



Alan Heathcoat, P.E.  
Principal Engineer  
Glendale Transportation

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16 May 2022

Mr. Alan Heathcoat  
City of Glendale  
6210 West Myrtle Avenue, Suite 112  
Glendale, Arizona 85301

# APPROVED

**SUBJECT: GLENDALE AZ RV RESORT  
83<sup>RD</sup> AVENUE/GLENDALE AVENUE  
TRAFFIC IMPACT STATEMENT**

Dear Mr. Heathcoat,

Please find enclosed a brief traffic impact statement (TIS) regarding the Glendale AZ RV Resort project located south of the southwest corner of the intersection of 83<sup>rd</sup> Avenue/Glendale Avenue in Glendale, Arizona. The vicinity of the project is shown in **Figure 1**. The project will consist of a 159-unit RV Resort and a 55-lot expansion of the existing Shamrock Mobile Home Park, as shown in **Figures 2 and 3**. The RV Resort site will be served by one proposed access point from 83<sup>rd</sup> Avenue and a proposed 'emergency access' drive on Glendale Avenue. The mobile home park expansion will be served from the existing mobile home park via Glendale Avenue.

The purpose of this traffic impact statement is to estimate the traffic generation associated with the Glendale AZ RV Resort based on the current development plan, compare the new trip generation to the previously approved plan, and outline the possible impacts of the site on the immediate area.

### **Existing Conditions**

Glendale Avenue is an east/west aligned roadway that provides access to Loop 101 approximately two miles west of the project site. Three through lanes, separated by a raised median, are offered for each direction of travel on the roadway. Glendale Avenue has a posted speed limit of 40 mph.

83<sup>rd</sup> Avenue is aligned north/south roadway. North of Glendale Avenue, 83<sup>rd</sup> Avenue is provided a two-lane roadway separated by a two-way center left turn lane. South of Glendale Avenue, 83<sup>rd</sup> Avenue make use of two through lanes in each direction of travel separated by a two-way center left turn lane. The posted speed limit on the roadway is 40 mph.

San Bellino Driveway is located on the east side of 83<sup>rd</sup> Avenue approximately 900 feet south of Glendale Avenue. The driveway primarily serves vehicles traveling to/from the existing San Bellino Apartments.

The existing Mobile Home Park Driveway is located on the south side of Glendale Avenue roughly 920 feet west of 83<sup>rd</sup> Avenue. The driveway exclusively serves vehicles traveling to/from the existing Shamrock Mobile Home Park.

The intersection of 83<sup>rd</sup> Avenue/Glendale Avenue is a four-leg, signalized intersection. Eastbound vehicles are provided with an exclusive left turn lane, three through lanes, and an exclusive right turn lane. Westbound traffic is offered an exclusive left turn lane, two through lanes, and a shared through/right turn lane. Northbound and southbound traffic make use of an exclusive left turn lane, one through lane, and a shared through/right turn lane. All approaches to the intersection are offered protected/permitted left turn phasing.

San Bellino Driveway/83<sup>rd</sup> Avenue is a three-leg, unsignalized intersection. Westbound vehicles leaving the San Bellino Apartments are STOP controlled and provided an exclusive left turn lane and a dedicated right turn lane. Northbound traffic approaching the intersection are given two through lanes and a dedicated right turn lane, while southbound vehicles make use of two through lanes and an exclusive left turn lane (within the two-way center left turn lane).

Mobile Home Park Driveway/Glendale Avenue is three-leg, unsignalized intersection. Eastbound traffic approaching the intersection are offered a dedicated left turn lane, two through lanes and shared through/right turn lane, while westbound vehicles are provided an exclusive left turn lane and three through lanes. Northbound traffic leaving the Shamrock Mobile Home Park are STOP controlled and given an exclusive left turn lane and a dedicated right turn lane.

The existing study intersection locations, lane configurations, and intersection control are shown in **Figure 4**.

### **Access**

The RV Resort site will be served by one proposed access point from 83<sup>rd</sup> Avenue and a proposed 'emergency access' drive on Glendale Avenue.

North Access will be located on the south side of Glendale Avenue, west of the Commercial Driveway, located approximately 650 feet west of 83<sup>rd</sup> Avenue. North Access is expected to provide emergency only access.

