

# *Traffic Study*

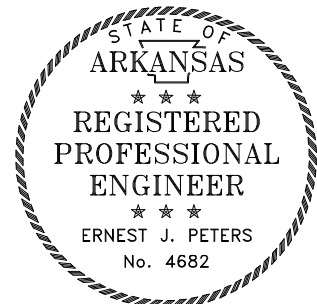
## *Proposed Commercial Development*

*prepared for:*

Construction Network, Inc.

Johnson Avenue (Highway 49)  
and  
Proposed Visions Avenue

Jonesboro, Arkansas



A handwritten signature in blue ink, appearing to read "E. Peters", located below the professional seal.

Project No.: P-2052

July 27, 2020



PETERS & ASSOCIATES  
ENGINEERS, INC.

• CIVIL & TRAFFIC ENGINEERING •

5507 Ranch Drive - Suite 209  
Little Rock, Arkansas 72223 (501) 868-3999

## TABLE OF CONTENTS

---

| Section | Page |
|---------|------|
|---------|------|

---

|  |    |
|--|----|
| Executive Summary                          | 1  |
| Introduction                               | 4  |
| The Site                                   | 6  |
| Existing Traffic Conditions                | 9  |
| Trip Generation & Site Traffic Projections | 10 |
| Traffic Volume Assignments                 | 12 |
| Capacity and Level of Service              | 16 |
| Auxiliary Right-Turn Lane Analysis         | 21 |
| Summary of Findings                        | 23 |

### APPENDIX

|  |
|--|
| Site Plat                                  |
| Trip Generation Data                       |
| Vehicle Turning Movement Count Data        |
| Capacity and Level of Service Calculations |



## EXECUTIVE SUMMARY

Peters & Associates Engineers, Inc., has conducted a traffic engineering study in conjunction with assessing vehicular access for a commercial development to consist of six tracts and to be located north of Johnson Avenue (Highway 49) and south of Hudson Drive in Jonesboro, Arkansas. Two of the tracts (Tracts A and B) are under a separate ownership, but once developed are expected to take access via Visions Avenue. Accordingly, projected traffic volumes associated with the Tracts A and B have been calculated and included in traffic volumes used in traffic operational analysis for completeness. Access to the six tracts is proposed via a new street (Visions Avenue) intersecting Johnson Avenue (Highway 49). Visions Avenue will connect to Hudson Drive to the north. The proposed Visions Avenue will serve as the north leg of the intersection on Johnson Avenue and will align with the existing Bill's Cost-Plus Supermarket east drive. Access to each of the tracts will be along the proposed Visions Avenue. The primary focus of this report is to assess traffic operational characteristics of the intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive.

Directional splits and proposed street assignments for site-generated traffic volumes at the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive were made based on existing traffic patterns and the proposed development tracts layout. Access to Hudson Drive has been taken into consideration for analysis of projected traffic conditions.

Projected traffic volumes were calculated for full build-out of the proposed development with planned or assumed land-uses. These projected site-generated trips were added to the existing traffic volumes which resulted in projected traffic volumes at full build-out of the six tracts as proposed. As a part of this study, capacity and level of service (LOS) traffic operational analysis has been conducted for the study intersection for AM and PM peak hours for projected traffic conditions.

Findings of this study are summarized as follows:

- Approximately 4,221 vehicle trips (combined in and out) per average weekday are projected to be generated by full build-out of the proposed six-tract commercial development proposed and/or assumed



land uses on this site. Of this total, approximately 254 vehicle trips are estimated during the traffic conditions of the AM peak hour and approximately 264 vehicle trips are estimated during the traffic conditions of the PM peak hour.

- Capacity and LOS analysis was performed for projected traffic conditions for full build-out of the six-tract commercial development for the AM and PM peak hours for the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive. All vehicle movements for the projected traffic conditions at the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive are expected to operate at what calculates as an acceptable LOS "D" or better for the AM and PM peak hours except for the following:
  - The northbound left-turn vehicle movement from Bill's Cost-Plus Supermarket east drive during the PM peak hour (LOS "F"). This volume is low (only 15 vehicles) and the delay is caused by the much higher volumes on Johnson Avenue.
  - The southbound left-turn vehicle movement from Visions Avenue during the AM and PM peak hours (LOS "F"). These volumes are low (only 41 vehicles during the AM peak hour and only 39 vehicles during the PM peak hour) and the delay is caused by the much higher volumes on Johnson Avenue.
- The southbound left-turn vehicle movements on Visions Avenue at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to only be approximately 33 feet during the AM peak hour and approximately 86 feet during the PM peak hour with "Stop" sign control. The northbound left-turn vehicle movements on Bill's Cost-Plus Supermarket east drive at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to be only one vehicle during the AM and PM peak hours with "Stop" sign control.

## Traffic Study

- The average seconds delay per vehicle is expected to be at acceptable levels during the AM and PM peak hours for these projected traffic conditions at the study intersection.
- It was found that criteria is not expected to be met for a westbound right-turn deceleration lane on Johnson Avenue at the proposed Visions Avenue during neither the weekday AM nor PM peak hour projected traffic conditions.
- The proposed location of Visions Avenue is located approximately 320 feet west of the nearest access drive to the east (Songbird Square westernmost access drive) and approximately 600 feet east of the nearest access drive to the west (1st National Bank access drive). This spacing conforms to the recently adopted City of Jonesboro Access Management Policy for access spacing on a major arterial roadway (300 feet to 500 feet).

The conclusion of traffic operational findings associated with this study is that additional traffic expected to be generated by the development as proposed or assumed can be accommodated by the existing adjacent Johnson Avenue lane geometry and Visions Avenue, as proposed, to consist of a southbound left-turn lane, a southbound thru/right-turn lane and a northbound receiving lane at Johnson Avenue, without discernable impact on traffic flow along Johnson Avenue in the vicinity. All access to the six tracts via Visions Avenue is better than multiple access points along Johnson Avenue.

The proposed Visions Avenue intersecting Johnson Avenue (Highway 49) must conform to design standards of the City of Jonesboro and ARDOT and will require approval by the City and ARDOT. The proposed Visions Avenue intersecting Hudson Drive must conform to design standards of the City of Jonesboro and will require approval by the City.



## INTRODUCTION

Peters & Associates Engineers, Inc., has conducted a traffic engineering study in conjunction with assessing vehicular access for a commercial development to consist of six tracts and to be located north of Johnson Avenue (Highway 49) and south of Hudson Drive in Jonesboro, Arkansas. Two of the tracts (Tracts A and B) are under a separate ownership, but once developed are expected to take access via Visions Avenue. Accordingly, projected traffic volumes associated with the Tracts A and B have been calculated and included in traffic volumes used in traffic operational analysis for completeness. Access to the six tracts is proposed via a new street (Visions Avenue) intersecting Johnson Avenue (Highway 49). Visions Avenue will connect to Hudson Drive to the north. The proposed Visions Avenue will serve as the north leg of the intersection on Johnson Avenue and will align with the existing Bill's Cost-Plus Supermarket east drive. Access to each of the tracts will be along the proposed Visions Avenue. The primary focus of this report is to assess traffic operational characteristics of the intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive. A reduced copy of the site plat is included in the Appendix for reference.

Directional splits and proposed street assignments for site-generated traffic volumes at the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive were made based on existing traffic patterns and the proposed development tracts layout. Access to Hudson Drive has been taken into consideration for analysis of projected traffic conditions.

This is a report of methodology and findings relating to a traffic engineering study undertaken to:

- Determine projected traffic volumes entering and exiting the proposed development at the study intersection at Johnson Avenue.



- Identify the effects on traffic operations for existing traffic in combination with site-generated traffic associated with full build-out of the proposed development.
- Evaluate projected traffic operations for the study intersection and make recommendations for improvements which may be necessary and appropriate for acceptable traffic operations for the projected traffic conditions.

In the following sections of this traffic study report are traffic data, study methods, findings and recommendations. The study is technical in nature. Analysis techniques employed are those most commonly used in the traffic engineering profession for traffic impact analysis. Certain data and calculations relative to traffic operational analysis are referenced in the report. Complete calculations and data are included in the Appendix of the report.



## THE SITE

The location of the development is in the City of Jonesboro, in Craighead County, Arkansas. The development is proposed to be located north of Johnson Avenue (Highway 49) and south of Hudson Drive. The proposed development site location and vicinity are shown on Figures 1 and 2, which follow.



**Figure 1 – Vicinity Map**



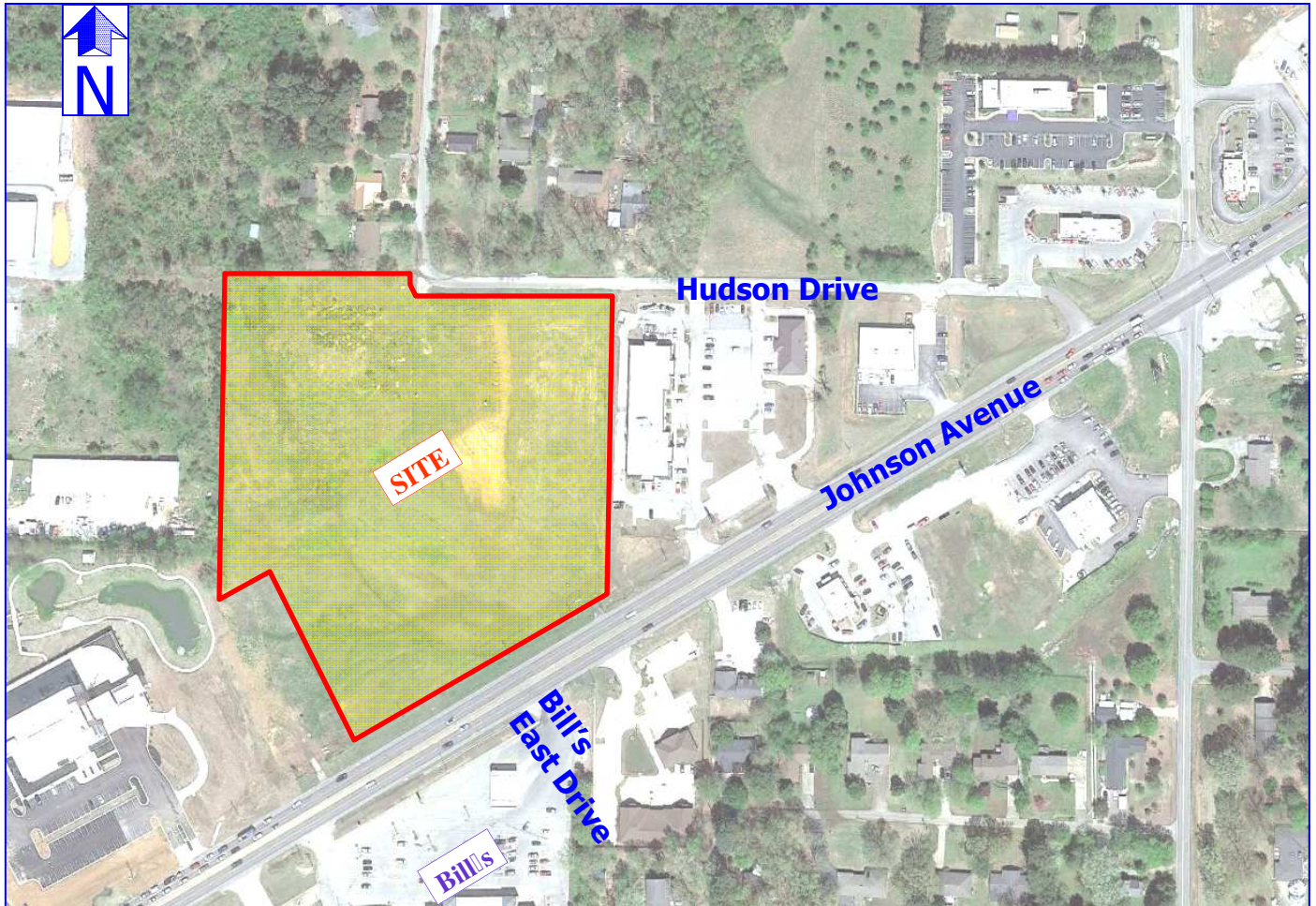


Figure 2 – Site Location Map

Access to the six tracts is proposed via a new street (Visions Avenue) intersecting Johnson Avenue (Highway 49). Visions Avenue will connect to Hudson Drive to the north. The proposed Visions Avenue will serve as the north leg of the intersection on Johnson Avenue and will align with the existing Bill's Cost-Plus Supermarket east drive. Access to each of the tracts will be along the proposed Visions Avenue.

**Johnson Avenue (Highway 49)**, is a five-lane roadway in the vicinity of the site, consisting of two eastbound lanes, two westbound lanes and a bi-directional center turn lane. There are shoulders and drainage ditches and no sidewalks along both sides of Johnson Avenue in the vicinity of the site. The speed limit is 45 miles per hour at the site. Johnson Avenue is classified as a Principal Arterial on the City of Jonesboro Master Street Plan.



### EXISTING TRAFFIC CONDITIONS

Traffic count data collected as a part of this study include AM and PM peak hours vehicle turning movement counts at the intersection of Johnson Avenue and the Bill's Cost-Plus Supermarket east drive. The peak hours vehicle turning movement count data for this intersection is presented in more detail in the Appendix of this report.

