CivTech

July 1, 2020

Mr. Todd Silver
Village Property Management, LLC

RE: MULTI-FAMILY AND RETAIL REDEVELOPMENT ON THE SOUTHWEST CORNER OF HAYDEN ROAD AND OSBORN ROAD, SCOTTSDALE, ARIZONA

Dear Mr. Silver:

This statement presents a trip generation comparison for a proposed multi-family and retail development on the southwest corner of Hayden Road and Osborn Road in Scottsdale. The site is currently occupied by a shopping center, classified by the Maricopa County Assessor as a combination of neighborhood shopping center, retail store and discount store and currently zoned as a Planned Neighborhood Center (PNC). The proposed redevelopment will provide approximately 288 multi-family dwelling units and 22,000 square feet (SF) of retail use, requiring rezoning of existing parcels. This statement will compare the approximate number of trips currently produced by the site to the number of trips estimated to be produced upon full buildout of the proposed development.

CivTech has been retained by Village Property Management, LLC to prepare this Category I traffic statement in conformance with the City of Scottsdale's *Design Standards and Policies Manual*.

SITE ACCESS

With reference to **Attachment 1**, the proposed site plan, there are six existing site access points, four located along Hayden Road and two located along Osborn Road. All six driveways will remain. The northern two driveways on Hayden Road will provide access to the multi-family development and will provide full movement access. The third (from the north) is a right-out-only driveway for exiting onto Hayden Road southbound only. This third driveway and the fourth, that is, the southern two access points on Hayden Road, will only provide access to an existing coffee shop. The eastern driveway on Osborn Road is a right in/right out only access and the western driveway is a full movement access point.

PROPOSED DEVELOPMENT

The proposed development will provide a three-story multi-family residential building providing a total of 288 units and a total of 22,481 SF of retail/restaurant space in three standalone buildings and a ground floor retail/restaurant space on the north face of the multi-family building. A five-level central parking garage is also proposed for the development for the use of the residents with a one level below ground, another at grade, and three above the surface. Opening year is expected to be late 2022 or early 2023.

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TRIP GENERATION AND COMPARISON

A generally accepted method of calculating trip generation rates for a proposed development is to use regression equations and/or average rates developed by the Institute of Transportation Engineers (ITE) through the compilation of the field data collected at sites throughout the United States. The 10th edition of ITE's *Trip Generation Manual* was used to calculate trip generation rates for the existing and proposed developments. The trip generation for the existing land uses was determined using the square footages and classifications provided by the Maricopa County Assessor.

Although the Maricopa County Assessor classified the retail space under three different categories, for the purpose of this statement it is assumed that the whole area operates as a shopping center, land use code (LUC) 820 and that the new retail space will also operate similarly. According to the site plan provided, the multi-family building will be up to 48 feet high (at least 3 stories high), which characterizes this development as mid-rise, which is LUC 221. The approximate trip generation for both the existing land use and the proposed land use are summarized in **Table 1**. Detailed trip generation calculations are included as **Attachment 2**. The applicable trip generation rates from the manual were used to calculate the total trips for the site. **Table 1** compares the trips generated for this development to those estimated for the existing strip shopping plaza that will be razed.

Table 1 – Trip Generation Comparison

Proposed Use	ITE LUC	Size	Units	Weekday Trips						
				Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out	Total
Existing										
Shopping Center	820	64.521	KSF	4,462	114	70	184	189	204	393
Proposed										
Apartments	221	288	DU	1,568	25	72	97	74	48	122
Shopping Center	820	22.481	KSF	2,178	13	8	21	86	94	180
Proposed Totals				**3,746**	**38**	**80**	**118**	**160**	**142**	**302**
Differences (#)				**-716**	**-76**	**+10**	**-66**	**-29**	**-62**	**-91**
Differences (%)				**-16%**	**-67%**	**+14%**	**-36%**	**-15%**	**-30%**	**-23%**

As summarized in **Table 1**, the existing neighborhood shopping center generates approximated 4,462 weekday daily trips with 184 trips (114 in/70 out) during the AM peak hour and 393 trips (189 in/204 out) generated during the PM peak hour. The proposed multi-family and retail development could generate, upon full buildout, 3,746 weekday daily trips with 118 trips (38 in/80 out) generated during the AM peak hour and 302 (160 in/142 out) trips generated during the PM peak hour.

