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October 25, 2023

Mr. John T. Greenwood, LEED AP
Principal
PVG Architects
44530 San Pablo Ave. Suite 200
Palm Desert, CA 92260

Re: The Living Desert Phase 3 Project – Preliminary Trip and Parking Generation Analysis
Palm Desert, CA

Dear Mr. Greenwood:

Walker Consultants is pleased to submit this preliminary trip and parking generation analysis for the Living Desert's Phase 3 project (the "Project") at The Living Desert Zoo and Gardens ("TLD") which is located at 47900 Portola Avenue in Palm Desert, California.

This analysis has been prepared pursuant to City comments on the Project's July 17, 2023, submittal, dated July 21, 2023. The specific comments addressed by this analysis include:

> *Comment 14: Scoping and Project-specific traffic study: The applicant shall schedule a traffic study scoping meeting with the City Transportation Manager. In anticipation of the meeting, the applicant shall prepare a Traffic Operations and Trip Generation letter and submit to the City prior to the scheduled scoping meeting. The letter shall include, at minimum, the following:*
>
> *a. A site operations description inclusive of peak operation hours, average anticipated stay per customer per type of event/activity, identify loading areas for delivery/supply trucks servicing the existing and proposed facilities.*
> *b. A preliminary trip distribution exhibit.*

In addition to comment 14, the City letter references analysis of parking impacts. This letter includes a preliminary discussion of the projected parking generation of the Phase 3.0 project relative to TLD's future parking supply.

TLD PHASE 3.0 PROJECT DESCRIPTION

The Phase 3.0 Master Plan project consists of the construction of the Connie and Bob Lurie Event Center and Lion Habitat.

Table 1 summarizes the proposed components of the Phase 3.0 project and each components size. The table also notes which components are primary trip generators, and which are ancillary uses, either to another component of the Project or the existing zoo and not anticipated to generate trips to/from the site on their own.

Table 1: The Living Desert Phase 3.0 Land Use Program

Land Use	Quantity	Primary Trip Generator
Event Center		
- Event Space	13,130 square feet	Yes
- Kitchen/BOH	20,620 square feet	No
- Admin (2nd Floor)	7,490 square feet	Yes
- Entry Pavilion (outdoors)	1,250 square feet	No
Lion Habitat		
- Lion Care Center	3,810 square feet	Yes
- Lion Habitat Area	31,718 square feet	No

The applicant has specified that a maximum capacity event at the proposed Event Center would be a 500-guest event.

As shown in Table 1, the primary trip generators associated with the Project are the event space itself, the 2nd Floor administrative offices and the lion care center.

- The Kitchen/Back if house space and entry pavilion are ancillary to the event space itself, with the trip generation for the event space, discussed in the next section, including event employee trips.
- The administrative space on the 2nd floor is treated as office space for the purposes of this analysis under the assumption that this area will have event planning employees working a typical daytime schedule, and also generating visitor trips, much like an office, as prospective event hosts visit the site.
- The lion care center is treated as office space for the purposes of this analysis under the assumption that, while not a traditional office, it will have space for the additional employees associated with the new lion habitat.
- The lion habitat area is ancillary to the zoo itself and does not represent an expansion of the zoo's acreage, but a repurposing of existing acreage.

TLD PHASE 3.0 SITE OPERATIONS DESCRIPTION

The largest events at the proposed events center are expected to be weddings. In its initial entitlement submission, the Project applicant offered several conditions on the operation of the event center including the following:

- The Bob and Connie Lurie Center will not schedule major programs during peak attendance at the Living Desert Gardens and Zoo (the Gardens and Zoo are open from 7:00 AM – 1:30 PM June through September, and from 8:00 AM – 5:00 PM the rest of the year).
- The Bob and Connie Lurie Center will not schedule major programs during the same hours for special programs such as Wild Lights and Glow in the Park.
- The Bob and Connie Lurie Center may hold minor programs (less than 100 attendees) during peak attendance at the living desert gardens and zoo.
- The Bob and Connie Lurie Center may hold minor programs (less than 100 attendees) during special programs such as Wild Lights and Glow in the Park.