Arkansas Department of Transportation (ARDOT) published 2018 turning movement data for the intersection of Johnson Avenue and Airport Road / Pleasant Grove Road and intersection of Johnson Avenue and Old Greensboro Road (Highway 351) in the vicinity of the study area. These ARDOT provided 2018 traffic volumes were compared to current traffic volumes at the intersection of Johnson Avenue and the Bill's Cost-Plus Supermarket east drive. It was found that current AM and PM Peak Hour traffic volumes are slightly higher than the ARDOT provided 2018 traffic volumes (plus two years background growth to estimate 2020 volumes) and were used for existing volumes as a part of this report.



## TRIP GENERATION and SITE TRAFFIC PROJECTIONS

The Trip Generation, an Informational Report, published by the Institute of Transportation Engineers (ITE) and The Trip Generation Manual 10th Edition, 2017, were utilized in calculating the magnitude of traffic volumes expected to be generated by the proposed or assumed land uses of the site. These are reliable sources for this information and are commonly used in the traffic engineering profession. This software is the most up-to-date software for estimating vehicle trip generation at this time.

Using the selected trip generation rates, calculations were made as a part of this study to provide a reliable estimate of traffic volumes that can be expected to be associated with full build-out of the development as proposed. These calculations entail applying the appropriate trip-generation rates to the land uses planned or assumed for the development. Results of these calculations are summarized on Table 1, "Summary of Trip-Generation."

| LOT                                      | PROPOSED/ASSUMED<br>LAND USES      | APPROXIMATE<br>SIZE | ITE<br>CODE | 24-HOUR<br>TWO-WAY<br>WEEKDAY<br>VOLUME | AM<br>PEAK HOUR<br>VOLUME |            | PM PEAK HOUR<br>PEAK HOUR<br>VOLUME |            |
|--|------------------------------------|---------------------|-------------|---|---------------------------|------------|-------------------------------------|------------|
|  |                                    |                     |             |   | ENTER                     | EXIT       | ENTER                               | EXIT       |
| 1  | High Turnover Sit-Down Restaurant  | 5,000 Sq. Ft.       | 932         | 561                                     | 27                        | 23         | 30                                  | 19         |
| 2  | *Full Service Car Wash             | 1 Lane              | 948         | 1,000                                   | 20                        | 20         | 39                                  | 39         |
| 3  | Fast-Food Restaurant w/ Drive-Thru | 3,500 Sq. Ft.       | 934         | 1,648                                   | 72                        | 69         | 59                                  | 55         |
| 4  | Office                             | 7,000 Sq. Ft.       | 710         | 68                                      | 7                         | 1          | 1                                   | 7          |
| A  | Commercial Retail                  | 15,000 Sq. Ft.      | 820         | 566                                     | 9                         | 5          | 27                                  | 30         |
| B  | Commercial Retail                  | 10,000 Sq. Ft.      | 820         | 378                                     | 5                         | 4          | 18                                  | 20         |
| <b>UNADJUSTED TOTAL DRIVEWAY VOLUMES</b> |                                    |                     |             | <b>4,221</b>                            | <b>140</b>                | <b>122</b> | <b>174</b>                          | <b>170</b> |
| <b>INTERNAL TRIP CAPTURE</b>             |                                    |                     |             |   | <b>-4</b>                 | <b>-4</b>  | <b>-40</b>                          | <b>-40</b> |
| <b>ADJUSTED DRIVEWAY VOLUMES</b>         |                                    |                     |             |   | <b>136</b>                | <b>118</b> | <b>134</b>                          | <b>130</b> |
| <b>TOTAL ENTERING + EXITING</b>          |                                    |                     |             |   | <b>254</b>                |            | <b>264</b>                          |            |

*\*Data for a typical weekday provided by the Owner. There is expected to be approximately 500 vehicles enter and exit the Car Wash per day.*

**Table 1 – Summary of Trip-Generation**

## Traffic Study

These calculations indicate that approximately 4,221 vehicle trips (combined in and out) per average weekday are projected to be generated by full build-out of the six-tract commercial development proposed and/or assumed land uses on this site. Of this total for full build-out conditions, approximately 254 vehicle trips are estimated during the traffic conditions of the AM peak hour and approximately 264 vehicle trips are estimated during the traffic conditions of the PM peak hour.

These data have been adjusted slightly for internal trip capture (i.e. multi-purpose trips within the site as opposed to new trips for each site land use).

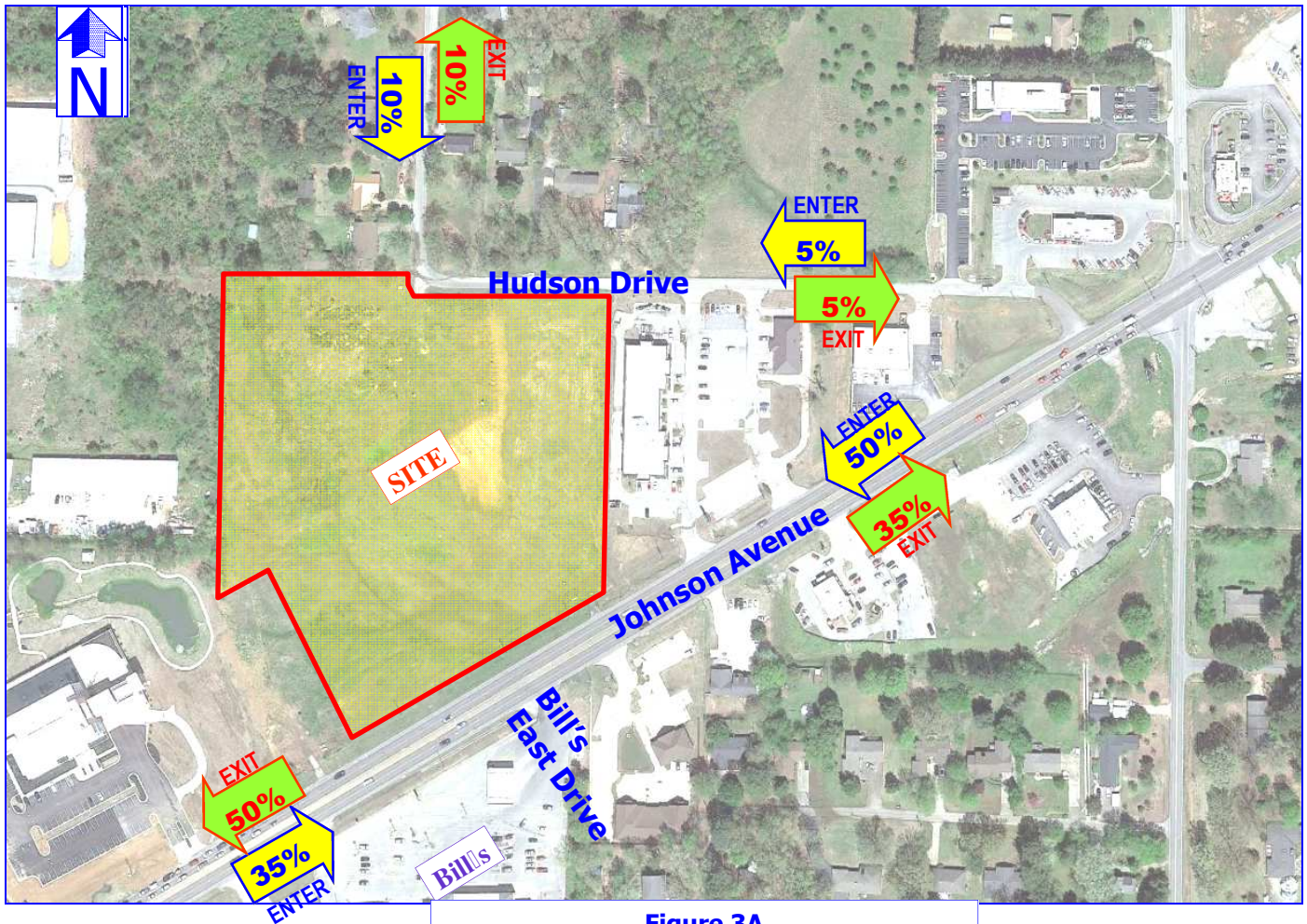
Proposed and assumed retail commercial land uses and office land-use traffic, as will likely be associated with site, ordinarily contributes to the adjacent street traffic conditions during the on-street AM and PM peak traffic hours. Accordingly, the AM and PM peak traffic periods of the adjacent roads are the traffic operating conditions which have warranted primary traffic analysis as a part of this study.





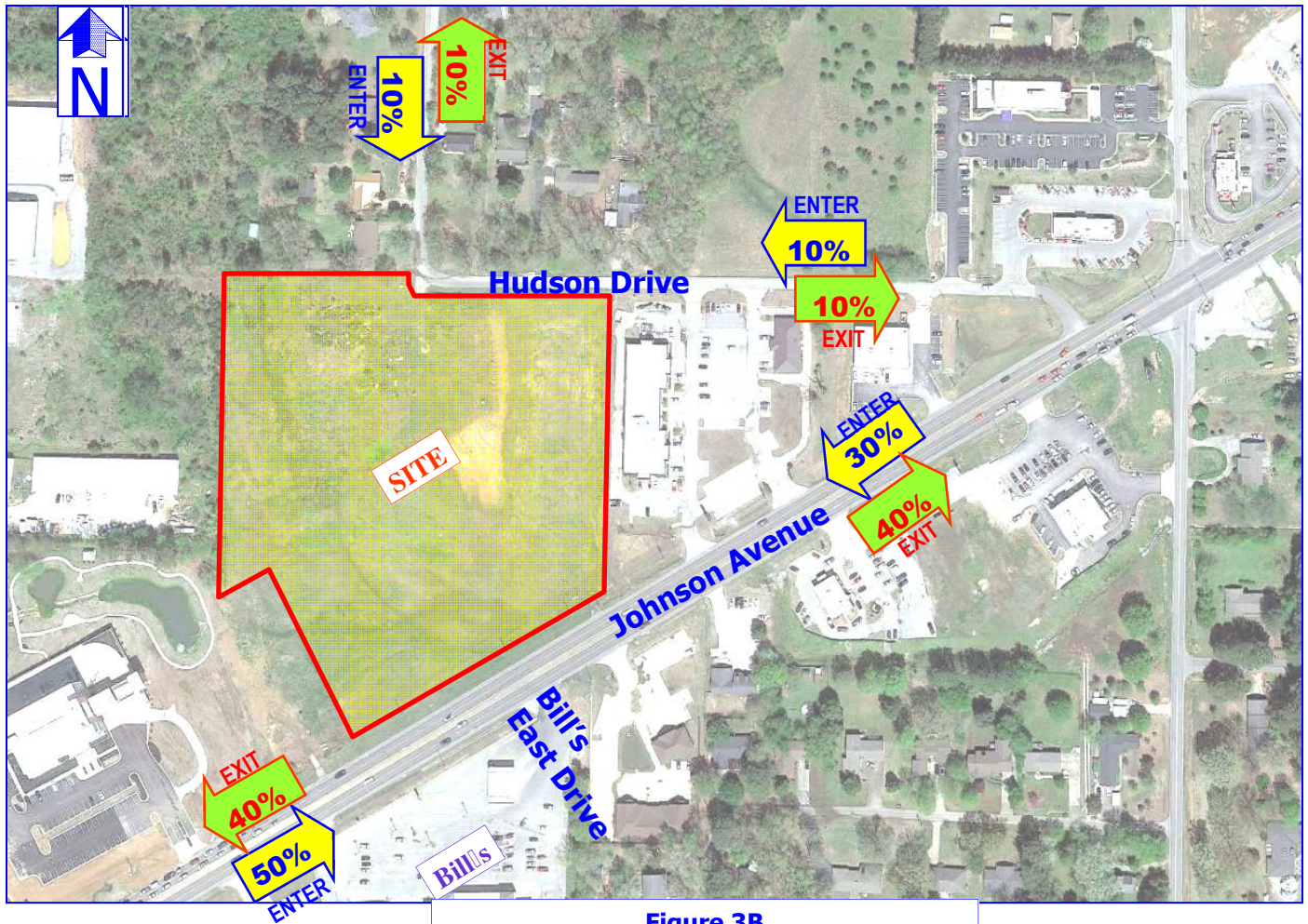
## TRAFFIC VOLUME ASSIGNMENTS

Once projected traffic was estimated for the site, directional distributions were made to reflect the percent of anticipated vehicle turning movements at the study intersection. Vehicle trip distribution was developed based on current traffic counts and expected travel patterns to and from the proposed development. Directional distribution percentages used for projected traffic conditions in this study are shown on Figure 3A, "Directional Distribution - Site Traffic - AM Peak Hour," and Figure 3B, "Directional Distribution - Site Traffic - PM Peak Hours."



**Figure 3A**  
Directional Distribution - Site Traffic  
AM Peak Hour





**Figure 3B**  
Directional Distribution - Site Traffic  
PM Peak Hour

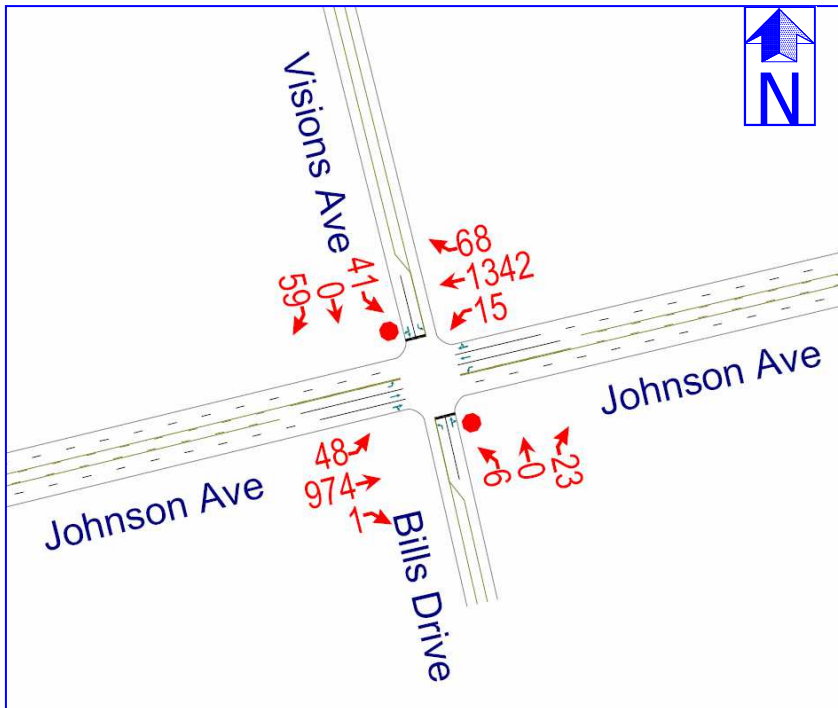
The directional distribution percentages for site traffic have been equated to percentage turns for each movement at the study intersection. The site-generated traffic volumes result from applying the directional distribution percentages to the corresponding projected site-generated traffic volumes summarized on Table 1, "Summary of Trip-Generation."

