



HEXAGON TRANSPORTATION CONSULTANTS, INC.

September 25, 2020

Mr. Allan Fusilero
Twisters Sports, Inc.
1165 N. Fair Oaks Avenue
Sunnyvale, CA 94089

Re: Trip Generation Analysis for the Proposed Recreational Facility at 2800 Bowers Avenue in Santa Clara, California

Dear Mr. Fusilero:

Hexagon Transportation Consultants, Inc. has completed a trip generation analysis for the proposed recreational facility at 2800 Bowers Avenue in Santa Clara, California. The project proposes to reoccupy an existing industrial/warehouse building for use as a gymnastics academy. As part of the conditions of approval for the project, the City is requiring a trip generation analysis.

Sports Facility Operations

The proposed gymnastics facility would provide a number of classes and activities for their clients. The types of classes and activities, including the hours of operation and how many people involved, are as follows:

- Preschool Gymnastics Classes: Monday-Friday – 9 AM to 12 PM
 - Student Occupants: 6 or less per hour
 - Parent Occupants: 5 or less per hour
 - Staff Occupants: 2 or less per hour
- Preschool, Recreational and Competitive Sports Classes: Monday-Friday - 3:30 PM to 8 PM and Saturday – 9 AM to 1 PM
 - Monday – Friday Classes:
 - Student Occupants: 28 or less per hour
 - Parent Occupants: 11 or less per hour
 - Staff Occupants: 6
 - (See Table 1 for sample schedule provided by Twisters Sports)
 - Saturday Classes:
 - Student Occupants: 60 or less per hour
 - Parent Occupants: 16 or less per hour
 - Staff Occupants: 10 or less per hour
- Birthday Parties: Saturdays - 1:45 PM to 6:45 PM and Sundays – 11 AM to 5:30 PM
 - Student Occupants: 30 or less per hour
 - Parent Occupants: 24 or less per hour
 - Staff Occupants: 3
 - Total: 57 Occupants or less per hour



Table 1
Project Trip Generation Estimates

	Preschool Class			Recreational Class			Competitive Class			Office			Total Trips	Total Trips
Time	Description	Trips In	Trips Out	Description	Trips In	Trips Out	Description	Trips In	Trips Out	Description	Trips in	Trips Out	In	Out
3:15pm	1 instructor arrives	1		2 instructors arrive	2					1 employee arrives	1		4	0
3:30pm	3 parents drop off 4 students, 1 parent leaves	3	1	10 parents drop off 10 students, 8 parents leave	10	8							13	9
3:45pm							2 instructors arrive	2					2	0
4:00pm							14 parents drop off 14 students, 14 parents leave	14	14				14	14
4:15pm	2 parents arrive to pick up students, all 4 parents leave with students	2	4										2	4
4:30pm	3 parents drop off 4 students	3		8 parents arrive to pick up students, all 10 parents leave	8	10							11	10
4:45pm													0	0
5:00pm				10 parents drop off 10 students, 8 parents leave	10	8							10	8
5:15pm	1 parent arrives to pick up students, all 4 parents leave with students	1	4										1	4
5:30pm	3 parents drop off 4	3											3	0
5:45pm													0	0
6:00pm				8 parents arrive to pick up students, all 10 parents leave, 2 instructors leave	8	12	14 parents arrive to pick up students and leave the site. 14 parents drop off 14 students	28	14				36	26
6:15pm	1 parent arrives to pick up students, all 4 parents leave with students, instructor leaves	1	5										1	5
6:30pm													0	0
6:45pm													0	0
7:00pm													0	0
7:15pm													0	0
7:30pm													0	0
7:45pm													0	0
8:00pm							14 parents arrive to pick up students and leave the site. 2 instructors leave	14	16	1 employee leaves		1	14	17



Trip Generation Analysis

Traffic analysis is typically concerned with weekday conditions since weekend traffic volume is lower. Weekday trip estimates for the gymnastics facility were prepared based on the business plan provided by Twisters Sports.

The facility would offer morning classes from 9 AM to noon for preschool students, with class sizes of 6 students or less. The facility would offer afternoon and evening classes for all ages from 3:30 to 8 PM, with class sizes up to 14 students. The pre-school and rec classes each would last for one hour. The competition team classes would last for two hours. Trip generation was estimated based on the sample schedule provided by Twisters Sports. During the AM peak hour, no students or parents would arrive or exit the sports facility. However, it is assumed that two staff members would arrive when the facility opens.

The facility would offer afternoon and evening classes for all ages from 3:30 to 8 PM, with class sizes up to 14 students. PM peak hour trip estimates were prepared based on the sample schedule provided by Twisters Sports. During the highest PM peak hour, the project is expected to generate 71 trips between 5:15 PM and 6:15 PM (see Table 1).

The number of daily trips was calculated by adding the number of trips generated from the morning and afternoon classes from parents and staff on a typical weekday. The morning classes would generate 30 trips (10 trips per class), the afternoon classes would generate 194 trips (not including staff trips), and the staff would generate 54 trips (27 in and out trips). The Twister Sports business plan states that the staff consists of 7 full-time employees and 20 part-time employees. The total number of daily trips would equal 278.

Trips generated by the existing warehouse on the site can be subtracted. Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the Institute of Transportation Engineers' (ITE) manual entitled *Trip Generation, 10th Edition* (2017). The rates published for Warehouse (Land Use 150) were used to estimate the trips generated by the existing industrial/warehouse building.

As shown in Table 2, the project is estimated to generate 239 additional daily vehicle trips, with 2 fewer trips occurring during the AM peak hour and 67 new trips during the PM peak hour.



Table 2
Project Trip Generation Estimates

Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Uses											
Twisters Sports Facility ¹			278		2	0	2		40	31	71
Existing Uses											
Warehouse ²	22.2 KSF	1.74	39	0.17	3	1	4	0.19	1	3	4
Net Project Trips			239		-1	-1	-2		39	28	67
<u>Note:</u> Trip rates for warehousing are from the ITE Trip Generation Manual, 10th Edition, 2017. 1. Trips for Twisters Sports Facility was taken based on Business Plan provided by Twisters Sports, Inc. It is assumed that staff members would enter the sports facility during the AM peak hour. It is assumed that 50% of the trips will enter and 50% of the trips will exit. 2. Warehousing (Land Use 150) average rates expressed in trips per 1,000 square feet (KSF) are used.											

We appreciate the opportunity to submit this trip generation analysis. If you have any questions, please do not hesitate to call.

Sincerely,
HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary K. Black
President