- The Bob and Connie Lurie Center will be allowed to have major programs and special programs during peak attendance only if the attendees are bussed in from remote locations such as hotels and remote parking lots.

The event center is projected to host two events per week from November to March, and one event per week April through October. The typical event size is projected to range between 100-350 attendees. Weekdays are desirable for convention and business meetings, which are generally small to medium sized events. Is anticipated that large programs (<350 attendees), such as weddings, will generally occur on weekends in the evening (including Friday evenings) whereas medium programs (100-350 attendees) would occur on weekends or weekdays in the evening, and small programs (<100 attendees) could occur at any time throughout the day and week.

Events such as weddings would last 4-6 hours, banquets 2-4 hours, and smaller events 1-3 hours.

Typical events would start with loading/catering/rentals in the afternoon, with the event starting at 5:00 PM – 6:00 PM which dovetails nicely with TLD's decrease in general admissions in the afternoon. Deliveries would be accommodated through the new service gate at the south Portola entrance or come directly to the event center loading dock which is situated off the main public throughfare. Truck turning templates are being or have been prepared by the Project's Civil Engineer in a separate document.

TRIP GENERATION ANALYSIS

The City of Palm Desert has adopted the *County of Riverside Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (County of Riverside Department of Transportation, December 2020)* for transportation analysis. The Institute of Transportation Engineers (ITE) *Trip Generation* publication is the preferred source for estimating trip generation. The current release of *Trip Generation* is the 11th Edition, which was released in September 2021. Other trip generations sources may be used with approval of the transportation department.

For the primary trip generators of the project the following sources are recommended by Walker and used in this preliminary analysis.

- Admin Space and Lion Care Center – *Trip Generation* 11th Edition rates for General Office Building (Land Use 710). Utilizing *Trip Generation* for estimating trip generation is the preferred methodology for land uses with robust datasets such as general office.
- Event Space – *Estimating Trip Generation and Distribution for a Wedding Venue* (Spack, 2018). Trip Generation does not include trip generation rates for event venues, therefore this source, which has been widely used by traffic engineers, and generally re-states common knowledge and best practice of transportation planning professionals, has been selected for the proposed event center.

Table 2 presents the trip generation rates and the resulting trip generation summary for the proposed non-event portions of the Project, which are typical weekday daytime uses and includes the 2nd Floor administrative areas and the Lion Care Center.

Table 2: Trip Generation – TLD Phase 3.0 Weekday Daytime Uses

Trip Generation Rates								
Land Use	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Office	710	1.34	0.18	1.52	0.26	1.18	1.44	10.84

Trip Generation Results - The Living Desert Phase 3.0								
Land Use	Quantity	Weekday AM Peak Hour			Weekday PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Office	11,300 square feet	15.00	2.00	17.00	3.00	13.00	16.00	122.00

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition (ITE 2021)

Note: Rates are per 1,000 square feet

As shown in Table 1, the project's typical (non-event) weekday trip generation is projected to be 17 AM peak hour trips, 16 PM peak hour trips, and 122 daily trips.

Trip generation development for the event venue utilized the following assumptions:

- The design event for trip generation ratio purposes is one that uses 75% of the venue's capacity. Trip generation analysis looks at typical/average trip generation not maximum trip generation for land uses.
- 10% of those attending the wedding, such as the wedding party, arrive more than one hour before the ceremony. The remaining 90% arrive within the hour before the ceremony.
- Catering and back of house staff (cooks, servers, event manager) arrive more than one hour before the ceremony and depart after the reception is over.
- Guests at weddings and other events include a mix of couples, families, and singles. A typical assumption is 2.0 to 2.5 persons per vehicle for event attendance. For this analysis, Walker has assumed 2.0 persons per vehicle.
- Guests stay for various amounts of the reception, with 40% leaving during the peak hour of exiting.
- The Project's event center will only hold large events such as wedding in the evening, with an event like a wedding occurring at 5:00 PM or later. Weddings are most likely to occur on weekends, although Friday evening weddings may occur as well. There would be fewer large nighttime events Monday-Thursday.
- Based on these assumptions the inbound peak hour would typically occur on a Friday, Saturday, or Sunday in the hour before a wedding ceremony or similarly large event. The outbound peak hour would typically occur centered around the conclusion of the wedding or event.
    - The inbound rate is calculated as follows: (1.0 guest x 75% x 90% arrive in the hour before the ceremony) / 2.0 persons per vehicle = 0.34 per guest capacity.
    - The outbound rate is calculated as follows: (0.34 x 40% leave in exit peak hour) = 0.14 per guest capacity.
    - The daily rate is calculated as follows: 0.34 trips per guest capacity inbound + 0.34 trips per guest capacity outbound plus 10% increase (outside peak hours) for deliveries and employee trips = 0.75.

Table 3: Trip Generation – TLD Phase 3.0 Event Venue

Trip Generation Rates								
Land Use	Quantity Metric	Inbound Peak Hour			Outbound Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Event Venue	Guest	0.34	0.00	0.34	0.00	0.14	0.14	0.75

Trip Generation Results - The Living Desert Phase 3.0								
Land Use	Quantity	Event Inbound Peak Hour			Event Outbound Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Event Venue	500 Guest Capacity	170.00	0.00	0.00	0.00	68.00	68.00	375.00

TLD's proposed Event Center is projected to generate 170 inbound trips during the peak hour of vehicle ingress, and 68 outbound trips during the peak hour of vehicle egress during a design day event. With most large events projected to occur on weekends or Friday evenings, overlap with the peak hour of adjacent street traffic, in traditional terms the weekday AM and PM peak hours, is expected to be infrequent.

Walker has prepared preliminary trip distribution and assignment exhibits for TLD. The distribution is based on the site's location in relation to other developments, population centers, and lodging in the area.

Figure 1 shows the projected trip distribution of project trips.

Figure 2 shows the subsequent trip assignment of weekday AM/PM peak hour trips associated with the admin space and lion care center. Figure 3 shows the subsequent distribution of peak hour ingress/egress trips related to a large event.

Larger versions of Figures 1-3 have been provided as an appendix to this analysis.