These projected site-generated trips for the development were added to the existing traffic volumes and the results are depicted on the following figures:

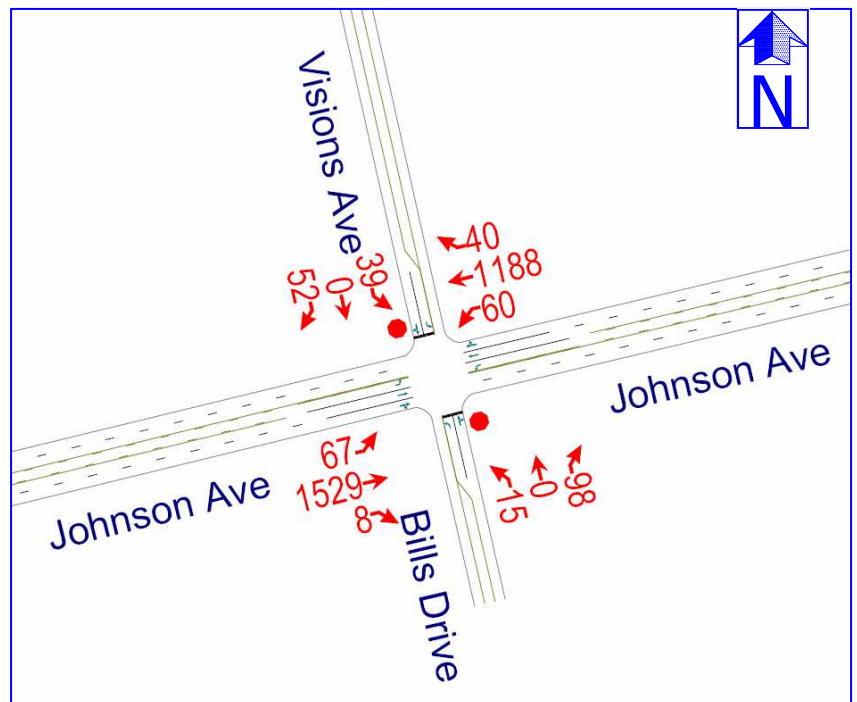
- Figure 4A, "Projected Traffic Volumes - AM Peak Hour."
- Figure 4B, "Projected Traffic Volumes - PM Peak Hour."

Traffic volumes shown on Figures 4A and 4B are the values used in capacity and level of service calculations conducted as a part of this study. The effect of existing background traffic (i.e. the adjacent street non-site traffic which exists) and projected traffic associated with the site development has thus been accounted for in this analysis.





**Figure 4A**  
Projected Traffic Volumes  
AM Peak Hour



**Figure 4B**  
Projected Traffic Volumes  
PM Peak Hour

## CAPACITY and LEVEL OF SERVICE

Generally, the "capacity" of a street is a measure of its ability to accommodate a certain magnitude of moving vehicles. It is a rate as opposed to a quantity, measured in terms of vehicles per hour. More specifically, street capacity refers to the maximum number of vehicles that a street element (e.g. an intersection) can be expected to accommodate in a given time period under the prevailing roadway and traffic conditions.

Traffic operational analysis for the study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 2010 Edition, published by the Transportation Research Board. The operating conditions at an intersection are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F". LOS "A" represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS "F" generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. The table below shows the upper limit of delay associated with each level of service for signalized and un-signalized intersections.

### Intersection Level of Service Delay Thresholds

#### Level of Service

| (LOS) | Signalized   | Un-Signalized |
|-------|--------------|---------------|
| A     | < 10 Seconds | < 10 Seconds  |
| B     | < 20 Seconds | < 15 Seconds  |
| C     | < 35 Seconds | < 25 Seconds  |
| D     | < 55 Seconds | < 35 Seconds  |
| E     | < 80 Seconds | < 50 Seconds  |
| F     | ≥ 80 Seconds | ≥ 50 Seconds  |

The LOS rating deemed acceptable varies by community, facility type and traffic control device. LOS "D" is the desirable goal for movements at un-signalized intersections that must yield to other movements; however, a LOS "E" or "F" is often accepted for individual vehicle movement for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection or the location is deemed undesirable for signalization for other reasons. Other reasons may include the close proximity of an existing traffic signal or the presence of a convenient alternative route. For signalized intersections, level of service and average delay relate to all vehicles using the intersection. LOS "D" is the typical desirable standard for signalized intersections. The study intersection was evaluated using the Synchro analysis software package based on Highway Capacity Manual methods. This computer program has been proven to be reliable when used to analyze capacity and levels of traffic service under various operating conditions. Detailed results for all capacity calculations are included in the Appendix. The adjacent street weekday AM, noon and PM peak traffic periods were used for these calculations. Factors included in the analysis are as follows:

- Existing traffic volumes.
- Directional distribution of projected traffic volumes.
- Proposed intersection geometry (including elements such as turn lanes, curb radii, etc.).
- Existing background traffic volumes and projected site-generated volumes for projected traffic conditions.
- Proposed traffic control.

## CAPACITY ANALYSIS

### *Level of Service Analysis Results*

#### Projected Traffic Conditions

Capacity and LOS analysis was performed for projected traffic conditions for full build-out of the development for the AM and PM peak hours for the intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive.

Traffic volumes used for these projected traffic conditions are shown on Figure 4A, "Projected Traffic Volumes - AM Peak Hour," and Figure 4B, "Projected Traffic Volumes - PM Peak Hour." The operating conditions projected to exist at the study intersection are summarized in Table 2, "Level of Service Summary - Projected Traffic Conditions."

As indicated in Table 2, all vehicle movements for the projected traffic conditions at the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive are expected to operate at what calculates as an acceptable LOS "D" or better for the AM and PM peak hours except for the following:

- o The northbound left-turn vehicle movement from Bill's Cost-Plus Supermarket east drive during the PM peak hour (LOS "F"). This volume is low (only 15 vehicles) and the delay is caused by the much higher volumes on Johnson Avenue.
- o The southbound left-turn vehicle movement from Visions Avenue during the AM and PM peak hours (LOS "F"). These volumes are low (only 41 vehicles during the AM peak hour and only 39 vehicles during the PM peak hour) and the delay is caused by the much higher volumes on Johnson Avenue.

| PROJECTED TRAFFIC CONDITIONS                                    |  | INTERSECTION | PEAK HR |    | Traffic Control | PEAK HOUR - LEVEL OF SERVICE |                   |                         |                        |                   |                         |                         |                    |                          |                         |                    |                          | Overall Intersection | Avg. Control Delay<br>Seconds / Vehicle | Intersection<br>Capacity Utilization<br>(%) |
|---|--|--------------|---------|----|-----------------|------------------------------|-------------------|-------------------------|------------------------|-------------------|-------------------------|-------------------------|--------------------|--------------------------|-------------------------|--------------------|--------------------------|----------------------|---|---|
|   |  |              | AM      | PM |                 | Eastbound<br>Left-Turn       | Eastbound<br>Thru | Eastbound<br>Right-Turn | Westbound<br>Left-Turn | Westbound<br>Thru | Westbound<br>Right-Turn | Northbound<br>Left-Turn | Northbound<br>Thru | Northbound<br>Right-Turn | Southbound<br>Left-Turn | Southbound<br>Thru | Southbound<br>Right-Turn |                      |   |   |
| Johnson Avenue and<br>Visions Avenue / Billis East Access Drive |  |              |         |    | "STOP" SIGN     | B                            | A                 | A                       | B                      | C                 | A                       | D                       | B                  | F                        | F                       | C                  | C                        | n/a                  | 1.9                                     | 57.8%                                       |
|   |  |              |         |    |                 | B                            | A                 | A                       | C                      | A                 | A                       | F                       | C                  | F                        | F                       | C                  | C                        | n/a                  | 4.2                                     | 67.3%                                       |

**Table 2 - Level of Service Summary - Projected Traffic Conditions**

Also, the southbound left-turn vehicle movements on Visions Avenue at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to only be approximately 33 feet during the AM peak hour and approximately 86 feet during the PM peak hour with "Stop" sign control. The northbound left-turn vehicle movements on Bill's Cost-Plus Supermarket east drive at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to be only one vehicle during the AM and PM peak hours with "Stop" sign control.

The average seconds delay per vehicle is expected to be at acceptable levels during the AM and PM peak hours for these projected traffic conditions at the study intersection.

For these projected traffic conditions, it was assumed that Visions Avenue constructed to consist of a southbound left-turn lane, a southbound thru/right-turn lane and a northbound receiving lane.

### AUXILIARY RIGHT-TURN LANE ANALYSIS

Right-turn lane warrants analysis on Johnson Avenue at the proposed Visions Avenue for the worst-case weekday AM and PM peak hours have been conducted using guidelines for right-turn lanes warrants consistent with criteria described in AASHTO's A Policy on Geometric Design of Highways and Street, 2011, 6th Edition. The following are guidelines for right turn lane recommendations at unsignalized intersections:

- Right-turn lanes shall be considered if traffic volumes at an intersection meet the thresholds as shown on the following page on Graph 1, "Right-Turn Lane Warrants," for non-stopping approaches at a non-signalized intersection.
- The following data is required for the Right-Turn Lane Warrants criteria:
  - Speed limit (equal or less than 45 MPH or greater than 45 MPH).
  - Percent of right-turns.
  - Advancing volume (includes through + right + left turn traffic).
- Capacity analysis should also be examined to evaluate the need for right-turn lanes at stop controlled approaches. It was found that the westbound right-turn vehicle movements on Johnson Avenue at the proposed Visions Avenue are expected to operate at what calculates as an acceptable LOS "A" or better for projected traffic conditions for the AM and PM peak hours without the addition of a right-turn lane.

Johnson Avenue is currently a five-lane undivided roadway with a posted 45 mile per hour speed limit. Guidelines for a westbound deceleration right-turn lane on Johnson Avenue at the proposed Visions Avenue has been analyzed for the AM and PM peak hours for projected conditions. The results are depicted on Graph 1 and are summarized as follows:



## Traffic Study

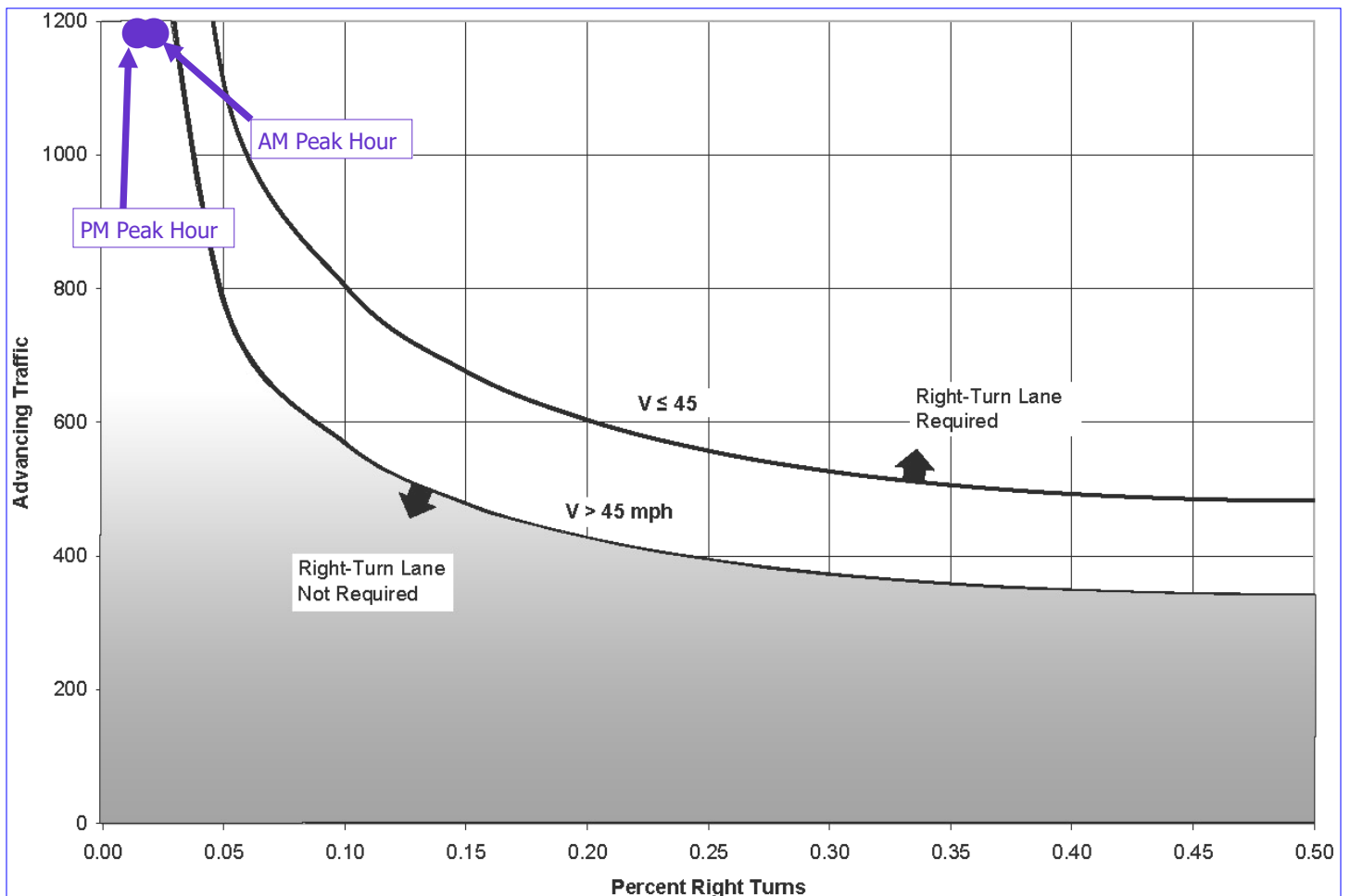
- Westbound Johnson Avenue at the proposed Visions Avenue.

