

MEMORANDUM

To: Mr. George Novogroder
From: Peter Lemmon, P.E., PTOE
Katie Biggs, EIT
Date: May 18, 2020
RE: Proposed PetSuites
Trip Generation Evaluation
Arlington Heights, Illinois

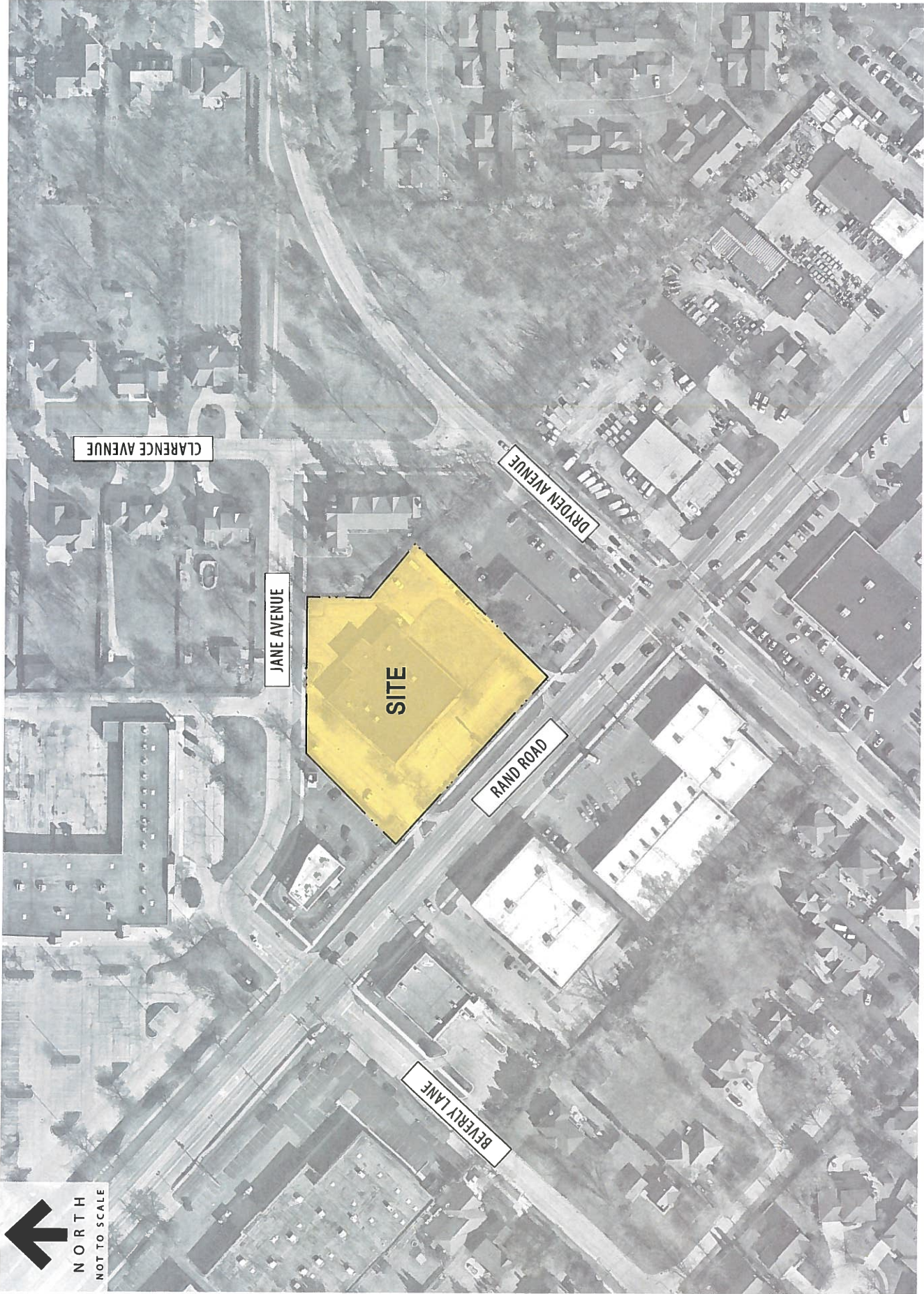
INTRODUCTION

On behalf of Novogroder Companies, Inc, Kimley-Horn and Associates, Inc. (Kimley-Horn) has prepared a traffic evaluation for a proposed adaptive re-use of a vacant retail property generally located at the northern quadrant of Rand Road and Dryden Road in Arlington Heights, Illinois. The subject site location is illustrated in **Exhibit 1**.