Figure 1: TLD Phase 3.0 Trip Distribution

Figure 2: TLD Phase 3.0 Weekday AM/PM Peak Hour Trip Assignment

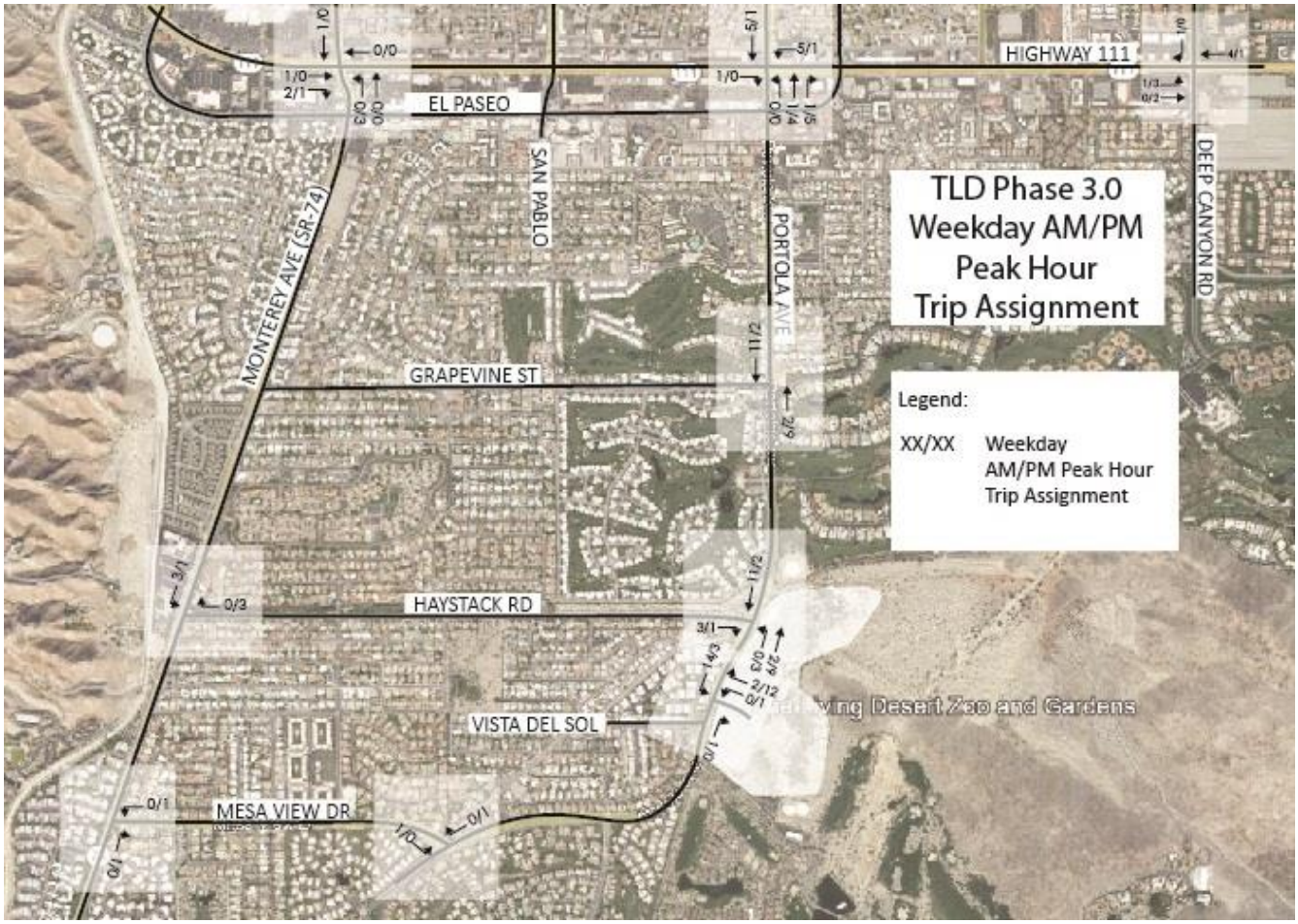
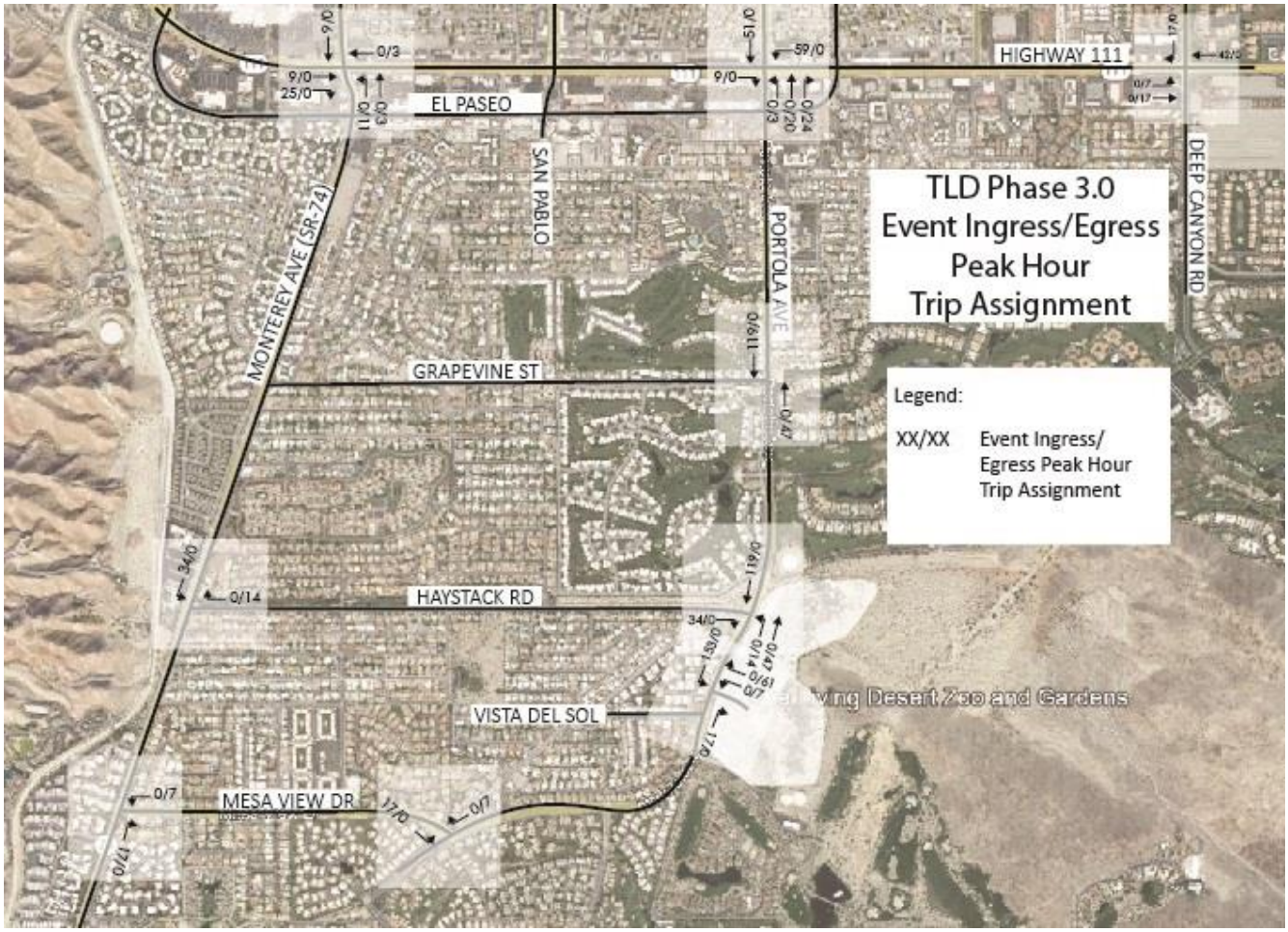