### AM Peak Hour

- Advancing Volume = 1,656 vehicles.
- Right-Turns = 68 vehicles (4% RT).
- Right-Turn Warrant Not Met.

### PM Peak Hour

- Advancing Volume = 1,205 vehicles.
- Right-Turns = 40 vehicles (3% RT).
- Right-Turn Warrant Not Met.



**Graph 1 - Right-Turn Lane Warrants**





## SUMMARY OF FINDINGS

Findings of this study are summarized as follows:

- Approximately 4,221 vehicle trips (combined in and out) per average weekday are projected to be generated by full build-out of the proposed six-tract commercial development proposed and/or assumed land uses on this site. Of this total, approximately 254 vehicle trips are estimated during the traffic conditions of the AM peak hour and approximately 264 vehicle trips are estimated during the traffic conditions of the PM peak hour.
- Capacity and LOS analysis was performed for projected traffic conditions for full build-out of the six-tract commercial development for the AM and PM peak hours for the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive. All vehicle movements for the projected traffic conditions at the study intersection of Johnson Avenue and the proposed Visions Avenue / Bill's Cost-Plus Supermarket east drive are expected to operate at what calculates as an acceptable LOS "D" or better for the AM and PM peak hours except for the following:
  - The northbound left-turn vehicle movement from Bill's Cost-Plus Supermarket east drive during the PM peak hour (LOS "F"). This volume is low (only 15 vehicles) and the delay is caused by the much higher volumes on Johnson Avenue.
  - The southbound left-turn vehicle movement from Visions Avenue during the AM and PM peak hours (LOS "F"). These volumes are low (only 41 vehicles during the AM peak hour and only 39 vehicles during the PM peak hour) and the delay is caused by the much higher volumes on Johnson Avenue.
- The southbound left-turn vehicle movements on Visions Avenue at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to only be approximately 33 feet during the AM peak hour and approximately 86 feet during the PM peak hour with "Stop" sign control. The northbound left-

turn vehicle movements on Bill's Cost-Plus Supermarket east drive at Johnson Avenue calculated 95th percentile vehicle queue lengths are expected to be only one vehicle during the AM and PM peak hours with "Stop" sign control.

- The average seconds delay per vehicle is expected to be at acceptable levels during the AM and PM peak hours for these projected traffic conditions at the study intersection.
- It was found that criteria is not expected to be met for a westbound right-turn deceleration lane on Johnson Avenue at the proposed Visions Avenue during neither the weekday AM nor PM peak hour projected traffic conditions.
- The proposed location of Visions Avenue is located approximately 320 feet west of the nearest access drive to the east (Songbird Square westernmost access drive) and approximately 600 feet east of the nearest access drive to the west (1st National Bank access drive). This spacing conforms to the recently adopted City of Jonesboro Access Management Policy for access spacing on a major arterial roadway (300 feet to 500 feet).

The conclusion of traffic operational findings associated with this study is that additional traffic expected to be generated by the development as proposed or assumed can be accommodated by the existing adjacent Johnson Avenue lane geometry and Visions Avenue, as proposed, to consist of a southbound left-turn lane, a southbound thru/right-turn lane and a northbound receiving lane at Johnson Avenue, without discernable impact on traffic flow along Johnson Avenue in the vicinity. All access to the six tracts via Visions Avenue is better than multiple access points along Johnson Avenue.

The proposed Visions Avenue intersecting Johnson Avenue (Highway 49) must conform to design standards of the City of Jonesboro and ARDOT and will require approval by the City and ARDOT. The proposed Visions Avenue intersecting Hudson Drive must conform to design standards of the City of Jonesboro and will require approval by the City.

# APPENDIX



PETERS & ASSOCIATES  
ENGINEERS, INC.

---



1. SUBJECT PROPERTY IS ZONED C-3, GENERAL COMMERCIAL DISTRICT AND C-3 UO, GENERAL COMMERCIAL DISTRICT LIMITED USE OVERLAY.
2. C-3 ZONING BUILDING SETBACKS AND RESTRICTIONS PER THE CITY OF JOHNSBORO:  
STREET SETBACK - 25'  
SIDE SETBACK - 10'  
REAR SETBACK - 20'  
MAXIMUM HEIGHT LIMITATION - 45'  
MAXIMUM LOT COVERAGE - 50%
3. FOR MORE INFORMATION ABOUT ZONING RESTRICTIONS AND LIMITED USES, CONTACT THE CITY OF JOHNSBORO PLANNING AND ZONING DEPARTMENT AT (878) 332-9406.

**ELECTRIC, WATER & SEWER:** **TELECOMMUNICATIONS**

CITY WATER & LIGHT  
400 EAST MONROE  
ARLINGTON, TEXAS 76010

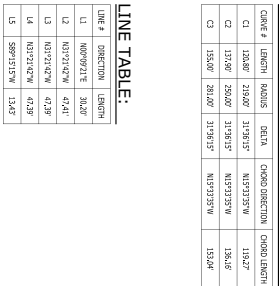
AISI ARKANSAS  
723 SOUTH CHURCH  
LITTLE ROCK, ARKANSAS 72201

**NATURAL GAS:**  
CENTREPOINT ENERGY  
3013 OLD FEEB HOUSE ROAD  
JONESBORO, AR 72404  
(870) 977-0682

**SUBDUTELINK COMMUNICATIONS**  
1520 SOUTH CARAWAY ROAD  
JONESBORO, AR 72401  
(870) 935-1615

**RITTER COMMUNICATIONS**  
2400 RITTER DRIVE  
JONESBORO, AR 72401  
(870) 336-3434

- FOUND MONUMENT (AS NOTED)
- △ COMPILED POINT (NOT MONUMENTED)
- UTILITY POLE
- ◇ LIGHT POLE
- ⤵ GUY WIRE
- WATER METER
- ⦿ WATER VALVE
- ⚡ FIRE HYDRANT
- SANITARY SEWER MANHOLE
- TELECOMMUNICATIONS PEDestal
- BOUNDARY LINE
- OVERHEAD ELECTRIC LINE
- SANITARY SEWER LINE



| CURVE # | LENGTH  | RADIUS  | DELTA     | CHORD DIRECTION | CHORD LENGTH |
|---------|---------|---------|-----------|-----------------|--------------|
| C1      | 120.90' | 219.00' | 31°36'15" | N15°33'35"W     | 119.27'      |
| C2      | 137.90' | 250.00' | 31°36'15" | N15°33'35"W     | 136.16'      |
| C3      | 155.00' | 281.00' | 31°36'15" | N15°33'35"W     | 153.04'      |

| LINE # | DIRECTION   | LENGTH |
|--------|-------------|--------|
| L1     | N00°09.2'E  | 30.20  |
| L2     | N31°21.42'W | 47.41  |
| L3     | N31°21.42'W | 47.39  |
| L4     | N31°21.42'W | 47.39  |
| L5     | S89°15.15'W | 13.43  |

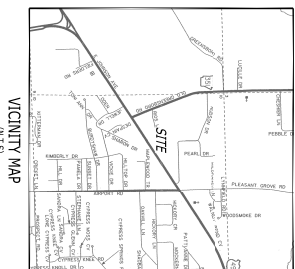
1. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD OR ANY OTHER FACTS WHICH AN ACCURATE TITLE SEARCH MAY DISCLOSE.
2. BASIS OF BEARINGS: KANSAS STATE PLANE GRID NORTH (3011),  
CRANEHEAD COUNTY PARCEL NUMBERS: 01-144102-05100 AND PART OF 01-144102-08950.

[illegible]

THIS IS TO CERTIFY THAT RIDGE SURVEYING AND CONSULTING, PLLC, PROFESSIONAL LAND SURVEYORS, HAVE SUBDIVIDED THE FOLLOWING DESCRIBED PARCEL OF LAND: PART OF LOT 1 OF 64TH HAVEN SUBDIVISION, A PART OF TRACT 1 OF THE STORIEDLE REPLAY AND PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 14 NORTH, RANGE 6 EAST, JONESBORO, CRAIGHEAD COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO JONESBORO, CARROLL COUNTY, ARKANSAS,

1. JASON D. BEARD, CERTIFY THAT THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF ARKANSAS STANDARDS OF PRACTICE FOR PROPERTY BOUNDARY SURVEYS AND PLATS; AND THAT THE ABOVE DESCRIBED TRACT WAS SURVEYED UNDER MY DIRECT SUPERVISION.



PRELIMINARY

JASON D. BEARD - SURVIVOR  
ARKANSAS - P.S. 1691  
500-14N-04E-0-10-400-16-1691



# Trip-Generation Data

***Commercial/Office Development  
Johnson Avenue (Highway 49), South of Hudson Drive  
Jonesboro, Arkansas***

P2052

| LOT                                      | PROPOSED/ASSUMED<br>LAND USES      | APPROXIMATE<br>SIZE | ITE<br>CODE | 24-HOUR<br>TWO-WAY<br>WEEKDAY<br>VOLUME | AM<br>PEAK HOUR<br>VOLUME |            | PM PEAK HOUR<br>PEAK HOUR<br>VOLUME |            |
|--|------------------------------------|---------------------|-------------|---|---------------------------|------------|-------------------------------------|------------|
|  |                                    |                     |             |   | ENTER                     | EXIT       | ENTER                               | EXIT       |
| 1  | High Turnover Sit-Down Restaurant  | 5,000 Sq. Ft.       | 932         | 561                                     | 27                        | 23         | 30                                  | 19         |
| 2  | *Full Service Car Wash             | 1 Lane              | 948         | 1,000                                   | 20                        | 20         | 39                                  | 39         |
| 3  | Fast-Food Restaurant w/ Drive-Thru | 3,500 Sq. Ft.       | 934         | 1,648                                   | 72                        | 69         | 59                                  | 55         |
| 4  | Office                             | 7,000 Sq. Ft.       | 710         | 68                                      | 7                         | 1          | 1                                   | 7          |
| A  | Commercial Retail                  | 15,000 Sq. Ft.      | 820         | 566                                     | 9                         | 5          | 27                                  | 30         |
| B  | Commercial Retail                  | 10,000 Sq. Ft.      | 820         | 378                                     | 5                         | 4          | 18                                  | 20         |
| <b>UNADJUSTED TOTAL DRIVEWAY VOLUMES</b> |                                    |                     |             | <b>4,221</b>                            | <b>140</b>                | <b>122</b> | <b>174</b>                          | <b>170</b> |
| <b>INTERNAL TRIP CAPTURE</b>             |                                    |                     |             |   | <b>-4</b>                 | <b>-4</b>  | <b>-40</b>                          | <b>-40</b> |
| <b>ADJUSTED DRIVEWAY VOLUMES</b>         |                                    |                     |             |   | <b>136</b>                | <b>118</b> | <b>134</b>                          | <b>130</b> |
| <b>TOTAL ENTERING + EXITING</b>          |                                    |                     |             |   | <b>254</b>                |            | <b>264</b>                          |            |

*\*Data for a typical weekday provided by the Owner. There is expected to be approximately 500 vehicles enter and exit the Car Wash per day.*

**ITE TRIP-GENERATION 10TH EDITION**  
**5,000 Sq. Ft. High Turnover Sit-Down Restaurant (ITE 932)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

**DATA STATISTICS**

**Land Use:**

High-Turnover (Sit-Down) Restaurant (932) [Click for more details](#)

**Independent Variable:**

1000 Sq. Ft. GFA

**Time Period:**

Weekday

**Setting/Location:**

General Urban/Suburban

**Trip Type:**

Vehicle

**Number of Studies:**

50

**Avg. 1000 Sq. Ft. GFA:**

5

**Average Rate:**

112.18

**Range of Rates:**

13.04 - 742.41

**Standard Deviation:**

72.51

**Fitted Curve Equation:**

Not Given

**R<sup>2</sup>:**

\*\*\*\*

**Directional Distribution:**

50% entering, 50% exiting

**Calculated Trip Ends:**

Average Rate: 561 (Total), 280 (Entry), 281 (Exit)

**Weekday AM Peak Hour  
of Adjacent Street**

**Directional Distribution:**

55% entering, 45% exiting

**Calculated Trip Ends:**

Average Rate: 50 (Total), 27 (Entry), 23 (Exit)

**Weekday PM Peak Hour  
of the Generator (Noon)**

**Directional Distribution:**

52% entering, 48% exiting

**Calculated Trip Ends:**

Average Rate: 87 (Total), 45 (Entry), 42 (Exit)

**Weekday PM Peak Hour  
of Adjacent Street**

**Directional Distribution:**

62% entering, 38% exiting

**Calculated Trip Ends:**

Average Rate: 49 (Total), 30 (Entry), 19 (Exit)



**ITE TRIP-GENERATION 10TH EDITION**  
**One-Lane Full Service Car Wash (ITE 948)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

From data provided by the Owner, there is expected to be approximately 500 vehicles enter and exit the site on a typical weekday which calculates to 500 entering vehicle trips and 500 exiting vehicle trips per day.

