TRAFFIC STUDY (Hudson Crossing Capacity Analysis)

# Wonderland Montessori Academy <br> 3132 Hudson Crossing McKinney, Texas75070 

PREPARED FOR:
Wonderland Montessori Academy

May 16, 2014


GLOFFIC ENGINEERING INC.

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Gloffic Engineering Inc. is retained by Wonderland Montessori Academy to perform a traffic study for the expansion of existing daycare located on the east side of Hudson Crossing just south of Eldorado Parkway in the City of McKinney. The purpose of this study is to evaluate the roadway capacity of Hudson Crossing (from Eldorado Pkwy to Pine Ridge Blvd) to find if this roadway would accommodate traffic generated by the proposed expansion of daycare.

Currently, the project site is used a daycare under the name of Wonderland Montessori Academy operate from 6:30 am to $6: 30 \mathrm{pm}$ on weekdays. Presently, the existing facility has reached to its capacity and planned for the expansion to accommodate additional 100 new students. The proposed expansion would allow daycare to increase capacity from 100 students to 200 students (net increase of 100 students).

The site has direct access from Hudson Crossing roadway. This roadway is an undivided two lanes neighborhood collector which runs north-south direction and provides access via two driveways to the daycare facility. According to the functional classification given in the City of McKinney "STREET DESIGN MANUAL 2010", Hudson Crossing is described as "Collector C2U".

The capacity of Hudson Crossing roadway is calculated using NCTCOG's ((Dallas-Fort Worth Regional Travel Model Manual, Exhibit 24) guideline. Existing 24-hour traffic data was collected at three locations on Hudson Crossing between Eldorado Pkwy and Pine Ridge Blvd on May $4^{\text {th }}$ (Tuesday) and on May $6^{\text {th }}$ (Thursday), 2014.

The analysis results indicate that Hudson Crossing utilizes 35\% of the road capacity (max. V/C $=0.35$ ) in the existing conditions and $42 \%$ of the road capacity (max. $\mathrm{V} / \mathrm{C}=0.42$ ) in proposed condition. In both the conditions (existing and proposed), Hudson Crossing is expected to operate at LOS A or B. Per City of McKinney "STREET DESIGN MANUAL 2010", the acceptable LOS for the Hudson Crossing is LOS "D".

In conclusion, with the proposed expansion of the daycare, Hudson Crossing is not expected to drop the city's acceptable LOS "D" and the traffic volumes in proposed conditions are expected to be within the city's acceptable traffic volumes range.

## 1. PROJECT BACKGROUND

### 1.1 Introduction

Gloffic Engineering Inc. is retained by Wonderland Montessori Academy to perform a traffic study for the expansion of existing daycare located on the east side of Hudson Crossing just south of Eldorado Parkway in the City of McKinney. The purpose of this study is to evaluate the roadway capacity of Hudson Crossing (from Eldorado Pkwy to Pine Ridge Blvd) to find if this roadway would accommodate traffic generated by the proposed expansion of daycare. The project location map is shown in Figure 1.

Figure 1. Project Location


### 1.2 Area Condition

Currently, the project site is used a daycare under the name of Wonderland Montessori Academy operated from 6:30 am to 6:30 pm on weekdays. Presently, the existing facility has reached to its capacity and planned for the expansion to accommodate additional 100 new
students. The proposed expansion would allow daycare to increase capacity from 100 students to 200 students (net increase of 100 students).

### 1.3 Roadway System

The site has direct access from Hudson Crossing roadway. This roadway is an undivided two lanes neighborhood collector which runs north-south direction and provides access via two driveways to the daycare facility. According to the functional classification given in the City of McKinney "STREET DESIGN MANUAL 2010", Hudson Crossing is described as "Collector C2U"and its design detail is shown Table 1.

Table 1. Hudson Crossing Design Criteria

| Street Name | From | To | Roadway <br> Classification | Design Capacity | *Hourly Service <br> Volumes <br> Per Lanes |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Hudson <br> Crossing | Courtyard <br> Drive | Eldorado <br> Parkway | C2U - Collector, <br> 2 Lanes | LOS "D" <br> $9,500-12,000 \mathrm{vpd}$ | 525 |

*Based on NCTCOG's, DFW Regional Travel Model Exhibit 24, suburban residential collector

As shown in Table 1, the acceptable LOS for the Hudson Crossing is LOS "D" with the daily traffic volume range 9,500-12,000 vpd.

