

Project Narrative Boyd Tavern Market | SP 2019-00006

Parcel Description: Tax Map 94 Parcel 39

Initial Submittal Date: May 20, 2019

Current Revision Date: December 10, 2019

Pre-Application Meeting Date: April 8, 2019

	ACREAGE	EXISTING ZONING	COMP PLAN DESIGNATION
TMP 94-39	12.49 Total Acreage 3.28 Commercially Zoned Portion	Primary: RA Secondary: C-1	Rural Area 4

Additional Zoning Considerations: Entrance Corridor (EC)

Location:

The property fronts on Black Cat Road and is directly adjacent to Interstate 64, just south of exit 129.

Project Proposal:

South Creek Investments, is the owner (the “owner”) of tax map parcel 94-39 in Albemarle County, a 3.28 acre portion of which is zoned for commercial use and is the subject of this special use permit application (the “property”). Tiger Fuel Company, Inc. (the “applicant”) is the lessor of the property and is applying for a special use permit to allow for a convenience store on property not served by public water or a central water supply system.

Tiger Fuel is an established local business in Central Virginia, offering petroleum products, as well as a variety of fresh market goods and deli options in their stores. Tiger Fuel was founded in Central Virginia in 1982 and over the past 38 years has grown to employ 270 people. Tiger Fuel has transformed the convenience store experience for local customers by offering freshly prepared deli sandwiches, hot meals, and an abundance of healthy fresh food options in their markets. A Tiger Fuel establishment is local by design, as a typical Tiger Fuel Market is of a scale that is complementary of existing neighborhood fabric, maintaining store footprints of less than 4,000 square feet in most locations, and by incorporating architectural elements that draw on inspiration from the local architectural landscape, incorporating muted colors and classic country store features like a wrap-around porch.

For this proposed Market location in particular, extra attention has been given to the design detail and an “Architectural Design Details Guidelines” package has been included with this special use permit request to provide design guidance for the proposed convenience store use. This package includes design elements such as a gas pump canopy with a pitched roof and design details that resemble a pole barn, a structure typical of the Rural Areas. Additionally, this package

includes proposed elevations that include a wrap-around porch, adequate façade transparency, and a façade that is oriented towards Black Cat Road. The site is designed to relegate the gas canopy to the side of the market building to allow for the market to be the prominent structure on the site. In the past few years, Tiger Fuel has made a conscious effort to incorporate green elements into the design of their facilities and this proposed facility will continue that conscious design effort by incorporating solar panels and EV chargers into the facility.

A Tiger Fuel Market at this location would serve a portion of the county that is heavily traveled but largely underserved with appropriate services for the area. Traditional rural crossroads communities often formed at the intersection of heavily traveled roadways and offered service businesses that catered to travelers and nearby residents. Located at the intersection of Black Cat Road and Interstate 64, this property has the infrastructural improvements that are representative of a traditional crossroads community and has the existing background traffic of 8,300¹ daily trips to support a service business in this area.

The Market is proposed to be a maximum of 4,000 square feet and will feature five gasoline pumps. A Tiger Fuel Market at this location would serve a variety of customers largely due to the strategic location of the property along a main commuter route for those east of Charlottesville. In addition to commuters, nearby residents, and travelers, a petroleum products retailer in this location would also serve those who partake in daily agrarian and property maintenance activities in the Rural Areas and require fuel to operate their equipment whether it is a farm truck, a delivery truck, lawn mower, tractor, or any other farm equipment powered by petroleum.

The Tiger Fuel Market will be a convenient service for nearby residents and commuters from east of town to grab a cup of coffee on the way to work or to pick up a freshly prepared to-go dinner and convenience items on the way home. A Tiger Fuel Market is a convenient service for the community and although limited in scope, provides the facilities, such as interior and porch seating, for people to gather in a space outside of their home.

Factors to be Considered for Special Use Permits:

No Substantial Detriment:

Traffic

The property is located between parallel road networks, Interstate 64 and Route 250, at the I-64 Exit 129 eastbound ramp. Interstate 64 and Route 250 are major travel routes and serve as main commuter routes to and from Charlottesville. This development is not likely to generate a significant amount of new traffic on Black Cat Road, but rather will pull in existing pass-by trips to provide service to those who would use these routes regardless of this development. Nearby residents may create new trips to pick up items from the convenience store, but these trips are expected to be minimal compared to the existing background traffic. In 2018, the .64 mile segment of Black Cat Road between Route 250 and Interstate 64 experienced AADT of 8300. Under VDOT's functional classification, Black Cat Road is considered to be a major collector, which are longer in length, establish higher speed limits, have higher annual average traffic volumes, and more travel lanes² than minor collectors. Major collectors can also be main connections to nearby towns and cities or with arterial routes, which are significant to supporting intra-county travel. Black Cat Road's functional classification as well as its AADT indicates that a significant portion of traffic already accesses I-64 from points south on Black Cat Road, and it is expected for this convenience store/gas station use to capture some of those existing trips, and therefore not contribute substantially to the detriment of existing traffic patterns. Site access and entrances will comply with VDOT standards. A left turn taper and right turn lane will facilitate maneuvers into and out of the site and allow for traffic to flow by the site unobstructed.