**Weekday AM Peak Hour  
of Adjacent Street**

ITE does not provide data for the AM peak hour. However, the operation is expected to be open from 7:00 AM - 8:00 PM. As a part of this study, it has been assumed that the on-street AM peak hour will generate approximately 50 percent of the PM peak hour.

**Calculated Trip Ends:**

20 Enter and 20 Exit.

**Weekday PM Peak Hour  
of Adjacent Street**

**Directional Distribution:**

50% entering, 50% exiting

**Calculated Trip Ends:**

Average Rate: 78 (Total), 39 (Entry), 39 (Exit)

**ITE TRIP-GENERATION 10TH EDITION**  
**3,500 Sq. Ft. Fast-Food Restaurant W/ Drive-Thru (ITE 934)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

**DATA STATISTICS**

**Land Use:**

Fast-Food Restaurant with Drive-Through Window  
(934) [Click for more details](#)

**Independent Variable:**

1000 Sq. Ft. GFA

**Time Period:**

Weekday

**Setting/Location:**

General Urban/Suburban

**Trip Type:**

Vehicle

**Number of Studies:**

67

**Avg. 1000 Sq. Ft. GFA:**

3

**Average Rate:**

470.95

**Range of Rates:**

98.89 - 1137.66

**Standard Deviation:**

244.44

**Fitted Curve Equation:**

Not Given

**R<sup>2</sup>:**

\*\*\*\*

**Directional Distribution:**

50% entering, 50% exiting

**Calculated Trip Ends:**

Average Rate: 1648 (Total), 824 (Entry), 824 (Exit)

**Weekday AM Peak Hour  
of Adjacent Street**

**Directional Distribution:**

51% entering, 49% exiting

**Calculated Trip Ends:**

Average Rate: 141 (Total), 72 (Entry), 69 (Exit)

**Weekday PM Peak Hour  
of Adjacent Street**

**Directional Distribution:**

52% entering, 48% exiting

**Calculated Trip Ends:**

Average Rate: 114 (Total), 59 (Entry), 55 (Exit)

**ITE TRIP-GENERATION 10TH EDITION**  
**7,000 Sq. Ft. Office (ITE 710)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

| <b><u>DATA STATISTICS</u></b>  |  |
|--|--|
| <b>Land Use:</b>   |  |
| General Office Building (710) <a href="#">Click for more details</a> |  |
| <b>Independent Variable:</b>   |  |
| 1000 Sq. Ft. GFA   |  |
| <b>Time Period:</b>  |  |
| Weekday  |  |
| <b>Setting/Location:</b>   |  |
| General Urban/Suburban   |  |
| <b>Trip Type:</b>  |  |
| Vehicle  |  |
| <b>Number of Studies:</b>  |  |
| 66   |  |
| <b>Avg. 1000 Sq. Ft. GFA:</b>  |  |
| 171  |  |
| <b>Average Rate:</b>   |  |
| 9.74   |  |
| <b>Range of Rates:</b>   |  |
| 2.71 - 27.56   |  |
| <b>Standard Deviation:</b>   |  |
| 5.15   |  |
| <b>Fitted Curve Equation:</b>  |  |
| $\ln(T) = 0.97 \ln(X) + 2.50$  |  |
| <b>R<sup>2</sup>:</b>  |  |
| 0.83   |  |
| <b>Directional Distribution:</b>                                     |  |
| 50% entering, 50% exiting  |  |
| <b>Calculated Trip Ends:</b>   |  |
| Average Rate: 68 (Total), 34 (Entry), 34 (Exit)                      |  |
| Fitted Curve: 80 (Total), 40 (Entry), 40 (Exit)                      |  |

**Weekday AM Peak Hour**  
**of Adjacent Street**

|  |
|--|
| <b>Directional Distribution:</b>               |
| 86% entering, 14% exiting                      |
| <b>Calculated Trip Ends:</b>                   |
| Average Rate: 8 (Total), 7 (Entry), 1 (Exit)   |
| Fitted Curve: 33 (Total), 28 (Entry), 5 (Exit) |

**Weekday PM Peak Hour**  
**of Adjacent Street**

|  |
|--|
| <b>Directional Distribution:</b>             |
| 16% entering, 84% exiting                    |
| <b>Calculated Trip Ends:</b>                 |
| Average Rate: 8 (Total), 1 (Entry), 7 (Exit) |
| Fitted Curve: 9 (Total), 1 (Entry), 8 (Exit) |

**ITE TRIP-GENERATION 10TH EDITION**  
**15,000 Sq. Ft. Commercial Retail (ITE 820)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

**DATA STATISTICS**

**Land Use:**

Shopping Center (820) [Click for more details](#)

**Independent Variable:**

1000 Sq. Ft. GLA

**Time Period:**

Weekday

**Setting/Location:**

General Urban/Suburban

**Trip Type:**

Vehicle

**Number of Studies:**

147

**Avg. 1000 Sq. Ft. GLA:**

453

**Average Rate:**

37.75

**Range of Rates:**

7.42 - 207.98

**Standard Deviation:**

16.41

**Fitted Curve Equation:**

$\ln(T) = 0.68 \ln(X) + 5.57$

**R<sup>2</sup>:**

0.76

**Directional Distribution:**

50% entering, 50% exiting

**Calculated Trip Ends:**

Average Rate: 566 (Total), 283 (Entry), 283 (Exit)

Fitted Curve: 1655 (Total), 827 (Entry), 828 (Exit)

**Weekday AM Peak Hour**  
**of Adjacent Street**

**Directional Distribution:**

62% entering, 38% exiting

**Calculated Trip Ends:**

Average Rate: 14 (Total), 9 (Entry), 5 (Exit)

Fitted Curve: 159 (Total), 98 (Entry), 61 (Exit)

**Weekday PM Peak Hour**  
**of Adjacent Street**

**Directional Distribution:**

48% entering, 52% exiting

**Calculated Trip Ends:**

Average Rate: 57 (Total), 27 (Entry), 30 (Exit)

Fitted Curve: 133 (Total), 64 (Entry), 69 (Exit)

**ITE TRIP-GENERATION 10TH EDITION**  
**10,000 Sq. Ft. Commercial Retail (ITE 820)**  
**7/8/2020**  
**P2052**

**Weekday Daily Volume**

**DATA STATISTICS**

**Land Use:**

Shopping Center (820) [Click for more details](#)

**Independent Variable:**

1000 Sq. Ft. GLA

**Time Period:**

Weekday

**Setting/Location:**

General Urban/Suburban

**Trip Type:**

Vehicle

**Number of Studies:**

147

**Avg. 1000 Sq. Ft. GLA:**

453

**Average Rate:**

37.75

**Range of Rates:**

7.42 - 207.98

**Standard Deviation:**

16.41

**Fitted Curve Equation:**

$\ln(T) = 0.68 \ln(X) + 5.57$

**R<sup>2</sup>:**

0.76

**Directional Distribution:**

50% entering, 50% exiting

**Calculated Trip Ends:**

Average Rate: 378 (Total), 189 (Entry), 189 (Exit)

Fitted Curve: 1256 (Total), 628 (Entry), 628 (Exit)

**Weekday AM Peak Hour**  
**of Adjacent Street**

**Directional Distribution:**

62% entering, 38% exiting

**Calculated Trip Ends:**

Average Rate: 9 (Total), 5 (Entry), 4 (Exit)

Fitted Curve: 157 (Total), 97 (Entry), 60 (Exit)

**Weekday PM Peak Hour**  
**of Adjacent Street**

**Directional Distribution:**

48% entering, 52% exiting

**Calculated Trip Ends:**

Average Rate: 38 (Total), 18 (Entry), 20 (Exit)

Fitted Curve: 99 (Total), 47 (Entry), 52 (Exit)

# Vehicle Turning Movement Count Data



PETERS & ASSOCIATES  
ENGINEERS, INC.

---

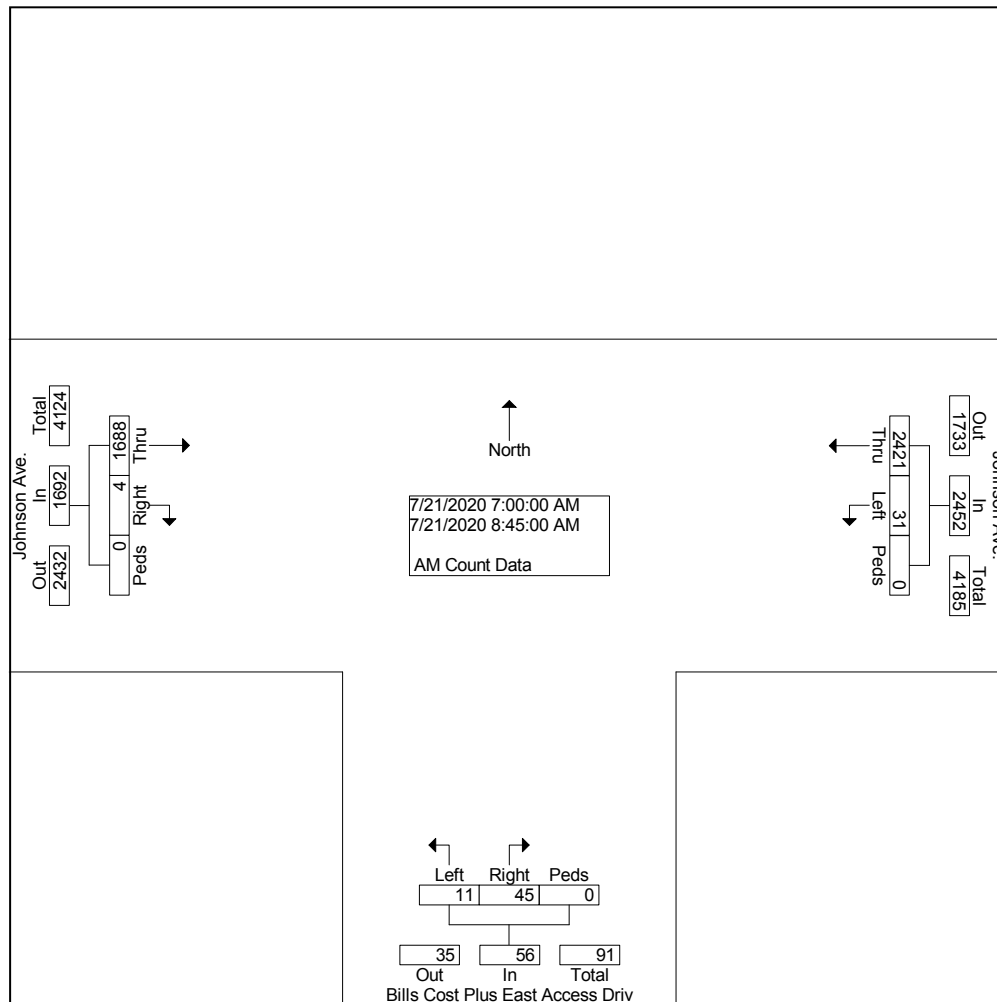
Peters & Associates Engineers, Inc.  
Peak Hour Turning Movement Count Data

AM Peak Hour Turning Movement Count Data  
Johnson Avenue and Bills East Access Dr.  
Jonesboro, AR  
P2052

File Name : AM  
Site Code : 00000000  
Start Date : 07/21/2020  
Page No : 1

Groups Printed- AM Count Data

|             | Johnson Ave.<br>From East |      |      |            | Bills Cost Plus East Access Driv<br>From South |      |      |            | Johnson Ave.<br>From West |      |      |            |            |
|-------------|---------------------------|------|------|------------|--|------|------|------------|---------------------------|------|------|------------|------------|
| Start Time  | Thru                      | Left | Peds | App. Total | Right  | Left | Peds | App. Total | Right                     | Thru | Peds | App. Total | Int. Total |
| Factor      | 1.0                       | 1.0  | 1.0  |            | 1.0  | 1.0  | 1.0  |            | 1.0                       | 1.0  | 1.0  |            |            |
| 07:00 AM    | 241                       | 0    | 0    | 241        | 2  | 0    | 0    | 2          | 0                         | 145  | 0    | 145        | 388        |
| 07:15 AM    | 351                       | 3    | 0    | 354        | 1  | 1    | 0    | 2          | 1                         | 250  | 0    | 251        | 607        |
| 07:30 AM    | 406                       | 4    | 0    | 410        | 5  | 2    | 0    | 7          | 0                         | 245  | 0    | 245        | 662        |
| 07:45 AM    | 403                       | 5    | 0    | 408        | 6  | 2    | 0    | 8          | 0                         | 265  | 0    | 265        | 681        |
| Total       | 1401                      | 12   | 0    | 1413       | 14   | 5    | 0    | 19         | 1                         | 905  | 0    | 906        | 2338       |
| 08:00 AM    | 272                       | 3    | 0    | 275        | 11   | 1    | 0    | 12         | 0                         | 214  | 0    | 214        | 501        |
| 08:15 AM    | 255                       | 2    | 0    | 257        | 5  | 1    | 0    | 6          | 1                         | 170  | 0    | 171        | 434        |
| 08:30 AM    | 231                       | 5    | 0    | 236        | 5  | 2    | 0    | 7          | 0                         | 200  | 0    | 200        | 443        |
| 08:45 AM    | 262                       | 9    | 0    | 271        | 10   | 2    | 0    | 12         | 2                         | 199  | 0    | 201        | 484        |
| Total       | 1020                      | 19   | 0    | 1039       | 31   | 6    | 0    | 37         | 3                         | 783  | 0    | 786        | 1862       |
| Grand Total | 2421                      | 31   | 0    | 2452       | 45   | 11   | 0    | 56         | 4                         | 1688 | 0    | 1692       | 4200       |
| Apprch %    | 98.7                      | 1.3  | 0.0  |            | 80.4   | 19.6 | 0.0  |            | 0.2                       | 99.8 | 0.0  |            |            |
| Total %     | 57.6                      | 0.7  | 0.0  | 58.4       | 1.1  | 0.3  | 0.0  | 1.3        | 0.1                       | 40.2 | 0.0  | 40.3       |            |

