Trip Generation of Farmers Markets

Institute of Transportation Engineers



University of California, Los Angeles
Student Chapter
2015-2016

Table of Contents

Introduction	1
Data Collection	2
Trip Generation Results	
. Conclusions and Recommendations	7
Appendix: Trip Generation Forms	8



Introduction

The ITE Student Chapter at the University of California, Los Angeles conducted a trip generation study at a farmer's market in the Brentwood neighborhood of Los Angeles on three Sundays in January and February, 2016. The study was conducted by UCLA students for the Western District of ITE because the district lacked data on farmer's markets.

The Brentwood Farmer's Market is owned and operated by California Certified Farmer's Markets Inc. It is held on Gretna Green Way every Sunday from 9 AM to 2 PM. Gretna Green is a two-lane street that is closed between San Vicente Boulevard and Montana Avenue while the farmer's market is open. There is a golf course to the west, an elementary school to the east, residential communities to the south, and a commercial area to the north and the surrounding land uses are shown below in Figure 1. The farmer's market has only two entrances, one on each end. Gretna Green Way is approximately 45,000 ft² (900 feet by 50 feet) and has enough space for 90 vendors. There is not a parking lot dedicated to the farmer's market but there are parking lots nearby as well as street parking in the residential neighborhood to the south and the commercial district north of Gretna Green Way.

The gross leasable area of the farmers market is approximately 27,000 ft². The booths and additional space used by vendors behind their booths made up approximately 60% of the development. The remaining 40% of space includes the walkway down the center of the street and space between vendors' booths. The data for the gross floor area and gross leasable space of the farmers market is shown in Part 1 of the Trip Generation Data Forms in the Appendix.



Figure 1: Brentwood Farmers Market and surrounding land uses



Data Collection

UCLA ITE student volunteers conducted trip generation counts and surveys on Sundays January 28, February 14, and February 28, 2016. On January 28 and February 14, we conducted counts from 8:30 AM to 2:30 PM to ensure that we collected data for the arrival and departure of most of the customers. On February 28, we collected counts from 8:30 AM to 12:30 PM. Volunteers counted in two hour shifts. Because it was not possible to visually identify which mode of transportation people used to get to the farmer's market, we used surveys to determine the mode split. We stationed two volunteers at each of the two entrances. One student counted the total number of people entering and exiting the market while the other student interviewed a sample of the people. Initially, we planned to use paper surveys to complement the interviews during periods of heavy traffic. However, we decided that our interviews were sufficiently quick and short that we had no need for the paper surveys.

In our interviews, we asked "What was your primary means of transportation in getting here today?" If the respondent drove, we asked how many people were in their car. Several people used multiple modes of transportation like driving and then walking. If people parked and walked only a short distance, we counted their trip as driving. If both walking and driving accounted for a significant portion of their trip, we counted it as a combination of modes, but most trips were either primarily walking or primarily driving.



Figure 2: Brentwood Farmers Market



Trip Generation Results

Total Trips (people)

We collected data for the number of people entering and exiting the farmer's market at 15 minute intervals. We recorded whether they walked, drove, biked, took public transit, or took a combination of modes. We determined the peak hour on each day as the stretch of four consecutive 15 minute intervals with the largest number of people entering and exiting. Table 1 shows the peak hour on each day as well as the sample of people that were recorded driving, walking, biking, or using other modes to get to the farmers market.

1/31/2016 2/14/2016 2/28/2016 Peak Hour 11:30-12:30 11:30-12:30 10:45-11:45 Estimated # Estimated # % People Estimated # People % People People People % People People People using People using mode Surveyed using mode Surveyed using mode using mode Surveyed mode using mode Vehicle Trips (cars) 39 19 61.54% 25.53% 754 Vehicle (people) 943 44.62% 24 36 440 83 Pedestrian Trips 11 28.21% 432 90 63.83% 1099 93 50.00% 845 Bicycle Trips 4 10.26% 157 8 5.67% 98 1.61% 27 Other Trips 0 0.00% 0 4.96% 85 3.76% 64

100.00%

100.00%

Table 1: Estimated number of arrivals and exits by mode

We used peak hour data from January 31 and February 28 to calculate trip generation rates because February 14 was not a typical day at the farmer's market. Trip generation rates are shown in Table 2.

1533

100.00%

<u> </u>		. o. p o. c	70 upo 10 2.0	
	Peak Hour Trips	Booths	Gross Floor Area	Gross Leasable Area
		90	45	27
			1,000 ft ²	1,000 ft ²
			Trip Generat	ion Rate
January 31	1533	17.03	34.07	56.78
February 28	1689	18.77	37.53	62.56
Average	1611	17.90	35.80	59.67

Table 2: Trip Generation Rate for person trips for Brentwood Farmer's Market

The 9th Edition of the Trip Generation Manual does not have generation rates for farmer's markets so we cannot compare our results to previous studies at other farmer's markets. However, it is possible to compare the Brentwood Farmer's Market trip generation rates to similar land uses. We found supermarkets (#850) and nursery's (#817) to be the most suitable comparison. According to two studies performed on Sundays using the peak hour generator, supermarkets generate 18.93 trips per 1,000 square feet gross floor area. The Trip Generation Manual indicates that supermarkets generate 18.93 trips per 1,000 square feet gross floor area during the Sunday peak hour, although it is important to note that the sample size is only two studies. The Trip Generation Manual indicates that nurseries generate 18.76 trips per 1,000 square feet gross floor area during the Sunday peak hour. The data in the 9th Edition of the Trip Generation Manual only considers vehicle trips rather than person trips while in our study we



calculated trip generation rates for person trips. We calculated that the Brentwood Farmer's Market generates 59.67 trips per 1,000 square feet gross floor area during the Sunday peak hour. However, we can estimate a vehicle trip generation rate by analyzing mode splits and the average number of occupants per car. During the peak hour on January 31, Brentwood Farmers Market generated 550 car trips during the peak hour on January 31 and 403 car trips during the peak hour on February 28 which averages to 476.5 trips. Thus, the Brentwood Farmer's Market generates 10.59 trips per 1,000 square feet gross floor area and 17.65 trips per 1,000 square feet gross leasable area. Both numbers are lower than the numbers generated by supermarkets and nurseries.

