August 24, 2017

222 Karen Avenue Unit 4308
Las Vegas, NV 89109

Las Vegas Stadium Authority
Steve Hill, Chairman
c/o Applied Analysis
6385 S. Rainbow Blvd., Suite 105
Las Vegas, NV 89118

Dear Chairman Hill:

At the corner of Sahara Avenue and Paradise Road is a large parking lot I would estimate has 1,000 + spaces. The SLS Hotel uses a portion for employee parking. It is currently for sale handled per the sign by Newmark Grubb Knight Frank firm, Ben Millis 702-733-7500.

I am not a real estate agent nor employee of the SLS. I am retired and live nearby. A number of us thought this would provide a perfect supplementary parking lot for stadium activities.

It is directly adjacent to the Paradise Road monorail station that could be used for accessing the stadium. In addition, people can travel to it from I-15 via the Sahara Ave exit and from the east on Sahara Ave. Other than Turnberry Towers and the SLS it is surrounded by lower income housing. There is a security fence around the perimeter of the parking lot.

I just wanted to offer this suggestion as I understand extra parking for the stadium is needed. Plus the Convention Center will need additional parking once they build their expansion. The Convention Center has a monorail station and the parking lot is in easy walking distance, too.

I hope this is helpful.

Best regards,

Paul Grasewicz

From: Tony Marnell [mailto:tmarnell2@marnellcompanies.com]
Sent: Wednesday, September 6, 2017 10:57 AM
To: Jeremy Aguero <JAguero@appliedanalysis.com>
Cc: 'rmalfabon@dot.state.nv.us' <rmalfabon@dot.state.nv.us>; Tina Quigley (QuigleyT@rtcsnv.com) <QuigleyT@rtcsnv.com>; 'denisel@clarkcountynv.gov' <denisel@clarkcountynv.gov>; George Smith <lasvegassmitty8@gmail.com>; Greg Gilbert <gsgilbert@hollandhart.com>; Chris Kaempfer (ckaempfer@kcnvlaw.com) <ckaempfer@kcnvlaw.com>; 'Ronald Batory, Federal Railroad Administration, Department of Transportation' <frapa@dot.gov>; 'MBadain@RAIDERS.com' <MBadain@RAIDERS.com>
Subject: Draft Review of Kimley Horn Traffic Impact Study for LV Raiders Stadium

Dear Jeremy,

Per our previous communications, we submit to the Stadium Authority this e-mail and the attached Draft Review of the Traffic Study for Las Vegas Raiders Stadium Kimley-Horn Impact Study of May 2017 and will copy cooperating and coordinating agencies, for the public record.

DesertXpress (dba XpressWest), submits these comments to the Stadium Authority per Senate Bill 1, Section 29 (J), for the September 2017 meeting, as it pertains to the XpressWest High Speed Train Station site at Frank Sinatra and Rio Drive, Las Vegas, Nevada, for compliance and consideration.

The Bill requires that “the Stadium Authority has taken into consideration the use of multimodal facilities that use alternative modes of transportation and do not have detrimental impacts on other permitted transportation projects”. Therefore, please consider these Drafts as XpressWest’s next step in its effort to comply with Senate Bill 1. We look to the Authority’s direction in coordinating its station and traffic with respect to our project at Frank Sinatra and Rio Drive.

Please notify us when the needed information regarding the Kimley-Horn Study is available, so we may complete our work with the Authority, County Commission, RTC, NDOT and FRA.

Respectfully,

Tony Marnell
Chairman/CEO
Marnell Companies
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Review of Traffic Impact Study For Las Vegas Raiders Stadium

Draft

September 5, 2017

17J18-0260| Prepared by **Iteris, Inc.**

DOCUMENT VERSION CONTROL

DOCUMENT NAME	SUBMITTAL DATE	VERSION NO.
Draft	September 5, 2017	1.0

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TABLES

EXECUTIVE SUMMARY

This memorandum details the findings of Iteris' review of the full report titled *Las Vegas Raiders Stadium Event Traffic Impact Study* (LV Stadium, LLC, May 2017) (the "study"). The purpose of the study is to identify and evaluate the potential pedestrian and vehicle traffic impacts to the surrounding street network associated with a proposed sports stadium complex to support a National Football League (NFL) team (the "project") near the Las Vegas Resort Corridor.

The project includes the construction of a 65,000-seat NFL stadium. The project site is bounded by I-15 to the east, Polaris Avenue to the west, Hacienda Avenue to the north and Russell Road to the south. The proposed stadium would provide 2,400 on-site parking spaces. While two (2) off-site parking areas are identified and analyzed in the study, no off-site parking locations are finalized.

The study includes a summary of findings for various analyses completed, including parking analysis, stadium trip generation and distribution, intersection level-of-service (LOS) analysis, pedestrian LOS analysis, and on-site circulation queuing analysis. Finally, an account of the recommended on-site and off-site mitigation measures were provided.

Review Highlights

- **Inadequate Documentation of Parking Analysis:** Clark County Parking Codes require 16,250 spaces for the proposed stadium size. The study proposes only 2,400 on site spaces (15% of the total requirement) and identifies the potential for a further 9,700 offsite spaces for a total of 12,100 spaces (only 74% of the full requirement). Of the 9,700 off-site spaces, 1,000 parking spaces are assumed in a Las Vegas Boulevard parking area while 8,700 spaces are assumed in a Tropicana Avenue parking area. The study does not provide any back up information to support the feasibility of the provision of the number of spaces available at either site. The type of attendees assigned to each parking area should also be clearly stated as their origin (Las Vegas Valley, Airport, local resorts, etc.) affects trip patterns. Documentation for employee and accessible parking should also be provided.
- **Unreliable Future Baseline Volume:** Traffic volumes used for the study were obtained from various sources, on various days of the week, and during various time periods. Traffic counts for several locations are very old (dating back to 2006) and many counts were conducted during weekday morning (AM) and afternoon (PM) peak periods rather than on weekends. Historic counts were adjusted using factors developed based on State of Nevada Department of Transportation (NDOT) count stations which may not be suitable for arterials. Additionally, adjustment factors used were inconsistent from location to location without discernable patterns, and there is no documentation of how these factors were developed. As a result, the 2020 background traffic volumes used in the analysis may not be an accurate representation of typical Sunday game day traffic conditions. A better approach would be to base traffic analysis on actual current Sunday traffic counts.
- **Unaccounted Vehicle Trips:** The trip generation provided in the report did not account for employee trips and other ancillary trips, resort shuttle trips, or for the doubling of trips for patrons being dropped-off and picked-up. Based on a high-level calculation, Iteris determined that the trip generation provided in the report is underestimated by approximately 3,000 to 4,000 vehicle trips. In addition, the use of a high personal vehicle occupancy at the Tropicana parking areas could understate shuttle bus trips.
- **Unsubstantiated Trip Distribution Assumptions:** While the regional trip distribution for the stadium appear reasonable, there is no documentation of how the trip distribution assumptions were derived. Furthermore, trip distribution percentages at the local level are either not clearly identified or

contradict from figure to figure making it difficult to verify the reasonableness of the trip distributions for each of the parking areas and also undermines the accuracy of the traffic analysis.

- **Inadequate Study Area:** Study intersections do not adequately cover the likely reach of project trips. Only four (4) study intersections were included along Las Vegas Boulevard within the main Strip area. Considering a majority of the attendees are assumed to either walk, drive, or get a ride from their hotels to the Stadium, these study locations do not sufficiently capture the project impact at the other signalized and un-signalized intersections along Las Vegas Boulevard or the surrounding area. Several intersections on the remote parking lot access trip distribution routes have high project-related traffic but are not analyzed.
- **Additional Intersection Analysis May Be Required**: The study provides the bare minimum level of analysis to measure the traffic impact on game day. In addition to the basic level-of-service (LOS) analysis, pedestrian counts, and queuing analysis should be completed for each study intersection. Several study intersections have high background pedestrian volumes and high project-related pedestrian volumes on game day. High pedestrian traffic through an intersection would greatly impact operation of an intersection as they reduce capacity for right-turning vehicles at the intersection. Up to 4,500 vehicle trips are projected to arrive at the Tropicana Avenue park areas pre-game, while up to 6,400 vehicles are projected to depart post-game during the peak hour. These arrival/departure rates could potentially result in significant back-up on freeway on- and off-ramps or cause measurable impact to local businesses along Las Vegas Boulevard and affect airport access.
- **Other Missing Analysis:** Traffic analysis was not completed for a scenario to verify the proposed mitigations would adequately address project impacts. No freeway analysis was completed to measure the impact game day traffic would have on freeway traffic operations.
- **Impractical On-site Circulation Assumptions**: Several circulation issues are noted within the staging lots for Taxi/TNC vehicles and bus/shuttle. There is clearly not enough space for Taxi/TNC vehicles to queue on-site and mixing of Taxi/TNC vehicles could further reduce the operational efficiency of the staging area. Similar concerns were raised for the bus/shuttle parking area. The proposed bus bay layout allows for bi-directional movement which could introduce excessive pedestrian/bus conflicts. These potential conflicts could potentially raise safety concerns as well as reduce operational efficiency.
- **Airport Access Concerns.** Approximately 35% of all egress trips from the Tropicana Avenue parking site are assumed to use Paradise Road to reach CC-215, which equates to 2,150 project-related vehicle trips during peak hours. This volume of traffic could potentially lead to severe access issues at McCarran Airport, at what is a busy airport time (Sunday afternoon). Even if the distribution assumptions for Paradise Road are conservative, it is still likely that airport traffic will be negatively affected by game day traffic leaving the Tropicana Avenue parking area due to its proximity to the airport.
- **Inadequate Pedestrian Walkway Analysis:** The peak hour pedestrian volumes used to calculate the minimum acceptable walkway widths did not include background pedestrian traffic. While certain segments of the sidewalks are currently lightly utilized by pedestrians, others such as Las Vegas Boulevard or Mandalay Bay Road would have substantial pedestrian traffic even on a non-game day. Actual pedestrian counts should be collected and be included as background volume for the analysis.
- **Effectiveness of the Recommended Improvements:** The report provides no discussion regarding the connection from the traffic analysis results to the determination of project improvements. The on-site improvements listed should be categorized as project design features while the off-site improvements

were previously identified in regional improvement programs already. It is important to note that these off-site "mitigations" were developed to address existing or future forecast traffic conditions without the stadium.

