

## APPLICATION/APPEAL TO THE BOARD OF ADJUSTMENT

Case No.: BI	212-078 (revised) LONLY
Data Relative to Subject Property:	Date: 9/11/23 SE DAILY
Location address: 5526 E. R. L. Thornton FWY Zoning I	District: CR
	Tract: 48113002500 SEP ] KELD
Street Frontage (in Feet): 1) 248.95 2) 116 3) 4)	5) BY:
To the Honorable Board of Adjustment:	
Owner of Property (per Warranty Deed): Modern Pyramids, In	c Mark Barakat
Applicant: Audra Buckley Telepho	one: 214.686.3635
Mailing Address: 1414 Belleview Street, Ste 150	Zip Code: <b>75215</b>
E-mail Address: permitted.development.dfw@gmail.com	m
Represented by: Permitted Development, LLC Telepho	one: 214.686.3635
	Zip Code: <b>75215</b>
E-mail Address: permitted.development.dfw@gmail.com	620
Affirm that an appeal has been made for a Variance 🗹 or Special Exception	on of u
Variance to the off-street parking requirements for a reduction of 37.5% of	or contine required 32 spaces,
variance of 20' to the side yard setback required adjacent to the alley, and	d a landscape special exception.
Application is made to the Board of Adjustment, in accordance with the pro Grant the described appeal for the following reason: These request will not adversely impact surrounding properties. With regards to the parking a	
existing conditions of the block plus existing, solid, residential fences south of the alley, the	
impact neighbors to the south. Additionally, solid screening is proposed along the alley as pa Note to Applicant: If the appeal requested in this application is granted by to be applied for within 180 days of the date of the final action of the Board, longer period.	he Board of Adjustment, a permit must
Audra	Buckley
Before me the undersigned on this day personally appeared	Duckiey
(Af) who on (his/her) oath certifies that the above statements are true and co he/she is the owner/or principal/or authorized representative of the sub	
Respectfully submitted (Affiant/Applicant's signature)	
Subscribed and sworn to before me this 11 day of Steptember	er , 2023
Destinee Ma	( Dec

DESTINEE MCNEAL
Notary Public
STATE OF TEXAS
ID# 13433588-8
My Comm. Exp. 05/01/2027

Notary Public in and for Dallas County, Texas

3

ted OR Denied	Chairman				MEMORANDUM OF ACTION TAKEN BY THE BOARD OF ADJUSTMENT  Date of Hearing  Appeal wasGranted OR Denied  Remarks
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### **Building Official's Report**

I hereby certify that Audra Buckley

represented by Permitted Development

did submit a request for (1) a variance to the parking regulations, and for (2) a special exception

to the landscaping regulations, and for (3) a variance to the side yard

setback regulations

at 5526 E R.L. Thornton Hwy

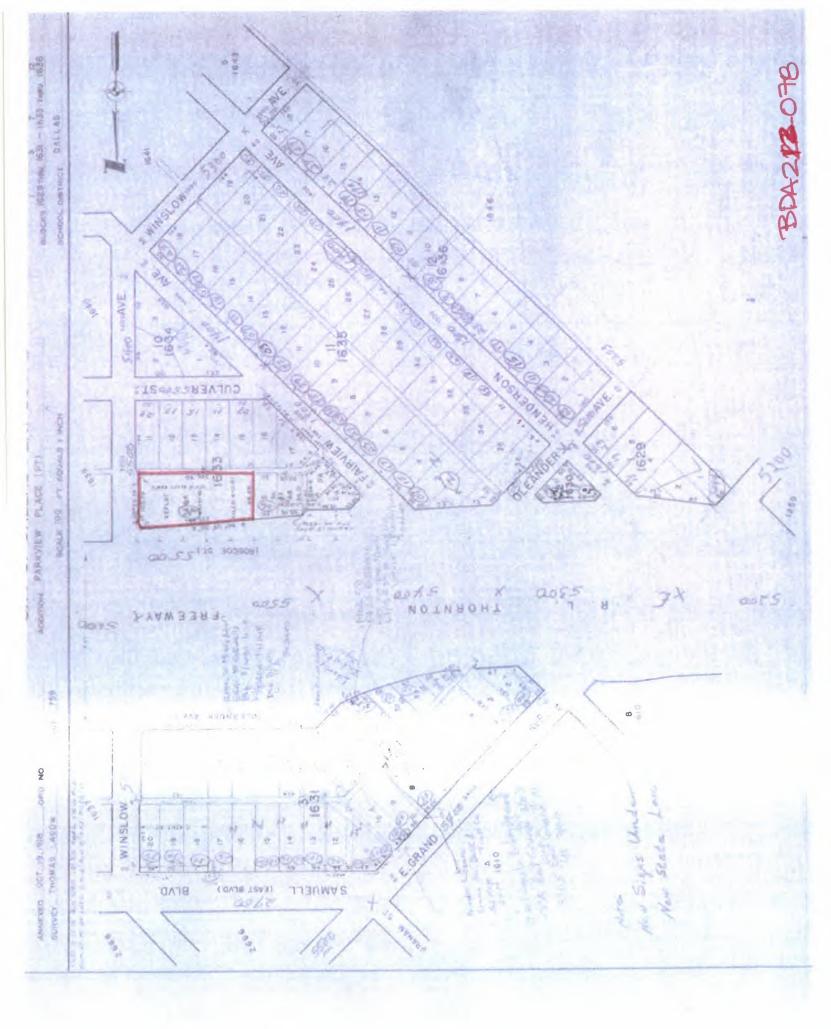
BDA212-078. Application of Audra Buckley for (1) a variance to the parking regulations, fc (2) a special exception to the Landscape and tree preservation regulations, and for (3) a variance to the side yard setback regulations at 5526 E R L THORNTON FWY. This property is more fully described as lot 6A, block 7/1633 and is zoned CR, which requires parking to be provided, and Landscape to be provided and a 20-foot side yard setback to be provided. The applicant proposes to construct and/or maintain nonresidential structures for retail and personal service uses and provide 20 of the required 34 parking spaces, which will require a 14 space variance (41% reduction) to the parking regulation.