¹ https://www.virginiadot.org/info/resources/Traffic_2018/AADT_002_Albemarle_2018.pdf

² https://www.virginiadot.org/Functional_Classification_Comprehensive_Guide.pdf

Hours of Operation

The hours of operation will be from 5 a.m to 11 p.m.

Lighting

The convenience store/gas station use will comply with Section 4.17 of the Albemarle County Zoning Ordinance to ensure that no substantial detriment to neighboring properties from lighting will occur.

Building Design

As aforementioned the design of a Tiger Fuel Market is local by design, and the design of this particular Market has been given extra attention to ensure the design of structures on the property are complementary of the existing architectural landscape and account for design elements that are prominent in the rural areas. For example, the gas canopy is designed to feature elements that are similar to a pole barn, a structure that is a staple on many farms in the rural areas. The building and site design has been discussed with County Staff on several occasions and based on these conversations revisions to the site and building design have been incorporated into this Special Use Permit Application. To reiterate, the building design will incorporate green elements like solar panels which will reduce the Market's dependency on electricity. The façade of the Market will engage Black Cat Road and this façade will feature a minimum of 17% transparency. The site design establishes a program that relegates the gas canopy to the site of the market structure and internally orients on-site parking so that headlights from parked cars do not direct light onto neighboring properties.

Water Use

The following table has been prepared to share comparative water usage data for the proposed convenience store use compared to various other by-right uses on the property.

By-Right Uses	Daily Water Usage Rates
Single-family detached (4-person household, 4 houses on ~9.2 acres)	1600 gpd (100 gpd/person) ³
Retail Nurseries & Greenhouses (5-3,000 sq. ft. greenhouses with 2,400 sq. ft. of benches within)	3,600~4,800 gpd ⁴
Indoor Theaters (250 seats)	1,250 gpd (5 gpd/seat) ¹
Laundromat (10 washers)	5,000 gpd (500 gpd/machine) ¹
Winery (4-acre lot, vineyard/orchard irrigation estimates only)	4,353 gpd ⁵
Special Use Permit – Convenience Store Use	Daily Water Usage Rates
Tiger Fuel @ Boyd Tavern	644 gpd ⁶

The proposed Tiger Fuel Market is anticipated to use an average of 644 gallons of water per day. This number was derived from Tiger Fuel's Ruckersville location. The Market at Ruckersville is Tiger Fuel's newest location and provides a good comparison for water usage since the Boyd Tavern location would incorporate much of the same modern low-flow fixtures that are installed at the Ruckersville location. The Ruckersville location does feature a car wash however, a car wash is not proposed at the Boyd Tavern location and so the water usage data provided for the Ruckersville location is

³ <https://law.lis.virginia.gov/admincode/title12/agency5/chapter590/section690/>

⁴ <https://ag.umass.edu/greenhouse-floriculture/fact-sheets/sizing-greenhouse-water-system>

⁵ <https://www.lakecountycva.gov/Assets/Departments/CDD/Wild+Diamond+Vineyards/FEIR+AppendixD-C.pdf>

⁶ Ruckersville Tiger Fuel Market Readings 8.10.2019 – 11.19.2019 (see attachment A)

exclusive to the Market to provide a more accurate representative comparison. Previously, water consumption data was provided with the initial site development plan and these numbers were taken from water usage data from the Mill Creek and Bellair market locations. Since the Ruckersville location is now in operation and has compiled several months of water usage data, we have included that to estimate the average daily water usage for the Boyd Tavern Location. It should be noted that the Ruckersville location at the intersection of Route 29 and Route 33 sees a significantly greater amount of traffic than the Boyd Tavern Location; according to VDOT AADT data, there are 29,000 vehicle trips per day on Route 29 from the Albemarle County line to US-33 Spotswood Trail and there are 19,000 trips on US-33 from Amicus Road to the intersection with Route 29, and so although the Boyd Tavern location will include the same or similar fixtures to the Ruckersville location, the average daily water usage may be less since there is less traffic at the Boyd Tavern location.