Review Conclusion

The study contains incomplete documentation of the evaluation methodologies, analyses, and findings of the traffic effects a proposed NFL stadium would have on its surrounding roadway system within the Las Vegas Resort Corridor. Support data and calculation steps for trip generation and trip distribution should be included to validate the adequacy and completeness of the study. Additional detailed analysis such as freeway analysis and on-site circulation simulation should be included to provide a more realistic representation of game day conditions. Furthermore, the recommended mitigations were developed based on existing and forecasted future traffic condition without the Project. No evaluation was completed to measure the effectiveness of these recommended improvements would have on mitigating any potential project impact.

1 INTRODUCTION

This memorandum details the findings of Iteris' review of the full study titled Las Vegas Raiders Stadium Event Traffic Impact Study (LV Stadium, LLC, May 2017). The purpose of the study is presented as an identification and evaluation of the pedestrian and vehicle traffic impacts to the surrounding street network associated with a proposed sports stadium complex to support a NFL team near the Las Vegas Resort Corridor. The Traffic Impact Study was prepared by Kimley-Horn and Associates, Inc. in support of the Clark County Entitlements for development.

1.1 Project Description

The project includes the construction of a 65,000-seat NFL stadium. The project site is bounded by I-15 to the east, Polaris Avenue to the west, Hacienda Avenue to the north and Russell Road to the south. It is located near the Las Vegas Resort Corridor and is within proximity to 23,800 hotel rooms within a one-mile walking distance.

The proposed stadium, when completed, will be the home of the Las Vegas Raiders and the University of Nevada Las Vegas (UNLV) football teams starting in the 2020 NFL football season. On average, a total of ten pre-season and regular-season NFL games are expected to occur at the stadium with the typical NFL game being a Sunday afternoon game starting at 1:00 PM and ending at 4:00 PM. The stadium facilities will also host other large venue special events such as concerts, music festivals, and sporting events.

1.2 Review Outline

The traffic study contains 17 sections. This memorandum is structured to document the review findings of each section of the study by the chapters listed below:

1. Introduction
2. Stadium Parking Review
    - Section 3. Stadium Parking
3. Existing Conditions Review
    - Section 4. Existing Conditions
4. Future Baseline Conditions Review
    - Section 5. Future Conditions
5. Stadium Trip Generation Review
    - Section 6. Stadium Trip Generation
    - Section 7. Peak Hour
6. Trip Distribution and Assignment Review
    - Section 8. Tropicana Avenue Parking Areas
    - Section 9. Las Vegas Boulevard Parking Areas
    - Section 10. On-Site Stadium Parking.
    - Section 11. Overall Stadium Distribution and Assignment:
7. Traffic Analysis Review
    - Section 12. Intersection Analysis
    - Section 13. Pedestrian Walkway Analysis
    - Section 14. Queuing Analysis
8. Other Review Findings
    - Section 15. NDOT Access Management
    - Section 16. Special Event Traffic Control Plan
    - Section 17. Conclusions

2 STADIUM PARKING REVIEW

Section 3 of the study ("Stadium Parking") includes a conceptual parking plan which identified on-site and off-site parking location options, as well as potential on-street parking opportunities west of the stadium. Several key elements are absent from the parking analysis provided and should be included in future analysis. In addition, calculation steps and the methodology used to determine distribution of parking demand for each of the parking areas should be clearly documented.

Insufficient Off-Site Parking Demand Analysis

While Clark County Parking Code requires 16,250 spaces for the proposed project land use, only 2,400 parking spaces (or approximately 15%) will be provided on-site. Two (2) offsite parking areas are identified in Table 3-1 of the study (and replicated below in **Table 2-1**) which are estimated to have the parking capacity of 21,400 spaces. However, the study states that "a vehicle parking demand on the order of 12,100 is expected" based on trip generation and mode choice assumptions.

Table 2-1 – Parking Locations

Parking Areas	Estimated Available Spaces	Spaces Used for Analysis
Stadium Site	2,400	2,400
Potential On-Street Parking	1,000	0
Tropicana Avenue Parking Areas	10,000	8,700
Las Vegas Boulevard Parking Areas	8,000	1,000
Total	**21,400**	**12,100**

The calculation of 12,100 actual parking demand is provided in Figure 1.2 and Figure 6.1 of the study (not Figure 2.1 as stated on page 14), though there is inadequate documentation on how the spaces used for analysis is assigned for the Tropicana Avenue and Las Vegas Boulevard parking areas. In addition, the following issues were identified:

- There is lack of documentation showing how the estimated number of available parking spaces at the two remote parking locations was calculated.
- The distribution of parking demand from each of the three (3) trip origins (Las Vegas Valley residents, persons flying to Las Vegas, and persons driving to Las Vegas) to each of the three (3) parking areas should be specified. This information is needed to validate the actual demand at each of the parking areas. For example, it is unlikely for patrons arriving at the McCarran Airport to rent a car (estimated 1,375 vehicles) to park at a remote parking lot that is further away from the stadium than the hotels they would likely be staying at.
- Many Las Vegas area residents coming from the west would have to drive past the stadium into heavy traffic to the remote parking lots whereas in reality many would try to park west of the stadium.
- Potential on-street parking in the area west of the stadium is mentioned but unaccounted for in the study analysis.

No Accounting of Employee Parking

The report does not mention how many (if any) of the 2,400 on-site parking spaces will be utilized by Stadium

employees. A typical NFL stadium employs approximately 3,500 personnel on game day[1]. If a portion of these personnel will be parking on-site, the available on-site parking spaces could potentially be less than the stated 2,400 parking spaces.

Inadequate Analysis of On-street and Private Parking Lots

The study lists two (2) potential off-site parking scenarios including partnership with Regional Transportation Commission of Southern Nevada (RTC) to provide express bus services to park-and-ride facilities or with "Neighborhood Casinos" to provide direct shuttle bus services. However, it is common practice for attendees at large events to seek off-site parking within walking distance to the event which are usually available for free (on-street parking) or at a cheaper price point (commercial lots). Parking on nearby streets also allows the attendees to avoid traffic congestions that are typically associated with event inbound/outbound traffic at the Stadium access points.

The project site is located within an industrial neighborhood with a significant amount of on-street parking and empty parking lots during the weekend. Section 3.3 of the study estimates there are 1,100 on-street parking spaces within one mile walking distance in the area west of the stadium site. The report indicates that the pedestrian effects of these 1,100 spaces has been included in the analysis. However, the vehicular effects of this parking have not been addressed.

Pedestrian safety is another concern that should be considered since these industrial areas may not be equipped to handle such high pedestrian traffic.

Lack of Mobility Impaired Accessible Parking Spaces

According to the Clark County parking code, the required number of accessible spaces where the total number of parking spaces exceeds 1,000 spaces is 20 spaces plus and additional space for each 100 total spaces over 1,000. Based on the required total of 16,250 spaces this results in 173 accessible spaces needing to be provided on-site.

[1] AECOM, 2015. *San Diego Stadium Replacement EIR, Traffic Impact Analysis Report.* Retrieved from: *https://www.sandiego.gov/sites/default/files/legacy/cip/pdf/stadiumeir/draftstadiumeir_appendix_j.pdf*

3 EXISTING CONDITIONS REVIEW

This chapter details the review findings for Section 4 ("Existing Conditions") of the study which presents the current conditions surrounding the study area for key intersections and the existing street network. Several discrepancies in intersection geometry are noted between existing field conditions and analyzed configurations.

Recommend Expanding Study Area and Locations

- The study intersections do not adequately cover the reach of the project trips. Additional review points will be discussed in Chapter 6 of this memorandum.
- Only four (4) study intersections were included along Las Vegas Boulevard along the Strip. Considering a majority of the attendees are assumed to walk, drive, or get a ride from their hotels to the Stadium, these study locations do not sufficiently capture the project impact at the minor signalized and un-signalized intersections along Las Vegas Boulevard. These intersections are mostly driveways into businesses such as casinos, shopping malls, and restaurants and do not have pedestrian cross bridges.
- A portion of the event attendees will likely arrive via Clark County Route 215 (CC 215) at Decatur Boulevard to avoid typical congestions on the I-15. The intersections along Hacienda Avenue and Russell Road west of the I-15 and Decatur Boulevard should be included in the study area.

Discrepancies Identified for Existing Lane Configuration and Control

Existing lane configuration and traffic control were spot checked and verified against existing conditions as displayed on Google Maps aerial and street views. Discrepancies between analyzed configuration and field conditions were noted for the following intersections relating to study Figure 4.5A and Figure 4.5B which will affect the traffic analysis in subsequent sections:

- 18. Tropicana Avenue / Koval Lane – westbound approach has 4 through-lanes under existing conditions; Figure 4.5A shows 3 through-lanes only.
- 24. Reno Avenue / Giles Street – intersection is currently signalized; Figure 4.5B shows stop-control at the eastbound approach.
- 29. Dean Matrin Drive / Connector Road – eastbound approach has 1 left-turn and 1 right-turn lanes under existing conditions; Figure 4.5B shows 1 shared-left/right lane.
- 41. CC-215 WB Ramps / Decatur Boulevard – westbound approach has 1 left-turn, 1 left-through and 1 right-turn lanes under existing conditions; Figure 4.5B shows 2 left-turn and 1 right-turn lanes.

It is recommended that lane configuration and control be re-verified against the latest field condition if and when additional or follow up traffic analysis are completed for the project.

4 FUTURE BASELINE CONDITIONS REVIEW

This chapter details the review findings for Section 5 ("Future Conditions") of the Study which presents the anticipated baseline conditions of the street network and intersections within the study area at the time of the stadiums opening. The section of the study should be re-named as "Future Baseline Conditions" as it excludes discussion of future with project conditions.