Unfortunately, we do not have data for 12:30 PM to 2:30 PM on Sunday, February 28 because surveyors and counters who signed up became unavailable at the last minute. However, we noticed that the farmers market was becoming less busy by 12:30 PM and are confident that the data was collected includes the peak hour.

Figures 3-5 show the temporal distribution of the total number of people entering/exiting the market compared to the distribution of the number of people coming and going in cars. The number of people coming and going hits a peak between 11 AM and 12 PM each day and falls in the morning and afternoon.

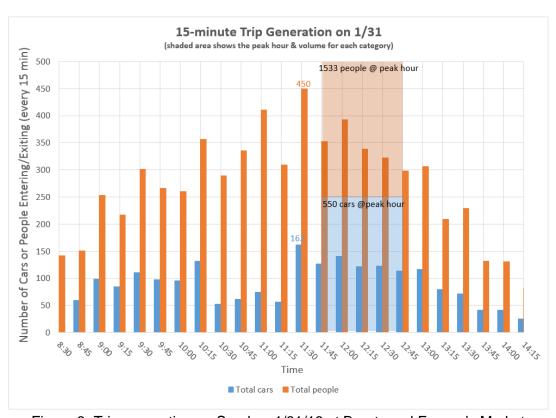


Figure 3: Trip generation on Sunday, 1/31/16 at Brentwood Farmer's Market



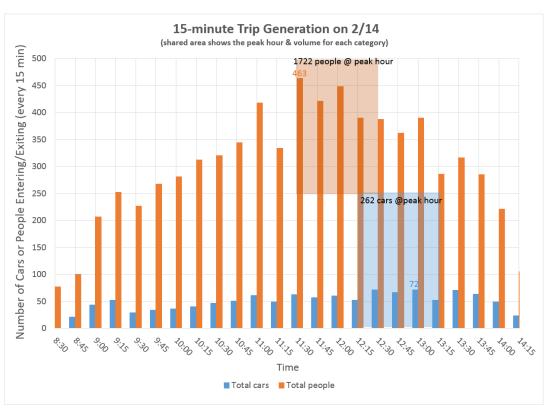


Figure 4: Trip generation on Sunday, 2/14/16 at Brentwood Farmer's Market

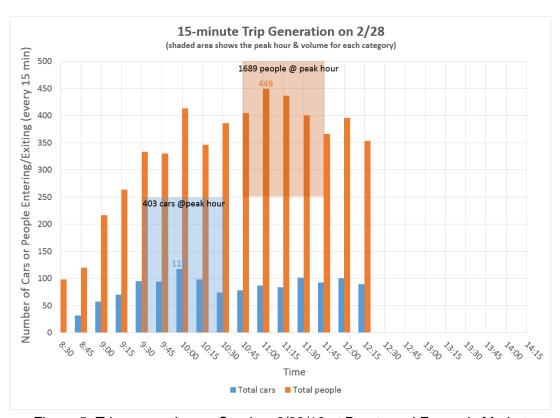


Figure 5: Trip generation on Sunday, 2/28/16 at Brentwood Farmer's Market



Parking Demand

While we did not count parking by recording the difference between cars entering and exiting a specific parking zone, we estimated parking demand at each 15-minute interval by factoring in private vehicle mode split and their rider occupancy. We assumed a zero starting basis at 8:30 AM on all three days and subtracted the number of cars exiting from the ones entering to get a net difference at each 15-minute interval. Every 15-minute difference was then added to the previous cumulative difference and the process was repeated until the last interval, 2:15-2:30 PM. Figure 6 provides a graphical comparison of parking demand on three study days. Note that the negative values shown at the right end of the graph were caused by the approximation of mode split and rider occupancy via survey, as well as the fact that some farmer's market visitors had already entered the farmer's market before our study even begun at 8:30 AM. The orange plot corresponding to data on February 14th matches what is shown in Figure 4, which is characterized by low vehicle mode split throughout the day due to the marathon event.

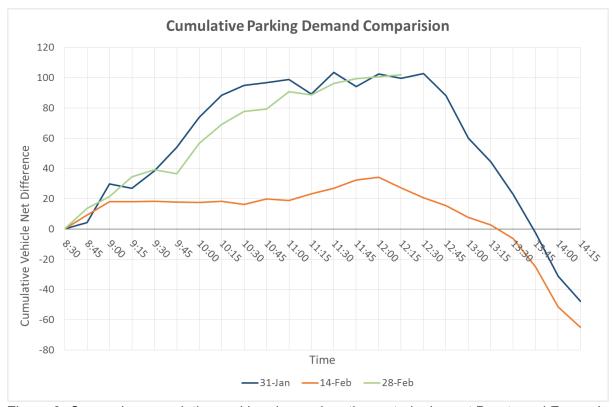


Figure 6: Comparing cumulative parking demand on three study days at Brentwood Farmer's Market.

Mode Split

Next, we analyze the proportions of people that used each type of mode to get to the farmers market. The data for each Sunday is shown in pie charts in Figures 7-9. The mode split differed significantly for the three Sundays.



