



Traffic Impact Analysis

VAI Resort
Southwest Corner of
95th Avenue and Cardinals Way

September 2024

Glendale, Arizona



Approval is with the stipulation outlined in the letter from Transportation Dated 10/03/2024

September 2024

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EXECUTIVE SUMMARY

INTRODUCTION

VAI Resort is located on an approximately 60-acre parcel in the southwest corner of 95th Avenue and Cardinals Way near State Farm Stadium in Glendale, Arizona. The development will consist of hotel rooms, conference/meeting space, a semi-public swimming pool, an island with bar, restaurants, retail, a concert venue, and a Mattel Adventure Park. This traffic impact analysis was prepared in accordance with the requirements of the City of Glendale. The project generates more than 1,000 peak hour trips. The opening year for the proposed development is considered as 2025 for this analysis. The analysis study years include existing and horizon years 2025, 2035 and 2045 (20 years after opening). The weekday PM peak hour and Saturday peak hour (late afternoon) were studied since they correspond to both the peak operation of the proposed development and the adjacent roadway peaks.

TRIP GENERATION

Full build-out of the proposed development is anticipated to generate 24,507 weekday daily trips (entering/exiting) with 2,552 trips (entering/exiting) during the Weekday PM peak hour and 3,069 trips (entering/exiting) during the Saturday Peak Hour. Internal trip reductions were applied to specific uses within the development.

EXISTING LEVEL-OF-SERVICE

The movements and approaches at the study intersections are currently operating at level of service “E” or better during the weekday PM peak hour and Saturday peak hour with existing conditions and signal timings.

FUTURE LEVEL-OF-SERVICE

The movements and approaches at the study intersections will operate at level-of-service ‘E’ and above during the weekday PM peak hour and Saturday peak hour of the horizon years with the exception of the Loop 101/Cardinals Way, 95th Avenue/Cardinals Way, 91st Avenue/Cardinals Way, 91st Avenue/Camelback Road, 95th Avenue/Camelback Road and 99th Avenue/Camelback Road intersections.

RECOMMENDED MITIGATION MEASURES

It is recommended to review and optimize existing corridor traffic signal cycle lengths and traffic signal phasing. This includes developing various plans for the weekday, weekend and event time periods. Cardinals Way and Camelback Road are currently programmed with coordination and 145 second cycle lengths during the PM peak hour and 120 second cycle lengths on the weekend. The level-of-service at the Loop 101/Cardinals Way and 95th Avenue/Cardinals Way intersections could be improved by reevaluating signal timing with future conditions.

A future connection to the Loop 101 from the west side of the development is under consideration. This analysis does not account for a potential Loop 101 connection, and therefore makes conservative recommendations with the assumption that all traffic will enter/exit the site from 95th Avenue.

Camelback Road

The daily traffic volume on Camelback Road is projected to reach 47,000 vpd in horizon year 2045 with background traffic only and will approach capacity as a four and five-lane roadway warranting a six-lane section. To achieve acceptable levels of service at the study intersections on Camelback Road, three through lanes in each direction are warranted in the horizon year.

The 91st Avenue/Cardinals Way, 91st Avenue/Camelback Road, 95th Avenue/Camelback Road, and 99th Avenue/Camelback Road intersections will experience delay with the growth of traffic volumes. The site traffic will have an additional impact at the 95th Avenue/Camelback Road and 91st Avenue/Cardinals Way intersections, since they are entryways to the site driveways on 95th Avenue and the parking garage on Montebello Avenue. In addition to three through lanes in each direction on Camelback Road, the following additional turn lanes are recommended:

91st Avenue and Cardinals Way

- Northbound dual left-turn
- Eastbound right-turn
- Westbound dual left-turn
- Maintain existing turn lanes

91st Avenue and Camelback Road

- Northbound dual left-turn
- Northbound right-turn
- Westbound right-turn
- Maintain existing turn lanes

95th Avenue and Camelback Road

- Dual southbound left-turn
- Dual eastbound left-turn
- Maintain existing turn lanes including dual southbound right-turn lanes provided with existing conditions

99th Avenue and Camelback Road

- Northbound right-turn
- Dual westbound left-turn
- Dual southbound left-turn
- Southbound right-turn lane
- Maintain existing turn lanes

With the above improvements, the movements and approaches at the study intersections are anticipated to operate at level of service “E” or better.