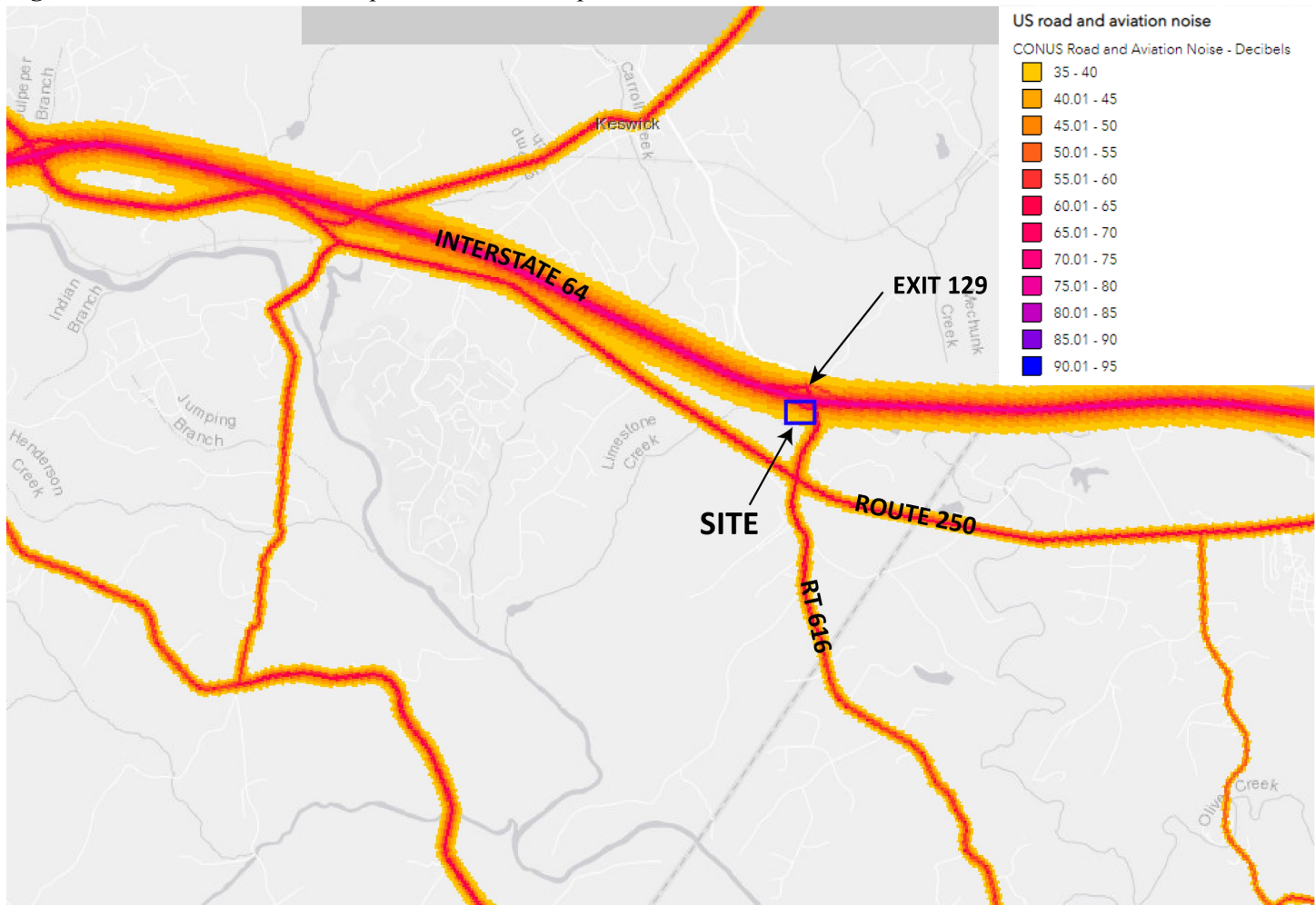
A number of by-right uses possible on the property have significantly higher rates of daily water demand, compared to the convenience store use of a Tiger Fuel Market. The property has split zoning between Rural Areas and C-1 Commercial. The RA portion of the site is approximately 9.2 acres, and with four development rights, could be developed with four single family homes. Four single-family detached homes, with four people per household, would approximate 1,600 gallons of water usage per day. The C-1 portion of the site allows for by-right uses such as offices, child day centers, indoor theaters, retail nurseries and greenhouses, and laundromats. Several of these by-right uses have been included in the above water usage table for comparative purposes. A retail nursery or greenhouse uses about 0.3-0.4 gallons per day per square foot. Within 3.28 acres, about five 3,000 sq. ft. greenhouses with parking could comfortably fit on-site, which estimates about 3,600-4,800 gpd. Similarly, a winery on a 4-acre lot uses over 4,000 gpd, when only analyzing vineyard and orchard irrigation estimates; this does not take into account processes of pressing, fermentation, tasting facilities, employee use, etc. The winery data was taken from an environmental impact report submitted to Lake County, California, which provided existing vineyard and orchard water demand per acre. An indoor theater with 250 seats would use about 1,250 gpd and a small laundromat with 10 washers would use 5,000 gpd. These by-right uses comparatively have greater water demands than the proposed Tiger Fuel Market.

