SOUTH VALLEY PARKWAY TRAFFIC STUDY
AND ROADWAY PHASING PLAN

PRELIMINARY DRAFT REPORT

Prepared for:
South Valley Parkway Committee
and
County of Riverside

Prepared by:
Kimley-Horn and Associates, Inc.

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Introduction

The purpose of this study is to develop a long-term roadway plan for a portion of the eastern Coachella Valley, and to develop a roadway phasing plan to provide for development of needed roadway infrastructure in this area in an orderly fashion that keeps pace with new development. The general location of the study area in the Coachella Valley is shown in Figure 1.

In response to recent initiation of numerous proposals for amendments to the County of Riverside’s General Plan Land Use Element in this area, the County directed the major property owners to commission a comprehensive long-term roadway planning and phasing study for the area, which is presently unincorporated. For this purpose the property owners organized themselves as the South Valley Parkway Committee, and retained T&G Planning to prepare a comprehensive land use plan for the area, and Kimley-Horn and Associates to prepare the traffic study. The results of this traffic study will be utilized by the County to provide guidance on long-term roadway infrastructure needs for the area if it is developed consistent with these emerging land use proposals, and will be incorporated into the County’s General Plan when the next comprehensive update is prepared in 2008.

The study area for the traffic analysis is shown in Figure 2. It is generally bounded by the La Quinta City limits and the mountains on the west, the Indio and Coachella City limits on the north, SR-86 on the east, and Avenue 70 on the south. This is also the area proposed by the County for a Road and Bridge Benefit District for funding the needed backbone roadway improvements. Figure 2 also shows the boundary of the South Valley Parkway land use plan area.

The study evaluates the long-term roadway capacity needs for the system of arterial streets in the South Valley Parkway planning area by forecasting future traffic volumes associated with full development of all projects currently envisioned by property owners in the area. A master plan of streets was developed to accommodate the envisioned development and provide the needed long-term capacity. A phasing plan for roadway improvements that is tied to phasing of development was created so that needed roadway infrastructure is in place before new units are occupied.

The report is divided into the following sections:

- Existing Conditions
- Future Conditions
- Roadway Plan
- Phasing Plan (not included in this preliminary version of the report)
Existing Conditions

The study area is primarily rural in nature, characterized by extensive tracts of agricultural land. In addition to the agricultural lands, it includes two residential communities (Vista Santa Rosa in the northwest part of the study area and Thermal in the northeast part), as well as the Desert Resorts Regional Airport (general aviation) adjacent to the community of Thermal, and tribal lands of the Torres-Martinez Tribe in the southern and southwestern part of the study area.

The existing street system and average daily traffic (ADT) volumes (as estimated by traffic forecasting model) are shown in Figure 3. The four-lane SR-86S expressway is the primary regional highway through the area, carrying ADT volumes ranging from 12,000 south of Avenue 70 to 46,000 north of Airport Boulevard. SR-111, a two-lane state highway, parallels the Yuma Main rail line in a northwest-southeast direction through the area. Traffic volumes on most streets in the study are under 2,000 per day, with the exception of Airport Boulevard, Harrison Street, and Avenue 66. Because of the low traffic volumes there are very few traffic signals in the area, and traffic conditions are good throughout the area.
Figure 3
Existing Daily Traffic Volumes
(traffic model estimates)
Future Conditions

Traffic Model Forecasts

Traffic forecasts for the analysis were prepared by the County's on-call traffic modeling consultant using the Riverside County Integrated Plan (RCIP) traffic forecasting model. Prior to the application of the RCIP model for the South Valley Parkway study, the model was reviewed by County staff, the on-call modeling consultant, and Kimley-Horn staff, to evaluate the model's appropriateness for developing the traffic forecasts required for this study. The following reviews and refinements were made:

- The RCIP Buildout development forecasts were compared to the CVATS 2025 forecasts of housing, population and employment at a valley-wide level to ensure that the Buildout forecasts represent a long-term future horizon.
- The RCIP model forecasts were compared with the Coachella Valley Subarea Applications Traffic Model (CVSATM, used for developing the General Plan Circulation Elements for La Quinta and Indio), and the RCIP was determined to be the most appropriate traffic forecasting tool for this analysis because it has a future horizon of Buildout of the County General Plan and had been used in preparing the adopted RCIP.
- The RCIP model Traffic Analysis Zone (TAZ) boundaries were adjusted to be consistent with the Coachella Valley Area Transportation Study (CVATS) model. During the RCIP model development process, some TAZ had been added in areas where specific plans had been prepared, but these extra TAZ were not retained because they resulted in a TAZ system with inconsistent zone sizes which would not necessarily improve the traffic forecasts.
- The traffic assignment procedure applied in the RCIP project was an incremental assignment of 24-hour traffic volumes, which produced unreliable traffic forecasts (for example, one street would have a forecast volume double its capacity while an adjacent parallel arterial would have almost no forecast traffic at all). The assignment procedure was adjusted to be consistent with the CVATS process, using a capacity-constrained equilibrium assignment for each of four time periods in the day (morning peak, evening peak, midday, and night).
- The RCIP model network was coded to load traffic from zone centroids into existing nodes in the network. To facilitate evaluation of intersection traffic conditions in the South Valley Parkway study, the centroid connectors were recoded so traffic does not load directly into arterial intersections.

To develop the recommended roadway plan, three future traffic forecast scenarios were modeled and evaluated:

- General Plan Buildout
- Avenue 62 Land Use Plan
- Mecca/Valerie Land Use Sensitivity Evaluation

The General Plan Buildout scenario reflects the Riverside County's currently adopted General Plan for the study area. The model forecasts for this scenario were prepared using the Buildout development scenario from the RCIP model.

The Avenue 62 Land Use Plan scenario incorporates the development forecasts from the South Valley Parkway Committee into the General Plan data. T&EB Planning developed a comprehensive community land use plan for the area, incorporating input from the major property owners on the South Valley Parkway Committee as well as the County Planning Commission.
A third scenario was developed to test the traffic impact of additional future development east of SR-86S (the community of Mecca) and south of Avenue 66 (the community of Oasis). The adopted General Plan shows relatively low densities of development in these areas, but plans for a more urbanized character of development are beginning to be developed by property owners. Since a more urbanized development pattern in these areas could affect traffic volumes in the South Valley Parkway area, the Mecca/Oasis Land Use Sensitivity Evaluation was prepared to ascertain the effect of potential development in those areas on traffic volumes in the Avenue 62 plan area. For this evaluation, generalized residential density assumptions were identified by T&B Planning in consultation with the County Planning Department, and non-residential development was assumed based on the number of residential units.

Land Use Assumptions

Land uses in each development scenario were allocated to the appropriate TAZs in the model. The model’s TAZ system is shown in Figure 4. Appendix A includes the socioeconomic data for Riverside County’s current adopted General Plan for the study area for each RCIP and corresponding CVATS TAZ. Appendix A also includes definitions for the socioeconomic variables.

The Avenue 62 land use plan is shown in Figure 5. The land use concept includes a Town Center area centered around the intersection of Avenue 62 and Polk Street. It includes community uses and commercial development, as well as medium-density residential development. Through this area, South Valley Parkway (Avenue 62) and Polk Street are designated conceptually as one-way street pairs. East of the freeway (SR-86S) on the north side of Avenue 62 is another higher-density node around the proposed campus of College of the Desert. West of Harrison Street the residential densities are lower, in keeping with the lower-density development in Vista Santa Rosa.

Appendix A includes the socioeconomic data for the CVATS TAZs included in the Avenue 62 land use plan. Table 1 (shown below) summarizes the land use assumptions in the Avenue 62 plan area, and compares adopted General Plan development with the Avenue 62 plan. The Avenue 62 plan includes a total of 50,000 dwelling units in the plan area (compared to 17,000 in the adopted General Plan), as well as over 2,500 acres of commercial, office, and industrial uses.