Future Planned Transportation Projects

A list of Future Planned Transportation Projects is provided though the report stating that "several of these planned improvements are not expected to be completed in time for stadium opening in 2020". Iteris identified the following concerns with the listed projects:

- It is recommended that the anticipated construction date for each planned improvement be provided and any improvements that could not be feasibly constructed by 2020 should not be included in the future baseline conditions analysis.
- The following two (2) improvements are identified as being funded by Fuel Revenue Indexing (FRI) which would improve access to the stadium site:
    - Construction of a southbound Flamingo Road off-ramp from I-15 to Dean Martin Drive
    - Completion of Decatur Boulevard to full width right of way improvements from CC 215 westbound ramps to Oquendo Road

  However, neither project could be located on the most recent FRI project lists (listed below). It is therefore unclear if the improvements will be completed by stadium opening.
    - Regional Transportation Commission of Southern Nevada Fuel Revenue Index Project List – Updated June 8, 2017
    - Regional Transportation Commission of Southern Nevada Fuel Revenue Index Project List – Approved Authorization to Proceed list - Updated July 11 2017
- The following three (3) NDOT freeway projects are included as mitigations in the Executive Summary and Section 17 of the study, though Page 5 of the Executive summary states that none of these projects will be in place before the stadium opening (post-2020 opening) thus should not be included as mitigations.
    1. I-15 Tropicana Avenue interchange improvements
    2. New I-15/Hacienda Avenue HOV Interchange northbound off and southbound on – This improvement is shown as a long term improvement (between 2025 and 2035) in the South Nevada HOV Plan Update (July 2015). In addition, adding these ramps may conflict with the proposed pedestrian bridge on the south side of Hacienda Avenue across I-15 which are also recommended as improvements as well as the preferred alignment of the potential XpressWest High Speed Passenger Railroad.
    3. New I-15/Harmon Avenue HOV Interchange northbound on and southbound off – This improvement is shown as a long term improvement (between 2025 and 2035) in the South Nevada HOV Plan (July 2015).
- Elevated McCarran Airport Expressway – This potential improvement is noted in Section 5 of the study. Project planning is still in the very early stages and the concept has many critics. It should not be assumed in a future Baseline scenario as it will not be constructed by 2020.

Future Conditions Traffic Volume Factoring

Intersection turning movement counts are used for performing future traffic analysis with and without the project. The study assumes the peak hour for a Sunday game for stadium ingress is 12 p.m. – 1 p.m. and for egress is 4 p.m. – 5 p.m. Traffic counts were not performed specifically for this study. Instead, counts were obtained from various sources, days of the week, and time periods and adjusted using factors developed based on NDOT count stations. Some problems were noted with this approach:

- Traffic counts for several locations are very old (dating back to 2006) and many counts were conducted during weekday AM and PM peak periods rather than on weekends.
- Raw peak hour count data for the following intersections are not included in Appendix B:
    - 3. Flamingo Rd / Maryland Pkwy
    - 9. Paradise Rd / Naples Dr
    - 10. Swenson St / Naples Dr
    - 22. Tropicana Avenue / Wilbur St
    - 23. Tropicana Avenue / Maryland Pkwy
- Conversion factors derived from NDOT facility data may not be representative of arterial streets.
- No mentioning of how adjustment factors were developed to convert existing count from different time and day to Sunday 12 – 1 p.m. and 4 – 5 p.m. for game day peak ingress and egress hours. Factors used were inconsistent from location to location without discernable patterns.
- No documentation of which existing weekday peak hour volumes were used to calculate Sunday peak hour volumes under 2020 future conditions.

In summary, the 2020 traffic volumes used in the analysis may not be representative of typical Sunday ingress/egress conditions which undermines confidence in the analysis. A better approach would be to base traffic analysis on actual current Sunday traffic counts.

5 STADIUM TRIP GENERATION AND PEAK HOUR REVIEW

This chapter details the review findings for Section 6 ("Stadium Trip Generation") and Section 7 ("Peak Hour") of the Study which documents the trip generation methodology that was used to determine the number of person trips by mode choice and presents the background information used to determine the event peak hours for analysis.

5.1 Trip Generation Review

Figure 6.1 in the study includes a flow chart that depicts the trip generation and mode choice assumptions and calculations. Information in the flow chart is re-organized and summarized and included in **Table 5-1** and **Table 5-2** below for reference. Upon reviewing the trip generation and mode choice breakdown, it was concluded that several assumptions were introduced without supporting data while some calculations were incomplete or inaccurate.

Table 5-1 – Mode Choice (by %)

Attendee Breakdown			Mode Choice (%)						
Origin	%	Person	Auto	Shuttle /Bus	Taxi /TNC	Limos	Monorail	Walking	Total
Residents	**50%**	**32,500**	**83%**	**2%**	**13%**	**0%**	**2%**	**0**	**100%**
Non-Residents	**50%**	**32,500**	**27%**	**4%**	**8%**	**1%**	**0%**	**61%**	**100%**
By Air	9%	5,892	56%	10%	30%	4%	0%	0%	100%
By Car	11%	6,916	80%	8%	12%	0%	0%	0%	100%
Hotel Guests	30%	19,693	0%	0%	0%	0%	0%	100%	100%
Total	**100%**	**65,000**	**55%**	**3%**	**10%**	**0%**	**1%**	**30%**	**100%**

Source: Las Vegas Raiders Stadium Event Traffic Impact Study, Kimley-Horn, May 2017

Table 5-2 – Mode Choice (by Person-Trips)

Attendee Origin	Mode Choice (Person Trips)						
	Auto	Shuttle/Bus	Taxi/TNC	Limos	Monorail	Walking	Total
Residents	**26,975**	**650**	**4,225**	**0**	**650**	**0**	**32,500**
Non-Residents	**8,832**	**1,142**	**2,598**	**235**	**0**	**19,693**	**32,500**
By Air	3,300	589	1,768	235	0	0	5,891
By Car	5,533	553	830	0	0	0	6,916
Hotel Guests	0	0	0	0	0	19,693	19,693
Total	**35,807**	**1,792**	**6,823**	**235**	**650**	**19,693**	**65,000**

Source: Las Vegas Raiders Stadium Event Traffic Impact Study, Kimley-Horn, May 2017

Insufficient Supporting Data

- Of the vehicles required to park off-site, 8,710 vehicles (or 90%) are assigned to Tropicana Avenue Area and the remaining 1,000 vehicles (10%) are assigned to Las Vegas Boulevard Area. Though no supporting data is provided to validate the split.
- The footnote in Figure 6.1 of the report states "of the 23,800+ hotel rooms within the 20-25 minute walking radius of the stadium, between 20%-95% are considered to be potentially used by event patrons." The variability is too large to offer a credible representation of event day mode choice scenario without additional back up data. In addition, Iteris completed a high-level inventory of major

hotels and was only able to identify approximately 15,000 rooms within 25-minute walking distance of the stadium (See **Table 5-3**). The number of rooms would increase to approximately 30,000 if the parameter is extended to 35-minute walking distance. Regardless, the assumption made by the study that 61% (or 19,693) of total non-resident attendees are to arrive to the stadium by foot from their hotels is overly optimistic especially given the availability of casino shuttles, taxis, and ride-share services.

Table 5-3 – Mode Choice (by Person-Trips)

Resort[1]	Walking[2]		Number of Rooms[3]
	Distance (mi.)	Time (min.)	
Mandalay Bay	0.6	13	3,309
Delano at Mandalay Bay	0.6	13	1,117
Luxor	0.6	14	4,407
Hampton Inn Tropicana	0.7	13	322
Four Seasons	0.8	14	424
Excalibur	1.1	18	4,000
Tropicana	1.1	21	1,467
Total Rooms within 25-minute Walking Distance			**15,046**
New York-New York	1.3	26	2,024
MGM Grand	1.3	28	5,043
Hooters	1.5	27	657
Monte Carlo	1.5	29	3,002
Mandarin Oriental	1.5	30	392
Aria	1.7	35	4,004
Total Rooms within 35-minute Walking Distance			**30,168**

Note:
1. The table excludes small hotels with 300 rooms or less.
2. Resort distances and walking time retrieved from *maps.google.com*.
3. Resort room data retrieved from *www.hotels.com*.

- The study states that "observations from other major event venues along the Resort Corridor such as the T-Mobil Arena, UNLV Thomas & Mack Arena, and the Rock in Rio Concert" were used to develop the mode choice distributions. If field observations, counts, and/or surveys were conducted for these events, empirical data should be included in the appendix so the sources and interpretation of the data could be verified.
- No supporting evidence is provided to support the assumption that vehicle occupancy rate would be higher for Las Vegas residents (3.2) versus non-residents (2.4).

Incomplete/Inaccurate Trip Generation

- When converting person-trips to vehicle-trips for attendees arriving on-site via taxis, ride share services (e.g., Uber), or shuttle bus, the number of vehicle-trips need to be doubled. These vehicles will incur outbound trips after dropping off their passengers, and return to the stadium at the end of the event to pick up their passengers. The study indicates that "all vehicles are considered to be on-site at the end of the game resulting in only accounting for vehicle departing the site during the egress peak hour with the exception of the circulating off-site parking shuttle buses." However, there are not enough space to hold all the Taxi/TNC vehicles on site upon reviewing the site circulation plan. These

outbound trips during ingress period and inbound trips during egress period could amount to 3,100 additional vehicle trips, bringing the total event trips up to **17,011** (two-way) vehicle trips instead of the 14,658 trips shown in Figure 1.2 of the report. A revised mode choice summary (by vehicle-trips) is included in **Table 5-4** for reference.

- "Total Event Trips" listed in Figure 6.1 of the report does not include off-site parking shuttle bus trips. It also ignores patrons who choose to park at nearby on-street parking or commercial parking lots and need to walk to the Stadium to complete the final segment of the trip. Accounting for these trips will add approximately 12,000 pedestrian trips and 850 vehicle-trips to the overall number trips generated by a single Stadium Event (as shown in **Table 5-5**).

Table 5-4 – Adjusted Mode Choice (by Vehicle-Trips)

Attendee Origin	Mode Choice (Vehicle Trips)					
	Auto	Shuttle/Bus*	Taxi/TNC*	Limos	Monorail	Total Trip
Residents	8,430	34	2,642	0	3	11,106
Non-Residents	3,681	58	2,166	98	0	5,905
Total	**12,111**	**92**	**4,808**	**98**	**3**	**17,011**

*When converting person-trips to vehicle-trips for shuttle/bus and taxi/ride-share, the number of trips need to be doubled because these vehicles are likely to leave the Stadium after dropping off the patrons and return towards the end of the event to pick up more patrons.