Glendale AZ RV Resort is expected to construct a new west leg to align with the existing intersection of San Bellino Driveway/83<sup>rd</sup> Avenue. Eastbound and westbound vehicles leaving the minor approaches will be STOP controlled and provided an exclusive left turn lane and dedicated right turn lane. Northbound traffic approaching the intersection will utilize an exclusive left turn lane (within the two-way center left turn lane), two through lanes and a dedicated right turn lane, while southbound vehicles will be offered an exclusive left turn lane (within the two-way center left turn lane), one through lane and a shared through/right turn lane.

The existing Mobile Home Park Driveway is expected to serve new vehicles trips traveling to/from the Shamrock Mobile Home Park expansion.

The Glendale AZ RV Resort project is expected to provide a sidewalk, curb and gutter on the west side of 83<sup>rd</sup> Avenue along the project frontage.

**Figure 5** shows the locations, geometry and spacing for the study intersections that will also serve as a baseline of analysis with the project.

### Trip Generation

Trip generation was developed utilizing nationally agreed upon data contained in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition*, 2021. The Glendale AZ RV Resort project trip generation was estimated for the construction of a 159-unit RV Resort based on ITE Land Use Code 416 (LUC 416), Campground/Recreational Vehicle Park and a 55-lot expansion of the existing Shamrock Mobile Home Park based on ITE LUC 240, Mobile Home Park. The combined trip generation is shown in **Table 1**. The complete trip generation calculations can be found in the Appendix.

**Table 1 – Site Generated Trips**

| <b>Time Period</b>             | <b>Mobile Home Park Expansion<br/>(LUC 240 - Mobile Home Park)</b> | <b>RV Resort<br/>(LUC 416 - Campground/RV Park)</b> | <b>Total</b> |
|--------------------------------|--|---|--------------|
| Average Daily, Inbound (vtpd)  | 196  | N/A   | 196          |
| Average Daily, Outbound (vtpd) | 196  | N/A   | 196          |
| <b>Total Daily</b>             | <b>392</b>   | <b>N/A</b>  | <b>392</b>   |
| AM Peak Hour, Inbound (vtph)   | 5  | 12  | 17           |
| AM Peak Hour, Outbound (vtph)  | 17   | 22  | 39           |
| <b>Total AM Peak</b>           | <b>22</b>  | <b>34</b>   | <b>56</b>    |
| PM Peak Hour, Inbound (vtph)   | 20   | 28  | 48           |
| PM Peak Hour, Outbound (vtph)  | 12   | 15  | 27           |
| <b>Total PM Peak</b>           | <b>32</b>  | <b>43</b>   | <b>75</b>    |

vtpd - vehicle trips per day, vtph - vehicle

N/A - not applicable

As shown in **Table 1**, the proposed project is expected to generate fifty-six (56) weekday AM peak hour trips and seventy-five (75) weekday PM peak hour trips.

The eastern parcel (i.e. RV Resort Site) is currently zoned R-3 which allows for multi-family residential development. A previous proposal to develop this site with 228 multifamily units and forty (40) townhomes was contemplated for the site. Trip generation for this previous project plan was conducted assuming 228 multifamily units based on ITE LUC 220, Multifamily Housing (Low-Rise) and forty (40) townhomes based on LUC 215, Single Family Attached Housing. The result is shown below in **Table 2**.

**Table 2 – Previously Proposed Multifamily Plan Site Generated Trips**

| <b>Time Period</b>             | <b>Single Family Attached Housing (LUC 215)</b> | <b>Multifamily Housing (Low-Rise) (LUC 220)</b> | <b>Total</b> |
|--------------------------------|---|---|--------------|
| Average Daily, Inbound (vtpd)  | 128   | 769   | 897          |
| Average Daily, Outbound (vtpd) | 128   | 769   | 897          |
| <b>Total Daily</b>             | <b>256</b>                                      | <b>1,538</b>                                    | <b>1,794</b> |
| AM Peak Hour, Inbound (vtph)   | 5   | 23  | 28           |
| AM Peak Hour, Outbound (vtph)  | 11  | 71  | 82           |
| <b>Total AM Peak</b>           | <b>16</b>                                       | <b>94</b>                                       | <b>110</b>   |
| PM Peak Hour, Inbound (vtph)   | 12  | 75  | 87           |
| PM Peak Hour, Outbound (vtph)  | 9   | 44  | 53           |
| <b>Total PM Peak</b>           | <b>21</b>                                       | <b>119</b>                                      | <b>140</b>   |

vtpd - vehicle trips per day, vtph - vehicle trips per hour

**Table 3** shows the difference in expected trip generation between the previously proposed multifamily plan and the current Glendale AZ RV Resort project site.