The proposed redevelopment is expected to generate 716 (16%) fewer weekday daily trips, with a net 66 (36%) fewer trips generated during the AM peak hour and 91 (23%) fewer trips generated during the PM peak hour. Due to the change in use from a shopping center not generally opened before 9 AM to a residential use, in which residents are leaving to work before 9 AM, it is expected that there would be 10 more outbound trips on a typical weekday morning than now being experienced. With 4 access points, this averages to just 2 or 3 additional outbound trips during the course of a weekday AM peak hour, not a substantive increase.

IMPACT ON ADJACENT STREET TRAFFIC

Year 2020. City of Scottsdale publishes daily traffic volumes approximately every 2 years. The most recent published data for Hayden Road and Osborn Road is from 2016. A growth rate was found based on the 2016 published data and 2013 published data in order to estimate the existing 2019 traffic volumes on Hayden Road and Osborn Road. On Hayden Road, a growth rate of 1.3% per year was calculated and on Osborn Road a growth rate of 5.6% per year was calculated. The Osborn Road growth rate is a very aggressive growth rate likely due to a change in travel patterns due to construction in the area or a redevelopment in the Old Town area which is likely to stabilize over time. A growth rate of 2% per year was used for Osborn Road which serves as a more realistic approximation of future volumes on a collector road without regional connectivity. **Table 2** summarizes the historic traffic data found and the estimated existing and future traffic volumes on Hayden Road and Osborn Road

Table 2 – 2020 Adjacent Street Traffic Summary

Adjacent Street	2013 Daily Total Volumes	2016 Daily Total Volumes	2020 Expansion Factor	2020 Estimated Daily Total Volumes
Hayden Road, south of Osborn Road	30,818	32,000	1.05	33,600
Osborn Road west of Hayden Road	9,754	11,500	1.082	12,450

As summarized in **Table 2**, adjacent street volumes for 2020 are estimated to be 33,600 vehicles per day (vpd) on Hayden Road south of Osborn Road and is in 2019 and 12,4504 vpd on Osborn Road west of Hayden Road. *Please note that these volumes are "theoretical" and projected from volumes recorded before the COVID-19 outbreak and may overestimate actual 2020 volumes experienced, which have been observed to be lower due to the outbreak. These volumes would represent the expected conditions once the outbreak has passed and routines return to normal.*

Opening Year 2023. In order to estimate the opening year 2023 adjacent street volumes, the daily total volumes calculated for the existing shopping center were subtracted from the 2020 estimated daily totals and then the daily totals for the proposed multi-family and retail development will be added to those base volumes. In order to determine both the Hayden Road and Osborn Road volumes, the daily total volumes for the shopping center land use and the multi-family and retail land uses need to be distributed. Since the two main access points are located on Hayden Road, it will be assumes that 60% of the daily total volumes will be utilizing Hayden Road and the remaining 40% of daily traffic will be utilizing Osborn Road. **Table 3** summarizes estimated 2023 adjacent street volumes for Hayden Road and Osborn Road.

Table 3 – 2023 Adjacent Street Traffic Summary

Adjacent Street	Daily Traffic Percentage	Daily Traffic – Shopping Center	2020 Base Volumes	2023 Expansion Factor	2023 Base Volumes	Daily Traffic – Proposed Development	2023 Adjacent Street Volumes
Hayden Road south of Osborn Road	60%	2,677	30,925	1.04 (=1.013^3)	32,162	2,248	34,410
Osborn Road west of Hayden Road	40%	1,785	10,665	1.061 (=1.02^3)	11,316	1,498	12,814

As summarized in **Table 3**, CivTech estimated that the total daily traffic volumes (i.e., with site traffic) on the adjacent roads upon full buildout of the site in 2023 would be 34,410 vpd on Hayden Road south of Osborn Road and 12,814 vpd on Osborn Road west of Hayden Road. Compared to the 2020 adjacent street volumes, the estimated 2023 adjacent street volumes on Hayden Road and on Osborn Road are slightly lower than what is estimated to be on the road today *under normal conditions not affected by the COVID-19 outbreak*. Therefore, if the existing shopping center were to remain in 2023, the adjacent street volumes would be 34,839 vehicles per day on Hayden Road—representing the 2023 base volume of 32,162 vehicles per day plus shopping center volumes of 2,677 vehicles per day—and 13,101 vehicles per day on Osborn Road similarly calculated. Therefore, *redeveloping the site from a shopping center to a multi-family development with less retail floor area will slightly decrease the estimated 2023 adjacent street volumes on both Hayden Road and Osborn Road*.