It is important to note that February 14 was not a typical day at the farmer's market because the Los Angeles Marathon was happening and the course included San Vicente Boulevard directly adjacent to the farmers market. San Vicente Boulevard was closed throughout the time the farmers market was open which made it harder to drive to the site. The mode split was clearly affected as a much greater proportion of people came to the farmers market by walking and a smaller proportion came by driving. Many people who were in the area to watch the race also visited the farmers market and this led to an increase in the walking mode split. The total number of people coming to the farmer's market was similar to other days.

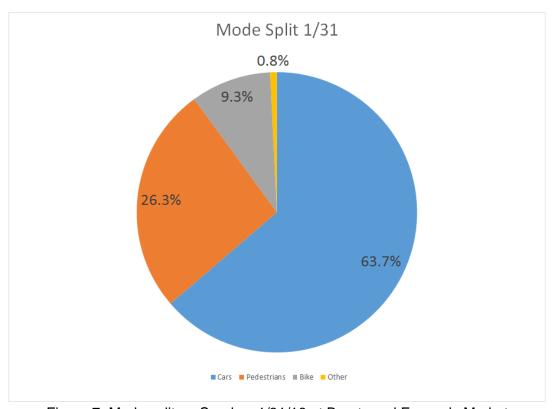


Figure 7: Mode split on Sunday, 1/31/16 at Brentwood Farmer's Market



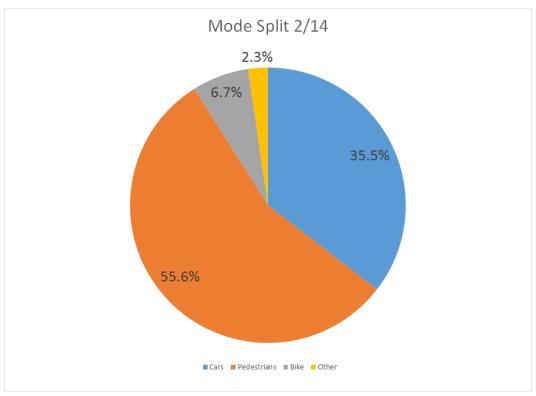


Figure 8: Mode split on Sunday, 2/14/16 at Brentwood Farmer's Market

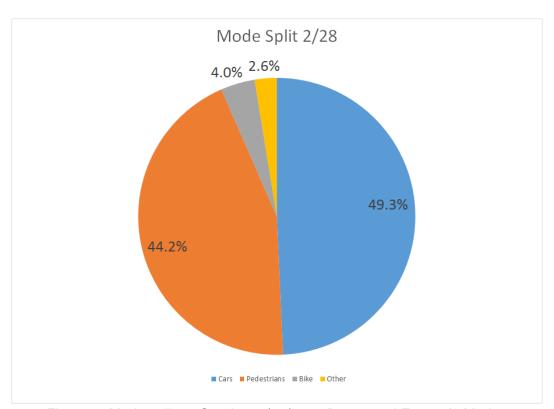


Figure 9: Mode split on Sunday, 2/28/16 at Brentwood Farmer's Market



Conclusions and Recommendations

By performing a trip generation study at the Brentwood Farmers Market, we gained an understanding of the temporal distribution and mode split of the trips going there. We found that around noon is the time when the farmers market is busiest and when the highest number of people arrive and exit. 11:30 is the midpoint of the open hours for the farmers market. It is likely that the window of time that a farmers market is open influences when the peak hour would occur. We also found that that most people either walked or drove to the farmers market. There are many residential communities in the area which make it easy for people to walk from home to the farmers market. Many people complained about the limited number of nearby parking spaces and it is likely that the lack of a parking lot dedicated to the farmers market limits the number of people who drive there.



Appendix: Trip Generation Forms



Trip Generation Data Form (Part 1)

Land Use/Building Type: Farmer's Mar	ket		ITE Land Use Cod	e: xxx	
Source:			Source No. (ITE us	e only):	
Name of Development: Brentwood Fa	ırmer's Market		Day of the Week:	Sunday	
City: Los Angeles	State/Province: CA	Zip/Postal Code: 90024	Day: 31	Month: January	Year: 2016
Country: United States			Metropolitan Area:	Los Angeles Area	

1. For fast-food land use, please specify if hamburger- or nonhamburger-based.

Location Within Area:							Detailed Description of Development:3
□ (1) CBD □ (2) Urban (Non-CBD)		,	□ (5) Ru □ (6) Fro □ (7) No	eeway Interchange Area (Rural)			
Independent Variable: (include data for as	many as possible) 2	Actual	Estimated		Actual	Estimated	
(1) Employees (#)				(9) Parking Spaces (% occupied:)			
(2) Persons (#)				(10) Beds (% occupied:)			
(3) Total Units (#) (indica	te unit:	_) □		(11) Seats (#)			
(4) Occupied Units (#) (ir	ndicate unit:	_)		(12) Servicing Positions/Vehicle Fueling			
45000 (5) Gross Floor Area (gr	oss sq. ft.)			Positions			
(% of development occup	pied <u>100%</u>	_)		(13) Shopping Center % Out-parcels/pads			
(6) Net Rentable Area (so	ą. ft.)			(14) A.M. Peak Hour Volume of Adjacent Street T	raffic ∟		
27000 (7) Gross Leasable Ar	ea (sq. ft.)			(15) P.M. Peak Hour Volume of Adjacent Stree	et Traffic		
(% of development occu	upied <u>60%</u>)		90 (16) Other Booth Capacity Max (#)	= 90 🗆		
(8) Total Acres (% develo	oped:	_)		(17) Other			

2. Definitions for several independent variables can be found in the Trip Generation, Second Edition, User's Guide Glossary.

3. Please provide all pertinent information to describe the subject project, including the presence of bicycle/pedestrian facilities. To report bicycle/pedestrian volumes, please refer to Part 4 of this data form.