Table 5-5 – Additional Trips Generated by Off-Site Parking

Off-Site Parking Needs 12,111 - 2,400 = 9,711	Off-Site Parking Demand (Veh)[1]			Walking (Person- Trips)	Shuttle (Veh Trips)[3]
	Total	< 1 Mile[2]	> 1 Mile		
Residents	6,759	2,784	3,975	8,910	636
Non-Residents	2,952	1,216	1,736	2,918	208
Total	**9,711**	**4,000**	**5,711**	**11,827**	**844**

1. Attendees of vehicle trips excess of the available 2,400 on-site parking will need to travel from off-site parking to the stadium generating additional walking / shuttle trips.
2. Assume 4,000 on-street or private lot spaces available within 1 mile walking distance west of the I-15.
3. The number of shuttle/bus trips were doubled because these vehicles are likely to leave the Stadium after dropping off the patrons and return towards the end of the event to pick up the patrons.

Optimistic Assumptions for Transit Occupancy

- The report assumed 40 persons per bus which may be optimistic, especially during ingress when fans will be impatient to get to the stadium and reluctant to wait until the buses are full.
- If buses will need to pick up at different stops within the Tropicana Avenue parking location then the buses will need to leave the more distant stops prior to being fully occupied in order to accommodate fans parking in the areas closer to the stadium, so it may be difficult to achieve this level of average occupancy. As a consequence, the number of required shuttle bus runs may be higher than the 657 shown in Figure 6.1.

Person Trips by Mode Choice

- Table 6.1 in the study shows mode split by ingress/egress mode for the stadium and the two (2) remote parking locations. The table does not include the shuttle buses between the remote parking sites and

the stadium which is shown in Figure 6.2 of the study. Table 6.2 shows vehicle trip generation. In all three cases, trips are only one way trips and the actual number of trips generated would be double the amount noted. Although the study states that these trips are accounted for in trip distribution and assignments, they should also be clearly documented in the tables and figures.

- In Table 6.2 of the study, different occupancy rates for personal/rental vehicles are assumed at each location as shown in **Table 5-6** below. The occupancy rate for Tropicana Avenue is calculated to be 3.02 which is contrary to the table footnote stating "Vehicle occupancy used for personal/rental vehicles is 2.8 persons/vehicle. This assumes that half of vehicles are local residents (3.2 persons/vehicle) and half are non-residents (2.4 persons/vehicle)." If the stated average vehicle occupancy of 2.8 is used to calculate trips at the Tropicana Avenue parking site, the number of auto trips should be adjusted to increase by 684 as shown in **Table 5-7** below.

Table 5-6 – Vehicle Occupancy Rate Calculations

Parking Area	Person Trips	Parking Spaces	Person/Vehicle
Stadium	6,720	2,400	2.80
Tropicana Avenue	26,287	8,700	**3.02**
Las Vegas Boulevard	2,800	1,000	2.80

Table 5-7 – Vehicle Trips at Tropicana Parking Area Using Different Occupancy Assumptions

Tropicana Parking Area	Person Trips	Person/Vehicle	Vehicle Trips
Assumed Occupancy Rate	26,287	2.80	9,388
Occupancy Rate used for Calculation	26,287	3.02	8,704
Increase in Trips			684

Finally, section 6.5 of the study discusses the possible impact of the Las Vegas Monorail extension with a station at Mandalay Bay, suggesting that up to an additional 4,000 event attendees could use the monorail versus compared to a situation where the Monorail ends today at the MGM Grand. No information is provided to support the 4,000 figure, and it is not clear if the capacity constraints of the monorail have been taken into consideration. In addition, the study does not make it clear whether the speculated effects of the Monorail extension are incorporated into the traffic analysis or not. For reference, the existing monorail service can operate at a headway up to 4 minutes with a capacity of 222 passengers per train.

5.2 Peak Hour Review

Section 7 ("Peak Hour") of the study details the data used to determine the ingress and egress peak hours. Arrival and departure patterns from other NFL events and sporting events at UNLV were the basis of peak hour determination. The following adjustments should be considered for deriving pre-game and post-game peak hours:

- The peak hour access hour is assumed to be one hour before the game and peak egress hour one hour after the game. This may well be true for the stadium site but the peak hours at the remote parking sites will be earlier and later than for the stadium site due to the time taken to shuttle to/from the stadium. As a result, the bulk of stadium-related traffic is likely to extend two hours before and after the game with different parking areas peaking at different times.
- Table 7.3 of the study provides that 52% of stadium arrivals occur in the inbound peak hour and 73% of departures occur in the outbound peak hour. These percentages were derived from averaging data

from two (2) NFL stadiums and men's basketball attendance at UNLV. The much lower attendance for UNLV games (average 11,500 in 2016) compared to an NFL game means that arrivals and departures are likely to be "peakier" than for an NFL game. The inclusion of the basketball data increases the peak hour percentages which means the assumed peak percentage are conservative for traffic analysis purposes.

- Page 38 of the study states that "during the ingress peak hour it is understood that all Taxi/TNC vehicles, limos and shuttle busses arriving on-site will also be leaving the stadium site during the peak hour". However, in table 7.4 of the report peak hour trips by mode for Taxi/TNC, Limos and shuttle buses shows trips for one leg of the trip. Similarly, Table 7.5 of the study only shows one leg of the trip for egress trips. Tables 7.4 and 7.5 should be revised to clearly summarize the number of trips that will need to be applied for trip assignment.

6 TRIP DISTRIBUTION AND ASSIGNMENT REVIEW

This chapter details the review findings for Section 8 through Section 11 of the study which provides documentation on vehicle routing, trip distribution, and traffic assignment for Tropicana Avenue parking area, Las Vegas Boulevard parking area, on-site Stadium parking, and overall Stadium traffic.

6.1 Tropicana Avenue Parking areas

The off-site parking at Tropicana Avenue is located along the north side of Tropicana Avenue between MGM Grand and parts of UNLV. The area enclosed by the potential parking areas boundary in Figure 8.2 of the study overlaps many existing land uses. It is unclear if the proposed remote parking area will replace all of the existing land uses within the enclosed area, or parking facilities will be scattered throughout the area. While the overall regional trip distribution appears reasonable, the study should provide supporting data on the trip distribution assumptions. In addition, trip distributions for selected localized areas are not clearly documented which raises several questions which are discussed below:

Impractical Trip Distribution Assumptions

- Trip distribution percentages at several key locations are not shown in Figure 8.1 and 8.3; particularly around I-15 north of CC-215 and on the Paradise Road/Airport Connector. Inferring distributions from the intersection turning movement distribution in Figure 8.6, it appears that approximately 35% of all egress trips are assumed to use Paradise Road to access CC-215. This assumption could potentially lead to some circulation concerns:

    1. This percentage amounts to over 2,150 vehicle trips traveling southbound towards the airport during the same time when many visitors will be heading to the airport at the end of the weekend. The assumed outflow traffic from the parking area will likely overwhelm the already busy airport circulation.

    2. Immediately south of Tropicana Avenue, two (2) of the four (4) lanes on Paradise road are striped for airport access. Although the remaining two (2) lanes are available for through traffic, one (1) of the lanes is shared with rental return traffic. As a result, through traffic from the Tropicana Avenue parking areas will need to weave from four to two lanes which can cause serious congestion issues with airport access.

  The 35% egress trip distribution assumption at this location therefore appears to be unrealistic. In practice, more traffic will be forced to head west towards I-15.

- Figure 8.5 references a “conceptual Tompkins Avenue extension) though this is not referred to as a future improvement elsewhere in the report. Unless this improvement will be in place by year 2020, project trips should not be assigned to this street.

Trip Distribution and Assignment Inconsistencies

- There are multiple discrepancies between the ingress/egress route figures (Figures 8.1 and 8.3) and the trip distribution figure for the intersection turning movements (Figures 8.6). For example, intersection #4 (Las Vegas Boulevard/Harmon Avenue) is missing trip distribution for the westbound through movement. A thorough cross check between the figures is recommended.

- Some key trip distribution percentages on Figure 8.1 and 8.3 are missing making it difficult to verify the trip distribution for the turning movements at each study intersection. For example, Figure 8.6 shows 11% egress traffic passing through Intersection #14 (I-15 Southbound Ramps / Tropicana Avenue). Figure 8.3 shows 10% of egress traffic are assigned to I-15 south of CC-215 and 21% of egress

traffic are assigned to west on CC-215. Since trip percentages are missing on I-15 north of CC-215 and on the airport connector in Figure 8-3, it is not possible to verify if the 11% of traffic in Figure 8.6 is correct.

- Figure 8.7 shows 763 vehicles making westbound left turn at intersection #14, which equates to 12% of the 6,358 personal/rental vehicles shown in Table 7.5 of the study, as opposed to the 11% shown in Figure 8.6. It is unclear what trip generation is being multiplied by the trip distribution percentages to derive the trip assignments.
- Figure 8.6 shows trips assigned for the eastbound left-turn movement for intersection of Tropicana Avenue and Kelch Drive (#19). This movement is not feasible under existing configuration of the intersection which does not allow the eastbound left-turn movement. If eastbound left-turn lane is proposed to be added under Project scenario, the improvement should be included in Figure 5.1 as an expected lane configuration and control change in year 2020.
- Due to lack of information provided it is not possible to determine whether as stated in Chapter 7, that both legs of the shuttle bus trips (to and from the stadium) have been incorporated into the traffic assignments.

Insufficient Study Area

- Additional study intersections should be included for analysis based on the number of trips being distributed through them. For example, Figure 8.1 and 8.3 show that nearly 20% ingress/egress trips are projected to pass through the intersection of Koval Lane and Flamingo Road (906 eastbound right-turn trips and 1,272 northbound left-turn trips), though it is not a study intersection. Other intersections that should be included are Eastern Avenue at Sunset Road and Eastern Avenue at Tropicana Avenue.
- An alternative shuttle route is shown in Figure 8.5 but not analyzed. This route is proposed to travel along Harmon Avenue and Valley View Boulevard. With magnitude of the proposed 342 and 480 two-way ingress and egress shuttle trips (respectively) along this alternative route, there should be an alternative analysis to confirm the existing/proposed roadway and signals along Harmon Avenue and Valley View Boulevard can accommodate the trips.

