

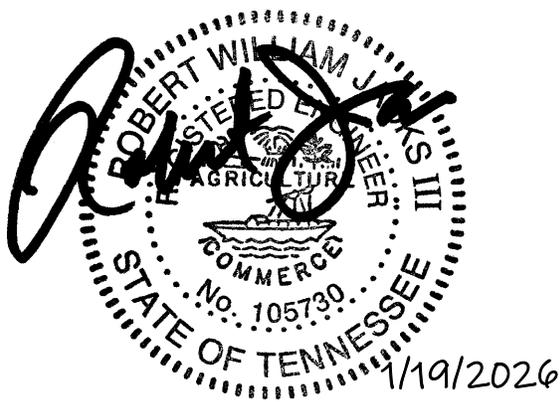


# Transportation Impact Letter Choto Road Grill and Bar Knox County, Tennessee



January 2026

Prepared for:  
DKLEVY Architecture and Design  
3523 Maloney Road  
Knoxville, TN 37920



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TIL Version 1  
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▪ **EXECUTIVE SUMMARY**

**Preface:**

Rushabh Patel proposes a commercial development at the southeast corner of S Northshore Drive at Choto Road in deep Southwest Knox County, TN. The proposed development will include the construction of a 2-story restaurant and bar on a single parcel of 0.53 +/- acres. The development is referred to in this report as “Choto Road Grill and Bar”. The development proposes a single entrance to Choto Road, 70 feet to the west of the existing unsignalized t-intersection of Choto Road at Choto Mill Lane. The Choto Road Grill and Bar is expected to be fully built and operational by early 2027.

**Report Results:**

The significant findings of this report include the following:

- The proposed Choto Road Grill and Bar, with 160 seats, is estimated to generate 74 trips during the MIDDAY peak hour and 74 during the PM peak hour in 2027.
- The Proposed Entrance intersection at Choto Road is calculated to operate with low vehicle delays and short vehicle queues in the projected 2027 conditions.
- At the Proposed Entrance location on Choto Road, the sight distance was visually estimated to be adequate in both directions in the existing conditions.
- Separate entering left and right-turn lanes on Choto Road at the Proposed Entrance are not expected to meet Knox County thresholds based on the calculated intersection volumes for the projected 2027 conditions.
- A single exit lane for the development, allowing both left and right-turn movements from the Proposed Entrance onto Choto Road, will be sufficient, according to calculations based on projected 2027 volumes.
- The proposed intersection spacing shown on the site plan between Choto Mill Lane and the Proposed Entrance on Choto Road is likely in compliance with Knox County standards regarding proper spacing between driveways and public roadways.
- The projected 2027 PM peak hour results indicate substantial southbound queues on S Northshore Drive at the roundabout. This result is related to the high future growth assumed and used in the study, rather than the calculated trips generated by the proposed development. However, this result portends to potential lengthy vehicle queues during the afternoon peak periods for southbound traffic on S Northshore Drive due to expected future growth in the surrounding area.

**Recommendations:**

The following recommendations are offered based on the analyses to minimize the impacts of the proposed development on the adjacent transportation system while attempting to achieve an acceptable traffic flow and improved safety. The recommendations marked with an asterisk indicate an existing transportation issue noted during the site review and are not associated with the proposed development's projected impacts.

**Choto Road at Proposed Entrance:**

- Intersection sight distances from the Proposed Entrance at Choto Road must not be impacted by future landscaping, signage, or grading at the entrance.
- It is recommended that a Stop Sign (R1-1) be installed and a 24" white stop bar be applied at the Proposed Entrance approach at Choto Road. The stop bar should be applied a minimum of 4 feet away from the edge of the travel lane on Choto Road and placed at the desired stopping point that maximizes sight distance.
- A white crosswalk is recommended to be applied across the Proposed Entrance approach, where the existing sidewalk on Choto Road will cross. The crosswalk should have a white transverse marking as shown in TDOT Standard Drawing T-M-4.
- The current site plan shows the Proposed Entrance at Choto Road, 70 feet west of Choto Mill Lane (centerline to centerline). This proposed spacing needs to be clarified and further confirmed to ensure a minimum distance of 50 feet is met to meet Knox County regulations.

**S Northshore Drive at Choto Road:**

- \* • The existing roundabout is missing some road traffic signs that were once posted. These signs include two posts in the raised center of the roundabout facing southbound and eastbound motorists and include both "One-Way" Signs (R6-1r) and Roundabout Directional (2 Chevron) Signs (R6-4) for each of these approaches.
- \* • The northbound approach of S Northshore Drive prior to the roundabout is missing a post that includes a Roundabout Intersection Sign (W2-6), a "Roundabout" plaque (W16-17p), and an advisory speed plaque (W13-1p) of 20 mph, as posted at all of the other approaches to the roundabout.

**Choto Road Grill and Bar Internal Drives/Parking Lot Aisleways:**

- All drainage grates and covers for the commercial development must be

pedestrian and bicycle-safe.

- All internal parking space lines are to be white, except for handicapped markings. White pavement lane markings and arrows should also be considered to facilitate orderly internal vehicular movements.
- The Proposed Entrance intersection elements at Choto Road should be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD), as well as Knox County specifications and guidelines, to ensure proper roadway operations.

▪ **INTRODUCTION AND ACCESS ROADWAY DESCRIPTIONS**

The location of the proposed new commercial development, the Choto Road Grill and Bar, is shown on a map in Figure 1. This proposed development will be located between S Northshore Drive and Choto Mill Lane on the south side of Choto Road in deep Southwest Knox County, TN.

Choto Road generally runs from northwest to southeast, but at the proposed development site, it runs in a more east-west direction. Choto Road intersects S Northshore Drive at a roundabout, approximately 280 feet from the location of the Proposed Entrance to the Choto Road Grill and Bar (centerline to centerline). This roundabout intersection is surrounded by residential development to the southwest and northwest and commercial development in the Markets at Choto to the northeast. Choto Road at the development site consists of a two-lane road with white edge lines and a double yellow centerline.

At its northwest beginning, Choto Road begins at a t-intersection with Harvey Road. As it travels towards the southeast, it intersects S Northshore Drive at a single-lane roundabout. Southeast of the roundabout, Choto Road continues until it terminates with the roadway continuing as Early Morning Lane. Choto Road is 3.5 miles long.

Choto Road is classified as a Minor Collector at the development site and has a posted speed limit of 30 mph. Along its length, Choto Road primarily provides access to residential houses, subdivisions, and some large undeveloped tracts. Choto Road also provides access to a Rural Metro station, a church, and a marina at Fort Loudoun Lake, further south. The asphalt pavement width of Choto Road is 24 feet near the Proposed Entrance location, plus 2.5-foot concrete curb and gutter. In addition, along the development's road frontage at Choto Road, a 4.5-foot-wide concrete sidewalk is provided and constructed with ramps for a driveway apron for future access into the development property.

Adjacent to the development site, Choto Road also provides access to Choto Mill Lane, a road that provides access to 18 single-family detached houses in The Mill at Choto Subdivision.





**Figure 1**  
**Location Map**

▪ **PROJECT DESCRIPTION:**

The proposed commercial development will include a single entrance shown on the site plan on the south side of Choto Road, 70 feet west of Choto Mill Lane, and 280 feet east of the roundabout at S Northshore Drive, centerline to centerline.

The Choto Road Grill and Bar is projected to be fully built and operational by early 2027, subject to permitting and construction timelines. The commercial development will include a 4,000 ft<sup>2</sup>, 2-story building on a 0.53-acre parcel at 1615 Choto Road. The business in the building will include a restaurant, indoor bar and grill, and outdoor bar. In addition, pickleball and bocce ball courts will be provided for patrons. There will be a large exterior deck on the second floor. Approximately 160 total seats will be provided for patrons. This seating includes interior seating, exterior deck seating, table seating, bar seating, and site exterior seating. At this time, the establishment plans to provide service only during lunch and dinner and will not be open in the mornings.

The existing development parcel is nearly fully cleared, with maintained grass areas and wooded areas around the property lines. The property is currently zoned Neighborhood Commercial (CN), and the development is not proposing to change this zoning.

The internal paved aisleways in the parking lot will be 26 feet wide and will provide 34 vehicle parking spaces, including one ADA-accessible spot. Bicycle parking/storage will also be provided on-site for patrons.

The proposed site layout from DKLEVY Architecture and Design is shown in Figure 2. Figure 3 shows the location of the development property at Choto Road, the traffic count locations conducted for the study, and the current traffic signage in the study area. The traffic signage shown in Figure 3 only includes warning and regulatory signage near the development site.

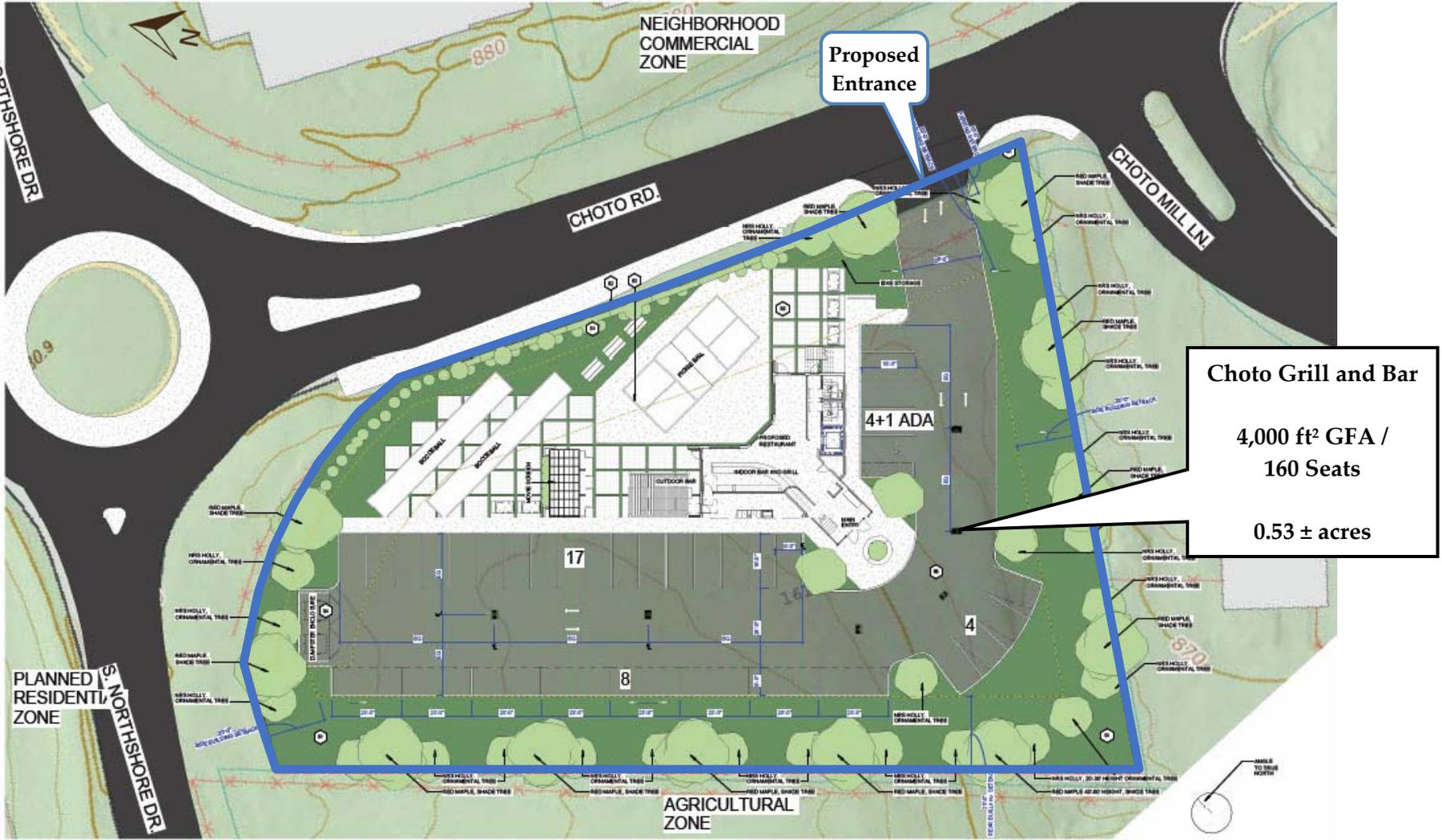


Figure 2  
 Proposed Plan Layout  
 Choto Road Grill and Bar

**Choto Grill and Bar**  
 4,000 ft<sup>2</sup> GFA /  
 160 Seats  
 0.53 ± acres

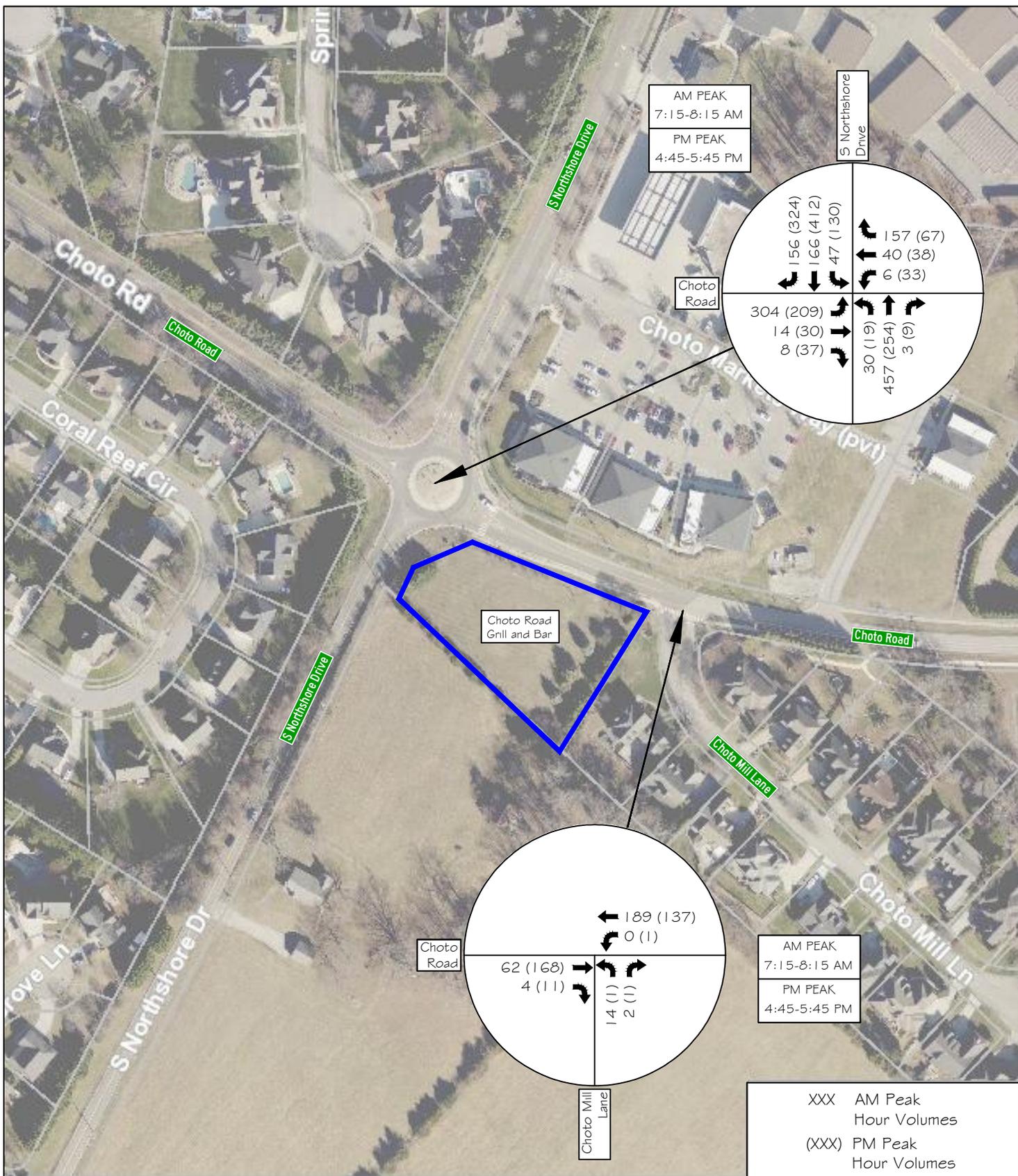
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▪ **EXISTING TRAFFIC CONDITIONS**

For this report, an 8-hour traffic count was conducted at the roundabout of S Northshore Drive at Choto Road on Tuesday, January 6<sup>th</sup>, 2026. Local public schools were in session when the traffic count was conducted and had returned from the Christmas break the day before. An auxiliary traffic count was also conducted at the adjacent intersection of Choto Road at Choto Mill Lane during the observed, identified peak hours only. Based on the collected traffic volumes at the roundabout, the AM and PM peak hours were observed to be 7:15 – 8:15 a.m. and 4:15 – 5:15 p.m. as shown in Figure 4a. The MIDDAY peak hour was observed from 12:00 noon – 1:00 p.m., and these volumes are shown in Figure 4b. The MIDDAY peak hour is included since the Choto Road Grill and Bar will be open for lunch. All of the traffic count tabulations are included in the Appendix.

Overall, the general traffic movements in the study area on S Northshore Drive showed predominant flows towards the north in the AM peak hour and towards the south in the PM peak hour. These directional flows were more pronounced during the AM peak hour than during the PM peak hour. Overall, the Choto Road approach on the east side of the roundabout, where the proposed development will tie in, has the lowest vehicular volume at the intersection. The MIDDAY peak hour also had the lowest overall traffic volumes as compared to the AM and PM peak hours.



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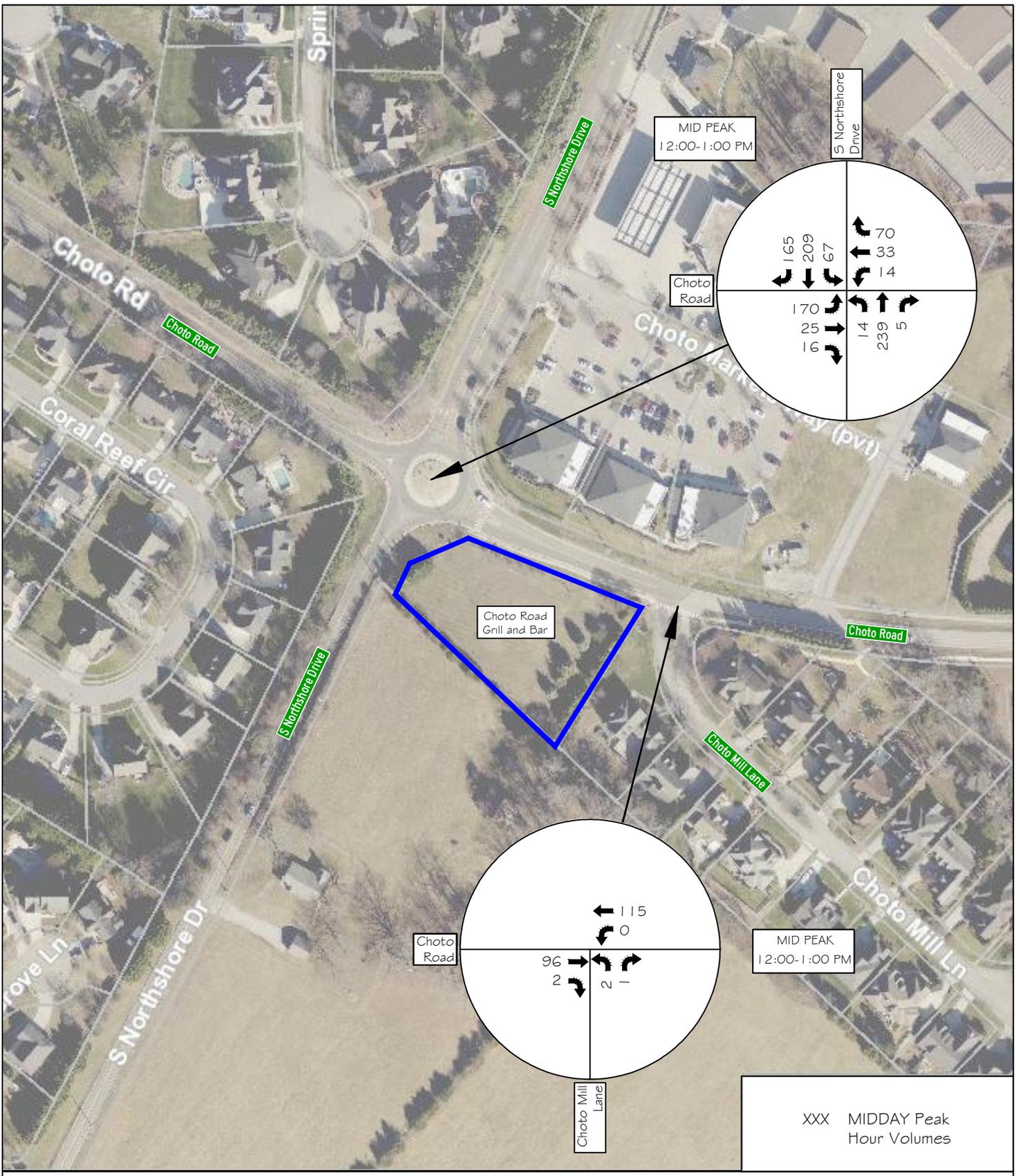
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FIGURE 4a

Choto Road Grill and Bar

2026 Peak Hour Traffic Volumes -  
Existing Traffic Conditions - AM and PM



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FIGURE 4b

Choto Road Grill and Bar

2026 Peak Hour Traffic Volumes -  
 Existing Traffic Conditions - MIDDAY

As requested by Knox County Engineering & Public Works, capacity analyses for the roundabout were conducted to determine the Level of Service (LOS) for the existing 2026 peak hour AM and PM traffic volumes, as shown in Figure 4. The capacity analyses were calculated using the Highway Capacity Manual (HCM) methods and Synchro (Version 12) traffic software, and included the t-intersection of Choto Road at Choto Mill Lane.