Site Access

Four main driveways are proposed on 95th Avenue. There is also a service-only driveway and employee driveway (not included in the analysis). The most northern driveway (Site Access A) is proposed as left-in, right-in and right-out and provides access to the hotels and a loop road that goes around the resort. Site Access B provides full access to a valet area. The two south driveways on 95th Avenue provide direct access to the Mattel Adventure Park while providing access to the loop road around the resort. The driveways near the Mattel Adventure Park are designed with a right-out exit only (Site Access C1) driveway and a right-in, left-in enter only (Site Access C2) driveway. Site Access D is a driveway to a new parking garage that is proposed on Montebello Avenue west of 91st Avenue. Site Access E (right-in and right-out) is a proposed driveway on 91st Avenue that will provide additional access to the new garage. There is also a shared ride drop-off/pick-up staging area with two driveways provided on Montebello Road east of 95th Avenue. The three existing Black Lot driveways on Montebello Road will remain open.

The site driveways will be stop sign controlled. Dedicated left-turn lanes will be provided on 95th Avenue at the driveways that allow left turns into the site, which include Site Access A, Site Access B and Site Access C2.

Right-turn deceleration lanes are provided at the site driveways on 95th Avenue.

IMPROVEMENTS BY DEVELOPMENT

- ❖ Install new median and revise striping on 91st Avenue adjacent to the property
- ❖ Revise striping on Montebello Avenue between 91st Avenue and 85th Avenue
- ❖ Restripe southbound 95th Avenue approach at Cardinals Way to provide new right-turn lane
- ❖ Provide one new marked crosswalk on 95th Avenue and Montebello Avenue
- ❖ Install new wayfinding signage on all approaches to the site

EVENT TRAFFIC MANAGEMENT

VAI traffic management, circulation and pedestrian accommodations during the Arizona Cardinals gameday, and other major events at the adjacent football stadium, will be coordinated with the City staff and law enforcement. Additionally, a separate agreement will be entered into between the VAI ownership and the City to develop event traffic management plans during special events at the VAI resort and concert venue.



TRANSPORTATION DEPARTMENT

Subject: VAI Resort Traffic Impact Analysis (TIA) Approval
Southwest Corner of 95th Avenue and Cardinals Way, Glendale, AZ

To: Shahid Abbas,
Director – Transportation

From: Tony S. Abbo, P.E., PTOE
City Traffic Engineer

Date: 10/03/2024

The updated Traffic Impact Analysis (TIA) dated September 22, 2024, for the proposed VAI Resort development is approved with the following stipulations:

1. Auxiliary Right turn lanes will be provided in advance of the following driveways:
 - a. All driveways on southbound (SB) 95th Avenue.
 - b. Garage entrance off Montebello
 - c. Garage entrance off 91st Avenue
2. The garage entrance off of 91st Avenue will be designed as a “right in - right out” driveway. The design of the driveway will include a pork chop median. The design shall be submitted to the City for review and approval during the design phase of the project.
3. All through lanes on northbound (NB) and SB 95th Avenue shall not lead into a “lane drop” condition in the area between the Cardinal’s Way intersection and the development’s south property line. The design of the lane drop taper shall be reviewed and approved by the City.
4. SB 95th Avenue in advance of Cardinals Way will be modified to accommodate one right turn lane, two southbound lanes and one left turn lane as is recommended in the Traffic study.
5. The marked crosswalk along 95th Avenue shall be signalized (HAWK). This is in accordance with the City’s crosswalk policy.
6. The queue length of all turn lanes studied in the TIA will be designed (where applicable) to meet the projected turn traffic demand.
7. The design of the transition area associated with the merge lane, on SB 95th Avenue south of Montebello, needs to be updated to meet current AASHTO design standards.

8. A signing plan that includes the use of static, overhead lane control signs, and overhead dynamic message signs will be submitted to the City for review and approval. The developer will be responsible for all costs associated with the design, and the implementation of the plan.
9. The developer shall develop a traffic control plan that outlines the traffic requirements during major events at VAI. The plan shall be reviewed and approved by the City's Transportation Department.
10. The roadway design associated with all the offsite improvements shall meet all the AASHTO and MUTCD requirements.

Finally, it is requested that developer team's responses dated September 22, 2024, to the City staff's comments dated 08/09/2024, be included in the report as an Appendix.