



May 20, 2014  
Bike Ranch Resort  
Preliminary Traffic Statement  
CLA 2014.17

Ms. Kelley Mathews  
Bike Ranch Resort  
Via Email: Kelley Matthews <bikeranch@outlook.com>

Dear Ms. Matthews:

At your request, we prepared this preliminary traffic statement to examine existing and future traffic conditions associated with your proposed development on Old Spanish Trail at Escalante Road. The purpose of the analysis is to clarify the magnitude of probable traffic impacts. We assessed future conditions with the Report and a comparison with SR residential uses only. A more detailed traffic analysis is typically required by the County during the permitting process.

**Project Site and Area Description**

The 45 acre parcel is zoned Suburban Ranch, or SR. Current uses include eight residential casitas which are rented. Most of the surrounding area is also zoned SR. It is residential in nature, with a mixture of subdivided land and unsubdivided "wildcat" development. A restaurant on CB-1 zoning at the northwest corner of the Old Spanish Trail/Escalante intersection adjoins the site. Saguaro National Park lies across Old Spanish Trail and its main visitor access is across from the northeast corner of the parcel. Access to the proposed resort is via a driveway on Old Spanish Trail.

**Development Concept**

The trip generation analysis considers the proposed Bike Ranch Resort and an alternative.



**Bike Ranch Resort**

– Includes a 49-room "Minor Resort" on approximately 21 acres and open space uses on the remaining 24 acres.

**Alternative** - Includes an SR subdivision with about 13 lots and single family residences. No special use permits are needed.

### Current Traffic Conditions

Escalante Road and Old Spanish Trail meet in a one-way stop-controlled T-intersection. Escalante Road is a two lane road with paved shoulder for bikes. (See Google Earth photo.) It has a current volume of about 3,000 vehicle per day and a capacity of 13,320. Old Spanish Trail has a similar cross section, a current volume of about 7,000 vehicles per day and capacity of 14,060. <sup>1</sup>



Both roads are designated bike routes on the Tucson Metro Bike Map, shown in an excerpt on the right. <sup>2</sup> Bike facilities already exist on both roads, including paved shoulders, signs, and markings. “The Loop” trail system map shows a connection between The Loop on Pantano River Park and the entrance to Saguaro National Park. The connection, via Escalante Road and Old Spanish Trail is shown as “under design or construction”. <sup>3</sup>

Additional traffic data is shown in Exhibit 1. Note that the data includes traffic associated with all existing uses including those onsite.

### Existing Traffic Safety

Traffic safety data for roadways and intersections were not available for this preliminary report. Data will be included in a subsequent traffic impact study, if one is needed.



<sup>1</sup> For traffic volumes see <http://www.pagnet.org/documents/rdc/gis/maptrafficcount2012.pdf>; for capacities see <http://www.dot.state.fl.us/planning/systems/programs/sm/los/pdfs/2013%20QLOS%20Handbook.pdf>

<sup>2</sup> <http://www.pagnet.org/documents/bicycle/maps/BikeMap2010page2.pdf>

<sup>3</sup> [http://webcms.pima.gov/government/the\\_loop/](http://webcms.pima.gov/government/the_loop/)

### Exhibit 1 – Existing Traffic Data (2012)

Roadway	Location	Daily Volume	Capacity	Current Level of Service	AM Peak		PM Peak		Data Source
					AM Peak Volume	PM Peak Volume	AM Peak Volume	PM Peak Volume	
Escalante Road	West of Houghton	2,720	13,320	A	7:30-08:30	263	4:45-5:45	390	PAG
Old Spanish Trail	Near Escalante	6,725	14,060	B	7:45-8:45	464	4:30-5:30	520	PAG

Traffic engineers and transportation planners use the term “level of service”, or LOS, to define roadway and intersection performance. LOS is an A through F rating system similar to academic grades. LOS A represents free flowing traffic with few impediments to travel, and LOS F is extreme congestion. The adopted performance standard for Tucson-area roadways is LOS D. Old Spanish Trail or Escalante Road operate at LOS B and C respectively. This is much better than the adopted standard. Peak hour volumes are also very low, as shown in the exhibit.

#### Trip Generation and Future Traffic Conditions

In order to estimate future traffic associated with the proposed development concepts, we utilized the Institute of Transportation Engineers Trip Generation Manual, consistent with professional practice. Trip generation calculations consider the magnitude of a development and the trips rates associated with that specific land use category. Exhibit 2 shows our calculations.

The current traffic of 77 vehicles per day represents about 0.8% of the traffic on the two adjacent roadways. The Bike Ranch adds about 21 daily trips, or an additional 0.2%; SR residential development adds 47 daily trips or about 0.5% to the existing daily traffic. In either case, the additional traffic volumes are so low as to be insignificant in the capacity analysis and within the statistical noise of daily traffic variation. Looked at from a slightly different perspective, the forecast traffic from the Bike Ranch is about the same as existing traffic from the rental casitas during the peak periods and about 20 more vehicles (total) during the remaining 22 hours of the day.

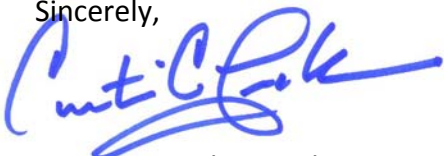
### Exhibit 2 – Trip Generation Analysis

Land Use	ITE Category	Description	Number of Units	Trip Rates			Number of Trips (Rounded)		
				AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
<i>Existing Conditions</i>	210	Single Family Residential	8	0.75	1.01	9.57	6	8	77
<i>Bike Ranch Resort</i>	330	Resort (Est.)	49	0.14	0.14	2.00	7	7	98
<i>SR Residential</i>	210	Single Family Residential	13	0.75	1.01	9.57	10	13	124

### Summary of Findings

- The proposed Bike Ranch Resort is located in an area of no congestion, as defined by standard traffic engineering practice. Current traffic volumes are low, and both Old Spanish Trail and Escalante Road operate at LOS A & B. This is much better than the adopted performance standard of LOS D.
- The site is adjacent to two existing bike routes with paved shoulders, route signs, and bike markings. The area has existing and committed bikeable access to The Loop and other facilities in the region.
- The trip generation analysis evaluated both the Bike Ranch Resort and residential development under the SR zoning. The Bike Ranch would generate about the same amount of traffic during the peak periods as existing uses, and about 20 more trips (total) per day during the remaining 22 hours. The SR residential use would increase current site traffic by about 62% during both peak periods and off peak periods. The Bike Ranch Resort is forecast to generate about 20% less site traffic than the SR residential use would generate.
- The development would have virtually no perceptible impact during peak traffic periods. Most of the site-related traffic would occur outside of peak hours when there is abundant capacity on these roadways. The development can easily be accommodated on the existing system with no mitigation strategies except perhaps for a turn lane into the site. The need for a turn lane would be determined during a subsequent and more detailed analysis.
- The project is unique and is expected to have lower than usual vehicular trip generation characteristics. Based on this, we believe that standard code requirement for parking may be excessive (resulting in more site grading) and that the County's standard impact fee calculations for the Rincon Benefit Area may be inappropriately high for this use.
- This traffic analysis is a technical report of a development conceptual plan. It does not impose any limitation on you to improve the property in any manner allowable by the County.

Sincerely,



Curtis C. Lueck, P.E. Ph.D.  
Principal