### 1.4 Roadway Capacity

The capacity of Hudson Crossing roadway is calculated using NCTCOG's "Hourly Service Volume Per Lane" (Dallas-Fort Worth Regional Travel Model Manual, Exhibit 24) and Level of Service (LOS) is determined as per NCTCOG's V/C ratio (Volume/Capacity). The details of Dallas-Fort Worth Regional Travel Model Manual, Exhibit 24 and the range of V/C ratio for Level of Service (LOS) is presented in Append A.

Based on the Hudson Crossing classification and number of lane, its hourly capacity is estimated 1050 vhp ( $525 \mathrm{vhp} / \mathrm{ln} \times 2$ lanes) and daily capacity is $10,500 \mathrm{vpd}$. The daily capacity was calculated using the assumption that the "Hourly Service Volume Per Lane" (service volume per lane is another way to say "capacity") represented $10 \%$ of the daily capacity. In general, $10 \%$ is a rough estimate used for the planning purposes.

## 2. EXISTING CONDITION

### 2.1 Existing conditions Traffic Volumes

Hudson Crossing provides direct to the daycare via two driveways. To estimate the existing traffic volume on Hudson Crossing, 24 -hour traffic volumes were collected at three locations on Hudson Crossing between Eldorado Pkwy and Pine Ridge Blvd. Figure 2 shows the locations on Hudson Crossing for traffic data collection.

Figure 2. Traffic Data Collection Locations


Traffic data was collected on May $4^{\text {th }}, 2014$ (Tuesday) at two locations (location $2 \& 3$ ) and on May $6^{\text {th }}, 2014$ (Thursday) at one location (location 1). Summary of traffic counts (both directions) is shown in Table 2 and details are presented in Appendix B.

Table 2. Existing Traffic Counts

|  | Location |  | Traffic Counts <br> (Both directions) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Date | AM <br> Peak <br> (vph) | PM <br> Peak <br> (vph) | Daily <br> (vpd) |
| Location 1 | Hudson Crossing North of <br> Wonderland Montessori Academy <br> Driveways | May 6th, 2014 <br> Thursday | 356 | 368 | 3,628 |
| Location 2 | Hudson Crossing between <br> Driveways at Wonderland Montessori <br> Academy | May 4th, 2014 <br> Tuesday | 293 | 365 | 3,697 |
| Location 3 | Hudson Crossing between <br> Pine Ridge Bulevard and Marvin <br> Gardens | May 4th, 2014 <br> Tuesday | 291 | 323 | 3,249 |

Traffic counts show that during peak hours (AM and PM) highest traffic volumes occur at Location 1 (Hudson Crossing North of Wonderland Montessori Academy Driveways) and this location volumes were used for the capacity analysis.

### 2.2 Existing Conditions Level of Service (LOS)

The existing conditions, LOS for Hudson Crossing were determined by using existing traffic volume at location 1, V/C ratio and LOS per NCTCOG's DFW Regional Travel Model guideline. Table 3 represents the existing condition details on Hudson Crossing. This table indicates that the maximum V/C ratio on Hudson Crossing is 0.35 (less than 0.45 ) and the study roadway is expected to operate at LOS A or B.

Table 3. Existing Conditions LOS on Hudson Crossing

| Description | Time of Day |  |  |
| :---: | :---: | :---: | :---: |
|  | AM Peak Hour | PM Peak Hour | Weekday |
| Volume (V) | 356 | 368 | 3,628 |
| *Capacity (C) | 1050 | 1050 | 10,500 |
| V/C | 0.34 | 0.35 | 0.35 |
| *LOS | A or B | A or B | A or B |

[^0]
## 3. TRIP GENERATION

### 3.1 Trip Generation Methodology

The number of vehicle trips expected to be generated by the development was estimated by applying the rates and equations developed by the Institute of Transportation Engineers (ITE) as published in Trip Generation, $8^{\text {th }}$ Edition, 2008, an ITE Informational Report, and related information in the Trip Generation Handbook, $2^{\text {nd }}$ Edition, 2004, an ITE Recommended Practice.

### 3.2 Trip Generation for Proposed Expansion

The trips for the existing full capacity enrollments are already counted during existing traffic data collection, the new site generated trips due the proposed expansion for additional 100 students are estimated based on the ITE land use 565.The proposed site generated trips are shown in Table 2.