CONCLUSIONS

From the above CivTech has drawn the following conclusions:

- The existing neighborhood shopping center generates approximated 4,462 weekday daily trips with 184 trips (114 in/70 out) during the AM peak hour and 393 trips (189 in/204 out) generated during the PM peak hour.
    - The proposed multi-family and retail development could generate, upon full buildout, 3,746 weekday daily trips with 118 trips (38 in/80 out) generated during the AM peak hour and 302 (160 in/142 out) trips generated during the PM peak hour.
    - The proposed redevelopment is expected to generate 716 (16%) fewer weekday daily trips, with a net 66 (36%) fewer trips generated during the AM peak hour and 91 (23%) fewer trips generated during the PM peak hour.
- Normal (i.e., unaffected by COVID-19) adjacent street volumes for 2020, including trips generated by the existing shopping center, are estimated to be 33,600 vehicles per day (vpd) on Hayden Road south of Osborn Road and 12,450 vpd on Osborn Road west of Hayden Road.
- It is estimated that the daily traffic volume on Hayden Road south of Osborn Road will be 34,410 upon full buildout of the site in 2023 and the estimated daily traffic volume on Osborn Road west of Hayden Road will be 12,814 upon full buildout of the site in 2023.
    - Compared to the 2023 adjacent street volumes with the shopping center remaining and without the proposed development, the estimated 2023 adjacent street volumes on Hayden Road and on Osborn Road and would be only slightly higher (averaging less than one additional vehicle every four minutes on both roads) than what is estimated to be on the road today *under normal conditions not affected by the COVID-19 outbreak*. Redeveloping the land from a shopping center to a multi-family development with less retail floor area will slightly decrease the estimated 2023 adjacent street volumes on Hayden Road and Osborn Road as compared to expected volumes with normal increases in regional traffic.

Thank you for allowing CivTech to assist you on this project. Please contact me with any questions you may have on this statement.