**Table 3 – Estimated Site Trip Generation Difference**

| <b>Time Period</b>             | <b>Previously Proposed Multifamily Plan</b> | <b>Glendale AZ RV Resort</b> | <b>Difference</b> |             |
|--------------------------------|---|------------------------------|-------------------|-------------|
|                                |   |                              | <b>Trips</b>      | <b>%</b>    |
| Average Daily, Inbound (vtpd)  | 897   | 196                          | -701              | -78%        |
| Average Daily, Outbound (vtpd) | 897   | 196                          | -701              | -78%        |
| <b>Total Daily</b>             | <b>1,794</b>                                | <b>392</b>                   | <b>-1,402</b>     | <b>-78%</b> |
| AM Peak Hour, Inbound (vtph)   | 28  | 17                           | -11               | -39%        |
| AM Peak Hour, Outbound (vtph)  | 82  | 39                           | -43               | -53%        |
| <b>Total AM Peak</b>           | <b>110</b>                                  | <b>56</b>                    | <b>-54</b>        | <b>-49%</b> |
| PM Peak Hour, Inbound (vtph)   | 87  | 48                           | -39               | -45%        |
| PM Peak Hour, Outbound (vtph)  | 53  | 27                           | -26               | -49%        |
| <b>Total PM Peak</b>           | <b>140</b>                                  | <b>75</b>                    | <b>-65</b>        | <b>-46%</b> |

vtpd - vehicle trips per day, vtph - vehicle

Red indicated a reduction

The Glendale AZ RV Resort is expected to generate fifty-four (54) fewer weekday AM peak hour trips and sixty-five (65) fewer PM peak hour trips when compared to the previously proposed multi-family plan in **Table 3**.

## Conclusion

The Glendale AZ RV Resort project is predicted to generate an additional fifty-six (56) weekday AM peak hour trips and seventy-five (75) weekday PM peak hour trips to the surrounding roadway network. When compared to the previously proposed multifamily plan, the current development is expected to see over a 78% decrease of daily trips and a decrease of over 49% trips during the weekday peak hours.

The mobile home expansion to the existing Shamrock Mobile Home Park is expected to generate an additional twenty-two (22) weekday AM peak hour trips and thirty-Two (32) weekday PM peak hour trips. These trips are expected to utilize the existing Mobile Home Park Driveway. The RV Resort is anticipated to generate thirty-four (34) weekday AM peak hour trips and forty-three (43) weekday PM peak hour trips traveling to/from the proposed access point on 83<sup>rd</sup> Avenue serving the project site.

These limited number of trips, split across two access points, and generated by the project site, are not expected to have a significant impact on the surrounding roadway network. Furthermore, six-lane Glendale Avenue and five-lane 83<sup>rd</sup> Avenue have been constructed to their ultimate width to accommodate the traffic volumes in this growing area.

Thank you again for your time and review of this revised TIS. If you have any questions regarding the TIS, please feel free to contact me at 602.266.7983.

Respectfully Submitted,



Andrew Smigielski, PE, PTOE, PTP  
Southwest Traffic Engineering, LLC  
Senior Traffic Engineer