6.2 Las Vegas Boulevard Parking Areas

The off-site parking at Las Vegas Boulevard is located along the east side of Las Vegas Boulevard approximately between Russell Road and Mandalay Bay Road. Similar to the Tropicana Avenue parking areas, the potential parking areas boundary shown in Figure 9.2 overlaps many existing land uses and it is unclear if the parking areas will replace the existing land uses. Supporting data for trip distribution assumptions are not provided in the study. Iteris identified the following concerns with regard to the assumptions made in this section:

- Similar to the analysis for the Tropicana Parking Areas, the overall regional trip distribution appears reasonable, although some percentages are missing from the trip distribution figures so the exact trip distribution cannot be ascertained.
- The intersection of Las Vegas Boulevard and Four Season Drive needs to be analyzed due to significant number of trips being distributed through this intersection. For instance, assuming 50% of the 75% trips are distributed to the Las Vegas Boulevard Parking Area, the trip distribution would equate to 195 ingress trips making a northbound right and 274 egress trips making a westbound left at this location.

6.3 On-Site Stadium Parking

Trip distributions for the on-site stadium parking includes trip distribution and assignment to and from the stadium for all applicable modes of transportation. Figures 10.1 through 10.8 show the trip distribution assigned for each of the transportation modes including limo, taxi/TNS, regional shuttle bus, and personal/rental vehicles. In general, the regional trip distributions assumed appear reasonable with the exception of the following findings:

- **Taxi/TNS** trip distribution per Figure 10.3 and 10.4 of the report is more regional in nature with trips coming from a wider geographic area when comparing to the trip distributions for limousines. While the distribution appears reasonable, 15% of taxis/TNC trips are assumed to come from CC-215 west of the stadium which is arguably high. Additionally, Figure 10.3 shows an ingress route heading northbound on Valley View Boulevard north of Russell Road which is counter-intuitive.
- **Regional Personal Vehicle** trip distribution varies significantly between ingress and egress. For stadium ingress, only 11% of personal vehicles are assumed to travel from I-15 south but the corresponding route rises to 23% during egress. This could be explained by attendees from southern California who have previously arrived in Las Vegas for the weekend who would check out of their hotel prior to the game, drive to the stadium and return directly to southern California after the game. However, the study should provide an explanation clearly stating why the ingress and egress percentages are different. Similarly, 15% of ingress trips are assumed to come from the east but only 9% return to the east.
- 33% of trips are assumed to use the yet to be built southbound I-15/Flamingo Road off-ramp. As noted previously in Chapter 4, this ramp has not been included in the latest FRI Funding lists so it is not certain this ramp will be built by year 2020. Additional clarification of the status for this improvement needs to be provided. If the ramp will not be built by year 2020 then any traffic assumed to be using the ramp needs to be distributed elsewhere.

Modification Required for Trip Assignment

Page 56 of the report states "during event egress, it is assumed that vehicles for the different modes will already be on-site during the peak hour and will only be exiting." While this approach is adequate for personal vehicles and limousines, it should not be applied to taxis/TNCs or shuttle buses. Vehicles for both of these modes of transportation will be arriving and departing throughout the peak hour as there is not enough space on-site to accommodate all the vehicles. Assuming that all these vehicles are on site at the end is the game is not realistic and peak hour trips generation used for analysis is underestimated. The number of Taxi/TNC trip should be doubled and added to the peak hour traffic assignment.

Several inconsistencies were found when comparing Figures 10.9A and 10.9B to Figures 10.10A and 10.10B. Some examples include:

- Flamingo Road / Paradise Road (#1)- no trip distribution shown for NBT, but 18 trips are assigned to NBT during egress.
- Tropicana Avenue / Marland Parkway (#23) - no trip distribution shown for EB approach, but 36 trips are assigned in the EB approach during egress.

In addition,

- Figure 10.7 shows that 33% of regional personal vehicle ingress to the stadium will exit I-15 southbound at the new Flamingo Road ramp. If this new off-ramp to Dean Martin Drive will not be constructed by 2020, this traffic will need to be allocated elsewhere and the analysis will need to be

updated.

- Widening of Decatur Boulevard would improve stadium access since it is anticipated that significant numbers of attendees would use this street to access the stadium form the west to avoid congestion elsewhere and/or park in the industrial areas surrounding the stadium. Figure 10.7 shows a 17% projection of regional personal vehicles accessing the site using Decatur Boulevard, though there will be additional traffic using parking west of the stadium that are not analyzed by the study.

6.4 Overall Stadium Distribution and Assignment

The overall stadium distribution and assignment includes trip sum for all parking areas including the two remote areas and on-site parking. Several discrepancies were found between trip distributions (Figure 11.1A/B) and trip assignments (Figure 11.2A/B). For example:

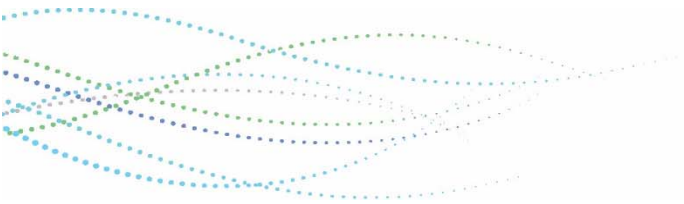
- Flamingo Road / Paradise Road (#1) – no trip distribution shown for eastbound through during egress, but 35 trips are assigned to eastbound through.
- Tropicana Avenue / Maryland Pkwy (#23) – no trip distribution shown for eastbound right movement during egress, but 18 trips are assigned to the eastbound right movement.

Other inconsistencies between trip distributions and assignments that require reconciliation are noted for the following intersections:

- Flamingo Road / Swenson Street (#2)
- Flamingo Road / Maryland Parkway (#3)
- Harmon Avenue / Koval Lane (#5)
- Paradise Road / Harmon Avenue (#7)
- Swenson Street / Harmon Avenue (#8)
- Tropicana Avenue / Dean Martin Drive (#13)
- Paradise Road / Tropicana Avenue (#20)
- Hacienda Avenue / Valley View Boulevard (#26)
- Hacienda Avenue / Polaris Avenue (#27)
- Las Vegas Boulevard / Mandalay Bay Road (#30)
- Las Vegas Boulevard / Russell Road (#36)
- Las Vegas Boulevard / Sunset Road (#40)
- I-215 EB Ramps / Las Vegas Boulevard (#44)

In addition, the following calculation inconsistencies were noted:

- The trips from one intersection to another are not conserved and the differences are more than 1-4 trips, indicating the inconsistencies are not due to rounding and trip distributions need to be verified. For example, westbound through movement at intersection #18 has 1,208 trips though the total of southbound-right and westbound-through trips at intersection #19 is 1,241.
- For the intersection at Tropicana Avenue at Koval Lane (#18), the number of overall stadium trips do not equal to the sum of trip assignments from each parking areas.



7 TRAFFIC ANALYSIS REVIEW

This chapter documents Iteris' review findings for Section 12, 13 and 14 of the study involving analyses for intersection, pedestrian walkway and on-site queuing at the Stadium.

7.1 Intersection Analysis

The study provides level of service analysis for study intersections under the opening year 2020 background conditions and 2020 background plus stadium conditions. In general, analysis was completed in accordance with the stated methodologies. Analysis at some locations may require update and additional analysis may be needed due to issues related to trip generation, distribution and assignment as identified in the previous chapters. In addition, Iteris has identified the following areas of concerns that may need further considerations.

Insufficient or Inaccurate Analysis

- No freeway analysis was completed to measure the impact game day traffic would have on freeway mainline, merge/diverge or weave operations. Freeway analysis is also needed to confirm the adequacy of the three (3) NDOT projects listed in the future planned transportation projects.
- It is unclear if conflicting pedestrian traffic were included in the intersection LOS analysis as no pedestrian counts were documented in the study. Some intersections within the study area currently carry high pedestrian volume and should be included as part of the analysis. High pedestrian traffic through an intersection would greatly impact operation of an intersection as they reduce capacity for right-turning vehicles at intersections without a pedestrian cross bridge. Both background and project-related pedestrian trips should be included as part of the intersection analysis.
- Traffic analysis was not completed for a mitigated scenario to verify the proposed mitigations in Section 17 would adequately mitigate identified project impacts.
- No queuing analysis was completed. As shown in Table 7.4 and 7.5 of the study, up to 4,500 vehicle trips are projected to arrive at the Tropicana Avenue park areas pre-game, while up to 6,400 vehicles are projected to depart post-game during the peak hour. These arrival/departure rate could potentially result in significant back-up on freeway on- and off-ramps or cause measurable impact to local businesses along Las Vegas Boulevard and affect airport access.

Inconsistent or Inaccurate Application of HCM Methodology

In general, HCM 2010 methodology was utilized for intersection analysis. However, a thorough review of the Synchro worksheet showed that HCM 2000 and ICU methodology was applied to a number of intersections without proper documentation or explanation. In some instances, delay and LOS improved under project conditions over no project conditions which is counterintuitive and requires further explanation. **Table 7-1** summarizes the delay and LOS for each of the study intersections accompanied by additional comments.

Some inconsistencies were identified in the Synchro worksheets for the following intersections and scenarios and should be revised if and when the study is updated:

2020 Background Ingress

- Las Vegas Boulevard / Harmon Avenue (#4): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Koval Ln (#18): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Kelch Dr (#19): synchro worksheet is not included.

- Reno Avenue / Giles St (#24): lane configuration does not match Figure 4.5 A/B.
- Hacienda Avenue / Valley View Boulevard (#26): LOS does not match Figure 12.2.

2020 Background Plus Stadium Ingress

- Las Vegas Boulevard / Harmon Avenue (#4): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Duke Elligton Wy (#17): traffic volumes do not match Figure 12.1A/B.
- Tropicana Avenue / Koval Ln (#18): lane configuration does not match Figure 4.5 A/B.
- Reno Avenue / Giles St (#24): lane configuration does not match Figure 4.5 A/B.
- CC-215 WB Ramps / Decatur Boulevard (#41): traffic volumes do not match Figure 12.1A/B.
- CC-215 EB Ramps / Decatur Boulevard (#42): traffic volumes do not match Figure 12.1A/B.