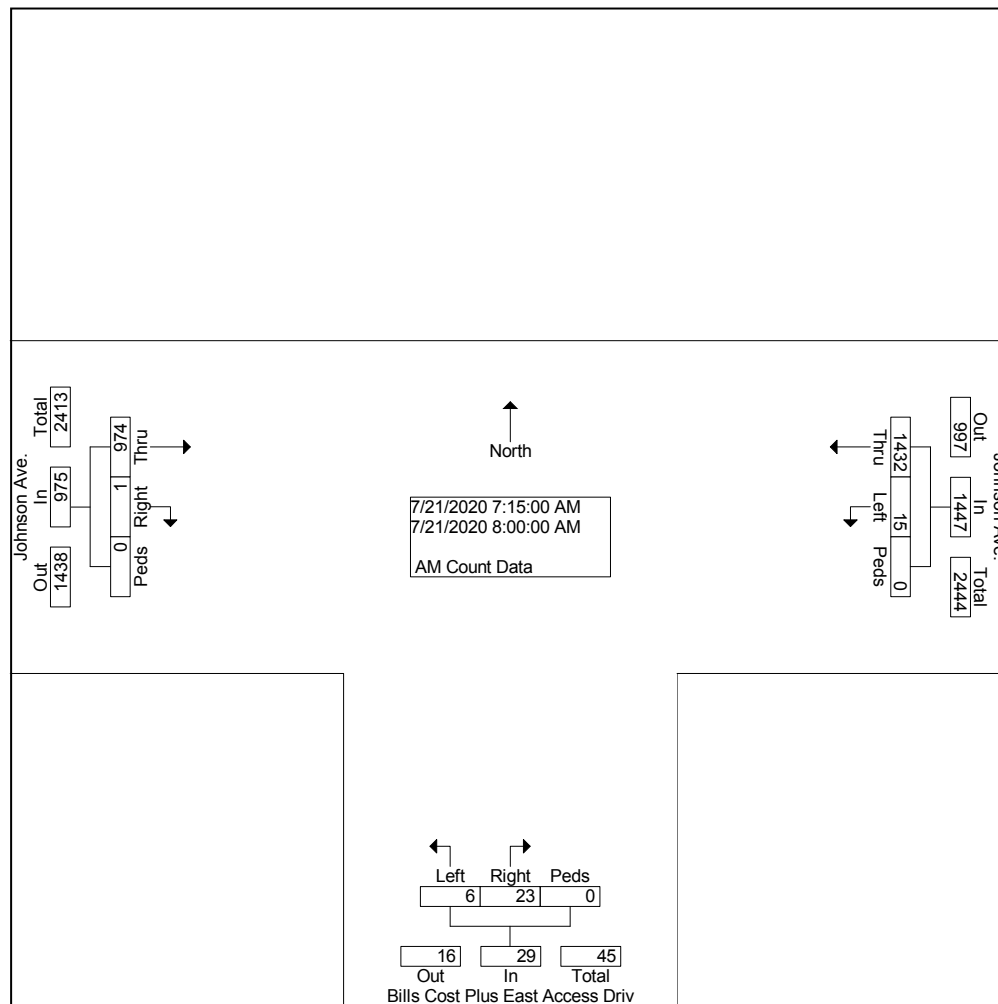


Peters & Associates Engineers, Inc.  
Peak Hour Turning Movement Count Data

AM Peak Hour Turning Movement Count Data  
Johnson Avenue and Bills East Access Dr.  
Jonesboro, AR  
P2052

File Name : AM  
Site Code : 00000000  
Start Date : 07/21/2020  
Page No : 2

|   | Johnson Ave.<br>From East |      |      |            | Bills Cost Plus East Access Driv<br>From South |      |      |            | Johnson Ave.<br>From West |      |      |            |            |
|---|---------------------------|------|------|------------|--|------|------|------------|---------------------------|------|------|------------|------------|
| Start Time  | Thru                      | Left | Peds | App. Total | Right  | Left | Peds | App. Total | Right                     | Thru | Peds | App. Total | Int. Total |
| Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1 |                           |      |      |            |  |      |      |            |                           |      |      |            |            |
| Intersection                                      | 07:15 AM                  |      |      |            |  |      |      |            |                           |      |      |            |            |
| Volume  | 1432                      | 15   | 0    | 1447       | 23   | 6    | 0    | 29         | 1                         | 974  | 0    | 975        | 2451       |
| Percent   | 99.0                      | 1.0  | 0.0  |            | 79.3   | 20.7 | 0.0  |            | 0.1                       | 99.9 | 0.0  |            |            |
| 07:45 Volume                                      | 403                       | 5    | 0    | 408        | 6  | 2    | 0    | 8          | 0                         | 265  | 0    | 265        | 681        |
| Peak Factor                                       |                           |      |      |            |  |      |      |            |                           |      |      |            | 0.900      |
| High Int.   | 07:30 AM                  |      |      |            | 08:00 AM                                       |      |      |            | 07:45 AM                  |      |      |            |            |
| Volume  | 406                       | 4    | 0    | 410        | 11   | 1    | 0    | 12         | 0                         | 265  | 0    | 265        |            |
| Peak Factor                                       | 0.882                     |      |      |            |  |      |      |            | 0.920                     |      |      |            |            |





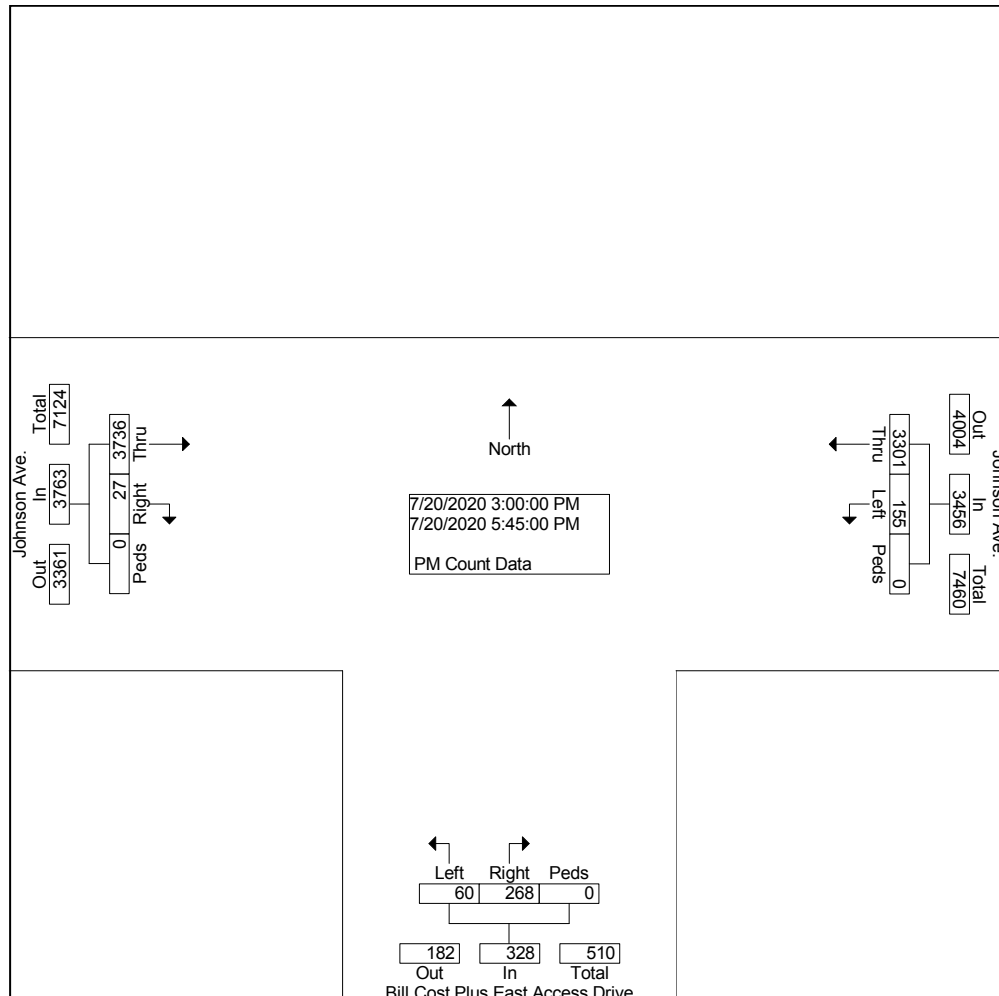
Peters & Associates Engineers, Inc.  
Peak Hour Turning Movement Count Data

PM Peak Hour Turning Movement Count Data  
Johnson Avenue and Bills East Access Dr.  
Jonesboro, AR  
P2052

File Name : PM  
Site Code : 00000000  
Start Date : 07/20/2020  
Page No : 1

Groups Printed- PM Count Data

|             | Johnson Ave.<br>From East |      |      |            | Bill Cost Plus East Access Drive<br>From South |      |      |            | Johnson Ave.<br>From West |      |      |            |            |
|-------------|---------------------------|------|------|------------|--|------|------|------------|---------------------------|------|------|------------|------------|
| Start Time  | Thru                      | Left | Peds | App. Total | Right  | Left | Peds | App. Total | Right                     | Thru | Peds | App. Total | Int. Total |
| Factor      | 1.0                       | 1.0  | 1.0  |            | 1.0  | 1.0  | 1.0  |            | 1.0                       | 1.0  | 1.0  |            |            |
| 03:00 PM    | 282                       | 11   | 0    | 293        | 13   | 7    | 0    | 20         | 1                         | 306  | 0    | 307        | 620        |
| 03:15 PM    | 240                       | 9    | 0    | 249        | 22   | 5    | 0    | 27         | 1                         | 262  | 0    | 263        | 539        |
| 03:30 PM    | 313                       | 10   | 0    | 323        | 14   | 2    | 0    | 16         | 4                         | 259  | 0    | 263        | 602        |
| 03:45 PM    | 248                       | 9    | 0    | 257        | 19   | 6    | 0    | 25         | 4                         | 254  | 0    | 258        | 540        |
| Total       | 1083                      | 39   | 0    | 1122       | 68   | 20   | 0    | 88         | 10                        | 1081 | 0    | 1091       | 2301       |
| 04:00 PM    | 290                       | 11   | 0    | 301        | 20   | 11   | 0    | 31         | 3                         | 270  | 0    | 273        | 605        |
| 04:15 PM    | 252                       | 12   | 0    | 264        | 25   | 4    | 0    | 29         | 2                         | 313  | 0    | 315        | 608        |
| 04:30 PM    | 281                       | 9    | 0    | 290        | 25   | 5    | 0    | 30         | 3                         | 386  | 0    | 389        | 709        |
| 04:45 PM    | 300                       | 16   | 0    | 316        | 26   | 7    | 0    | 33         | 2                         | 312  | 0    | 314        | 663        |
| Total       | 1123                      | 48   | 0    | 1171       | 96   | 27   | 0    | 123        | 10                        | 1281 | 0    | 1291       | 2585       |
| 05:00 PM    | 312                       | 16   | 0    | 328        | 17   | 1    | 0    | 18         | 1                         | 398  | 0    | 399        | 745        |
| 05:15 PM    | 293                       | 19   | 0    | 312        | 30   | 2    | 0    | 32         | 2                         | 433  | 0    | 435        | 779        |
| 05:30 PM    | 256                       | 15   | 0    | 271        | 23   | 6    | 0    | 29         | 2                         | 312  | 0    | 314        | 614        |
| 05:45 PM    | 234                       | 18   | 0    | 252        | 34   | 4    | 0    | 38         | 2                         | 231  | 0    | 233        | 523        |
| Total       | 1095                      | 68   | 0    | 1163       | 104  | 13   | 0    | 117        | 7                         | 1374 | 0    | 1381       | 2661       |
| Grand Total | 3301                      | 155  | 0    | 3456       | 268  | 60   | 0    | 328        | 27                        | 3736 | 0    | 3763       | 7547       |
| Apprch %    | 95.5                      | 4.5  | 0.0  |            | 81.7   | 18.3 | 0.0  |            | 0.7                       | 99.3 | 0.0  |            |            |
| Total %     | 43.7                      | 2.1  | 0.0  | 45.8       | 3.6  | 0.8  | 0.0  | 4.3        | 0.4                       | 49.5 | 0.0  | 49.9       |            |