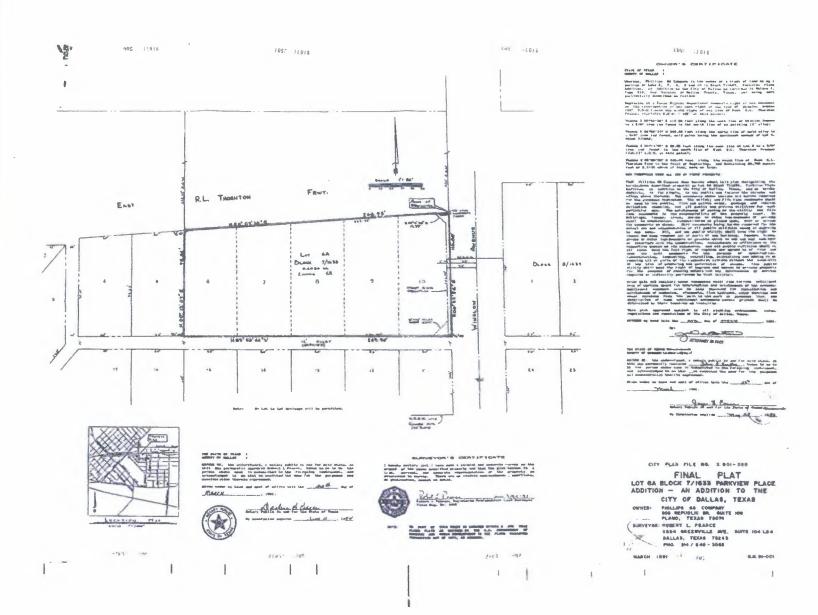
Sincerely,

Andrew Espinoza, CBO, MCP, CFM, CCEA



Appeal number: BDA 212-078
Modern Pyramids, Inc Mark Barakat, Owner of the subject property
(Owner or "Grantee" of property as it appears on the Warranty Deed) at:  Owner or "Grantee" of property as it appears on the Warranty Deed)
(Address of property as stated on application)  Authorize: Permitted Development, LLC - Audra Buckley
Authorize: (Applicant's name as stated on application)
To pursue an appeal to the City of Dallas Zoning Board of Adjustment for the following request(s)
Special Exception (specify below)
Other Appeal (specify below)  Specify: Variance to the off-street parking requirements for a reduction of 37.5% or 12 of the required 32 spaces,
variance of 20' to the side yard setback required adjacent to the alley, and a landscape special exception.
Print name of property owner or registered agent  Signature of property owner or registered agent
Date9/11/23
Before me, the undersigned, on this day personally appeared Mark Barakat
Who on his/her oath certifies that the above statements are true and correct to his/her best knowledge.
Subscribed and sworn to before me this 11 day of Sept ember 2023
Notary Public for Dallas County, Texas
DESTINEE MCNEAL Notary Public STATE OF TEXAS ID# 13433588-8 My Comm. Exc. 05/01/2027





### **Documentary Evidence for Setback Variance Request:**

(i) the variance is not contrary to the public interest when, owing to special conditions, a literal enforcement of this chapter would result in unnecessary hardship, and so that the spirit of the ordinance will be observed, and substantial justice done;

The property is zoned CR with property to the south of the alley being zoned PDD 136 - residential zoning. The Dallas development code requires a 20' setback wherever CR properties are located adjacent to or across an alley from a residential zoning district. The purpose is to provide a buffer between two different use types, which is sometimes done with landscaping/living screen. However, as shown in these two photos, existing conditions show both sides of the alley are lined with solid screening/fencing. Any improvements made to the subject site would not be visible.





Additionally, none of the residents across the alley from the subject use the alley for access. Parking occurs onstreet or in their respective driveways as shown:

BDA202-078



Therefore, we do not believe a reduction in the setback along the alley will be contrary to the public interest but would result in an unnecessary hardship in the development of the subject site due to its depth of approximately 97' at the narrowest point. Compliance would result in a loss of 20' of depth which would further hinder development commensurate with other CR zoned parcels along RL Thornton. As described in the next section, most all the structures along RL Thornton are shown immediately adjacent to their respective alleys.

(ii) the variance is necessary to permit development of a specific parcel of land that differs from other parcels of land by being of such a restrictive area, shape, or slope that it cannot be developed in a manner commensurate with the development upon other parcels of land with the same zoning; and

The undeveloped portion of the subject site is approximately 97' deep at the narrowest point. This is not a common condition for RL Thornton as shown in the following image. The purpose of a setback is to establish a consistent appearance within a particular zoning designation. There is no continuity in this segment of the freeway as most of the buildings are older and setback to the property line.

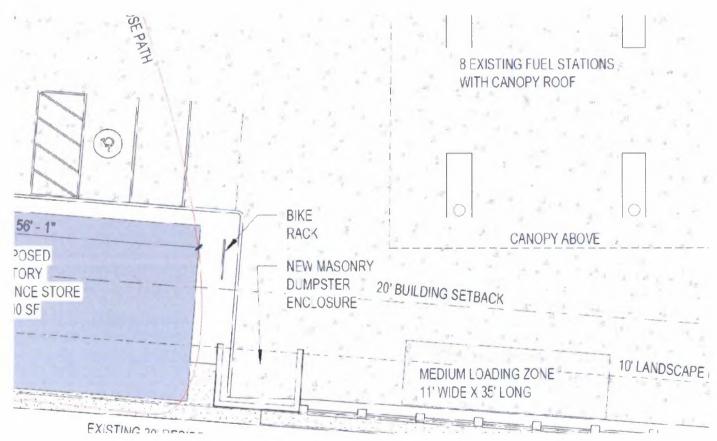
Properties to the east of Winslow have depths of approximately 140' – 145'representing an additional 50' in depth than most of the subject site. Without this variance to the setback, the property cannot be developed in a manner commensurate with other properties along RL Thornton. The Shell station to the east of Winslow has the same zoning and code requirements as the subject site but due to their additional depth, they were able to comply.