Sounds & Smells

Sounds on-site will likely be attributable to guests accessing and exiting the site. Hours of operation will limit excess noises to the surrounding area. Due to the site's proximity to Interstate 64 there is existing background noise on the property from vehicles traveling on Black Cat Road and Interstate 64. The US Department of Transportation's National Transportation Noise Map shows that the noise level covering most of the site looks to be between 45-65 decibels and that the portions of the site directly adjacent to the interstate experience noise that is closer to 70-75 decibels (Figure 1). For comparative purposes, an urban residence typically experiences noise of 50 decibels, normal conversation is approximately 60 decibels, and busy traffic is approximately 70 decibels.

Any smells that would be objectionable to a patron of the convenience store/gas station will also be objectionable to a neighbor. It is well in the interest of the business for smells to be closely monitored and controlled, ensuring that neighbors will be protected from unpleasant smells as well.

Figure 1. USDOT National Transportation Noise Map



Character of Nearby Area is Unchanged:

Careful attention has been given to the design of the structures on the site and the design of the site itself; design details such as a gas canopy representative of a pole barn with a pitched roof and a market structure that establishes a site hierarchy where the market is the prominent structure on the site by relegating the canopy to the side of the market building and incorporating ample façade transparency on the market building façade adjacent to Black Cat Road. There is already background traffic in this area to support this local business and it is not expected for this use to be a destination and attract additional vehicular trips to the area. Compliance with lighting and noise regulations will further provide assurance that the character of the area will be maintained.

Historically, the character of the rural areas was comprised of a variety of complementary service uses that supported the agrarian economy and the people who lived in the rural areas. A Tiger Fuel Market in this location would serve the surrounding community and would be reminiscent of historic land use patterns where country stores were often built at the intersection of major routes.

Harmony:

The concept plan has been refined through continued discussions with County Staff to create a development that will complement the existing fabric and will establish site program that will facilitate successful business functions. The proposed architecture of the market seeks to evoke a country store feel that is harmonious with the surrounding rural landscape. The property will adhere to Entrance Corridor guidelines, including a landscape design that screens parking areas and establishes an attractive street frontage adjacent to Black Cat Road. The visibility of the site from Black Cat

Road has been discussed with Staff on several occasions and from these conversations, we have established a street frontage that will not only feature a detailed landscape design but will also feature a three board fence to evoke a rural feel of the site when viewed from Black Cat Road.

Consistency with the Comprehensive Plan:

A Tiger Fuel Market at this location is consistent with the Comprehensive Plan in the following ways:

Chapter 6 Economic Development

- *Strategy 4c: Explore opportunities to assist with redevelopment of underutilized commercial and industrial zoned properties.* There are limited commercially zoned properties in the Rural Areas and these properties offer the opportunity to serve nearby residents. A Tiger Fuel Market on this property would generate real estate taxes on a significantly improved commercial property, as opposed to the tax generation from the site today, and Tiger Fuel would generate business taxes from this location.
- *Strategy 3i: Acknowledge and support the work of companies that help achieve sustainability goals for the County.* Tiger Fuel is committed to supporting the County's sustainability goals and will incorporate green elements into their design at this location, including solar panels and EV chargers. Tiger Fuel is a member of the Green Business Alliance through C3 (Charlottesville Climate Collaborative) and is committed to supporting the shared climate action commitment shared by the business members of this alliance who are committed to "managing their energy use, reducing costs, mitigating risk, and reducing their climate impact."⁷
- *Strategy 1e: Encourage all businesses to adopt environmentally sustainable business practices.* Tiger Fuel's role in the Green Business Alliance and their use of solar panels and low flow fixtures at their other business locations exemplifies the company's consistency with Strategy 1e.

Chapter 7 Rural Areas

Although this property was not part of the 2003 Survey of Historic Crossroads Communities, there are consistencies with the proposed Tiger Fuel Market on this property and Objective 5 outlined for crossroads communities. Objective 5 includes subsequent text that explains the evaluation and understanding of the benefits of limited commercial uses in crossroads communities have not yet been fully vetted and require further study.