A.M Perce	Occupancy P.M. ent by Trans	it:	24-hour %	□ No □ Yes (If yes, please check ap	nere a TDM program (that may have impacted the propriate box/boxes, describe the nature of the TI	trip generation characteristics of this site) underway? DM program(s) and provide a source for any studies that
Perce	ent by Carpo 6 P. hift: Start Time	ool/Vanpool: M. % End Time	24-hour % Employees (#)	may help quantify this impact that the control of t	(5) Employer Support Measures (6) Preferential HOV Treatments (7) Transit and Ridesharing Incentives	(9) Tolls and Congestion Pricing (10) Variable Work Hours/Compressed Work Weeks (11) Telecommuting
Second Shift:	Start Time	End Time End	Employees (#)	(4) Bicycle/Pedestrian Facilities and Site	(8) Parking Supply and Pricing Management	(12) Other
Third Shift:	Time	Time	Employees (#)	Improvement		
Parking Cost on	Site:	Hourly	Dailv			

Trip Generation Data Form (Part 2)

Summary of Driveway Volumes

(All = Includes all person trips)

	Average	Weekday	(M-F)				Saturda	ay					Sunday					
	Enter		Exit		Total	Total		Enter		Exit		Total			Exit		Total	
	AII	Trucks	All	Trucks	All	Trucks	AII	Trucks	All	Trucks	All	Trucks	AII	Trucks	All	Trucks	AII	Trucks
24-Hour Volume																		
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):																		
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6) Time:																		
A.M. Peak Hour Generator ² Time:																		
P.M. Peak Hour Generator ² Time:																		
Peak Hour Generator³ Time (Weekend):11:30-12:30													781		752		1533	

^{1.} Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.

Please refer to the Trip Generation User's Guide for full definition of terms.

Hourly Driveway Volumes- Average Weekday (M-F)

A.M. Period	Enter		Exit		Total		Mid-Day Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	AII	Trucks	AII	Trucks	AII	Trucks	·	AII	Trucks	AII	Trucks	AII	Trucks		AII	Trucks	AII	Trucks	AII	Trucks
6:00-7:00							11:00-12:00							3:00-4:00						
6:15-7:15							11:15-12:15							3:15-4:15						
6:30-7:30							11:30-12:30							3:30-4:30						
6:45-7:45							11:45-12:45							3:45-4:45						
7:00-8:00							12:00-1:00							4:00-5:00						
7:15-8:15							12:15-1:15							4:15-5:15						
7:30-8:30							12:30-1:30							4:30-5:30						
7:45-8:45							12:45-1:45							4:45-5:45						
8:00-9:00							1:00-2:00							5:00-6:00						

□Check if Part 3, 4 and/or add	litional information is attached.
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Survey conducted by: Name: XuQi Feng, Matt Stewart	
Organization: UCLA ITE	
Address: Note: Trips are person trips rather than vehicle trips	
City/State/Zip:	
Telephone #: (310) 918-0210 Fax #: NA E-mail: xuqifeng.ucla@gmail.com; mattstewart@ucla.edu;	

Please return to: Institute of Transportation Engineers

² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

^{3.} Highest hourly volume during the entire day. Please specify the peak hour.

Trip Generation Data Form (Part 3)

Name/Organization: UCLA ITE	City/State:
Telephone Number:	
Detailed Driveway Volumes: Attach this sheet to Parts 1 and 2 if you are providing additional information.	

(All = All person trips)

Day of the week: SUNDAY

A.M. Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	AII	Trucks	AII	Trucks	AII	Trucks		AII	Trucks	AII	Trucks	AII	Trucks
12:00-12:15							12:00-12:15	208		185		393	
12:15-12:30							12:15-12:30	165		173		338	
12:30-12:45							12:30-12:45	165		157		322	
12:45-1:00							12:45-1:00	130		168		298	
1:00-1:15							1:00-1:15	116		190		306	
1:15-1:30							1:15-1:30	84		125		209	
1:30-1:45							1:30-1:45	80		149		229	
1:45-2:00							1:45-2:00	25		107		132	
2:00-2:15							2:00-2:15	20		111		131	
2:15-2:30							2:15-2:30	14		67		81	
2:30-2:45							2:30-2:45			07			
2:45-3:00							2:45-3:00				$\overline{}$		
3:00-3:15							3:00-3:15						
3:15-3:30							3:15-3:30						
3:30-3:45							3:30-3:45						
3:45-4:00							3:45-4:00						
4:00-4:15							4:00-4:15						
4:15-4:30							4:15-4:30						
4:30-4:45							4:30-4:45						
4:45-5:00							4:45-5:00				$\overline{}$		
5:00-5:15							5:00-5:15						
5:15-5:30							5:15-5:30						
5:30-5:45							5:30-5:45				$\overline{}$		
5:45-6:00							5:45-6:00				$\overline{}$		
6:00-6:15							6:00-6:15						
6:15-6:30							6:15-6:30						
6:30-6:45							6:30-6:45						
6:45-7:00							6:45-7:00				$\overline{}$		
7:00-7:15							7:00-7:15				$\overline{}$		
7:15-7:30							7:15-7:30				$\overline{}$		
7:30-7:45							7:30-7:45						
7:45-8:00							7:45-8:00						
8:00-8:15							8:00-8:15				$\overline{}$		
8:15-8:30							8:15-8:30						
8:30-8:45	01				1.42								
8:45-9:00	81		61		142		8:30-8:45 8:45-9:00						
	81		70		151								
9:00-9:15	159		94		253		9:00-9:15				$\overline{}$		
9:15-9:30	105		112		217		9:15-9:30						
9:30-9:45	166		135		301		9:30-9:45						
9:45-10:00	154		112		266		9:45-10:00						
10:00-10:15	157		103		260		10:00-10:15						
10:15-10:30	198		158		356		10:15-10:30						
10:30-10:45	162		127		289		10:30-10:45						
10:45-11:00	173		162		335		10:45-11:00						
11:00-11:15	211		200		411		11:00-11:15						
11:15-11:30	128		181		309		11:15-11:30						
11:30-11:45	245		205		450		11:30-11:45						
11:45-12:00	163		189		352		11:45-12:00						