Figure 3: TLD Phase 3.0 Large Event Peak Hour Trip Assignment



PRELIMINARY PARKING ANALYSIS

The Phase 3.0 Master Plan project consists of the construction of the Connie and Bob Lurie Event Center and Lion Habitat.

Previous analysis prepared by Walker as part of Phase 2.75 projected that design day (95th percentile day) parking demand at TLD would be approximately 632 parking spaces *(The Living Desert Phase 2.75 Trip Generation and Parking*, *Walker Consultants March 31, 2023).* With the parking lot expansion that is expected to be completed soon, TLD would have 937 parking spaces. The Phase 3.0 project would remove one (1) parking space, for a final parking supply of 936 parking spaces.

Table 4 shows the design day parking projection from the Phase 2.75 trip generation and parking memorandum.

Table 4: Design Day (95th Percentile) Visitor Admissions, Accumulation and Projected Parking Demand

Design Day Visitor Admissions and Accumulation (Saturday April 2, 2022)											
	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM
Visitor Admissions	0	338	562	655	**717**	423	281	209	173	7	0
Visitor Accumulation	0	338	900	1386	**1653**	1468	1063	702	523	285	94
Projected Visitor Parking Demand	0	135	300	462	551	489	354	234	174	95	31
Projected Employee Parking Demand	82	82	82	82	82	82	82	82	82	82	82
Total Existing Design Day Parking Demand	82	217	382	544	**633**	571	436	316	256	177	113
Existing Parking Supply	709	709	709	709	**709**	709	709	709	709	709	709
Proposed Retail Café Employee Parking	9	9	9	9	9	9	9	9	9	9	9
Design Day Parking Demand With Project	91	226	391	553	**642**	580	445	325	265	186	122
Proposed Parking Supply	937	937	937	937	**937**	937	937	937	937	937	937

Source: *The Living Desert Phase 2.75 Trip Generation and Parking, Walker Consultants March 31, 2023*

Based on this, Walker has prepared a matrix showing preliminary projected parking demand for several scenarios with Phase 3.0, based on the conditions the Project has recommended be placed on the Event Center.

