City of Grand Prairie

City Hall
300 W. Main Street
Grand Prairie, Texas

Meeting Agenda

City Council Development Committee

Tuesday, October 13, 2020 | **3:30 PM** | **City Council Chambers**

Call to Order

Agenda Items

Citizens may speak on any item on the agenda by completing and submitting a speaker card.

1 20-10466 Minutes of the September 21, 2020, City Council Development Committee meeting

Attachments: 09-21-2020 CCDC Draft Minutes.docx

2 20-10418 Proposed zone change and City of Mansfield city limit boundary realignment request

Attachments: SUNBELT LAND CITY LIMIT LINE
areas in each city

3 20-10405 Proposed Master Thoroughfare Plan Amendment and associated development review of Cottages at Dechman.

Attachments: Map with 2015 Thoroghfare.pdf
Dechman Concept - 60 scale eng border.pdf
Cottages study REV092820.pdf

4 20-10468 Liquor Stores Update - Presented by Bill Hills, Deputy City Manager, and Rashad Jackson, Planning and Development Director

5 20-10391 Community Revitalization Update - Presented by Andrew Fortune, Assistant to the City Manager

Executive Session

The City Council Development Committee may conduct a closed session pursuant to Chapter 551, Subchapter D of the Government Code, V.T.C.A. to discuss the following:

1. *Section 551.071 "Consultation with Attorney"*
2. *Section 551.072 "Deliberation Regarding Real Property"*
3. *Section 551.074 "Personnel Matters"*
4. *Section 551.087 "Deliberations Regarding Economic Development Negotiations"*

Citizen Comments

Citizens may speak during Citizen Comments for up to five minutes on any item not on the agenda by completing and submitting a speaker card.

Adjournment

Certification

In accordance with Chapter 551, Subchapter C of the Government Code, V.T.C.A. the City Council Development Committee meeting agenda was prepared and posted October 9, 2020.

_____

Mona Lisa Galicia, Deputy City Secretary

City Hall is wheelchair accessible. If you plan to attend this public meeting and you have a disability that requires special arrangements, please call Mona Lisa Galicia at 972-237-8018 at least 24 hours in advance. Reasonable accommodations will be made to assist your needs.

City of Grand Prairie

City Hall
300 W. Main Street
Grand Prairie, Texas

Legislation Details (With Text)

File #:	20-10466	**Version:**	1	**Name:**	Minutes of the September 21, 2020, City Council Development Committee meeting
Type:	Agenda Item			**Status:**	Consent Agenda
File created:	10/7/2020			**In control:**	City Council Development Committee
On agenda:	10/13/2020			**Final action:**	
Title:	Minutes of the September 21, 2020, City Council Development Committee meeting				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	09-21-2020 CCDC Draft Minutes.pdf				

Date	Ver.	Action By	Action	Result

From
Monica Espinoza, Executive Assistant

Title
Minutes of the September 21, 2020, City Council Development Committee meeting

Presenter
Jeff Wooldridge, Chairman

Recommended Action
Approve

Analysis

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City Council Development Committee
Regular Meeting Minutes
September 21, 2020
Council Briefing Room
300 West Main Street
Grand Prairie, Texas

Committee Members Present	**Committee Members Absent**
Chairman Jeff Wooldridge	
Councilman Mike Del Bosque	
Councilman John Lopez	

Chairman Jeff Wooldridge called a regular meeting of the City Council Development Committee to order at 5:02 p.m.

1. **Consider CCDC minutes of the August 25, 2020 meeting.**

Minutes approved.

2. 2021 City Council Development Committee Meeting Schedule

Chairman Jeff Woolridge opened discussion of meeting schedule. Deputy City Manager Bill Helm stated dates are tentative and are needed to draft council calendar.

3. Accessory Structures – Review and discuss regulations for accessory structures, focusing on size, flexibility on required materials and administrative variances. Review of proposed Unified Development Code amendment language.

Planning Director, Rashad Jackson, discussed the introduction of revisions to the Unified Development Code (UDC) for the building materials, size, and height for accessory structures. Mr. Jackson gave an overview of examples from other benchmark cities where a combination of regulations for height and size vary based on the existing neighborhoods and past variance requests. He stated the request for a maximum of 22 feet as a revision for the building height of accessory structures. Mr. Jackson also referenced the size of accessory structures and detached garages limitations and requested that the maximum square feet

stipulation of 750 square feet be removed and for the maximum square feet be 50% of the principal dwelling based on the zoning district. Additionally, he stated concerns regarding the maximum wall height for small structures of less than 200 square feet. The maximum height will be 10 feet based on the underlying zoning district, as measured from the finished floor to the roof plate. He stated that this will limit how tall the roof can be taking into consideration the roof pitch requirements already in place. Therefore, this would not necessarily create another hardship for residents. Mr. Jackson also stated to remove the specific square footage requirement for the size of accessory structure, as long as, the structure does not exceed the maximum lot coverage and size of the principal structure, which is already stated in the UDC.

Chairman Del Bosque asked someone with five (5) acres with a 10,000 square foot home and wanted to build a detached garage, a workshop, and a barn what the size requirements would be based on the size of the home. Mr. Jackson clarified that size requirement would be based on the size of the lot, not the principal home, which is based on the underlying zoning.

Mr. Jackson stated the request for a building material exception per House Bill 2439 (HB2439) and its regulations. He stated the exception request for the principal home is addressed in the UDC already but that a building material requirement cannot be upheld for accessory structures based on HB2439. He stated we can only enforce architectural details like articulations. He proposed to allow for metal to be used as an exterior building material of accessory structures larger than 200 square feet that adhere to the building code. Additionally, the structure must be located 30 feet from the front property line. Mr. Jackson added that neighborhoods with larger accessory structures have them placed at the far end of the lot. He also stated that one caveat for those neighborhoods a part of a HOAs staff would not want to approve anything that would conflict with the existing HOA requirements or restrictions.

Chairman Woolridge stated that applicants should confirm if proposed structure is allowed in their HOA even if city staff or committee say it is fine. Mr. Jackson agreed. He also stated that these revisions would decrease the number of variance applications for accessory structures.

Chairman Del Bosque what the revisions are applicable, or it is only for special situations.

4. Hybrid Housing – Discuss Hybrid Housing product, design preferences and possible regulations.

Planning Director, Rashad Jackson, introduced the concept of Hybrid Housing and using the standards of the town house zoning to address concerns of multi-family and single-family housing. He stated that using the town home development standards would help contribute to a true mix of hybrid housing design. Mr. Jackson discussed issues related to the Avila project regarding building orientation along the frontage and right-of-way screening, he recommended that the screening be at least up to the eve of the abutting home or setbacks further from the right-of-way. He also discussed the need for additional parking and/or direct to access parking homes as the current parking is designed for multi-family and not for the mix of both. Additionally, he stated the building materials that face the right-of-way could be addressed by requiring a mixture of materials

on all sides of the façade. He also discussed more open space that are conducive to the overall layout of the townhomes and single-family housing types along with adding interior drives to provide direct access to garages. He stated that staff recommended building orientation to face the right-of-way and allow some exceptions to face the sides. Mr. Jackson further mentioned that the discussed recommendations already exist in the Unified Development Code (UDC) but are under the town home standards and they should also be used for the proposed Hybrid Housing.

Chairman Del Bosque about restriction of materials. Mr. Jackson stated we cannot at this time due to the current House Bill (HB2439). Chairman Wooldridge also asked if this would be overturned soon.

Chairman Del Bosque additionally asked about exceptions to the material requirement and if they can be denied based on the materials used. Mr. Jackson stated they could not be denied solely due to materials, but we could encourage masonry materials.

Chairman Lopez asked where the proposed language would be located in the UDC. Mr. Jackson stated there isn't an official location of the language yet.

Chairman Woolridge also asked Mr. Jackson if there can be other wording for townhomes instead of "For Rent" Hybrid Housing choices. Mr. Jackson stated as part of the amendment proposed that a definition of Hybrid Housing be included.

Other Business:

Chairman Del Bosque asked about certain items and which committee should discuss certain items.

With no other business, the meeting was adjourned at 5:45 p.m.

_____

Chairman Jeff Wooldridge

City of Grand Prairie

City Hall
300 W. Main Street
Grand Prairie, Texas

Legislation Details (With Text)

File #:	20-10418	**Version:**	1	**Name:**	Proposed zone change and City of Mansfield city limit request
Type:	Agenda Item			**Status:**	Agenda Ready - Committee
File created:	9/28/2020			**In control:**	City Council Development Committee
On agenda:	10/13/2020			**Final action:**	
Title:	Proposed zone change and City of Mansfield city limit boundary realignment request				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	SUNBELT LAND CITY LIMIT LINE areas in each city				

Date	Ver.	Action By	Action	Result

From
Rashad Jackson, AICP - Planning & Development Director

Title
Proposed zone change and City of Mansfield city limit boundary realignment request

Presenter
Rashad Jackson, AICP - Planning & Development Director

Recommended Action
Approve

Analysis
Staff was contacted by developer, Walter Nelson, in regards to a proposed residential project in South Grand Prairie. The property is located along Highway 360 south of Lone Star Drive. The property is bisected by City of Mansfield and City of Grand Prairie city limits. The applicant has plans to rezone the property to allow for single family development. He has also noted the City of Mansfield would be willing to give their portion of the subject property to the City of Grand Prairie. The request is being reviewed to discuss the proposed rezoning and possible city limit boundary realignment.

Financial Consideration
N/A

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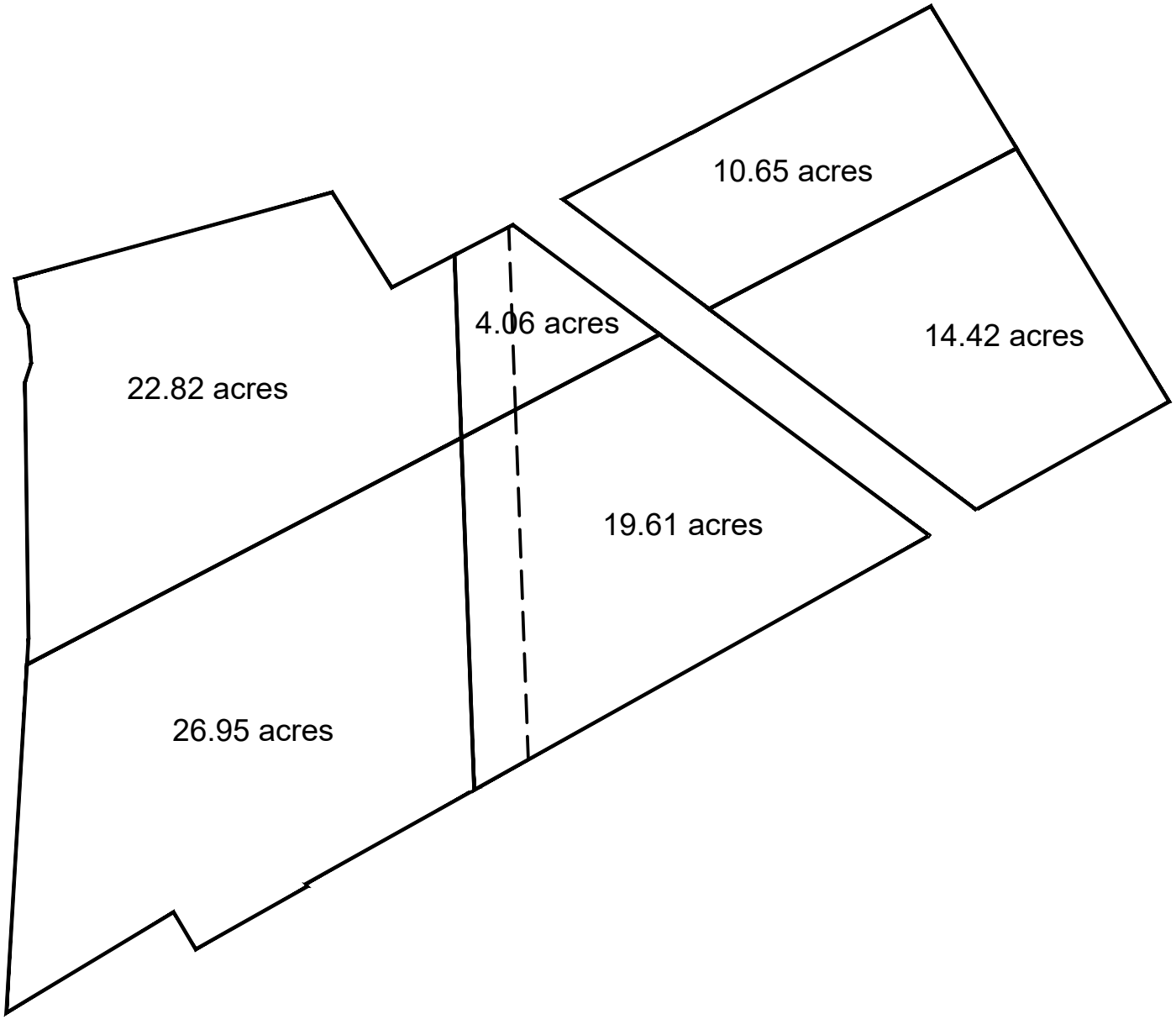
Lone Star Rd
Noah St
CITY LIMIT CORNER
PER ORDINANCE
CITY LIMIT CORNER
PER MANSFIELD MAP
CITY LIMIT LINE
PER GREENWAY TRAILS
PLAT TO GRAND PRAIRIE
SHAPED CHARGE
SPECIALIST TRACT
VOL. 1525, PG. 159
CITY OF MANSFIELD
CITY OF GRAND PRAIRIE
2
ADDITIONAL LAND
OWNED BY GREENWAY
TRAILS
SUNBELT LAND
INVESTMENTS, INC.
SUNBELT LAND
INVESTMENTS, INC.
GREENWAY TRAILS
ADDITION TO
GRAND PRAIRIE
TARRANT COUNTY WATER CONTROL DISTRICT
CITY OF MANSFIELD PER ORDINANCE
CITY OF GRAND PRAIRIE
CENTER LINE S.H. 360
STA. 1170+75.58
SUNBELT LAND
INVESTMENTS, INC.
GRENWAY TRAILS
ADDITION TO
GRAND PRAIRIE
CITY OF MANSFIELD
CITY OF GRAND PRAIRIE
ONCOR EASEMENT
HWY 360 NB
To Market Rd 661


10.65 acres
4.06 acres
14.42 acres
22.82 acres
19.61 acres
26.95 acres

City of Grand Prairie

City Hall
300 W. Main Street
Grand Prairie, Texas

Legislation Details (With Text)

File #:	20-10405	**Version:**	1	**Name:**	Proposed Thoroughfare Plan Amendment and associated development review of Cottages at Dechman.
Type:	Agenda Item			**Status:**	Agenda Ready - Committee
File created:	9/21/2020			**In control:**	City Council Development Committee
On agenda:	10/13/2020			**Final action:**	
Title:	Proposed Master Thoroughfare Plan Amendment and associated development review of Cottages at Dechman.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	Map with 2015 Thoroghfare.pdf Dechman Concept - 60 scale eng border.pdf Cottages study REV092820.pdf				

Date	Ver.	Action By	Action	Result

From
Rashad Jackson

Title
Proposed Master Thoroughfare Plan Amendment and associated development review of Cottages at Dechman.

Presenter
Rashad Jackson, Planning and Development Director

Recommended Action
Review and Provide Direction

Analysis
The Cottages at Dechman is a proposed hybrid housing development located at the northwest corner of Dechman Drive and the IH - 20 frontage road. The project will consist of 150 one-and two-bedroom rental homes. Access to the property will be via a full-access driveway to Dechman Drive. The City of Grand Prairie's *2015 Transportation Thoroughfare Plan* shows a collector roadway between Dechman Drive and the IH - 20 westbound frontage road that would run through the rear of this property. The proposed site plan does not show this collector. The applicant has proposed a revision to the thoroughfare plan to remove this proposed collector.

The City of Grand Prairie requires analysis of any Thoroughfare Plan amendment by the CCDC. The proposed amendment would eliminate a collector roadway directly north of the subject property. The review will

examine the effects of the proposed hybrid housing development and thoroughfare revision on Dechman Drive.

Department of Transportation Analysis - Brett Huntsman, City of Grand Prairie Transportation Planner

The Master Thoroughfare Plan (MTP) identifies an unnamed Collector which creates an additional connection from Fish Creek Rd./ Dechman Dr. to the Interstate 20 WB Frontage Road. This segment is located along the border of the Dallas County floodway and a vacant lot within PD-20.