Summary of Bicycle Volumes

Institute of Transportation Engineers

Trip Generation Data Form (Part 4)

	Average Weekd	ay (M-F)		Saturday			Sunday		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
l									
24-Hour Volume									
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9)									
Time (ex.: 7:15 - 8:15):									
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6)									
Time:									
A.M. Peak Hour Generator ²									
Time:									
P.M. Peak Hour Generator ²									
Time:									
Peak Hour Generator³ Time (Weekend):11:30-12:30							80	77	157

Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.) as defined in Trip Generation Data Form (Part 2). Please specify the peak hour.

Summary of Pedestrian Volumes

	Average Weekday	(M-F)		Saturday			Sunday			
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
24-Hour Volume										
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9)										
Time (ex.: 7:15 - 8:15):										
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6)										
Time:										
A.M. Peak Hour Generator ²										
Time:										
P.M. Peak Hour Generator ²										
Time:										
Peak Hour Generator ³ Time (Weekend):10:30-11:30							368	365	733	

Survey conducted by: Name: XuQi Feng, Matthew Stewart	
Organization: UCLA ITE	
Address:	
City/State/Zip:	
Telephone #: <u>(310)</u> 918-0210	_Fax #:_NA_ E-mail: xuqifeng.ucla@gmail.com; mattstewart@ucla.edu;

Please return to: Institute of Transportation Engineers

² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

³ Highest hourly volume during the entire day. Please specify the peak hour. Please attach supplemental hourly volumes. Please refer to the *Trip Generation User's Guide* for full definition of terms.

Trip Generation Data Form (Part 1)

Land Use/Building Type: Farmer's Market				ITE Land Us	e Code: >	CXX		
Source:				Source No. (ITE use o	nly):		
Name of Development: Brentwood Farmer's Market				Day of the W	eek: Sur	nday		
City: Los Angeles State/Pro	vince: CA	Zip/Postal Cod	e: 90024	Day: 14		Month	h: February	Year: 2016
Country: United States				Metropolitan	Area: Lo	s Angeles A	rea	
1. For fast-food land use, please specify if hamburger- or n	onhamburger-l	pased.						
Location Within Area:							Detailed Description	of Development:3
☐ (1) CBD ☐ (3) Suburban	(Non-CBD)	∟ (5) Rural						
☐ (2) Urban (Non-CBD)	CBD	☐ (6) Freeway Interchange						
Laborated Market Control of the Cont	2 A-11	(7) Not Given			A = 1 1	Fattanatad		
Independent Variable: (include data for as many as possible)		Estimated			Actual	Estimated		
(1) Employees (#)		, ,	arking Spaces (% occup	,		L		
(2) Persons (#)			Beds (% occupied:)		L		
(3) Total Units (#) (indicate unit:		(11) S				С		
(4) Occupied Units (#) (indicate unit:			Servicing Positions/Vehicl	e Fueling		L		
45000 (5) Gross Floor Area (gross sq. ft.)			Positions					
(% of development occupied100%)		nopping Center % Out-p					
(6) Net Rentable Area (sq. ft.)		(14) A	.M. Peak Hour Volume of	Adjacent Street Ti	affic ∟	L		
27000 (7) Gross Leasable Area (sq. ft.)		(15) P.M. Peak Hour Volume	of Adjacent Street	Traffic			
(% of development occupied60%)	<u>90</u> (16) O	ther Booth Capacity	Max (#) = 90				
(8) Total Acres (% developed:)	(17) (Other					
2. Definitions for several independent variables can be found in t	ne Trip Generatio	on, Second Edition, User's Guide Glos	ssary.					
3. Please provide all pertinent information to describe the subject	project, includir	ng the presence of bicycle/pedestrian	facilities. To report bicycle	/pedestrian volum	es, please	refer to Part 4	of this data form.	
Other Data:		Transportation Demand Mana	gement (TDM) Informat	ion:				
Vehicle Occupancy (#):		At the time of this study, was	there a TDM program (th	at may have imp	acted the	trip generatio	on characteristics of th	is site) underway?
A.M P.M 24-hour %		□ No						
Percent by Transit:		☐ Yes (If yes, please check a	ppropriate box/boxes, de	scribe the nature	of the TD	M program(s	and provide a source	e for any studies that
A.M. % P.M. % 24-hour % Percent by Carpool/Vanpool:		may help quantify this impa	act. Attach additional she	ets if necessary)			
A.M. % P.M. % 24-hour %								
Employees by Shift:		☐ (1) Transit Service	☐ (5) Employer S	upport Measure	S	☐ (9) Toll:	ls and Congestion Pri	cing
Start End		☐ (2) Carpool Programs	□ (6) Preferential	HOV Treatmen	ts	□ (10) Var	riable Work Hours/Cor	mpressed Work Weeks
First Shift: Time Time Employees (#)	─ □ (3) Vanpool Programs		Ridesharing Ince	entives	∟ (11) Tel	ecommuting	
Start End		(4) Bicycle/Pedestrian	(8) Parking Su	oply and Pricing		(12) Oth	ner <u>Los Angeles Mara</u>	athon taking place
Second Shift: Time Time Employees (#)	— (¬, Dioyolo/1 cucotilali	(o) I aikiiig ou	opiy and I nomy		adjad	cent to site	anon taking place
Start End		Facilities and Site	Manageme	ent				

Improvement

Third Shift:

Parking Cost on Site:

Employees (#)

Time _____

Hourly _____ Daily ____

Trip Generation Data Form (Part 2)

Summary of Driveway Volumes

(All = Includes all person trips)

	Average	Weekday	(M-F)				Saturda	ay					Sunday	/				
	Enter		Exit		Total		Enter Exit Total			Enter		Exit		Total				
	AII	Trucks	All	Trucks	AII	Trucks	All	Trucks	All	Trucks	All	Trucks	AII	Trucks	All	Trucks	AII	Trucks
24-Hour Volume																		
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):																		
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6) Time:																		
A.M. Peak Hour Generator ² Time:																		
P.M. Peak Hour Generator ² Time:																		
Peak Hour Generator ³ Time (Weekend):11:30-12:30													875		847		1722	

¹⁻ Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.

