

TRAFFIC GENERATION REPORT

[Los Angeles International Airport / August 2013]



*Los Angeles
World Airports*

Prepared by Capital Programming & Planning Group / December 2013

Executive Summary:

Per Section G, *Monitoring and Reporting*, of the Los Angeles International Airport Specific Plan, Los Angeles World Airports (LAWA) is required to prepare an annual Traffic Generation Report. This traffic report shall identify "the current number of Trips being generated by LAX, the number of Trips anticipated to be generated at the completion of any Master Plan Project(s) in development at the time of the report, the Trips proposed to be generated following the implementation of the Master Plan as informed by current and Project-based Trip counts, and the number of Trips anticipated to be generated by on-going Master Plan construction activities."

This study is the ninth Traffic Generation Report to be completed since the Los Angeles City Council's approval of the LAX Master Program in December 2004.

The Environmental Impact Report (EIR) for the LAX Master Plan forecasted 8,236 net new trips during the airport peak hour at full build-out and after implementation of mitigation measures.

The typical design day used for the LAX Master Plan is a Friday in August. The total number of trips for the airport peak hour of 11 am to noon is as follows:

1996 Airport Peak Hour Volume (Base Year)	17,725 trips
2013 Airport Peak Hour Volume	14,403 trips
2015 Airport Peak Hour Volume (Projected)	26,011 trips

These volumes show that the August 2013 airport peak-hour volume does not exceed 8,236 additional trips above the base-year total of 17,725 trips and is in fact 3,322 trips less than the 1996 base year volumes.

The results of the August 2013 traffic volume study also reveal that there were 10,425 trips recorded at LAX during the 8 am to 9 am peak hour and 12,218 trips in the 5 pm to 6 pm peak hour. This represents 1,553 fewer trips during the morning peak hour in August 2013 than during the same hour in the 1996 base year, and 669 fewer evening peak hour trips in August 2013 than during the 1996 base year.

Methodology:

The following methodology was used in calculating the overall traffic volumes accessing and egressing LAX. The Land Use and Development Section of the Los Angeles Department of Transportation (LADOT) approved this methodology, which has been used consistently for the LAX Traffic Generation reports annually since 2005.

LAX Central Terminal Area (CTA) Roadways:

All traffic entering and exiting the LAX CTA is recorded by LAWA's Traffic and Automated Vehicle Identification System (TRAVIS), which include electro-magnetic loop detectors imbedded in each travel lane of the roadways. Vehicle type is not distinguished by these loops; therefore, each vehicle regardless of size is considered as a single trip either into or out of the LAX CTA. A "trip" is defined as the entrance or exit of a vehicle from the airport or airport-related property as studied in the LAX Master Plan Final EIR. Traffic information is continuously recorded on a computer database and is retrievable by LAWA staff for a variety of time intervals, including hourly counts.

Counts for the LAX Master Plan design day (a Friday in August) were retrieved from the database and averaged for the morning (8 am to 9 am), airport (11 am to noon) and evening (5 pm to 6 pm) peak hours. Table 1 shows the number of inbound and outbound trips for the three peak periods studied during each Friday in August 2013, along with the average number of trips.

LAX Central Terminal Area - Traffic Volumes by Direction

Date	Inbound			Outbound		
	8-9 AM	11AM- Noon	5-6 PM	8-9 AM	11AM- Noon	5-6 PM
8/02/13	3,395	4,372	3,536	2,623	3,847	3,846
8/09/13	3,263	4,557	3,546	2,581	4,691	4,134
8/16/13	3,337	4,595	3,365	3,003	4,634	4,047
8/23/13	3,282	4,565	3,473	2,952	4,670	3,995
8/30/13	3,448	4,664	3,709	2,984	4,579	4,160
Average	3,345	4,551	3,526	2,829	4,484	4,036

Table 1

The total number of trips into and out of the LAX CTA on each of the Fridays in August 2013, along with their averages, is summarized in Table 2.

