

14 December 2006

Keith Brown, PE  
Assistant City Engineer  
City of Goodyear  
190 North Litchfield Road  
Goodyear, Arizona 85338

RE: CANYON TRAILS TOWNE CENTER  
COTTON LANE/YUMA ROAD  
TRAFFIC IMPACT STATEMENT – REVISED SITE PLAN

Dear Mr. Brown,

Please find enclosed a brief traffic impact statement (TIS) regarding the proposed changes to the Canyon Trails Towne Center project located at the northeast corner of Cotton Lane and Yuma Road. During the development of the project several changes were made to the site plan based on comments from the City of Goodyear. The final site plan was approved earlier this month by the City of Goodyear. As part of the approval process, the Traffic Impact Analysis (TIA) completed by Kimley-Horn and Associates, dated July 2006, was also approved.

Due to changes requested by potential tenants interested in being a part of the project, the site plan was slightly modified as shown in the attachment at the end of this letter. This letter outlines the changes from a traffic analysis perspective and the impacts on the TIA listed above.

The first change was the combination of the three proposed driveways on Canyon Trails Boulevard into one access point. Two of these access points on the approved site plan provided service vehicle access. The new access point will not only allow an access point for visitors to the shopping center, but will also allow service vehicles access to the buildings.

The removal of two of the driveways on Canyon Trails Boulevard limits the number of vehicle conflict points along Canyon Trails Boulevard. These changes along Canyon Trails Boulevard are not expected to affect the operation of the now proposed single driveway, and may very well improve traffic operations along this section of Canyon Trails Boulevard.

The second change is the shift of the northern driveway on Cotton Lane approximately 50 feet south. This shift was made in order to accommodate the new building, Anchor C. The new driveway location will not impact the operations or southbound left turn storage length of the main driveway located immediately to the south.

The final change is the increase of the project's total building square footage from 848,375 square feet (SF) to 877,931 SF, an increase of just over 3.4 percent. Trip generation for the revised site plan was developed utilizing nationally agreed upon data contained in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 7<sup>th</sup> Edition*, 2003. This is the same method as used in the approved July 2006, TIA. So as to provide analysis for the full build-out of the project, trip generation was estimated for the construction of 877,931 square feet of retail space based on ITE Land Use Code 820, Shopping Center. As with the approved TIA, pass by trips were added to the calculations.

Traffic generated by shopping centers is composed of three trip types: primary trips, pass-by trips and diverted linked trips. Primary trips are trips where the primary purpose of the trip is to visit the shopping center. Pass-by trips are trips where the secondary purpose of the trip is to visit the shopping center, in conjunction with some other primary trip purpose (such as driving home from work). Pass-by trips come from the roadways directly fronting the shopping center. Diverted linked trips are trips where the primary trip purpose is some other reason than to visit the shopping center but the trip includes a secondary purpose to visit the shopping center. The difference between diverted linked trips and pass-by trips is that diverted linked trips come from roadways not immediately adjacent to the site. In this letter, diverted linked trips are ignored and are included with primary trips. This results in a more conservative analysis. In addition, in order to maintain consistency between the approved TIA and the trip generation calculations for the revised site plan, the following pass-by trip rates were used:

#### **2008 – Opening Scenario**

AM Peak Hour	10%
PM Peak Hour	17%

#### **2020 – Areawide Build-Out Scenario**

AM Peak Hour	20%
PM Peak Hour	34%

The result is the expected weekday trip generation for the revised Canyon Trails Towne Center Development as shown in Tables 1 and 2. The complete trip generation calculations can be found in the Appendix.

The 3.4% increase in the overall square footage of the revised site plan will generate an additional fourteen (14) trips during the AM peak hour and sixty-five (65) trips during the PM peak hour for the 2008 opening year scenario. In 2020, the project will generate an additional thirteen (13) trips during the AM peak hour and fifty-two (52) trips during the PM peak hour. These additional trips will be distributed between the seven proposed driveways limiting their impact on the operations of these driveways.

**Table 1 – 2008 Opening Scenario**

2008 Opening Scenario - Revised Site Plan			
Time Period	Trips	Pass-By Traffic	TOTAL NEW TRIPS
	Weekday		Weekday
Average Daily, Inbound (vpd)	14,035	1,404	12,632
Average Daily, Outbound (vpd)	14,035	1,404	12,632
<b>Total Daily</b>	<b>28,070</b>	<b>2,807</b>	<b>25,263</b>
AM Peak Hour, Inbound (vph)	354	35	319
AM Peak Hour, Outbound (vph)	227	23	204
<b>Total AM Peak</b>	<b>581</b>	<b>58</b>	<b>523</b>
PM Peak Hour, Inbound (vph)	1,270	216	1,054
PM Peak Hour, Outbound (vph)	1,376	234	1,142
<b>Total PM Peak</b>	<b>2,646</b>	<b>450</b>	<b>2,196</b>