2020 Background Egress

- Las Vegas Boulevard / Harmon Avenue (#4): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Koval Ln (#18): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Kelch Dr (#19): synchro worksheet is not included.
- Reno Avenue / Giles St (#24): lane configuration does not match Figure 4.5 A/B.
- Decatur Boulevard / Susnet Dr (#37): LOS does not match Figure 12.2.

2020 Background Plus Stadium Egress

- Las Vegas Boulevard / Harmon Avenue (#4): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Duke Elligton Wy (#17): traffic volumes do not match Figure 12.1A/B.
- Tropicana Avenue / Koval Ln (#18): lane configuration does not match Figure 4.5 A/B.
- Tropicana Avenue / Kelch Dr (#19): lane configuration does not match Figure 4.5 A/B.
- Reno Avenue / Giles St (#24): lane configuration does not match Figure 4.5 A/B.
- Decatur Boulevard / Susnet Dr (#37): LOS does not match Figure 12.2.

Table 7-1 – Intersection Delay and LOS Comparison and Comments

ID	Intersection	2020 Background Ingress		2020 Background + Stadium Ingress		Delay Δ	2020 Background Egress		2020 Background + Stadium Egress		Delay Δ	Comments
		Delay (sec.)	LOS	Delay (sec.)	LOS		Delay (sec.)	LOS	Delay (sec.)	LOS		
1	Flamingo Rd/Paradise Rd	49.3	D	98.5	F	49.2	48.5	D	77.5	E	29.0	
2	Flamingo Rd/Swenson St	29.7	C	38.3	D	8.6	28.0	C	264.3	F	236.3	
3	Flamingo Rd/Maryland Pkwy	46.9	D	47.9	D	1.0	42.0	D	39.3	D	(2.7)	Delay improved with Project.
4	Las Vegas Blvd/Harmon Ave	29.5	C	30.2	C	0.7	10.2	B	10.5	B	0.3	
5	Harmon Ave/Koval Ln	45.0	D	146.0	F	101.0	48.6	D	49.2	D	0.6	
6	Harmon Ave/Lamar Cir	23.1	C	145.8	F	122.7	32.4	D	1,829.3	F	1,796.9	
7	Paradise Rd/Naples Dr	26.3	C	27.2	C	0.9	35.0	D	51.7	D	16.7	HCM 2000 methodology applied.
8	Swenson St/Harmon Ave	40.7	D	41.4	D	0.7	41.5	D	112.8	F	71.3	
9	Koval Ln/Tompkins Ave	56.7	E	59.4	E	2.7	51.3	D	46.3	D	(5.0)	Delay improved with Project.
10	Swenson St/Naples Dr	13.3	B	13.3	B	0.0	10.4	B	22.4	C	12.0	
11	Koval Ln/Tompkins Ave	8.4	A	10.6	B	2.2	8.4	A	12.0	B	3.6	
12	Tropicana Ave/Valley View Blvd	20.0	C	108.6	F	88.6	16.5	B	29.5	C	13.0	
13	Tropicana Ave/Dean Martin Dr	41.8	D	183.5	F	141.7	68.5	E	455.3	F	386.8	
14	I-15 SB Ramps/Tropicana Ave	1,210.7	F	1,418.8	F	208.1	2,806.0	F	11,289.8	F	8,483.8	HCM 2000 methodology applied. Westbound left turn is inputted as a permissive phase but should be a protected phase.
15	I-15 NB Ramps/Tropicana Ave	97.6	F	242.9	F	145.3	206.0	F	209.8	F	3.8	HCM 2000 methodology applied. Eastbound left turn and northbound left turn are inputted as a permissive phase but should be a protected phase.
16	Las Vegas Blvd/Tropicana Ave	65.0	E	105.4	F	40.4	114.6	F	157.3	F	42.7	
17	Tropicana Ave/Duke Ellington Wy	361.5	F	693.5	F	332.0	497.4	F	743.6	F	246.2	
18	Tropicana Ave/Koval Ln	120.8	F	156.6	F	35.8	186.8	F	230.3	F	43.5	
19	Tropicana Ave/Kelch Dr	-	-	3,375.4	F	-	-	-	353.4	F	-	HCM 2000 methodology applied.
20	Paradise Rd/Tropicana Ave	21.8	C	14.4	B	(7.4)	32.0	C	86.2	F	54.2	

ID	Intersection	2020 Background Ingress		2020 Background + Stadium Ingress		Delay Δ	2020 Background Egress		2020 Background + Stadium Egress		Delay Δ	Comments
		Delay (sec.)	LOS	Delay (sec.)	LOS		Delay (sec.)	LOS	Delay (sec.)	LOS		
21	Tropicana Ave/Swenson St	36.0	D	81.0	F	45.0	32.8	C	37.0	D	4.2	HCM 2000 methodology applied.
22	Tropicana Ave/Wilbur St	23.2	C	23.2	C	0.0	24.3	C	40.5	D	16.2	
23	Tropicana Ave/Maryland Pkwy	52.0	D	53.4	D	1.4	48.0	D	37.9	D	(10.1)	Delay improved with Project.
24	Reno Ave/Giles St	17.7	C	29.6	D	11.9	14.9	B	29.8	D	14.9	ICU methodology applied.
25	Reno Ave/Duke Ellington Wy	17.6	C	19.9	C	2.3	11.7	B	32.4	D	20.7	
26	Hacienda Ave/Valley View Blvd	35.3	D	23.8	C	(11.5)	34.3	C	12.7	B	(21.6)	Delay improved with Project.
27	Hacienda Ave/Polais Ave	16.8	C	17.0	B	0.2	20.1	C	668.4	F	648.3	
28	Hacienda Ave/Aldebaran Ave	9.5	A	15.4	C	5.9	9.4	A	23.5	C	14.1	
29	Dean Martin Dr/Connector Rd	10.9	B	9,189.1	F	9,178.2	10.1	B	1,476.7	F	1,466.6	
30	Las Vegas Blvd/Mandalay Bay Rd	21.0	C	21.0	C	0.0	20.5	C	31.6	C	11.1	
31	Russell Rd/Valley View Blvd	39.1	D	26.4	C	(12.7)	37.5	D	29.5	C	(8.0)	Delay improved with Project.
32	Russell Rd/Polaris Ave	41.0	D	15.2	B	(25.8)	41.5	D	28.6	C	(12.9)	Delay improved with Project.
33	I-15 SB Ramps/Russell Rd	23.9	C	28.2	C	4.3	22.9	C	43.1	D	20.2	HCM 2000 methodology applied.
34	I-15 NB Ramps/Russell Rd	104.9	F	56.9	E	(48.0)	122.0	F	36.6	D	(85.4)	ICU and HCM2000 methodologies applied for different scenarios.
35	Russell Rd/Frank Sinatra Dr	31.0	C	29.9	C	(1.1)	30.5	C	28.5	C	(2.0)	Delay improved with Project.
36	Las Vegas Blvd/Russell Rd	8.1	A	18.0	B	9.9	12.8	B	57.6	E	44.8	
37	Decatur Blvd/Sunset Rd	12.5	B	15.5	B	3.0	13.1	B	20.4	C	7.3	
38	Sunset Rd/Valley View Blvd	40.7	D	35.0	C	(5.7)	39.9	D	32.9	C	(7.0)	Delay improved with Project.
39	Dean Martin Dr/Sunset Rd	10.5	B	97.0	F	86.5	10.6	B	18.4	C	7.8	
40	Las Vegas Blvd/Sunset Dr	22.8	C	23.4	C	0.6	23.8	C	24.0	C	0.2	
41	CC-215 WB Ramps/Decatur Blvd	15.6	B	14.5	B	(1.1)	15.5	B	36.7	D	21.2	HCM 2000 methodology applied.
42	CC_215 EB Ramps/Decatur Blvd	19.6	B	26.0	C	6.4	18.8	B	16.3	B	(2.5)	HCM 2000 methodology applied.
43	I-215 WB Ramps/Las Vegas Blvd	16.7	B	21.4	C	4.7	17.8	B	33.1	C	15.3	HCM 2000 methodology applied.
44	I-215 EB Ramps/Las Vegas Blvd	13.7	B	14.0	B	0.3	13.2	B	25.9	C	12.7	HCM 2000 methodology applied.

7.2 Pedestrian Walkway Analysis

The study provides level of service analysis for the walking routes surrounding the stadium utilizing the 2010 HCM methodology and measured against Clark County's pedestrian criteria to establish project generated impact for pedestrian facilities. In general, analysis was completed in accordance with the stated methodologies. Analysis at some locations may require update and additional analysis may be needed due to issues related to trip generation, distribution and assignment as identified in the previous chapters. In addition, Iteris has identified the following areas of concerns that require further considerations.

Inaccurate LOS Definition

Table 13.1 in the study does not accurately reflect the flow rate values shown in Exhibit 23-1 ("Average Flow LOS Criteria for Walkways") of the 2010 HCM. If different values are used on purpose, source of the pedestrian LOS definition should be specified. **Table 7-2** below shows the correct values from Exhibit 23-1.

Table 7-2 – Revised Pedestrian LOS Definition

LOS	Flow Rate (p/min/ft)*	Comment
A	≤ 5	Ability to move in desired path, no need to alter movements
B	> 5 - 7	Occasional need to adjust path to avoid conflicts
C	> 7 - 10	Frequent need to adjust path to avoid conflicts
D	>10 - 15	Speed and ability to pass slower pedestrians restricted
E	>15 - 23	Speed restricted, very limited ability to pass slower pedestrians
F	Variable	Speeds severely restricted, frequent contact with other users

Source: HCM 2010 Exhibit 23-1.
*Pedestrians per minute per foot of walkway width.

Though the wrong flow rates are listed in Table 13.1 of the study, it appears that results listed in 13.2 were actually calculated using the correct values from Exhibit 23-1 of HCM 2010. However, Exhibit 23-2 of HCM 2010 may be more appropriate in determining the LOS for certain sidewalk sections surrounding the stadium. Chapter 23 of the HCM 2010 states that "Exhibit 23-2 applies when platoons of pedestrians from along the facility, for example, when a signalized crosswalk is located at one end of the portion of the facility being analyzed." Some of the analyzed sidewalk sections are in between two signalized intersections.