The intersection capacity results for the existing 2026 peak hour traffic are shown in Table 1. The intersections in the table are shown with a LOS (Level of Service) designation, delay (in seconds), and v/c ratio (volume-to-capacity ratio) for the AM and PM peak hours. The Appendix includes the software worksheets for the existing 2026 peak hour capacity analyses.

As shown in Table 1, the studied intersections are calculated to operate reasonably well with good to average LOS and short to average vehicle delays during the existing 2026 peak hour conditions.

**TABLE 1**  
**INTERSECTION CAPACITY ANALYSIS RESULTS -**  
**2026 EXISTING PEAK HOUR TRAFFIC CONDITIONS**

| INTERSECTION  | TRAFFIC CONTROL   | APPROACH/ MOVEMENT    | AM PEAK          |                                 |                  | PM PEAK          |                                 |                  |
|---|---|-----------------------|------------------|---------------------------------|------------------|------------------|---------------------------------|------------------|
|   |   |                       | LOS <sup>a</sup> | DELAY <sup>b</sup><br>(seconds) | v/c <sup>c</sup> | LOS <sup>a</sup> | DELAY <sup>b</sup><br>(seconds) | v/c <sup>c</sup> |
| S Northshore Drive (SB & NB) at<br>Choto Road (WB & EB) | <br>Roundabout   | Eastbound             | A                | 7.6                             | 0.379            | C                | 19.2                            | 0.701            |
|   |   | Westbound             | B                | 14.9                            | 0.468            | A                | 8.9                             | 0.266            |
|   |   | Northbound            | B                | 14.2                            | 0.633            | B                | 11.3                            | 0.475            |
|   |   | Southbound            | A                | 6.8                             | 0.394            | C                | 15.2                            | 0.757            |
| Choto Road (WB & EB) at<br>Choto Mill Lane (NB)         | <br>Unsignalized | Northbound Left/Right | B                | 10.3                            | 0.045            | B                | 10.1                            | 0.011            |
|   |   | Westbound Left        | A                | 0.0                             | -                | A                | 7.6                             | 0.001            |

Note: All analyses were calculated in Synchro 12 software and reported using HCM 7<sup>th</sup> Edition intersection methodology

<sup>a</sup> Level of Service, <sup>b</sup> Average Delay (sec/vehicle), <sup>c</sup> Volume-to-Capacity Ratio

▪ **PROJECTED TRAFFIC CONDITIONS WITHOUT THE PROJECT**

Horizon year traffic conditions represent the projected traffic volumes in the study area without the proposed project being developed (no-build option). The proposed commercial development's build-out was expected to be completed by 2027.

Three annual vehicular traffic count locations are in the near vicinity, with the Knoxville Regional Transportation Planning Organization (TPO) conducting two and the Tennessee Department of Transportation (TDOT) conducting the other. However, both TPO counts are limited in data. The count location data is the following, and can be viewed with further details in the Appendix:

TDOT reported the following Average Annual Daily Traffic (AADT):

- Choto Road, southeast of Harvey Road, and located northwest of the development site, recorded 5,927 vehicles per day in 2024. Between 2014 and 2024, this count station has reported an average annual growth rate of +4.7%.

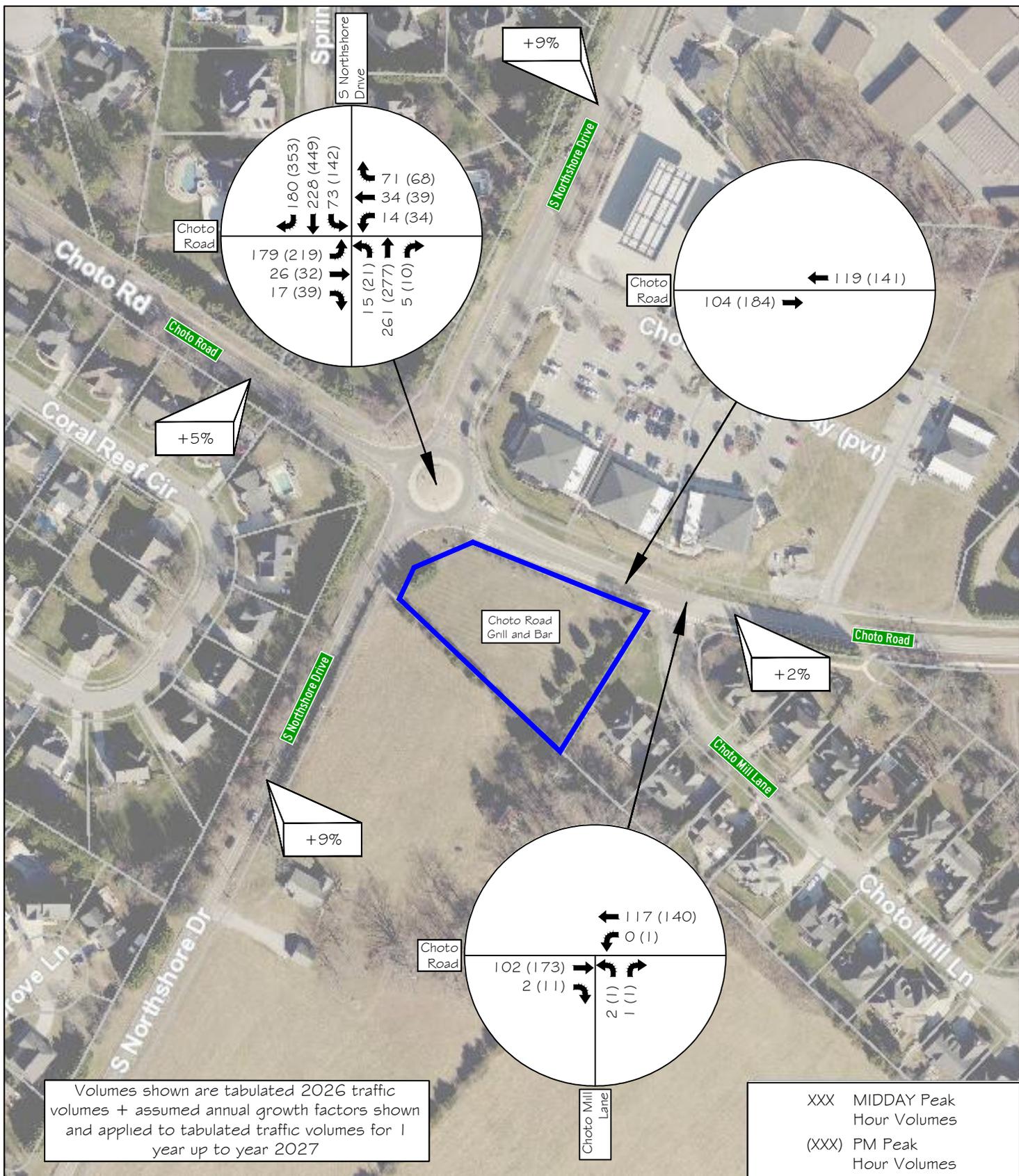
TPO reported the following Average Daily Traffic (ADT):

- Choto Road, east of Rocky Slope Lane and the development site, recorded 2,500 vehicles per day in 2023. Between 2019 and 2023, this count station has reported an average annual growth rate of +0.4%.

TPO reported the following Average Daily Traffic (ADT):

- S Northshore Drive, north of Choto Road and the development site, recorded 14,610 vehicles per day in 2024. Between 2022 and 2024, this count station has reported an average annual growth rate of +9.3%.

Thus, for this report, based on this data, an annual growth rate of 2% was assumed to be appropriate for the portion of Choto Road east of the roundabout, 5% for the west portion of Choto Road, and 9% for the traffic on S Northshore Drive. These growth factors were applied to the existing tabulated 2026 volumes to estimate future volumes in the horizon year of 2027, excluding the proposed development traffic to account for potential traffic growth in the study area. Figure 5 shows the projected 2027 horizon year traffic volumes during the MIDDAY and PM peak hours at the studied intersections. The AM peak hour is excluded from the remaining analyses, as Choto Road Grill and Bar will not be open during this time and will serve only lunch and dinner.



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FIGURE 5

Choto Road Grill and Bar

2027 Peak Hour Traffic Volumes -  
Projected Traffic Conditions  
Without the Project

▪ **TRIP GENERATION**

A generated trip is a single or one-direction vehicle movement entering or exiting the study site. The estimated traffic generated by the proposed Choto Road Grill and Bar was calculated using rates and equations from the Trip Generation Manual, 12th Edition, an Institute of Transportation Engineers (ITE) publication.

For this development, the closest land use in the Trip Generation Manual most appropriate for the Choto Road Grill and Bar is Land Use #932, High-Turnover (Sit-Down) Restaurant.

The description for Land Use #932 is the following: “This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal. Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.”

Further, the Trip Generation Manual states that “If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.”

Since this establishment proposes a fair amount of outdoor seating, it was determined that the trip generation would be calculated using the proposed 160 seats as the independent variable. The drawbacks of using seating as the independent variable, however, are that data to calculate total weekday trips are not provided, and no data are available for MIDDAY peak periods either.

Thus, to ensure a conservative review and outcome, it was assumed that the trips generated by the Choto Road Grill and Bar during the MIDDAY peak would be the same as calculated for the PM peak hour and would follow the same percentage of entering and exiting trips. It is expected, however, that the establishment will experience greater patronage and business during the dinner periods, and the results for the MIDDAY peak hour will be an overestimation.

The data and calculations from ITE for the proposed land use are shown in the Appendix. A summary of this information is presented in the following table:

**TABLE 2**  
**TRIP GENERATION FOR CHOTO ROAD GRILL AND BAR**  
 160 Seats

| ITE LAND USE CODE                  | LAND USE DESCRIPTION                | # OF UNITS | GENERATED DAILY TRAFFIC | GENERATED TRAFFIC AM PEAK HOUR  |                                 |               | GENERATED TRAFFIC PM PEAK HOUR |           |           |
|------------------------------------|-------------------------------------|------------|-------------------------|---------------------------------|---------------------------------|---------------|--------------------------------|-----------|-----------|
|                                    |                                     |            |                         | ENTER                           | EXIT                            | TOTAL         | ENTER                          | EXIT      | TOTAL     |
| #932                               | High-Turnover (Sit-Down) Restaurant | 160        | n/a                     | <del>52%</del><br><del>32</del> | <del>48%</del><br><del>29</del> | <del>61</del> | 57%                            | 43%       | 74        |
| <b>Total New Volume Site Trips</b> |                                     |            | <b>n/a</b>              | <del>32</del>                   | <del>29</del>                   | <del>61</del> | <b>42</b>                      | <b>32</b> | <b>74</b> |

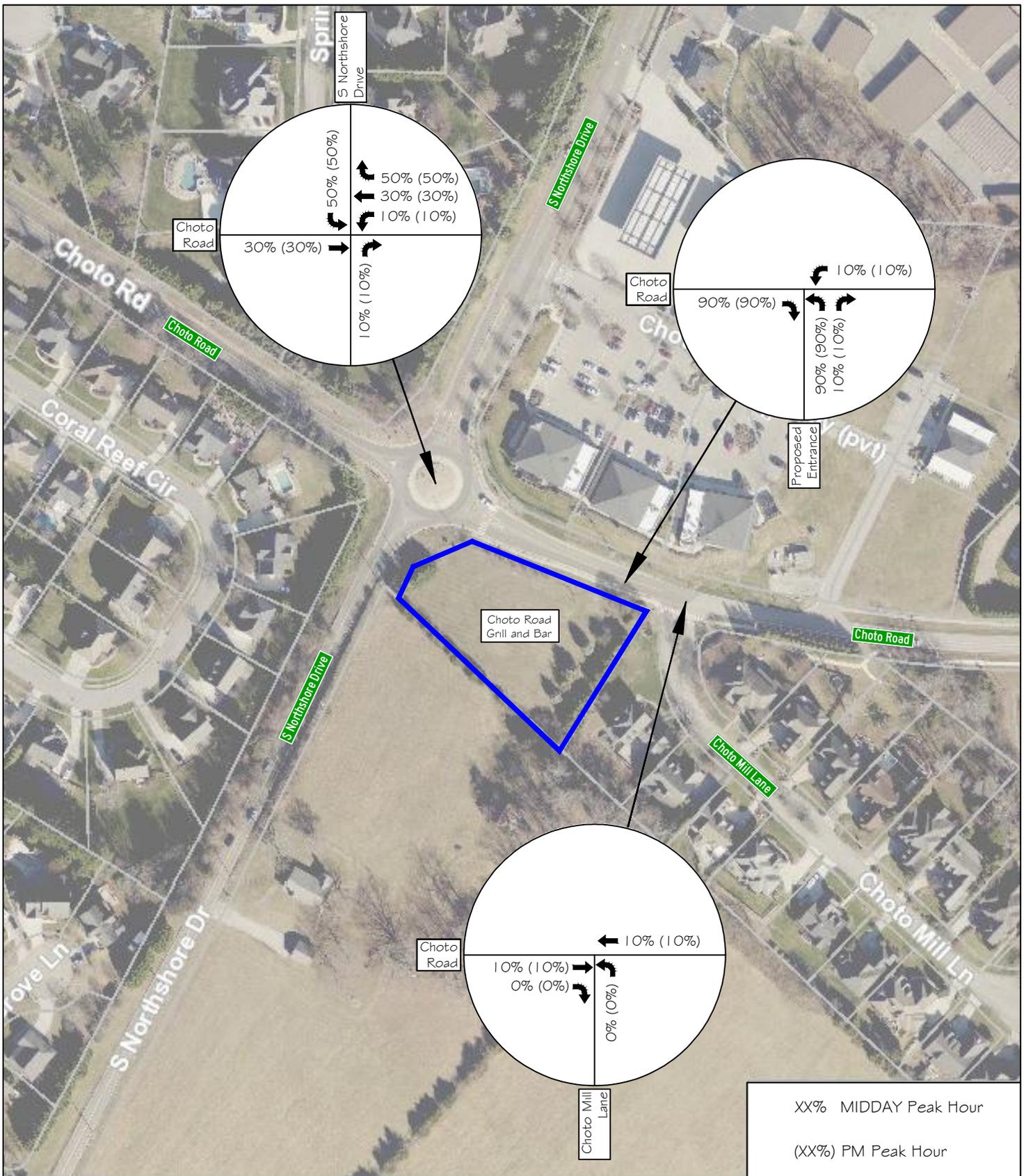
ITE Trip Generation Manual, 12<sup>th</sup> Edition  
 Trips calculated by using Average Rates

For the proposed Choto Road Grill and Bar, it is estimated that 42 vehicles will enter and 32 will exit, for a total of 74 generated trips during the PM peak hour in the year 2027. Similarly, it is assumed that the same amount will enter and exit during the MIDDAY peak hour in 2027, given the lack of ITE data. No vehicle trip reductions were included in the calculations or analysis. Note that the AM peak hour trip generation, while provided in the table, is shown in strikethrough, because the establishment will not be open during this period.

▪ **TRIP DISTRIBUTION AND ASSIGNMENT:**

Taking into account the observed traffic flows on Choto Road and S Northshore Drive, the surrounding area population, and the site's proposed location on Choto Road, the assumed projected trip distribution for the Choto Road Grill and Bar was assumed accordingly and is shown in Figure 6. The vast majority of patrons are assumed will originate and depart to and from the west of the Proposed Entrance.

Figure 6 shows the projected distribution of traffic entering and exiting the Choto Road Grill and Bar at the Proposed Entrance and the adjacent studied intersections. The percentages assumed and shown at the roundabout are based on observed traffic flows. Figure 7 shows the traffic assignment for the computed trips generated by the Choto Road Grill and Bar at the intersections, based on the assumed distribution of trips shown in Figure 6.



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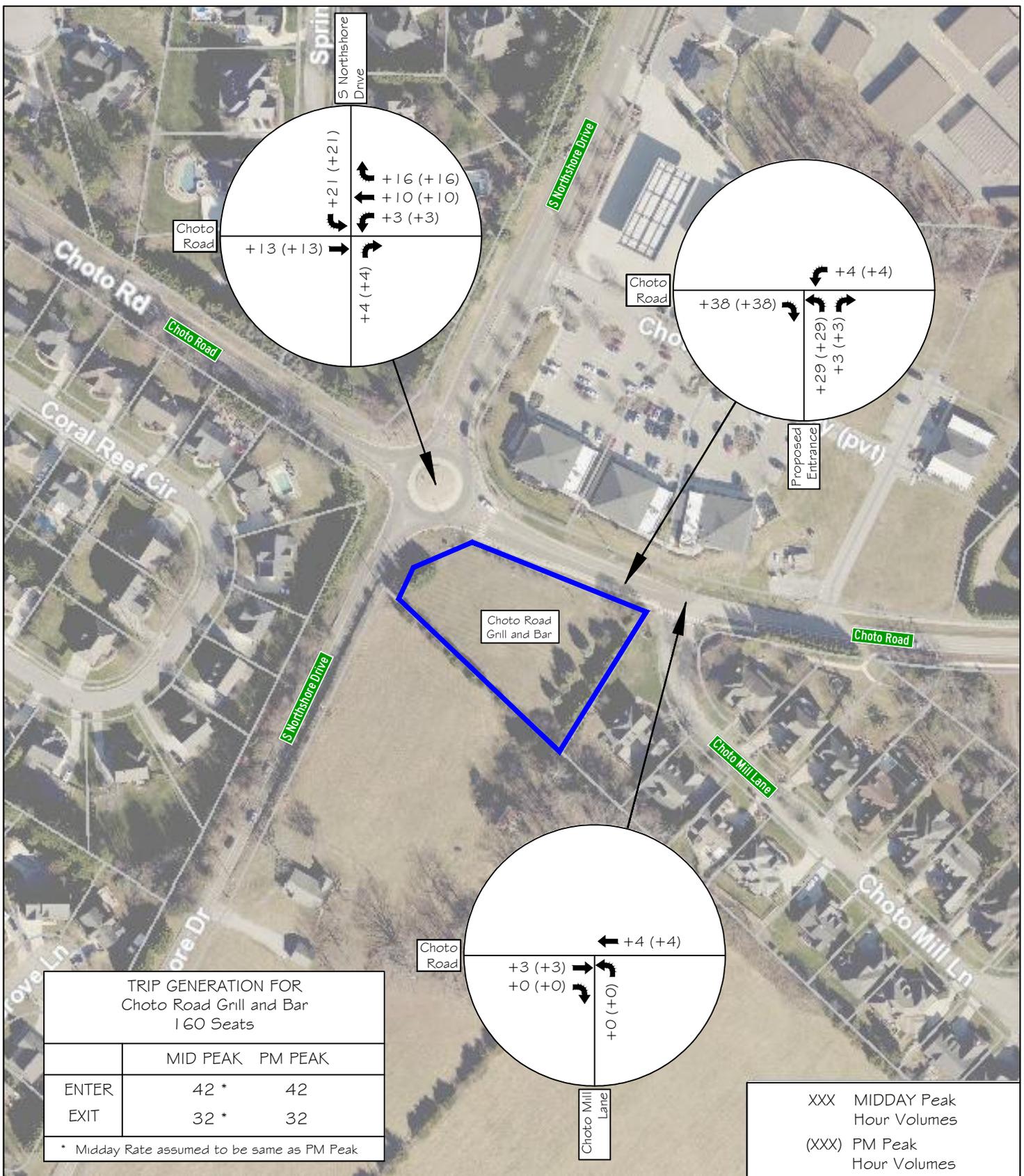
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FIGURE 6

Choto Road Grill and Bar

Directional Distribution of Generated Traffic during MIDDAY and PM Peak Hour



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FIGURE 7

Choto Road Grill and Bar

Traffic Assignment of Generated Traffic during MIDDAY and PM Peak Hour

▪ **PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT:**

The calculated peak hour traffic generated by the Choto Road Grill and Bar was added to the 2027 horizon year traffic by following the predicted trip distributions and assignments. This procedure was completed to obtain the total projected traffic volumes at the Proposed Entrance for the Choto Road Grill and Bar and adjacent intersections upon full build-out and occupancy in 2027. Figure 8 shows the projected 2027 MIDDAY and PM peak hour traffic volumes, which include the generated trips from the Choto Road Grill and Bar at the Proposed Entrance and at the adjacent intersections.