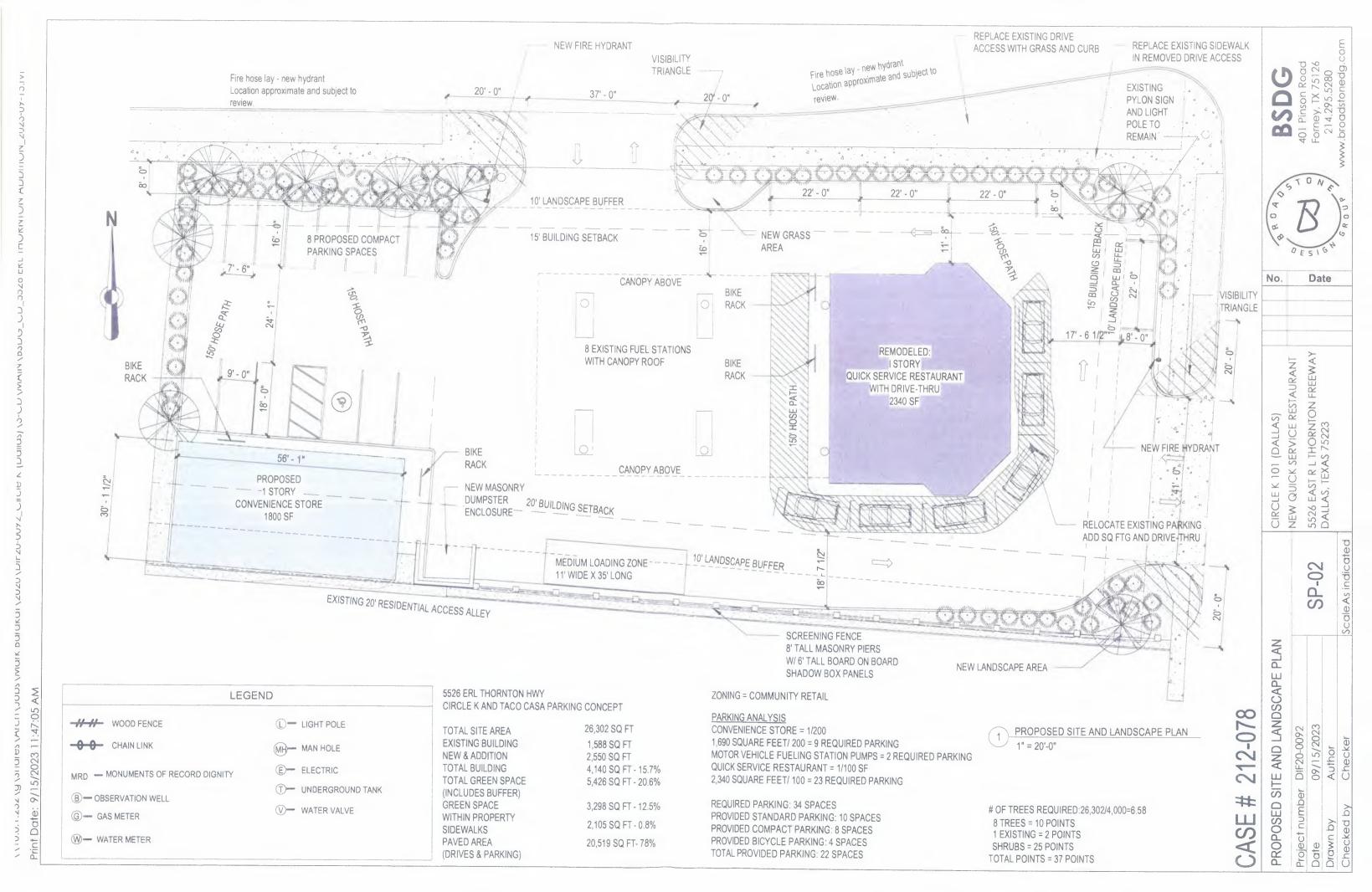
BDA213-078

(iii) the variance is not granted to relieve a self-created or personal hardship, nor for financial reasons only, except as provided in Subparagraph (B)(i), nor to permit any person a privilege in developing a parcel of land not permitted by this chapter to other parcels of land with the same zoning.

The property has been in this configuration for decades. The variance request would align with existing conditions along RL Thornton Fwy to the east and the adjacent building to the west of the subject site. Application of the 20' setback with a 10' landscape buffer would render the existing use completely non-compliant as the area between the fuel canopy and the property line is needed for traffic circulation of passenger and commercial vehicles. Furthermore, compliance with these requirements would also severely restrict, if not prohibit, development of the vacant, westernmost portion of the property due to the reduction of lot depth by 20' adjacent to the alley and a reduction of 10' along the freeway for street improvements. A landscape special exception regarding the street improvements and other Article X requirements is also requested and will be addressed separately.



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BSDG

No. Date

CIRCLE K 101 (DALLAS)

NEW QUICK SERVICE RESTAURANT
5526 EAST R L THORNTON FREEWAY
DALLAS, TEXAS 75223

SP-03

Project number DIF20-0092

Date 09/15/2023

Drawn by Author

Checked by Checker

PROPOSED SCREENING FENCE AND DUMPSTER DETAILS 212-078 # CASE

# Parking Demand Assessment

Circle K and Taco Casa 5526 East R. L. Thornton Fwy Dallas, Texas

BDA212-078



Prepared for:
DFW Oil & Energy, LLC

September 2023



I, Adrian O. Murphy, hereby certify that the information provided in this report is complete and accurate to the best of my knowledge.



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## **EXECUTIVE SUMMARY**

The development representative retained Leadership Traffic Services to perform a parking demand assessment for the proposed Taco Casa Restaurant that will serve as an addition to an existing Circle K convenience store and gas station located at 5526 East R. L. Thornton Freeway (IH 30 eastbound service road) at Winslow Avenue in Dallas, Texas.

The purpose of the parking demand assessment is to provide technical justification to support a reduction in the number of required parking spaces as regulated by the City of Dallas. The parking demand assessment document will be provided to the City of Dallas staff for technical review to fulfill the associated requirements of the local approval process.

Based on the parking demand assessment performed for the proposed Circle K convenience store and Taco Casa development, the following conclusions and recommendations have been offered in support of allowing a greater reduction to the required parking:

- The proposed development will generate 161 vehicles trips (82 entering and 79 exiting) during the AM peak hour and 110 vehicle trips (57 entering and 53 exiting) during the PM peak hour.
- Driveway access will be served from one existing driveway along East R. L. Thornton Freeway (IH 30) eastbound service road and one existing driveway along Winslow Avenue. A second existing driveway along East R. L. Thornton Freeway (IH 30) eastbound service road will be closed.
- The proposed development requires 34 parking spaces as contained in the City of Dallas Development Code.
- The proposed development will provide 22 total parking spaces.
- Internal trip capture can create less demand for parking since a single trip can visit more
  than one land use due to the closeness and interconnectivity of shared driveways and
  parking.
- A prototypical model located at 12950 Coit Road in Dallas where there is higher concentration of adjacent street traffic does not consume its available on-site parking during peak demands periods of the day.
- A reduction in parking spaces at East R. L. Thornton Freeway (IH 30) and Winslow Avenue to serve the Circle K and Taco Casa development would not create a traffic hazard or traffic congestion to the adjacent roadway system.
- Fifteen (15) additional spaces may be realized when considering the drive-through window available queue space and parking at the pump for vehicle fueling operations.



## INTRODUCTION

The development representative retained Leadership Traffic Services to perform a parking demand assessment for the proposed Taco Casa Restaurant that will serve as an addition to an existing Circle K convenience store and gas station located at 5526 East R. L. Thornton Freeway (IH 30 eastbound service road) at Winslow Avenue in Dallas, Texas.

The purpose of the parking demand assessment is to provide technical justification to support a reduction in the number of required parking spaces as regulated by the City of Dallas. The parking demand assessment document will be provided to the City of Dallas staff for technical review to fulfill the associated requirements of the local approval process.



### SITE AND STUDY AREA DESCRIPTION

The proposed development will be located at 5526 East R. L. Thornton Freeway, southwest of IH 30 and Winslow Avenue in Dallas, Texas. The proposed development will serve as a redevelopment of the existing site that contains a Circle K convenience store and gas station. Access to the site will be served from one driveway along East R. L. Thornton service road and one driveway along Winslow Avenue. A second existing driveway that currently serves the Circle K convenience store and gas station will be closed with the development and addition of the Taco Caso restaurant. A vicinity map is presented in **Figure 1**. The site is bounded by East R. L. Thornton Freeway to the north, commercial and residential to the west, residential to the south, and commercial to the east.