Table 4. Trip Generation for additional 100 students

| Land Use (ITE \# 565) | Independent Variable |  | Time of Day | Movement | ITE's Trip Generation |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Magnitude | Unit |  |  | Rate | Trips |
| Day Care Center | 100.00 | Number of Students |  | Entering | 0.53 | 41 |
|  |  |  | AM Peak | Exiting | 0.47 | 37 |
|  |  |  |  | Total | $\mathrm{T}=0.73(\mathrm{X})+5.24$ | 78 |
|  |  |  |  | Entering | 0.47 | 36 |
|  |  |  | PM Peak | Exiting | 0.53 | 40 |
|  |  |  |  | Total | $\operatorname{Ln}(\mathrm{T})=0.87 \operatorname{Ln}(\mathrm{X})+0.32$ | 76 |
|  |  |  |  | Entering | 0.50 | 225 |
|  |  |  | Average | Exiting | 0.50 | 225 |
|  |  |  | Weekday | Total | $\mathrm{T}=4.55(\mathrm{X})-5.64$ | 449 |

## 4. PROPOSED CONDITION

### 4.1 Proposed Conditions Traffic Volumes

As discussed in above section, the daycare is planned for the expansion to accommodate additional 100 new students. The existing traffic volumes were added on site generated trips due the expansion and determine the proposed conditions LOS on Hudson Crossing.

### 4.2 Proposed Conditions Level of Service (LOS)

Table 5 represent details of traffic volumes and LOS for the proposed conditions. This table indicates that the maximum V/C ratio on Hudson Crossing is 0.42 (less than 0.45 ) and per NCTCOG's guideline the study roadway is expected to operate at LOS A or B.

Per City of McKinney "STREET DESIGN MANUAL 2010", the acceptable LOS for the Hudson Crossing is LOS " D ". With the proposed expansion of the daycare, Hudson Crossing is not expected to drop the city's acceptable LOS "D" and the traffic volumes in proposed conditions are expected to be within the city's acceptable traffic volumes range.

Table 5. Proposed Conditions LOS on Hudson Crossing

| Description | Time of Day |  |  |
| :---: | :---: | :---: | :---: |
|  | AM Peak Hour | PM Peak Hour | Weekday |
| Volume (V) | 434 | 444 | 4,077 |
| ${ }^{*}$ Capacity (C) | 1050 | 1050 | 10,500 |
| V/C | 0.41 | 0.42 | 0.39 |
| *LOS | A or B | A or B | A or B |

## 5. CONCLUSIONS

For the existing conditions, Table 3 indicates that Hudson Crossing utilizes 35\% of the road capacity (max. $\mathrm{V} / \mathrm{C}=0.35$ ) and is expected to operate at LOS A or B .

For the proposed conditions (with proposed daycare expansion), Table 5 indicates that Hudson Crossing utilizes $42 \%$ of the road capacity (max. $\mathrm{V} / \mathrm{C}=0.42$ ) and is expected to operate at LOS A or B.

Per City of McKinney "STREET DESIGN MANUAL 2010", the acceptable LOS for the Hudson Crossing is LOS "D" with the daily traffic volume range $9,500-12,000$ vpd.

In conclusion, with the proposed expansion of the daycare, Hudson Crossing is not expected to drop the city's acceptable LOS "D" and the traffic volumes in proposed conditions are expected to be within the city's acceptable traffic volumes range.

## Appendix A

NCTCOG's Dallas-Fort Worth Regional Travel Model Manual, Exhibit 24, (Obtained from NCTCOG ‘s Dallas-Fort Worth Regional Travel Model Manual)

## EXHIBIT 23

HOURLY SERVICE VOLUME PER LANE* (Divided or One-Way Roads)

| AREA TYPE | FUNCTIONAL CLASS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Freeway | Principal <br> Arterial | Minor <br> Arterial | Collector | Local | Ramp | Frontage <br> Road | HOV |  |
| CBD | 2,050 | 575 | 575 | 475 | 475 | 1,250 | 575 | 1,800 |  |
| FRINGE | 2,125 | 625 | 625 | 500 | 500 | 1,375 | 625 | 1,800 |  |
| URBAN <br> RESIDENTIAL | 2,150 | 675 | 650 | 525 | 525 | 1,425 | 650 | 1,80 |  |
| SUBURBAN <br> RESIDENTIAL | 2,225 | 750 | 725 | 575 | 575 | 1,600 | 725 | 1,800 |  |
| RURAL | 2,300 | 825 | 775 | 600 | 600 | 1,725 | 775 | 1,800 |  |