The following assumptions have informed the parking matrix:

- Max Event Parking Demand calculated as follows:
  - 500 guests at 2.0 guests per vehicle (to match the trip generation analysis the more conservative 2.0 guests per vehicle was used versus 2.5 guests/vehicle) = 250 vehicles
  - 10% increase to account for event related employees (matches trip generation assumption) = 25 vehicles
  - Total max event parking demand = 275 vehicles.

Table 5: Project Parking Adequacy by Scenario

Scenario	Parking Demand				Parking
	Zoo/Gardens	Phase 3.0 Admin/ Lion Care	Event	Total	Supply
Typical Day at the Zoo with Phase 3.0, 11:00 AM no event	642	10	0	652	936
Typical Day a the Zoo with Phase 3.0, Max Event at 11 AM	642	10	275	927	936
Typical Day a the Zoo with Phase 3.0, 4:30 PM Max Event	186	10	275	471	936
Busy Day at the Zoo with Phase 3.0, 11:00 AM no event	895	10	0	905	936
Busy Day at the Zoo with Phase 3.0, 1:00 PM medium event	691	10	138	839	936
Busy Day at the Zoo with Phase 3.0, 4:30 PM Wedding	400	10	275	685	936

As shown in Table 5, based on the conditions the Project applicant has volunteered, TLD's parking supply would be adequate to accommodate planned events, assuming no events during special events such as Wild Lights and Glow in the Park, and no events during the Park's peak, which occurs at 11:00 AM, on the 10-15 busiest days of the year. Since parking demand, even on busy days, begins to drop-off after 12:00 PM, minor and medium events (up to 250 guests) could be allowed at/after 1:00 PM.

If you have any questions, please contact Jeff Weckstein at 213.335.5845.