Please refer to the Trip Generation User's Guide for full definition of terms.

Hourly Driveway Volumes- Average Weekday (M-F)

A.M. Period	Enter		Exit		Total		Mid-Day Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	AII	Trucks	AII	Trucks	AII	Trucks	·	AII	Trucks	AII	Trucks	AII	Trucks		AII	Trucks	AII	Trucks	AII	Trucks
6:00-7:00							11:00-12:00							3:00-4:00						
6:15-7:15							11:15-12:15							3:15-4:15						
6:30-7:30							11:30-12:30							3:30-4:30						
6:45-7:45							11:45-12:45							3:45-4:45						
7:00-8:00							12:00-1:00							4:00-5:00						
7:15-8:15							12:15-1:15							4:15-5:15						
7:30-8:30							12:30-1:30							4:30-5:30						
7:45-8:45							12:45-1:45							4:45-5:45						
8:00-9:00							1:00-2:00							5:00-6:00						

□Check if Part 3.	4 and/or	additional	information	is attached

Survey conducted by: Name: XuQi Feng; Matt Stewart	
Organization: UCLA ITE	
Address: Note: Trips are person trips rather than vehic	cle trips
City/State/Zip:	
Telephone #: (310) 918-0210 Fax #: NA	E-mail: xuqifeng.ucla@gmail.com; mattstewart@ucla.edu;

Please return to: Institute of Transportation Engineers

² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

^{3.} Highest hourly volume during the entire day. Please specify the peak hour.

Trip Generation Data Form (Part 3)

Name/Organization: UCLA_ITE	City/State:						
Telephone Number:							
Detailed Driveway Volumes: Attach this sheet to Parts 1 and 2 if you are providing additional information.							
Day of the week: SUNDAY	(All = All person trips)						

12:00-12:15 12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45 5:45-6:00	All	Trucks	All	Trucks	All	Trucks	12:00-12:15 12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00	742 685 646 608 541 419 312	Trucks	AII 845 844 779 746 736 689	Trucks	All 1587 1529 1425 1354 1277 1108	Trucks
12:00-12:15 12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 4:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45	685 646 608 541 419		844 779 746 736 689		1529 1425 1354 1277 1108	
12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							12:15-12:30 12:30-12:45 12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45	685 646 608 541 419		844 779 746 736 689		1529 1425 1354 1277 1108	
12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45	646 608 541 419		779 746 736 689		1425 1354 1277 1108	
1:00-1:15 1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							12:45-1:00 1:00-1:15 1:15-1:30 1:30-1:45	608 541 419		746 736 689		1354 1277 1108	
1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							1:15-1:30 1:30-1:45	541 419		736 689		1277 1108	
1:15-1:30 1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							1:15-1:30 1:30-1:45	419		689		1108	
1:30-1:45 1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-6:30 5:30-5:45							1:30-1:45		$\overline{}$		$\overline{}$		
1:45-2:00 2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45								312		615		927	
2:00-2:15 2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-6:30 5:30-5:45							1.10 2.00	742		845		1587	
2:15-2:30 2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-6:30 5:30-5:45							2:00-2:15	685		844		1529	
2:30-2:45 2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45					_		2:15-2:30	646		779		1425	
2:45-3:00 3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-6:30 5:30-5:45					$\overline{}$		2:30-2:45	040				1423	
3:00-3:15 3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45				_			2:45-3:00						
3:15-3:30 3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-6:45							3:00-3:15			$\overline{}$	$\overline{}$	$\overline{}$	
3:30-3:45 3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45							3:15-3:30						
3:45-4:00 4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45		_					3:30-3:45	\vdash					
4:00-4:15 4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45		$\overline{}$					3:45-4:00	\rightarrow					
4:15-4:30 4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45		$\overline{}$					4:00-4:15						
4:30-4:45 4:45-5:00 5:00-5:15 5:15-5:30 5:30-5:45		$\overline{}$											
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5:00-5:15 5:15-5:30 5:30-5:45		$\overline{}$					4:30-4:45						
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							5:15-5:30						
5:45-6:00							5:30-5:45						
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6:00-6:15							6:00-6:15						
6:15-6:30							6:15-6:30						
6:30-6:45							6:30-6:45						
6:45-7:00							6:45-7:00						
7:00-7:15							7:00-7:15						
7:15-7:30							7:15-7:30						
7:30-7:45							7:30-7:45						
7:45-8:00							7:45-8:00						
8:00-8:15							8:00-8:15						
8:15-8:30							8:15-8:30						
8:30-8:45	377		259		636		8:30-8:45						
8:45-9:00	437		349		786		8:45-9:00						
9:00-9:15	497		456		953		9:00-9:15						
9:15-9:30	511		516		1027		9:15-9:30						
9:30-9:45	544		543		1087		9:30-9:45						
9:45-10:00	583		597		1180		9:45-10:00						
10:00-10:15	635		622		1257		10:00-10:15						
	702		692		1394		10:15-10:30						
	725		691		1416		10:30-10:45						
	817		742		1559		10:45-11:00						
	864		772		1636		11:00-11:15						
	889		777		1666		11:15-11:30						
	875		847		1722		11:30-11:45						
	806		840		1646		11:45-12:00	\vdash	$\overline{}$		\vdash	\vdash	$\overline{}$

Summary of Bicycle Volumes

Institute of Transportation Engineers

Trip Generation Data Form (Part 4)

	Average Weekda	ay (M-F)		Saturday			Sunday			
	Enter	Exit	Total	Enter	Exit	Total	Enter	Total		
24-Hour Volume										
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):										
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6) Time:										
A.M. Peak Hour Generator ² Time:										
P.M. Peak Hour Generator ² Time:										
Peak Hour Generator³ Time (Weekend):11:30-12:30							90	87	177	

Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.) as defined in Trip Generation Data Form (Part 2). Please specify the peak hour.