* Service Volumes at Level of Service E (The Model requires level of service E service volumes.)
- If Volume/Service Volume Ratio is $<=0.45$ then Level of Service $=$ A or B
- If Volume/Service Volume Ratio is $0.45<x<=0.65$ then Level of Service $=C$
- If Volume/Service Volume Ratio is $0.65<x<=0.80$ then Level of Service = D
- If Volume/Service Volume Ratio is $0.80<x<=1.00$ then Level of Service $=E$
- If Volume/Service Volume Ratio is $>1.0$ then Level of Service $=F$


## EXHIBIT 24

HOURLY SERVICE VOLUME PER LANE*
(Undivided Roads)

| AREA TYPE | FUNCTIONAL CLASS |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Freeway | Principal <br> Arterial | Minor <br> Arterial | Collector | Local | Ramp | Frontage <br> Road | HOV |  |  |
| CBD | N/A | 525 | 525 | 425 | 425 | 1,250 | 525 | N/A |  |  |
| FRINGE | N/A | 575 | 575 | 450 | 450 | 1,375 | 575 | N/A |  |  |
| URBAN <br> RESIDENTIAL | N/A | 625 | 600 | 475 | 475 | 1,425 | 600 | N/A |  |  |
| SUBURBAN <br> RESIDENTIAL | N/A | 700 | 650 | 525 | 525 | 1,600 | 650 | N/A |  |  |
| RURAL | N/A | 750 | 700 | 550 | 550 | 1,725 | 700 | $\mathrm{~N} / \mathrm{A}$ |  |  |

N/A - Not Applicable

* Service Volumes at Level of Service E (The Model requires level of service E service volumes.)
- If Volume/Service Volume Ratio is $<=0.45$ then Level of Service $=$ A or B
- If Volume/Service Volume Ratio is $0.45<x<=0.65$ then Level of Service $=C$
- If Volume/Service Volume Ratio is $0.65<x<=0.80$ then Level of Service $=D$
- If Volume/Service Volume Ratio is $0.80<x<=1.00$ then Level of Service $=\mathrm{E}$
- If Volume/Service Volume Ratio is > 1.0 then Level of Service $=\mathrm{F}$


## Appendix B

## Exiting Traffic Counts,

24 - Hour Traffic Counts (NB \& SB combined)
Hudson Crossing North of Wonderland Montessori Academy Driveways
Date Began: 5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 4 | 2 | 3 | 5 | 14 |
| $1: 00$ | 1 | 0 | 1 | 1 | 3 |
| $2: 00$ | 0 | 1 | 5 | 2 | 8 |
| $3: 00$ | 1 | 4 | 0 | 1 | 6 |
| $4: 00$ | 3 | 3 | 3 | 4 | 13 |
| $5: 00$ | 4 | 7 | 6 | 4 | 21 |
| $6: 00$ | 10 | 22 | 15 | 51 | 98 |
| $7: 00$ | 60 | 85 | 102 | 90 | 337 |
| $8: 00$ | 79 | 68 | 83 | 67 | 297 |
| $9: 00$ | 43 | 41 | 38 | 26 | 148 |
| $10: 00$ | 27 | 34 | 23 | 28 | 112 |
| $11: 00$ | 39 | 35 | 34 | 40 | 148 |
| $12: 00$ | 29 | 59 | 43 | 43 | 174 |
| $13: 00$ | 38 | 42 | 39 | 41 | 160 |
| $14: 00$ | 59 | 48 | 63 | 88 | 258 |
| $15: 00$ | 59 | 78 | 65 | 84 | 286 |
| $16: 00$ | 71 | 82 | 74 | 76 | 303 |
| $17: 00$ | 95 | 100 | 76 | 97 | 368 |
| $18: 00$ | 73 | 82 | 81 | 40 | 276 |
| $19: 00$ | 51 | 59 | 41 | 49 | 200 |
| $20: 00$ | 45 | 47 | 46 | 31 | 169 |
| $21: 00$ | 26 | 35 | 21 | 19 | 101 |
| $22: 00$ | 16 | 28 | 21 | 17 | 82 |
| $23: 00$ | 16 | 15 | 11 | 4 | 46 |
|  |  |  |  | TOTAL: | 3628 |