- *Objective 5: Recognize and support crossroads communities, which serve as rural-scale community meeting places and provide opportunities for residents to take part in community life.* A Tiger Fuel Market in this location could serve as a gathering place for nearby residents to meet over a cup of coffee or lunch and a market here would provide convenient access for nearby residents to household convenience items.

Neighborhood Impacts:

Impacts on Public Facilities and Infrastructure:

It is anticipated most of the traffic affiliated with the development will be pass-by trips. The parcel is located along one of the major commuter routes to Charlottesville for those traveling from eastern Albemarle and Fluvanna Counties. This use on this property is not a destination and it is anticipated many customers will already be on the road and will not be generating new trips solely for a visit to the convenience store. A few nearby residents may generate new trips, traveling out solely to purchase goods from the store, but these 'new' trips will be far fewer than the pass-by trips, therefore the use will be suitable for existing roads. The site development will comply with VDOT regulations and will feature entrance and turn lane improvements to facilitate vehicular movements to and from the site.

Impacts on Environmental Features:

The stormwater management plan will comply with all applicable DEQ and Albemarle County WPO regulations.

⁷ <https://www.cvilleclimate.org/businesses-1>

Lighting

All outdoor lighting will comply with Albemarle County regulations. Development on the property will be subject to ARB review and approval and lighting on the site will be further evaluated during ARB review.

Schools

There are no residences proposed on the property and therefore as a result of the proposed development, there will be no additional pupils enrolled in Albemarle County Public Schools.

ATTACHMENT A: Ruckersville Tiger Fuel Market Water Usage

DATE:	TIME:	READING	USAGE
8/17/2019	803	5077	583
8/18/2019	740	5660	580
8/19/2019	735	6240	544
8/20/2019	740	6784	533
8/21/2019	700	7317	583
8/22/2019	815	7900	620
8/23/2019	715	8520	800
8/24/2019	735	9320	760
8/25/2019	720	10080	730
8/26/2019	715	10810	510
8/27/2019	625	11320	690
8/28/2019	700	12010	630
8/29/2019	640	12640	570
8/30/2019	815	13210	770
8/31/2019	809	13980	730
9/1/2019	738	14710	690
9/2/2019	836	15400	860
9/3/2019	715	16260	610
9/4/2019	755	16870	520
9/5/2019	728	17390	580
9/6/2019	710	17970	680
9/7/2019	700	18650	630
9/8/2019	700	19280	570
9/9/2019	635	19850	620
9/10/2019	535	20470	570
9/11/2019	710	21040	530
9/12/2019	639	21570	530
9/13/2019	710	22100	730
9/14/2019	605	22830	700
9/15/2019	710	23530	630
9/16/2019	650	24160	630
9/17/2019	650	24790	560
9/18/2019	705	25350	520
9/19/2019	550	25870	750
9/20/2019	710	26620	640
9/21/2019	635	27260	700
9/22/2019	635	27960	610
9/23/2019	655	28570	610
9/24/2019	710	29180	800
9/25/2019	710	29980	1180
9/26/2019	705	31160	790
9/27/2019	715	31950	0
9/28/2019			0

9/29/2019	710	32660	650
9/30/2019	708	33310	550
10/1/2019	705	33860	630
10/2/2019	710	34490	850
10/3/2019	715	35340	620
10/4/2019	730	35960	660
10/5/2019	715	36620	700
10/6/2019	710	37320	610
10/7/2019	700	37930	690
10/8/2019	710	38620	630
10/9/2019	715	39250	600
10/10/2019	710	39850	510
10/11/2019	710	40360	720
10/12/2019	732	41080	830
10/13/2019	800	41910	750
10/14/2019	710	42660	610
10/15/2019	710	43270	670
10/16/2019	725	43940	570
10/17/2019	700	44510	520
10/18/2019	710	45030	700
10/19/2019	700	45730	800
10/20/2019	700	46530	700
10/21/2019	710	47230	620
10/22/2019	715	47850	620
10/23/2019	715	48470	620
10/24/2019	715	49090	550
10/25/2019	715	49640	710
10/26/2019	720	50350	690
10/27/2019	710	51040	630
10/28/2019	710	51670	710
10/29/2019	715	52380	610
10/30/2019	720	52990	810
10/31/2019	720	53800	500
11/1/2019	715	54300	720
11/2/2019	715	55020	690
11/3/2019	635	55710	600
11/4/2019	710	56310	530
11/5/2019	650	56840	570
11/6/2019	700	57410	600
11/7/2019	715	58010	540
11/8/2019	700	58550	660
11/9/2019	655	59210	700
11/10/2019	645	59910	610
11/11/2019	700	60520	550
11/12/2019	710	61070	560
11/13/2019	715	61630	580

11/14/2019	720	62210	500
11/15/2019	740	62710	570
11/16/2019	745	63280	600
11/17/2019	740	63880	630
11/18/2019	649	64510	500
11/19/2019	725	65010	
		DAILY AVG:	643.73

Zeros have been eliminated from daily average.