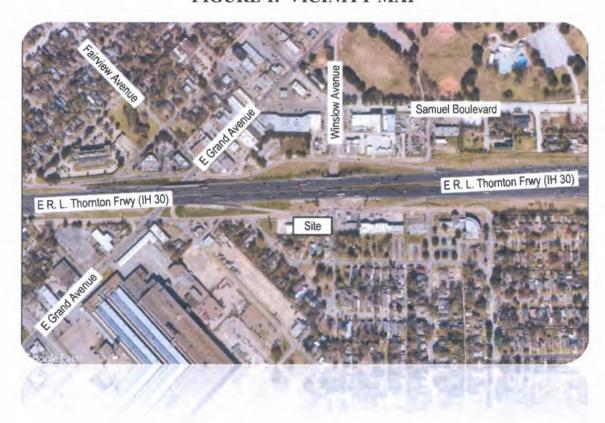


FIGURE 1. VICINITY MAP



### EXISTING AND PROPOSED LAND USE

The existing site for the proposed development is currently occupied by the Circle K convenience store and gas station. The Circle K convenience store will be converted to a Taco Casa restaurant and expanded by an additional 750 square feet. The Circle K convenience store will be rebuilt on an adjacent lot that is currently vacant. The fuel pumps will remain in their existing location and will continue operations as part of the new convenience store. Based on the official zoning map for the City of Dallas, the property is currently zoned as CR — Community Retail. The adjacent properties in the immediate vicinity of the proposed development are zoned as CR — Community Retail. The proposed development will be constructed as a single phase with a completion date for 2023. The proposed land use for the development is presented below in **Table 1**.

Table 1. Proposed Land Use

Land Use	Size	Unit
Fast-Food Restaurant		
with Drive-Through	2.338	1,000 SF
Window		
Convenience Store /	1.8	1,000 SF
Gas station	8	Vehicle fueling positions



### TRANSPORTATION SYSTEM

### **Thoroughfare System**

The following is a general description of the major thoroughfares within the study area as they exist today.

East R. L. Thornton (IH 30) Eastbound Service Road is directly north of the proposed development and is a three-lane, one-way roadway that runs in an east direction with a speed limit of 40 MPH. The roadway is considered a TxDOT roadway and is not characterized on the City of Dallas Thoroughfare Plan. Two (2) existing driveways serve the property of the proposed development. One driveway will be removed with the proposed development. Historical traffic data from NCTCOG indicates 8,000 vehicles per day travel along East R. L. Thornton (IH 30) eastbound service road.

<u>Winslow Avenue</u> is located east of the proposed development and is two-lane undivided roadway. A speed limit posting was not observed along Winslow Avenue. The roadway is characterized on the City of Dallas Thoroughfare Plan as a C – Community Collector roadway, minimum four-lane undivided (M-4-U). One existing driveway serves the property of the proposed development and will serve the proposed development. Historical traffic data from NCTCOG indicates 4,000 vehicles per day travel along Winslow Avenue near East R. L. Thornton (IH 30) freeway.



### SITE TRAFFIC CHARACTERISTICS

## **Proposed Site Trip Generation**

The number of trips generated by the Circle K convenience store and Taco Casa development is a function of the type and quantity of land use for the development. The number of vehicle trips generated by the proposed development was estimated based on ITETripGen, a web-based app that incorporates the latest trip generation rates and equations provided in the publication entitled Trip Generation Manual, Eleventh Edition, by the Institute of Transportation Engineers (ITE). Estimates of the number of trips generated by the site were made for the AM and PM peak hour, as well as daily. Table 2 provides the estimated rates and equations along with the entering and exiting distribution splits. Due to the nature of the proposed development and the mix of land uses being considered, some trips generated by the development would be contained within the site as an internal trip capture. When combined within a single mixed-use development, these land uses tend to interact and thus attract a portion of each other's trip generation. The recommended methodology for internal trip capture reduction is based on using the NCHRP Report 684 and has been applied to the Circle K convenience store and Taco Casa development. A summary of the total number of trips that are projected to be generated by the proposed development during typical daily, AM and PM time periods is shown in Table 3. The number of trips generated represents the number of vehicles entering and exiting the proposed development to and from the adjacent roadway system. Supporting documentation from the ITE Trip Generation Manual has been included in the appendix. Based on the site traffic that would access the proposed development from the adjacent roadway system, traffic congestion is not likely to occur.

Table 2. Trip Generation Rates

Land Use	Unit	Da	ily	AM Pe	Peak Hour PM Peak Ho		ak Hour
Description	Onit	Rate / Eq.	Split	Rate	Split	Rate	Split
Fast-Food Restaurant with Drive-Through Window	1000 SF	467.48	50% In 50% Out	44.61	51% In 49% Out	33.03	52% In 48% Out
Convenience Store / Gas Station (2-8 VFP)	1000 SF	624.20	50% In 50% Out	40.59	50% In 505 Out	48.48	50% In 50% Out



Table 3. Trip Generation Summary for 5626 East R. L. Thornton Freeway

ITE Land Use	ITE Code	Daily	Quantity Da	AM Peak Hour		PM Peak Hour			
				Enter	Exit	Enter	Exit	Enter	Exit
Fast-Food Restaurant with Drive-Through Window	934	1000 SF	2.34	547	547	53	51	40	37
Convenience Store / Gas Station (2-8 VFP)	945	1000 SF	1.8	562	562	37	36	44	43
Interna	Internal Trip Capture Reduction					8	8	27	27
	Totals			22	18	16	1	11	0

### **Parking Generation**

The required parking for the proposed Circle K and Taco Casa development is based on land use per the City of Dallas parking and loading regulations with provisions for parking reductions and credits. **Table 4** below summarizes the parking analysis for the proposed development. As shown in **Table 4**, the proposed development will not provide enough parking spaces as required in the City of Dallas Development Code.

Table 4. Parking Analysis (5526 East R. L. Thornton Freeway, Dallas)

Land Use	Land Use Size Parking Code Spaces Spaces		Parking Spaces Provided		
		Criteria	Required	Per Code	Additional
Taco Casa restaurant	2,338 SF	1 per 100 SF	23	4	
with drive-through window	Vehicle Queue in Drive-through Window Lane				7
	1,800 SF	1 per 200 SF	9	14	
Circle K convenience store / gas station	Canopy		2		
	Vehicle Fueling Positions				8
Bicycle Rack				4	
Tot	Total Parking Spaces			22	15



The Board of Adjustment (BDA) may grant special exceptions to allow for up to 25% reduction to required parking if the development's allowed parking reduction does not create a traffic hazard or increase traffic congestion on the adjacent and nearby roadways. The Circle K and Taco Casa development would be twelve (12) parking spaces shy of the required amount, creating 35% reduction. To fall within the allowable tolerance of 25% reduction, the development would need to provide 26 parking spaces to result in a deficit of eight (8) parking spaces shy of the required amount.

Based on the nature of the development, that includes different integrated, complementary, and interacting land uses that allows for interconnectivity of driveways and shared parking where on-site parking can be accessed by users visiting more than one land use without creating an additional trip and the need for an available parking space, there would be a reduced parking demand created from the proximity of the complementary land uses.