Summary of Pedestrian Volumes

1	Average Weekday	(M-F)		Saturday			Sunday			
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
24-Hour Volume										
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9)										
Time (ex.: 7:15 - 8:15):										
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6)										
Time:										
A.M. Peak Hour Generator ²										
Time:										
P.M. Peak Hour Generator ²										
Time:										
Peak Hour Generator ³ Time (Weekend):10:30-11:30							395	377	772	

Survey conducted by: Name: XuQi Feng; Matthew Stewart	
Organization: UCLA ITE	
Address:	
City/State/Zip:	
Telephone #: <u>(310) 918-0210</u>	_Fax #:_NA_ E-mail: xuqifeng.ucla@gmail.com; mattstewart@ucla.edu;

Please return to: Institute of Transportation Engineers

² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

³ Highest hourly volume during the entire day. Please specify the peak hour. Please attach supplemental hourly volumes. Please refer to the *Trip Generation User's Guide* for full definition of terms.

Trip Generation Data Form (Part 1)

Land Use/Building Type: Farmer's Market		ITE Land Use Code: >	ITE Land Use Code: xxx						
Source:		Source No. (ITE use o	Source No. (ITE use only):						
Name of Development: Brentwood Farmer's M	1arket	Day of the Week: Sur	Day of the Week: Sunday						
City: Los Angeles	State/Province: CA	Zip/Postal Code: 90024	Day: 28	Month: February	Year: 2016				
Country: United States		Metropolitan Area: Los Angeles Area							
1. For fast-food land use, please specify if hamburger- or nonhamburger-based.									

Location Within Area:							Detailed Description of Developmen
□ (1) CBD □ (2) Urban (Non-CBD)	∟ (3) Suburban (N √ (4) Suburban CE	,	(/	eeway Interchange Area (Rural)			
Independent Variable: (include data for as n	nany as possible) ²	Actual	☐ (7) No Estimated	it Given	Actual	Estimated	
(1) Employees (#)				(9) Parking Spaces (% occupied:)			
(2) Persons (#)				(10) Beds (% occupied:)			
(3) Total Units (#) (indicate	unit:	_)		(11) Seats (#)			
(4) Occupied Units (#) (inc	licate unit:	_) □		(12) Servicing Positions/Vehicle Fueling	L	L	
45000 (5) Gross Floor Area (g	ross sq. ft.)			Positions			
(% of development occupi	ed <u>100%</u>	_)		(13) Shopping Center % Out-parcels/pads			
(6) Net Rentable Area (sq.	ft.)			(14) A.M. Peak Hour Volume of Adjacent Street T	raffic∟		
27000 (7) Gross Leasable Are	a (sq. ft.)			(15) P.M. Peak Hour Volume of Adjacent Street T	raffic ∟	L	
(% of development occup	oied <u>60%</u>	_)		90 (16) Other Booth Capacity Max (#) = 90			
(8) Total Acres (% develop	oed:	_)		(17) Other			

- 2. Definitions for several independent variables can be found in the Trip Generation, Second Edition, User's Guide Glossary.
- 3. Please provide all pertinent information to describe the subject project, including the presence of bicycle/pedestrian facilities. To report bicycle/pedestrian volumes, please refer to Part 4 of this data form.

A.M PerceA.M. %	e Occupancy P.N ent by Tran 6	1. sit: P.M. %	24-hour % 24-hour %	No Yes (If yes, please check app	ere a TDM program (that may have impacted the	trip generation characteristics of this site) underway? DM program(s) and provide a source for any studies that
	%	eool/Vanpool: P.M. % End Time End	24-hour % Employees (#)	(1) Transit Service (2) Carpool Programs (3) Vanpool Programs	(5) Employer Support Measures ☐ (6) Preferential HOV Treatments ☐ (7) Transit and Ridesharing Incentives	(9) Tolls and Congestion Pricing ☐ (10) Variable Work Hours/Compressed Work Weeks ☐ (11) Telecommuting
Second Shift:	Time	Time	Employees (#)	(4) Bicycle/Pedestrian Facilities and Site	☐ (8) Parking Supply and Pricing ☐ Management	☐ (12) Other
Third Shift:	Time	Time	Employees (#)	Improvement		
Parking Cost on	Site:	Hourly	Daily			

Trip Generation Data Form (Part 2)

Summary of Driveway Volumes (All = Includes all person trips)

Cannaly Of Driveway VO		Average Weekday (M-F)					Saturday						Sunday						
		weekaay						ay											
	Enter Exi		Exit	Exit		Total E		Enter E		Exit		Total		Enter		Exit		Total	
	AII	Trucks	All	Trucks	All	Trucks	AII	Trucks	All	Trucks	All	Trucks	AII	Trucks	AII	Trucks	AII	Trucks	
0411																			
24-Hour Volume A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):																			
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6) Time:																			
A.M. Peak Hour Generator ² Time:																			
P.M. Peak Hour Generator ² Time:																			
Peak Hour Generator ³ Time (Weekend):10:45-11:45													888		801		1689		

- 1- Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.
- ² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.
- 3. Highest hourly volume during the entire day. Please specify the peak hour.