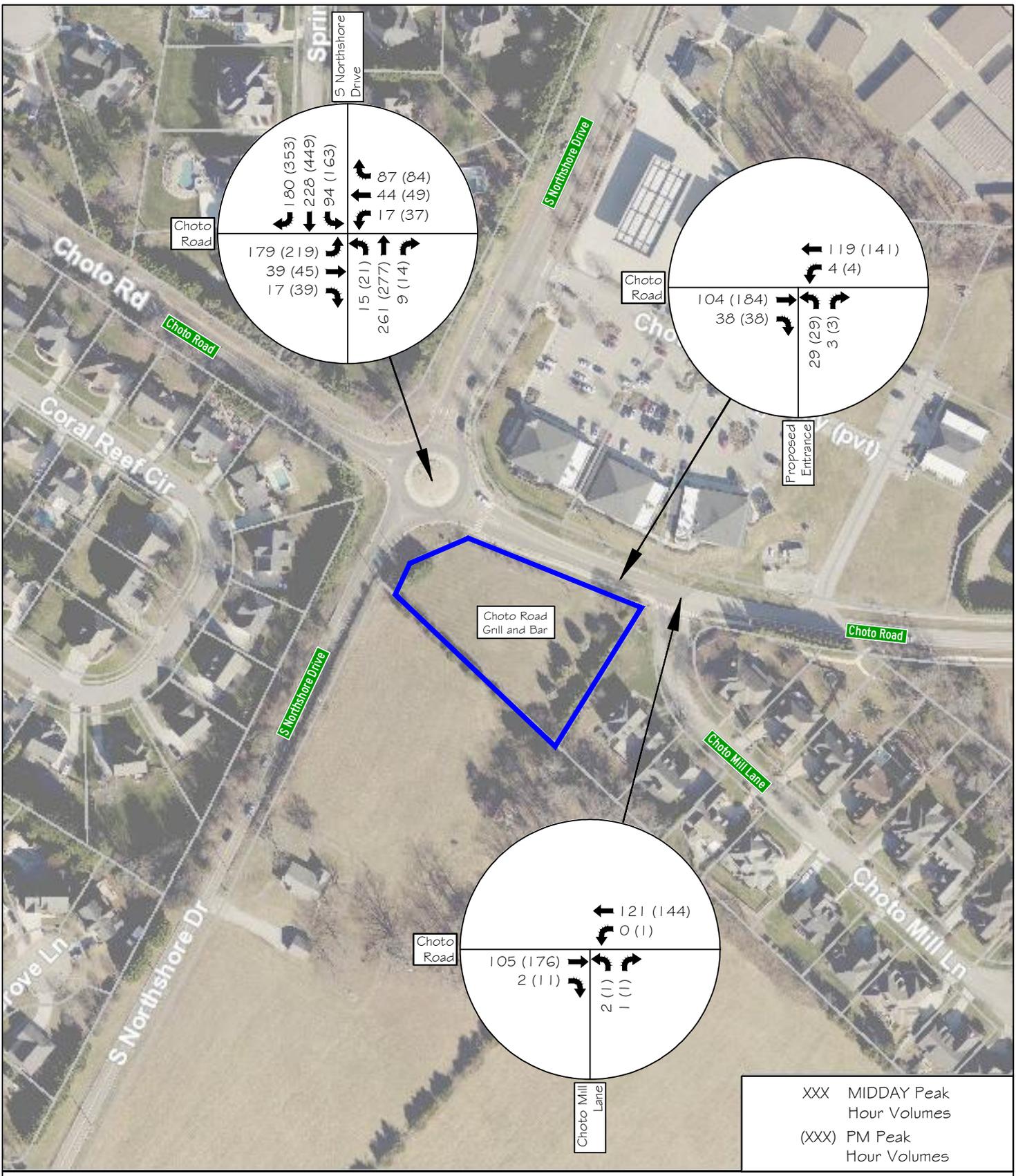
Capacity analyses were conducted to determine the projected LOS at the Proposed Entrance and adjacent studied intersections with the development traffic in 2027, as shown in Figure 8. The intersection capacity results for the projected 2027 peak hour traffic are shown in Table 3. As shown in Table 3, the intersections are projected to experience minimal vehicle delays during the 2027 MIDDAY and PM peak hours. The exception is the roundabout, which shows moderate delays during the PM peak hour.

**TABLE 3  
INTERSECTION CAPACITY ANALYSIS RESULTS -  
2027 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT**

| INTERSECTION  | TRAFFIC CONTROL   | APPROACH/<br>MOVEMENT | MIDDAY PEAK      |                                 |                  | PM PEAK          |                                 |                  |
|---|---|-----------------------|------------------|---------------------------------|------------------|------------------|---------------------------------|------------------|
|   |   |                       | LOS <sup>a</sup> | DELAY <sup>b</sup><br>(seconds) | v/c <sup>c</sup> | LOS <sup>a</sup> | DELAY <sup>b</sup><br>(seconds) | v/c <sup>c</sup> |
| S Northshore Drive (SB & NB) at<br>Choto Road (WB & EB) | <br>Roundabout   | Eastbound             | A                | 7.2                             | 0.305            | D                | 30.5                            | 0.834            |
|   |   | Westbound             | A                | 6.9                             | 0.220            | B                | 10.6                            | 0.343            |
|   |   | Northbound            | A                | 7.5                             | 0.338            | B                | 14.6                            | 0.571            |
|   |   | Southbound            | A                | 7.7                             | 0.465            | C                | 22.4                            | 0.862            |
| Choto Road (WB & EB) at<br>Choto Mill Lane (NB)         | <br>Unsignalized | Northbound Left/Right | A                | 9.6                             | 0.010            | B                | 10.2                            | 0.011            |
|   |   | Westbound Left        | A                | 0.0                             | -                | A                | 7.7                             | 0.001            |
| Choto Road (WB & EB) at<br>Proposed Entrance (NB)       | <br>Unsignalized | Northbound Left/Right | B                | 10.2                            | 0.049            | B                | 11.1                            | 0.056            |
|   |   | Westbound Left        | A                | 7.5                             | 0.003            | A                | 7.7                             | 0.003            |

Note: All analyses were calculated in Synchro 12 software and reported using HCM 7<sup>th</sup> Edition intersection methodology

<sup>a</sup> Level of Service, <sup>b</sup> Average Delay (sec/vehicle), <sup>c</sup> Volume-to-Capacity Ratio



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FIGURE 8

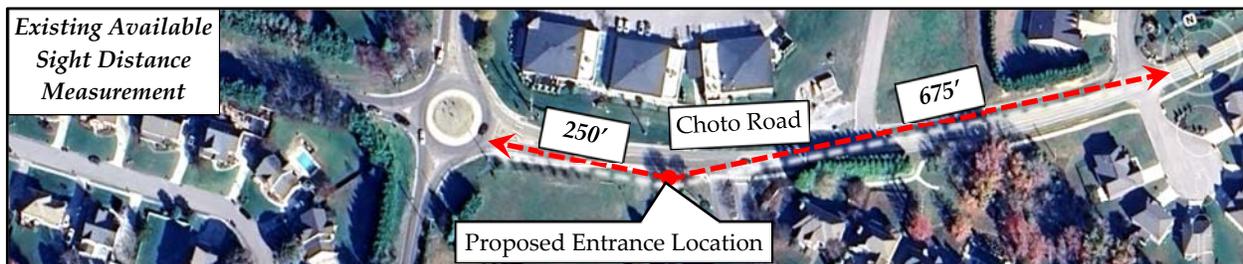
Choto Road Grill and Bar

2027 Peak Hour Traffic Volumes -  
 Projected Traffic Conditions  
 With the Project - MIDDAY and PM

▪ **EVALUATION OF SIGHT DISTANCE**

With a posted speed limit of 30 mph on Choto Road at the Proposed Entrance location, an Intersection Sight Distance (ISD) of 300 feet is necessary, based on Knox County’s policy requiring 10 feet of sight distance per 1-mph of speed. This distance is required for a motorist to exit safely to the left or right at Choto Road from the Proposed Entrance.

Visual observations of the sight distances at the Proposed Entrance location on Choto Road were measured using a Nikon Laser Rangefinder. The available sight distance was visually estimated to be 250 feet to the west and 675 feet to the east. These lengths are estimated to be appropriate for future motorists exiting at the Proposed Entrance location. The available sight distance of 250 feet to the west will be acceptable, as vehicles exiting the roundabout intersection and traveling east towards the Proposed Entrance will start at a low turning speed. Assuming a worst-case, highest oncoming vehicle speed turning at 15 mph from the roundabout traveling east, the required sight distance would only be 150 feet and well within the available sight distance of 250 feet. Images of the existing sight distances at Choto Road at the Proposed Entrance location are labeled in the following image with the required ISD and rangefinder-measured sight distances in bold italics.



**View of Sight Distance on Choto Road at the Proposed Entrance Location (Looking West)**



**View of Sight Distance on Choto Road at the Proposed Entrance Location (Looking East)**

▪ **EVALUATION OF TURN LANE THRESHOLDS**

The need for separate left and right-turn lanes was evaluated in the projected 2027 conditions at the intersection of Choto Road at the Proposed Entrance.

The criteria used for these turn lane evaluations were based on Knox County's "Access Control and Driveway Design Policy". This design policy relates vehicle volume thresholds based on prevailing speeds for two-lane and four-lane roadways. The location of the Proposed Entrance intersection is within a 30 mph speed zone; thus, the intersection was evaluated based on this posted speed. The worksheets for these evaluations are provided in the Appendix.

Based on projected 2027 traffic volumes at the Proposed Entrance intersection, separate left- or right-turn entering lanes on Choto Road are not expected to meet Knox County thresholds and are not required.

▪ **EVALUATION OF INTERSECTION SPACING**

Knox County has established intersection standards for public and private streets. One of these standards concerns the spacing of intersections and driveways. Since Choto Road is designated as a Minor Collector, the minimum corner clearance spacing is 50 feet from the nearest road edges, according to Table 3, Section 3.51.02.C of The Zoning Ordinance of Knox County, Tennessee. The proposed spacing between the Proposed Entrance and Choto Mill Lane is 70 feet from centerline to centerline. This proposed spacing needs to be clarified and further confirmed to ensure a minimum distance of 50 feet is met to meet Knox County regulations.

▪ **PROJECTED VEHICLE QUEUES**

An additional software program calculated the projected vehicle queues for the 2027 MIDDAY and PM peak hours at the studied intersections. The previously mentioned Synchro Traffic Software includes SimTraffic.

The calculated vehicle queue results were based on averaging the outcomes obtained during ten traffic simulations in the software. The 95<sup>th</sup> percentile vehicle queue lengths at the studied intersection are shown in Table 4 for the projected 2027 conditions. The vehicle queue worksheet results from the SimTraffic Software (Version 12) are in the Appendix.

Table 4 reports the results and shows short vehicle queues at the studied intersections during the MIDDAY and PM peak hours. The exception is the southbound approach of S Northshore Drive at the roundabout during the PM peak hour, which shows a 95<sup>th</sup> percentile queue of 605 feet, reflecting the observed afternoon peak in large volumes driven by the area’s commuting patterns.

The southbound approach of S Northshore Drive during the projected 2027 PM peak hour is calculated to operate at a v/c ratio of 0.862 with a LOS C. This calculated result is acceptable. Still, it is approaching the threshold where noticeable queuing occurs. The higher entering volume on this approach, combined with substantial circulating flows from the other approaches, reduces the available entry gaps, leading to extended wait times and queue formation.

Nonetheless, the queues at the Proposed Entrance and the nearby intersection of Choto Mill Lane are calculated to be minimal. They are not expected to interfere with turning movements at each location. The longest calculated vehicle queues at these two intersections are expected to occur for the exiting movements at the Proposed Entrance, with a length of 47 feet, approximately two passenger vehicles.

**TABLE 4  
VEHICLE QUEUE SUMMARY -  
2027 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT**

| INTERSECTION  | TRAFFIC CONTROL   | APPROACH/<br>MOVEMENT | 95 <sup>th</sup> PERCENTILE<br>VEHICLE QUEUE LENGTH (ft) |              |
|---|---|-----------------------|--|--------------|
|   |   |                       | MID PEAK HOUR  | PM PEAK HOUR |
| S Northshore Drive (SB & NB) at<br>Choto Road (WB & EB) | <br>Round about  | Eastbound             | 66   | 90           |
|   |   | Westbound             | 59   | 60           |
|   |   | Northbound            | 61   | 73           |
|   |   | Southbound            | 60   | 605          |
| Choto Road (WB & EB) at<br>Choto Mill Lane (NB)         | <br>Unsignalized | Northbound Left/Right | 17   | 14           |
|   |   | Westbound Left        | -  | -            |
| Choto Road (WB & EB) at<br>Proposed Entrance (NB)       | <br>Unsignalized | Northbound Left/Right | 45   | 47           |
|   |   | Westbound Left        | 10   | 8            |

Note: All analyses were calculated in SimTraffic 12 software

## **APPENDIX**

HCM 7th Roundabout  
 3: S Northshore Drive & Choto Road

| Intersection                |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh   | 10.6    |         |         |         |
| Intersection LOS            | B       |         |         |         |
| Approach                    | EB      | WB      | NB      | SB      |
| Entry Lanes                 | 1       | 1       | 1       | 1       |
| Conflicting Circle Lanes    | 1       | 1       | 1       | 1       |
| Adj Approach Flow, veh/h    | 383     | 250     | 550     | 480     |
| Demand Flow Rate, veh/h     | 387     | 254     | 557     | 495     |
| Vehicles Circulating, veh/h | 295     | 915     | 441     | 93      |
| Vehicles Exiting, veh/h     | 293     | 83      | 241     | 1076    |
| Ped Vol Crossing Leg, #/h   | 0       | 0       | 0       | 0       |
| Ped Cap Adj                 | 1.000   | 1.000   | 1.000   | 1.000   |
| Approach Delay, s/veh       | 7.6     | 14.9    | 14.2    | 6.8     |
| Approach LOS                | A       | B       | B       | A       |
| Lane                        | Left    | Left    | Left    | Left    |
| Designated Moves            | LTR     | LTR     | LTR     | LTR     |
| Assumed Moves               | LTR     | LTR     | LTR     | LTR     |
| RT Channelized              |         |         |         |         |
| Lane Util                   | 1.000   | 1.000   | 1.000   | 1.000   |
| Follow-Up Headway, s        | 2.609   | 2.609   | 2.609   | 2.609   |
| Critical Headway, s         | 4.976   | 4.976   | 4.976   | 4.976   |
| A (Intercept)               | 1380    | 1380    | 1380    | 1380    |
| B (Slope)                   | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h           | 387     | 254     | 557     | 495     |
| Cap Entry Lane, veh/h       | 1021    | 543     | 880     | 1255    |
| Entry HV Adj Factor         | 0.990   | 0.983   | 0.987   | 0.970   |
| Flow Entry, veh/h           | 383     | 250     | 550     | 480     |
| Cap Entry, veh/h            | 1011    | 533     | 869     | 1218    |
| V/C Ratio                   | 0.379   | 0.468   | 0.633   | 0.394   |
| Control Delay, s/veh        | 7.6     | 14.9    | 14.2    | 6.8     |
| LOS                         | A       | B       | B       | A       |
| 95th %tile Queue, veh       | 2       | 2       | 5       | 2       |

HCM 7th TWSC  
 7: Choto Mill Lane & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 62   | 4    | 0    | 189  | 14   | 2    |
| Future Vol, veh/h        | 62   | 4    | 0    | 189  | 14   | 2    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 5    | 0    | -    |
| Peak Hour Factor         | 79   | 79   | 84   | 84   | 50   | 50   |
| Heavy Vehicles, %        | 8    | 0    | 0    | 2    | 0    | 0    |
| Mvmt Flow                | 78   | 5    | 0    | 225  | 28   | 4    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |         |
|----------------------|--------|--------|--------|---|---------|
| Conflicting Flow All | 0      | 0      | 84     | 0 | 306 81  |
| Stage 1              | -      | -      | -      | - | 81 -    |
| Stage 2              | -      | -      | -      | - | 225 -   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4 6.2 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 -   |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 -   |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5 3.3 |
| Pot Cap-1 Maneuver   | -      | -      | 1526   | - | 690 985 |
| Stage 1              | -      | -      | -      | - | 947 -   |
| Stage 2              | -      | -      | -      | - | 817 -   |
| Platoon blocked, %   | -      | -      | -      | - | -       |
| Mov Cap-1 Maneuver   | -      | -      | 1526   | - | 690 985 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 690 -   |
| Stage 1              | -      | -      | -      | - | 947 -   |
| Stage 2              | -      | -      | -      | - | 817 -   |

| Approach          | EB | WB | NB    |
|-------------------|----|----|-------|
| HCM Ctrl Dly, s/v | 0  | 0  | 10.26 |
| HCM LOS           |    |    | B     |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 717   | -   | -   | 1526 | -   |
| HCM Lane V/C Ratio    | 0.045 | -   | -   | -    | -   |
| HCM Ctrl Dly (s/v)    | 10.3  | -   | -   | 0    | -   |
| HCM Lane LOS          | B     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | 0    | -   |