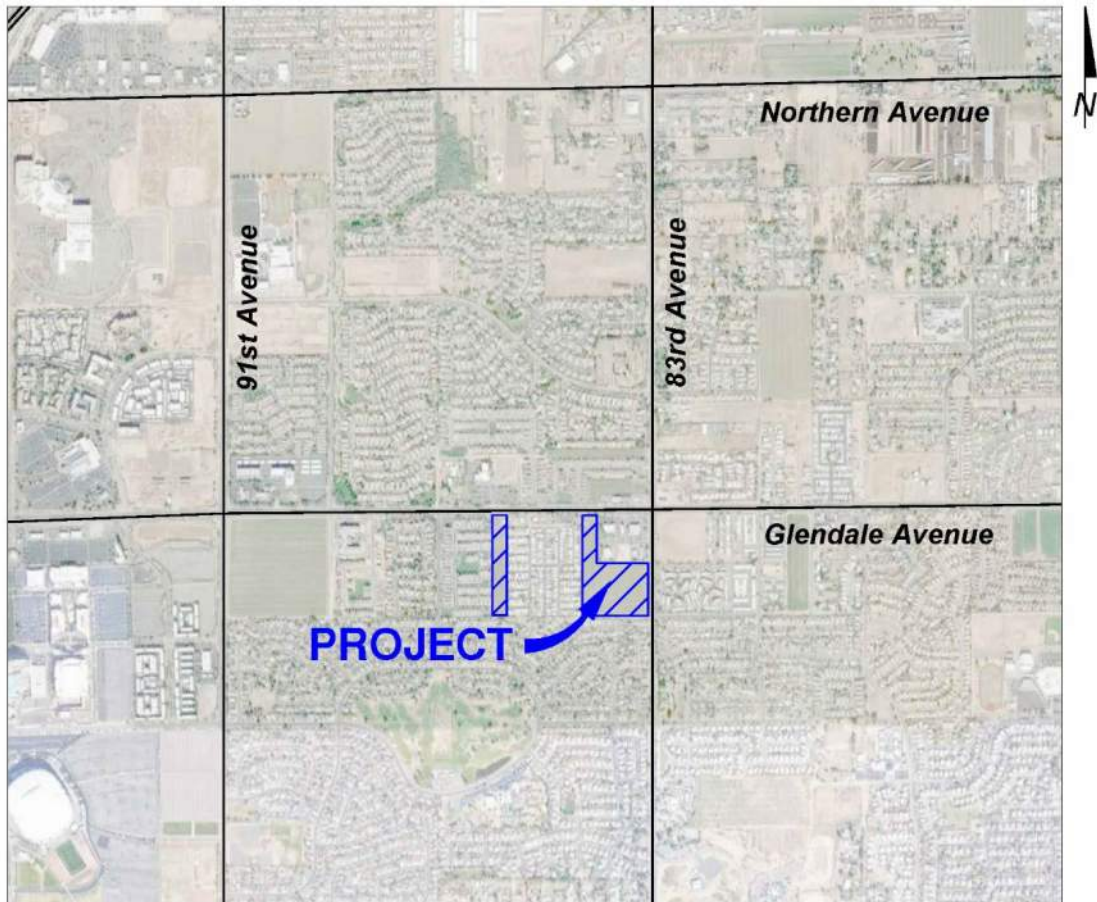


cc: Jenifer Davis Lunt, Davis Enterprises Investments & Development (by email)

## Attachments:

- Figure 1 – Vicinity Map
- Figure 2 – Shamrock Mobile Home Park Expansion and RV Resort Site Plan (Combined)
- Figure 3 – Shamrock Mobile Home Park Expansion Site Plan
- Figure 4 – RV Resort Site Plan
- Figure 5 – Exiting Lane Configurations and Traffic Control
- Figure 6 – Proposed Lane Configurations and Traffic Control Trip Generation Calculations