To support the claim of reduced parking demand, the developer representative allowed parking demand data to be collected at a prototypical model site located at 12950 Coit Road in Dallas where there is a Circle K convenience store with Exxon gas station and Taco Casa restaurant. There are 14 vehicle fueling positions at the Coit Road location with comparable sizes for the Circle K convenience store and Taco Casa restaurant envisioned for the site near East R. L. Thornton Freeway (IH 30) and Winslow Avenue. The Coit Road location is near a greater concentration of traffic (40,000 vehicles per day along Coit Road and 20,000 vehicles per day along IH 635 eastbound service road yet based on the data summarized in **Table 5** below, the peak demand experienced at the Coit Road location allowed for ample parking without exceeding demand and the drive-through window for the Taco Casa restaurant did not exceed the available on-site queue.

Table 5. Peak Parking Analysis (12950 Coit Road, Dallas)

Land Use	Parking Spaces Provided Onsite <sup>1</sup>	Drive- Through Window Queuing Lanes	Max Occupied Parking Spaces / Drive- Through Queue Lanes <sup>2</sup>
Taco Casa restaurant with drive-through window		8	4 (3)
Circle K convenience store / Exxon gas station	44		20 (18)

<sup>&</sup>lt;sup>1</sup>Vehicle fueling positions were included in the total count for parking spaces.

<sup>&</sup>lt;sup>2</sup>AM (PM) peak values



In addition to the twenty-two (22) parking spaces that will be provided, the Taco Casa restaurant will be able to safely accommodate up to seven (7) vehicles for the drive-through window service. A request will be made to the Board of Adjustments to allow credit for vehicles that park at the pump during vehicle fueling operations or to patronize the convenience store or restaurant, accommodating an additional eight (8) parking spaces. Considering both the spaces at the pump and the drive-through vehicle queue, up to fifteen (15) additional parking spaces would be available.



### CONCLUSIONS AND RECOMMENDATIONS

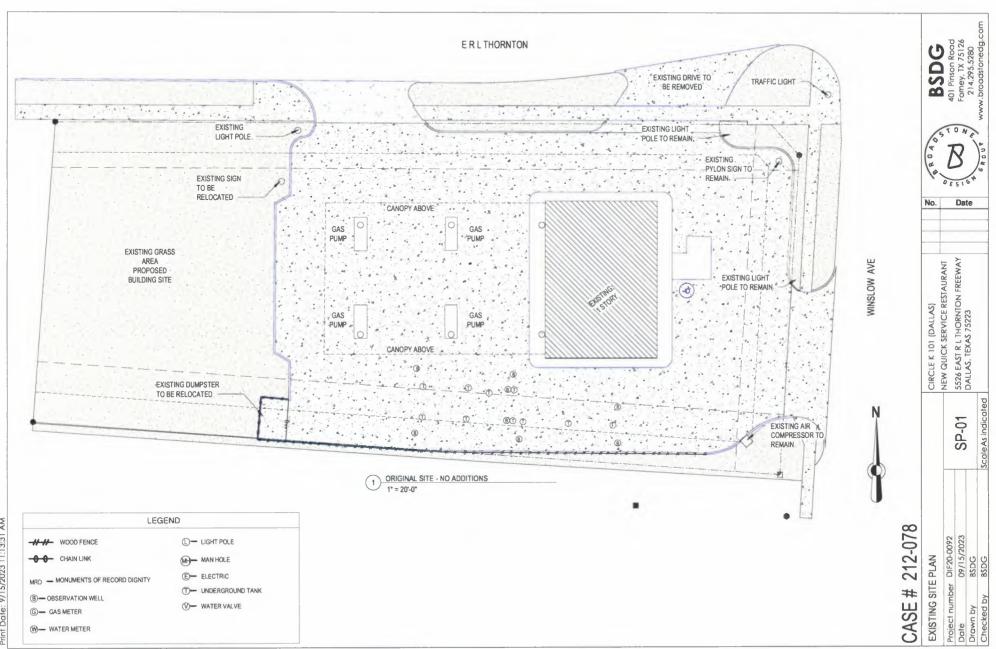
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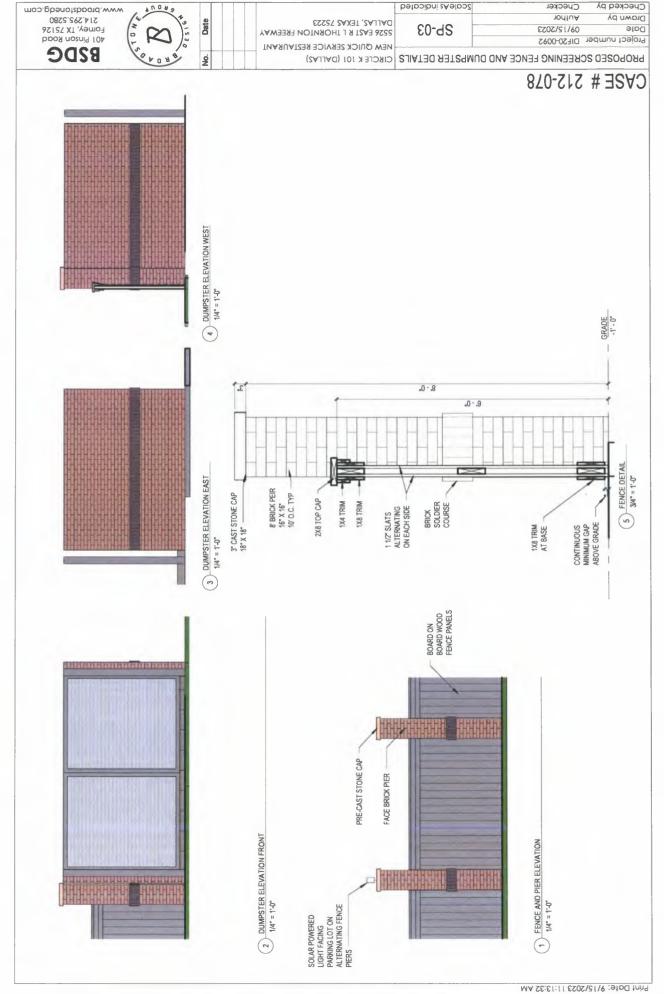
## **Appendix List of Sections**

- 1. Site Plan
- 2. Trip Generation
- 3. Parking Demand Data

## 1. Site Plan



Scale As indicated



# 2. Trip Generation

## Land Use: 934 Fast-Food Restaurant with Drive-Through Window

### Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

#### **Additional Data**

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.