LAX Central Terminal Area - Total Traffic Volumes

Date	Total		
	8-9 AM	11AM- Noon	5-6 PM
8/02/13	6,018	8,219	7,382
8/09/13	5,844	9,248	7,680
8/16/13	6,340	9,229	7,412
8/23/13	6,234	9,235	7,468
8/30/13	6,432	9,243	7,869
Average	6,174	9,035	7,562

Table 2

World Way West:

All traffic eastbound and westbound on World Way West east of Pershing Drive was recorded through the use of automated traffic counters temporarily installed by the Los Angeles Department of Transportation at the LAWA's request. The volumes recorded on World Way West account for traffic heading to and leaving airport facilities on the west side of LAX.

Driveways

Traffic during the three peak hours was counted at over 60 driveways by Metro Traffic Data Inc., a privately owned and operated traffic data collection company under contract by LAWA. Individual counts were required at these locations because traffic volumes are not recorded by the automated, loop-detector system. See **Figure 1** for a map of the facilities at which driveway counts were recorded. Traffic entering and exiting a roadway or driveway was counted in three separate vehicular categories – cars, trucks and shuttles.

Metro Traffic Data Inc. recorded traffic at the following cargo facility driveways on Friday, August 16, 2013:

Cargo/Ancillary Facilities:

Aviation Blvd (west leg of intersection) locations:

- 104th Street
- 111th Street

Century Blvd (south leg of intersection) locations:

- Avion Drive
- Airport Blvd
- Postal Road
- International Road

Imperial Highway (north leg of intersection) locations:

- Imperial Terminal
- California Street
- Hughes Way
- Unsignalized driveway east of Hughes Way
- Kilroy Center Drive
- Douglas Street
- Unsignalized driveway between Kilroy Center Drive and Aviation Blvd

Five driveways along the north side of Imperial Highway and one driveway along the south side of Century Blvd have very limited traffic volumes throughout the day. For the