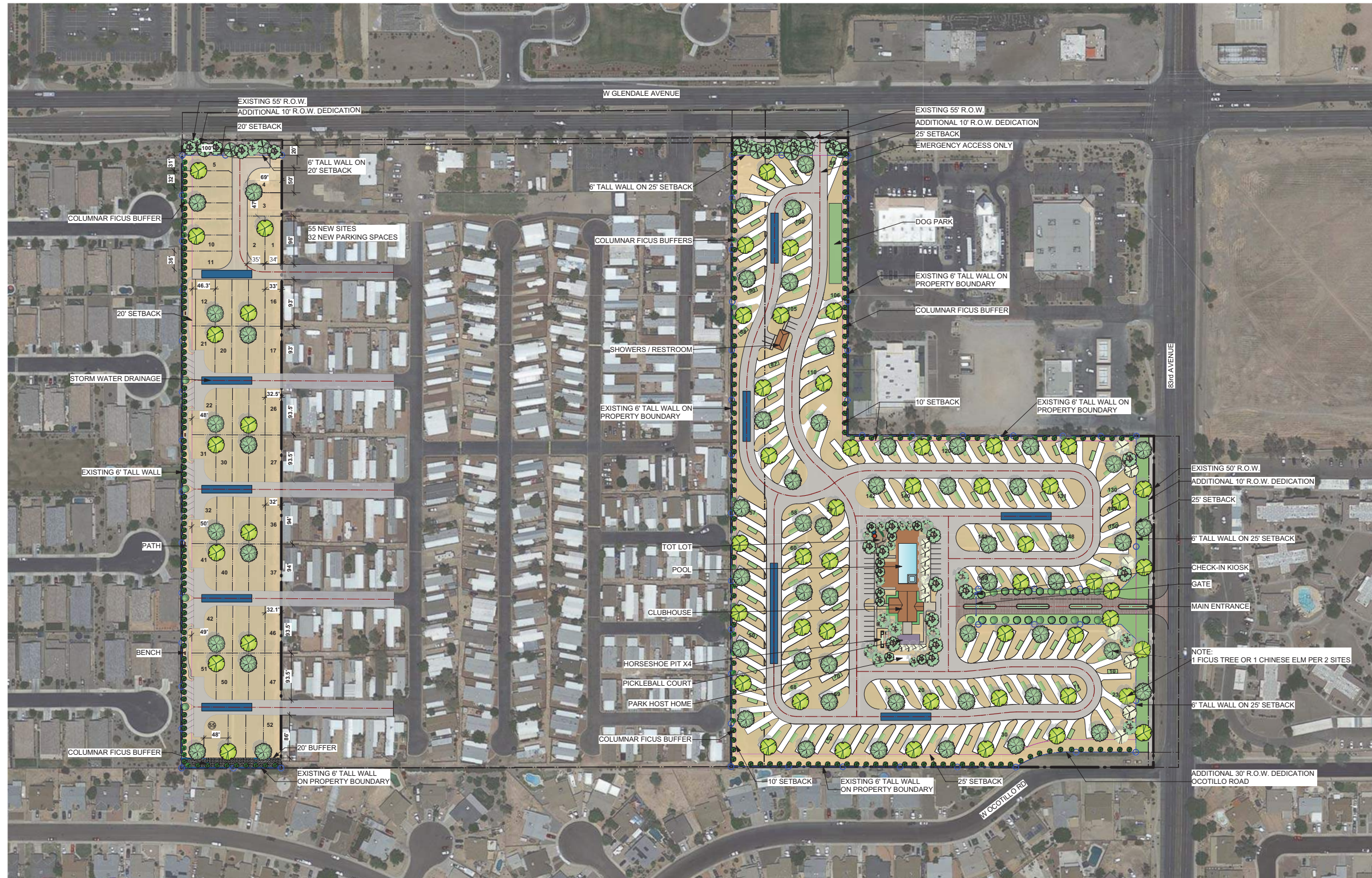
**Figure 1 – Vicinity Map**



**LEGEND:**

— = Existing Road

 = Project Sites



**Site Data: (EAST PARCEL)**

| RV Data              |    |
|----------------------|----|
| Back-In Sites (60')  | 85 |
| Back-In Sites (45')  | 30 |
| Pull-Thru Sites(60') | 38 |
| Pull-Thru Sites(55') | 6  |

**Total RV Sites 159**

**Parking Stalls Provided 30**

**East Parcel Site Data**

|                |                            |
|----------------|----------------------------|
| Area of Site - | 692,037.72 S.F/ 15.887 Ac. |
| Open Space     | 161,956.08 S.F/ 3.718 Ac.  |

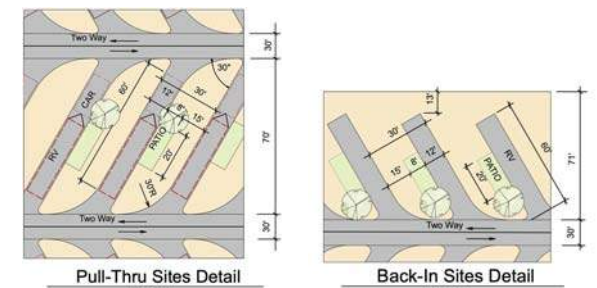
**MH Data: (WEST PARCEL)**

|                   |                           |
|-------------------|---------------------------|
| Area of Site -    | 247,899.96 S.F/ 5.691 Ac. |
| Number of Sites - | 55                        |
| Density -         | 9.66 U/Ac.                |