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 technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/tripand-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

#### **Source Numbers**

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054



# **Fast-Food Restaurant with Drive-Through Window**

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA On a: Weekday

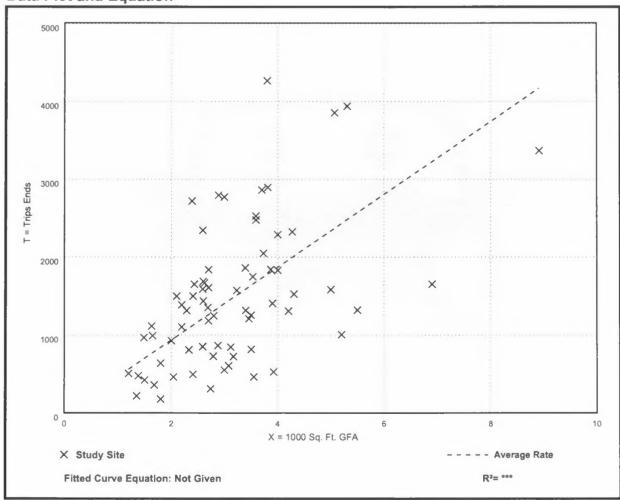
Setting/Location: General Urban/Suburban

Number of Studies: 71 Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation	
467.48	98.89 - 1137.66	238.62	





# Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

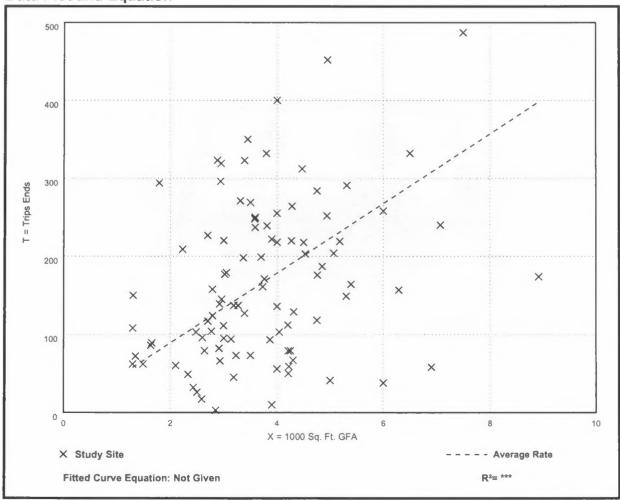
Setting/Location: General Urban/Suburban

Number of Studies: 96 Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 51% entering, 49% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14





## Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

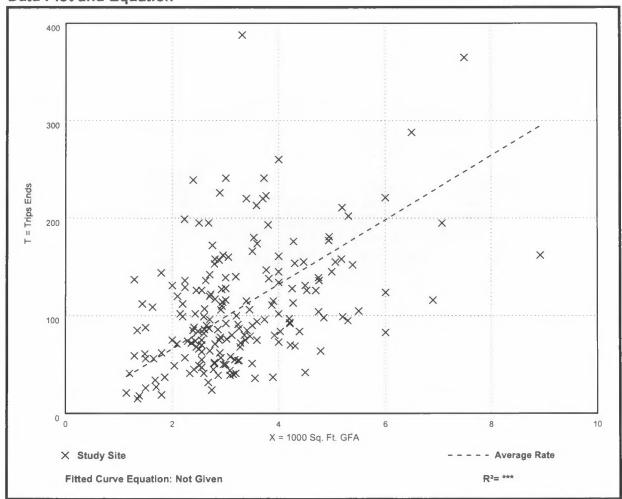
Setting/Location: General Urban/Suburban

Number of Studies: 190 Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 52% entering, 48% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59





## Land Use: 945 Convenience Store/Gas Station

### **Description**

A convenience store/gas station is a facility with a co-located convenience store and gas station. The convenience store sells grocery and other everyday items that a person may need or want as a matter of convenience. The gas station sells automotive fuels such as gasoline and diesel.

A convenience store/gas station is typically located along a major thoroughfare to optimize motorist convenience. Extended hours of operation (with many open 24 hours, 7 days a week) are common at these facilities

The convenience store product mix typically includes pre-packaged grocery items, beverages, dairy products, snack foods, confectionary, tobacco products, over-the-counter drugs, and toiletries. A convenience store may sell alcohol, often limited to beer and wine. Coffee and premade sandwiches are also commonly sold at a convenience store. Made-to-order food orders are sometimes offered. Some stores offer limited seating.

The sites in this land use include both self-pump and attendant-pumped fueling positions and both pre-pay and post-pay operations.

Convenience store (Land Use 851), gasoline/service station (Land Use 944), and truck stop (Land Use 950) are related uses.

#### Land Use Subcategory

Multiple subcategories were added to this land use to allow for multi-variable evaluation of sites with single-variable data plots. All study sites are assigned to one of three subcategories, based on the number of vehicle fueling positions (VFP) at the site: between 2 and 8 VFP, between 9 and 15 VFP, and between 16 and 24 VFP. For each VFP range subcategory, data plots are presented with GFA as the independent variable for all time periods and trip types for which data are available. The use of both GFA and VFP (as the independent variable and land use subcategory, respectively) provides a significant improvement in the reliability of a trip generation estimate when compared to the single-variable data plots in prior editions of Trip Generation Manual.

Further, the study sites were also assigned to one of three other subcategories, based on the gross floor area (GFA) of the convenience store at the site: between 2,000 and 4,000 square feet, between 4,000 and 5,500 square feet, and between 5,500 and 10,000 square feet. For each GFA subcategory range, data plots are presented with VFP as the independent variable for all time periods and trip types for which data are available. The use of both VFP and GFA (as the independent variable and land use subcategory, respectively) provides a significant improvement in the reliability of a trip generation estimate when compared to the single-variable data plots in prior editions of Trip Generation Manual.



When analyzing the convenience store/gas station land use with each combination of GFA and VFP values as described above, the two sets of data plots will produce two estimates of sitegenerated trips. Both values can be considered when determining a site trip generation estimate.

Data plots are also provided for three additional independent variables: AM peak hour traffic on adjacent street, PM peak hour traffic on adjacent street, and employees. These independent variables are intended to be analyzed as single independent variables and do not have subcategories associated with them. Within the data plots and within the ITETripGen web app, these plots are found under the land use subcategory "none."

#### **Additional Data**

ITE recognizes there are existing convenience store/gas station sites throughout North America that are larger than the sites presented in the data plots. However, the ITE database does not include any site with more than 24 VFP or any site with gross floor area greater than 10,000 square feet. Submission of trip generation data for larger sites is encouraged.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/tripand-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), Arkansas, California, Connecticut, Delaware, Florida, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, Pennsylvania, Rhode Island, South Dakota, Texas, Utah, Vermont, Washington, and Wisconsin.

### **Source Numbers**

221, 245, 274, 288, 300, 340, 350, 351, 352, 355, 359, 385, 440, 617, 718, 810, 813, 844, 850, 853, 864, 865, 867, 869, 882, 883, 888, 904, 926, 927, 936, 938, 954, 960, 962, 977, 1004, 1024, 1025, 1027, 1052



# Convenience Store/Gas Station - GFA (2-4k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday

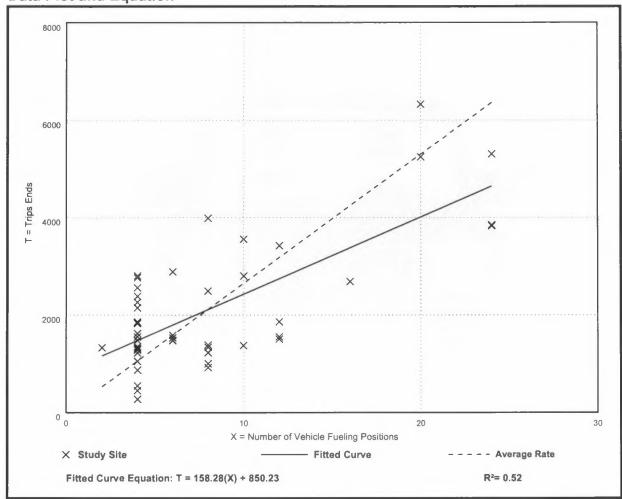
Setting/Location: General Urban/Suburban