Traffic Count Location Map

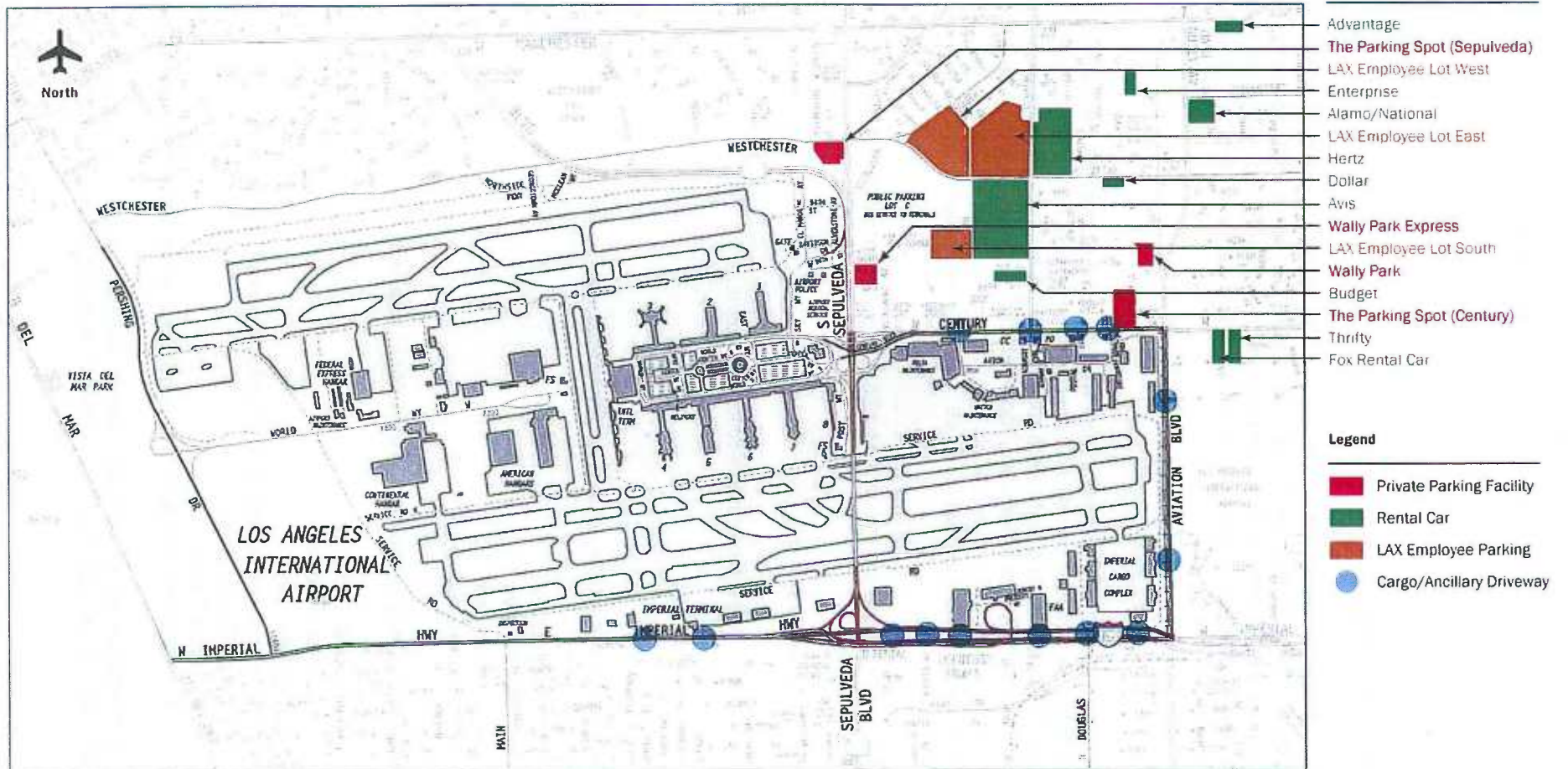


Figure 1

purposes of this study, a total of 50 vehicles was added to the cargo/ancillary traffic volumes recorded for each peak hour to account for the traffic using these six driveways. Because traffic entering and exiting these minor driveways is infrequent, this estimate represents a conservatively high volume of traffic for these six driveways.

Airport Operated Public Parking Lots

Traffic counts were conducted at the following airport-operated Parking Lot C driveways:

- Two entrance driveways on 96th Street west of Vicksburg Avenue
- Exit driveway on Jenny Avenue
- Entrance driveway on Westchester Parkway

Airport Operated Employee Parking Lots

- Employee Lot West Entrance/Exit Driveway on Westchester Parkway
- Employee Lot East Entrance/Exit Driveway on Jenny Ave n/o Westchester Pkwy
- Employee Lot South Entrance/Exit Driveway on Jenny Ave s/o Westchester Pky
- Airport Police – Two driveways on 96th Street west of Alverstone Avenue

Rental Car Locations:

There are ten car rental companies that are allowed to provide shuttle service between the LAX CTA and their facility. The number of autos and shuttles entering and exiting the following locations were recorded at the following locations:

Advantage Rent a Car – Manchester Blvd between Isis Ave and Hindry Ave

- Driveway on Manchester Blvd east of Isis Ave
- Car return driveway on Isis Ave south of Manchester Blvd

Alamo and National – Aviation Blvd and Hillcrest Blvd, SE corner:

- Three driveways on Aviation Blvd south of Hillcrest Blvd
- Car return driveway on Hillcrest Blvd east of Aviation Blvd

Avis – Airport Blvd/Westchester Pkwy/Jenny Ave:

- Driveway on Airport Blvd south of Westchester Parkway
- Three driveways on Jenny Ave

Budget – Airport Blvd and 98th Street, NW corner:

- Two driveways on Airport Blvd
- Two driveways on 96th Place
- Driveway on 98th Street

Dollar – Arbor Vitae Street, south side, west of Bellanca Ave:

- Three driveways on Arbor Vitae Street
- Car return driveway on Bellanca Ave south of Arbor Vitae Street

Enterprise – Bellanca Ave between Manchester Ave and Arbor Vitae St:

- Four driveways on Bellanca Ave

Fox/Payless – Century Blvd, south side, between Aviation Blvd and Concourse Way:

- Driveway at 5500 West Century Blvd

Hertz – Airport Blvd between Interceptor Street and Arbor Vitae Street:

- Shuttle entrance driveway on Airport Blvd north of Arbor Vitae Street
- Driveway on Interceptor Street east of Airport Blvd
- Two exit driveways on Arbor Vitae Street

Thrifty – Century Blvd, south side, between Aviation Blvd and Concourse Way:

- Driveway on Century Blvd
- Driveway on Concourse Way south of Century Blvd

Off-Airport Rental Car Companies/ Cell Phone Waiting Lot:

Off-airport car rental companies are not permitted to drop off or pickup customers in the CTA. Unlike the on-airport car rental companies, no off-airport car rental driveways were included in the traffic count. The official pickup and drop-off location for these companies is located within a portion of Lot C, on the north side of 96th Street immediately west of Vicksburg Avenue. However, this facility is rarely used by off-airport rental car companies and no additional traffic was included in the trip totals.

This location performs a separate duty as the LAX Cell Phone Waiting Lot. Drivers in private vehicles are permitted to wait in this lot before coming into the CTA to pick up passengers. Vehicles were not counted when they entered and exited the Cell Phone Waiting Lot since they were counted when they entered and exited the CTA to pick up their party at the terminal.

Private Airport Parking Facilities:

Traffic was recorded at the following private parking facility driveways. These facilities are exclusively used for parking and are not affiliated with a hotel or office building. It was conservatively assumed that all traffic entering or exiting these facilities is airport related. Since in reality these facilities cater to customers unrelated to the airport, the traffic volumes used in this report are likely to be somewhat inflated.

Park One¹ – Sepulveda Blvd from Century Blvd to 96th Street:

- Driveway on 96th Street west of Alverstone Ave (this is a joint use driveway with the airport police parking lot)
- Driveway on "Little" Century Blvd

The Parking Spot – Bellanca Ave from Century Blvd to 98th Street:

- Driveways on Bellanca Ave
- Driveway on 98th Street
- Car entrance driveway on Century Blvd

Valet AirPark – Sepulveda Blvd and 96th Street, SE corner:

- Driveway on 96th Street east of Sepulveda Blvd
- Driveway on Vicksburg Ave south of 96th Street

Wally Park – Bellanca Ave, east side, north of 98th Street:

- Two driveways on Bellanca Ave

Westchester Parking Spot – Sepulveda Blvd/Westchester Pkwy/Sepulveda Eastway:

- Driveway on Sepulveda Westway
- Driveway on Westchester Pkwy

Other Private Airport Parking Facilities:

Like the private parking facilities referenced above, other off-airport, private parking operators also provide shuttle service for their customers to and from LAX terminals. However, these parking operators also cater to customers who park in their facilities but who are not going to the airport. Therefore, the following methodology was established to estimate the volume of airport trips at these joint-use parking facilities where manual traffic counts were not conducted.

Using the volume of car trips and the volume of shuttle trips manually recorded at large parking facilities such as Wally Park and The Parking Spot, the following trip generation factors were calculated:

¹ The Park One property was purchased by LAWA in July 2009. However, a private parking operator continues to conduct business on this site.

Private Parking Car Trips per Inbound Shuttle

AM 163 trips/ 49 shuttles = 3.33 trips/shuttle
 AP 112 trips/ 39 shuttles = 2.87 trips/shuttle
 PM 84 trips/ 61 shuttles = 1.38 trips/shuttle

Private Parking Car Trips per Outbound Shuttle

AM 38 trips/ 68 shuttles = 0.56 trips/shuttle
 AP 129 trips/ 61 shuttles = 2.11 trips/shuttle
 PM 182 trips/ 64 shuttles = 2.84 trips/shuttle

The number of shuttles recorded in the LAX CTA on five Fridays in August 2013 by the joint-use parking businesses was obtained from the TRAVIS database. It is assumed that the same number of car trips per shuttle trip made by facilities such as Wally Park or The Parking Spot would also be generated by other off-airport parking facilities. The total number of shuttle trips made during each peak hour on Fridays in August 2013 by the joint-use, off-airport parking facilities is shown in Table 3.