The A.M. peak hour from 7:15 to 8:15 is 356 The P.M. peak hour from 17:00 to 18:00 is 368


NB Hudson Crossing North of Wonderland Montessori Academy Driveways
Date Began: 5/8/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 1 | 1 | 0 | 4 | 6 |
| $1: 00$ | 1 | 0 | 1 | 0 | 2 |
| $2: 00$ | 0 | 1 | 2 | 1 | 4 |
| $3: 00$ | 0 | 1 | 0 | 0 | 1 |
| $4: 00$ | 3 | 2 | 1 | 4 | 10 |
| $5: 00$ | 4 | 6 | 5 | 3 | 18 |
| $6: 00$ | 8 | 12 | 10 | 31 | 61 |
| $7: 00$ | 38 | 46 | 62 | 66 | 212 |
| $8: 00$ | 50 | 47 | 48 | 47 | 192 |
| $9: 00$ | 20 | 27 | 23 | 16 | 86 |
| $10: 00$ | 12 | 16 | 13 | 17 | 58 |
| $11: 00$ | 25 | 19 | 18 | 12 | 74 |
| $12: 00$ | 17 | 27 | 16 | 23 | 83 |
| $13: 00$ | 22 | 20 | 22 | 19 | 83 |
| $14: 00$ | 27 | 23 | 28 | 46 | 124 |
| $15: 00$ | 37 | 46 | 44 | 38 | 165 |
| $16: 00$ | 35 | 36 | 33 | 40 | 144 |
| $17: 00$ | 39 | 46 | 44 | 41 | 170 |
| $18: 00$ | 33 | 35 | 34 | 23 | 125 |
| $19: 00$ | 22 | 25 | 13 | 25 | 85 |
| $20: 00$ | 15 | 15 | 22 | 5 | 57 |
| $21: 00$ | 11 | 10 | 4 | 7 | 32 |
| $22: 00$ | 6 | 11 | 11 | 6 | 34 |
| $23: 00$ | 3 | 8 | 6 | 1 | 18 |
|  |  |  |  | TOTAL: | 1844 |


| The A.M. peak hour from 7:30 to 8:30 is 225 |
| :---: |
| The P.M. peak hour from 14:45 to 15:45 is 173 |



SB Hudson Crossing North of Wonderland Montessori Academy Driveways
Date Began:
5/8/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 3 | 1 | 3 | 1 | 8 |
| $1: 00$ | 0 | 0 | 0 | 1 | 1 |
| $2: 00$ | 0 | 0 | 3 | 1 | 4 |
| $3: 00$ | 1 | 3 | 0 | 1 | 5 |
| $4: 00$ | 0 | 1 | 2 | 0 | 3 |
| $5: 00$ | 0 | 1 | 1 | 1 | 3 |
| $6: 00$ | 2 | 10 | 5 | 20 | 37 |
| $7: 00$ | 22 | 39 | 40 | 24 | 125 |
| $8: 00$ | 29 | 21 | 35 | 20 | 105 |
| $9: 00$ | 23 | 14 | 15 | 10 | 62 |
| $10: 00$ | 15 | 18 | 10 | 11 | 54 |
| $11: 00$ | 14 | 16 | 16 | 28 | 74 |
| $12: 00$ | 12 | 32 | 27 | 20 | 91 |
| $13: 00$ | 16 | 22 | 17 | 22 | 77 |
| $14: 00$ | 32 | 25 | 35 | 42 | 134 |
| $15: 00$ | 22 | 32 | 21 | 46 | 121 |
| $16: 00$ | 36 | 46 | 41 | 36 | 159 |
| $17: 00$ | 56 | 54 | 32 | 56 | 198 |
| $18: 00$ | 40 | 47 | 47 | 17 | 151 |
| $19: 00$ | 29 | 34 | 28 | 24 | 115 |
| $20: 00$ | 30 | 32 | 24 | 26 | 112 |
| $21: 00$ | 15 | 25 | 17 | 12 | 69 |
| $22: 00$ | 10 | 17 | 10 | 11 | 48 |
| $23: 00$ | 13 | 7 | 5 | 3 | 28 |
|  |  |  |  | TOTAL: | 1784 |


| The A.M. peak hour from 7:15 to 8:15 is 132 |
| :---: |
| The P.M. peak hour from 17:00 to 18:00 is 198 |