Number of Studies: 48 Avg. Num. of Vehicle Fueling Positions: 8

Directional Distribution: 50% entering, 50% exiting

### **Vehicle Trip Generation per Vehicle Fueling Position**

Average Rate	Range of Rates	Standard Deviation
265.12	68.50 - 701.00	142.37





## Convenience Store/Gas Station - GFA (2-4k) (945)

**Vehicle Trip Ends vs: Vehicle Fueling Positions** 

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

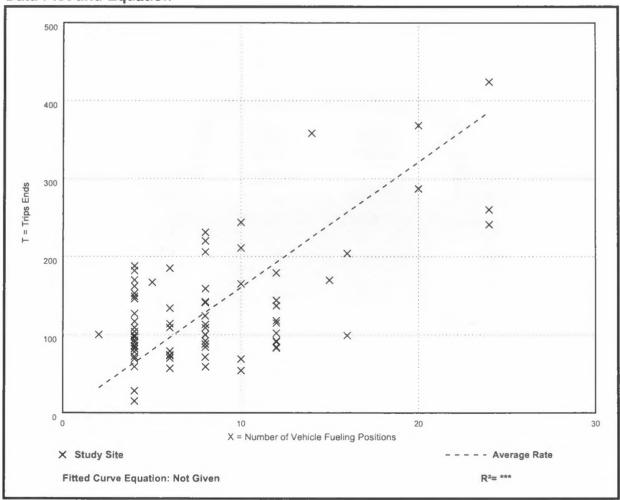
Number of Studies: 76

Avg. Num. of Vehicle Fueling Positions: 8

Directional Distribution: 50% entering, 50% exiting

### **Vehicle Trip Generation per Vehicle Fueling Position**

Average Rate	Range of Rates	Standard Deviation
16.06	3.75 - 50.00	8.79





# Convenience Store/Gas Station - GFA (2-4k) (945)

**Vehicle Trip Ends vs: Vehicle Fueling Positions** 

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

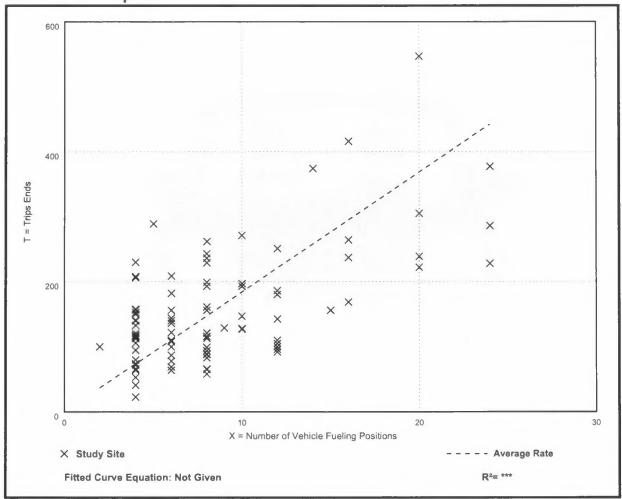
Number of Studies: 93

Avg. Num. of Vehicle Fueling Positions: 8

Directional Distribution: 50% entering, 50% exiting

### **Vehicle Trip Generation per Vehicle Fueling Position**

Average Rate	Range of Rates	Standard Deviation
18.42	5.75 - 57.80	10.16





	NCHRP 8-51 Internal Trip Ca	oture Estimation Tool	
Project Name:	Circle K and Taco Casa Development	Organization:	Leadership Traffic Services
Project Location:	Dallas, TX	Performed By:	Adrian Murphy
Scenario Description:	Build Out	Date:	4/6/2023
Analysis Year:	2024	Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Land Use	Developme	ent Data (For Info	rmation Only)		Estimated Vehicle-Trips	
Land Ose	ITE LUCs1	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	945	2	1000 SF	73	37	36
Restaurant	934	2	1000 SF	104	53	51
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
Total				177	90	87

		Table 2-A:	Mode Split and Veh	icle (	Occupancy Estimates		
Land Use		Entering Tr	ips		Exiting Trips		
Land Use	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized
Office							
Retail	1.00		0%		1.00		0%
Restaurant	1.00		0%		1.00		0%
Cinema/Entertainment							
Residential	1.00		0%		1.00		0%
Hotel	1.00		0%		1.00		0%
All Other Land Uses <sup>2</sup>							

	Table 3	-A: Average La	and Use Interchan	ge Distances (Feet Walking D	istance)	
Origin (From)				Destination (To)		
Origin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*								
Origin /Faren				Destination (To)				
Origin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel		
Office		0	0	0	0	0		
Retail	0		5	0	0	0		
Restaurant	0	3		0	0	0		
Cinema/Entertainment	0	0	0		0	0		
Residential	0	0	0	0		0		
Hotel	0	0	0	0	0			

Table 5-A: Computations Summary					
	Total	Entering	Exiting		
All Person-Trips	177	90	87		
Internal Capture Percentage	9%	9%	9%		
External Vehicle-Trips <sup>3</sup>	161	82	79		
External Transit-Trips <sup>4</sup>	0	0	0		
External Non-Motorized Trips4	0	0	0		

Table 6-A: Internal	Trip Capture Percenta	ges by Land Use
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	8%	14%
Restaurant	9%	6%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

Land Use Codes (LUCs) from Trip Generation Informational Report, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Circle K and Taco Casa Development
Analysis Period:	AM Street Peak Hour

		Table 7-A: Conv	ersion of Vehicle-Tri	p Ends to Person-Trip	Ends	
Land Use	Tat	ole 7-A (D): Enter	ing Trips		Fable 7-A (O): Exiting Trips	S
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	37	37	1.00	36	36
Restaurant	1.00	53	53	1.00	51	51
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.00	0	0	1.00	0	0

Origin (From)	1 30.0001	Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)  Destination (To)								
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		0	0	0	0	0				
Retail	10		5	0	5	0				
Restaurant	16	7		0	2	2				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0		0				
Hotel	0	0	0	0	0					

	Table 8-A (D	: Internal Pers	on-Trip Origin-De	stination Matrix (Computed a	t Destination)					
Origin (From)		Destination (To)								
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		12	12	0	0	0				
Retail	0		27	0	0	0				
Restaurant	0	3		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	6	11	0		0				
Hotel	0	1	3	0	0					

	Ta	ble 9-A (D): Inter	nal and External T	rips Summary (Entering	Trips)	
Destination Land Use	F	Person-Trip Estim	ates	External Trips by Mode*		
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0	0	0	0
Retail	3	34	37	34	0	0
Restaurant	5	48	53	48	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0

	Ta	able 9-A (O): Int	ernal and External	Trips Summary (Exiting T	rips)		
Origin Land Use	Person-Trip Estimates			External Trips by Mode*			
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>	
Office	0	0	0	0	0	0	
Retail	5	31	36	31	0	0	
Restaurant	3	48	51	48	0	0	
Cinema/Entertainment	0	0	0	0	0	0	
Residential	0	0	0	0	0	0	
Hotel	0	0	0	0	0	0	
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0	

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A <sup>2</sup>Person-Trips

<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator \*Indicates computation that has been rounded to the nearest whole number.