May 7, 2018

Mr. Adam Moore, P.E.
Virginia Department of Transportation
701 VDOT Way
Charlottesville, VA 22911

**Regarding: Boyd Tavern
Right and Left-Turn Warrant Analysis**

Mr. Moore,

Please find enclosed a warrant analysis for the proposed Market at Boyd Tavern off of State Route 616 Black Cat Road between I-64 and U.S. 250 Richmond Road.

The following items are included with this report:

- VDOT Traffic Data
- ITE Trip Generation Summary
- Warrant Analysis Exhibit
- OTISS Trip Generation Reports

Our analysis shows that a full right turn lane and taper as well as a left turn lane are warranted for this project.

If you have any questions you may contact me at justin@shimp-engineering.com or by phone at 434-953-6116.

Best Regards,

Justin Shimp
Shimp Engineering, P.C.

The table below summarizes the 2016 VDOT traffic data for the 0.64 mile segment of Black Cat Road between I-64 and US 250 Richmond Road, which was used to calculate the peak hour volume (PHV) approaching for the warrant analysis.

Table 1. VDOT traffic data summary – Black Cat Road

AADT	8000
K factor	0.1447
D factor	0.8908
PHV (AADT*K*D)	1031

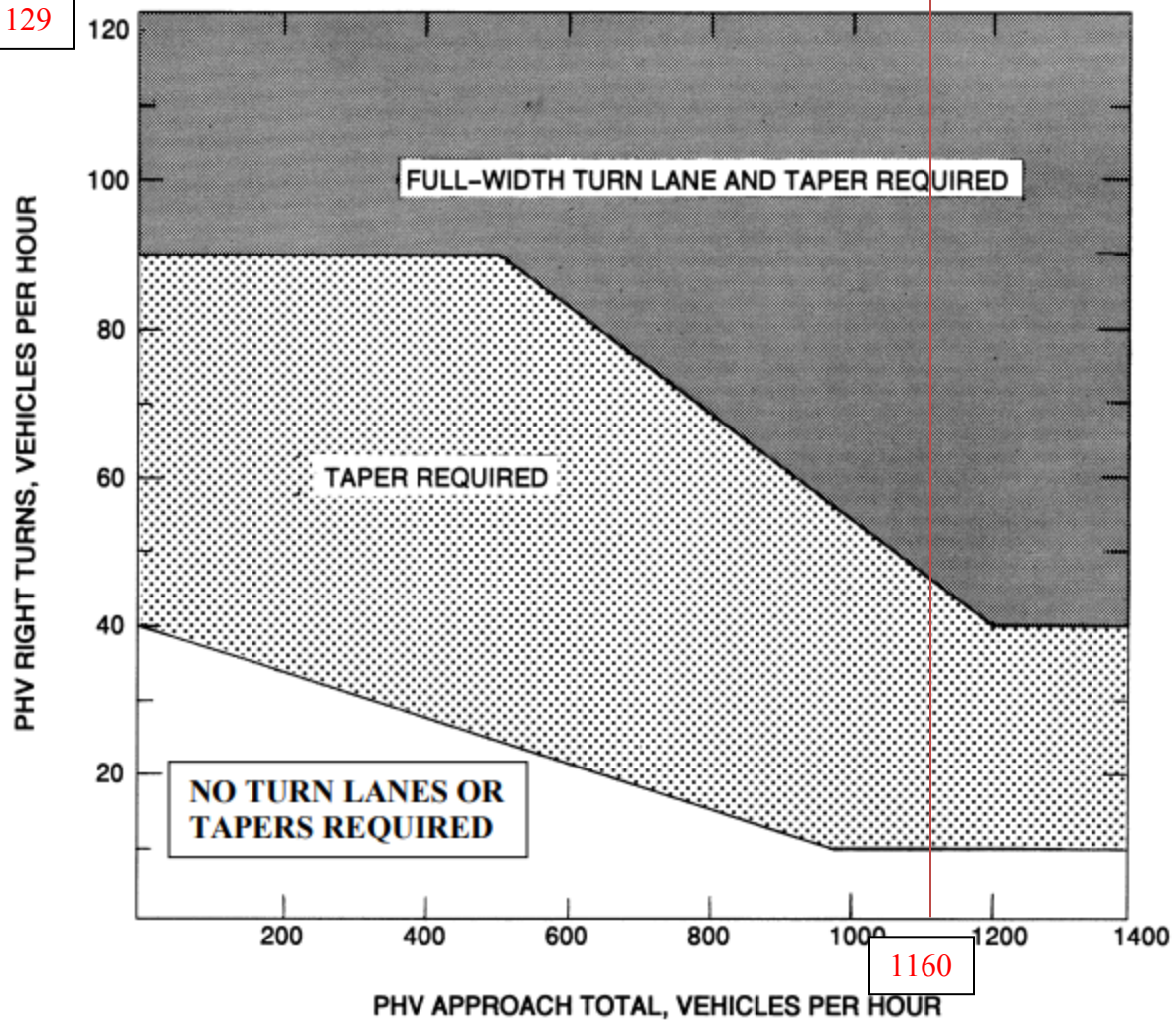
Below is the ITE trip generation summary table that was used in combination with the direction factor of Black Cat Road to determine the PHV right and left turns into the establishment. The OTISS graphs showing the source of this information are included as Figures 3 and 4.