The Collector is being addressed due to developer interest in the vacant lot. The roadway is not necessary for the site's operation and, therefore, is not being considered for construction by the developer. Moreover, the developer is not wishing to dedicate the required 70' right-of-way necessary to build the roadway.

City staff recommends removing this section from the MTP.

As required by the Unified Development Code, the developer of the vacant lot has provided a traffic impact analysis (TIA) identifying operations of the site and nearby intersections at buildout of the property. The TIA found that there would be no significant impact to the existing roadways and intersections following construction of the new development without the unnamed Collector.

Data was collected for the TIA included detoured traffic from the ongoing I-20 frontage road construction. Once the intersections of the I-20 Frontage and Carrier Parkway are completed, traffic volumes are anticipated to be reduced.

The recommendation of the TIA is that the roadway be removed from the MTP and that the project moves forward. City staff agrees with the recommendation.

Staff does not believe that the unnamed Collector would create additional development potential in the area. The parcel on the opposite side of the proposed development is Dallas County-owned floodway. There would be a considerable cost to acquire and develop this land with potentially significant impact to the existing floodway.

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Grand Prairie Maps

Date: 9/21/2020 Time: 10:29:29 AM

This data has been compiled by the City of Grand Prairie IT/GIS department. Various official and unofficial sources were used to gather this information. Every effort was made to ensure the accuracy of this data, however, no guarantee is given or implied as to the accuracy of said data.

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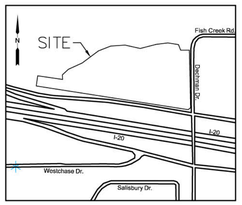
Grand Prairie TEXAS

Parcels

N

GRAPHIC SCALE 1"=60'

60 0 60 120



VICINITY MAP
NTS

PROJECT DESCRIPTION

CASITA 2–BEDROOM AND DUPLEX 1–BEDROOM
SINGLE STORY RENTAL PROPERTY

PROJECT DATA

TOTAL AREA:	15.91 ACRES
IMPERVIOUS AREA:	7.66 ACRES (48%)
CURRENT ZONING:	PD–20
PROPOSED ZONING:	PD–20
PROPOSED USE:	RESIDENTIAL RENTAL
MIN. UNIT SEPARATION:	10'

UNIT TYPE	YIELD	MIX %
1–BEDROOM	44	31
2–BEDROOM	98	69
TOTAL UNITS	142	100

PARKING REQUIRED:
1.25 SPACES PER 1–BEDROOM UNIT
2 SPACES PER 2–BEDROOM UNIT

1 BEDROOM UNITS –	44
PARKING REQ.	55 SPACES
2 BEDROOM UNITS –	98
PARKING REQ.	196 SPACES
TOTAL REQUIRED	251 SPACES
TOTAL PARKING SHOWN	273 SPACES
GARAGE PARKING	40 SPACES
CARPORT PARKING	154 SPACES
UNCOVERED PARKING	79 SPACES
ADA PARKING ONSITE	6 SPACES

ADA SPACES ARE EXCESS OF 251 REQ.

LEASING OFFICE	6 REG.
	2 ADA

LEASING SPACES ARE EXCESS OF 251 REQ.

PARKING STALL DIMENSIONS 9'x20'

NOTES

1. All units will be sprinklered in accordance with NFPA 13D.
2. Fire hydrants to be spaced at a maximum of 600 feet.
3. Standard Private Rear Yard is 8 feet and will be fenced and turfed.

SETBACKS FOR MF–1 ZONING

FRONT	30 FT
REAR	45 FT + 1 FT FOR EVERY FOOT OVER 35 FT IN BUILDING HEIGHT
INTERIOR SIDE	45 FT + 1 FT FOR EVERY FOOT OVER 35 FT IN BUILDING HEIGHT
SIDE ON STREET	30 FT
BETWEEN BUILDINGS	15 FT

LEGEND

GARAGE PARKING (40 TOTAL) – 28% OF UNITS CAN RENT GARAGES

4 BAYS

CARPORT PARKING (154 TOTAL)– 100% OF UNITS GET 1 COVERED SPACE

4 STALL

6 STALL

DUMPSTERS

09.28.2020
CITY OF GRAND PRAIRIE CASE NUMBER CP200801

JBI PARTNERS
2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

CONCEPT PLAN

COTTAGES AT DECHMAN
City of Grand Prairie, Texas

PROJECT NO. TMR003

SHEET NO. CP–1

Drawing: H:\Projects\TMR003-Dechman site-Grand Prairie\Phase 1\Engineering\dwg\xtmr003-concept plan-NO VARIANCE.dwg Saved By: astout Save Time: 9/30/2020 5:34 PM
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Traffic Impact Analysis

Cottages at Dechman

Grand Prairie, Texas

28 September 2020

TRAFFIC IMPACT GROUP, LLC
1431 Greenway Drive, Suite 800
Irving, TX 75038
972.358.6383

TRAFFIC IMPACT GROUP, LLC

Cottages at Dechman - Grand Prairie

I hereby certify that this report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Texas.

STATE OF TEXAS
SCOTT P. ISRAELSON
116712
LICENSED
PROFESSIONAL ENGINEER

9/28/2020

Scott P. Israelson, P.E., PTOE
License No. 116712

Executive Summary

Project Description

The Cottages at Dechman is a proposed development in Grand Prairie, Texas. The project will consist of 150 one- and two-bedroom rental *casitas*. The site is located in the northwest quadrant of IH-20 & Dechman Drive.

Access to the property will be via a full-access driveway to Dechman Drive. The City of Grand Prairie's *2015 Transportation Thoroughfare Plan* shows a collector roadway between Dechman Drive and the IH-20 westbound frontage road that would run through this property, but the site plan does not include this collector.

The City of Grand Prairie requires this analysis for the Thoroughfare Plan amendment that would eliminate the collector roadway, and to examine the effects of development on Dechman Drive.

Trip Generation

The proposed new development is expected to generate 1,510 daily trips, with 28 entering trips and 83 exiting trips in the AM peak hour, and 95 entering and 55 exiting trips in the PM peak hour.

Turn Lanes

Analysis shows that left-turn volumes are projected to meet thresholds for a turn lane. It is **recommended** to construct a northbound left-turn lane.

Traffic Impacts

Analysis shows that the intersections in the study area are projected to continue to operate acceptably without the proposed connector between Dechman Drive and the IH-20 westbound frontage road. It is **recommended** to seek a Thoroughfare Plan amendment that allows the development to proceed without constructing the connector between Dechman Drive and the IH-20 westbound frontage road.

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I. Introduction

The Cottages at Dechman is a proposed residential development in Grand Prairie, Texas. The site is located in the northwest quadrant of IH-20 & Dechman Drive.

The project will consist of 150 one- and two-bedroom rental *casitas*. Access to the property will be via a full-access driveway to Dechman Drive. The City of Grand Prairie's *2015 Transportation Thoroughfare Plan* shows a collector roadway between Dechman Drive and the IH-20 westbound frontage road that would run through this property, although this is not shown on the site plan.

The City of Grand Prairie requires this analysis for the Thoroughfare Plan amendment, and to examine the effects of development on Dechman Drive.

The study area included the following intersections:

- Dechman Drive & Project Access
- Dechman Drive & IH-20 westbound frontage road
- Dechman Drive & IH-20 eastbound frontage road

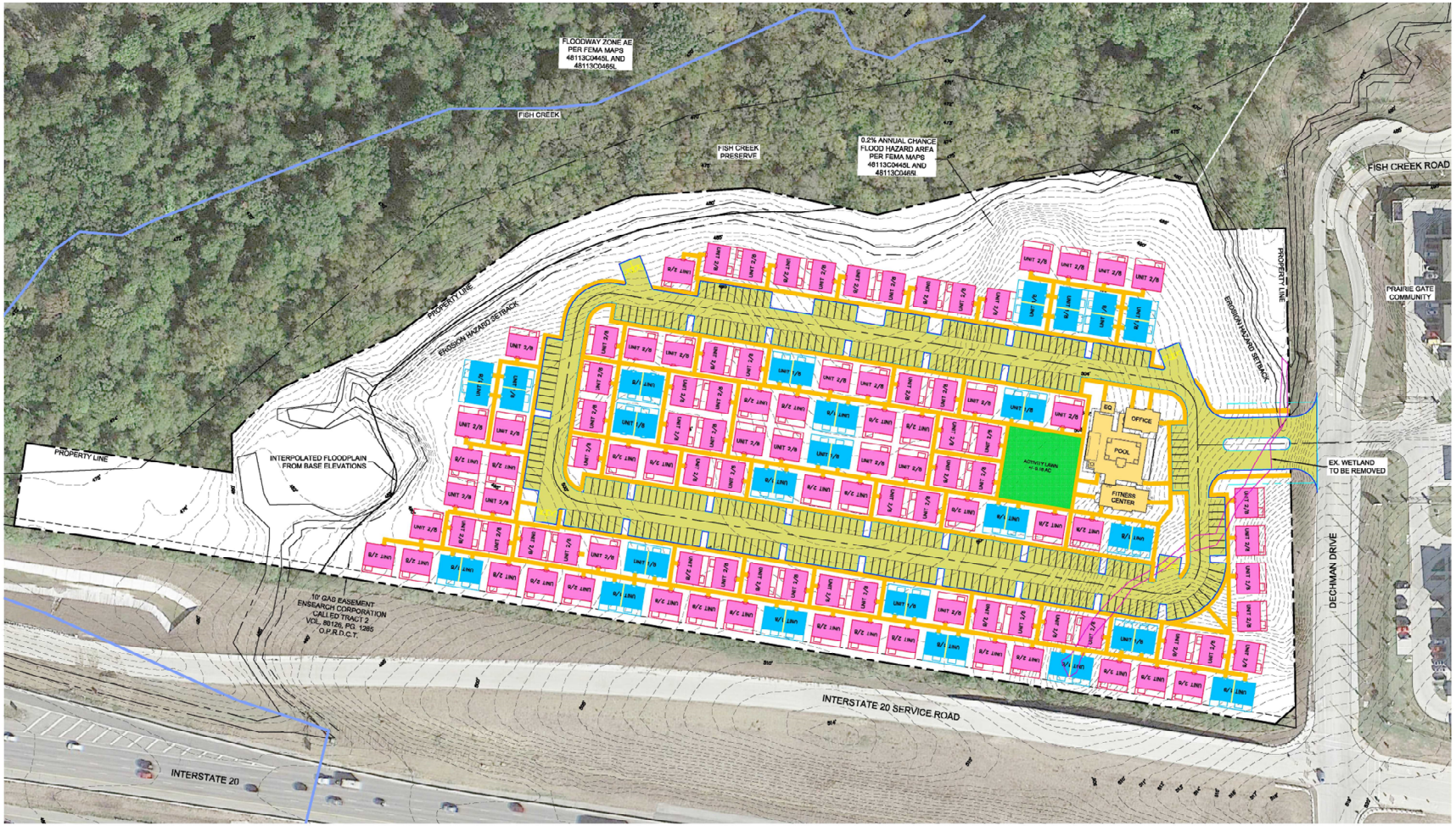
The study analyzed the following scenarios:

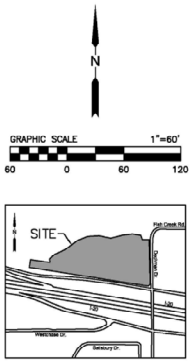
- 2020 Existing Conditions
- Full Build 2021 Conditions

The AM peak hour and PM peak hour were analyzed.

Figure 1 shows the most recent site plan. **Figure 2** shows the project vicinity map.

Dechman Drive & Project Access - looking south





PROJECT DESCRIPTION
CASITA 2-BEDROOM AND DUPLEX 1-BEDROOM
SINGLE STORY RENTAL PROPERTY

PROJECT DATA

TOTAL AREA:	15.91 ACRES
IMPERVIOUS AREA:	7.66 ACRES (48%)
CURRENT ZONING:	PD-20
PROPOSED ZONING:	PD-20
PROPOSED USE:	RESIDENTIAL RENTAL
MIN. UNIT SEPARATION:	10'

UNIT TYPE	YIELD	MIX %
1-BEDROOM (BLUE)	48	32
2-BEDROOM (PINK)	102	68
TOTAL UNITS	150	100

PARKING REQUIRED
1.25 SPACES PER 1-BEDROOM UNIT
2 SPACES PER 2-BEDROOM UNIT

1 BEDROOM UNITS –	48
PARKING REQ.	60 SPACES
2 BEDROOM UNITS –	102
PARKING REQ.	204 SPACES
TOTAL REQUIRED	264 SPACES
TOTAL PARKING SHOWN	303 SPACES

ADA PARKING ONSITE 6 SPACES
ADA SPACES ARE EXCESS OF 264 REQ.

LEASING OFFICE 6 REG.
2 ADA
LEASING SPACES ARE EXCESS OF 264 REQ.

PARKING STALL DIMENSIONS 9'x20'

07.14.2020

JBI PARTNERS
2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

CONCEPT PLAN

COTTAGES AT DECHMAN
City of Grand Prairie, Texas

PROJECT NO. TMR003
SHEET NO. CP-1

Plotted by: astout Plot Date: 7/14/2020 3:50 PM
Drawing: H:\Projects\TMR003 Dechman site\Grand Prairie\Phase 1\Engineering\dwg\xrefs\003-concept plan.dwg Saved By: astout Save Time: 7/14/2020 3:36 PM

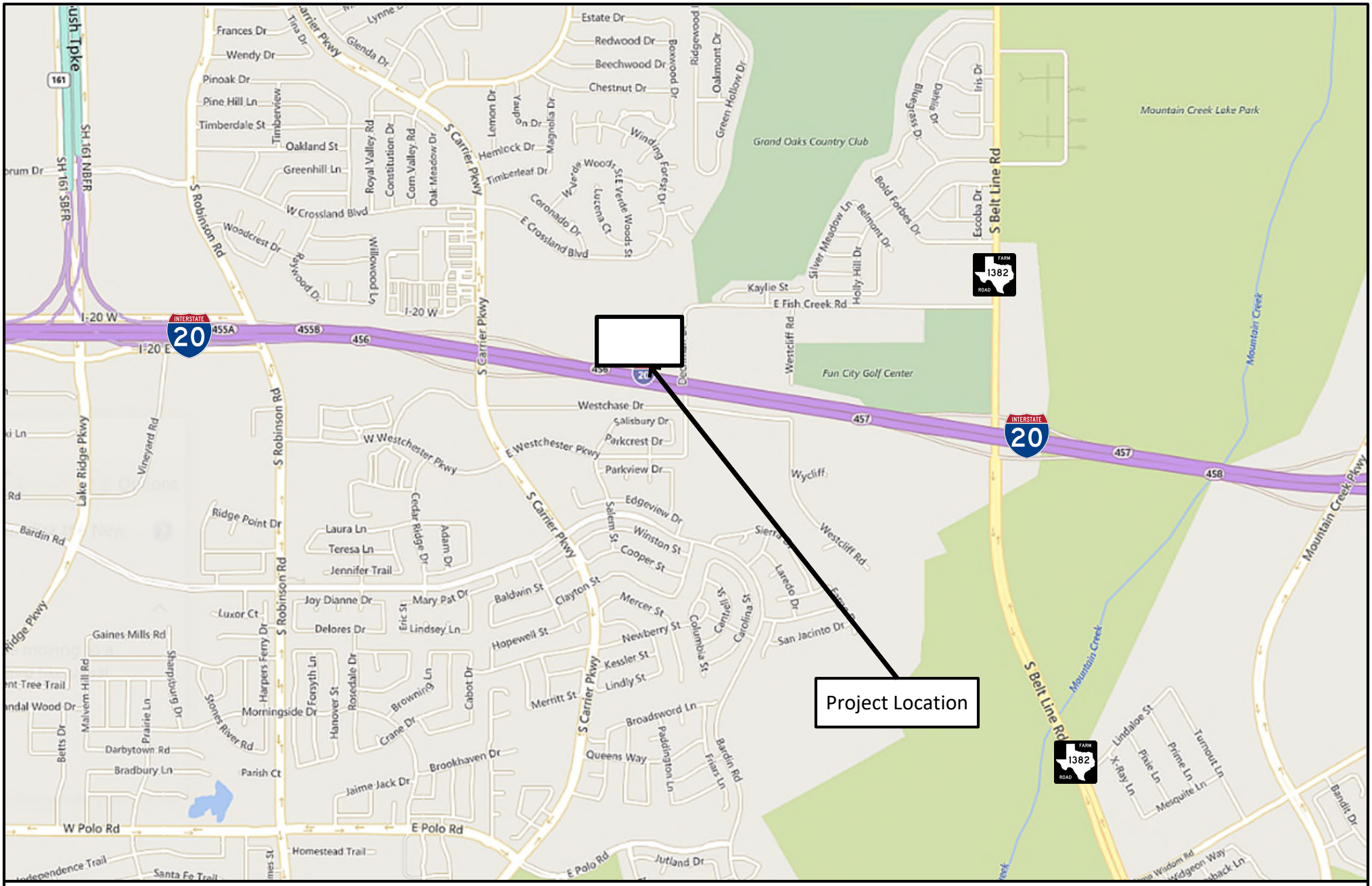
Site Plan

Figure 1

Date: 14 September 2020

TRAFFIC IMPACT GROUP, LLC

Cottages at Dechman – Grand Prairie



Vicinity Map

Figure 2

Cottages at Dechman – Grand Prairie

Date: 14 September 2020

TRAFFIC IMPACT GROUP, LLC

II. Existing Conditions

A. Existing Roadway Conditions

Dechman Drive is a two-lane roadway with a posted speed limit of 35 mph.