HCM 7th Roundabout  
 3: S Northshore Drive & Choto Road

| Intersection                |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh   | 14.9    |         |         |         |
| Intersection LOS            | B       |         |         |         |
| Approach                    | EB      | WB      | NB      | SB      |
| Entry Lanes                 | 1       | 1       | 1       | 1       |
| Conflicting Circle Lanes    | 1       | 1       | 1       | 1       |
| Adj Approach Flow, veh/h    | 512     | 173     | 362     | 931     |
| Demand Flow Rate, veh/h     | 512     | 173     | 362     | 931     |
| Vehicles Circulating, veh/h | 624     | 737     | 583     | 113     |
| Vehicles Exiting, veh/h     | 420     | 208     | 553     | 797     |
| Ped Vol Crossing Leg, #/h   | 0       | 0       | 0       | 0       |
| Ped Cap Adj                 | 1.000   | 1.000   | 1.000   | 1.000   |
| Approach Delay, s/veh       | 19.2    | 8.9     | 11.3    | 15.2    |
| Approach LOS                | C       | A       | B       | C       |
| Lane                        | Left    | Left    | Left    | Left    |
| Designated Moves            | LTR     | LTR     | LTR     | LTR     |
| Assumed Moves               | LTR     | LTR     | LTR     | LTR     |
| RT Channelized              |         |         |         |         |
| Lane Util                   | 1.000   | 1.000   | 1.000   | 1.000   |
| Follow-Up Headway, s        | 2.609   | 2.609   | 2.609   | 2.609   |
| Critical Headway, s         | 4.976   | 4.976   | 4.976   | 4.976   |
| A (Intercept)               | 1380    | 1380    | 1380    | 1380    |
| B (Slope)                   | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h           | 512     | 173     | 362     | 931     |
| Cap Entry Lane, veh/h       | 730     | 651     | 761     | 1230    |
| Entry HV Adj Factor         | 1.000   | 1.000   | 1.000   | 1.000   |
| Flow Entry, veh/h           | 512     | 173     | 362     | 931     |
| Cap Entry, veh/h            | 730     | 651     | 761     | 1230    |
| V/C Ratio                   | 0.701   | 0.266   | 0.475   | 0.757   |
| Control Delay, s/veh        | 19.2    | 8.9     | 11.3    | 15.2    |
| LOS                         | C       | A       | B       | C       |
| 95th %tile Queue, veh       | 6       | 1       | 3       | 8       |

HCM 7th TWSC  
 7: Choto Mill Lane & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 168  | 11   | 1    | 137  | 1    | 1    |
| Future Vol, veh/h        | 168  | 11   | 1    | 137  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 5    | 0    | -    |
| Peak Hour Factor         | 84   | 84   | 80   | 80   | 25   | 25   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 200  | 13   | 1    | 171  | 4    | 4    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |         |
|----------------------|--------|--------|--------|---|---------|
| Conflicting Flow All | 0      | 0      | 213    | 0 | 380 207 |
| Stage 1              | -      | -      | -      | - | 207 -   |
| Stage 2              | -      | -      | -      | - | 174 -   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4 6.2 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 -   |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 -   |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5 3.3 |
| Pot Cap-1 Maneuver   | -      | -      | 1369   | - | 626 839 |
| Stage 1              | -      | -      | -      | - | 833 -   |
| Stage 2              | -      | -      | -      | - | 861 -   |
| Platoon blocked, %   | -      | -      | -      | - | -       |
| Mov Cap-1 Maneuver   | -      | -      | 1369   | - | 625 839 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 625 -   |
| Stage 1              | -      | -      | -      | - | 833 -   |
| Stage 2              | -      | -      | -      | - | 861 -   |

| Approach          | EB | WB   | NB    |
|-------------------|----|------|-------|
| HCM Ctrl Dly, s/v | 0  | 0.06 | 10.08 |
| HCM LOS           |    |      | B     |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 716   | -   | -   | 13    | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.001 | -   |
| HCM Ctrl Dly (s/v)    | 10.1  | -   | -   | 7.6   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |

HCM 7th Roundabout  
 3: S Northshore Drive & Choto Road

| Intersection                |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh   | 7.4     |         |         |         |
| Intersection LOS            | A       |         |         |         |
| Approach                    | EB      | WB      | NB      | SB      |
| Entry Lanes                 | 1       | 1       | 1       | 1       |
| Conflicting Circle Lanes    | 1       | 1       | 1       | 1       |
| Adj Approach Flow, veh/h    | 279     | 176     | 313     | 577     |
| Demand Flow Rate, veh/h     | 281     | 178     | 319     | 585     |
| Vehicles Circulating, veh/h | 396     | 524     | 372     | 90      |
| Vehicles Exiting, veh/h     | 279     | 167     | 305     | 612     |
| Ped Vol Crossing Leg, #/h   | 0       | 0       | 0       | 0       |
| Ped Cap Adj                 | 1.000   | 1.000   | 1.000   | 1.000   |
| Approach Delay, s/veh       | 7.2     | 6.9     | 7.5     | 7.7     |
| Approach LOS                | A       | A       | A       | A       |
| Lane                        | Left    | Left    | Left    | Left    |
| Designated Moves            | LTR     | LTR     | LTR     | LTR     |
| Assumed Moves               | LTR     | LTR     | LTR     | LTR     |
| RT Channelized              |         |         |         |         |
| Lane Util                   | 1.000   | 1.000   | 1.000   | 1.000   |
| Follow-Up Headway, s        | 2.609   | 2.609   | 2.609   | 2.609   |
| Critical Headway, s         | 4.976   | 4.976   | 4.976   | 4.976   |
| A (Intercept)               | 1380    | 1380    | 1380    | 1380    |
| B (Slope)                   | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h           | 281     | 178     | 319     | 585     |
| Cap Entry Lane, veh/h       | 921     | 809     | 944     | 1259    |
| Entry HV Adj Factor         | 0.993   | 0.991   | 0.982   | 0.987   |
| Flow Entry, veh/h           | 279     | 176     | 313     | 577     |
| Cap Entry, veh/h            | 915     | 801     | 927     | 1242    |
| V/C Ratio                   | 0.305   | 0.220   | 0.338   | 0.465   |
| Control Delay, s/veh        | 7.2     | 6.9     | 7.5     | 7.7     |
| LOS                         | A       | A       | A       | A       |
| 95th %tile Queue, veh       | 1       | 1       | 2       | 3       |

HCM 7th TWSC  
7: Choto Mill Lane & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.3  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 105  | 2    | 0    | 121  | 2    | 1    |
| Future Vol, veh/h        | 105  | 2    | 0    | 121  | 2    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 5    | 0    | -    |
| Peak Hour Factor         | 94   | 94   | 85   | 85   | 38   | 38   |
| Heavy Vehicles, %        | 2    | 0    | 0    | 1    | 0    | 0    |
| Mvmt Flow                | 112  | 2    | 0    | 142  | 5    | 3    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |         |
|----------------------|--------|--------|--------|---|---------|
| Conflicting Flow All | 0      | 0      | 114    | 0 | 255 113 |
| Stage 1              | -      | -      | -      | - | 113 -   |
| Stage 2              | -      | -      | -      | - | 142 -   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4 6.2 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 -   |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 -   |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5 3.3 |
| Pot Cap-1 Maneuver   | -      | -      | 1488   | - | 738 946 |
| Stage 1              | -      | -      | -      | - | 917 -   |
| Stage 2              | -      | -      | -      | - | 890 -   |
| Platoon blocked, %   | -      | -      | -      | - | -       |
| Mov Cap-1 Maneuver   | -      | -      | 1488   | - | 738 946 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 738 -   |
| Stage 1              | -      | -      | -      | - | 917 -   |
| Stage 2              | -      | -      | -      | - | 890 -   |

| Approach          | EB | WB | NB   |
|-------------------|----|----|------|
| HCM Ctrl Dly, s/v | 0  | 0  | 9.57 |
| HCM LOS           |    |    | A    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 796   | -   | -   | 1488 | -   |
| HCM Lane V/C Ratio    | 0.01  | -   | -   | -    | -   |
| HCM Ctrl Dly (s/v)    | 9.6   | -   | -   | 0    | -   |
| HCM Lane LOS          | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0    | -   |

HCM 7th TWSC  
 9: Proposed Entrance & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 104  | 38   | 4    | 119  | 29   | 3    |
| Future Vol, veh/h        | 104  | 38   | 4    | 119  | 29   | 3    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 3    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 0    | 0    | 1    | 0    | 0    |
| Mvmt Flow                | 116  | 42   | 4    | 132  | 32   | 3    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |     |     |
|----------------------|--------|--------|--------|---|-----|-----|
| Conflicting Flow All | 0      | 0      | 158    | 0 | 278 | 137 |
| Stage 1              | -      | -      | -      | - | 137 | -   |
| Stage 2              | -      | -      | -      | - | 141 | -   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 | -   |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 | -   |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver   | -      | -      | 1434   | - | 716 | 917 |
| Stage 1              | -      | -      | -      | - | 895 | -   |
| Stage 2              | -      | -      | -      | - | 891 | -   |
| Platoon blocked, %   | -      | -      | -      | - | -   | -   |
| Mov Cap-1 Maneuver   | -      | -      | 1434   | - | 714 | 917 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 714 | -   |
| Stage 1              | -      | -      | -      | - | 895 | -   |
| Stage 2              | -      | -      | -      | - | 888 | -   |

| Approach          | EB | WB   | NB    |
|-------------------|----|------|-------|
| HCM Ctrl Dly, s/v | 0  | 0.24 | 10.19 |
| HCM LOS           |    |      | B     |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 729   | -   | -   | 59    | -   |
| HCM Lane V/C Ratio    | 0.049 | -   | -   | 0.003 | -   |
| HCM Ctrl Dly (s/v)    | 10.2  | -   | -   | 7.5   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | 0     | -   |

HCM 7th Roundabout  
 3: S Northshore Drive & Choto Road

| Intersection                |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh   | 21.9    |         |         |         |
| Intersection LOS            | C       |         |         |         |
| Approach                    | EB      | WB      | NB      | SB      |
| Entry Lanes                 | 1       | 1       | 1       | 1       |
| Conflicting Circle Lanes    | 1       | 1       | 1       | 1       |
| Adj Approach Flow, veh/h    | 561     | 212     | 400     | 1038    |
| Demand Flow Rate, veh/h     | 561     | 212     | 400     | 1038    |
| Vehicles Circulating, veh/h | 704     | 788     | 664     | 134     |
| Vehicles Exiting, veh/h     | 468     | 276     | 601     | 866     |
| Ped Vol Crossing Leg, #/h   | 0       | 0       | 0       | 0       |
| Ped Cap Adj                 | 1.000   | 1.000   | 1.000   | 1.000   |
| Approach Delay, s/veh       | 30.5    | 10.6    | 14.6    | 22.4    |
| Approach LOS                | D       | B       | B       | C       |
| Lane                        | Left    | Left    | Left    | Left    |
| Designated Moves            | LTR     | LTR     | LTR     | LTR     |
| Assumed Moves               | LTR     | LTR     | LTR     | LTR     |
| RT Channelized              |         |         |         |         |
| Lane Util                   | 1.000   | 1.000   | 1.000   | 1.000   |
| Follow-Up Headway, s        | 2.609   | 2.609   | 2.609   | 2.609   |
| Critical Headway, s         | 4.976   | 4.976   | 4.976   | 4.976   |
| A (Intercept)               | 1380    | 1380    | 1380    | 1380    |
| B (Slope)                   | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h           | 561     | 212     | 400     | 1038    |
| Cap Entry Lane, veh/h       | 673     | 618     | 701     | 1204    |
| Entry HV Adj Factor         | 1.000   | 1.000   | 1.000   | 1.000   |
| Flow Entry, veh/h           | 561     | 212     | 400     | 1038    |
| Cap Entry, veh/h            | 673     | 618     | 701     | 1204    |
| V/C Ratio                   | 0.834   | 0.343   | 0.571   | 0.862   |
| Control Delay, s/veh        | 30.5    | 10.6    | 14.6    | 22.4    |
| LOS                         | D       | B       | B       | C       |
| 95th %tile Queue, veh       | 9       | 2       | 4       | 12      |

HCM 7th TWSC  
 7: Choto Mill Lane & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 176  | 11   | 1    | 144  | 1    | 1    |
| Future Vol, veh/h        | 176  | 11   | 1    | 144  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 5    | 0    | -    |
| Peak Hour Factor         | 84   | 84   | 80   | 80   | 25   | 25   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 210  | 13   | 1    | 180  | 4    | 4    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |         |
|----------------------|--------|--------|--------|---|---------|
| Conflicting Flow All | 0      | 0      | 223    | 0 | 399 216 |
| Stage 1              | -      | -      | -      | - | 216 -   |
| Stage 2              | -      | -      | -      | - | 183 -   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4 6.2 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 -   |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 -   |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5 3.3 |
| Pot Cap-1 Maneuver   | -      | -      | 1358   | - | 611 829 |
| Stage 1              | -      | -      | -      | - | 825 -   |
| Stage 2              | -      | -      | -      | - | 854 -   |
| Platoon blocked, %   | -      | -      | -      | - | -       |
| Mov Cap-1 Maneuver   | -      | -      | 1358   | - | 610 829 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 610 -   |
| Stage 1              | -      | -      | -      | - | 825 -   |
| Stage 2              | -      | -      | -      | - | 853 -   |

| Approach          | EB | WB   | NB    |
|-------------------|----|------|-------|
| HCM Ctrl Dly, s/v | 0  | 0.05 | 10.18 |
| HCM LOS           |    |      | B     |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 703   | -   | -   | 12    | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.001 | -   |
| HCM Ctrl Dly (s/v)    | 10.2  | -   | -   | 7.7   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |

HCM 7th TWSC  
 9: Proposed Entrance & Choto Road

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 184  | 38   | 4    | 141  | 29   | 3    |
| Future Vol, veh/h        | 184  | 38   | 4    | 141  | 29   | 3    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | -5   | -    | -    | 3    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 204  | 42   | 4    | 157  | 32   | 3    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 247    | 0      | 391    |
| Stage 1              | -      | -      | -      | -      | 226    |
| Stage 2              | -      | -      | -      | -      | 166    |
| Critical Hdwy        | -      | -      | 4.1    | -      | 6.4    |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.4    |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.4    |
| Follow-up Hdwy       | -      | -      | 2.2    | -      | 3.5    |
| Pot Cap-1 Maneuver   | -      | -      | 1331   | -      | 617    |
| Stage 1              | -      | -      | -      | -      | 817    |
| Stage 2              | -      | -      | -      | -      | 869    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1331   | -      | 615    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 615    |
| Stage 1              | -      | -      | -      | -      | 817    |
| Stage 2              | -      | -      | -      | -      | 866    |

| Approach          | EB | WB   | NB    |
|-------------------|----|------|-------|
| HCM Ctrl Dly, s/v | 0  | 0.21 | 11.06 |
| HCM LOS           |    |      | B     |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 629   | -   | -   | 50    | -   |
| HCM Lane V/C Ratio    | 0.056 | -   | -   | 0.003 | -   |
| HCM Ctrl Dly (s/v)    | 11.1  | -   | -   | 7.7   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | 0     | -   |

**TRAFFIC COUNT DATA**

Major Street: S Northshore Drive (SB & NB)  
 Minor Street: Choto Road (WB & EB)  
 Traffic Control: Roundabout

1/6/2026 (Tuesday)  
 Overcast and Mild  
 Conducted by: Ajax Engineering

| TIME<br>BEGIN | S Northshore Drive<br>SOUTHBOUND |             |            | Choto Road<br>WESTBOUND |           |            | S Northshore Drive<br>NORTHBOUND |            |           | Choto Road<br>EASTBOUND |           |           | VEHICLE<br>TOTAL | PEAK<br>HOUR       |
|---------------|----------------------------------|-------------|------------|-------------------------|-----------|------------|----------------------------------|------------|-----------|-------------------------|-----------|-----------|------------------|--------------------|
|               | LT                               | THRU        | RT         | LT                      | THRU      | RT         | LT                               | THRU       | RT        | LT                      | THRU      | RT        |                  |                    |
| 7:00 AM       | 5                                | 8           | 21         | 2                       | 3         | 41         | 4                                | 146        | 1         | 94                      | 2         | 0         | 327              |                    |
| 7:15 AM       | 12                               | 27          | 24         | 1                       | 11        | 51         | 8                                | 120        | 0         | 62                      | 1         | 1         | 318              | 7:15 AM - 8:15 AM  |
| 7:30 AM       | 10                               | 37          | 41         | 3                       | 12        | 36         | 8                                | 129        | 0         | 83                      | 4         | 1         | 364              |                    |
| 7:45 AM       | 11                               | 53          | 56         | 0                       | 11        | 38         | 8                                | 104        | 1         | 88                      | 5         | 3         | 378              |                    |
| 8:00 AM       | 14                               | 49          | 35         | 2                       | 6         | 32         | 6                                | 104        | 2         | 71                      | 4         | 3         | 328              |                    |
| 8:15 AM       | 24                               | 48          | 43         | 2                       | 3         | 34         | 3                                | 73         | 2         | 56                      | 3         | 4         | 295              |                    |
| 8:30 AM       | 17                               | 50          | 42         | 3                       | 6         | 26         | 3                                | 73         | 0         | 55                      | 5         | 2         | 282              |                    |
| 8:45 AM       | 16                               | 46          | 36         | 0                       | 9         | 34         | 7                                | 76         | 0         | 56                      | 5         | 0         | 285              |                    |
| <b>TOTAL</b>  | <b>109</b>                       | <b>318</b>  | <b>298</b> | <b>13</b>               | <b>61</b> | <b>292</b> | <b>47</b>                        | <b>825</b> | <b>6</b>  | <b>565</b>              | <b>29</b> | <b>14</b> | <b>2577</b>      |                    |
| 11:00 AM      | 14                               | 48          | 37         | 1                       | 6         | 14         | 2                                | 62         | 0         | 30                      | 7         | 3         | 224              |                    |
| 11:15 AM      | 19                               | 47          | 34         | 1                       | 4         | 25         | 4                                | 39         | 2         | 40                      | 6         | 5         | 226              |                    |
| 11:30 AM      | 20                               | 34          | 30         | 1                       | 5         | 13         | 2                                | 77         | 0         | 35                      | 6         | 3         | 226              |                    |
| 11:45 AM      | 19                               | 52          | 31         | 0                       | 6         | 15         | 2                                | 61         | 1         | 42                      | 5         | 3         | 237              |                    |
| 12:00 PM      | 13                               | 50          | 35         | 1                       | 7         | 27         | 4                                | 65         | 1         | 39                      | 7         | 6         | 255              | 12:00 PM - 1:00 PM |
| 12:15 PM      | 17                               | 51          | 41         | 5                       | 10        | 14         | 1                                | 67         | 3         | 41                      | 5         | 4         | 259              |                    |
| 12:30 PM      | 17                               | 64          | 46         | 2                       | 4         | 16         | 6                                | 47         | 1         | 53                      | 7         | 3         | 266              |                    |
| 12:45 PM      | 20                               | 44          | 43         | 6                       | 12        | 13         | 3                                | 60         | 0         | 37                      | 6         | 3         | 247              |                    |
| <b>TOTAL</b>  | <b>139</b>                       | <b>390</b>  | <b>297</b> | <b>17</b>               | <b>54</b> | <b>137</b> | <b>24</b>                        | <b>478</b> | <b>8</b>  | <b>317</b>              | <b>49</b> | <b>30</b> | <b>1940</b>      |                    |
| 3:00 PM       | 26                               | 62          | 58         | 2                       | 4         | 29         | 6                                | 54         | 2         | 44                      | 5         | 5         | 297              |                    |
| 3:15 PM       | 24                               | 85          | 60         | 3                       | 5         | 19         | 6                                | 63         | 1         | 41                      | 5         | 4         | 316              |                    |
| 3:30 PM       | 17                               | 89          | 60         | 6                       | 6         | 29         | 4                                | 46         | 1         | 39                      | 9         | 8         | 314              |                    |
| 3:45 PM       | 28                               | 93          | 62         | 4                       | 6         | 15         | 5                                | 42         | 2         | 41                      | 5         | 4         | 307              |                    |
| 4:00 PM       | 34                               | 91          | 76         | 9                       | 9         | 21         | 2                                | 61         | 1         | 52                      | 6         | 9         | 371              |                    |
| 4:15 PM       | 30                               | 89          | 72         | 5                       | 5         | 20         | 2                                | 48         | 2         | 70                      | 7         | 2         | 352              |                    |
| 4:30 PM       | 23                               | 103         | 72         | 6                       | 8         | 17         | 4                                | 64         | 3         | 44                      | 8         | 4         | 356              |                    |
| 4:45 PM       | 32                               | 92          | 74         | 6                       | 13        | 24         | 5                                | 54         | 4         | 54                      | 4         | 9         | 371              | 4:45 PM - 5:45 PM  |
| 5:00 PM       | 26                               | 112         | 82         | 8                       | 7         | 16         | 8                                | 64         | 0         | 44                      | 9         | 11        | 387              |                    |
| 5:15 PM       | 32                               | 114         | 86         | 8                       | 8         | 11         | 3                                | 65         | 4         | 55                      | 9         | 11        | 406              |                    |
| 5:30 PM       | 40                               | 94          | 82         | 11                      | 10        | 16         | 3                                | 71         | 1         | 56                      | 8         | 6         | 398              |                    |
| 5:45 PM       | 31                               | 87          | 81         | 8                       | 4         | 22         | 2                                | 56         | 0         | 61                      | 8         | 4         | 364              |                    |
| <b>TOTAL</b>  | <b>343</b>                       | <b>1111</b> | <b>865</b> | <b>76</b>               | <b>85</b> | <b>239</b> | <b>50</b>                        | <b>688</b> | <b>21</b> | <b>601</b>              | <b>83</b> | <b>77</b> | <b>4239</b>      |                    |