	NCHRP 8-51 Internal Trip Capture Estimation Tool						
Project Name:	Circle K and Taco Casa Development	Organization:	Leadership Traffic Services				
Project Location:	Dallas, TX	Performed By:	Adrian Murphy				
Scenario Description:	Buildout	Date:	4/6/2023				
Analysis Year:	2024	Checked By:					
Analysis Period:	PM Street Peak Hour	Date:					

Land Use	Developme	ent Data (For Info	rmation Only)	Estimated Vehicle-Trips		
Land Ose	ITE LUCs1	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	945	2	1000 SF	87	44	43
Restaurant	934	2	1000 SF	77	40	37
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
Total				164	84	80

			Mode Split and Vehic	cie Occ	cupancy Estimates		
Land Use		Entering Tr	ips		Exiting Trips		
Land Ose	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized
Office							
Retail	1.00		0%		1.00		0%
Restaurant	1.00		0%		1.00		0%
Cinema/Entertainment							
Residential	1.00		0%		1.00		0%
Hotel	1.00		0%		1.00		0%
All Other Land Uses <sup>2</sup>							

Origin (From)		Destination (To)								
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office										
Retail										
Restaurant										
Cinema/Entertainment										
Residential										
Hotel										

Table 4-P: Internal Person-Trip OrigIn-Destination Matrix*										
Origin (From)		Destination (To)								
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		0	0	0	0	0				
Retail	0		12	0	0	0				
Restaurant	0	15		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0		0				
Hotel	0	0	0	0	0					

Table 5-P: Computations Summary							
	Total	Entering	Exiting				
All Person-Trips	164	84	80				
Internal Capture Percentage	33%	32%	34%				
External Vehicle-Trips <sup>3</sup>	110	57	53				
External Transit-Trips <sup>4</sup>	0	0	0				
External Non-Motorized Trips <sup>4</sup>	0	0	0				

Table 6-P: Internal	Table 6-P: Internal Trip Capture Percentages by Land Use						
Land Use	Entering Trips	Exiting Trips					
Office	N/A	N/A					
Retail	34%	28%					
Restaurant	30%	41%					
Cinema/Entertainment	N/A	N/A					
Residential	N/A	N/A					
Hotel	N/A	N/A					

Land Use Codes (LUCs) from Trip Generation Informational Report, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Circle K and Taco Casa Development
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends							
Land Use	Table	e 7-P (D): Entering	Trips	-	Table 7-P (O): Exiting Trips	S	
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*	
Office	1.00	0	0	1.00	0	0	
Retail	1.00	44	44	1.00	43	43	
Restaurant	1.00	40	40	1.00	37	37	
Cinema/Entertainment	1.00	0	0	1.00	0	0	
Residential	1.00	0	0	1.00	0	0	
Hotel	1.00	0	0	1.00	0	0	

Origin (From)				Destination (To)		
Origin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		12	2	11	2
Restaurant	1	15		3	7	3
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Origin (From)	Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)  Destination (To)						
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel	
Office		4	1	0	0	0	
Retail	0		12	0	0	0	
Restaurant	0	22		0	0	0	
Cinema/Entertainment	0	2	1		0	0	
Residential	0	4	6	0		0	
Hotel	0	1	2	0	0		

Table 9-P (D): Internal and External Trips Summary (Entering Trips)							
Destination Land Use	Po	erson-Trip Estimate	es		External Trips by Mode*		
	Internal	External	Total		Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0		0	0	0
Retail	15	29	44		29	0	0
Restaurant	12	28	40		28	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	0	0	0		0	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses <sup>3</sup>	0	0	0		0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)							
Original and the	Pe	Person-Trip Estimates			External Trips by Mode*		
Origin Land Use	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>	
Office	0	0	0	0	0	0	
Retail	12	31	43	31	0	0	
Restaurant	15	22	37	22	0	0	
Cinema/Entertainment	0	0	0	0	0	0	
Residential	0	0	0	0	0	0	
Hotel	0	0	0	0	0	0	
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0	

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>2</sup>Person-Trips

<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

\*Indicates computation that has been rounded to the nearest whole number.

3.	Parking Demand Data

Location:	5526 E RL THORNTON FWY - CIRCLE K
Start Date:	3/30/2023
Start Time:	11:00AM
Name:	WENDELL GARRET
Notes:	The Striped Lanes Include Gas Station Pump Spots

	Total Capacity						
Start Time	Unstriped	Striped	ADA	TOTAL			
	10	3	1	4			

Start Time	Unstriped	Striped	ADA	TOTAL
11:00 AM	2	0	0	2
11:15 AM	1	0	0	1
11:30 AM	2	0	0	2
11:45 AM	2	0	0	2
12:00 PM	4	0	0	4
12:15 PM	2	0	0	2
12:30 PM	2	0	0	2
12:45 PM	2	0	0	2
1:00 PM	2	0	0	2

Start Time	Unstriped	Striped	ADA	TOTAL
5:00 PM	2	0	0	2
5:15 PM	2	0	0	2
5:30 PM	1	0	0	1
5:45 PM	1	0	0	1
6:00 PM	2	0	0	2
6:15 PM	3	0	0	3
6:30 PM	2	0	0	2
6:45 PM	1	0	0	1
7:00 PM	2	0	0	2

	12950 COIT RD - EXXON W TACO CASA
Start Date:	
Start Time:	11:00AM
Name:	CHASE BATTLE
Notes:	The Striped Lanes Include Gas Station Pump Spots

	Total Capacity					
Start Time	Unstriped	Striped	ADA	TOTAL		
	4	39	1	44		

TACO CASA QUEUE	
8	Ī

Start Time	Unstriped	Striped	ADA	TOTAL
11:00 AM	0	16	0	16
11:15 AM	0	15	0	15
11:30 AM	1	14	0	15
11:45 AM	0	18	0	18
12:00 PM	0	15	0	15
12:15 PM	1	18	0	19
12:30 PM	0	16	0	16
12:45 PM	0	20	0	20
1:00 PM	1	13	0	14

QUEUE
0
3
1
0
2
2
4
3
4

Start Time	Unstriped	Striped	ADA	TOTAL
5:00 PM	0	8	0	8
5:15 PM	0	9	0	9
5:30 PM	0	6	0	6
5:45 PM	3	14	1	18
6:00 PM	0	11	0	11
6:15 PM	1	15	1	17
6:30 PM	1	11	0	12
6:45 PM	0	9	0	9
7:00 PM	0	6	0	6

QUEUE	
0	
2	
1	
0	
0	
3	
0	
2	
0	