The IH-20 frontage roads are two-lane one-way roadways with a posted speed limit of 45 mph.

The City's *2015 Transportation Thoroughfare Plan* shows a collector connection between Dechman Drive and the IH-20 westbound frontage road that would run through this property.

B. Existing Intersection Geometry

The proposed property connection to Dechman Drive will be a full-access driveway located at the Prairie Gate Community Apartments driveway. Dechman Drive has a southbound left-turn lane.

Dechman Drive & IH-20 westbound frontage road is controlled with portable temporary signals. The westbound approach consists of a left-turn lane, two through lanes, and a right-turn lane. The northbound approach has a left-turn lane and one through lane. The southbound approach has one through lane and a shared through-right lane.

Dechman Drive & IH-20 eastbound frontage road is also controlled with portable temporary signals. The eastbound approach consists of a left-turn lane, two through lanes, and a right-turn lane. The southbound approach has a left-turn lane and one through lane. The northbound approach has one through lane and a shared through-right lane.

The geometric configuration of all intersections in the study area is shown in **Figure 3**.

C. Traffic Volumes

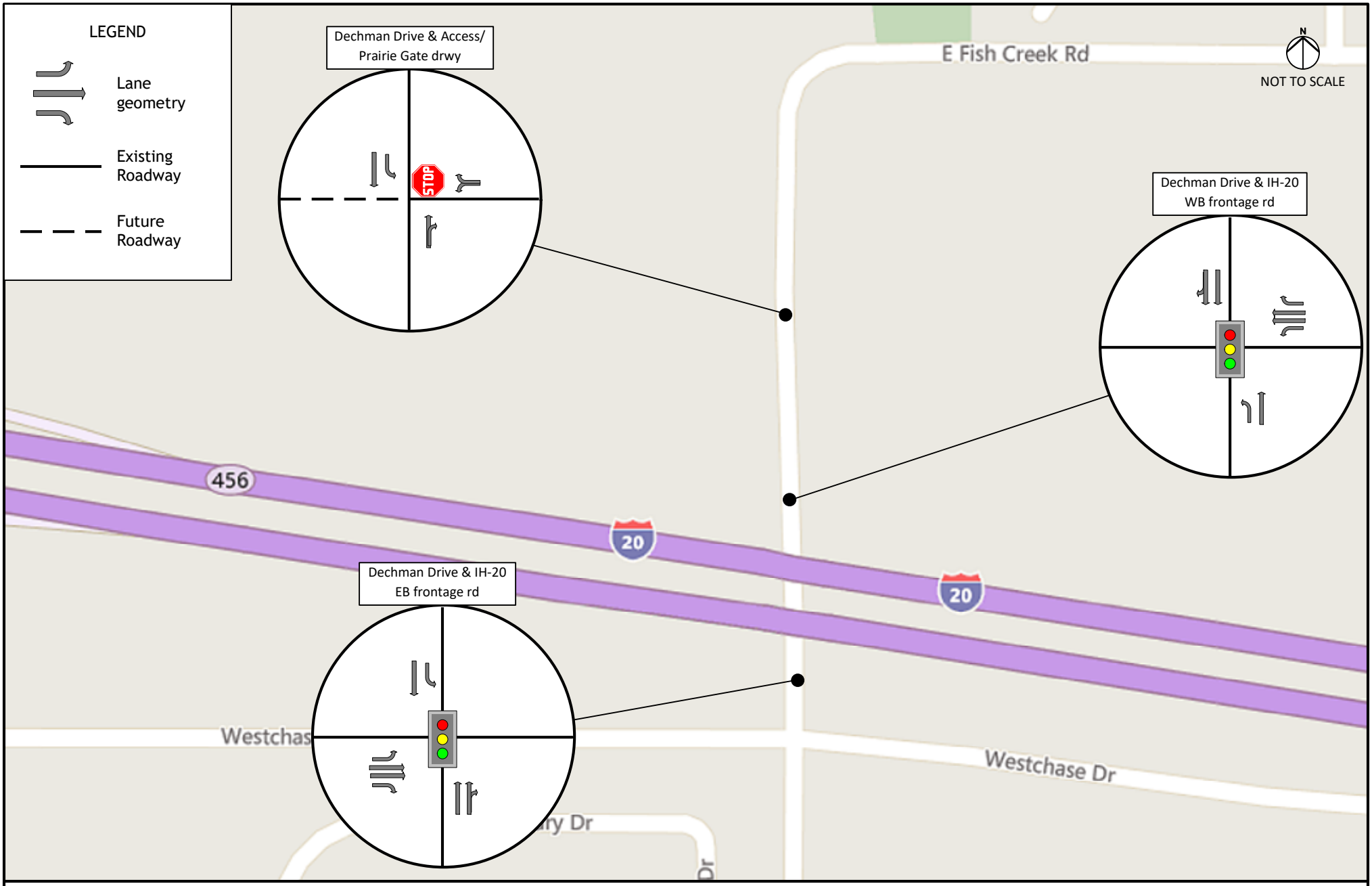
Traffic data collection for study area intersections was performed on August 25, 2020. **Figure 4** displays existing traffic volumes. These volumes can be found in the Appendix.

Current traffic patterns may have been affected by "social distancing". This analysis examines historical traffic counts and compares to current data. Dividing historical data by current data determines the appropriate factor to apply in order to estimate "existing" traffic volumes.

According to the TxDOT planning office website, the daily traffic on Dechman Drive north of IH-20 in 2019 was 3,549 vehicles per day.

In August 2020, the daily traffic count on Dechman Drive at the same spot is 3,821 vpd.

Since 2020 traffic volumes are higher than historical counts, the analysis uses current data.



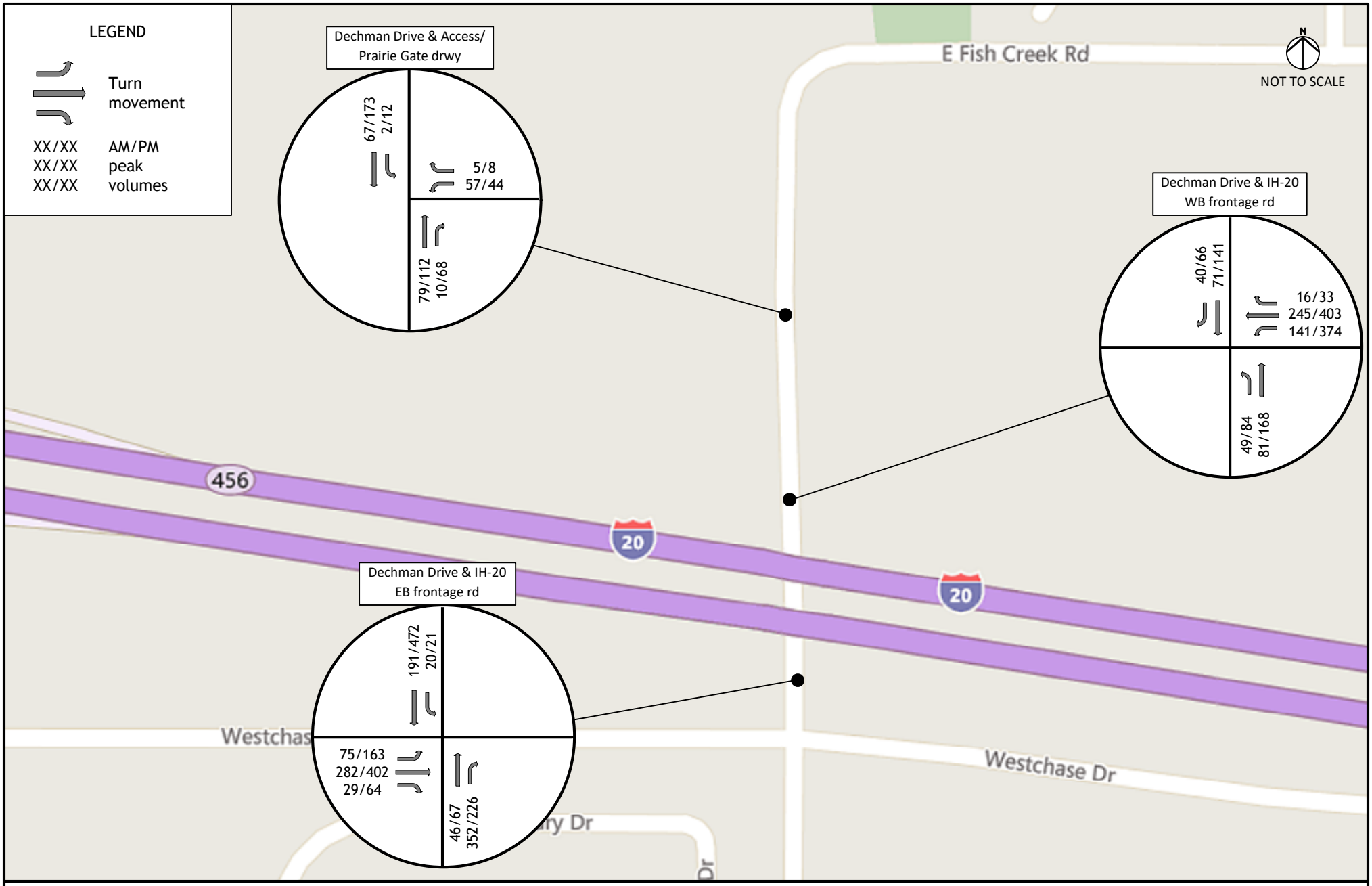
Study Area Roadways and Intersections

Figure 3

Cottages at Dechman – Grand Prairie

Date: 14 September 2020

TRAFFIC IMPACT GROUP, LLC



Existing Traffic Volumes

Figure 4

Cottages at Dechman – Grand Prairie

Date: 14 September 2020

TRAFFIC IMPACT GROUP, LLC

III. Methodology

A. Base Assumptions

Intersection capacity analysis was conducted using Synchro v10.0. Trip generation was calculated using the 10th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Right-turn and left-turn lanes were examined using the National Cooperative Highway Research Program (NCHRP) Report No. 279 *Intersection Channelization Design Guide*.

B. Background Growth

The City of Grand Prairie required a 3% per year background growth for this analysis.

C. Trip Generation

The development is proposed to consist of 150 single family homes. The *ITE Trip Generation Manual, 10th Edition* was used to estimate the projected trips by this development. Table 3.2 contains the summary of the land uses and sizes used for trip generation estimates.

Table 3.2 - ITE Trip Generation

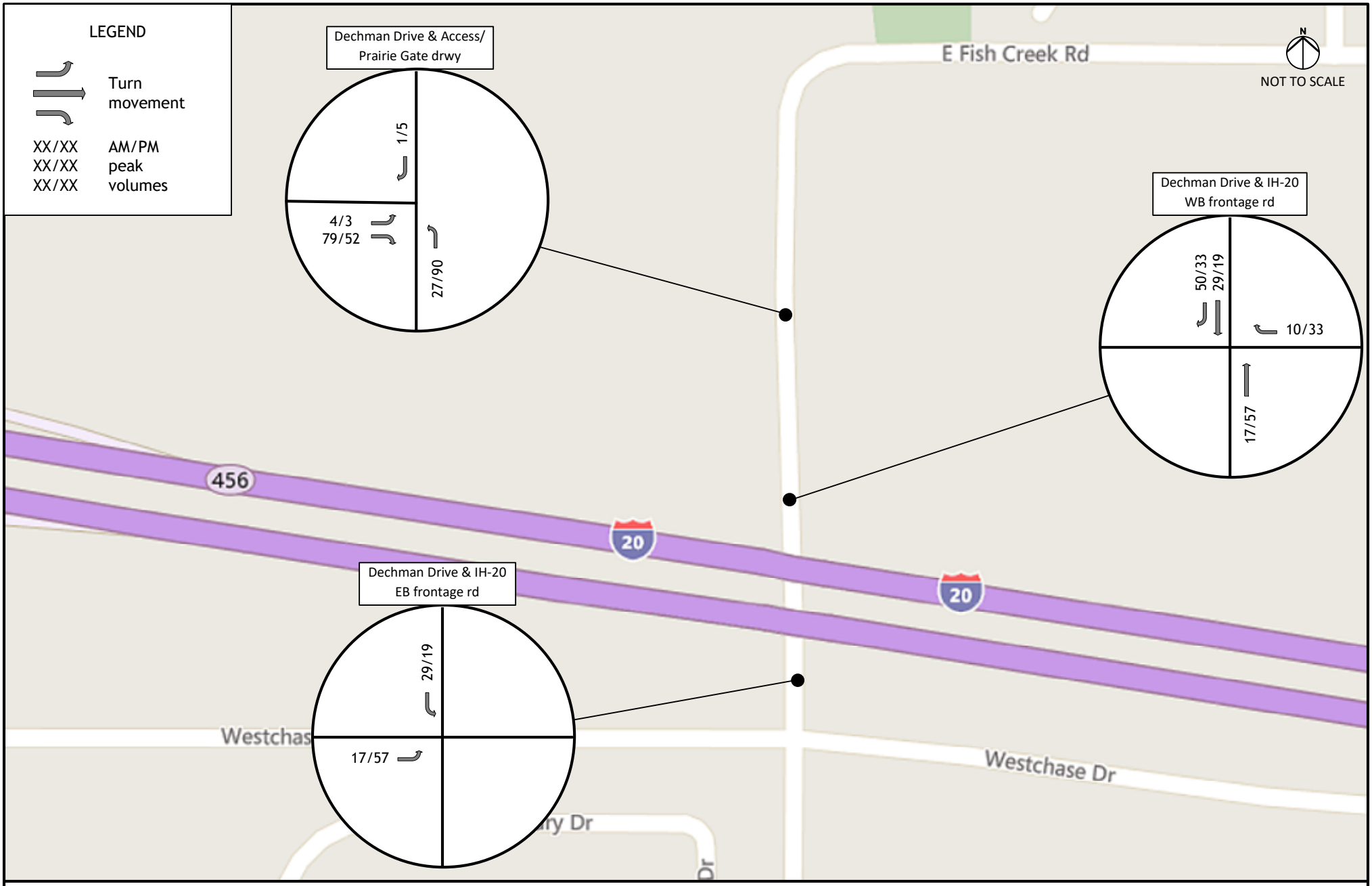
Average Weekday Driveway Volumes					AM Peak Hour		PM Peak Hour	
Land Use	ITE Code	Size		Daily Trips	Enter	Exit	Enter	Exit
Single-Family Detached Housing	210	150	Dwelling Units	1510	28	83	95	55

D. Trip Distribution

Trips for this proposed development were assigned to the surrounding roadway network based on existing traffic patterns. The proposed trip distribution for this project is:

- 5% to/from the north on Dechman Drive,
- 60% to/from the west on IH-20
- 35% to/from the east on IH-20

The projected site trips are shown in **Figure 5 and** Full Build 2021 volumes are shown in **Figure 6**.