**Parking: 2 Spaces per Home Site  
Additional New Spaces: 32**

**West Parcel Site Data**

|            |                         |
|------------|-------------------------|
| Open Space | 27,181.44 S.F/ .624 Ac. |
|------------|-------------------------|

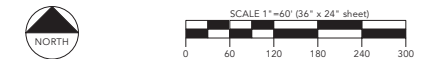


**GLENDALE RV & SHAMROCK  
EXPANSION**

**Conceptual Development Plan**

Prepared by: 

Prepared for: 



Information furnished regarding this property is from sources deemed reliable. Nadi Group has not made an independent investigation of these sources and no warranty is made as to their accuracy or completeness. This plan is conceptual, subject to change, and does not represent any regulatory approval.

Notes:  
Trees on Homesites to be planted after homes are installed.



West Parcel Site Data:

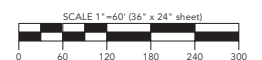
|                         |                |
|-------------------------|----------------|
| MH Lots                 | 55             |
| Parking Stalls Provided | 32             |
| Open Space              | 27,181.44 S.F. |



**GLENDALE RV & SHAMROCK  
 EXPANSION**  
 MH-Conceptual Development Plan

Prepared by:

Prepared for:



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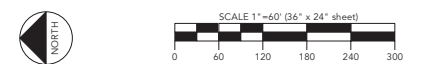
**East Parcel Site Data:**

|                         |                |
|-------------------------|----------------|
| Back-In Sites (60')     | 85             |
| Back-In Sites (45')     | 30             |
| Pull-Thru Sites(60')    | 38             |
| Pull-Thru Sites(55')    | 6              |
| <b>Total RV Sites</b>   | <b>159</b>     |
| <br>                    |                |
| Parking Stalls Provided | 30             |
| Open Space              | 161,956.08 S.F |

**GLENDALE RV & SHAMROCK  
EXPANSION  
RV- Conceptual Development Plan**

Prepared by: 

Prepared for: 








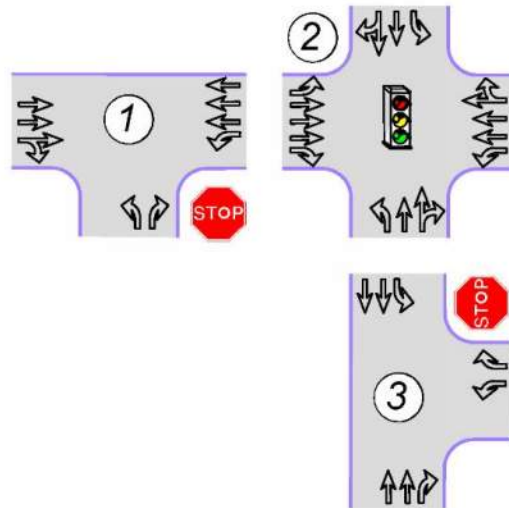
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**Figure 5 – Existing Lane Configurations and Traffic Control**



**LEGEND:**








-  = Traffic Signal
-  = Stop Sign
-  = Speed Limit
-  = Existing Road
-  = Existing Movement

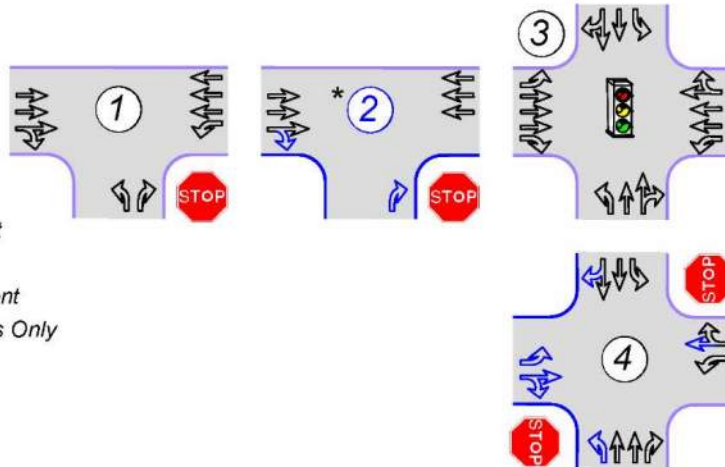


**Figure 6 – Proposed Lane Configurations and Traffic Control**



**LEGEND:**

-  = Traffic Signal
-  = Stop Sign
-  = Speed Limit
-  = Existing Road
-  = Existing Movement
-  = Proposed Access
-  = Proposed Movement
- \* = Emergency Access Only