The proposed redevelopment plan includes improving the existing property as a daycare, boarding, and grooming facility for dogs and cats, known as PetSuites. The development plan includes re-use of the existing building, formerly occupied by a liquor store, and continued use of the existing parking spaces and three access driveways that currently serve the site.

This memorandum summarizes the proposed redevelopment plan, documents the methodology and evaluation of traffic characteristics associated with the proposed plan relative to the previous liquor store use, and summarizes key findings of the evaluation.






NORTH
NOT TO SCALE

PROPOSED PLAN

The proposed redevelopment plan includes an approximately 16,000-square-foot PetSuites that adaptively re-uses an existing vacant retail space previously occupied by a liquor store. The proposed use provides daycare, boarding, and grooming services for dogs and cats. The redevelopment plan includes continued availability of 78 existing parking spaces, including three ADA-accessible spaces. The proposed plan also maintains the three access driveways that currently serve the property – two right-in/right-out driveways on Rand Road and one full access driveway on the north side of the site via Jane Avenue. A copy of the proposed site plan is provided as **Attachment 1**.

Operationally, the proposed PetSuites is expected to have approximately 10 staff members on site throughout the day and typically 50-70 customers who drop off and pick up their pets each day. Based on PetSuites' experience at other sites, customers are typically parked for up to five minutes while dropping off and picking up. The proposed hours of operation are 6:30 AM-8:00 PM daily. Based on the typical pet drop-off/pick-up times, the proposed use is anticipated to have similar peak hour traffic characteristics as the adjacent street network. Thus, the weekday morning peak hour is expected to occur between 7:00 and 9:00 AM and the evening peak hour is expected to occur between 4:00 and 6:00 PM.

TRAFFIC EVALUATION

Study Methodology

Based on a scope outline provided to the development team by the Village, the traffic evaluation of the proposed PetSuites redevelopment focuses on a relative comparison to the previous use of the subject site, Teddy's Liquors, and a review of the proposed plan with respect to its ability to serve the proposed pet daycare, boarding, and grooming use.

At the time of this study, the building on the subject site was vacant. Thus, a count of traffic generated by the liquor store was not available. To prepare a comparison, trip generation estimates for the previous and proposed uses were developed referencing industry-available data from similar land uses and existing PetSuites locations. From an operational perspective, the site plan is also reviewed in association with the anticipated use of parking for employees and customers, drop-off/pick-up accommodations, and circulation through the site.

Trip Generation Comparison

The Institute of Transportation Engineers (ITE) Manual *Trip Generation, 10th Edition* is a collection of traffic count data collected at sites throughout the United States for a range of land uses based on building floor area, unit count, and other relevant variables. As previously noted, the subject site is currently vacant, but was last occupied by Teddy's Liquors. To estimate the number of vehicle trips that would be generated by a liquor store occupying the approximately 16,000-square-foot building on the site, Kimley-Horn referenced *Trip Generation, 10th Edition*. The manual includes trip generation data for "Liquor Store", classified as land use code (LUC) 899, for daily and weekday PM peak hour periods; the AM peak hour and weekend trip rates are not available. In addition to liquor

stores, an alternative land use code was also reviewed for comparison. LUC 820 (Shopping Center) is a broad retail category, that in the current edition of *Trip Generation*, represents neighborhood community retail uses as well as large shopping centers. Considering trip generation for a more general retail use provides comparisons for weekday morning and Saturday midday peak hours while also providing context for comparing traffic for the proposed PetSuites to an alternative use that could be located at the subject site.

Table 1 provides trip generation rates for the Liquor Store and Shopping Center uses based on *Trip Generation, 10th Edition* data. The estimated number of trips for the previous tenant and alternative use is summarized in **Table 2**.