**2026 AM Peak Hour**      7:15 AM - 8:15 AM

| TIME<br>BEGIN             | S Northshore Drive<br>SOUTHBOUND |             |             | Choto Road<br>WESTBOUND |             |             | S Northshore Drive<br>NORTHBOUND |             |              | Choto Road<br>EASTBOUND |             |             |
|---------------------------|----------------------------------|-------------|-------------|-------------------------|-------------|-------------|----------------------------------|-------------|--------------|-------------------------|-------------|-------------|
|                           | LT                               | THRU        | RT          | LT                      | THRU        | RT          | LT                               | THRU        | RT           | LT                      | THRU        | RT          |
| 7:15 AM                   | 12                               | 27          | 24          | 1                       | 11          | 51          | 8                                | 120         | 0            | 62                      | 1           | 1           |
| 7:30 AM                   | 10                               | 37          | 41          | 3                       | 12          | 36          | 8                                | 129         | 0            | 83                      | 4           | 1           |
| 7:45 AM                   | 11                               | 53          | 56          | 0                       | 11          | 38          | 8                                | 104         | 1            | 88                      | 5           | 3           |
| 8:00 AM                   | 14                               | 49          | 35          | 2                       | 6           | 32          | 6                                | 104         | 2            | 71                      | 4           | 3           |
| <b>TOTAL</b>              | <b>47</b>                        | <b>166</b>  | <b>156</b>  | <b>6</b>                | <b>40</b>   | <b>157</b>  | <b>30</b>                        | <b>457</b>  | <b>3</b>     | <b>304</b>              | <b>14</b>   | <b>8</b>    |
| <b>TRUCK %</b>            | <b>4.3%</b>                      | <b>3.6%</b> | <b>1.9%</b> | <b>0.0%</b>             | <b>5.0%</b> | <b>0.6%</b> | <b>3.3%</b>                      | <b>0.9%</b> | <b>33.3%</b> | <b>1.3%</b>             | <b>0.0%</b> | <b>0.0%</b> |
| <b>PHF<sub>mvmt</sub></b> | <b>0.84</b>                      | <b>0.78</b> | <b>0.70</b> | <b>0.50</b>             | <b>0.83</b> | <b>0.77</b> | <b>0.94</b>                      | <b>0.89</b> | <b>0.38</b>  | <b>0.86</b>             | <b>0.70</b> | <b>0.67</b> |
| <b>PHF<sub>app</sub></b>  | <b>0.77</b>                      |             |             | <b>0.81</b>             |             |             | <b>0.89</b>                      |             |              | <b>0.85</b>             |             |             |
| <b>PHF<sub>int</sub></b>  | <b>0.92</b>                      |             |             |                         |             |             |                                  |             |              |                         |             |             |

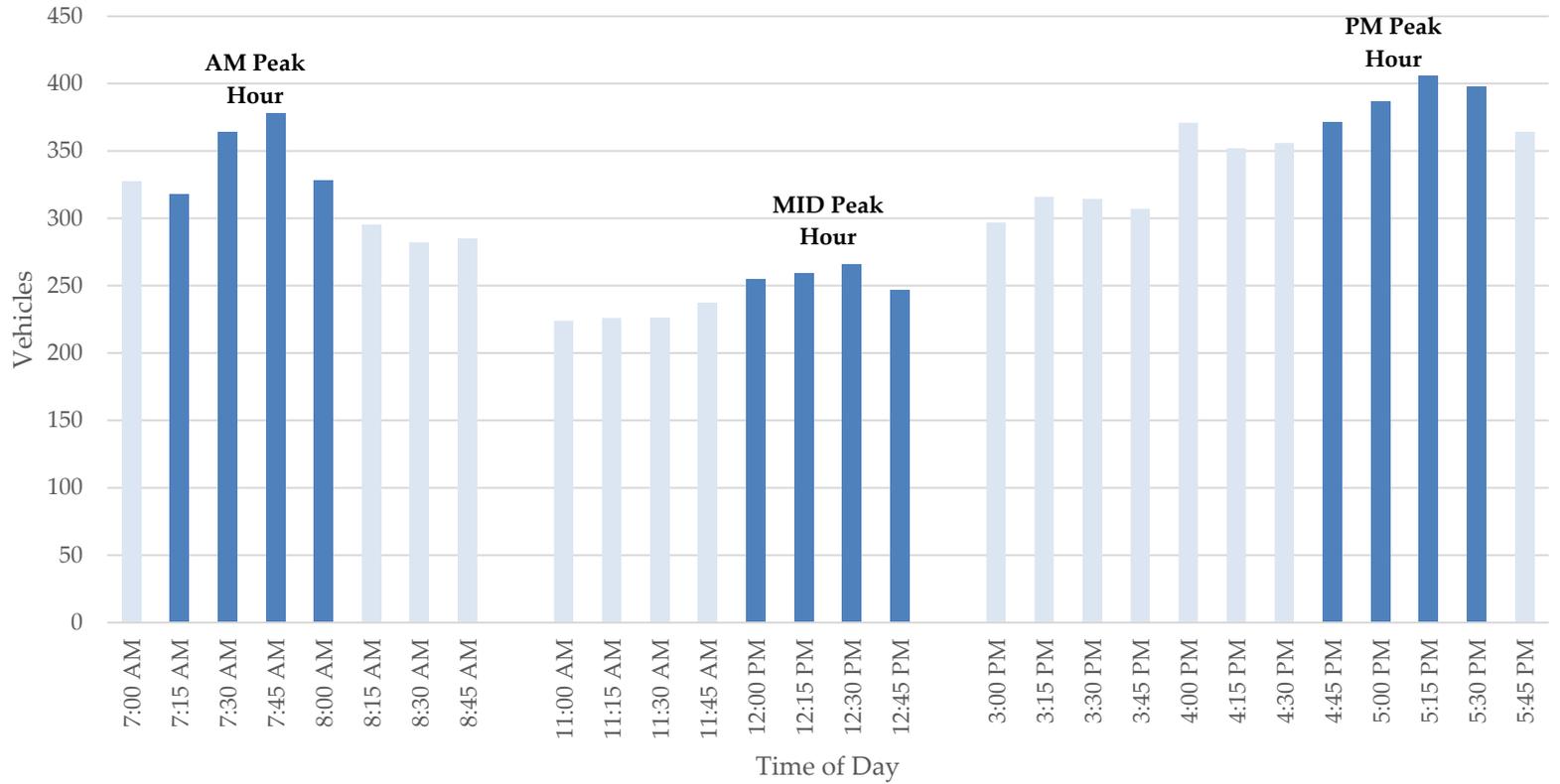
**2026 MID Peak Hour**      12:00 PM - 1:00 PM

| TIME<br>BEGIN             | S Northshore Drive<br>SOUTHBOUND |             |             | Choto Road<br>WESTBOUND |             |             | S Northshore Drive<br>NORTHBOUND |             |             | Choto Road<br>EASTBOUND |             |             |
|---------------------------|----------------------------------|-------------|-------------|-------------------------|-------------|-------------|----------------------------------|-------------|-------------|-------------------------|-------------|-------------|
|                           | LT                               | THRU        | RT          | LT                      | THRU        | RT          | LT                               | THRU        | RT          | LT                      | THRU        | RT          |
| 12:00 PM                  | 13                               | 50          | 35          | 1                       | 7           | 27          | 4                                | 65          | 1           | 39                      | 7           | 6           |
| 12:15 PM                  | 17                               | 51          | 41          | 5                       | 10          | 14          | 1                                | 67          | 3           | 41                      | 5           | 4           |
| 12:30 PM                  | 17                               | 64          | 46          | 2                       | 4           | 16          | 6                                | 47          | 1           | 53                      | 7           | 3           |
| 12:45 PM                  | 20                               | 44          | 43          | 6                       | 12          | 13          | 3                                | 60          | 0           | 37                      | 6           | 3           |
| <b>TOTAL</b>              | <b>67</b>                        | <b>209</b>  | <b>165</b>  | <b>14</b>               | <b>33</b>   | <b>70</b>   | <b>14</b>                        | <b>239</b>  | <b>5</b>    | <b>170</b>              | <b>25</b>   | <b>16</b>   |
| <b>TRUCK %</b>            | <b>3.0%</b>                      | <b>1.0%</b> | <b>0.6%</b> | <b>0.0%</b>             | <b>3.0%</b> | <b>0.0%</b> | <b>0.0%</b>                      | <b>1.7%</b> | <b>0.0%</b> | <b>1.2%</b>             | <b>0.0%</b> | <b>0.0%</b> |
| <b>PHF<sub>mvmt</sub></b> | <b>0.84</b>                      | <b>0.82</b> | <b>0.90</b> | <b>0.58</b>             | <b>0.69</b> | <b>0.65</b> | <b>0.58</b>                      | <b>0.89</b> | <b>0.42</b> | <b>0.80</b>             | <b>0.89</b> | <b>0.67</b> |
| <b>PHF<sub>app</sub></b>  | <b>0.87</b>                      |             |             | <b>0.84</b>             |             |             | <b>0.91</b>                      |             |             | <b>0.84</b>             |             |             |
| <b>PHF<sub>int</sub></b>  | <b>0.97</b>                      |             |             |                         |             |             |                                  |             |             |                         |             |             |

**2026 PM Peak Hour**      4:45 PM - 5:45 PM

| TIME<br>BEGIN             | S Northshore Drive<br>SOUTHBOUND |             |             | Choto Road<br>WESTBOUND |             |             | S Northshore Drive<br>NORTHBOUND |             |             | Choto Road<br>EASTBOUND |             |             |
|---------------------------|----------------------------------|-------------|-------------|-------------------------|-------------|-------------|----------------------------------|-------------|-------------|-------------------------|-------------|-------------|
|                           | LT                               | THRU        | RT          | LT                      | THRU        | RT          | LT                               | THRU        | RT          | LT                      | THRU        | RT          |
| 4:45 PM                   | 32                               | 92          | 74          | 6                       | 13          | 24          | 5                                | 54          | 4           | 54                      | 4           | 9           |
| 5:00 PM                   | 26                               | 112         | 82          | 8                       | 7           | 16          | 8                                | 64          | 0           | 44                      | 9           | 11          |
| 5:15 PM                   | 32                               | 114         | 86          | 8                       | 8           | 11          | 3                                | 65          | 4           | 55                      | 9           | 11          |
| 5:30 PM                   | 40                               | 94          | 82          | 11                      | 10          | 16          | 3                                | 71          | 1           | 56                      | 8           | 6           |
| <b>TOTAL</b>              | <b>130</b>                       | <b>412</b>  | <b>324</b>  | <b>33</b>               | <b>38</b>   | <b>67</b>   | <b>19</b>                        | <b>254</b>  | <b>9</b>    | <b>209</b>              | <b>30</b>   | <b>37</b>   |
| <b>TRUCK %</b>            | <b>0.0%</b>                      | <b>0.0%</b> | <b>0.0%</b> | <b>0.0%</b>             | <b>0.0%</b> | <b>0.0%</b> | <b>0.0%</b>                      | <b>0.4%</b> | <b>0.0%</b> | <b>0.0%</b>             | <b>0.0%</b> | <b>0.0%</b> |
| <b>PHF<sub>mvmt</sub></b> | <b>0.81</b>                      | <b>0.90</b> | <b>0.94</b> | <b>0.75</b>             | <b>0.73</b> | <b>0.70</b> | <b>0.59</b>                      | <b>0.89</b> | <b>0.56</b> | <b>0.93</b>             | <b>0.83</b> | <b>0.84</b> |
| <b>PHF<sub>app</sub></b>  | <b>0.93</b>                      |             |             | <b>0.80</b>             |             |             | <b>0.78</b>                      |             |             | <b>0.54</b>             |             |             |
| <b>PHF<sub>int</sub></b>  | <b>0.96</b>                      |             |             |                         |             |             |                                  |             |             |                         |             |             |

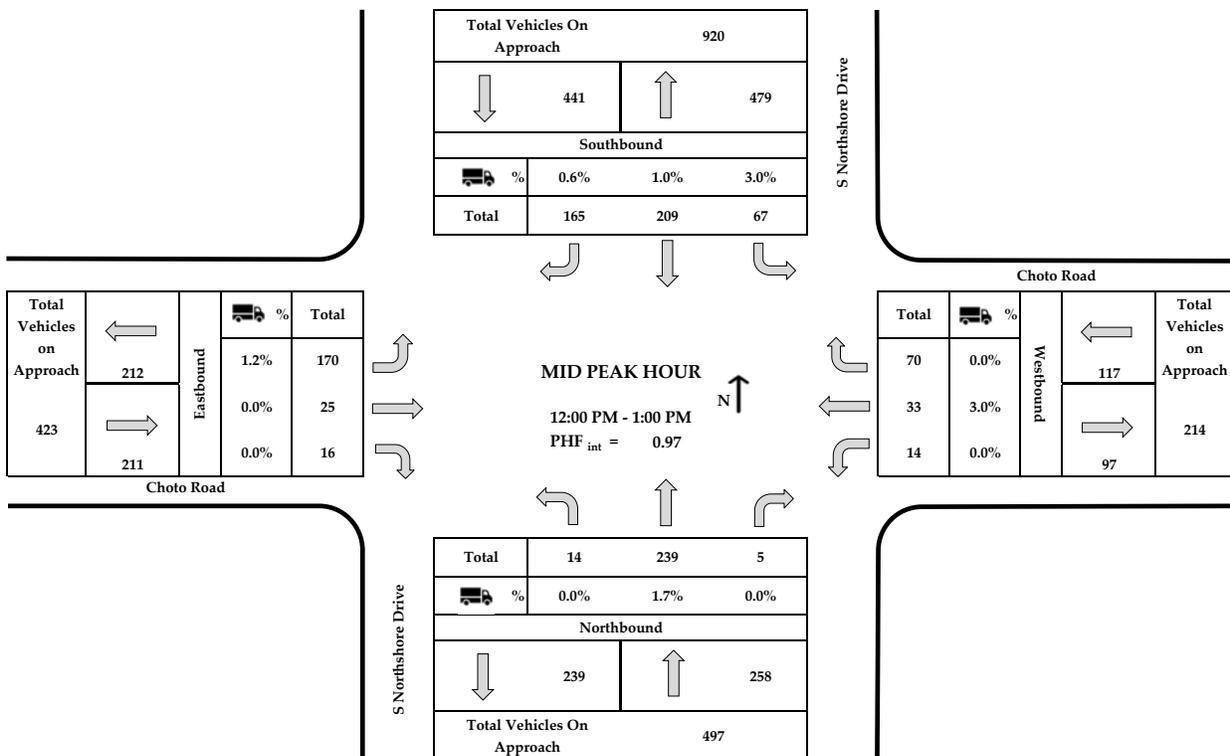
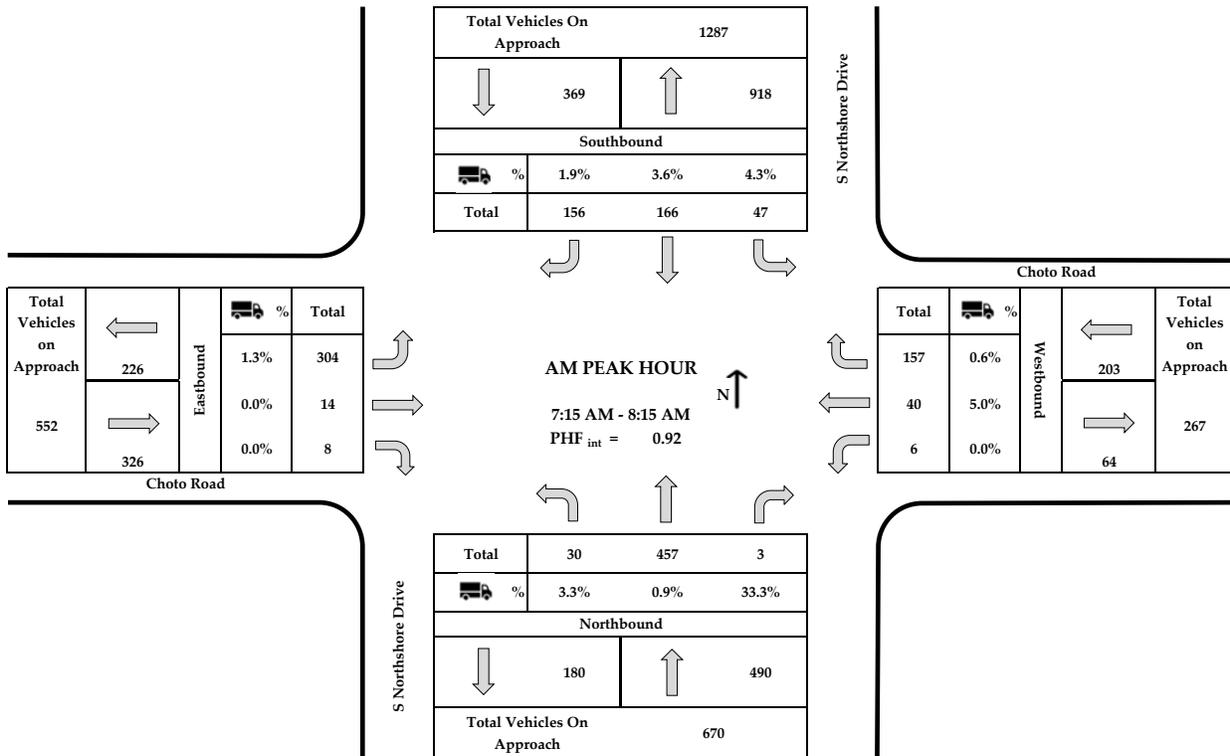
**S Northshore Drive at Choto Road  
Intersection Traffic Count Totals  
1/6/2026**



**PEAK HOUR DATA**

Major Street: S Northshore Drive (SB & NB)  
 Minor Street: Choto Road (WB & EB)  
 Traffic Control: Roundabout