Unverifiable Peak Hour Pedestrian Volume Calculations

It is unclear if the peak hour pedestrian volumes used to calculate the minimum acceptable walkway width included background pedestrian volume. While certain segments of the sidewalks are currently lightly utilized by pedestrians, others such as Las Vegas Boulevard or Mandalay Bay Road would have substantial pedestrian traffic even on a non-game day. No existing pedestrian counts were collected or documented in the study. Actual pedestrian counts should be collected and included as background volume for the calculation of minimum walkway width for project conditions.

In addition, the following issues to be considered:

- The study should clearly document the calculation steps for determining the peak hour volumes listed in Table 13.2. Iteris was unable to verify and match the values in Table 13.2 using peak hour pedestrian trip values and trip distributions shown in Figures 13.2 and 13.3. For example, peak hour volume along Las Vegas Boulevard between Tropicana Avenue to Hacienda Avenue is 4,268+1,403 = 5,671 according to Table 13.2. However, Figure 13.2 shows that peak hour ingress trips from MGM Hotel, MGM Monorail, New York New York Hotel, Tropicana Hotel, Excalibur Hotel add up to 5,507 only.

- Peak 15-minute pedestrian volumes in Table 13.2 were calculated without application of any peak hour factors. The peak 15-minute pedestrian volume should be based on the busiest 15 consecutive minutes during the peak hour. In lieu of actual peak 15-minute pedestrian counts, a peak hour factor should be applied.
- The pedestrian analysis neglects the potential traffic generated from potential on-street/private lot parking within the industrial neighborhood to the west of the Stadium. While these trips are less likely to generate a significant traffic operational impact due to its distance from the Las Vegas Resort Corridor, it should be considered in establishing the overall event management plan for both operational and pedestrian safety reasons.

7.3 Queuing Analysis

Section 14 of the study presents analysis summary related to the on-site drop-off and pick-up queuing areas for Taxi/TNC and shuttles for remote parking areas. Pedestrian waiting areas at the pick-up and drop-off areas are also considered. Iteris have identified the following issues regarding the proposed on-site traffic circulation plan particularly during post-game peak hour.

Impractical Circulation Assumptions

As mentioned previously in Chapter 6.2 of this memorandum, Section 10 ("On-Site Stadium Parking") of the study indicated that "during event egress, it is assumed that these vehicles for the different modes will already be on-site during the peak hour and will only be exiting." On-site trip assignment shown in Figure 10.10B for the intersection of Dean Martin Drive and the Connector Road (#29) shows no trips entering the stadium during egress peak hour. However, Figure 14.1 of the study shows that the Taxi/TNC queuing area has the capacity for 125 vehicles though it is expected to process a total of 1,755 vehicles during egress peak hour. Since the queuing area does not have sufficient space to hold the entire peak hour demand, it is expected that the taxis/TNC vehicles will have to queue along Dean Martin Drive if all vehicles were to arrive prior to the beginning of egress peak. The length of roadway segment required to hold 1,630 vehicles (1,755 total demand less 125 queuing on-site) is approximately 6 miles assuming an average queue length of 20 feet per vehicle which physically impractical. As such, both inbound and outbound Taxi/TNC trips should be accounted for during egress peak hour. The following circulation and queuing issues should be considered during the next phase of stadium design:

- Circulation routes for Taxi/TNC vehicles in Figure 14.1 shows that vehicles are allowed to make both left- and right-turns to enter or exit Lot G via Dean Martin Drive. Considering the nature of ride-share vehicles are to drop off and pick up passengers, consideration should be given to allow only right-in and right-out operations to eliminate potential gridlock between inbound and outbound vehicles and minimize the effort for manual traffic control.
- It is unclear based on Figure 14.1 if TNC and Taxi vehicles will be waiting in the same queue inside lot G. The mixing of TNC and Taxi vehicles in the same lot could cause severe circulation issues. Taxis operate on a first-come first-served basis while TNC vehicles such as Uber and Lyft wait for specific customers. Mixing the two modes would force TNC vehicles to either wait unnecessarily behind a taxi queue or be forced to leave the queuing area without picking up their ride. A reluctance to leave the area will reduce the throughput of the queuing area. Consideration should be given to providing separate waiting areas for Taxis and ride-share vehicles.
- Lot F for shuttle bus parking allows buses to enter and exit at either end of the lot which could cause potential bus movement conflicts and reduce the operational efficiency of the transit center. In addition, the bi-directional movement of the bus bay layout could introduce excessive pedestrian/bus

conflicts caused by pedestrian crossing the bus parking aisles to access buses close to Hacienda Avenue. These potential conflicts raise safety concerns as well as reduce operational efficiency. A simulation analysis should be developed at the next stage of the stadium design to assess the operational capacity of the Taxi/TNC lot and shuttle bus lot as well as the intersections immediately adjacent to these lots. A simulation analysis would also more accurately reflect queueing at these facilities.

8 OTHER REVIEW FINDINGS

This chapter includes additional review findings of the traffic study.

8.1 Special Event Traffic Control Plan

Section 16 of the study contains a conceptual high level traffic control plan for both event ingress and egress operations. When a detailed level traffic control plan is developed closer to the stadium opening, the following items should be considered in addition to the items listed in the study:

- Ingress and egress routes of shuttle buses for the transit lot
- Separate ingress and egress routes for taxi and TNC vehicles

8.2 Review of On-Site Mitigations

What the report identifies as on-site mitigations should be more appropriately described as project design features rather than mitigations, since they are necessary to provide functional access to and from the site and adequate internal circulation.

Iteris identified some discrepancies between the improvements listed in the bullet points in the text and those shown in Figure 1.3. These mitigations and discrepancies are noted in **Table 8-1** below. Two (2) of the improvements (bullet #8 and #9 in the text) do not appear to be stadium-related improvements and have possibly been programed already. In addition, the construction of the pedestrian bridge over I-15 on the south side of Hacienda Avenue could potentially conflict with a proposed off-site improvement at I-15 ramps at Hacienda Avenue as well as the preferred alignment of the potential XpressWest High Speed Passenger Railroad.

Table 8-1 – Comparison of On-site Mitigation Measures Shown in the Report Texts and Figure 1.3

Figure ID	Report ID	Description	Additional Comments
26	1	Widen Polaris Avenue from a 60' to an 80, right-of-way public street. Delineate with a 5- lane section that includes a continuous center left-turn lane.	None
1	2	Modify existing signalized intersection of Russell Road and Polaris Avenue (Intersection #1) to provide dual southbound left-turn lanes for event egress.	None
2	3	Modify existing right-in/right-out driveway to provide a 39' access drive on Russell Road. The access drive should be gated and closed during event ingress and opened to provide dual right-turn lanes during event egress.	None
3	4	Construct a 35' wide southern access drive onto Dean Martin Drive to provide dual right-turn lanes during event egress (Intersection #3).	None
4	5	Construct a full access drive onto Dean Martin Drive with a 155' southbound right-turn lane (Intersection #4).	None
5	6	Provide a 31' wide right-out/left-out exit drive on Dean Martin Drive for VIP Limo operations at the East VIP Entry (Intersection #5).	None
6	7	Provide a 31' wide right-in/left-in entry drive on Dean Martin Drive for VIP Limo Operations at the East VIP Entry (Intersection #6).	None

Table 8-1 – Comparison of On-site Mitigation Measures Shown in the Report Texts and Figure 1.3

Figure ID	Report ID	Description	Additional Comments
7	8	Maintain existing median island and unsignalized street intersection improvements at the Hacienda Avenue/Aldebaran Avenue-Connector Road Intersection (Intersection #7).	Pre-existing improvement?
Missing	9	Maintain existing unsignalized street intersection geometry and improvements at the Dean Martin Drive/Connector Road Intersection (Intersection #9).	Pre-existing improvement?
8	10	Construct new signalized intersection at Hacienda Avenue with widened 5-lane section of Polaris Avenue (Intersection #8)	None
9/10	11	Provide 10' wide and/or 15' wide sidewalks along the perimeter roadways of the stadium	None
11	12	Provide a 30' wide walkway with pedestrian barrier rail along the southside of Hacienda Avenue connecting the I-15 pedestrian bridge crossing to the Connector Road intersection. (Intersection #7).	None
12	13	Widen existing I-15 Hacienda Avenue overpass with an elevated 30-foot wide pedestrian walkway over I-15 along the south side of the Hacienda Avenue bridge. **Coordinate pedestrian bridge design with future NDOT HOV ramp connector to Hacienda Avenue Bridge**.	May conflict with off-site mitigation measure #15
13	14	Provide 500' of two lane VIP drop-off/pick-up curb spaces (31 limos) for the east VIP entry.	None
14	15	Provide 615' of one lane VIP drop-off/pick-up curb spaces (20 limos) for the west VIP entry	None
15	16	Provide 50 linear feet of curb space for an ingressing VVIP security check point before entering stadium Lot D parking.	None
16	17	Provide 33' wide access drives for VVIP (game day) and truck access (non-game day) into the stadium building.	None
17	18	Pedestrian containment fencing is to be provided along the public streets of Russell Road, Polaris Avenue, and Hacienda Avenue as shown in detail on Figure 1.3.	None
18	19	To accommodate off-site shuttle bus operations, provide a minimum of 30 on-site bus bays near the intersection of Polaris Avenue and Hacienda Avenue.	None
19	20	Provide on-site vehicle queuing for a minimum of 125 Taxi/TNC (rideshare) vehicles.	None
20	21	Obtain County approvals for all event days to use Polaris Avenue as a bus holding area for post-game shuttle buses. Three lanes of Polaris Avenue for a total of 87 buses	None
Missing	22	Coordinate with RTC to operate RTC express buses for pre- and post-game operations.	None
21	Missing	455' of curb space to accommodate 10 RTC Express lanes for pre- and post-game operations	None
22	Missing	42,700 SF of Shuttle bus Pedestrian Queuing area for loading / unloading	None
23	Missing	38,815 SF of Taxi/TNC Pedestrian Queuing area for loading / unloading	None

Table 8-1 – Comparison of On-site Mitigation Measures Shown in the Report Texts and Figure 1.3

Figure ID	Report ID	Description	Additional Comments
24	Missing	Private 5 lane roadway section with flexible lane options for ingress and egress operations	None
25	Missing	Private 3 lane roadway section with flexible lane options for ingress and egress operations	None
27	Missing	Existing public street recommended to be vacated for routing closures. Open to public on non-event days.	None

Source: Las Vegas Raiders Stadium Event Traffic Impact Study, Kimley-Horn, May 2017

8.3 Review of Off-Site Mitigations

Fifteen (15) off-site mitigation measures are identified in Figure 1.4 and which can be characterized as follows:

- Operational Improvements (#1, #2, #3, and #4)
- Pedestrian Access Improvements (#7, #8, #9 and #10)
- Major Physical Improvements (#5, #6, #11, #12, #13, #14, and #15)

The study provides no discussion regarding the connection from the results of the traffic analysis to the determination of project improvements. As stated in the study, "many of the street network improvements have been previously identified for construction within the Resort Corridor prior to the development of an NFL stadium in Las Vegas". These previously identified improvements should be categorized as background improvements rather than project mitigation measures since they were developed to address existing or future forecast traffic conditions **without** the stadium.