Sincerely,

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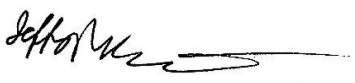
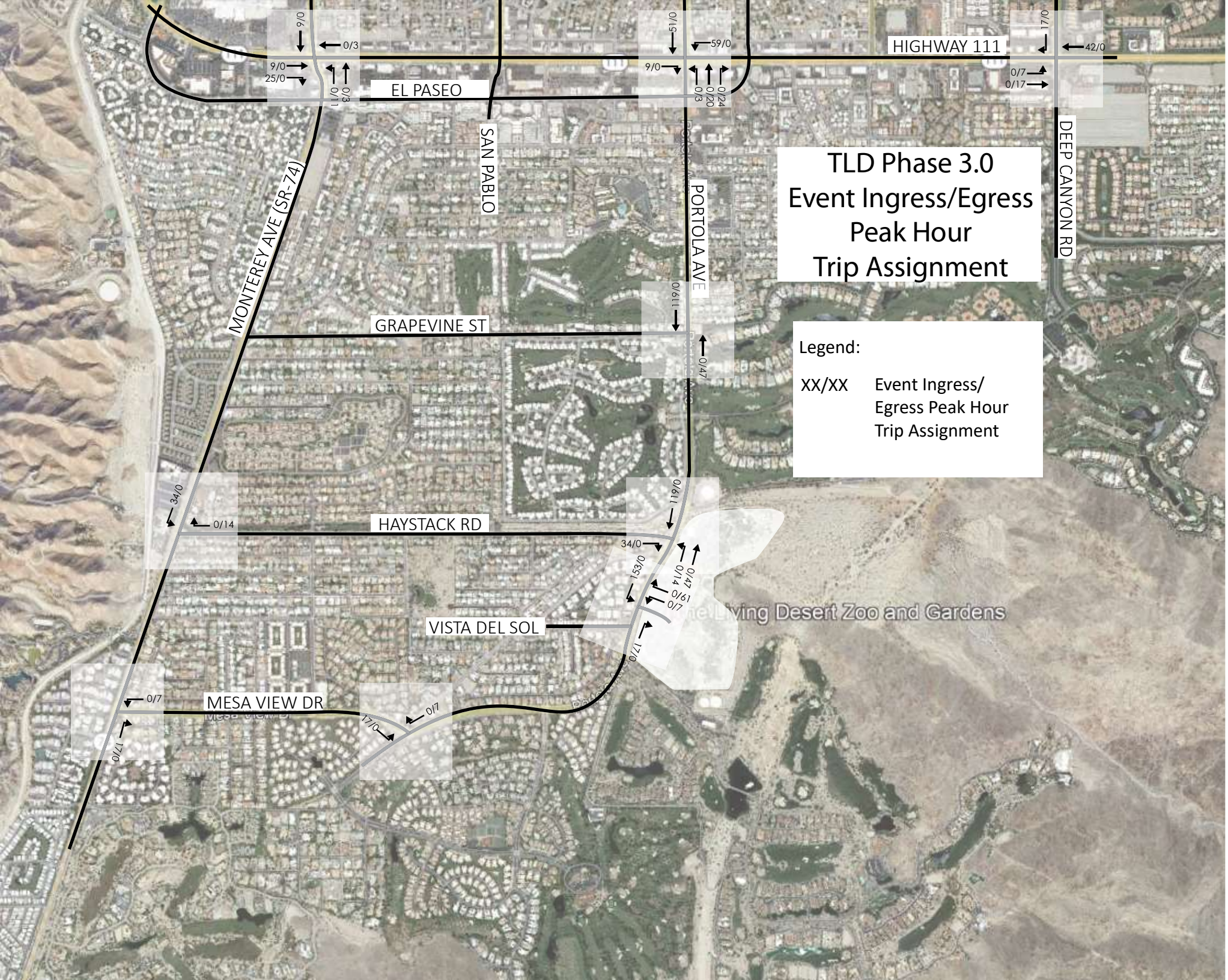


Jeffrey Weckstein
Senior Consultant

Appendix: Trip Distribution and Assignment Exhibits


TLD Phase 3.0
Preliminary
Trip Distribution
5%
30%
10%
20%
5%
5%
35%
HIGHWAY 111
25%
EL PASEO
20%
70%
SAN PABLO
PORTOLA AVE
DEEP CANYON RD
MONTEREY AVE (SR-74)
GRAPEVINE ST
20%
70%
HAYSTACK RD
20%
90%
VISTA DEL SOL
100%
10%
10%
MESA VIEW DR
10%


TLD Phase 3.0
Weekday AM/PM
Peak Hour
Trip Assignment
Legend:
XX/XX Weekday
AM/PM Peak Hour
Trip Assignment
HIGHWAY 111
EL PASEO
SAN PABLO
PORTOLA AVE
DEEP CANYON RD
MONTEREY AVE (SR-74)
GRAPEVINE ST
HAYSTACK RD
VISTA DEL SOL
MESA VIEW DR
Living Desert Zoo and Gardens


TLD Phase 3.0
Event Ingress/Egress
Peak Hour
Trip Assignment
Legend:
XX/XX Event Ingress/
Egress Peak Hour
Trip Assignment
HIGHWAY 111
EL PASEO
SAN PABLO
PORTOLA AVE
DEEP CANYON RD
MONTEREY AVE (SR-74)
GRAPEVINE ST
HAYSTACK RD
VISTA DEL SOL
MESA VIEW DR
9/0
0/3
25/0
0/1
59/0
0/15
0/3
0/20
0/24
0/7
0/17
42/0
0/11
0/47
34/0
0/14
153/0
19/0
7/0
17/0