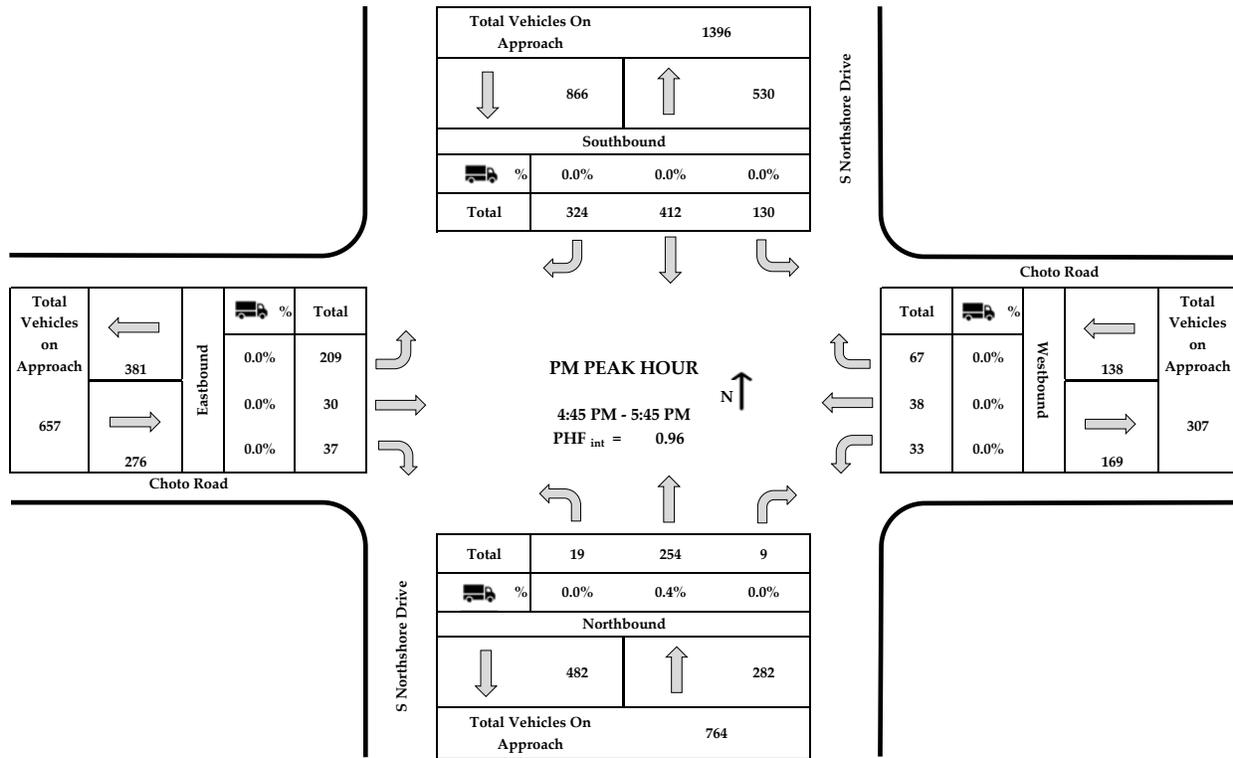
1/6/2026 (Tuesday)  
 Overcast and Mild  
 Conducted by: Ajax Engineering



**PEAK HOUR DATA**

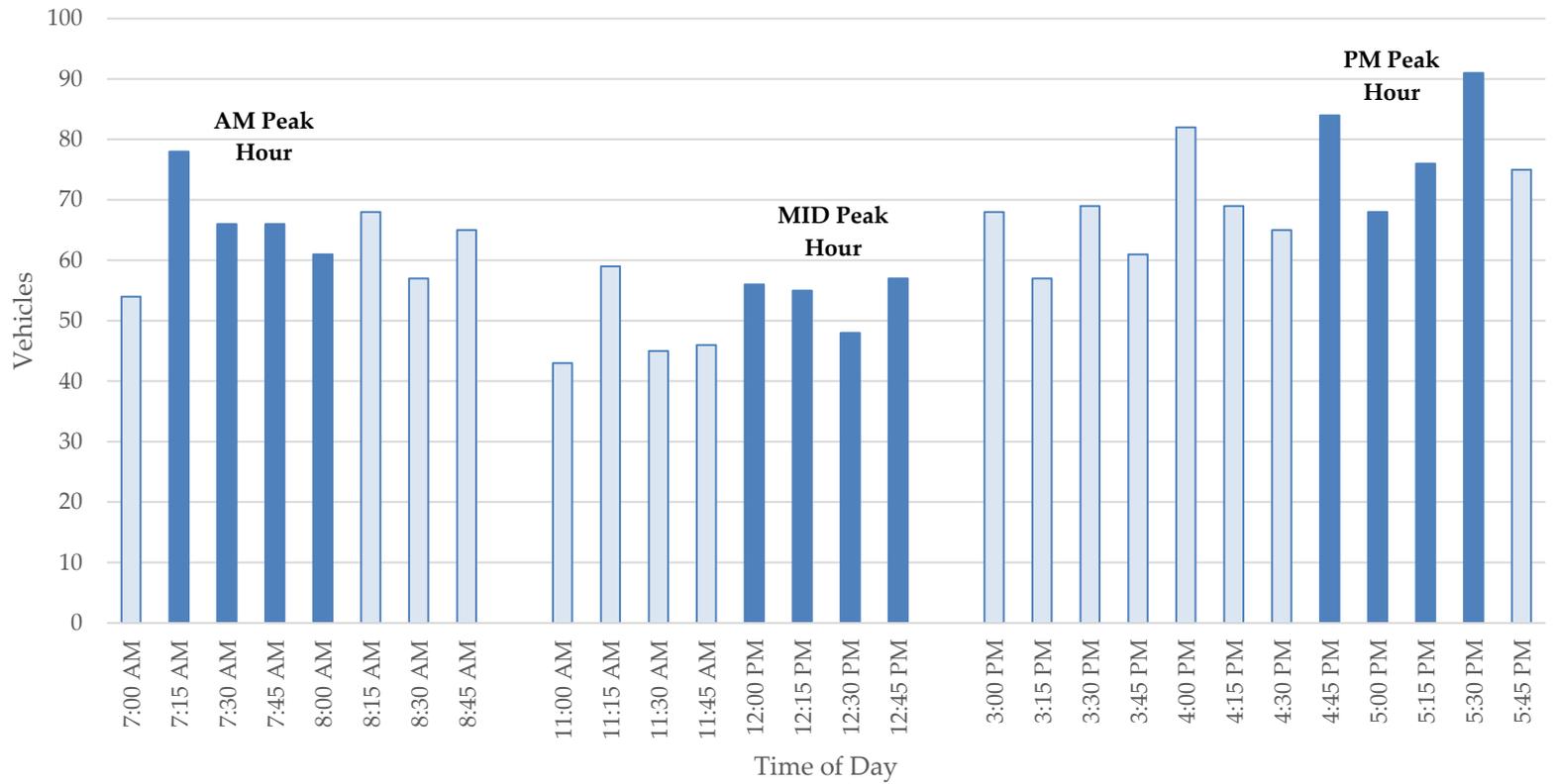
Major Street: S Northshore Drive (SB & NB)  
 Minor Street: Choto Road (WB & EB)  
 Traffic Control: Roundabout

1/6/2026 (Tuesday)  
 Overcast and Mild  
 Conducted by: Ajax Engineering





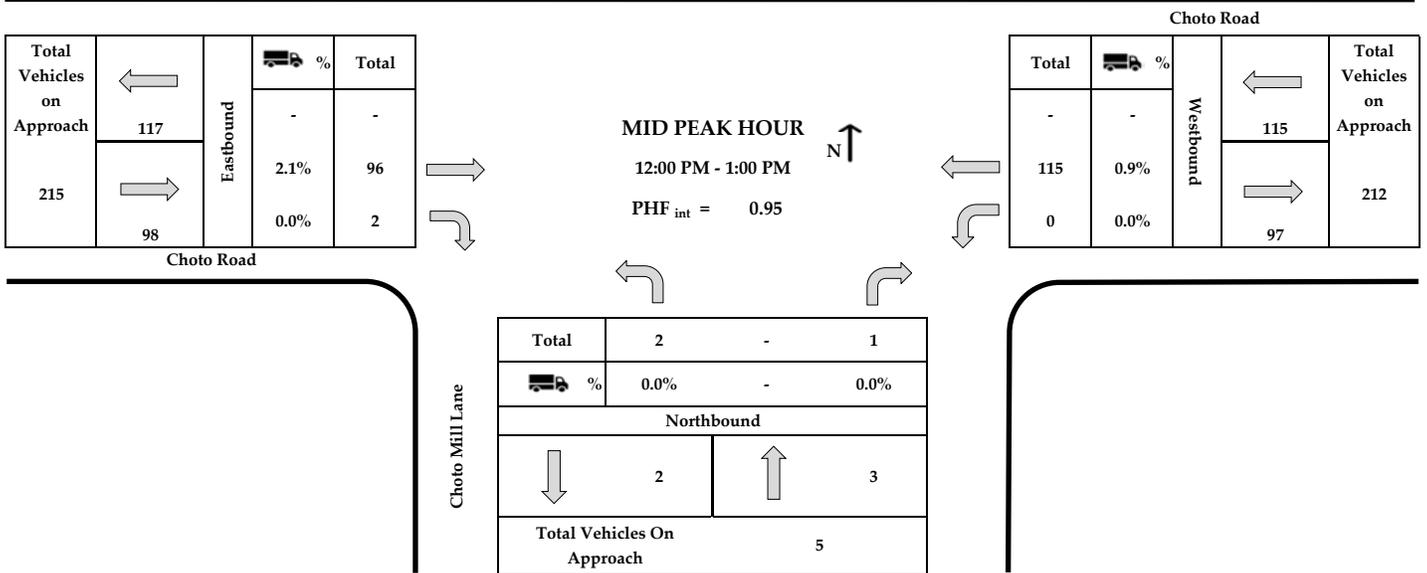
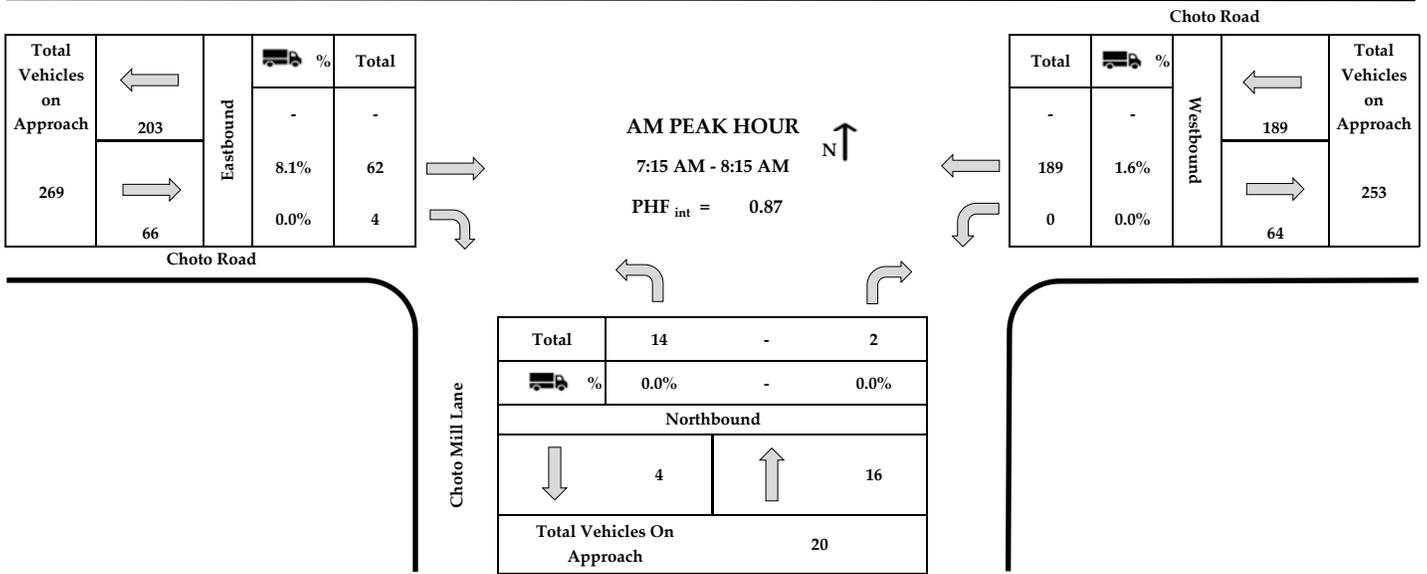
**Choto Road at Choto Mill Lane  
Intersection Traffic Count Totals  
1/6/2026**



**PEAK HOUR DATA**

Major Street: Choto Road (WB & EB)  
 Minor Street: Choto Mill Lane (NB)  
 Traffic Control: Stop Control on Minor Street

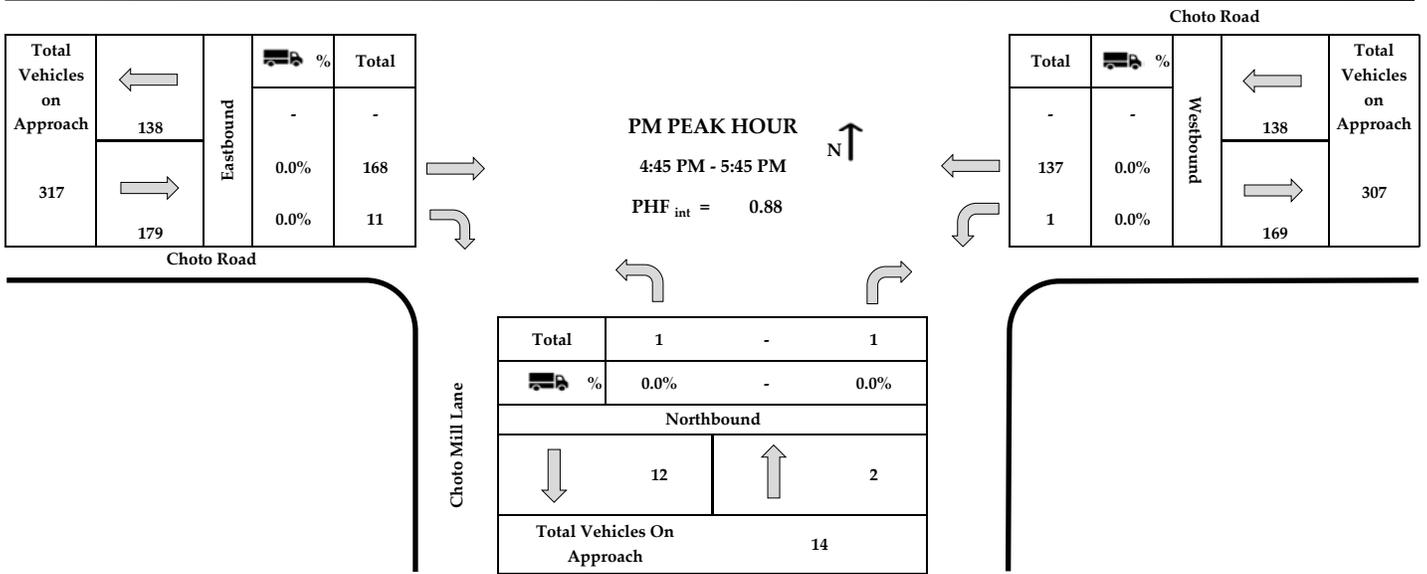
1/6/2026 (Tuesday)  
 Overcast and Mild  
 Conducted by: Ajax Engineering



**PEAK HOUR DATA**

Major Street: Choto Road (WB & EB)  
 Minor Street: Choto Mill Lane (NB)  
 Traffic Control: Stop Control on Minor Street

1/6/2026 (Tuesday)  
 Overcast and Mild  
 Conducted by: Ajax Engineering



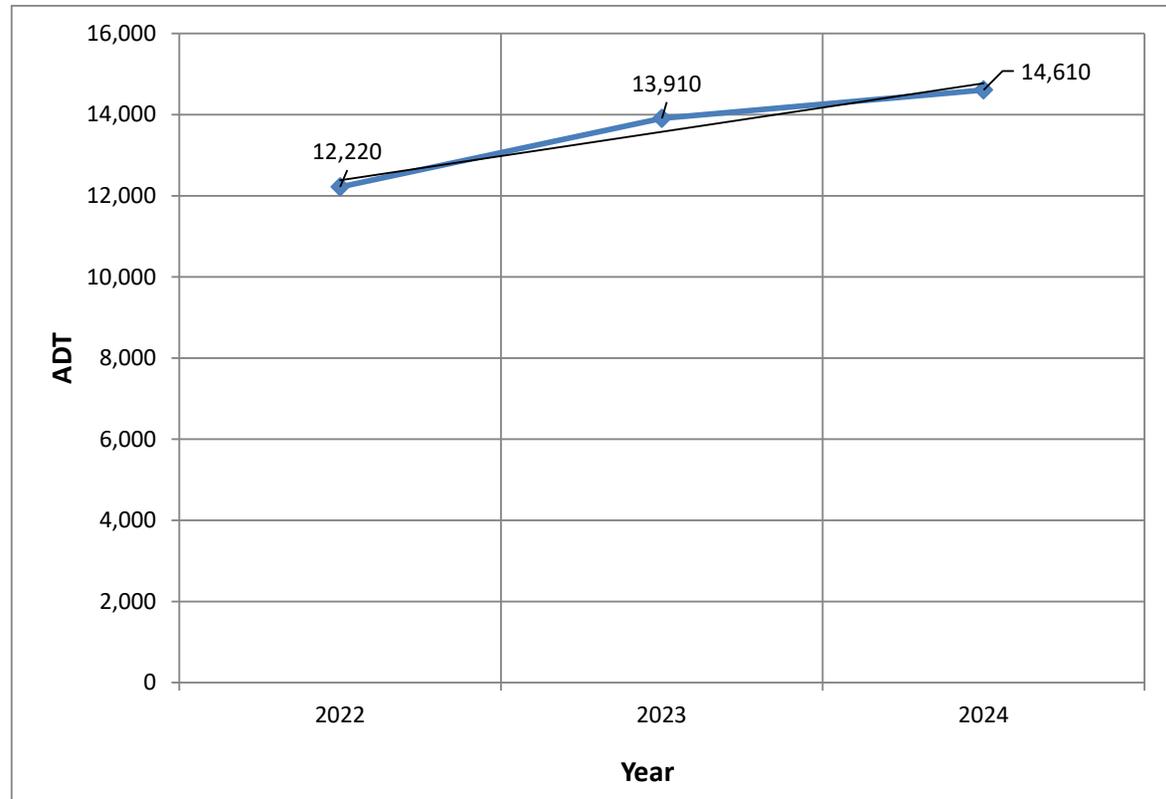
## Historical Traffic Counts

Organization: Knoxville Regional TPO

Station ID #: 093M408

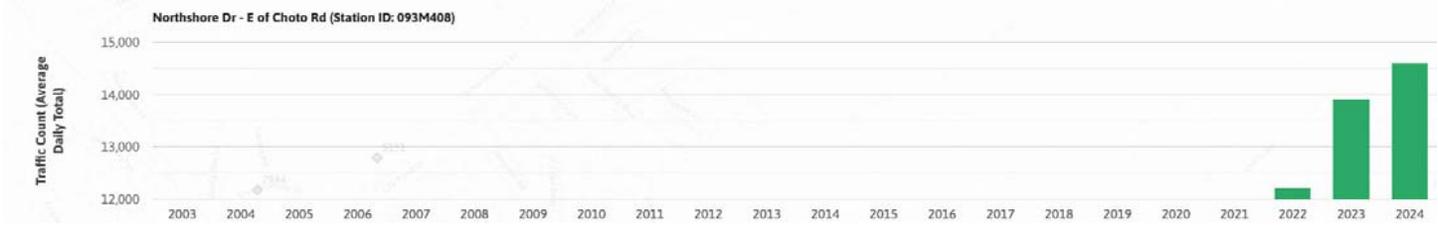
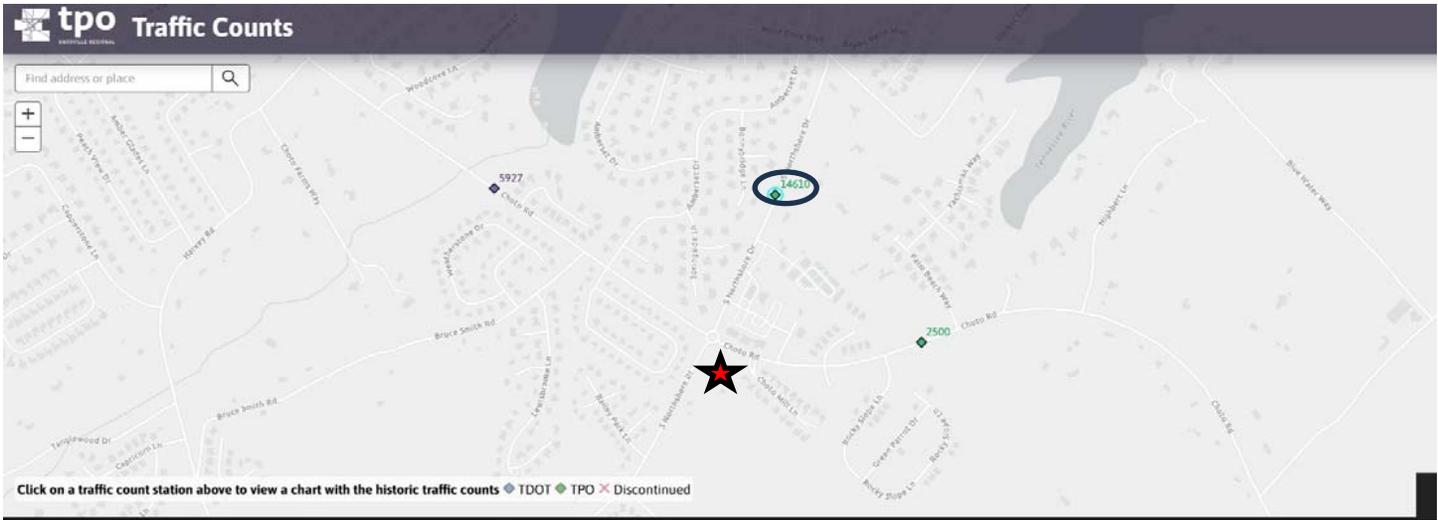
Location: S Northshore Drive, north of Choto Road

| YEAR | ADT    |                |
|------|--------|----------------|
| 2014 | -      |                |
| 2015 | -      |                |
| 2016 | -      |                |
| 2017 | -      |                |
| 2018 | -      |                |
| 2019 | -      |                |
| 2020 | -      |                |
| 2021 | -      |                |
| 2022 | 12,220 | Trendline<br>↓ |
| 2023 | 13,910 |                |
| 2024 | 14,610 |                |