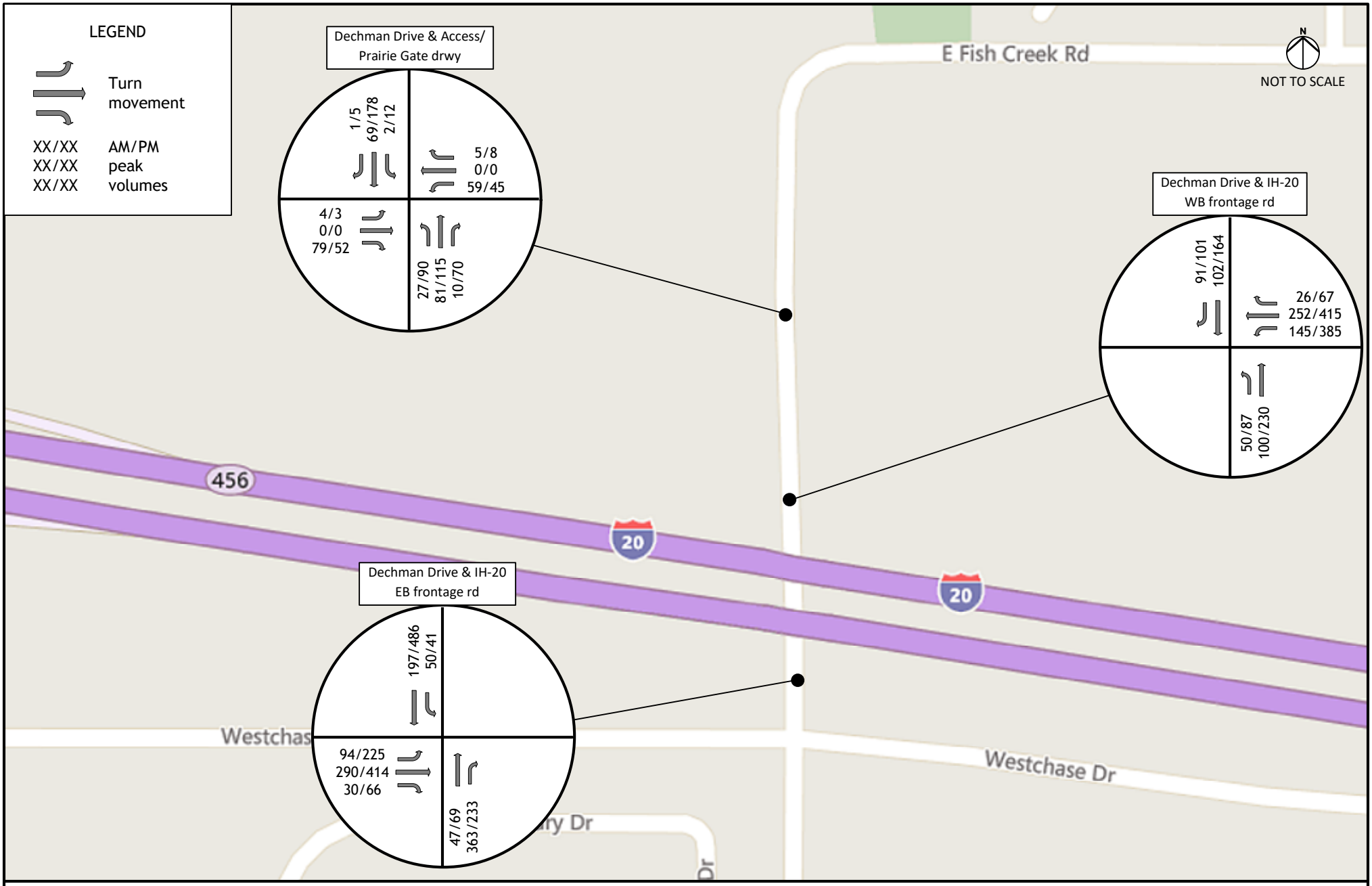
Site Trips

Figure 5

Cottages at Dechman – Grand Prairie

Date: 14 September 2020

TRAFFIC IMPACT GROUP, LLC



Full Build 2021 Volumes

Figure 6

Cottages at Dechman – Grand Prairie

Date: 28 September 2020

TRAFFIC IMPACT GROUP, LLC

IV. Turn Lane/Access Management

A. Right-Turn Lanes

The National Cooperative Highway Research Program (NCHRP) Report 279 *Intersection Channelization Design Guide* was used to determine right-turn lane and left-turn lane thresholds for this study.

For public officials that do not have formal thresholds for determining when new access requires turn lane treatments, the NCHRP Report 279 is a tool in assessing the impacts from development. Specifically, this report allows the traffic engineering professional to input roadway type, posted speed, advancing volume (and opposing volume for left turns), and number of turning vehicles. The result is a plot on a graph defined by the above inputs recommending turn lanes or not.

Table 4.1 shows the volumes used for analysis.

Table 4.1 - Right-Turn Lane Analysis

Driveway	AM/ PM	Approach	Posted Speed	Advancing Vol	RT Vol	Turn Lane needed?
Dechman Dr & Project Access	AM	SB	35	68	1	No
	PM			175	5	No

Based on Full Build 2021 volumes, no turn lanes from Dechman Drive are required for the project driveway. These calculations can be found in the Appendix.

B. Left-Turn Lanes

Table 4.2 shows the volumes used in the analysis.

Table 4.2 - Left-Turn Lane Analysis

Driveway	AM/ PM	Approach	Posted Speed	Advancing Vol	Opposing Vol	LT Vol	Turn Lane needed?
Dechman Dr & Project Access	AM	NB	35	80	68	27	Yes
	PM			113	175	90	Yes

Based on Full Build 2021 volumes, a left-turn lane would be needed at the project driveway. These calculations can be found in the Appendix.

V. Capacity Analysis

The Transportation Research Board's Highway Capacity Manual (HCM) utilizes a term "level of service" (LOS) to measure how traffic operates in intersections. There are currently six levels of service ranging from A to F. Level of Service "A" represents the best conditions and Level of Service "F" represents the worst. Synchro software was used to determine the level of service for intersections in the study area. All worksheet reports from the analyses can be found in the Appendix.

Table 5.1 shows the control delay per vehicle associated with LOS A through F for signalized and unsignalized intersections.

Table 5.1 - Highway Capacity Manual Levels of Service and Control Delay			
Signalized Intersection		Unsignalized Intersection	
Level of Service	**Control Delay per Vehicle (sec)**	**Level of Service**	**Control Delay per Vehicle (sec)**
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

A. Dechman Drive & Access

The proposed property connection to Dechman Drive will be a full-access driveway located at the Prairie Gate Community Apartments driveway. Dechman Drive has a southbound left-turn lane.

Table 5.2 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

Table 5.2 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & access	WB	LT	B	10.0	8'	B	11.6	10'
		RT						
	NB	TH	Free					
		RT						
	SB	LT	A	7.4	-	A	7.4	-
		TH	Free					

Table 5.3 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2021 conditions.

Table 5.3 - Intersection LOS, Delay, and Queue by Movement - 2021 Full Build

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & access	EB	LT	A	9.2	10'	B	10.2	8'
		TH						
		RT						
	WB	LT	B	12.2	13"	C	18.6	18'
		TH						
		RT						
	NB	LT	A	7.4	-	A	7.9	8'
		TH	Free					
		RT						
	SB	LT	A	7.4	-	A	7.7	-
		TH	Free					
		RT						

The City requested level-of-service analysis for Dechman Drive without the northbound left-turn lane. Table 5.3B shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2021 conditions without the left-turn lane.

Table 5.3B - Intersection LOS, Delay, and Queue by Movement - 2021 Full Build

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & access	EB	LT	A	9.2	10'	B	10.2	8'
		TH						
		RT						
	WB	LT	B	12.2	13"	C	18.8	20'
		TH						
		RT						
	NB	LT	Free					
		TH						
		RT						
	SB	LT	A	7.4	-	A	7.7	-
		TH	Free					
		RT						

Analysis shows that the westbound driveway would see slightly worse conditions without a northbound left-turn lane. This shows that the turn lane has a negligible effect on traffic operations and would mostly be a safety improvement.

B. Dechman Drive & IH-20 WB frontage road

Dechman Drive & IH-20 westbound frontage road is controlled with portable temporary signals. The westbound approach consists of a left-turn lane, two through lanes, and a right-turn lane. The northbound approach has a left-turn lane and one through lane. The southbound approach has one through lane and a shared through-right lane.

Table 5.4 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

Table 5.4 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & IH-20 WB frontage rd	WB	LT	A	7.0	41'	B	10.2	134'
		TH	A	6.6	31'	A	7.5	60'
		RT	A	0.6	-	A	1.8	-
	NB	LT	B	14.5	30'	B	18.0	55'
		TH	B	14.1	42'	B	17.3	93'
	SB	TH	A	9.5	21'	B	10.4	42'
		RT						
	OVERALL		A (8.6)			B (10.6)		

Table 5.5 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2021 conditions.

Table 5.5 - Intersection LOS, Delay, and Queue by Movement - 2021 Full Build

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & IH-20 WB frontage rd	WB	LT	A	7.1	42'	B	11.0	154'
		TH	A	6.6	32'	A	8.1	69'
		RT	A	1.3	-	A	2.7	16’
	NB	LT	B	15.0	31'	B	18.5	60'
		TH	B	14.6	50'	B	19.2	129'
	SB	TH	A	8.3	30'	A	9.7	50'
		RT						
	OVERALL		A (8.5)			B (11.2)		

C. Dechman Drive & IH-20 EB frontage road

Dechman Drive & IH-20 eastbound frontage road is also controlled with portable temporary signals. The eastbound approach consists of a left-turn lane, two through lanes, and a right-turn lane. The southbound approach has a left-turn lane and one through lane. The northbound approach has one through lane and a shared through-right lane.

Table 5.6 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

Table 5.6 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & IH-20 EB frontage rd	EB	LT	A	7.4	37'	B	14.2	90'
		TH	A	7.4	45'	B	13.4	96'
		RT	A	1.9	7'	A	4.7	22'
	NB	TH	A	4.0	28'	A	5.4	33'
		RT						
	SB	LT	B	13.2	31'	A	9.7	15'
		TH	B	16.8	86'	C	20.9	215'
	OVERALL		A (7.8)			B (13.9)		

Table 5.7 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2021 conditions.

Table 5.7 - Intersection LOS, Delay, and Queue by Movement - 2021 Full Build

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Dechman Dr & IH-20 EB frontage rd	EB	LT	A	7.8	37'	B	15.5	123'
		TH	A	7.7	46'	B	13.7	99'
		RT	A	2.1	7'	A	4.7	22'
	NB	TH	A	4.4	31'	A	5.7	36'
		RT						
	SB	LT	B	15.3	31'	B	10.3	24'
		TH	B	16.7	87'	C	21.1	223'
	OVERALL		A (8.3)			B (14.3)		

Analysis shows that the intersections in the study area are projected to continue to operate acceptably without the proposed connector between Dechman Drive and the IH-20 westbound frontage road. It is **recommended** to seek a Thoroughfare Plan amendment.

VI. Summary and Conclusion

This study serves as an analysis of the traffic impacts from the Cottages at Dechman development in Grand Prairie, Texas.

This analysis was necessary due to the elimination of a connector roadway between Dechman Drive and the IH-20 westbound frontage road which would run through the property. Eliminating this roadway requires a Thoroughfare Plan amendment.

Trip Generation

The proposed new development is expected to generate 1,510 daily trips, with 28 entering trips and 83 exiting trips in the AM peak hour, and 95 entering and 55 exiting trips in the PM peak hour.

Turn Lanes

Analysis shows that left-turn volumes are projected to meet thresholds for a turn lane. It is **recommended** to construct a northbound left-turn lane.

Traffic Impacts

Analysis shows that the intersections in the study area are projected to continue to operate acceptably without the proposed connector between Dechman Drive and the IH-20 westbound frontage road. It is **recommended** to seek a Thoroughfare Plan amendment that allows the development to proceed without constructing the connector between Dechman Drive and the IH-20 westbound frontage road.

Dechman Drive & Access - looking north

Appendix

Background Information

Traffic Volumes

Trip Generation

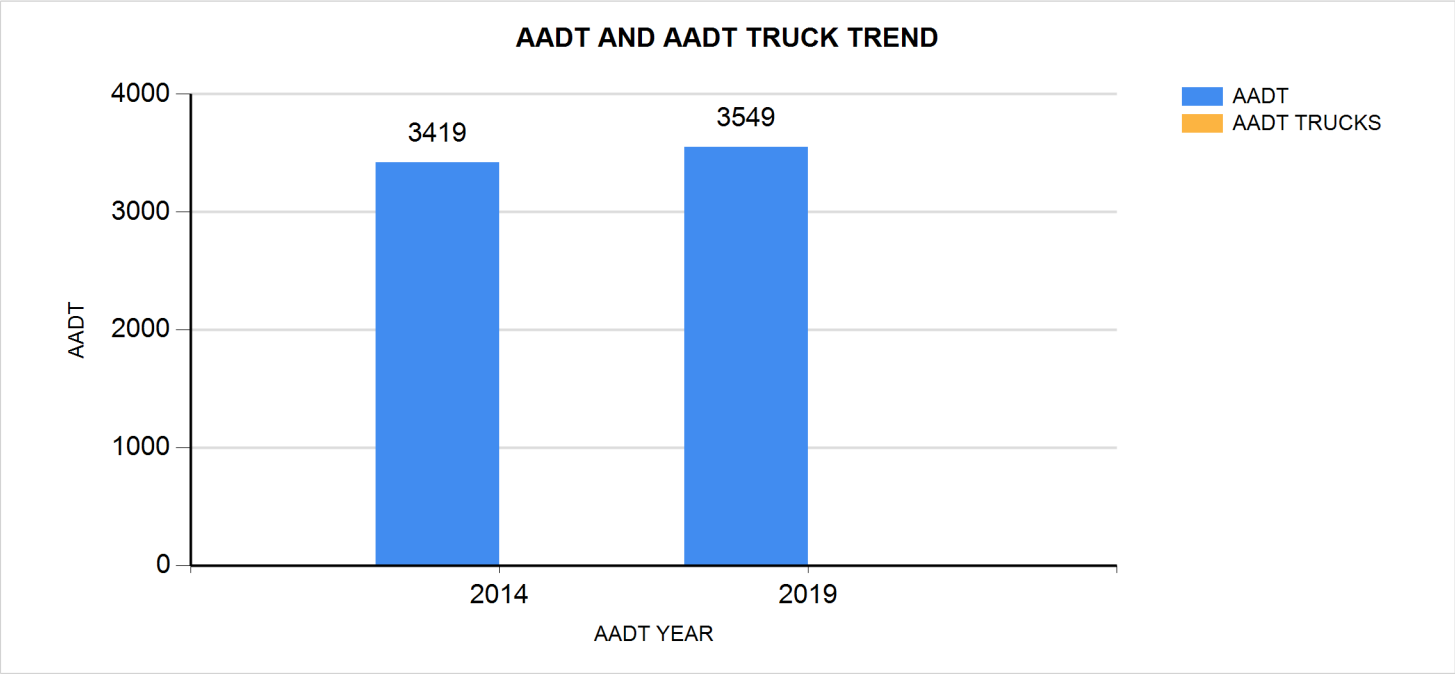
Capacity Analysis

Turn Lanes

Background Information

AADT and AADT Trucks by Year for 1/1/2010 - 12/31/2019

District	Dallas	**Location ID**	57HP6671		
County	Dallas	**Located On**	Dechman Dr	**At**	
Community	Grand Prairie	**LRS ID**		**LRS Point**	



This information has been prepared for internal use within the
Texas Department of Transportation.
Accuracy is limited to the validity of available data as of date shown.