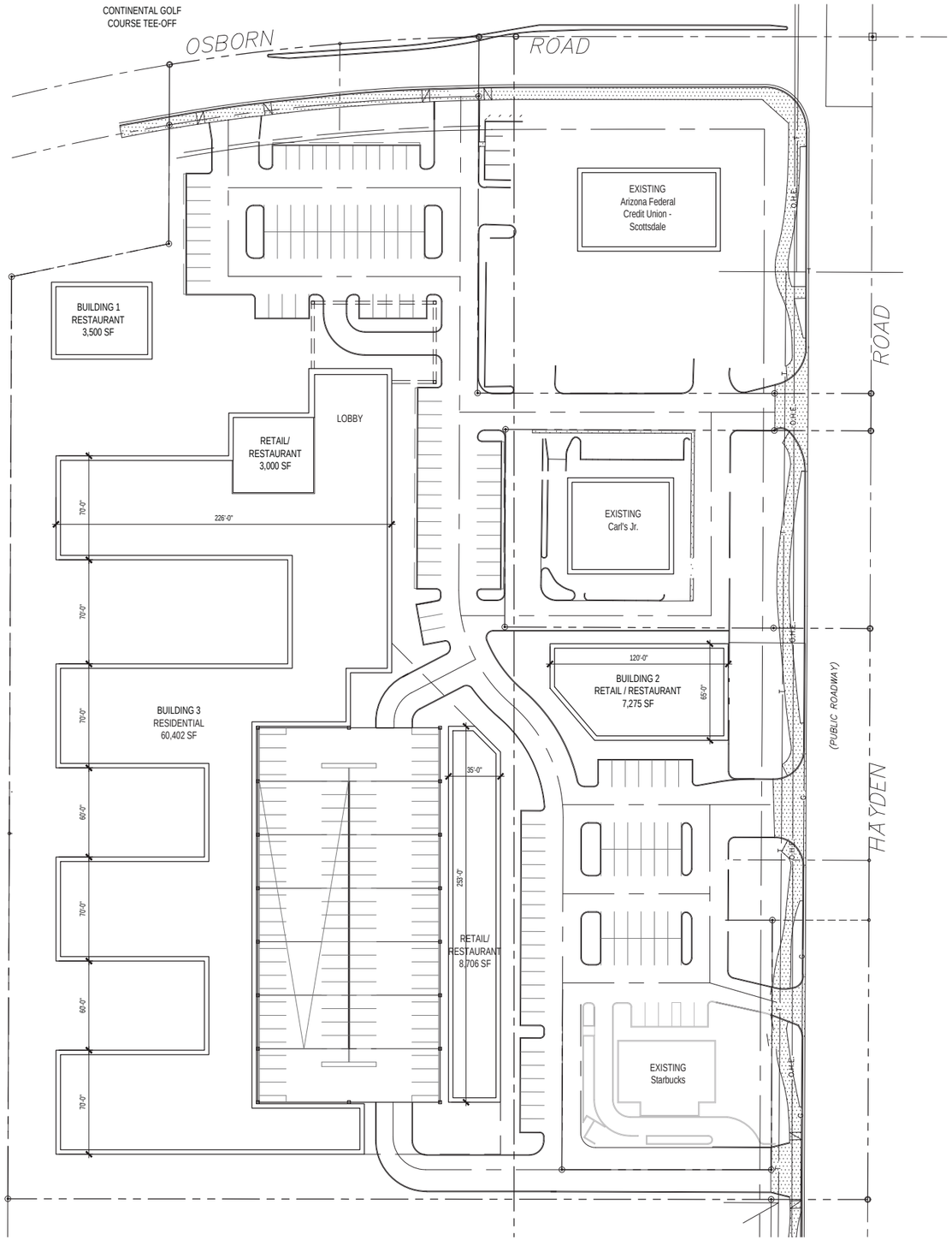
Sincerely,

CivTech

Joseph F. Spadafino, P.E., PTOE, PTP
Project Manager/Senior Traffic Engineer

Attachments:

1. Site Plan
2. Trip Generation Worksheet
3. Background Growth Rate



NORTH

01 SITE PLAN

SCALE: 1"=40'

REF:

0 40' 80'

PROJECT INFORMATION

CURRENT ZONING:	PNC
PROPOSED ZONING:	PUD Planned Unit Development
GROSS SITE AREA:	7.00 ACRES (304,920 SF)
NET LOT AREA:	6.6 ACRES (288,288 SF)
MAXIMUM GFAR ALLOWED:	TBD
PROPOSED GFAR :	300,381 SF
MAX. HEIGHT ALLOWED:	48 FT
PROPOSED HEIGHT:	48 FT
NUMBER OF UNITS ALLOWED:	TBD
PROPOSED NUMBER OF UNITS:	288 UNITS

AREA TABULATIONS

RESTAURANT/RETAIL	22,481 SF
RESIDENTIAL	277,900 SF
850 AVG (EXCLUDING EFF. UNITS) /85% EFF	288 UNITS

PARKING TABULATIONS

SURFACE PARKING	125 STALLS
STRUCTURED	
LEVEL B1	62 CARS
LEVEL GRADE	98 CARS
LEVEL 2	98 CARS
LEVEL 3	98 CARS
LEVEL 4	98 CARS
TOTAL	454 STALLS
TOTAL	579 STALLS

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PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Huntington Oasis

N Hayden Rd and E Osborn Rd
Scottsdale, AZ 85251

PRE-APP # ZONING # DRB #

Date
JUNE 24, 2020

Project No.
319078

PLANS, DESIGNS, GUIDELINES AND OTHER ELEMENTS OF THIS DOCUMENT ARE CONCEPTUAL ONLY AND SUBJECT TO FUTURE MODIFICATIONS

Village Property — Trip Generation

Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *T Generation Handbook*, 3rd Edition. These references will be referred to as *Manual and Handbook*, respectively. The *Manual* contains data collected by various transportation professionals fo wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship betwe an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the Manual when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Land Use Types and Size