2022 - 2024 Growth Rate = 19.6%

Average Annual Growth Rate = 9.3%



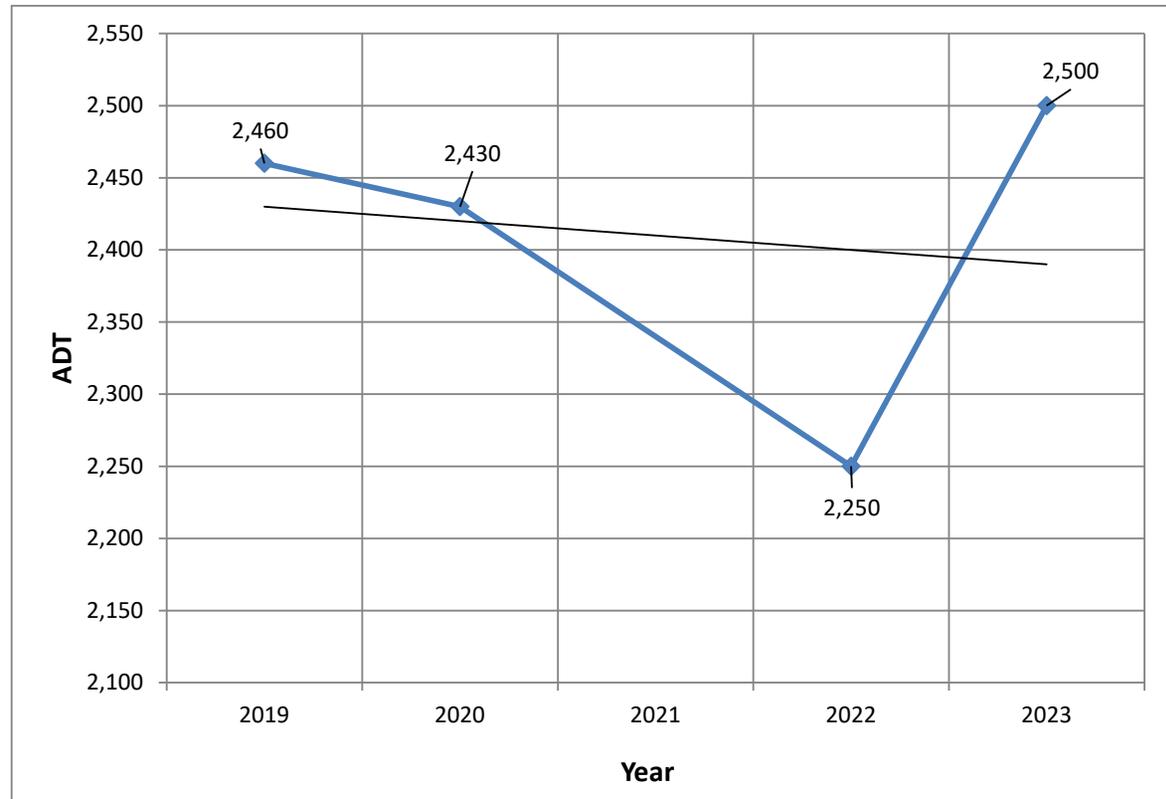
## Historical Traffic Counts

Organization: Knoxville Regional TPO

Station ID #: 093M394

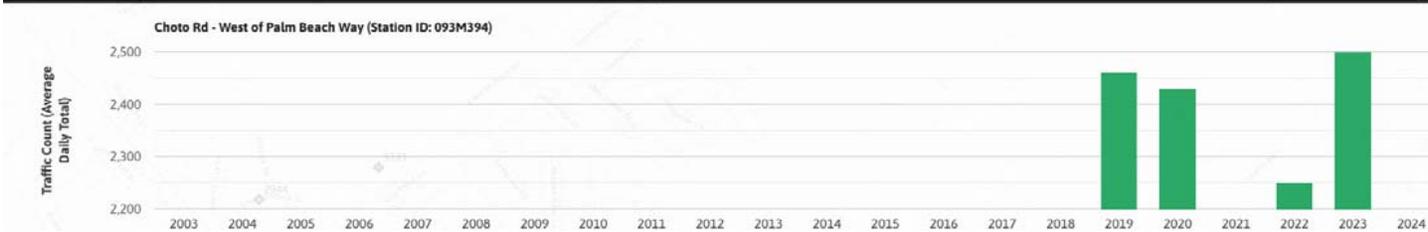
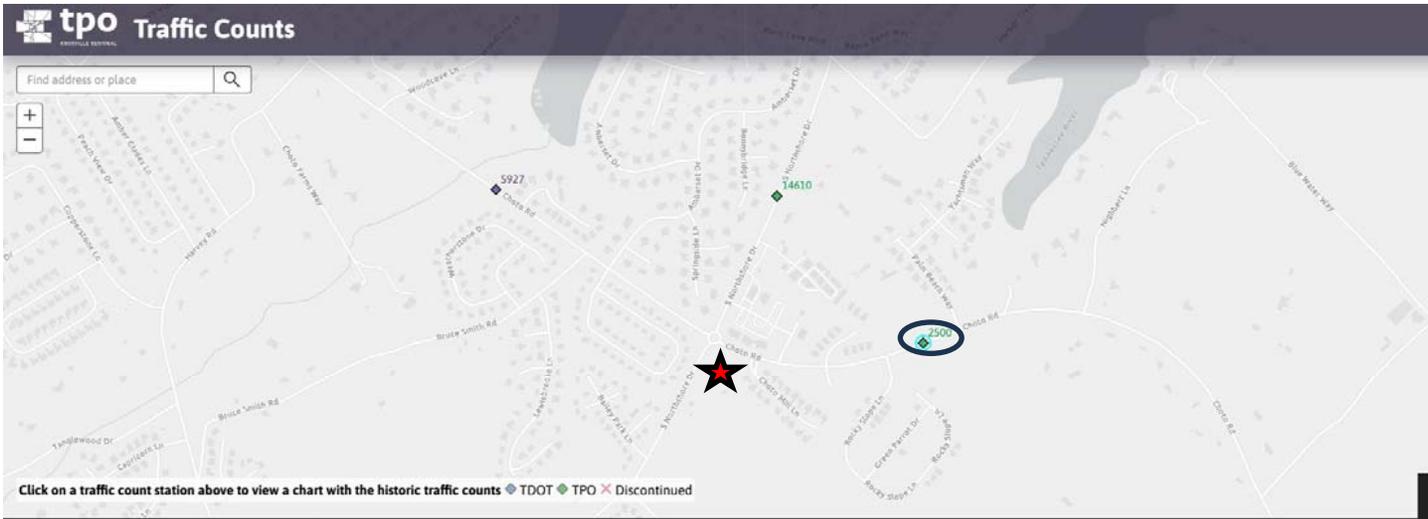
Location: Choto Road, east of S Northshore Drive

| YEAR | ADT   |                |
|------|-------|----------------|
| 2014 | -     |                |
| 2015 | -     |                |
| 2016 | -     |                |
| 2017 | -     |                |
| 2018 | -     |                |
| 2019 | 2,460 | Trendline<br>↓ |
| 2020 | 2,430 |                |
| 2021 | -     |                |
| 2022 | 2,250 |                |
| 2023 | 2,500 |                |
| 2024 | -     |                |



2019 - 2023 Growth Rate = 1.6%

Average Annual Growth Rate = 0.4%



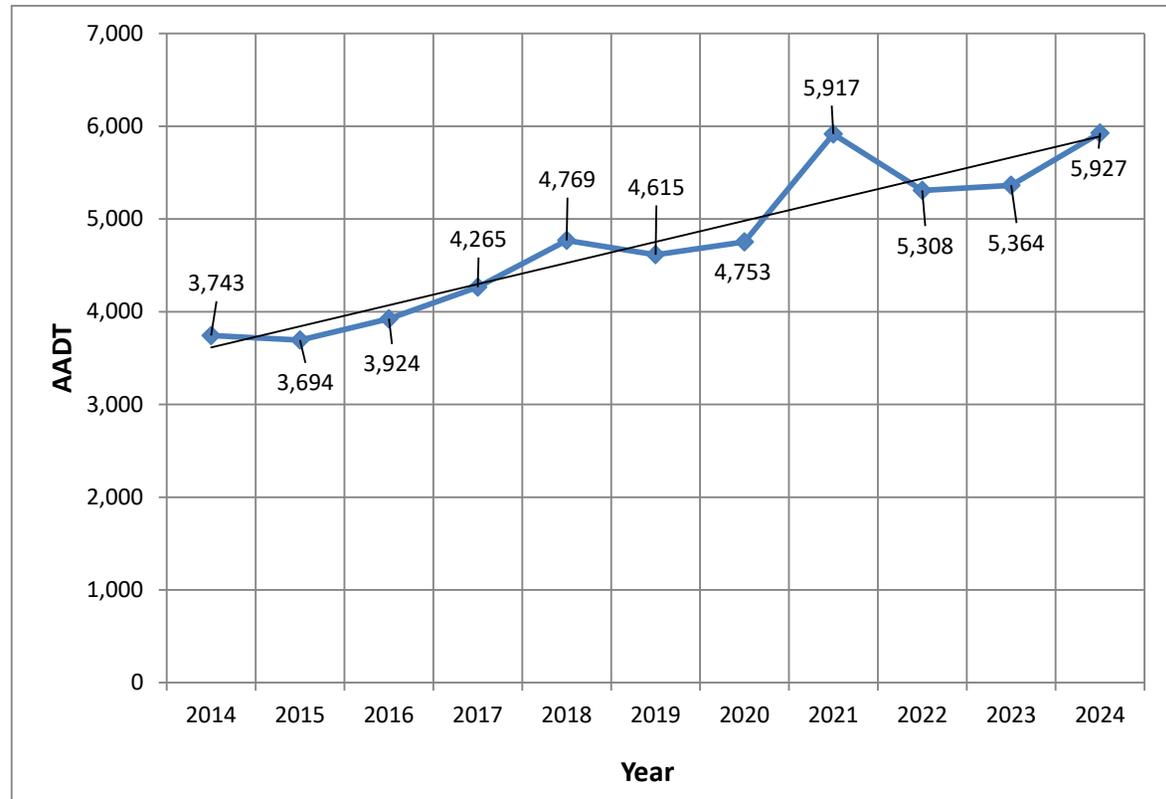
## Historical Traffic Counts

Organization: TDOT

Station ID #: 47000362

Location: Choto Road, northwest of S Northshore Drive

| YEAR | AADT  |                |
|------|-------|----------------|
| 2014 | 3,743 | Trendline<br>↓ |
| 2015 | 3,694 |                |
| 2016 | 3,924 |                |
| 2017 | 4,265 |                |
| 2018 | 4,769 |                |
| 2019 | 4,615 |                |
| 2020 | 4,753 |                |
| 2021 | 5,917 |                |
| 2022 | 5,308 |                |
| 2023 | 5,364 |                |
| 2024 | 5,927 |                |



2014 - 2024 Growth Rate = 58.3%

Average Annual Growth Rate = 4.7%

**TN** TDOT  
Department of Transportation

Traffic Count (TCDS)

Home
Locate
Locate All
Email This
Auto-Locate:

Disclaimer: Please note that the AADT displayed for the current year is only a preliminary estimate, updated adjustment factors have not yet been applied to the traffic count information to produce a final AADT.

List View
All DIRs

Record
7840
of 16430
Goto Record

go

|                |                                       |             |      |
|----------------|---------------------------------------|-------------|------|
| Location ID    | 47000362                              | MPO ID      |      |
| Type           | SPOT                                  | HPMS ID     |      |
| On NHS         |                                       | On HPMS     | Yes  |
| LRS ID         | 47L113501P00000                       | LRS Loc Pl. | 1.63 |
| SF Group       | Lower FC (2025)                       | Route Type  |      |
| AF Group       | Region 1 Urban Major Collector (2025) | Route       |      |
| GF Group       | Knox (2025)                           | Active      | Yes  |
| Class Dist Grp | Region 1 Urban Major Collector (2025) | Category    | CC   |
| Seas Class Grp |                                       |             |      |
| WIM Group      |                                       |             |      |
| QC Group       | Default                               |             |      |
| Funct Class    | Major Collector                       | Milepost    |      |
| Located On     | 01135                                 |             |      |
| Loc On Alias   | CHOTO RD.                             |             |      |
|                | SOUTH OF FARRAGUT                     |             |      |

**STATION DATA**

Directions: 2-WAY [?](#)

| AADT |                    |        |     |     |             |          |     |
|------|--------------------|--------|-----|-----|-------------|----------|-----|
| Year | AADT               | DHV-30 | K % | D % | PA          | BC       | Src |
| 2024 | 5,927              | 631    | 11  | 65  | 5,760 (97%) | 167 (3%) |     |
| 2023 | 5,364              | 631    | 12  | 65  | 5,248 (98%) | 116 (2%) |     |
| 2022 | 5,308              | 576    | 11  | 65  | 5,180 (98%) | 128 (2%) |     |
| 2021 | 5,917              | 543    | 9   | 65  | 5,738 (97%) | 179 (3%) |     |
| 2020 | 4,753 <sup>2</sup> |        | 15  | 65  | 4,576 (96%) | 177 (4%) |     |

1-5 of 39

# Land Use: 932

## High-Turnover (Sit-Down) Restaurant

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### Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal. Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.

### Additional Data

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Arizona, California, Florida, Indiana, Kentucky, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, and Wisconsin.

***Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.***

### Source Numbers

338, 340, 341, 358, 384, 432, 437, 438, 444, 507, 555, 577, 589, 617, 618, 728, 868, 884, 885, 903, 927, 939, 944, 961, 962, 1048, 1224, 1267

# High-Turnover (Sit-Down) Restaurant (932)

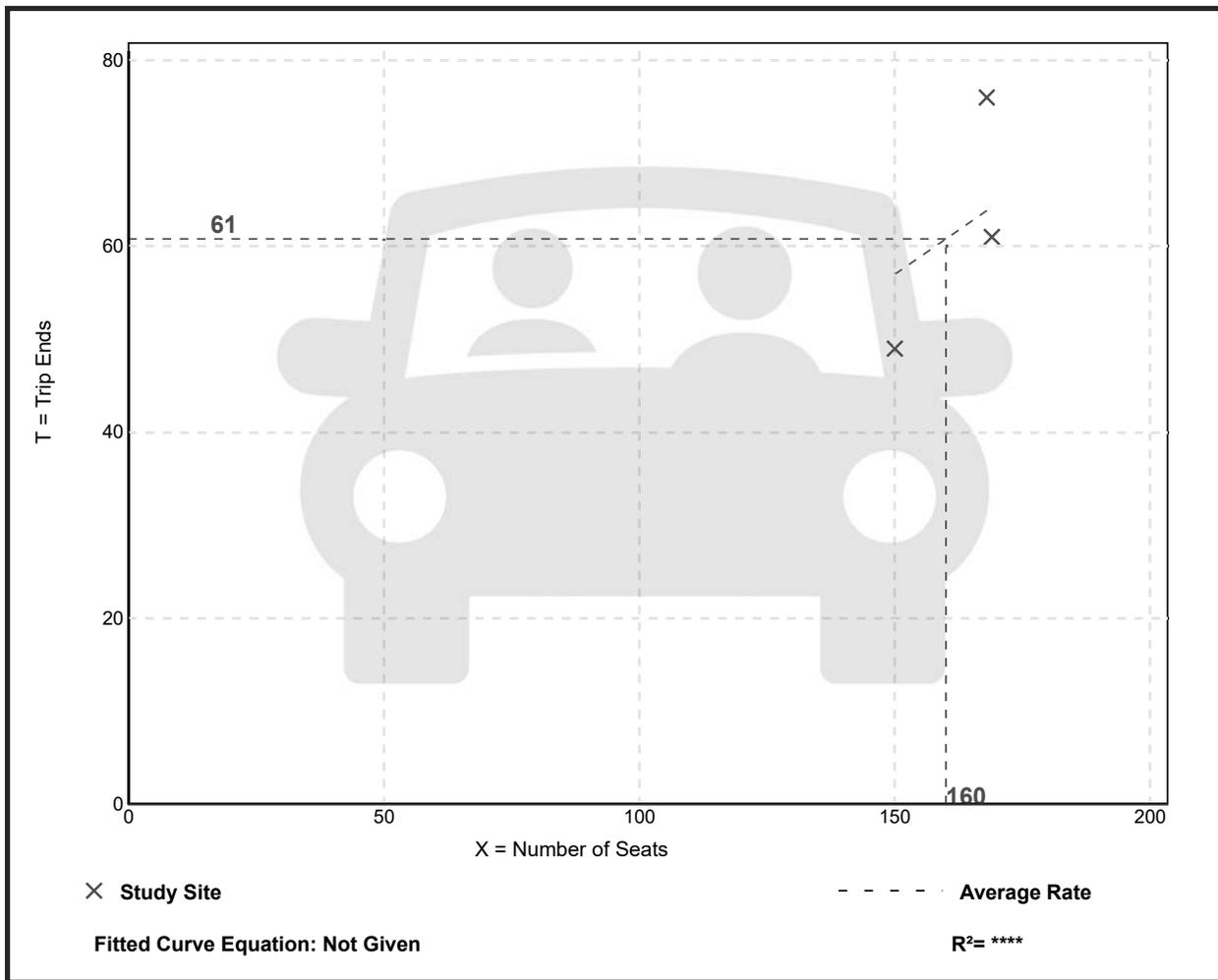
**Vehicle Trip Ends vs: Seats**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 3  
 Avg. Num. of Seats: 162  
 Directional Distribution: 52% entering, 48% exiting

## Vehicle Trip Generation per Seat

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.38         | 0.33 - 0.45    | 0.06               |