Traffic Volumes

	A	B	C	D	E
1	DECHMAN DR NORTH OF IH-20				
2					
3	Start Date: 8/25/2020				
4	Start Time: 12:00:00 AM				
5	Site Code: 960				
6					
7	Date	Time	NB	SB	TOTAL
8	8/25/2020	12:00 AM	5	4	9
9	8/25/2020	12:15 AM	5	3	8
10	8/25/2020	12:30 AM	3	0	3
11	8/25/2020	12:45 AM	1	2	3
12	8/25/2020	01:00 AM	4	0	4
13	8/25/2020	01:15 AM	3	0	3
14	8/25/2020	01:30 AM	0	1	1
15	8/25/2020	01:45 AM	2	0	2
16	8/25/2020	02:00 AM	2	1	3
17	8/25/2020	02:15 AM	2	3	5
18	8/25/2020	02:30 AM	1	3	4
19	8/25/2020	02:45 AM	1	4	5
20	8/25/2020	03:00 AM	1	2	3
21	8/25/2020	03:15 AM	1	1	2
22	8/25/2020	03:30 AM	2	0	2
23	8/25/2020	03:45 AM	0	1	1
24	8/25/2020	04:00 AM	1	4	5
25	8/25/2020	04:15 AM	1	3	4
26	8/25/2020	04:30 AM	3	4	7
27	8/25/2020	04:45 AM	0	5	5
28	8/25/2020	05:00 AM	0	3	3
29	8/25/2020	05:15 AM	1	6	7
30	8/25/2020	05:30 AM	2	10	12
31	8/25/2020	05:45 AM	6	6	12
32	8/25/2020	06:00 AM	4	9	13
33	8/25/2020	06:15 AM	5	15	20
34	8/25/2020	06:30 AM	7	15	22
35	8/25/2020	06:45 AM	9	20	29
36	8/25/2020	07:00 AM	14	34	48
37	8/25/2020	07:15 AM	33	37	70
38	8/25/2020	07:30 AM	27	34	61
39	8/25/2020	07:45 AM	18	24	42
40	8/25/2020	08:00 AM	15	18	33
41	8/25/2020	08:15 AM	23	16	39
42	8/25/2020	08:30 AM	20	24	44
43	8/25/2020	08:45 AM	22	24	46
44	8/25/2020	09:00 AM	10	22	32
45	8/25/2020	09:15 AM	18	20	38
46	8/25/2020	09:30 AM	23	20	43
47	8/25/2020	09:45 AM	20	24	44
48	8/25/2020	10:00 AM	23	24	47
49	8/25/2020	10:15 AM	16	21	37
50	8/25/2020	10:30 AM	21	28	49
51	8/25/2020	10:45 AM	21	26	47
52	8/25/2020	11:00 AM	22	24	46
53	8/25/2020	11:15 AM	24	18	42

	A	B	C	D	E
54	8/25/2020	11:30 AM	28	38	66
55	8/25/2020	11:45 AM	30	32	62
56	8/25/2020	12:00 PM	24	24	48
57	8/25/2020	12:15 PM	30	28	58
58	8/25/2020	12:30 PM	39	34	73
59	8/25/2020	12:45 PM	38	19	57
60	8/25/2020	01:00 PM	27	30	57
61	8/25/2020	01:15 PM	32	27	59
62	8/25/2020	01:30 PM	30	34	64
63	8/25/2020	01:45 PM	26	20	46
64	8/25/2020	02:00 PM	29	25	54
65	8/25/2020	02:15 PM	22	20	42
66	8/25/2020	02:30 PM	36	25	61
67	8/25/2020	02:45 PM	30	27	57
68	8/25/2020	03:00 PM	36	27	63
69	8/25/2020	03:15 PM	30	36	66
70	8/25/2020	03:30 PM	35	34	69
71	8/25/2020	03:45 PM	33	32	65
72	8/25/2020	04:00 PM	33	44	77
73	8/25/2020	04:15 PM	34	26	60
74	8/25/2020	04:30 PM	43	50	93
75	8/25/2020	04:45 PM	52	58	110
76	8/25/2020	05:00 PM	40	60	100
77	8/25/2020	05:15 PM	50	52	102
78	8/25/2020	05:30 PM	42	40	82
79	8/25/2020	05:45 PM	49	35	84
80	8/25/2020	06:00 PM	42	34	76
81	8/25/2020	06:15 PM	32	38	70
82	8/25/2020	06:30 PM	36	28	64
83	8/25/2020	06:45 PM	39	42	81
84	8/25/2020	07:00 PM	38	34	72
85	8/25/2020	07:15 PM	30	34	64
86	8/25/2020	07:30 PM	38	40	78
87	8/25/2020	07:45 PM	31	26	57
88	8/25/2020	08:00 PM	34	28	62
89	8/25/2020	08:15 PM	38	30	68
90	8/25/2020	08:30 PM	32	18	50
91	8/25/2020	08:45 PM	30	18	48
92	8/25/2020	09:00 PM	30	20	50
93	8/25/2020	09:15 PM	14	7	21
94	8/25/2020	09:30 PM	14	18	32
95	8/25/2020	09:45 PM	12	14	26
96	8/25/2020	10:00 PM	18	12	30
97	8/25/2020	10:15 PM	16	4	20
98	8/25/2020	10:30 PM	8	11	19
99	8/25/2020	10:45 PM	5	3	8
100	8/25/2020	11:00 PM	10	6	16
101	8/25/2020	11:15 PM	10	2	12
102	8/25/2020	11:30 PM	6	4	10
103	8/25/2020	11:45 PM	5	2	7
104			1908	1913	3821

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ APARTMENT DRWY
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (7:00 AM)

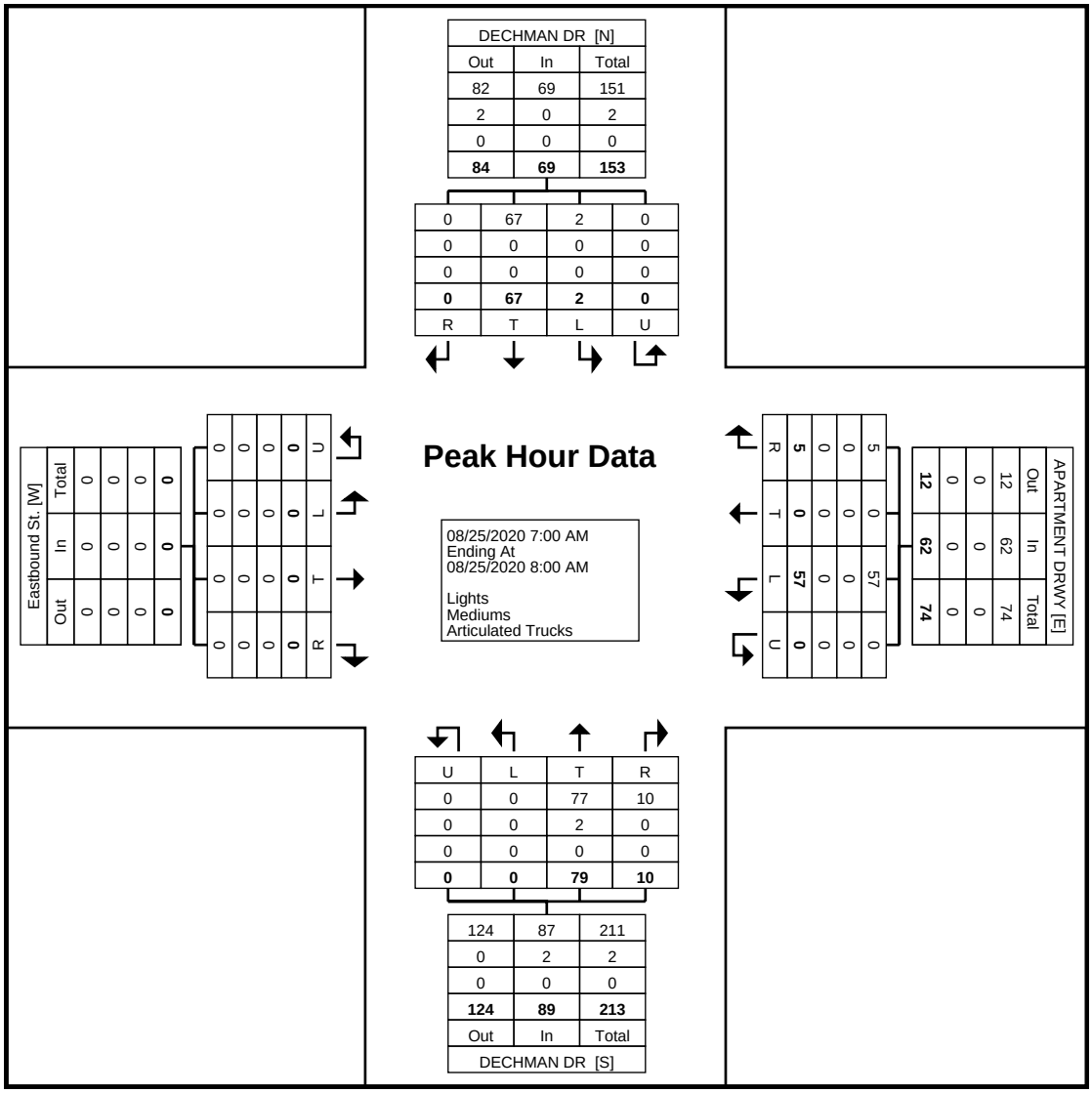
Start Time	DECHMAN DR Southbound					APARTMENT DRWY Westbound					DECHMAN DR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	0	14	0	0	14	19	0	1	0	20	0	14	1	0	15	0	0	0	0	0	49
7:15 AM	0	19	0	0	19	16	0	3	0	19	0	29	3	0	32	0	0	0	0	0	70
7:30 AM	1	18	0	0	19	15	0	0	0	15	0	21	5	0	26	0	0	0	0	0	60
7:45 AM	1	16	0	0	17	7	0	1	0	8	0	15	1	0	16	0	0	0	0	0	41
Total	2	67	0	0	69	57	0	5	0	62	0	79	10	0	89	0	0	0	0	0	220
Approach %	2.9	97.1	0.0	0.0	-	91.9	0.0	8.1	0.0	-	0.0	88.8	11.2	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.9	30.5	0.0	0.0	31.4	25.9	0.0	2.3	0.0	28.2	0.0	35.9	4.5	0.0	40.5	0.0	0.0	0.0	0.0	0.0	-
PHF	0.500	0.882	0.000	0.000	0.908	0.750	0.000	0.417	0.000	0.775	0.000	0.681	0.500	0.000	0.695	0.000	0.000	0.000	0.000	0.000	0.786
Lights	2	67	0	0	69	57	0	5	0	62	0	77	10	0	87	0	0	0	0	0	218
% Lights	100.0	100.0	-	-	100.0	100.0	-	100.0	-	100.0	-	97.5	100.0	-	97.8	-	-	-	-	-	99.1
Mediums	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Mediums	0.0	0.0	-	-	0.0	0.0	-	0.0	-	0.0	-	2.5	0.0	-	2.2	-	-	-	-	-	0.9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	-	-	-	0.0

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ APARTMENT DRWY
Site Code:
Start Date: 08/25/2020
Page No: 4



Turning Movement Peak Hour Data Plot (7:00 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ APARTMENT DRWY
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (4:30 PM)

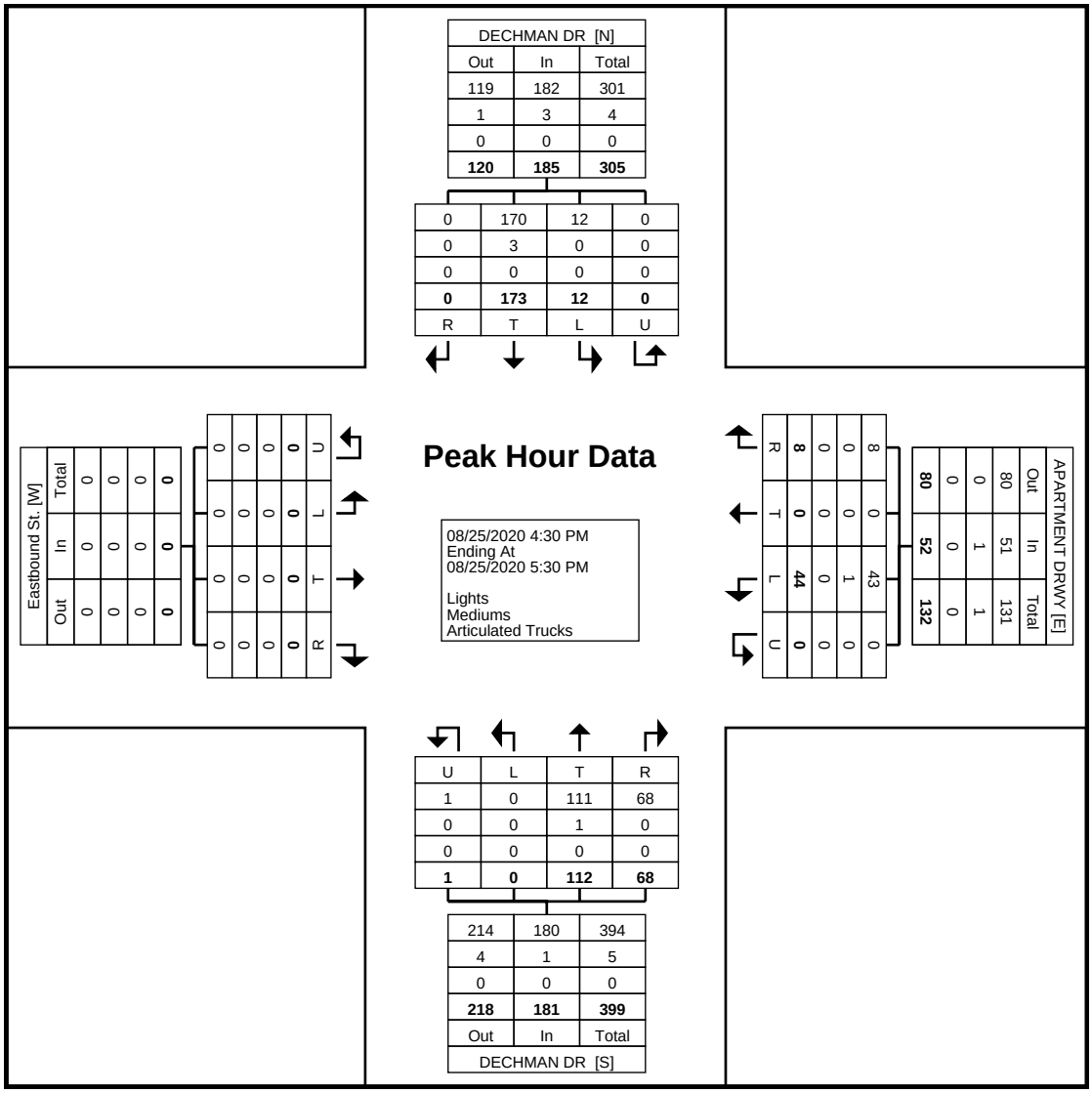
Start Time	DECHMAN DR Southbound					APARTMENT DRWY Westbound					DECHMAN DR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	4	43	0	0	47	8	0	2	0	10	0	25	16	1	42	0	0	0	0	0	99
4:45 PM	1	45	0	0	46	13	0	1	0	14	0	32	17	0	49	0	0	0	0	0	109
5:00 PM	4	47	0	0	51	12	0	2	0	14	0	26	14	0	40	0	0	0	0	0	105
5:15 PM	3	38	0	0	41	11	0	3	0	14	0	29	21	0	50	0	0	0	0	0	105
Total	12	173	0	0	185	44	0	8	0	52	0	112	68	1	181	0	0	0	0	0	418
Approach %	6.5	93.5	0.0	0.0	-	84.6	0.0	15.4	0.0	-	0.0	61.9	37.6	0.6	-	0.0	0.0	0.0	0.0	-	-
Total %	2.9	41.4	0.0	0.0	44.3	10.5	0.0	1.9	0.0	12.4	0.0	26.8	16.3	0.2	43.3	0.0	0.0	0.0	0.0	0.0	-
PHF	0.750	0.920	0.000	0.000	0.907	0.846	0.000	0.667	0.000	0.929	0.000	0.875	0.810	0.250	0.905	0.000	0.000	0.000	0.000	0.000	0.959
Lights	12	170	0	0	182	43	0	8	0	51	0	111	68	1	180	0	0	0	0	0	413
% Lights	100.0	98.3	-	-	98.4	97.7	-	100.0	-	98.1	-	99.1	100.0	100.0	99.4	-	-	-	-	-	98.8
Mediums	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
% Mediums	0.0	1.7	-	-	1.6	2.3	-	0.0	-	1.9	-	0.9	0.0	0.0	0.6	-	-	-	-	-	1.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	-	-	-	-	0.0

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ APARTMENT DRWY
Site Code:
Start Date: 08/25/2020
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 EBFR
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (7:15 AM)