Proposed Use	Amount	Units	ITE LUC	ITE Land Use Name
Existing				
Shopping Center	64.521	1,000 square feet	820	Shopping Center
Proposed				
Apartments	288	Dwelling Units	221	Multifamily Housing (Mid-Rise)
Shopping Center	22.481	1,000 square feet	820	Shopping Center

Box 2 - Define Site Context

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: *R*, *G*, *D*, and *C*. The *Manual* does not have data for all settings of all land use codes. See the table on the next page titled "Site Context and Time Periods" - if this table is not provided, the "General Urban/Suburban" setting is used by default.

Box 3 - Define Analysis Objectives Types of Trips & Time Period

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Site Context and Time Periods - Actual Setting, Setting Data Available for LUC, Setting Used in Analyses

Proposed Use	Setting		ADT Available	ADT Used	AM Peak Hour Available	AM Peak Hour Used	PM Peak Hour Available	PM Peak Hour Used
Shopping Center	General Urban/Suburba	G	G	G	G D	G	G D	G
Apartments	General Urban/Suburba	G	G D	G	G D	G	G D	G

If the desired setting is not available within the *Manual*, adjustments may be made in Boxes 6 through 8.

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the *Box 5 through 8* approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the *Handbook* has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("FC"), or Custom ("C"))

Proposed Use	ADT	AM Peak Hour	PM Peak Hour
Shopping Center	FC: LN(T)=0.68*LN(X)+5.57 [69.17]	FC: T=0.5*X+151.78 [2.85]	FC: LN(T)=0.74*LN(X)+2.89 [6.09]
Apartments	FC: T=5.45*X-1.75 [5.44]	FC: LN(T)=0.98*LN(X)-0.98 [0.34]	FC: LN(T)=0.96*LN(X)-0.63 [0.42]
Shopping Center	FC: LN(T)=0.68*LN(X)+5.57 [96.93]	WA: T=X*0.94 [0.94]	FC: LN(T)=0.74*LN(X)+2.89 [8.01]

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT % In	ADT In	ADT Out	ADT Total	AM Peak Hour % In	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour % In	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Existing												
Shopping Center	50%	**2,231**	**2,231**	**4,462**	62%	**114**	**70**	**184**	48%	**189**	**204**	**393**
Proposed												
Apartments	50%	784	784	1,568	26%	25	72	97	61%	74	48	122
Shopping Center	50%	1,089	1,089	2,178	62%	13	8	21	48%	86	94	180
Proposed Totals		**1,873**	**1,873**	**3,746**		**38**	**80**	**118**		**160**	**142**	**302**
Differences (Existing-Proposed)		**358**	**358**	**716**		**76**	**(10)**	**66**		**29**	**62**	**91**

Location of counts: Osborn Road west of Hayden Road

Source(s): https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Transportation/Engineering/2016_segment.pdf
https://opendatafiles.blob.core.windows.net/odfiles/tr_TrafficCounts.csv

	Year	Volume
Start	2013	9,754
End	2016	11,500
AAGR		5.6%
Exp Factor		1.179

Growth Rate Used	2.0%
Per-Year Multiplier	1.020

Year	Expansion Factor(s)		
2016	1.000		
2017	1.020		
2018	1.040		
2019	**1.061**	**Existing**	12204
2020	**1.082**	**Opening**	12448
2021	1.104		
2022	1.126		
2023	1.149		
2024	1.172		
2025	1.195		
2026	1.219		
2027	1.243		
2028	1.268		
2029	1.294		
2030	1.319		
2031	1.346		
2032	1.373		
2033	1.400		
2034	1.428		
2035	1.457		
2036	1.486		
2037	1.516		
2038	1.546		
2039	1.577		
2040	1.608		
2041	1.641		
2042	1.673		
2043	1.707		
2044	1.741		
2045	1.776		
2046	1.811		
2047	1.848		
2048	1.885		