Please refer to the Trip Generation User's Guide for full definition of terms.

Hourly Driveway Volumes- Average Weekday (M-F)

A.M. Period	Enter		Exit		Total		Mid-Day Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	AII	Trucks	AII	Trucks	AII	Trucks	·	AII	Trucks	AII	Trucks	AII	Trucks		AII	Trucks	AII	Trucks	AII	Trucks
6:00-7:00							11:00-12:00							3:00-4:00						
6:15-7:15							11:15-12:15							3:15-4:15						
6:30-7:30							11:30-12:30							3:30-4:30						
6:45-7:45							11:45-12:45							3:45-4:45						
7:00-8:00							12:00-1:00							4:00-5:00						
7:15-8:15							12:15-1:15							4:15-5:15						
7:30-8:30							12:30-1:30							4:30-5:30						
7:45-8:45							12:45-1:45							4:45-5:45						
8:00-9:00							1:00-2:00							5:00-6:00						

□Check if Part 3	. 4 and/or	additional i	information	is attached.
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Survey conducted by:	Name: XuQi Feng, Matt Stewart
	Organization: UCLA ITE
	Address: Note: Trips are person trips rather than vehicle trips
	City/State/Zip:
	Telephone #: (310) 918-0210 Fax #: NA E-mail: xuqifeng.ucla@gmail.com; mattstewart@ucla.edu;

Please return to: Institute of Transportation Engineers

Trip Generation Data Form (Part 3)

Name/Organization: UCLA ITE	City/State:
Telephone Number:	
Detailed Driveway Volumes: Attach this sheet to Parts 1 and 2 if you are providing additional information.	

(All = All person trips)

Day of the week: SUNDAY

A.M. Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	AII	Trucks	AII	Trucks	AII	Trucks		AII	Trucks	AII	Trucks	AII	Trucks
12:00-12:15							12:00-12:15	200		195		395	
12:15-12:30							12:15-12:30	179		174		353	
12:30-12:45							12:30-12:45	117					
12:45-1:00							12:45-1:00						
1:00-1:15							1:00-1:15	1					
1:15-1:30							1:15-1:30	+					
1:30-1:45							1:30-1:45	+				 	
1:45-2:00							1:45-2:00						
2:00-2:15							2:00-2:15						
2:15-2:30							2:15-2:30	+					
2:30-2:45							2:30-2:45						
2:45-3:00							2:45-3:00						
3:00-3:15							3:00-3:15						
3:15-3:30							3:15-3:30						
3:30-3:45							3:30-3:45						
3:45-4:00							3:45-4:00						
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4:30-4:45							4:30-4:45						$\overline{}$
4:45-5:00							4:45-5:00						
5:00-5:15							5:00-5:15						
5:15-5:30							5:15-5:30						
5:30-5:45							5:30-5:45						$\overline{}$
5:45-6:00							5:45-6:00						
6:00-6:15							6:00-6:15						
6:15-6:30							6:15-6:30						
6:30-6:45							6:30-6:45						
6:45-7:00							6:45-7:00						
7:00-7:15							7:00-7:15						
7:15-7:30							7:15-7:30						
7:30-7:45							7:30-7:45						
7:45-8:00							7:45-8:00						
8:00-8:15							8:00-8:15						
8:15-8:30							8:15-8:30						
8:30-8:45	75		23		98		8:30-8:45						
8:45-9:00	85		34		119		8:45-9:00						
9:00-9:15	123		93		216		9:00-9:15						
9:15-9:30	156		107		263		9:15-9:30						
9:30-9:45	175		158		333		9:30-9:45						
9:45-10:00	160		170		330		9:45-10:00						
10:00-10:15	242		171		413		10:00-10:15						
10:15-10:30	195		151		346		10:15-10:30						
10:30-10:45	216		170		386		10:30-10:45						
10:45-11:00	206		198		404		10:45-11:00						
11:00-11:15	254		195		449		11:00-11:15						
11:15-11:30	213		223		436		11:15-11:30						
11:30-11:45	215		185		400		11:30-11:45						
11:45-12:00	189						11:45-12:00	$\overline{}$					
11:45-12:00	189		177		366		11:45-12:00						L`

Summary of Bicycle Volumes

Institute of Transportation Engineers

Trip Generation Data Form (Part 4)

	Average Weekda	ay (M-F)		Saturday			Sunday			
	Enter	Exit	Total	Enter	Enter Exit Total			Enter Exit To		
24-Hour Volume										
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):										
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6) Time:										
A.M. Peak Hour Generator ² Time:										
P.M. Peak Hour Generator ² Time:										
Peak Hour Generator³ Time (Weekend):11:00-12:00							84	75	159	

Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.) as defined in Trip Generation Data Form (Part 2). Please specify the peak hour.

Summary of Pedestrian Volumes

	Average Weekday (M-F)			Saturday			Sunday			
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
24-Hour Volume										
A.M. Peak Hour of Adjacent ¹ Street Traffic (7 – 9)										
Time (ex.: 7:15 - 8:15):										
P.M. Peak Hour of Adjacent ¹ Street Traffic (4 – 6)										
Time:										
A.M. Peak Hour Generator ²										
Time:										
P.M. Peak Hour Generator ²										
Time:										
Peak Hour Generator³ Time (Weekend):10:30-11:30							485	429	914	

Survey conducted by: Name: XuQi Feng, Matthew Stewart		Please return to: Institute
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² Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

³ Highest hourly volume during the entire day. Please specify the peak hour. Please attach supplemental hourly volumes. Please refer to the *Trip Generation User's Guide* for full definition of terms.