vpd - vehicles per day, vph - vehicles per hour

2008 Opening Scenario - Approved Site Plan			
Time Period	Trips	Pass-By Traffic	TOTAL NEW TRIPS
	Weekday		Weekday
Average Daily, Inbound (vpd)	13,630	1,363	12,267
Average Daily, Outbound (vpd)	13,630	1,363	12,267
<b>Total Daily</b>	<b>27,260</b>	<b>2,726</b>	<b>24,534</b>
AM Peak Hour, Inbound (vph)	345	35	311
AM Peak Hour, Outbound (vph)	220	22	198
<b>Total AM Peak</b>	<b>565</b>	<b>57</b>	<b>509</b>
PM Peak Hour, Inbound (vph)	1,232	209	1,023
PM Peak Hour, Outbound (vph)	1,335	227	1,108
<b>Total PM Peak</b>	<b>2,567</b>	<b>436</b>	<b>2,131</b>

vpd - vehicles per day, vph - vehicles per hour

**Table 2 – 2020 Areawide Build-Out Scenario**

2020 Areawide Build-Out Scenario - Revised Site Plan			
Time Period	Trips	Pass-By Traffic	TOTAL NEW TRIPS
	Weekday		Weekday
Average Daily, Inbound (vpd)	14,035	2,807	11,228
Average Daily, Outbound (vpd)	14,035	2,807	11,228
<b>Total Daily</b>	<b>28,070</b>	<b>5,614</b>	<b>22,456</b>
AM Peak Hour, Inbound (vph)	354	71	284
AM Peak Hour, Outbound (vph)	227	45	181
<b>Total AM Peak</b>	<b>581</b>	<b>116</b>	<b>465</b>
PM Peak Hour, Inbound (vph)	1,270	432	838
PM Peak Hour, Outbound (vph)	1,376	468	908
<b>Total PM Peak</b>	<b>2,646</b>	<b>900</b>	<b>1,746</b>

vpd - vehicles per day, vph - vehicles per hour

2020 Areawide Build-Out Scenario - Approved Site Plan			
Time Period	Trips	Pass-By Traffic	TOTAL NEW TRIPS
	Weekday		Weekday
Average Daily, Inbound (vpd)	13,630	2,726	10,904
Average Daily, Outbound (vpd)	13,630	2,726	10,904
<b>Total Daily</b>	<b>27,260</b>	<b>5,452</b>	<b>21,808</b>
AM Peak Hour, Inbound (vph)	345	69	276
AM Peak Hour, Outbound (vph)	220	44	176
<b>Total AM Peak</b>	<b>565</b>	<b>113</b>	<b>452</b>
PM Peak Hour, Inbound (vph)	1,232	419	813
PM Peak Hour, Outbound (vph)	1,335	454	881
<b>Total PM Peak</b>	<b>2,567</b>	<b>873</b>	<b>1,694</b>

vpd - vehicles per day, vph - vehicles per hour

The changes to the revised site plan, as listed above, should not have an effect on the conclusions outlined in the approved *Canyon Trails Town Center Traffic Impact Analysis*, dated July 2006.

Thank you again for your time and review of this TIS submittal. If you have any questions regarding this TIS, please feel free to contact me at 602.266.7983.

Respectfully Submitted,

Andrew Smigielski, PE, PTOE  
 SouthWest Traffic Engineering, LLC  
 Traffic Engineer



cc: David Malin, Vestar Development Company (by email)

Attachments



# Shopping Center

LAND USE: 887,931 Square Feet Shopping Center

TRIP GENERATION CALCULATIONS ARE BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS' TRIP GENERATION, SEVENTH EDITION. THE ITE LAND USE CODE IS Shopping Center (820)

## WEEKDAY

$$\text{Ln (T)} = 0.65 \times \text{Ln (trips per 1000 Square Feet)} + 5.83$$

$$\begin{aligned} \text{T} &= \mathbf{28070 \text{ VPD}} \\ \text{ENTER: } (0.5) \times (28070) &= \mathbf{14035 \text{ VPD}} \\ \text{EXIT: } (0.5) \times (28070) &= \mathbf{14035 \text{ VPD}} \end{aligned}$$

## AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)

$$\text{Ln (T)} = 0.60 \times \text{Ln (trips per 1000 Square Feet)} + 2.29$$

$$\begin{aligned} \text{T} &= \mathbf{581 \text{ VPH}} \\ \text{ENTER: } (0.61) \times (581) &= \mathbf{354 \text{ VPH}} \\ \text{EXIT: } (0.39) \times (581) &= \mathbf{227 \text{ VPH}} \end{aligned}$$

## PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)

$$\text{Ln (T)} = 0.66 \times \text{Ln (trips per 1000 Square Feet)} + 3.40$$

$$\begin{aligned} \text{T} &= \mathbf{2646 \text{ VPH}} \\ \text{ENTER: } (0.48) \times (2646) &= \mathbf{1270 \text{ VPH}} \\ \text{EXIT: } (0.52) \times (2646) &= \mathbf{1376 \text{ VPH}} \end{aligned}$$

\*where, T = trip ends

## TRIP GENERATION SUMMARY

WEEKDAY	28070 VPD
AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)	581 VPH
PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)	2646 VPH