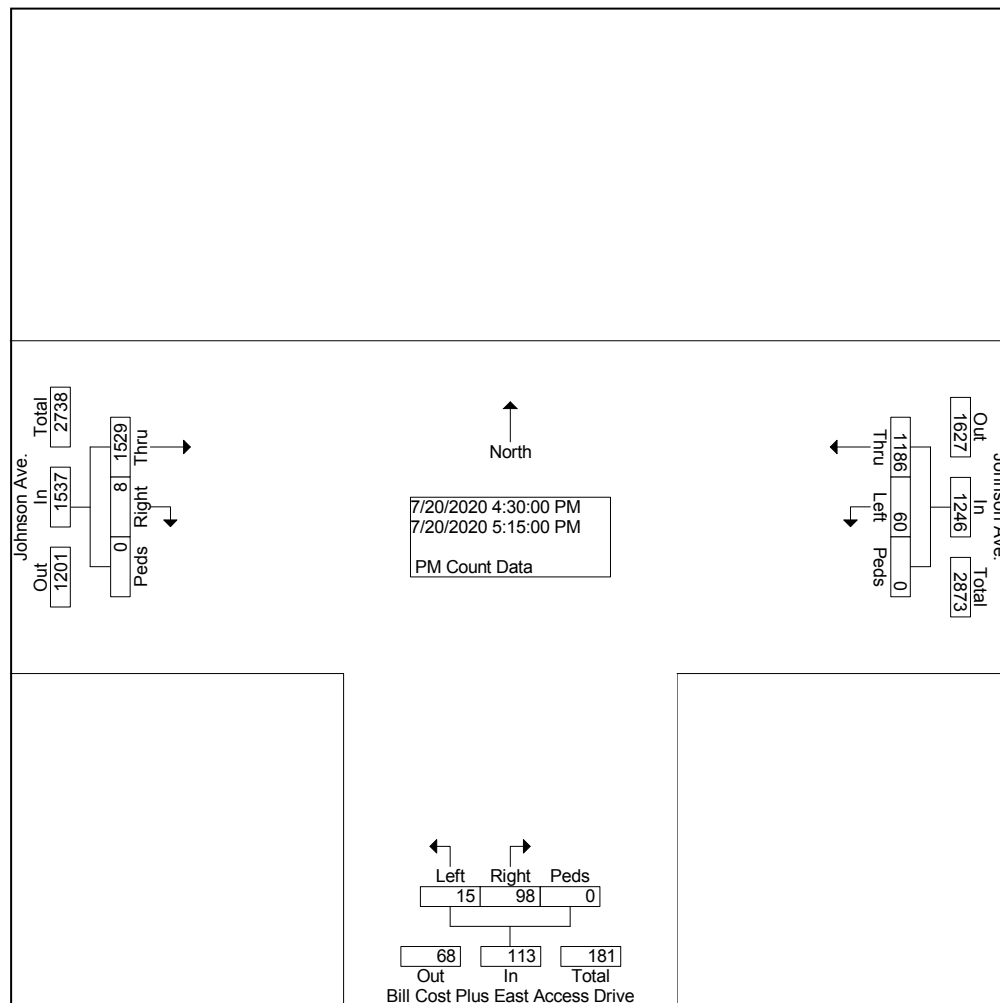


Peters & Associates Engineers, Inc.  
Peak Hour Turning Movement Count Data

PM Peak Hour Turning Movement Count Data  
Johnson Avenue and Bills East Access Dr.  
Jonesboro, AR  
P2052

File Name : PM  
Site Code : 00000000  
Start Date : 07/20/2020  
Page No : 2

|   | Johnson Ave.<br>From East |      |      |            | Bill Cost Plus East Access Drive<br>From South |      |      |            | Johnson Ave.<br>From West |      |      |            |            |
|---|---------------------------|------|------|------------|--|------|------|------------|---------------------------|------|------|------------|------------|
| Start Time  | Thru                      | Left | Peds | App. Total | Right  | Left | Peds | App. Total | Right                     | Thru | Peds | App. Total | Int. Total |
| Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1 |                           |      |      |            |  |      |      |            |                           |      |      |            |            |
| Intersection                                      | 04:30 PM                  |      |      |            |  |      |      |            |                           |      |      |            |            |
| Volume  | 1186                      | 60   | 0    | 1246       | 98   | 15   | 0    | 113        | 8                         | 1529 | 0    | 1537       | 2896       |
| Percent   | 95.2                      | 4.8  | 0.0  |            | 86.7   | 13.3 | 0.0  |            | 0.5                       | 99.5 | 0.0  |            |            |
| 05:15 Volume                                      | 293                       | 19   | 0    | 312        | 30   | 2    | 0    | 32         | 2                         | 433  | 0    | 435        | 779        |
| Peak Factor                                       |                           |      |      |            |  |      |      |            |                           |      |      |            | 0.929      |
| High Int.   | 05:00 PM                  |      |      |            | 04:45 PM                                       |      |      |            | 05:15 PM                  |      |      |            |            |
| Volume  | 312                       | 16   | 0    | 328        | 26   | 7    | 0    | 33         | 2                         | 433  | 0    | 435        |            |
| Peak Factor                                       |                           |      |      | 0.950      |  |      |      | 0.856      |                           |      |      | 0.883      |            |

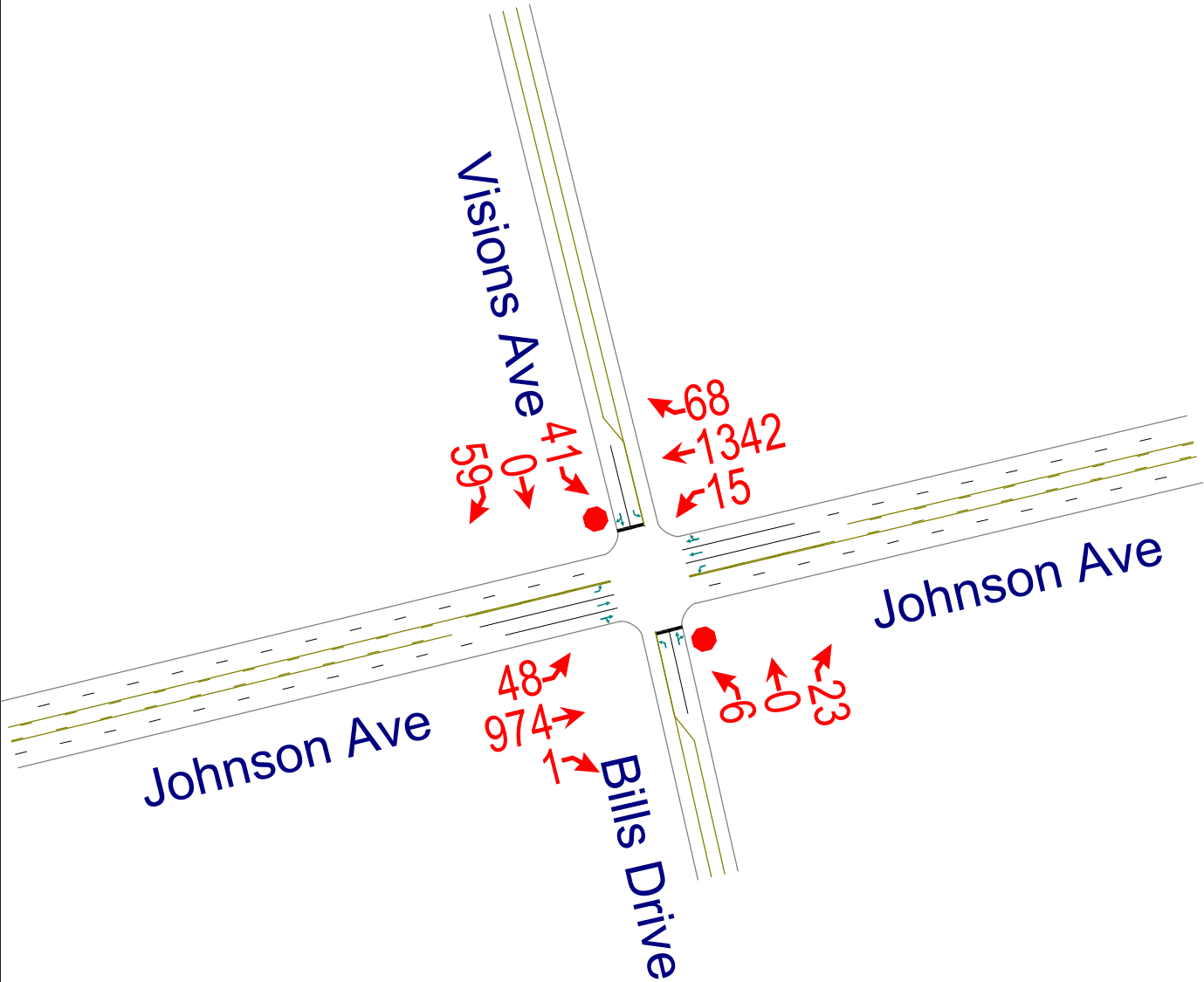


# Capacity & Level of Service Calculations

























PETERS & ASSOCIATES  
ENGINEERS, INC.

---



Lanes, Volumes, Timings  
3: Bills Drive/Visions Ave & Johnson Ave

7/23/2020

|                            |  |    |  |  |    |  |   |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |   |   |  |   |   |  |  |   |  |  |   |
| Volume (vph)               | 48  | 974   | 1   | 15  | 1342  | 68  | 6   | 0   | 23  | 41  | 0   | 59  |
| Ideal Flow (vphpl)         | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  |
| Storage Length (ft)        | 120   |   | 0   | 120   |   | 0   | 75  |   | 0   | 75  |   | 0   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 0   | 1   |   | 0   | 1   |   | 0   |
| Taper Length (ft)          | 25  |   |   | 25  |   |   | 25  |   |   | 25  |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |   |   |   |   | 0.993   |   |   | 0.850   |   |   | 0.850   |   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1676  | 3353  | 0   | 1676  | 3329  | 0   | 1676  | 1500  | 0   | 1676  | 1500  | 0   |
| Flt Permitted              | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1676  | 3353  | 0   | 1676  | 3329  | 0   | 1676  | 1500  | 0   | 1676  | 1500  | 0   |
| Link Speed (mph)           |   | 45  |   |   | 45  |   |   | 20  |   |   | 20  |   |
| Link Distance (ft)         |   | 575   |   |   | 488   |   |   | 266   |   |   | 512   |   |
| Travel Time (s)            |   | 8.7   |   |   | 7.4   |   |   | 9.1   |   |   | 17.5  |   |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Adj. Flow (vph)            | 52  | 1059  | 1   | 16  | 1459  | 74  | 7   | 0   | 25  | 45  | 0   | 64  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |   |   |   |   |   |   |
| Lane Group Flow (vph)      | 52  | 1060  | 0   | 16  | 1533  | 0   | 7   | 25  | 0   | 45  | 64  | 0   |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left  | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |   | 12  |   |   | 12  |   |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |   | 0   |   |   | 0   |   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |   | 16  |   |   | 16  |   |
| Two way Left Turn Lane     |   | Yes   |   |   | Yes   |   |   |   |   |   |   |   |
| Headway Factor             | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15  |   | 9   | 15  |   | 9   |
| Sign Control               |   | Free  |   |   | Free  |   |   | Stop  |   |   | Stop  |   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized





















Intersection Capacity Utilization 57.8% ICU Level of Service B

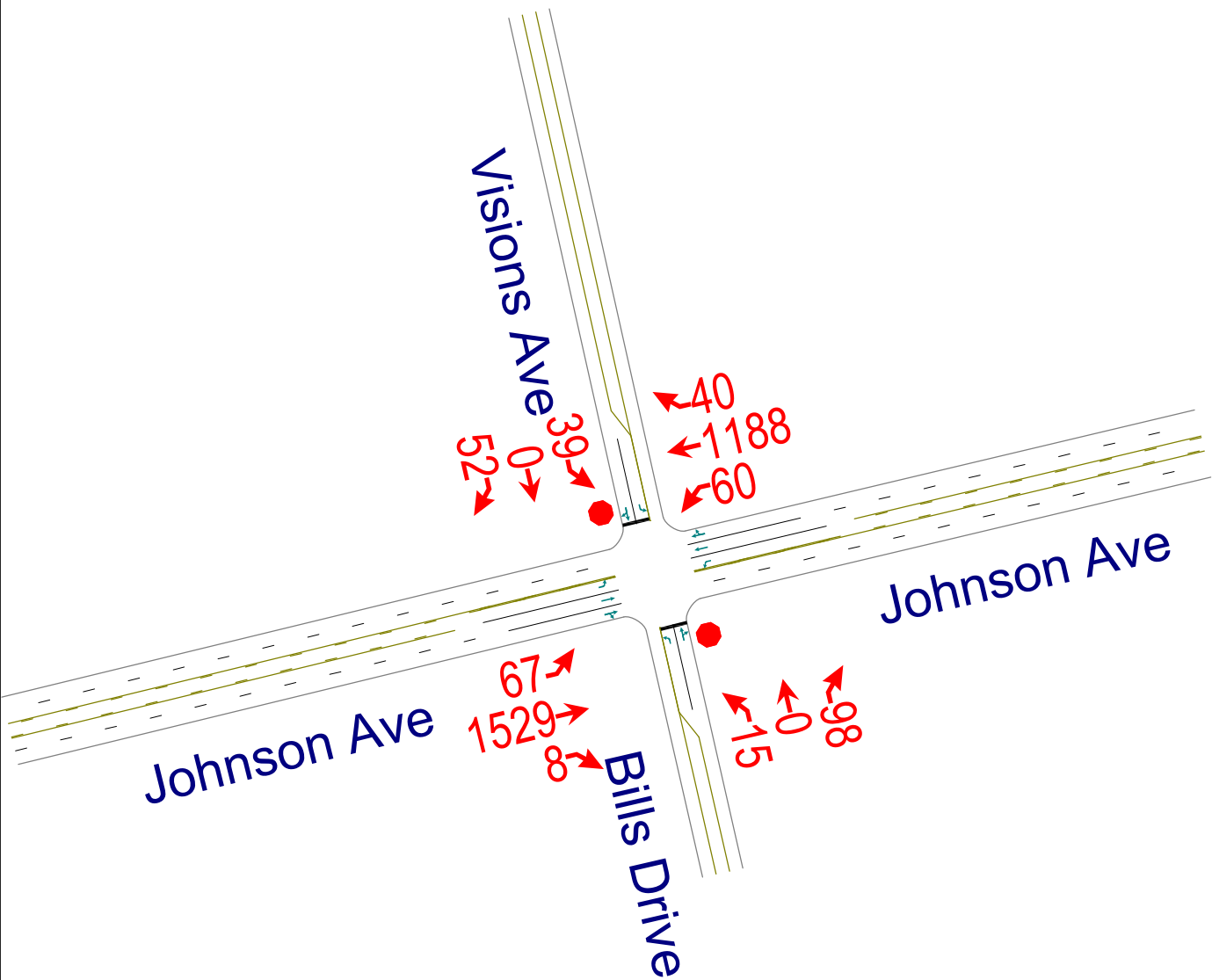
Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Bills Drive/Visions Ave & Johnson Ave