24 - Hour Traffic Counts (NB \& SB combined) Hudson Crossing between Driveways at Wonderland Montessori Academy

Date Began: 5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 5 | 6 | 2 | 4 | 17 |
| $1: 00$ | 2 | 1 | 1 | 0 | 4 |
| $2: 00$ | 2 | 0 | 0 | 0 | 2 |
| $3: 00$ | 0 | 0 | 1 | 0 | 1 |
| $4: 00$ | 1 | 1 | 4 | 4 | 10 |
| $5: 00$ | 6 | 7 | 4 | 13 | 30 |
| $6: 00$ | 12 | 18 | 28 | 42 | 100 |
| $7: 00$ | 61 | 72 | 84 | 76 | 293 |
| $8: 00$ | 53 | 68 | 58 | 62 | 241 |
| $9: 00$ | 48 | 31 | 45 | 36 | 160 |
| $10: 00$ | 40 | 28 | 30 | 49 | 147 |
| $11: 00$ | 29 | 41 | 42 | 39 | 151 |
| $12: 00$ | 52 | 38 | 36 | 36 | 162 |
| $13: 00$ | 37 | 36 | 41 | 45 | 159 |
| $14: 00$ | 36 | 43 | 55 | 77 | 211 |
| $15: 00$ | 68 | 67 | 55 | 88 | 278 |
| $16: 00$ | 67 | 73 | 92 | 85 | 317 |
| $17: 00$ | 74 | 104 | 98 | 88 | 364 |
| $18: 00$ | 75 | 90 | 90 | 80 | 335 |
| $19: 00$ | 64 | 60 | 53 | 67 | 244 |
| $20: 00$ | 77 | 62 | 64 | 48 | 251 |
| $21: 00$ | 42 | 34 | 36 | 21 | 133 |
| $22: 00$ | 10 | 17 | 10 | 6 | 43 |
| $23: 00$ | 16 | 4 | 11 | 13 | 44 |
|  |  |  |  | TOTAL: | 3697 |

The A.M. peak hour from 7:00 to 8:00 is 293 The P.M. peak hour from 17:15 to $18: 15$ is 365


## NB Hudson Crossing between Driveways at Wonderland Montessori Academy

Date Began: 5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 2 | 4 | 2 | 1 | 9 |
| $1: 00$ | 1 | 0 | 0 | 0 | 1 |
| $2: 00$ | 1 | 0 | 0 | 0 | 1 |
| $3: 00$ | 0 | 0 | 1 | 0 | 1 |
| $4: 00$ | 0 | 1 | 4 | 3 | 84 |
| $5: 00$ | 5 | 7 | 1 | 11 | 24 |
| $6: 00$ | 9 | 16 | 20 | 26 | 71 |
| $7: 00$ | 33 | 47 | 54 | 61 | 195 |
| $8: 00$ | 35 | 49 | 41 | 33 | 158 |
| $9: 00$ | 29 | 16 | 21 | 19 | 85 |
| $10: 00$ | 26 | 20 | 18 | 24 | 88 |
| $11: 00$ | 18 | 23 | 22 | 25 | 88 |
| $12: 00$ | 28 | 18 | 18 | 16 | 80 |
| $13: 00$ | 19 | 15 | 19 | 26 | 79 |
| $14: 00$ | 18 | 19 | 23 | 47 | 107 |
| $15: 00$ | 32 | 39 | 33 | 50 | 154 |
| $16: 00$ | 37 | 27 | 39 | 39 | 142 |
| $17: 00$ | 40 | 48 | 42 | 42 | 172 |
| $18: 00$ | 40 | 39 | 47 | 35 | 161 |
| $19: 00$ | 23 | 21 | 25 | 30 | 99 |
| $20: 00$ | 47 | 25 | 24 | 21 | 117 |
| $21: 00$ | 15 | 11 | 15 | 5 | 46 |
| $22: 00$ | 3 | 3 | 5 | 2 | 13 |
| $23: 00$ | 9 | 1 | 4 | 3 | 17 |
|  |  |  |  | TOTAL: | 1916 |


| The A.M. peak hour from 7:30 to 8:30 is 199 |
| :---: |
| The P.M. peak hour from 17:15 to 18:15 is 172 |