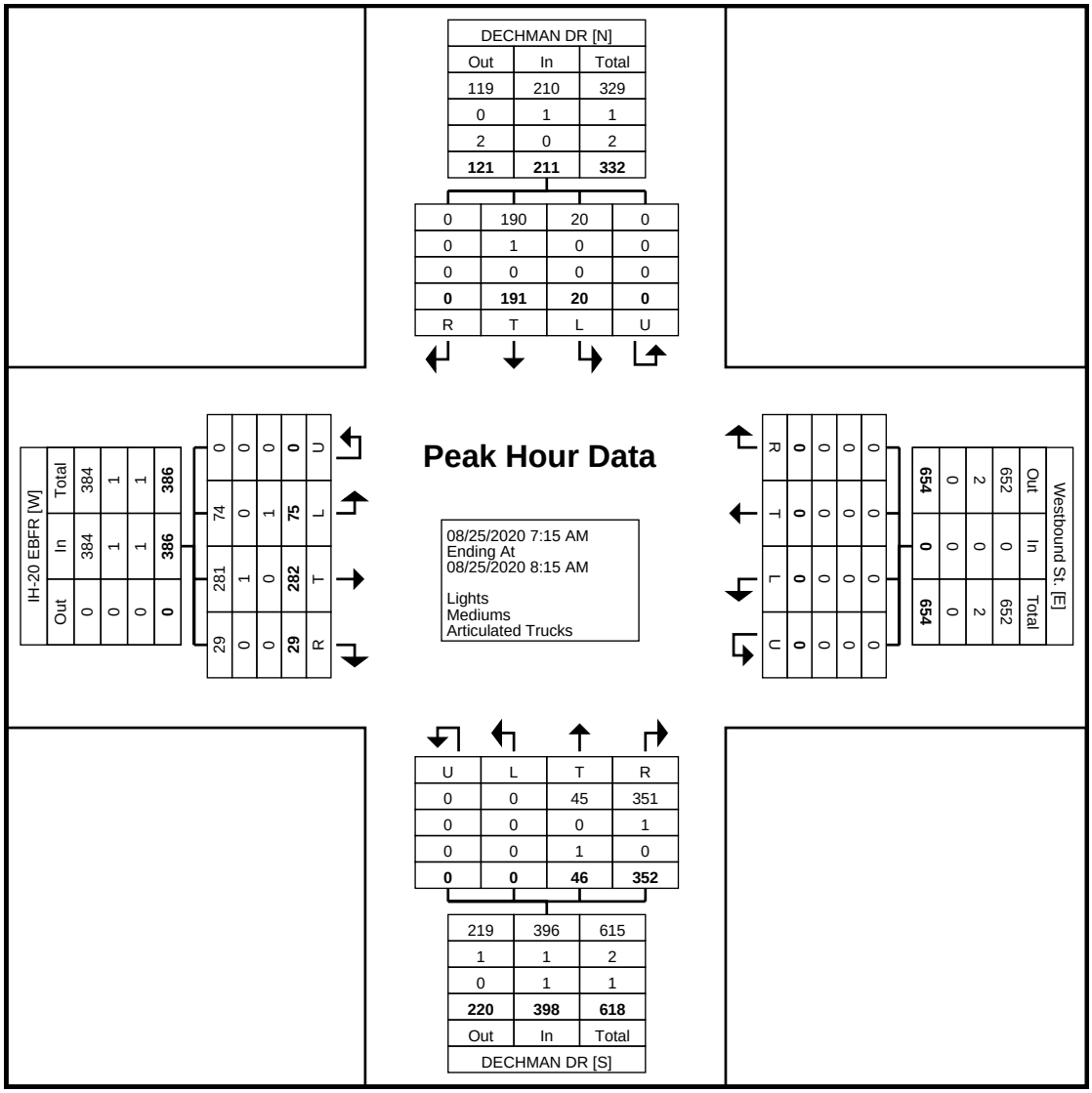
Start Time	DECHMAN DR Southbound					Westbound St. Westbound					DECHMAN DR Northbound					IH-20 EBFR Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:15 AM	7	53	0	0	60	0	0	0	0	0	0	17	101	0	118	16	76	6	0	98	276
7:30 AM	8	45	0	0	53	0	0	0	0	0	0	13	112	0	125	27	77	5	0	109	287
7:45 AM	3	47	0	0	50	0	0	0	0	0	0	11	71	0	82	16	79	8	0	103	235
8:00 AM	2	46	0	0	48	0	0	0	0	0	0	5	68	0	73	16	50	10	0	76	197
Total	20	191	0	0	211	0	0	0	0	0	0	46	352	0	398	75	282	29	0	386	995
Approach %	9.5	90.5	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	11.6	88.4	0.0	-	19.4	73.1	7.5	0.0	-	-
Total %	2.0	19.2	0.0	0.0	21.2	0.0	0.0	0.0	0.0	0.0	0.0	4.6	35.4	0.0	40.0	7.5	28.3	2.9	0.0	38.8	-
PHF	0.625	0.901	0.000	0.000	0.879	0.000	0.000	0.000	0.000	0.000	0.000	0.676	0.786	0.000	0.796	0.694	0.892	0.725	0.000	0.885	0.867
Lights	20	190	0	0	210	0	0	0	0	0	0	45	351	0	396	74	281	29	0	384	990
% Lights	100.0	99.5	-	-	99.5	-	-	-	-	-	-	97.8	99.7	-	99.5	98.7	99.6	100.0	-	99.5	99.5
Mediums	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	3
% Mediums	0.0	0.5	-	-	0.5	-	-	-	-	-	-	0.0	0.3	-	0.3	0.0	0.4	0.0	-	0.3	0.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
% Articulated Trucks	0.0	0.0	-	-	0.0	-	-	-	-	-	-	2.2	0.0	-	0.3	1.3	0.0	0.0	-	0.3	0.2

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 EBFR
Site Code:
Start Date: 08/25/2020
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 EBFR
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (5:00 PM)

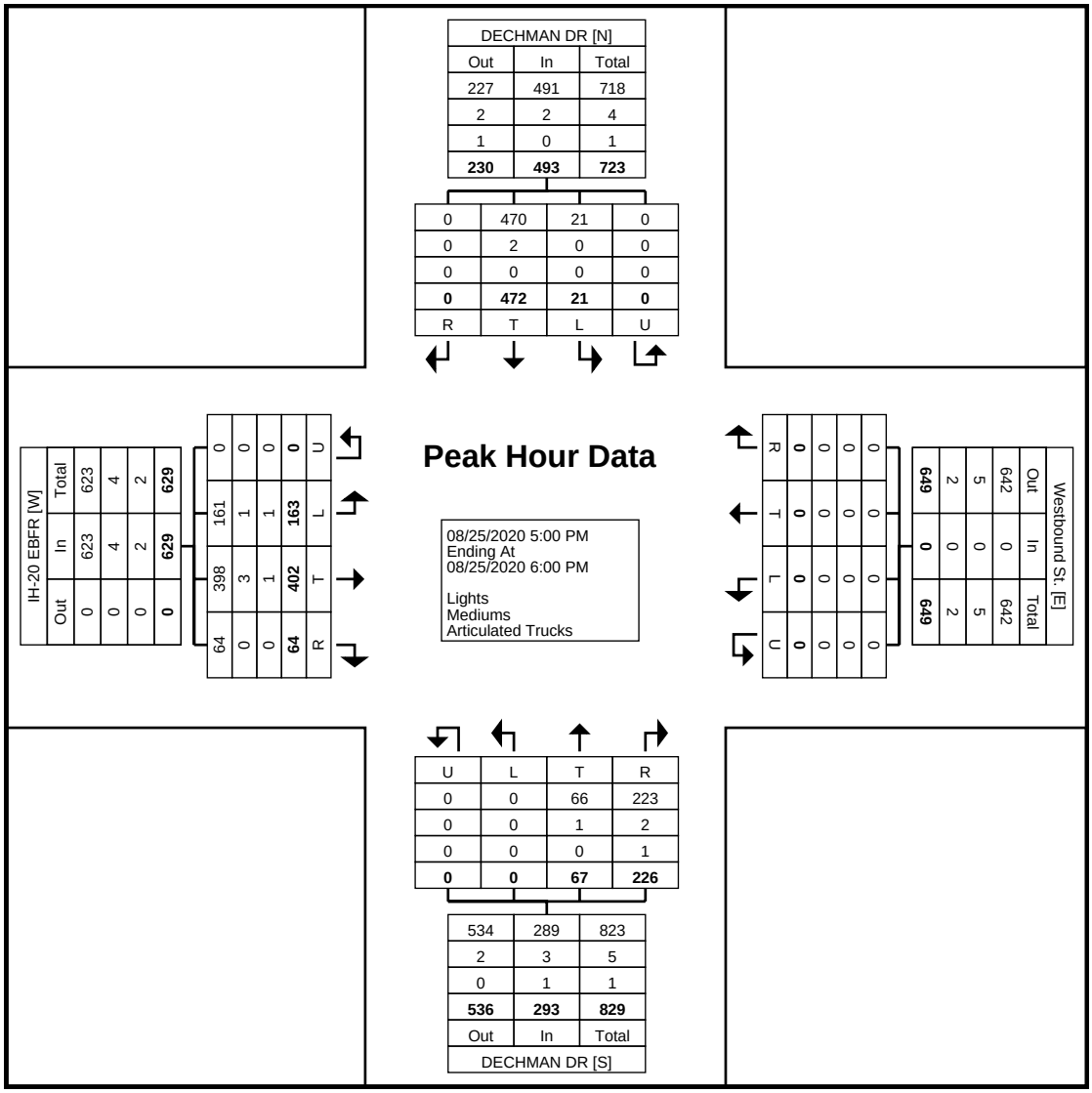
Start Time	DECHMAN DR Southbound					Westbound St. Westbound					DECHMAN DR Northbound					IH-20 EBFR Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
5:00 PM	1	118	0	0	119	0	0	0	0	0	0	14	71	0	85	42	96	15	0	153	357
5:15 PM	7	124	0	0	131	0	0	0	0	0	0	17	40	0	57	48	108	16	0	172	360
5:30 PM	4	120	0	0	124	0	0	0	0	0	0	17	52	0	69	32	102	22	0	156	349
5:45 PM	9	110	0	0	119	0	0	0	0	0	0	19	63	0	82	41	96	11	0	148	349
Total	21	472	0	0	493	0	0	0	0	0	0	67	226	0	293	163	402	64	0	629	1415
Approach %	4.3	95.7	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	22.9	77.1	0.0	-	25.9	63.9	10.2	0.0	-	-
Total %	1.5	33.4	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	4.7	16.0	0.0	20.7	11.5	28.4	4.5	0.0	44.5	-
PHF	0.583	0.952	0.000	0.000	0.941	0.000	0.000	0.000	0.000	0.000	0.000	0.882	0.796	0.000	0.862	0.849	0.931	0.727	0.000	0.914	0.983
Lights	21	470	0	0	491	0	0	0	0	0	0	66	223	0	289	161	398	64	0	623	1403
% Lights	100.0	99.6	-	-	99.6	-	-	-	-	-	-	98.5	98.7	-	98.6	98.8	99.0	100.0	-	99.0	99.2
Mediums	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	1	3	0	0	4	9
% Mediums	0.0	0.4	-	-	0.4	-	-	-	-	-	-	1.5	0.9	-	1.0	0.6	0.7	0.0	-	0.6	0.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	3
% Articulated Trucks	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.4	-	0.3	0.6	0.2	0.0	-	0.3	0.2

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 EBFR
Site Code:
Start Date: 08/25/2020
Page No: 6



Turning Movement Peak Hour Data Plot (5:00 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 WBFR
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (7:15 AM)

Start Time	DECHMAN DR Southbound					IH-20 WBFR Westbound					DECHMAN DR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:15 AM	0	21	15	0	36	41	57	4	0	102	5	28	0	1	34	0	0	0	0	0	172
7:30 AM	0	22	9	0	31	30	59	5	0	94	19	25	0	0	44	0	0	0	0	0	169
7:45 AM	0	17	10	0	27	31	84	5	0	120	13	15	0	0	28	0	0	0	0	0	175
8:00 AM	0	11	6	0	17	39	45	2	0	86	11	13	0	0	24	0	0	0	0	0	127
Total	0	71	40	0	111	141	245	16	0	402	48	81	0	1	130	0	0	0	0	0	643
Approach %	0.0	64.0	36.0	0.0	-	35.1	60.9	4.0	0.0	-	36.9	62.3	0.0	0.8	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	11.0	6.2	0.0	17.3	21.9	38.1	2.5	0.0	62.5	7.5	12.6	0.0	0.2	20.2	0.0	0.0	0.0	0.0	0.0	-
PHF	0.000	0.807	0.667	0.000	0.771	0.860	0.729	0.800	0.000	0.838	0.632	0.723	0.000	0.250	0.739	0.000	0.000	0.000	0.000	0.000	0.919
Lights	0	71	40	0	111	140	233	16	0	389	47	81	0	1	129	0	0	0	0	0	629
% Lights	-	100.0	100.0	-	100.0	99.3	95.1	100.0	-	96.8	97.9	100.0	-	100.0	99.2	-	-	-	-	-	97.8
Mediums	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	0	0	0	0	10
% Mediums	-	0.0	0.0	-	0.0	0.7	3.7	0.0	-	2.5	0.0	0.0	-	0.0	0.0	-	-	-	-	-	1.6
Articulated Trucks	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	0	0	0	0	4
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	1.2	0.0	-	0.7	2.1	0.0	-	0.0	0.8	-	-	-	-	-	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 WBFR
Site Code:
Start Date: 08/25/2020
Page No: 4

DECHMAN DR [N]		
Out	In	Total
97	111	208
0	0	0
0	0	0
97	**111**	**208**

40	71	0	0
0	0	0	0
0	0	0	0
40	**71**	**0**	**0**
R	T	L	U

Peak Hour Data

08/25/2020 7:15 AM
Ending At
08/25/2020 8:15 AM

Lights
Mediums
Articulated Trucks

Eastbound St. [W]		
Out	In	Total
320	0	320
6	0	6
4	0	4
333	**0**	**333**

0	0	0	**0**
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**
R	T	L	U

IH-20 WBFR [E]		
Out	In	Total
0	389	389
0	10	10
0	3	3
0	**402**	**402**

16	0	0	**16**
233	9	3	**245**
140	1	0	**141**
0	0	0	**0**
U	L	T	R

U	L	T	R
1	47	81	0
0	0	0	0
0	1	0	0
1	**48**	**81**	**0**

212	129	341
1	0	1
0	1	1
213	**130**	**343**
Out	In	Total
DECHMAN DR [S]		

Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 WBFR
Site Code:
Start Date: 08/25/2020

Turning Movement Peak Hour Data (4:45 PM)

Start Time	DECHMAN DR Southbound					IH-20 WBFR Westbound					DECHMAN DR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:45 PM	0	36	20	1	57	92	94	7	0	193	21	44	0	1	66	0	1	0	0	1	317
5:00 PM	0	37	22	0	59	86	105	6	0	197	21	38	0	1	60	0	0	0	0	0	316
5:15 PM	0	42	13	0	55	94	109	10	0	213	20	50	0	2	72	0	0	0	0	0	340
5:30 PM	0	26	11	0	37	102	95	10	0	207	18	36	0	0	54	0	0	0	0	0	298
Total	0	141	66	1	208	374	403	33	0	810	80	168	0	4	252	0	1	0	0	1	1271
Approach %	0.0	67.8	31.7	0.5	-	46.2	49.8	4.1	0.0	-	31.7	66.7	0.0	1.6	-	0.0	100.0	0.0	0.0	-	-
Total %	0.0	11.1	5.2	0.1	16.4	29.4	31.7	2.6	0.0	63.7	6.3	13.2	0.0	0.3	19.8	0.0	0.1	0.0	0.0	0.1	-
PHF	0.000	0.839	0.750	0.250	0.881	0.917	0.924	0.825	0.000	0.951	0.952	0.840	0.000	0.500	0.875	0.000	0.250	0.000	0.000	0.250	0.935
Lights	0	139	64	1	204	372	401	32	0	805	79	166	0	4	249	0	0	0	0	0	1258
% Lights	-	98.6	97.0	100.0	98.1	99.5	99.5	97.0	-	99.4	98.8	98.8	-	100.0	98.8	-	0.0	-	-	0.0	99.0
Mediums	0	2	2	0	4	2	2	1	0	5	0	1	0	0	1	0	1	0	0	1	11
% Mediums	-	1.4	3.0	0.0	1.9	0.5	0.5	3.0	-	0.6	0.0	0.6	-	0.0	0.4	-	100.0	-	-	100.0	0.9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
% Articulated Trucks	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	1.3	0.6	-	0.0	0.8	-	0.0	-	-	0.0	0.2