7/23/2020

|                                   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |  |  |   |  |  |   |  |  |   |  |  |   |
| Volume (veh/h)                    | 48  | 974   | 1   | 15  | 1342  | 68  | 6   | 0   | 23  | 41  | 0   | 59  |
| Sign Control                      |   | Free  |   |   | Free  |   |   | Stop  |   |   | Stop  |   |
| Grade                             |   | 0%  |   |   | 0%  |   |   | 0%  |   |   | 0%  |   |
| Peak Hour Factor                  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Hourly flow rate (vph)            | 52  | 1059  | 1   | 16  | 1459  | 74  | 7   | 0   | 25  | 45  | 0   | 64  |
| Pedestrians                       |   |   |   |   |   |   |   |   |   |   |   |   |
| Lane Width (ft)                   |   |   |   |   |   |   |   |   |   |   |   |   |
| Walking Speed (ft/s)              |   |   |   |   |   |   |   |   |   |   |   |   |
| Percent Blockage                  |   |   |   |   |   |   |   |   |   |   |   |   |
| Right turn flare (veh)            |   |   |   |   |   |   |   |   |   |   |   |   |
| Median type                       | TWLTL   |   |   | TWLTL   |   |   |   |   |   |   |   |   |
| Median storage veh)               | 2   |   |   | 2   |   |   |   |   |   |   |   |   |
| Upstream signal (ft)              |   |   |   |   |   |   |   |   |   |   |   |   |
| pX, platoon unblocked             |   |   |   |   |   |   |   |   |   |   |   |   |
| vC, conflicting volume            | 1533  |   |   | 1060  |   |   | 1990  | 2729  | 530   | 2187  | 2692  | 766   |
| vC1, stage 1 conf vol             |   |   |   |   |   |   | 1164  | 1164  |   | 1528  | 1528  |   |
| vC2, stage 2 conf vol             |   |   |   |   |   |   | 826   | 1565  |   | 659   | 1164  |   |
| vCu, unblocked vol                | 1533  |   |   | 1060  |   |   | 1990  | 2729  | 530   | 2187  | 2692  | 766   |
| tC, single (s)                    | 4.1   |   |   | 4.1   |   |   | 7.5   | 6.5   | 6.9   | 7.5   | 6.5   | 6.9   |
| tC, 2 stage (s)                   |   |   |   |   |   |   | 6.5   | 5.5   |   | 6.5   | 5.5   |   |
| tF (s)                            | 2.2   |   |   | 2.2   |   |   | 3.5   | 4.0   | 3.3   | 3.5   | 4.0   | 3.3   |
| p0 queue free %                   | 88  |   |   | 98  |   |   | 95  | 100   | 95  | 60  | 100   | 81  |
| cM capacity (veh/h)               | 430   |   |   | 653   |   |   | 135   | 100   | 494   | 110   | 131   | 345   |
| Direction, Lane #                 | EB 1  | EB 2  | EB 3  | WB 1  | WB 2  | WB 3  | NB 1  | NB 2  | SB 1  | SB 2  |   |   |
| Volume Total                      | 52  | 706   | 354   | 16  | 972   | 560   | 7   | 25  | 45  | 64  |   |   |
| Volume Left                       | 52  | 0   | 0   | 16  | 0   | 0   | 7   | 0   | 45  | 0   |   |   |
| Volume Right                      | 0   | 0   | 1   | 0   | 0   | 74  | 0   | 25  | 0   | 64  |   |   |
| cSH                               | 430   | 1700  | 1700  | 653   | 1700  | 1700  | 135   | 494   | 110   | 345   |   |   |
| Volume to Capacity                | 0.12  | 0.42  | 0.21  | 0.02  | 0.57  | 0.33  | 0.05  | 0.05  | 0.40  | 0.19  |   |   |
| Queue Length 95th (ft)            | 10  | 0   | 0   | 2   | 0   | 0   | 4   | 4   | 42  | 17  |   |   |
| Control Delay (s)                 | 14.5  | 0.0   | 0.0   | 10.7  | 0.0   | 0.0   | 32.9  | 12.7  | 58.4  | 17.8  |   |   |
| Lane LOS                          | B   |   |   | B   |   |   | D   | B   | F   | C   |   |   |
| Approach Delay (s)                | 0.7   |   |   | 0.1   |   |   | 16.9  |   | 34.4  |   |   |   |
| Approach LOS                      |   |   |   |   |   |   | C   |   | D   |   |   |   |
| Intersection Summary              |   |   |   |   |   |   |   |   |   |   |   |   |
| Average Delay                     |   |   | 1.9   |   |   |   |   |   |   |   |   |   |
| Intersection Capacity Utilization |   |   | 57.8%   |   |   | ICU Level of Service  |   |   | B   |   |   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |
|                                   |   |   |   |   |   |   |   |   |   |   |   |   |



Lanes, Volumes, Timings  
3: Bills Drive/Visions Ave & Johnson Ave

7/23/2020

|                            |  |    |  |  |    |  |   |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |   |   |  |   |   |  |  |   |  |  |   |
| Volume (vph)               | 67  | 1529  | 8   | 60  | 1188  | 40  | 15  | 0   | 98  | 39  | 0   | 52  |
| Ideal Flow (vphpl)         | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  | 1800  |
| Storage Length (ft)        | 120   |   | 0   | 120   |   | 0   | 75  |   | 0   | 75  |   | 0   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 0   | 1   |   | 0   | 1   |   | 0   |
| Taper Length (ft)          | 25  |   |   | 25  |   |   | 25  |   |   | 25  |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |   | 0.999   |   |   | 0.995   |   |   | 0.850   |   |   | 0.850   |   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1676  | 3350  | 0   | 1676  | 3336  | 0   | 1676  | 1500  | 0   | 1676  | 1500  | 0   |
| Flt Permitted              | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1676  | 3350  | 0   | 1676  | 3336  | 0   | 1676  | 1500  | 0   | 1676  | 1500  | 0   |
| Link Speed (mph)           |   | 45  |   |   | 45  |   |   | 20  |   |   | 20  |   |
| Link Distance (ft)         |   | 575   |   |   | 488   |   |   | 266   |   |   | 498   |   |
| Travel Time (s)            |   | 8.7   |   |   | 7.4   |   |   | 9.1   |   |   | 17.0  |   |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Adj. Flow (vph)            | 73  | 1662  | 9   | 65  | 1291  | 43  | 16  | 0   | 107   | 42  | 0   | 57  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |   |   |   |   |   |   |
| Lane Group Flow (vph)      | 73  | 1671  | 0   | 65  | 1334  | 0   | 16  | 107   | 0   | 42  | 57  | 0   |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left  | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |   | 12  |   |   | 12  |   |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |   | 0   |   |   | 0   |   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |   | 16  |   |   | 16  |   |
| Two way Left Turn Lane     |   | Yes   |   |   | Yes   |   |   |   |   |   |   |   |
| Headway Factor             | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15  |   | 9   | 15  |   | 9   |
| Sign Control               |   | Free  |   |   | Free  |   |   | Stop  |   |   | Stop  |   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 67.3% ICU Level of Service C





















Analysis Period (min) 15



# HCM Unsignalized Intersection Capacity Analysis

## 3: Bills Drive/Visions Ave & Johnson Ave

7/23/2020

|                                   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |  |  |   |  |  |   |  |  |   |  |  |   |
| Volume (veh/h)                    | 67  | 1529  | 8   | 60  | 1188  | 40  | 15  | 0   | 98  | 39  | 0   | 52  |
| Sign Control                      | Free  |   |   | Free  |   |   | Stop  |   |   | Stop  |   |   |
| Grade                             | 0%  |   |   | 0%  |   |   | 0%  |   |   | 0%  |   |   |
| Peak Hour Factor                  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Hourly flow rate (vph)            | 73  | 1662  | 9   | 65  | 1291  | 43  | 16  | 0   | 107   | 42  | 0   | 57  |
| Pedestrians                       |   |   |   |   |   |   |   |   |   |   |   |   |
| Lane Width (ft)                   |   |   |   |   |   |   |   |   |   |   |   |   |
| Walking Speed (ft/s)              |   |   |   |   |   |   |   |   |   |   |   |   |
| Percent Blockage                  |   |   |   |   |   |   |   |   |   |   |   |   |
| Right turn flare (veh)            |   |   |   |   |   |   |   |   |   |   |   |   |
| Median type                       | TWLTL   |   |   | TWLTL   |   |   |   |   |   |   |   |   |
| Median storage veh)               | 2   |   |   | 2   |   |   |   |   |   |   |   |   |
| Upstream signal (ft)              |   |   |   |   |   |   |   |   |   |   |   |   |
| pX, platoon unblocked             |   |   |   |   |   |   |   |   |   |   |   |   |
| vC, conflicting volume            | 1335  |   |   | 1671  |   |   | 2645  | 3277  | 835   | 2527  | 3260  | 667   |
| vC1, stage 1 conf vol             |   |   |   |   |   |   | 1812  | 1812  |   | 1443  | 1443  |   |
| vC2, stage 2 conf vol             |   |   |   |   |   |   | 833   | 1465  |   | 1083  | 1816  |   |
| vCu, unblocked vol                | 1335  |   |   | 1671  |   |   | 2645  | 3277  | 835   | 2527  | 3260  | 667   |
| tC, single (s)                    | 4.1   |   |   | 4.1   |   |   | 7.5   | 6.5   | 6.9   | 7.5   | 6.5   | 6.9   |
| tC, 2 stage (s)                   |   |   |   |   |   |   | 6.5   | 5.5   |   | 6.5   | 5.5   |   |
| tF (s)                            | 2.2   |   |   | 2.2   |   |   | 3.5   | 4.0   | 3.3   | 3.5   | 4.0   | 3.3   |
| p0 queue free %                   | 86  |   |   | 83  |   |   | 74  | 100   | 66  | 23  | 100   | 86  |
| cM capacity (veh/h)               | 513   |   |   | 380   |   |   | 62  | 64  | 311   | 55  | 42  | 401   |
| Direction, Lane #                 | EB 1  | EB 2  | EB 3  | WB 1  | WB 2  | WB 3  | NB 1  | NB 2  | SB 1  | SB 2  |   |   |
| Volume Total                      | 73  | 1108  | 563   | 65  | 861   | 474   | 16  | 107   | 42  | 57  |   |   |
| Volume Left                       | 73  | 0   | 0   | 65  | 0   | 0   | 16  | 0   | 42  | 0   |   |   |
| Volume Right                      | 0   | 0   | 9   | 0   | 0   | 43  | 0   | 107   | 0   | 57  |   |   |
| cSH                               | 513   | 1700  | 1700  | 380   | 1700  | 1700  | 62  | 311   | 55  | 401   |   |   |
| Volume to Capacity                | 0.14  | 0.65  | 0.33  | 0.17  | 0.51  | 0.28  | 0.26  | 0.34  | 0.77  | 0.14  |   |   |
| Queue Length 95th (ft)            | 12  | 0   | 0   | 15  | 0   | 0   | 23  | 37  | 82  | 12  |   |   |
| Control Delay (s)                 | 13.2  | 0.0   | 0.0   | 16.4  | 0.0   | 0.0   | 83.1  | 22.5  | 179.3   | 15.4  |   |   |
| Lane LOS                          | B   |   |   | C   |   |   | F   | C   | F   | C   |   |   |
| Approach Delay (s)                | 0.6   |   |   | 0.8   |   |   | 30.6  |   | 85.7  |   |   |   |
| Approach LOS                      |   |   |   |   |   |   | D   |   | F   |   |   |   |
| Intersection Summary              |   |   |   |   |   |   |   |   |   |   |   |   |
| Average Delay                     | 4.2   |   |   |   |   |   |   |   |   |   |   |   |
| Intersection Capacity Utilization | 67.3%   |   |   | ICU Level of Service  |   |   | C   |   |   |   |   |   |
| Analysis Period (min)             | 15  |   |   |   |   |   |   |   |   |   |   |   |
|                                   |   |   |   |   |   |   |   |   |   |   |   |   |



**PETERS & ASSOCIATES**  
**ENGINEERS, INC.**

---

• CIVIL & TRAFFIC ENGINEERING •

---

5507 Ranch Drive - Suite 209  
Little Rock, Arkansas 72223 (501) 868-3999