SB Hudson Crossing between Driveways at Wonderland Montessori Academy
Date Began:
5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 3 | 2 | 0 | 3 | 8 |
| $1: 00$ | 1 | 1 | 1 | 0 | 3 |
| $2: 00$ | 1 | 0 | 0 | 0 | 1 |
| $3: 00$ | 0 | 0 | 0 | 0 | 0 |
| $4: 00$ | 1 | 0 | 0 | 1 | 2 |
| $5: 00$ | 1 | 0 | 3 | 2 | 6 |
| $6: 00$ | 3 | 2 | 8 | 16 | 29 |
| $7: 00$ | 28 | 25 | 30 | 15 | 98 |
| $8: 00$ | 18 | 19 | 17 | 29 | 83 |
| $9: 00$ | 19 | 15 | 24 | 17 | 75 |
| $10: 00$ | 14 | 8 | 12 | 25 | 59 |
| $11: 00$ | 11 | 18 | 20 | 14 | 63 |
| $12: 00$ | 24 | 20 | 18 | 20 | 82 |
| $13: 00$ | 18 | 21 | 22 | 19 | 80 |
| $14: 00$ | 18 | 24 | 32 | 30 | 104 |
| $15: 00$ | 36 | 28 | 22 | 38 | 124 |
| $16: 00$ | 30 | 46 | 53 | 46 | 175 |
| $17: 00$ | 34 | 56 | 56 | 46 | 192 |
| $18: 00$ | 35 | 51 | 43 | 45 | 174 |
| $19: 00$ | 41 | 39 | 28 | 37 | 145 |
| $20: 00$ | 30 | 37 | 40 | 27 | 134 |
| $21: 00$ | 27 | 23 | 21 | 16 | 87 |
| $22: 00$ | 7 | 14 | 5 | 4 | 30 |
| $23: 00$ | 7 | 3 | 7 | 10 | 27 |
|  |  |  |  | TOTAL: | 1781 |


| The A.M. peak hour from 6:45 to 7:45 is 99 |
| :---: |
| The P.M. peak hour from 17:15 to $18: 15$ is 193 |



24 - Hour Traffic Counts (NB \& SB combined)
Hudson Crossing between Pine Ridge Boulevard and Marvin Gardens
Date Began: 5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 8 | 7 | 7 | 6 | 28 |
| $1: 00$ | 0 | 1 | 3 | 1 | 5 |
| $2: 00$ | 1 | 0 | 1 | 1 | 3 |
| $3: 00$ | 0 | 3 | 2 | 1 | 6 |
| $4: 00$ | 2 | 3 | 3 | 3 | 11 |
| $5: 00$ | 6 | 6 | 8 | 7 | 27 |
| $6: 00$ | 11 | 20 | 26 | 54 | 111 |
| $7: 00$ | 49 | 75 | 90 | 76 | 290 |
| $8: 00$ | 50 | 59 | 50 | 52 | 211 |
| $9: 00$ | 34 | 25 | 38 | 28 | 125 |
| $10: 00$ | 37 | 20 | 25 | 38 | 120 |
| $11: 00$ | 20 | 29 | 47 | 32 | 128 |
| $12: 00$ | 36 | 25 | 36 | 28 | 125 |
| $13: 00$ | 29 | 25 | 41 | 30 | 125 |
| $14: 00$ | 34 | 35 | 47 | 90 | 206 |
| $15: 00$ | 60 | 60 | 51 | 76 | 247 |
| $16: 00$ | 54 | 63 | 81 | 72 | 270 |
| $17: 00$ | 60 | 96 | 81 | 71 | 308 |
| $18: 00$ | 70 | 85 | 90 | 78 | 323 |
| $19: 00$ | 69 | 47 | 42 | 58 | 216 |
| $20: 00$ | 69 | 49 | 52 | 37 | 207 |
| $21: 00$ | 28 | 28 | 21 | 16 | 93 |
| $22: 00$ | 10 | 9 | 13 | 4 | 36 |
| $23: 00$ | 8 | 4 | 9 | 7 | 28 |
|  |  |  |  | TOTAL: | 3249 |

The A.M. peak hour from 7:15 to 8:15 is 291 The P.M. peak hour from 18:00 to 19:00 is 323