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: DECHMAN DR @ IH-20 WBFR
Site Code:
Start Date: 08/25/2020
Page No: 6

DECHMAN DR [N]		
Out	In	Total
199	204	403
2	4	6
1	0	1
202	**208**	**410**

64	139	0	1
2	2	0	0
0	0	0	0
66	**141**	**0**	**1**
R	T	L	U

Peak Hour Data

08/25/2020 4:45 PM
Ending At
08/25/2020 5:45 PM

Lights
Mediums
Articulated Trucks

Eastbound St. [W]		
Out	In	Total
544	0	544
4	1	5
1	0	1
549	**1**	**550**

0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
R	T	L	U
0	**1**	**0**	**0**

IH-20 WBFR [E]		
Out	In	Total
0	805	805
1	5	6
0	0	0
1	**810**	**811**

32	401	372	0
1	2	2	0
0	0	0	0
33	**403**	**374**	**0**
R	T	L	U

U	L	T	R
4	79	166	0
0	0	1	0
0	1	1	0
4	**80**	**168**	**0**

DECHMAN DR [S]		
Out	In	Total
515	249	764
4	1	5
0	2	2
519	**252**	**771**

Turning Movement Peak Hour Data Plot (4:45 PM)

Cottages at Dechman - Grand Prairie

Vistro File: C:\...\Cottages vistro.vistro
Report File: C:\...\vistro am.pdf

Scenario 1 AM
9/28/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dechman Dr & access	Final Base	0	79	10	2	67	0	0	0	0	57	0	5	220
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	27	0	0	0	0	1	4	0	79	0	0	0	111
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**27**	**81**	**10**	**2**	**69**	**1**	**4**	**0**	**79**	**59**	**0**	**5**	**337**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	Dechman Dr & WB frontage	Final Base	49	81	71	40	141	245	16	643
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	17	29	50	0	0	10	106
		Other	0	0	0	0	0	0	0	0
		Future Total	**50**	**100**	**102**	**91**	**145**	**252**	**26**	**766**

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound			Total Volume
			Thru	Right	Left	Thru	Left	Thru	Right	
3	Dechman Dr & EB frontage rd	Final Base	46	352	20	191	75	282	29	995
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	29	0	17	0	0	46
		Other	0	0	0	0	0	0	0	0
		Future Total	**47**	**363**	**50**	**197**	**94**	**290**	**30**	**1071**

Cottages at Dechman - Grand Prairie

Vistro File: C:\...\Cottages vistro.vistro
Report File: C:\...\vistro pm.pdf

Scenario 2 PM
9/28/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dechman Dr & access	Final Base	0	112	68	12	173	0	0	0	0	44	0	8	417
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	90	0	0	0	0	5	3	0	52	0	0	0	150
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**90**	**115**	**70**	**12**	**178**	**5**	**3**	**0**	**52**	**45**	**0**	**8**	**578**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	Dechman Dr & WB frontage	Final Base	84	168	141	66	374	403	33	1269
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	57	19	33	0	0	33	142
		Other	0	0	0	0	0	0	0	0
		Future Total	**87**	**230**	**164**	**101**	**385**	**415**	**67**	**1449**

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound			Total Volume
			Thru	Right	Left	Thru	Left	Thru	Right	
3	Dechman Dr & EB frontage rd	Final Base	67	226	21	472	163	402	64	1415
		Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	19	0	57	0	0	76
		Other	0	0	0	0	0	0	0	0
		Future Total	**69**	**233**	**41**	**486**	**225**	**414**	**66**	**1534**

Trip Generation

Project Information	
Project Name:	Grand Prairie Cottages
No:	
Date:	9/8/2020
City:	Grand Prairie
State/Province:	TX
Zip/Postal Code:	
Country:	
Client Name:	JBI
Analyst's Name:	SPI
Edition:	Trip Gen Manual, 10th Ed

Land Use	**Size**	**Daily**		**AM**		**PM**	
		Entry	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**
210 - Single-Family Detached Housing (General Urban/Suburban)	150 Dwelling Units	755	755	28	83	95	55
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	0	0
Non-pass-by		755	755	28	83	95	55
Total		755	755	28	83	95	55
Total Reduction		0	0	0	0	0	0
Total Internal		0	0	0	0	0	0
Total Pass-by		0	0	0	0	0	0
Total Non-pass-by		755	755	28	83	95	55

Capacity Analysis

Existing Conditions

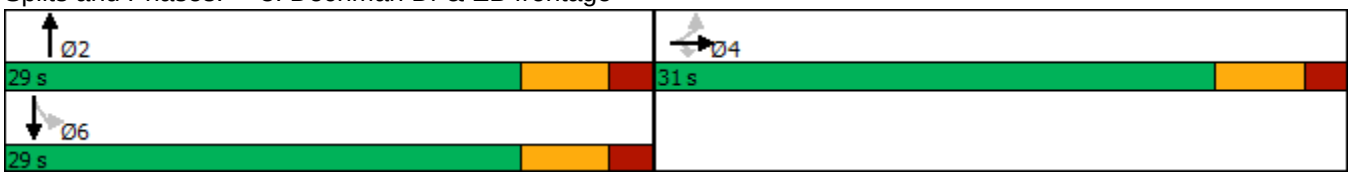
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	282	29	0	0	0	0	46	352	20	191	0
Future Volume (vph)	75	282	29	0	0	0	0	46	352	20	191	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1787	3610	1615	0	0	0	0	3123	0	1805	1900	0
Flt Permitted	0.950									0.488		
Satd. Flow (perm)	1787	3610	1615	0	0	0	0	3123	0	927	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55					400				
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		199			262			374			525	
Travel Time (s)		3.4			6.0			8.5			11.9	
Peak Hour Factor	0.87	0.87	0.87	0.90	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.90
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	324	33	0	0	0	0	458	0	23	220	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4							6		
Detector Phase	4	4	4					2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0					10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0	26.0					16.0		16.0	16.0	
Total Split (s)	31.0	31.0	31.0					29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%	51.7%					48.3%		48.3%	48.3%	
Yellow Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None					Min		Min	Min	
Act Effct Green (s)	20.0	20.0	20.0					11.0		11.0	11.0	
Actuated g/C Ratio	0.47	0.47	0.47					0.26		0.26	0.26	
v/c Ratio	0.10	0.19	0.04					0.42		0.10	0.45	
Control Delay	7.4	7.4	1.9					4.0		13.2	16.8	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	7.4	7.4	1.9					4.0		13.2	16.8	
LOS	A	A	A					A		B	B	
Approach Delay		7.0						4.0			16.5	
Approach LOS		A						A			B	
Queue Length 50th (ft)	10	21	0					5		4	45	
Queue Length 95th (ft)	29	42	7					27		16	86	
Internal Link Dist (ft)		119			182			294			445	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	1039	2099	962					1857		496	1016	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.08	0.15	0.03					0.25		0.05	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 7.8 Intersection LOS: A
Intersection Capacity Utilization 52.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Dechman Dr & EB frontage



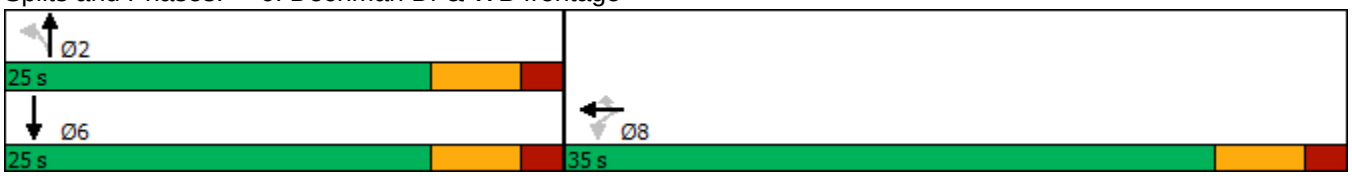
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	141	245	16	49	81	0	0	71	40
Future Volume (vph)	0	0	0	141	245	16	49	81	0	0	71	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	1805	3574	1615	1770	1900	0	0	3415	0
Flt Permitted				0.950			0.676					
Satd. Flow (perm)	0	0	0	1805	3574	1615	1259	1900	0	0	3415	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55					43	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		143			189			525			423	
Travel Time (s)		3.3			3.2			11.9			9.6	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	153	266	17	53	88	0	0	120	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Detector Phase				8	8	8	2	2			6	
Switch Phase												
Minimum Initial (s)				20.0	20.0	20.0	10.0	10.0			10.0	
Minimum Split (s)				26.0	26.0	26.0	16.0	16.0			16.0	
Total Split (s)				35.0	35.0	35.0	25.0	25.0			25.0	
Total Split (%)				58.3%	58.3%	58.3%	41.7%	41.7%			41.7%	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0	6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min	Min			Min	
Act Effct Green (s)				20.0	20.0	20.0	10.2	10.2			10.2	
Actuated g/C Ratio				0.47	0.47	0.47	0.24	0.24			0.24	
v/c Ratio				0.18	0.16	0.02	0.17	0.19			0.14	
Control Delay				7.0	6.6	0.6	14.5	14.1			9.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				7.0	6.6	0.6	14.5	14.1			9.5	
LOS				A	A	A	B	B			A	
Approach Delay					6.5			14.3			9.5	
Approach LOS					A			B			A	
Queue Length 50th (ft)				19	16	0	10	17			7	
Queue Length 95th (ft)				41	31	2	30	42			21	
Internal Link Dist (ft)		63			109			445			343	
Turn Bay Length (ft)				200		200						
Base Capacity (vph)				1240	2454	1126	566	855			1560	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.12	0.11	0.02	0.09	0.10			0.08	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.19
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 52.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Dechman Dr & WB frontage



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	5	79	10	2	67
Future Volume (vph)	57	5	79	10	2	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1798	0	1870	0	1805	1900
Flt Permitted	0.956				0.950	
Satd. Flow (perm)	1798	0	1870	0	1805	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	153		423			289
Travel Time (s)	3.5		9.6			6.6
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	113	0	3	85
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.9%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	402	64	0	0	0	0	67	226	21	472	0
Future Volume (vph)	163	402	64	0	0	0	0	67	226	21	472	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1787	3610	1615	0	0	0	0	3177	0	1805	1900	0
Flt Permitted	0.950									0.549		
Satd. Flow (perm)	1787	3610	1615	0	0	0	0	3177	0	1043	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74					177				
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		199			262			374			525	
Travel Time (s)		3.4			6.0			8.5			11.9	
Peak Hour Factor	0.87	0.87	0.87	0.90	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.90
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	462	74	0	0	0	0	337	0	24	543	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4							6		
Detector Phase	4	4	4					2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0					10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0	26.0					16.0		16.0	16.0	
Total Split (s)	26.0	26.0	26.0					34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%	43.3%					56.7%		56.7%	56.7%	
Yellow Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None					Min		Min	Min	
Act Effct Green (s)	20.2	20.2	20.2					19.9		19.9	19.9	
Actuated g/C Ratio	0.39	0.39	0.39					0.38		0.38	0.38	
v/c Ratio	0.27	0.33	0.11					0.26		0.06	0.75	
Control Delay	14.2	13.4	4.7					5.4		9.7	20.9	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	14.2	13.4	4.7					5.4		9.7	20.9	
LOS	B	B	A					A		A	C	
Approach Delay		12.7						5.4			20.5	
Approach LOS		B						A			C	
Queue Length 50th (ft)	38	51	0					16		4	137	
Queue Length 95th (ft)	90	96	22					33		15	215	
Internal Link Dist (ft)		119			182			294			445	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	691	1397	670					1803		565	1029	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.27	0.33	0.11					0.19		0.04	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 52.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 52.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Dechman Dr & EB frontage

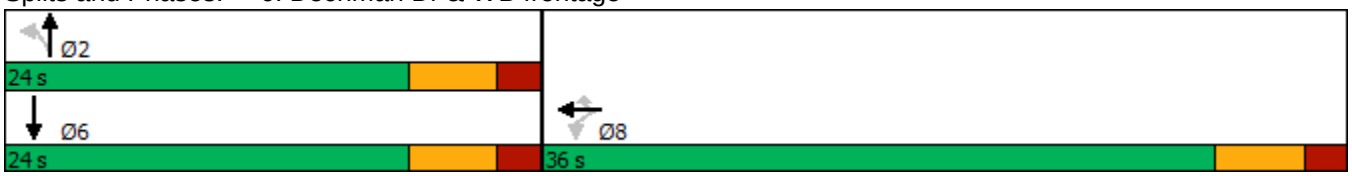
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	374	403	33	84	168	0	0	141	66
Future Volume (vph)	0	0	0	374	403	33	84	168	0	0	141	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	1805	3574	1615	1770	1900	0	0	3437	0
Flt Permitted				0.950			0.611					
Satd. Flow (perm)	0	0	0	1805	3574	1615	1138	1900	0	0	3437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55					72	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		143			189			525			423	
Travel Time (s)		3.3			3.2			11.9			9.6	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	407	438	36	91	183	0	0	225	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Detector Phase				8	8	8	2	2			6	
Switch Phase												
Minimum Initial (s)				20.0	20.0	20.0	10.0	10.0			10.0	
Minimum Split (s)				26.0	26.0	26.0	16.0	16.0			16.0	
Total Split (s)				36.0	36.0	36.0	24.0	24.0			24.0	
Total Split (%)				60.0%	60.0%	60.0%	40.0%	40.0%			40.0%	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0	6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min	Min			Min	
Act Effct Green (s)				21.5	21.5	21.5	11.1	11.1			11.1	
Actuated g/C Ratio				0.48	0.48	0.48	0.25	0.25			0.25	
v/c Ratio				0.47	0.26	0.04	0.32	0.39			0.25	
Control Delay				10.2	7.5	1.8	18.0	17.3			10.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				10.2	7.5	1.8	18.0	17.3			10.4	
LOS				B	A	A	B	B			B	
Approach Delay					8.5			17.5			10.4	
Approach LOS					A			B			B	
Queue Length 50th (ft)				59	29	0	18	37			15	
Queue Length 95th (ft)				134	60	7	55	93			42	
Internal Link Dist (ft)		63			109			445			343	
Turn Bay Length (ft)				200		200						
Base Capacity (vph)				1225	2426	1114	463	774			1443	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.33	0.18	0.03	0.20	0.24			0.16	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.7
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 52.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Dechman Dr & WB frontage



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	44	8	112	68	12	173
Future Volume (vph)	44	8	112	68	12	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1786	0	1803	0	1805	1900
Flt Permitted	0.959				0.950	
Satd. Flow (perm)	1786	0	1803	0	1805	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	153		423			289
Travel Time (s)	3.5		9.6			6.6
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	228	0	15	219
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	5	79	10	2	67
Future Vol, veh/h	57	5	79	10	2	67
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	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	72	6	100	13	3	85

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	107	0	0	113	0
Stage 1	107	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	795	953	-	-	1489	-
Stage 1	922	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	793	953	-	-	1489	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	804	1489	-
HCM Lane V/C Ratio	-	-	0.098	0.002	-
HCM Control Delay (s)	-	-	10	7.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	8	112	68	12	173
Future Vol, veh/h	44	8	112	68	12	173
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	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	56	10	142	86	15	219

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	185	0	0	228	0
Stage 1	185	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	583	862	-	-	1352	-
Stage 1	852	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	577	862	-	-	1352	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	608	1352	-
HCM Lane V/C Ratio	-	-	0.108	0.011	-
HCM Control Delay (s)	-	-	11.6	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Full Build 2021 Conditions