Shuttle Trips by Other Off-Airport Parking Facilities - Inbound to Lot

Date	Peak Hour		
	AM	AP	PM
8/02/2013	36	38	40
8/09/2013	32	32	48
8/16/2013	32	37	46
8/23/2013	47	41	44
8/30/2013	49	37	38
Rounded Average	39	37	43

Shuttle Trips by Other Off-Airport Parking Facilities - Outbound From Lot

Date	Peak Hour		
	AM	AP	PM
8/02/2013	53	46	44
8/09/2013	49	34	49
8/16/2013	46	40	41
8/23/2013	52	39	45
8/30/2013	60	48	48
Rounded Average	52	42	46

Table 3

Multiplying the calculated trips-per-shuttle ratios with the average number of shuttle trips attributable to the off-airport private parking facilities where driveways were not manually recorded results in the totals shown in **Table 4**. This provides an estimate of the number of inbound and outbound car trips generated at the remaining parking facilities that is related to LAX.

**Inbound Car Trips for Off-Airport Parking Facilities
Where Driveways Were Not Counted**

Peak Hour	Adjustment Factor (Trips per Shuttle)		Number of Shuttles	=	No. of Trips
AM	3.33	X	39	=	130
Airport	2.87	X	37	=	106
PM	1.38	X	43	=	60

**Outbound Car Trips for Off-Airport Parking Facilities
Where Driveways Were Not Counted**

Peak Hour	Adjustment Factor (Trips per Shuttle)		Number of Shuttles	=	No. of Trips
AM	0.56	X	52	=	29
Airport	2.11	X	42	=	89
PM	2.84	X	46	=	131

Table 4

To be consistent with the methodology used in the Environmental Impact Report for the LAX Master Plan and avoid "double counting," shuttle trips from private and public parking lots and from rental car facilities are only counted as they enter and exit the Central Terminal Area. For example, a shuttle bus that exits the Avis rental car facility and enters the CTA is counted as a single trip. The shuttle makes another trip once it exits the CTA; but not when it enters the Avis driveway.

LAX Master Plan Projects Currently Under Construction:

The Bradley West Project includes construction of new north and south concourses at Tom Bradley International Terminal (TBIT) just west of the existing concourses (which will be demolished), construction of nine aircraft gates and their associated loading bridges and apron areas, relocation and consolidation of existing aircraft gates along the east side of TBIT, renovation, improvement and enlargement of the existing concessions areas, U.S. Customs and Border Protection areas, office and operations areas.

Section 7G, *Monitoring and Reporting*, of the Los Angeles International Airport Specific Plan states that the annual Traffic Generation Report is to identify "the number of Trips anticipated to be generated at the completion of any Master Plan Project in development at the time of the report." Table 5² below shows the estimated increase in the number of trips associated with the Tom Bradley International Terminal. The trip estimates are considered conservatively high in that they assume all of the growth in TBIT-related vehicle trips between 2008 (base year) and 2013 (start of operation for Bradley West) is attributable to the Bradley West project. Even if these trips forecasted for the full build-out of TBIT were to be added to the existing peak-hour traffic volumes recorded at LAX, the totals would remain far below the number of peak-hour trips projected in the LAX Master Plan.

Tom Bradley International Terminal Trip Generation

Future (2013) With Project
Minus Existing (2008)
Conditions

Peak Hour/ Location	In	Out	Total
8 - 9 AM			
CTA	522	685	1,207
Airport Parking	6	13	19
Employee Parking	158	47	205
Rental Car	30	195	225
Off-Airport Parking	8	26	34
TOTAL	724	966	1,690
11 AM - Noon			
CTA	713	804	1,517
Airport Parking	12	13	25
Employee Parking	61	33	94
Rental Car	102	159	261
Off-Airport Parking	21	18	39
TOTAL	909	1,027	1,936
5- 6 PM			
CTA	593	470	1,063
Airport Parking	31	2	33
Employee Parking	87	122	209
Rental Car	202	11	213
Off-Airport Parking	35	3	38
TOTAL	948	608	1,556

Table 5

² Table 4.2-3 of the Environmental Impact Report for the Bradley West Project.