NB Hudson Crossing between Pine Ridge Boulevard and Marvin Gardens
Date Began:
5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 6 | 6 | 3 | 4 | 19 |
| $1: 00$ | 0 | 0 | 2 | 0 | 2 |
| $2: 00$ | 0 | 0 | 1 | 1 | 2 |
| $3: 00$ | 0 | 1 | 1 | 1 | 3 |
| $4: 00$ | 1 | 2 | 1 | 2 | 6 |
| $5: 00$ | 4 | 3 | 1 | 5 | 13 |
| $6: 00$ | 5 | 10 | 13 | 23 | 51 |
| $7: 00$ | 21 | 37 | 50 | 52 | 160 |
| $8: 00$ | 28 | 35 | 28 | 33 | 124 |
| $9: 00$ | 18 | 10 | 15 | 11 | 54 |
| $10: 00$ | 20 | 12 | 18 | 15 | 65 |
| $11: 00$ | 11 | 16 | 22 | 19 | 68 |
| $12: 00$ | 19 | 12 | 17 | 16 | 64 |
| $13: 00$ | 14 | 9 | 19 | 17 | 59 |
| $14: 00$ | 19 | 14 | 17 | 51 | 101 |
| $15: 00$ | 32 | 37 | 25 | 43 | 137 |
| $16: 00$ | 30 | 27 | 33 | 35 | 125 |
| $17: 00$ | 38 | 47 | 38 | 36 | 159 |
| $18: 00$ | 35 | 36 | 45 | 33 | 149 |
| $19: 00$ | 30 | 16 | 21 | 37 | 104 |
| $20: 00$ | 48 | 25 | 19 | 15 | 107 |
| $21: 00$ | 12 | 12 | 11 | 7 | 42 |
| $22: 00$ | 4 | 1 | 8 | 2 | 15 |
| $23: 00$ | 4 | 3 | 4 | 2 | 13 |
|  |  |  |  | TOTAL: | 1642 |


| The A.M. peak hour from 7:15 to 8:15 is 167 |
| :---: |
| The P.M. peak hour from 17:00 to 18:00 is 159 |



SB Hudson Crossing between Pine Ridge Boulevard and Marvin Gardens
Date Began:
5/6/2014

| TIME | $0: 00$ | $0: 15$ | $0: 30$ | $0: 45$ | TOTAL |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $0: 00$ | 2 | 1 | 4 | 2 | 9 |
| $1: 00$ | 0 | 1 | 1 | 1 | 3 |
| $2: 00$ | 1 | 0 | 0 | 0 | 1 |
| $3: 00$ | 0 | 2 | 1 | 0 | 3 |
| $4: 00$ | 1 | 1 | 2 | 1 | 5 |
| $5: 00$ | 2 | 3 | 7 | 2 | 14 |
| $6: 00$ | 6 | 10 | 13 | 31 | 60 |
| $7: 00$ | 28 | 38 | 40 | 24 | 130 |
| $8: 00$ | 22 | 24 | 22 | 19 | 87 |
| $9: 00$ | 16 | 15 | 23 | 17 | 71 |
| $10: 00$ | 17 | 8 | 7 | 23 | 55 |
| $11: 00$ | 9 | 13 | 25 | 13 | 60 |
| $12: 00$ | 17 | 13 | 19 | 12 | 61 |
| $13: 00$ | 15 | 16 | 22 | 13 | 66 |
| $14: 00$ | 15 | 21 | 30 | 39 | 105 |
| $15: 00$ | 28 | 23 | 26 | 33 | 110 |
| $16: 00$ | 24 | 36 | 48 | 37 | 145 |
| $17: 00$ | 22 | 49 | 43 | 35 | 149 |
| $18: 00$ | 35 | 49 | 45 | 45 | 174 |
| $19: 00$ | 39 | 31 | 21 | 21 | 112 |
| $20: 00$ | 21 | 24 | 33 | 22 | 100 |
| $21: 00$ | 16 | 16 | 10 | 9 | 51 |
| $22: 00$ | 6 | 8 | 5 | 2 | 21 |
| $23: 00$ | 4 | 1 | 5 | 5 | 15 |
|  |  |  |  | TOTAL: | 1607 |


| The A.M. peak hour from 6:45 to 7:45 is 137 |
| :---: |
| The P.M. peak hour from 18:15 to 19:15 is 178 |




[^0]:    *Based on NCTCOG's, DFW Regional Travel Model Exhibit 24