Operational Improvements

Special event signal timing plan (#1) – This is an appropriate measure, though the following two (2) intersections that were listed in the signal timing plan were not identified as study intersections and thus not part of the traffic analysis:

- Decatur Boulevard and Russell Boulevard
- Decatur Boulevard and Hacienda Avenue

The following three (3) intersections should be considered to be included in the special event signal timing plan to further improve access to/from the Stadium from the north:

- Decatur Boulevard and Tropicana Avenue
- Decatur Boulevard and Harmon Avenue
- Decatur Boulevard and Flamingo Boulevard

The proposed new traffic signal at Hacienda Avenue and Polaris Avenue (#3) and the modification of the existing signal at Russell Road and Polaris Avenue (#4) are included as both on-site and off-site mitigations, though they should be considered as project design features.

Pedestrian Improvements

- Pedestrian widening on Las Vegas Boulevard between Tropicana Boulevard and Hacienda Avenue (#7)

- Pedestrian widening on Hacienda Avenue between Las Vegas Boulevard (#8 an #9) and the stadium site includes constructing at 30-foot wide elevated walkway to the stadium site over I-15 along the south side of Hacienda Avenue (#10)

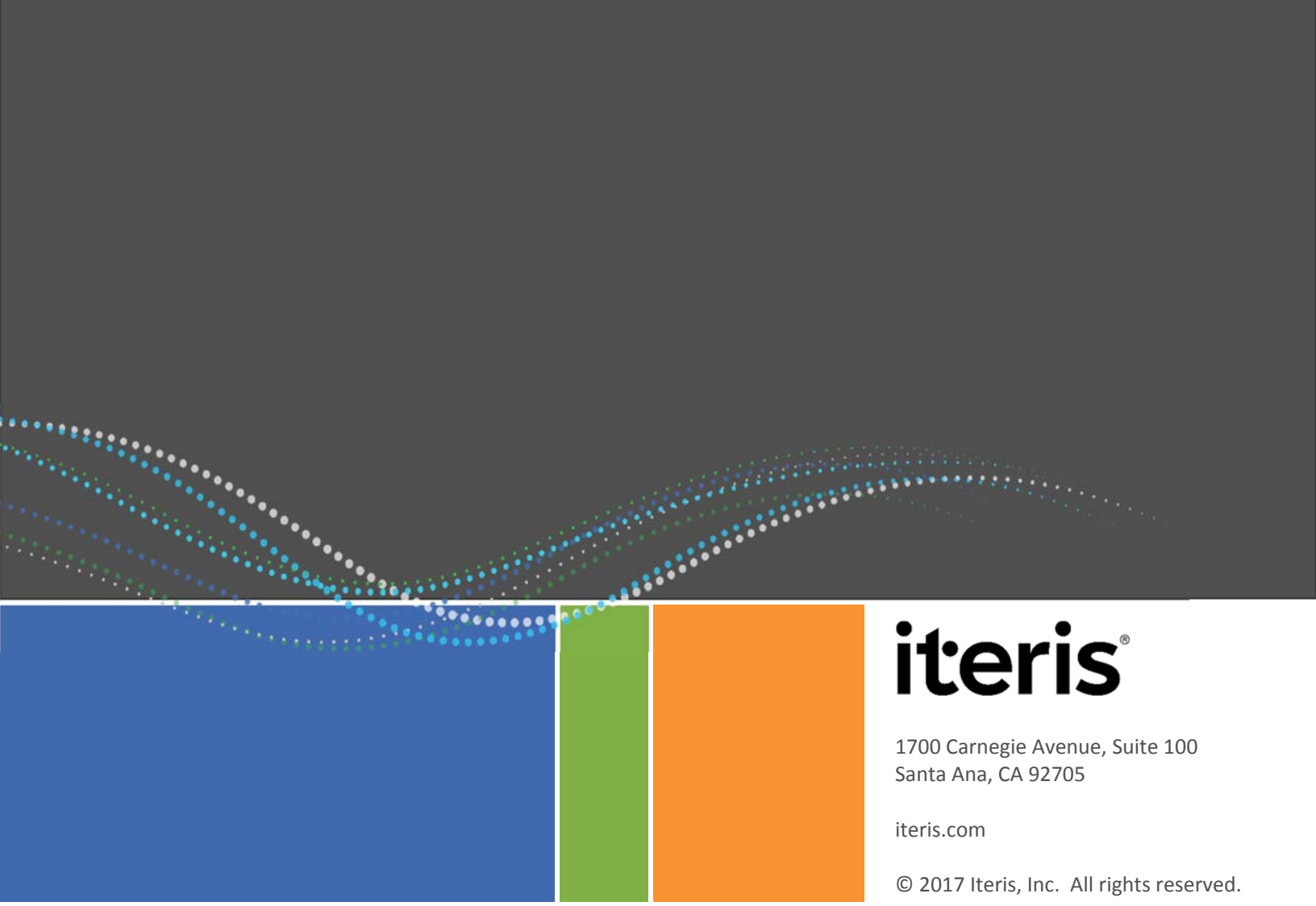
While these improvements will improve pedestrian safety and facilitate pedestrian flow they could contribute to increasing congestion at driveways particularly on the west side of Las Vegas Boulevard as already noted.

Major Physical Improvements

These improvements have previously been discussed in **Chapter 4** of this memorandum and should be considered to be planned background improvements not project mitigations since they were planned prior to the advent of, and are not being funded by, the stadium.

8.4 Review of Event Management Plan

The list of components in the proposed event management plan provides a set of 12 measures that will be necessary to ensure adequate on- and off-site circulation on game day. A major input to the plan will be the location of the final off-site parking agreement which have yet to be determined. Regardless of where these off-site parking spaces are located, the event management plan should also assess parking and circulation issues in the industrial areas immediately to the west, north and south of the stadium site. There is a substantial number of on- and off-street parking spaces available in these areas which has low existing traffic volumes on Sundays (based on a field check) and are accessible, including from CC 215 and Decatur Boulevard.



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Concerned Citizens of Historic West and North Las Vegas

89106 - 89030

September 12, 2017

Mr. Steve Hill
Chairman
Las Vegas Stadium Authority Board
500 Grand Central Pkwy
Las Vegas, NV 89106

Re: Notice of Intent to File CBA and Represent 89106 and 89030

Dear Chairman Hill,

The Concerned Citizens of Historic West and North Las Vegas, comprised of community based organizations such as The Get Active Foundation, Coalition of Black Trade Unionist, Pulidor Foundation, Faith Based Organizations , Black Businesses, Veterans, Ex-Offenders, Individuals and hundreds of Black job seekers will deliver to you and the Stadium Authority Board items that should be included in the CBA agrrement on behalf of the 89106 and 89030 communities at the Sept 14, 2017 board meeting.

Members of the concerned Citizens were at the table with others during the September 16 special session when Senator Ford originated the founding tenants of his proposed Community Benefits Agreement called for by SB1 with our (African American)leaders input. We offer the opportunity to sit down with Mr. Mark Davis and Mr. Mark Burdain to reach an agreement on the required CBA prior to it's finalization at the October meeting in order that unnecessary project delays can be avoided. Meeting the deadline for the 2020 season can only be achieved if everyone moves quickly. We are hopeful and anxious to move forward in an expeditious manner.

Respectfully,

Woodrow Wiley Jr
President
Get Active Foundation

Concerned Citizens of Historic West and North Las Vegas **09/11/17**

89106 - 89030

Proposal

Raider Stadium and Las Vegas Convention Authority

Community Benefits Agreement

Contracting:

1. Twenty-five percent (25%) of dollar amount of project set aside for Professional Services, Construction and Goods and Services for small businesses of color and veterans in Clark County with ten percent (10%) of the twenty-five percent (25%) for veterans.

2. Business owners wishing to bid must demonstrate proof of residency in Clark County

one year prior to September 15, 2016 when legislation for SB1 was passed.

Persons of Color Workforce Development and Training:

1. Fifty percent (50%) mandate of total workforce with twenty-five percent (25%) being African American primarily from zip code 89106, 89030.

2. Project Labor Agreement to be openly and fairly negotiated by community stakeholders

with the intent of SB1 in mind.

3. Two million dollars ($2 million) training and apprenticeship readiness budget for construction, stadium operations and tourism. An established workforce development and

Training Agency with experience in training low income, U.S. Veterans, ex-offenders

and individuals with disabilities will be hired.

Community Development and Business Investment fund (Incubate 89106 and 89030)

1. Raiders or qualified investor to invest One Hundred millions ($100 millions) to incubate community and Person of Color small businesses development in 89106 and 89030. Blackstone Foundation or other qualified fund manager to be selected.

Other Community Benefits

1. Ten percent (10%) of Raider game tickets to be discounted to 89106, 89030 and veterans

2. Set aside forty percent (40%) of the stadium retail concessions for veterans and Persons of Color businesses in Clark County.

3. A "first source" hiring system, to target job opportunities in the development to residents of the Historic Westside Community (89106) and North Las Vegas (89030).

Community Oversight and Accountability Committee

The community benefits agreement will be governed by an independent nine member community oversight committee that will consist of five (5) members appointed by the Concerned Citizens of Historic West and North Las Vegas from credible community organizations based in 89106 and 89030. The other four committee members will be appointed by the 4 minority chambers (Urban, Latin, Asian and Women).

Recommendations for Committee Selection