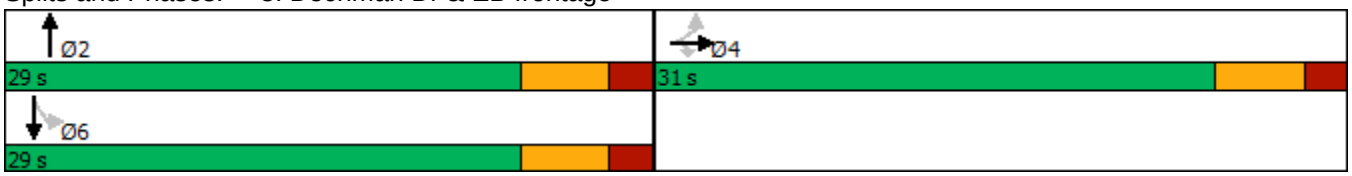
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	290	30	0	0	0	0	47	363	50	197	0
Future Volume (vph)	94	290	30	0	0	0	0	47	363	50	197	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1787	3610	1615	0	0	0	0	3123	0	1805	1900	0
Flt Permitted	0.950									0.482		
Satd. Flow (perm)	1787	3610	1615	0	0	0	0	3123	0	916	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55					389				
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		199			262			374			525	
Travel Time (s)		3.4			6.0			8.5			11.9	
Peak Hour Factor	0.87	0.87	0.87	0.90	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.90
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	333	34	0	0	0	0	471	0	57	226	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4							6		
Detector Phase	4	4	4					2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0					10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0	26.0					16.0		16.0	16.0	
Total Split (s)	31.0	31.0	31.0					29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%	51.7%					48.3%		48.3%	48.3%	
Yellow Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None					Min		Min	Min	
Act Effct Green (s)	20.0	20.0	20.0					11.3		11.3	11.3	
Actuated g/C Ratio	0.46	0.46	0.46					0.26		0.26	0.26	
v/c Ratio	0.13	0.20	0.04					0.43		0.24	0.46	
Control Delay	7.8	7.7	2.1					4.4		15.3	16.7	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	7.8	7.7	2.1					4.4		15.3	16.7	
LOS	A	A	A					A		B	B	
Approach Delay		7.3						4.4			16.4	
Approach LOS		A						A			B	
Queue Length 50th (ft)	13	21	0					7		11	46	
Queue Length 95th (ft)	37	46	7					31		31	87	
Internal Link Dist (ft)		119			182			294			445	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	1033	2086	956					1843		487	1010	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.10	0.16	0.04					0.26		0.12	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 53.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Dechman Dr & EB frontage



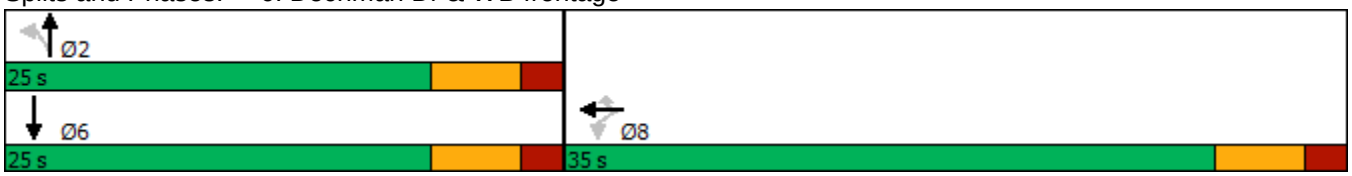
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	145	252	26	50	100	0	0	102	91
Future Volume (vph)	0	0	0	145	252	26	50	100	0	0	102	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	1805	3574	1615	1770	1900	0	0	3354	0
Flt Permitted				0.950			0.620					
Satd. Flow (perm)	0	0	0	1805	3574	1615	1155	1900	0	0	3354	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55					99	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		143			189			525			423	
Travel Time (s)		3.3			3.2			11.9			9.6	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	158	274	28	54	109	0	0	210	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Detector Phase				8	8	8	2	2			6	
Switch Phase												
Minimum Initial (s)				20.0	20.0	20.0	10.0	10.0			10.0	
Minimum Split (s)				26.0	26.0	26.0	16.0	16.0			16.0	
Total Split (s)				35.0	35.0	35.0	25.0	25.0			25.0	
Total Split (%)				58.3%	58.3%	58.3%	41.7%	41.7%			41.7%	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0	6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min	Min			Min	
Act Effct Green (s)				20.0	20.0	20.0	10.0	10.0			10.0	
Actuated g/C Ratio				0.48	0.48	0.48	0.24	0.24			0.24	
v/c Ratio				0.18	0.16	0.04	0.20	0.24			0.24	
Control Delay				7.1	6.6	1.3	15.0	14.6			8.3	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				7.1	6.6	1.3	15.0	14.6			8.3	
LOS				A	A	A	B	B			A	
Approach Delay					6.4			14.8			8.3	
Approach LOS					A			B			A	
Queue Length 50th (ft)				19	17	0	10	21			11	
Queue Length 95th (ft)				42	32	5	31	50			30	
Internal Link Dist (ft)		63			109			445			343	
Turn Bay Length (ft)				200		200						
Base Capacity (vph)				1246	2467	1132	522	859			1571	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.13	0.11	0.02	0.10	0.13			0.13	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.24
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 53.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Dechman Dr & WB frontage



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	79	59	0	5	27	81	10	2	69	1
Future Volume (vph)	4	0	79	59	0	5	27	81	10	2	69	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1652	0	0	1798	0	1805	1868	0	1805	1896	0
Flt Permitted		0.998			0.956		0.950			0.950		
Satd. Flow (perm)	0	1652	0	0	1798	0	1805	1868	0	1805	1896	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			153			423			289	
Travel Time (s)		4.3			3.5			9.6			6.6	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	105	0	0	81	0	34	116	0	3	88	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 25.1%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	414	66	0	0	0	0	69	233	41	486	0
Future Volume (vph)	225	414	66	0	0	0	0	69	233	41	486	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1787	3610	1615	0	0	0	0	3177	0	1805	1900	0
Flt Permitted	0.950									0.544		
Satd. Flow (perm)	1787	3610	1615	0	0	0	0	3177	0	1034	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76					167				
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		199			262			374			525	
Travel Time (s)		3.4			6.0			8.5			11.9	
Peak Hour Factor	0.87	0.87	0.87	0.90	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.90
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	476	76	0	0	0	0	347	0	47	559	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4							6		
Detector Phase	4	4	4					2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0					10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0	26.0					16.0		16.0	16.0	
Total Split (s)	26.0	26.0	26.0					34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%	43.3%					56.7%		56.7%	56.7%	
Yellow Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None					Min		Min	Min	
Act Effct Green (s)	20.2	20.2	20.2					20.5		20.5	20.5	
Actuated g/C Ratio	0.38	0.38	0.38					0.39		0.39	0.39	
v/c Ratio	0.38	0.34	0.11					0.26		0.12	0.76	
Control Delay	15.5	13.8	4.7					5.7		10.3	21.1	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	15.5	13.8	4.7					5.7		10.3	21.1	
LOS	B	B	A					A		B	C	
Approach Delay		13.5						5.7			20.3	
Approach LOS		B						A			C	
Queue Length 50th (ft)	56	53	0					17		9	143	
Queue Length 95th (ft)	123	99	22					36		24	223	
Internal Link Dist (ft)		119			182			294			445	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	683	1380	664					1778		553	1017	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.38	0.34	0.11					0.20		0.08	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 52.9
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 14.3 Intersection LOS: B
Intersection Capacity Utilization 53.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Dechman Dr & EB frontage

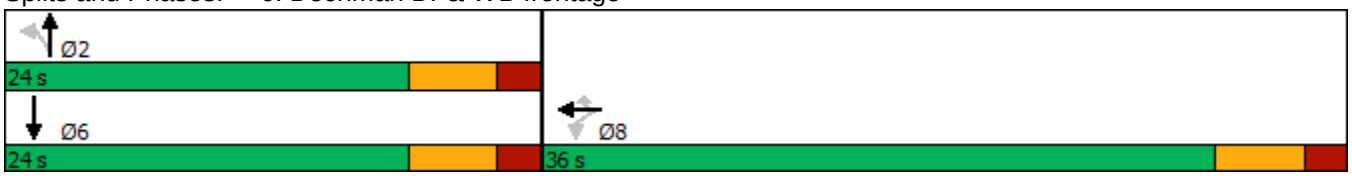
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	385	415	67	87	230	0	0	164	101
Future Volume (vph)	0	0	0	385	415	67	87	230	0	0	164	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	1805	3574	1615	1770	1900	0	0	3404	0
Flt Permitted				0.950			0.575					
Satd. Flow (perm)	0	0	0	1805	3574	1615	1071	1900	0	0	3404	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						73					110	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		143			189			525			423	
Travel Time (s)		3.3			3.2			11.9			9.6	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	418	451	73	95	250	0	0	288	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Detector Phase				8	8	8	2	2			6	
Switch Phase												
Minimum Initial (s)				20.0	20.0	20.0	10.0	10.0			10.0	
Minimum Split (s)				26.0	26.0	26.0	16.0	16.0			16.0	
Total Split (s)				36.0	36.0	36.0	24.0	24.0			24.0	
Total Split (%)				60.0%	60.0%	60.0%	40.0%	40.0%			40.0%	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0	6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min	Min			Min	
Act Effct Green (s)				22.2	22.2	22.2	12.2	12.2			12.2	
Actuated g/C Ratio				0.48	0.48	0.48	0.26	0.26			0.26	
v/c Ratio				0.49	0.26	0.09	0.34	0.50			0.30	
Control Delay				11.0	8.1	2.7	18.5	19.2			9.7	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				11.0	8.1	2.7	18.5	19.2			9.7	
LOS				B	A	A	B	B			A	
Approach Delay					8.9			19.0			9.7	
Approach LOS					A			B			A	
Queue Length 50th (ft)				63	31	0	19	52			17	
Queue Length 95th (ft)				154	69	16	60	129			50	
Internal Link Dist (ft)		63			109			445			343	
Turn Bay Length (ft)				200		200						
Base Capacity (vph)				1183	2342	1083	421	747			1405	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.35	0.19	0.07	0.23	0.33			0.20	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 53.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Dechman Dr & WB frontage



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	52	45	0	8	90	115	70	12	178	5
Future Volume (vph)	3	0	52	45	0	8	90	115	70	12	178	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1654	0	0	1786	0	1805	1792	0	1805	1892	0
Flt Permitted		0.997			0.959		0.950			0.950		
Satd. Flow (perm)	0	1654	0	0	1786	0	1805	1792	0	1805	1892	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			153			423			289	
Travel Time (s)		4.3			3.5			9.6			6.6	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	0	0	67	0	114	235	0	15	231	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 34.3%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	79	59	0	5	27	81	10	2	69	1
Future Vol, veh/h	4	0	79	59	0	5	27	81	10	2	69	1
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	-	-	-	-	-	-	100	-	-	200	-	-
Veh in Median Storage,#	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	0	100	75	0	6	34	103	13	3	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	275	278	88	322	272	110	88	0	0	116	0	0
Stage 1	94	94	-	178	178	-	-	-	-	-	-	-
Stage 2	181	184	-	144	94	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	681	633	976	635	638	949	1520	-	-	1485	-	-
Stage 1	918	821	-	828	756	-	-	-	-	-	-	-
Stage 2	825	751	-	864	821	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	618	976	559	623	949	1520	-	-	1485	-	-
Mov Cap-2 Maneuver	664	618	-	559	623	-	-	-	-	-	-	-
Stage 1	898	819	-	810	739	-	-	-	-	-	-	-
Stage 2	801	734	-	774	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	12.2	1.7	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1520	-	-	954	578	1485	-	-
HCM Lane V/C Ratio	0.022	-	-	0.11	0.14	0.002	-	-
HCM Control Delay (s)	7.4	-	-	9.2	12.2	7.4	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	52	45	0	8	90	115	70	12	178	5
Future Vol, veh/h	3	0	52	45	0	8	90	115	70	12	178	5
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	-	-	-	-	-	-	100	-	-	200	-	-
Veh in Median Storage,#	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	0	66	57	0	10	114	146	89	15	225	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	682	721	228	710	680	191	231	0	0	235	0	0
Stage 1	258	258	-	419	419	-	-	-	-	-	-	-
Stage 2	424	463	-	291	261	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	367	356	816	351	376	856	1349	-	-	1344	-	-
Stage 1	751	698	-	616	593	-	-	-	-	-	-	-
Stage 2	612	568	-	721	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	337	322	816	299	340	856	1349	-	-	1344	-	-
Mov Cap-2 Maneuver	337	322	-	299	340	-	-	-	-	-	-	-
Stage 1	687	690	-	564	543	-	-	-	-	-	-	-
Stage 2	554	520	-	655	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	18.6	2.6	0.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1349	-	-	757	332	1344	-	-
HCM Lane V/C Ratio	0.084	-	-	0.092	0.202	0.011	-	-
HCM Control Delay (s)	7.9	-	-	10.2	18.6	7.7	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.7	0	-	-

Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

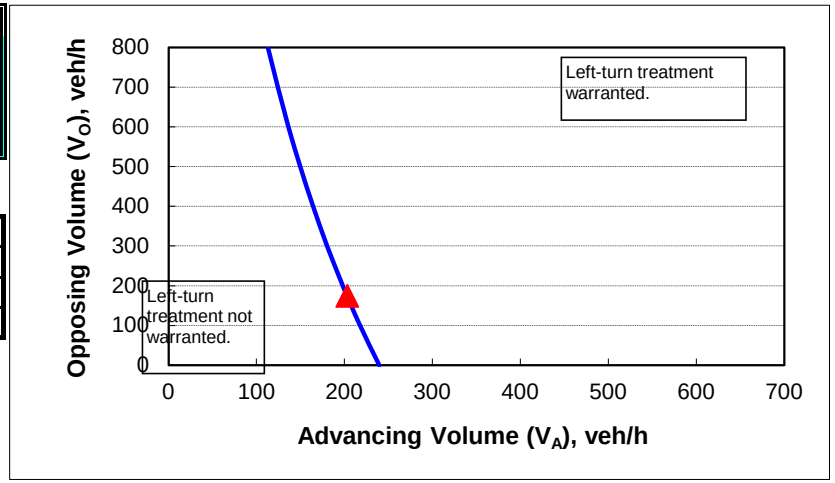
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	44%
Advancing volume (V_A), veh/h:	203
Opposing volume (V_O), veh/h:	175

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	203
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.3
Critical headway, s:	5.5
Average time for left-turn vehicle to clear the advancing lane, s:	3.2

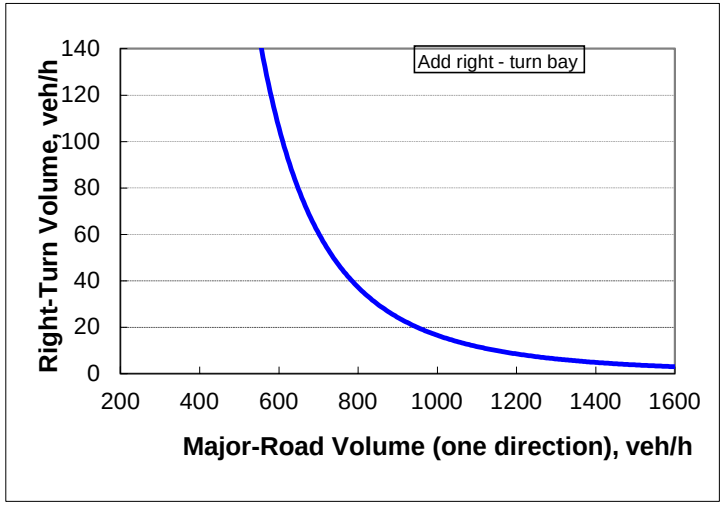
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlle

INPUT

Roadway geometry:	2-lane roadway
Variable	**Value**
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	175
Right-turn volume, veh/h:	5

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	9348
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



City of Grand Prairie

City Hall
300 W. Main Street
Grand Prairie, Texas

Legislation Details (With Text)

File #:	20-10468	**Version:**	1	**Name:**	Liquor Stores
Type:	Agenda Item			**Status:**	Agenda Ready - Committee
File created:	10/7/2020			**In control:**	Planning
On agenda:	10/13/2020			**Final action:**	
Title:	Liquor Stores Update - Presented by Bill Hills, Deputy City Manager, and Rashad Jackson, Planning and Development Director				
Sponsors:					
Indexes:					
Code sections:					
Attachments:					

Date	Ver.	Action By	Action	Result

Title
Liquor Stores Update - Presented by Bill Hills, Deputy City Manager, and Rashad Jackson, Planning and Development Director

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Legislation Details (With Text)

File #:	20-10391	**Version:**	1	**Name:**	Community Revitalization Update
Type:	Presentation			**Status:**	Agenda Ready - Committee
File created:	9/16/2020			**In control:**	City Council Development Committee
On agenda:	10/13/2020			**Final action:**	
Title:	Community Revitalization Update - Presented by Andrew Fortune, Assistant to the City Manager				
Sponsors:					
Indexes:					
Code sections:					
Attachments:					

Date	Ver.	Action By	Action	Result

Title
Community Revitalization Update - Presented by Andrew Fortune, Assistant to the City Manager