N Stodghill Rd

Timing Plan: AM

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)	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

TIA for Mixed Use Development in Rockwall, Texas

LBN

Synchro 10 Report

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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%

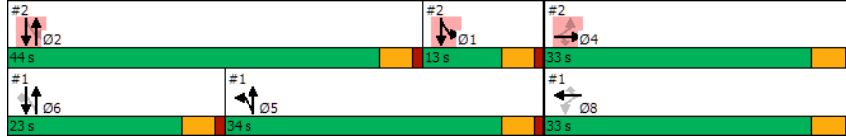
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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



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

	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)	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 Analysis2024 Background Plus Site (With Splits Optimization)
2: N Stodghill Rd & I-30 EBFR

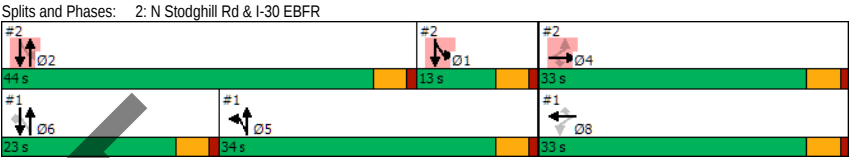
Timing Plan: AM

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 Analysis2024 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	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													

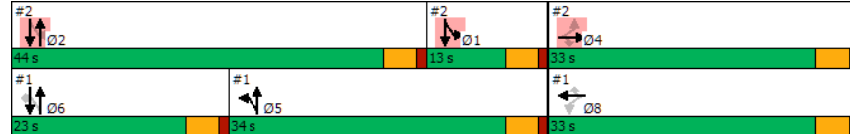
2010 HCM Intersection Capacity Analysis 2029 Horizon Plus Site (With Splits Optimization)
1: I-30 WBFR & N Stodghill Rd Timing Plan: AM

Lane Group	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)	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 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

	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	12	
Permitted Phases	4		4						2	12		
Detector Phase	4	4	4					2	2	1	12	
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 Analysis2029 Horizon Plus Site (With Splits Optimization)2: N Stodghill Rd & I-30 EBFRTiming Plan: AM

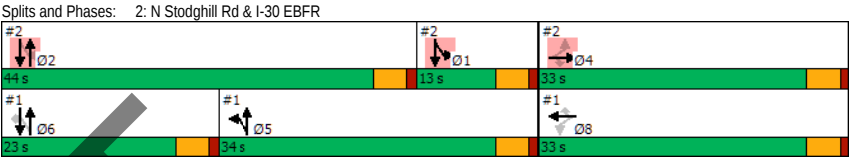
Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
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 Analysis2029 Horizon Plus Site (With Splits Optimization)2: N Stodghill Rd & I-30 EBFRTiming 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

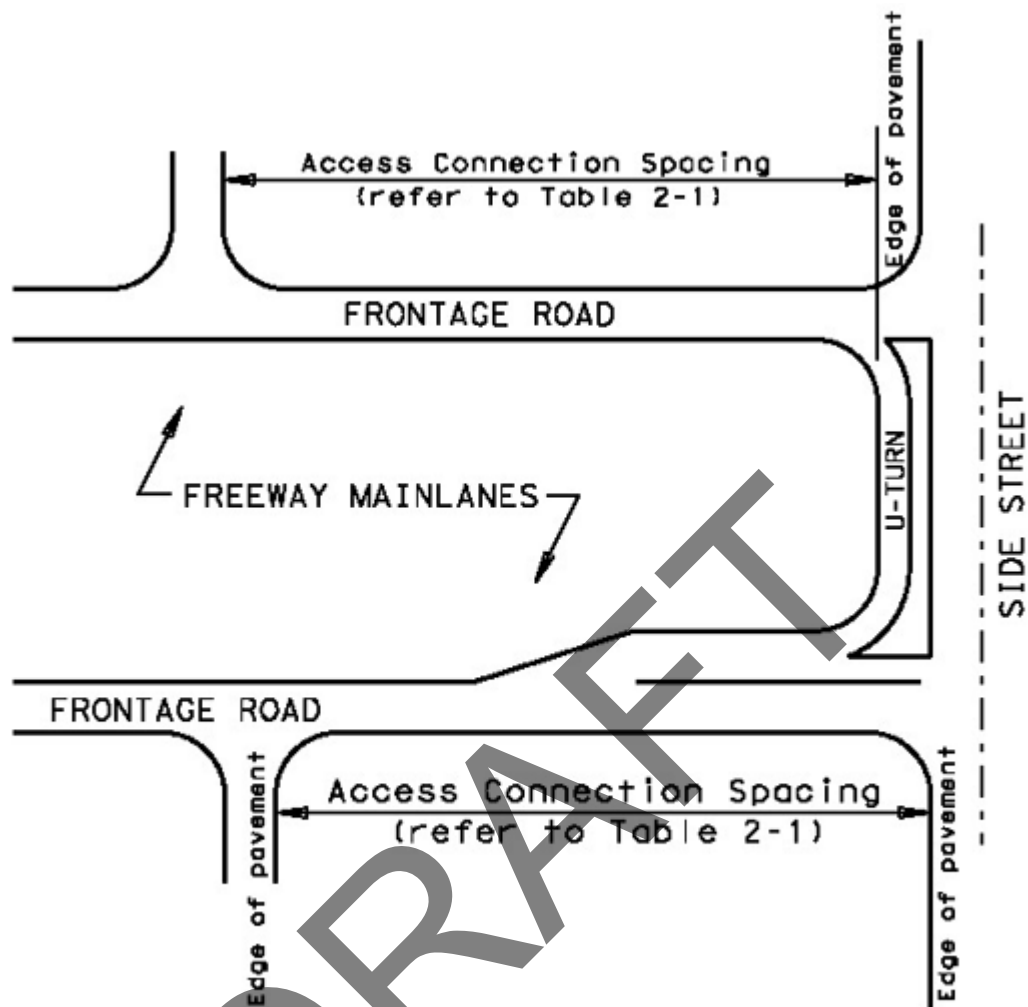


Figure 2-3. Frontage Road U-Turn Spacing Diagram

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)	◆ > 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, <i>TxDOT Roadway Design Manual</i>, 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.