Table 2. ITE trip generation summary table

			AM			PM		
Use Description	ITE	Qty	in	out	Total	in	out	Total
Gas/Convenience	945	3739 SF	122	118	240	145	145	290
Right Turn			13			129		
Left Turn			109			16		

The higher number of right and left turns into Boyd Tavern Market was used in the right and left turn lane warrant analysis, shown in Figures 1 and 2 below.

129



1160

Figure 1. Warrant for right turn treatment (2-lane highway)

The figure above shows that a turn lane and taper is required for the site. The right turns were taken from Table 2, and the PHV approach total includes additional traffic that is to be generated by the site.

Warrants for Left Turn Storage Lanes on Two-Lane Highways

Advancing volume and opposing volumes (VPH), speed and percent left turns are used to determine whether a left turn storage lane is warranted on two-lane highways.

The warrants in table below are taken from the 2011 AASHTO Green Book, Chapter 9, Section 9.7.3, Page 9-132, Table 9-23. They were derived from Highway Research Report No. 211, Figures 2 through 19, for required storage length determinations.

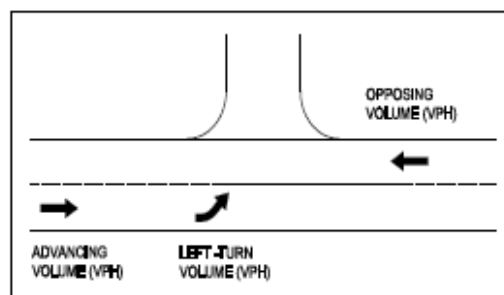
WARRANTS FOR LEFT TURN LANES ON TWO-LANE HIGHWAYS

VPH OPPOSING VOLUME	ADVANCING VOLUME			
	5% LEFT TURNS	10% LEFT TURNS	20% LEFT TURNS	30% LEFT TURNS
40-MPH DESIGN SPEED*				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50-MPH DESIGN SPEED*				
800	280	210	165	135
600	350	280	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60-MPH DESIGN SPEED*				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

TABLE 3-1

Source: Adapted from 2011 AASHTO Green Book, Chapter 9, Section 9.7.3, Page 9-132, Table 9-23

* USE DESIGN SPEED IF AVAILABLE, IF NOT USE LEGAL SPEED LIMIT.*



Example:

Two-lane highway with 40-MPH operating speed

Opposing Volume (VPH) - 600
Advancing Volume (VPH) - 440
Left-Turn Volume (VPH) - 44 or 10% of Advancing Volume

With opposing volume (VPH) of 600 and 10% of advancing volume (VPH) making left turns, and advancing volume (VPH) of 305 or more will warrant a left-turn lane.

When the Average Running Speed on an existing facility is available, the corresponding Design Speed may be obtained from [Appendix A, Section A-1](#).

* Rev. 7/14

Figure 2. Warrant for left turn lane (2-lane highway)

The highest amount of left turns into Boyd Tavern is estimated in the morning, with 109 left turns out of a total 1,140 vehicles advancing. The opposing volume at that time is approximately 140 cars. Figure 2 above shows that for a 45 MPH road with 10% of advancing volume being left turns, the threshold of advancing vehicles is 400. Therefore, a left taper is warranted for Boyd Tavern.

The following two figures display the source of the estimated trips generated by Boyd Tavern Market.