Trip Generation, 10th Edition does not provide data for a use that directly correlates to PetSuites. Pet-oriented uses are limited to LUC 640 (Animal Hospital/Veterinary Clinic) and LUC 866 (Pet Supply Superstore). The ITE land use descriptions provided for each of these uses is inconsistent with the proposed use. Based on the unique characteristics of the proposed land use, empirical data previously collected from similar PetSuites locations was referenced.

The empirical trip generation rates are based on data supplied by PetSuites for three existing facilities in the vicinity of Indianapolis, Indiana. The counts were conducted on a typical weekday and a typical Saturday. A summary of the data collected at the existing PetSuites locations is presented in **Table 3**. Based on the data provided for the three existing PetSuites facilities and the associated floor areas, empirical trip generation rates were derived as summarized in **Table 4**. Finally, **Table 5** summarizes the projected trip generation of the proposed PetSuites and highlights a comparison to the previous liquor store use and a similar alternative retail use.

Table 1. ITE Trip Generation Rates for LUC 899 and 820

Land Use	Daily	AM Peak Hour	PM Peak Hour
<i>Weekday</i>			
Liquor Store (LUC 899)	T = 101.49X 50% in / 50% out	N/A	T = 16.37X 50%in / 50% out
Shopping Center (LUC 820 ¹)	Ln(T) = 0.68 Ln(X) + 5.57 50% in / 50% out	T = 0.94X ² 62% in/38% out	Ln(T) = 0.74 Ln(X) + 2.89 48% in / 52% out
Land Use	Daily	Peak Hour of Generator	
<i>Saturday</i>			
Liquor Store (LUC 899)	N/A	N/A	
Shopping Center (LUC 820 ¹)	Ln(T) = 0.62 Ln(X) + 6.24 50% in / 50% out	Ln(T) = 0.79 Ln(X) + 2.79 52% in / 48% out	

¹ Fitted equations are for LUC 820 used when R² value for the fitted curve is greater than 0.70

² The average rate is used for Weekday AM Peak Hour. The R² value for the corresponding fitted equation is 0.50.

T Number of Trips

X 1,000 square feet of gross floor area

Table 2. Peak Hour Trip Generation of Previous Tenant and Alternative Use¹

Land Use	Unit	Weekday							Saturday			
		Daily	AM Peak Hour			PM Peak Hour			Daily	Peak Hr of Generator		
			In	Out	Total	In	Out	Total		In	Out	Total
<i>Previous Use</i>												
Liquor Store	16,000 sf	1,625	N/A			130	135	265	N/A	N/A		
<i>Alternative Use</i>												
Shopping Center	16,000 sf	1,730	10	10	20	70	75	145	2,860	80	70	150

¹ Trip generation estimates are rounded to the nearest multiple of five for the purpose of this study

N/A Not Available

Table 3. Peak Hour Trip Generation at Existing PetSuites

Location ¹	Typical Weekday							Typical Saturday						
	Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak			PM Peak Hour		
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
Zionsville, IN	98	5	4	9	6	7	13	95	7	7	14	3	4	7
Fishers, IN	276	15	14	29	4	5	9	257	18	18	36	6	6	12
Greenwood, IN	121	8	7	15	3	3	6	128	11	10	21	8	9	17
Average	165	9	9	18	4	5	9	160	12	12	24	6	6	12

¹ Each existing location is approximately 22,000 square feet.

Table 4. Empirical PetSuites Trip Generation Rates

Land Use	Typical Weekday			Typical Saturday		
	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
PetSuites	T = 7.50X 50% in / 50% out	T = 0.80X 50% in / 50% out	T = 0.42X 50% in / 50% out	T = 7.27X 50% in / 50% out	T = 1.08X 50% in / 50% out	T = 0.55X 50% in / 50% out

Table 5. Trip Generation Comparison (Proposed PetSuites vs. Previous/Alternative Use)