# Mobile Home Park

LAND USE: 55 Dwelling Units Mobile Home Park

TRIP GENERATION CALCULATIONS ARE BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS' TRIP GENERATION, 11TH EDITION. THE ITE LAND USE CODE IS Mobile Home Park (240), General Urban/Suburban

## Weekday

Average Rate = 7.12 Trips per Dwelling Unit (d.u.)

$T = 7.12 \text{ Trips} \times 55 \text{ d.u.}$

**T = 392 VTPD**

ENTER:  $(0.5) \times (392) = 196 \text{ VTPD}$

EXIT:  $(0.5) \times (392) = 196 \text{ VTPD}$

## AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)

Average Rate = 0.39 Trips per Dwelling Unit (d.u.)

$T = 0.39 \text{ Trips} \times 55 \text{ d.u.}$

**T = 22 VPH**

ENTER:  $(0.21) \times (22) = 5 \text{ VPH}$

EXIT:  $(0.79) \times (22) = 17 \text{ VPH}$

## PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)

Average Rate = 0.58 Trips per Dwelling Unit (d.u.)

$T = 0.58 \text{ Trips} \times 55 \text{ d.u.}$

**T = 32 VPH**

ENTER:  $(0.62) \times (32) = 20 \text{ VPH}$

EXIT:  $(0.38) \times (32) = 12 \text{ VPH}$

\*where, T = trip ends

## TRIP GENERATION SUMMARY

**SATURDAY**

**392 VTPD**

**AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)**

**22 VPH**

**PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)**

**32 VPH**

# Campground/Recreational Vehicle Park

LAND USE: 159 Occupied Campsite Campground/Recreational Vehicle Park

TRIP GENERATION CALCULATIONS ARE BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS' TRIP GENERATION, 11TH EDITION. THE ITE LAND USE CODE IS Campground/Recreational Vehicle Park (416), General Urban/Suburban

## Weekday

Average Rate = 0 Trips per Occupied Campsites (o.c.u.)

$T = 0 \text{ Trips} \times 159 \text{ o.c.u.}$

**T = N/A VTPD**

ENTER:  $(0.5) \times (\text{N/A}) = \text{N/A VTPD}$

EXIT:  $(0.5) \times (\text{N/A}) = \text{N/A VTPD}$

## AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)

Average Rate = 0.21 Trips per Occupied Campsites (o.c.u.)

$T = 0.21 \text{ Trips} \times 159 \text{ o.c.u.}$

**T = 34 VPH**

ENTER:  $(0.36) \times (34) = 12 \text{ VPH}$

EXIT:  $(0.64) \times (34) = 22 \text{ VPH}$

## PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)

Average Rate = 0.27 Trips per Occupied Campsites (o.c.u.)

$T = 0.27 \text{ Trips} \times 159 \text{ o.c.u.}$

**T = 43 VPH**

ENTER:  $(0.65) \times (43) = 28 \text{ VPH}$

EXIT:  $(0.35) \times (43) = 15 \text{ VPH}$

\*where, T = trip ends

## TRIP GENERATION SUMMARY

### SATURDAY

**N/A VTPD**

**AM PEAK HOUR (ONE HOUR BETWEEN 7 AND 9 AM)**

**34 VPH**

**PM PEAK HOUR (ONE HOUR BETWEEN 4 AND 6 PM)**

**43 VPH**

## Conclusion

The Glendale AZ RV Resort project is predicted to generate an additional fifty-six (56) weekday AM peak hour trips and seventy-five (75) weekday PM peak hour trips to the surrounding roadway network. When compared to the previously proposed multifamily plan, the current development is expected to see over a 78% decrease of daily trips and a decrease of over 49% trips during the weekday peak hours.

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Southwest Traffic Engineering, LLC  
Senior Traffic Engineer



cc: Jenifer Davis Lunt, Davis Enterprises Investments & Development (by email)

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