Figure 3. OTISS trip generator A.M. peak hour

Gasoline/Service Station With Convenience Market (945)

AVERAGE VEHICLE TRIP ENDS VS:
1000 Sq. Feet Gross Floor Area

ON A:
Weekday
A.M. Peak Hour of Generator

DIRECTIONAL DISTRIBUTION:
51% entering, 49% exiting

Data Plot and Equation

All calculated values are based on the selected Private Data Set.

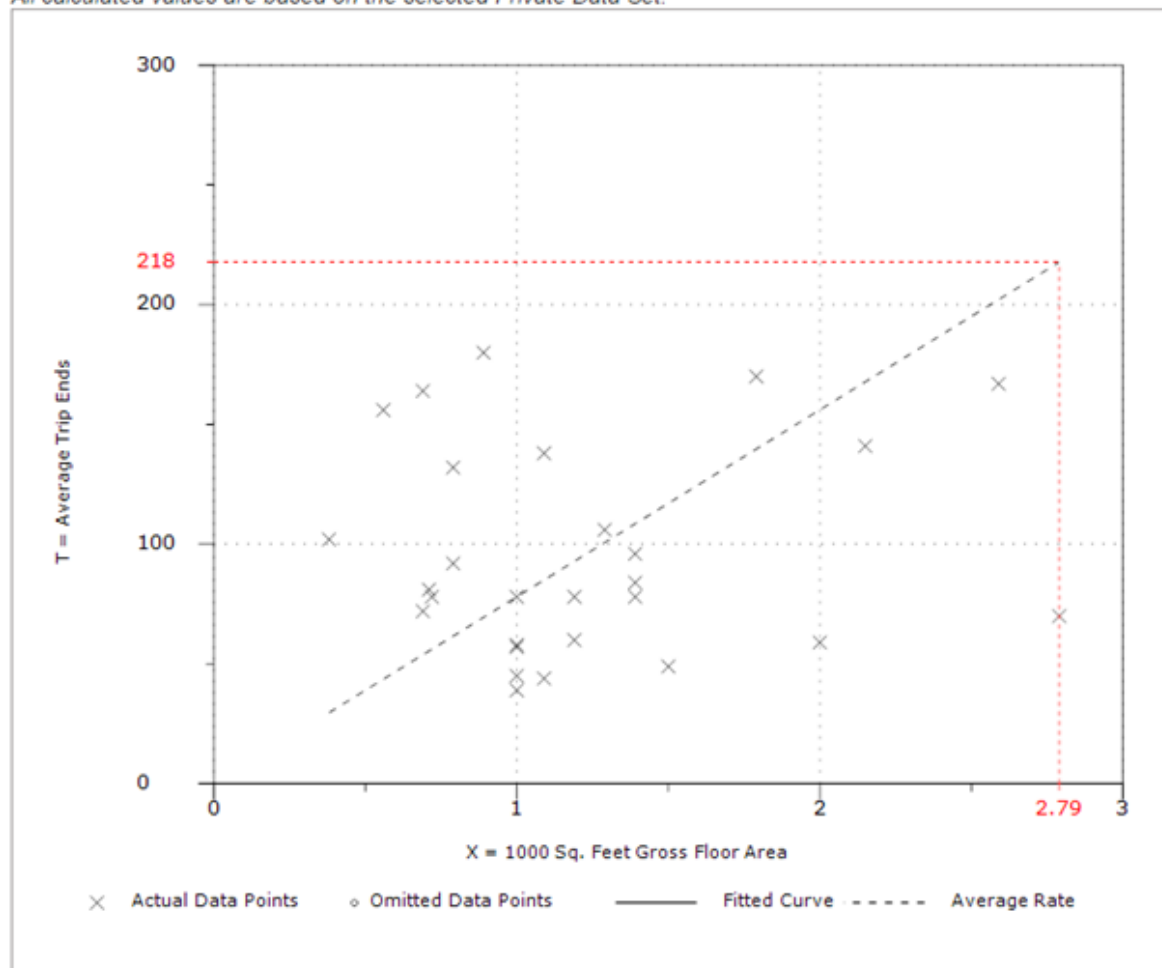


Figure 4. OTISS trip generator P.M. peak hour

Gasoline/Service Station With Convenience Market (945)

AVERAGE VEHICLE TRIP ENDS VS:
1000 Sq. Feet Gross Floor Area

ON A:

Weekday

P.M. Peak Hour of Generator

DIRECTIONAL DISTRIBUTION:

50% entering, 50% exiting

Data Plot and Equation

All calculated values are based on the selected Private Data Set.