Location ¹	Typical Weekday							Typical Saturday							
	Daily	AM Peak Hour			PM Peak Hour			Daily	Peak Hour of Generator						
		In	Out	Total	In	Out	Total		In			Out			
<i>Previous Use</i>															
Liquor Store	1,625	N/A			130	135	265	N/A	N/A						
<i>Alternative Use</i>															
Shopping Center	1,730	10	10	20	70	75	145	2,860	80	70			150		
Use	Daily	AM Peak Hour			PM Peak Hour			Daily	PM Peak Hour			AM Peak Hour			
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total	
<i>Proposed Use</i>															
PetSuites	120	10	5	15	5	5	10	115	10	10	20	5	5	10	
Difference (Proposed – Previous)	-1,505	N/A			-125	-130	-255	N/A	N/A			N/A			
Difference (Proposed – Alt Use)	-1,610	-	-5	-5	-65	-70	-135	-2,745	-70	-60	-130	-75	-65	-140	

¹ Peak hour trip generation was rounded up to the nearest multiple of five for the purpose of this study

As shown in Table 3, counts from three existing PetSuites locations indicates that peak hour trip generation is generally low with the highest-volume site generating 29 trips during the weekday morning and 36 trips during the Saturday morning. Using the average trip rates from the three existing sites, the proposed redevelopment is estimated to generate a total of approximately 10-20 trips (5-10 inbound, 5-10 outbound) during the weekday and Saturday peak hours. These projections are lower than projections for a liquor store or shopping center of similar size. Considering the differences in peak hour traffic highlighted in Table 5, the proposed PetSuites is not expected to negatively impact the site access points and nearby intersections relative to the previous liquor store or a retail re-use.

Site Plan Review

The redevelopment plan proposes to maintain the 78 parking spaces currently located on site. The site is expected to have up to 10 employees working at one time. Typical customer volumes are 50-70 per day, but the maximum capacity is approximately double that customer volume and higher levels of customer volumes are typically experienced 1-2 days before and after holidays when customers drop off and pick up pets while out of town.

Considering the expectation of 10 employees, the maximum level of customers (assume 150 in a day), and a typical drop-off or pick-up duration of up to five minutes, the entire customer activity would have to be concentrated in an approximately 10-minute period to exceed the parking capacity on site. In such an unlikely scenario, 68 of the 78 total spaces (after accounting for 10 employees) would be available to serve 150 customers. If each customer is parked for 5 minutes/customer, the 150 daily customers would finish using the non-employee parking spaces in just over 10 minutes. Since customer traffic is more spread out over a morning or afternoon, the proposed 78-space lot is

expected to be more than adequate to serve the site. However, to maximize convenience, employee parking spaces are recommended to be designated in the northern portion of the lot so that spaces most proximate to the building entrance are available for customer drop-off/pick-up activity; thus, helping to maximize convenience also limits time needed for each customer to drop off or pick up their pet.

The proposed re-use of the three existing access points helps to distribute traffic across the site and provides flexibility for customer ingress and egress. The two right-in/right-out access locations serve traffic from the southeast and to the northwest while the Jane Avenue access provides full access when used in conjunction with Clarence Avenue and Dryden Avenue.

SUMMARY AND RECOMMENDATIONS

Based on Kimley-Horn's review of the proposed redevelopment plan, comparison with trip generation estimates for the previous liquor store use and an alternative retail shopping use, and trip data from three existing PetSuites sites, the proposed redevelopment is expected to have a lower impact on traffic conditions in the site area compared to the previous or an alternative use. Based on this review, Kimley-Horn offers the following key findings and recommendations.

- The proposed plan to re-use the existing parking and access locations is expected to provide ample parking capacity and good access to/from the subject site.
- Sections of existing parking along the southern and western perimeter of the site has significant fading of marked parking spaces that could be re-striped to improve parking space visibility.
- Designate at least 10 employee parking spaces on the north and northwest sides of the site through posted signs and employee communications.
- Designate the 17 non-ADA spaces along the building's southwest and northwest sides to visitors and customers to provide quick and most-convenient parking.



PETSUITES
Arlington Heights, IL



THE COLORS AND MATERIALS SHOWN IN THIS RENDERING ARE CLOSE APPROXIMATIONS AND NOT AN EXACT MATCH. RENDERING IS TO BE CONSIDERED FOR VISUAL DESIGN INTENT ONLY AND NOT FOR CONSTRUCTION.