## Data Plot and Equation

*Caution – Small Sample Size*



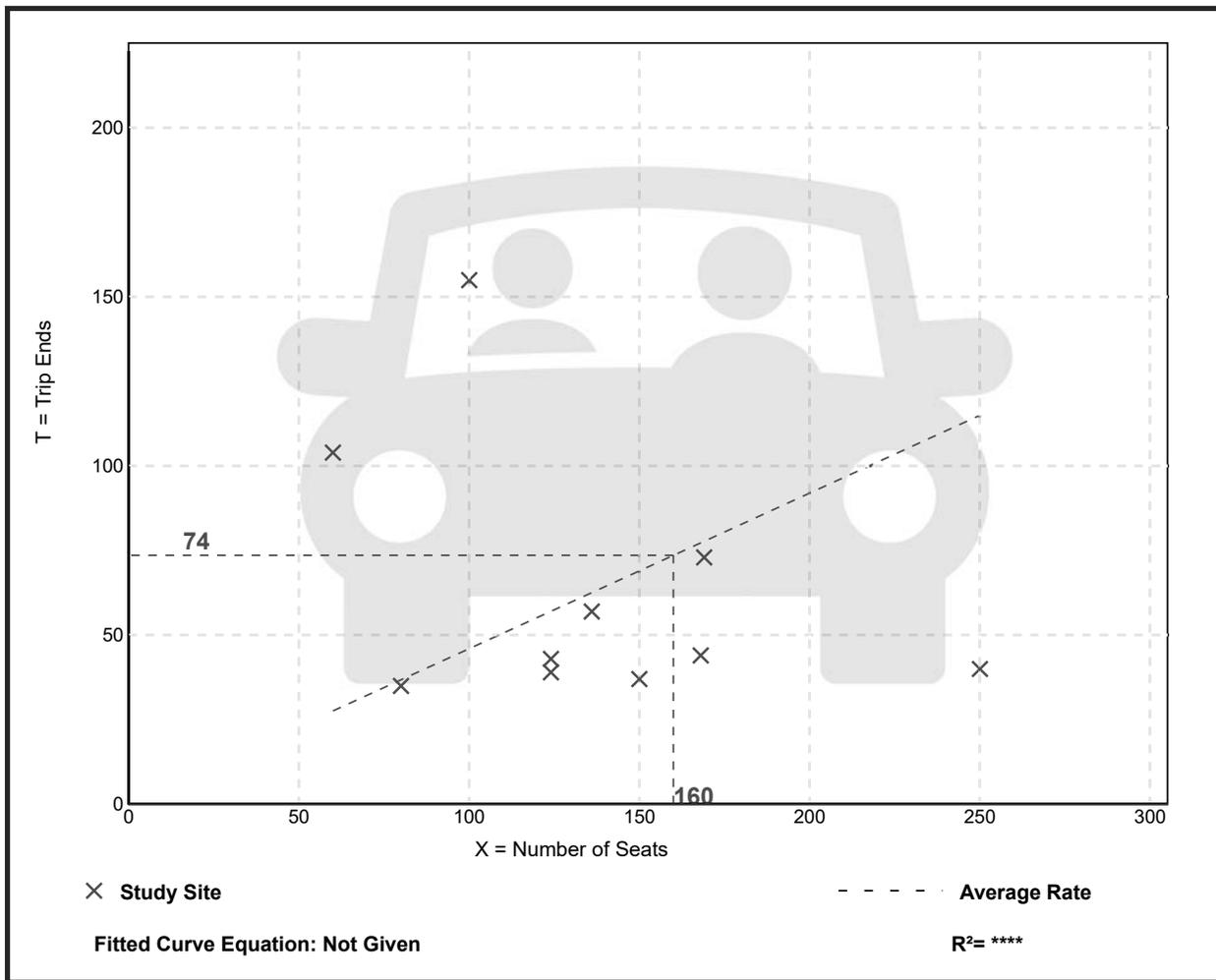
# High-Turnover (Sit-Down) Restaurant (932)

**Vehicle Trip Ends vs: Seats**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 10  
 Avg. Num. of Seats: 136  
 Directional Distribution: 57% entering, 43% exiting

## Vehicle Trip Generation per Seat

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.46         | 0.16 - 1.73    | 0.46               |

## Data Plot and Equation



**TRIP GENERATION FOR CHOTO ROAD GRILL AND BAR**

160 Seats

| ITE LAND USE CODE                  | LAND USE DESCRIPTION                | # OF UNITS | GENERATED DAILY TRAFFIC | GENERATED TRAFFIC AM PEAK HOUR |                |               | GENERATED TRAFFIC PM PEAK HOUR |           |           |
|------------------------------------|-------------------------------------|------------|-------------------------|--------------------------------|----------------|---------------|--------------------------------|-----------|-----------|
|                                    |                                     |            |                         | ENTER                          | EXIT           | TOTAL         | ENTER                          | EXIT      | TOTAL     |
| #932                               | High-Turnover (Sit-Down) Restaurant | 160        | n/a                     | <del>52%</del>                 | <del>43%</del> | <del>61</del> | 57%                            | 43%       | 74        |
| <b>Total New Volume Site Trips</b> |                                     |            | <b>n/a</b>              | <del>32</del>                  | <del>29</del>  | <del>61</del> | <b>42</b>                      | <b>32</b> | <b>74</b> |

ITE Trip Generation Manual, 12<sup>th</sup> Edition

Trips calculated by using Average Rates

## TRIP GENERATION FOR CHOTO ROAD GRILL AND BAR

160 Seats

Land Use #932

Number of Seats = X

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### Weekday:

Average Rate:                      Not Given

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### Peak Hour of Adjacent Traffic, One Hour between 7 and 9 am:

Average Rate:                      T = 0.38 (X)

$$T = 0.38 * 160.0$$

$$\underline{\underline{T = 61 \text{ trips}}}$$

---

### Peak Hour of Adjacent Traffic, One Hour between 4 and 6 pm:

Average Rate:                      T = 0.46 (X)

$$T = 0.46 * 160.0$$

$$\underline{\underline{T = 74 \text{ trips}}}$$

Table 4A. Left-Turn Lane Volume Thresholds  
For Two-Lane Roadways with a Prevailing Speed of 35 MPH or Less

(If the left-turn volume exceeds the table value a left -turn lane is needed)

| OPPOSING VOLUME | 119       | THROUGH VOLUME PLUS RIGHT-TURN VOLUME* |           |           |           |           |
|-----------------|-----------|--|-----------|-----------|-----------|-----------|
|                 | 100 - 149 | 150 - 199                              | 200 - 249 | 250 - 299 | 300 - 349 | 350 - 399 |
| 100 - 149       | 300       | 235                                    | 185       | 145       | 120       | 100       |
| 150 - 199       | 245       | 200                                    | 160       | 130       | 110       | 90        |
| 200 - 249       | 205       | 170                                    | 140       | 115       | 100       | 80        |
| 250 - 299       | 175       | 150                                    | 125       | 105       | 90        | 70        |
| 300 - 349       | 155       |  |           | 95        | 80        | 65        |
| 350 - 399       | 135       |  |           | 85        | 70        | 60        |
| 400 - 449       | 120       |  |           | 75        | 65        | 55        |
| 450 - 499       | 105       |  |           | 70        | 60        | 50        |
| 500 - 549       | 95        |  |           | 65        | 55        | 50        |
| 550 - 599       | 85        |  |           | 60        | 50        | 45        |
| 600 - 649       | 75        |  |           | 55        | 45        | 40        |
| 650 - 699       | 70        |  |           | 50        | 40        | 35        |
| 700 - 749       | 65        | 55                                     | 50        | 45        | 35        | 30        |
| 750 or More     | 60        | 50                                     | 45        | 40        | 35        | 30        |

104 + 38 = 142

Choto Road at Proposed Entrance  
2027 Projected MIDDAY WB Left Turns = 4  
Left Turn Lane NOT Warranted

| OPPOSING VOLUME | THROUGH VOLUME PLUS RIGHT-TURN VOLUME* |           |           |           |           |          |
|-----------------|--|-----------|-----------|-----------|-----------|----------|
|                 | 350 - 399                              | 400 - 449 | 450 - 499 | 500 - 549 | 550 - 599 | = / >600 |
| 100 - 149       | 100                                    | 80        | 70        | 60        | 55        | 50       |
| 150 - 199       | 90                                     | 75        | 65        | 55        | 50        | 45       |
| 200 - 249       | 80                                     | 72        | 460       | 55        | 50        | 45       |
| 250 - 299       | 70                                     | 65        | 55        | 50        | 45        | 40       |
| 300 - 349       | 65                                     | 60        | 50        | 50        | 45        | 40       |
| 350 - 399       | 60                                     | 55        | 50        | 45        | 40        | 40       |
| 400 - 449       | 55                                     | 50        | 45        | 45        | 40        | 35       |
| 450 - 499       | 50                                     | 45        | 45        | 40        | 35        | 35       |
| 500 - 549       | 50                                     | 45        | 40        | 40        | 35        | 35       |
| 550 - 599       | 45                                     | 40        | 40        | 35        | 35        | 35       |
| 600 - 649       | 40                                     | 35        | 35        | 35        | 35        | 30       |
| 650 - 699       | 35                                     | 35        | 35        | 30        | 30        | 30       |
| 700 - 749       | 30                                     | 30        | 30        | 30        | 30        | 30       |
| 750 or More     | 30                                     | 30        | 30        | 30        | 30        | 30       |

\* Or through volume only if a right-turn lane exists.

Table 4B. Right-Turn Lane Volume Thresholds  
For Two-Lane Roadways with a Prevailing Speed of 35 MPH or Less

| RIGHT-TURN VOLUME | 104<br>THROUGH VOLUME PLUS LEFT-TURN VOLUME* |           |           |           |           |           |
|-------------------|--|-----------|-----------|-----------|-----------|-----------|
|                   | <100   | 100 - 199 | 200 - 249 | 250 - 299 | 300 - 349 | 350 - 399 |
| Fewer Than 25     |  |           |           |           |           |           |
| 25 - 49           |  |           |           |           |           |           |
| 50 - 99           |  |           |           |           |           |           |
| 100 - 149         |  |           |           |           |           |           |
| 150 - 199         |  |           |           |           |           |           |
| 200 - 249         |  |           |           |           |           |           |
| 250 - 299         |  |           |           |           |           | Yes       |
| 300 - 349         |  |           |           |           | Yes       | Yes       |
| 350 - 399         |  |           |           | Yes       | Yes       | Yes       |
| 400 - 449         |  |           | Yes       | Yes       | Yes       | Yes       |
| 450 - 499         |  |           | Yes       | Yes       | Yes       | Yes       |
| 500 - 549         |  | Yes       | Yes       | Yes       | Yes       | Yes       |
| 550 - 599         |  | Yes       | Yes       | Yes       | Yes       | Yes       |
| 600 or More       | Yes  | Yes       | Yes       | Yes       | Yes       | Yes       |

Choto Road at Proposed Entrance  
2027 Projected MIDDAY EB Right Turns = 38  
Right Turn Lane NOT Warranted

| RIGHT-TURN VOLUME | THROUGH VOLUME PLUS LEFT-TURN VOLUME* |           |           |           |           |          |
|-------------------|---------------------------------------|-----------|-----------|-----------|-----------|----------|
|                   | 350 - 399                             | 400 - 449 | 450 - 499 | 500 - 549 | 550 - 600 | + / >600 |
| Fewer Than 25     |                                       |           |           |           |           | Yes      |
| 25 - 49           |                                       |           |           |           |           | Yes      |
| 50 - 99           |                                       |           |           |           | Yes       | Yes      |
| 100 - 149         |                                       |           |           | Yes       | Yes       | Yes      |
| 150 - 199         |                                       |           | Yes       | Yes       | Yes       | Yes      |
| 200 - 249         |                                       | Yes       | Yes       | Yes       | Yes       | Yes      |
| 250 - 299         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 300 - 349         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 350 - 399         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 400 - 449         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 450 - 499         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 500 - 549         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 550 - 599         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 600 or More       | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |

\* Or through volume only if a left-turn lane exists.

Table 4A. Left-Turn Lane Volume Thresholds  
For Two-Lane Roadways with a Prevailing Speed of 35 MPH or Less

(If the left-turn volume exceeds the table value a left -turn lane is needed)

| OPPOSING VOLUME | 141       | THROUGH VOLUME PLUS RIGHT-TURN VOLUME* |           |           |           |           |
|-----------------|-----------|--|-----------|-----------|-----------|-----------|
|                 | 100 - 149 | 150 - 199                              | 200 - 249 | 250 - 299 | 300 - 349 | 350 - 399 |
| 100 - 149       | 300       | 235                                    | 185       | 145       | 120       | 100       |
| 150 - 199       | 245       | 200                                    | 160       | 130       | 110       | 90        |
| 200 - 249       | 205       | 170                                    | 140       | 115       | 100       | 80        |
| 250 - 299       | 175       | 150                                    | 125       | 105       | 90        | 70        |
| 300 - 349       | 155       |  |           | 95        | 80        | 65        |
| 350 - 399       | 135       |  |           | 85        | 70        | 60        |
| 400 - 449       | 120       |  |           | 75        | 65        | 55        |
| 450 - 499       | 105       |  |           | 70        | 60        | 50        |
| 500 - 549       | 95        |  |           | 65        | 55        | 50        |
| 550 - 599       | 85        |  |           | 60        | 50        | 45        |
| 600 - 649       | 75        |  |           | 55        | 45        | 40        |
| 650 - 699       | 70        |  |           | 50        | 40        | 35        |
| 700 - 749       | 65        | 55                                     | 50        | 45        | 35        | 30        |
| 750 or More     | 60        | 50                                     | 45        | 40        | 35        | 30        |

184 + 38 = 222

Choto Road at Proposed Entrance  
2027 Projected PM WB Left Turns = 4  
Left Turn Lane NOT Warranted

| OPPOSING VOLUME | THROUGH VOLUME PLUS RIGHT-TURN VOLUME* |           |           |           |           |          |
|-----------------|--|-----------|-----------|-----------|-----------|----------|
|                 | 350 - 399                              | 400 - 449 | 450 - 499 | 500 - 549 | 550 - 599 | = / >600 |
| 100 - 149       | 100                                    | 80        | 70        | 60        | 55        | 50       |
| 150 - 199       | 90                                     | 75        | 65        | 55        | 50        | 45       |
| 200 - 249       | 80                                     | 72        | 460       | 55        | 50        | 45       |
| 250 - 299       | 70                                     | 65        | 55        | 50        | 45        | 40       |
| 300 - 349       | 65                                     | 60        | 50        | 50        | 45        | 40       |
| 350 - 399       | 60                                     | 55        | 50        | 45        | 40        | 40       |
| 400 - 449       | 55                                     | 50        | 45        | 45        | 40        | 35       |
| 450 - 499       | 50                                     | 45        | 45        | 40        | 35        | 35       |
| 500 - 549       | 50                                     | 45        | 40        | 40        | 35        | 35       |
| 550 - 599       | 45                                     | 40        | 40        | 35        | 35        | 35       |
| 600 - 649       | 40                                     | 35        | 35        | 35        | 35        | 30       |
| 650 - 699       | 35                                     | 35        | 35        | 30        | 30        | 30       |
| 700 - 749       | 30                                     | 30        | 30        | 30        | 30        | 30       |
| 750 or More     | 30                                     | 30        | 30        | 30        | 30        | 30       |

\* Or through volume only if a right-turn lane exists.

Table 4B. Right-Turn Lane Volume Thresholds  
For Two-Lane Roadways with a Prevailing Speed of 35 MPH or Less

| RIGHT-TURN VOLUME | THROUGH VOLUME PLUS LEFT-TURN VOLUME* |           |           |           |           |           |
|-------------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|
|                   | <100                                  | 100 - 199 | 200 - 249 | 250 - 299 | 300 - 349 | 350 - 399 |
| Fewer Than 25     |                                       |           |           |           |           |           |
| 25 - 49           |                                       |           |           |           |           |           |
| 50 - 99           |                                       |           |           |           |           |           |
| 100 - 149         |                                       |           |           |           |           |           |
| 150 - 199         |                                       |           |           |           |           |           |
| 200 - 249         |                                       |           |           |           |           |           |
| 250 - 299         |                                       |           |           |           |           | Yes       |
| 300 - 349         |                                       |           |           |           | Yes       | Yes       |
| 350 - 399         |                                       |           |           | Yes       | Yes       | Yes       |
| 400 - 449         |                                       |           | Yes       | Yes       | Yes       | Yes       |
| 450 - 499         |                                       |           | Yes       | Yes       | Yes       | Yes       |
| 500 - 549         |                                       | Yes       | Yes       | Yes       | Yes       | Yes       |
| 550 - 599         |                                       | Yes       | Yes       | Yes       | Yes       | Yes       |
| 600 or More       | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes       |

184  
 Choto Road at  
 Proposed Entrance  
 2027 Projected PM  
 EB Right Turns = 38  
 Right Turn Lane NOT  
 Warranted

| RIGHT-TURN VOLUME | THROUGH VOLUME PLUS LEFT-TURN VOLUME* |           |           |           |           |          |
|-------------------|---------------------------------------|-----------|-----------|-----------|-----------|----------|
|                   | 350 - 399                             | 400 - 449 | 450 - 499 | 500 - 549 | 550 - 600 | + / >600 |
| Fewer Than 25     |                                       |           |           |           |           | Yes      |
| 25 - 49           |                                       |           |           |           |           | Yes      |
| 50 - 99           |                                       |           |           |           | Yes       | Yes      |
| 100 - 149         |                                       |           |           | Yes       | Yes       | Yes      |
| 150 - 199         |                                       |           | Yes       | Yes       | Yes       | Yes      |
| 200 - 249         |                                       | Yes       | Yes       | Yes       | Yes       | Yes      |
| 250 - 299         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 300 - 349         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 350 - 399         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 400 - 449         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 450 - 499         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 500 - 549         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 550 - 599         | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |
| 600 or More       | Yes                                   | Yes       | Yes       | Yes       | Yes       | Yes      |

\* Or through volume only if a left-turn lane exists.

## Queuing and Blocking Report

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### Intersection: 3: S Northshore Drive & Choto Road

---

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 76  | 69  | 74  | 97  |
| Average Queue (ft)    | 34  | 26  | 29  | 17  |
| 95th Queue (ft)       | 66  | 59  | 61  | 60  |
| Link Distance (ft)    | 540 | 117 | 568 | 435 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

---

### Intersection: 7: Choto Mill Lane & Choto Road

---

| Movement              | NB  |
|-----------------------|-----|
| Directions Served     | LR  |
| Maximum Queue (ft)    | 28  |
| Average Queue (ft)    | 3   |
| 95th Queue (ft)       | 17  |
| Link Distance (ft)    | 160 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

---

### Intersection: 9: Proposed Entrance & Choto Road

---

| Movement              | WB | NB |
|-----------------------|----|----|
| Directions Served     | LT | LR |
| Maximum Queue (ft)    | 24 | 43 |
| Average Queue (ft)    | 1  | 19 |
| 95th Queue (ft)       | 10 | 45 |
| Link Distance (ft)    | 98 | 92 |
| Upstream Blk Time (%) |    |    |
| Queuing Penalty (veh) |    |    |
| Storage Bay Dist (ft) |    |    |
| Storage Blk Time (%)  |    |    |
| Queuing Penalty (veh) |    |    |

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### Network Summary

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Network wide Queuing Penalty: 0

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## Queuing and Blocking Report

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### Intersection: 3: S Northshore Drive & Choto Road

---

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 114 | 66  | 88  | 450 |
| Average Queue (ft)    | 48  | 30  | 36  | 403 |
| 95th Queue (ft)       | 90  | 60  | 73  | 605 |
| Link Distance (ft)    | 540 | 114 | 568 | 435 |
| Upstream Blk Time (%) |     | 0   |     | 74  |
| Queuing Penalty (veh) |     | 0   |     | 0   |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

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### Intersection: 7: Choto Mill Lane & Choto Road

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| Movement              | NB  |
|-----------------------|-----|
| Directions Served     | LR  |
| Maximum Queue (ft)    | 30  |
| Average Queue (ft)    | 2   |
| 95th Queue (ft)       | 14  |
| Link Distance (ft)    | 160 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

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### Intersection: 9: Proposed Entrance & Choto Road

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| Movement              | WB  | NB |
|-----------------------|-----|----|
| Directions Served     | LT  | LR |
| Maximum Queue (ft)    | 12  | 45 |
| Average Queue (ft)    | 1   | 21 |
| 95th Queue (ft)       | 8   | 47 |
| Link Distance (ft)    | 100 | 78 |
| Upstream Blk Time (%) |     | 0  |
| Queuing Penalty (veh) |     | 0  |
| Storage Bay Dist (ft) |     |    |
| Storage Blk Time (%)  |     |    |
| Queuing Penalty (veh) |     |    |

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### Network Summary

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Network wide Queuing Penalty: 0

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