<table>
<thead>
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<th>Area</th>
<th>Single Family DU</th>
<th>Multi-Family DU</th>
<th>Commercial Acres</th>
<th>Office Acres</th>
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The generalized residential density assumptions for the sensitivity test are shown in Figure 6. Appendix A includes the socioeconomic data for the CVATS TAZs included in the Avenue 62 land use plan and the sensitivity areas east of SR-86 and south of Avenue 66. Appendix B includes the assumptions that were made regarding the commercial, industrial, schools, and office acreage corresponding to the assumed residential development. Table 2 (shown below) shows the development assumptions for the Sensitivity test by area. South of Avenue 66 (to the County line) a total of 56,000 residential units was assumed for the sensitivity test, along with over 350 acres of non-residential uses. East of SR-86S (the Mecca area) a total of 20,000 residential units was assumed for the sensitivity test, along with over 125 acres of non-residential uses.
Figure 4
CVATS Traffic Analysis Zones
Table 2

<table>
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<tr>
<th>Area</th>
<th>Single Family DU</th>
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<td>67.98</td>
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<td>East of 86S between:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Airport and Ave 66</td>
<td>20,278</td>
<td>90</td>
<td>24.33</td>
<td>16.22</td>
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Traffic Level of Service Analysis

The level of service analysis for the three scenarios is based on street classification and maximum traffic volume thresholds determined by Riverside County, shown in Table 3 (shown below). The countywide target Level of Service is LOS ‘C’ along conventional arterial roads, but LOS ‘D’ may be allowed in Community Development areas, and LOS ‘E’ may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities. For purposes of developing the roadway plan for the South Valley Parkway area, it was assumed that LOS C would be the target for planning purposes.

TABLE 3

<table>
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<th>Roadway Classification</th>
<th>Number of Lanes</th>
<th>Maximum Two-Way Traffic Volume (ADT)</th>
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<td>Service Level C</td>
<td>Service Level D</td>
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<tr>
<td>Collector</td>
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<td>Secondary</td>
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<td>20,700</td>
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<tr>
<td>Freeway</td>
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<td>160,500</td>
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</table>

Notes: (1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.

(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Mitigation Program.

Traffic Forecasts for Adopted General Plan

Traffic volumes associated with the adopted General Plan land use for Riverside County were assigned to a roadway network that reflects the adopted General Plan Circulation Element. Planned street classifications within the study area are shown in Figure 7.

Figure 8 depicts the forecast Average Daily Traffic (ADT) volumes and associated levels of service for the General Plan scenario. Areas where forecast volumes exceed desired thresholds (in other words, areas where the forecast LOS is D, E, or F) include most of Harrison Street (which has forecast volumes of 50,000-80,000 through the study area) and around most of the proposed interchanges with SR-86S.
Figure 6
Sensitivity Test Assumptions
Residential Densities
Traffic Forecasts for Avenue 62 Plan

Traffic volumes associated with the adopted General Plan land use for Riverside County were assigned to a roadway network that reflects several modifications to the General Plan street network to go with the Avenue 62 land use plan. These include realignment of South Valley Parkway to follow the Avenue 62 alignment, development of Avenue 62 and Polk Street as one-way street pairs through the center of the plan area, elimination of the Avenue 60 crossing over the rail line and SR-86S, and realignment of Pierce Street to terminate at Buchanan Street east of SR-86S and north of Avenue 62. The roadway network evaluated with the Avenue 62 land use plan is shown in Figure 9.

Figure 10 depicts the forecast Average Daily Traffic (ADT) volumes and associated levels of service for the Avenue 62 plan scenario. Forecast traffic volumes are substantially higher through most of the Avenue 62 plan area, but the streets where forecast volumes exceed desired thresholds are essentially similar to the General Plan scenario. Volumes along Harrison Street are generally 5,000 to 9,000 higher (a couple of segments are about 15,000 due to concentrated loading of traffic from adjacent land uses), there is additional traffic around the congested freeway interchanges, and congestion on the SR-86S freeway extends all the way south to Avenue 62.

Traffic Forecasts fro Mecca/Oasis Land Use Sensitivity Evaluation

The Mecca/Oasis Sensitivity Test was run using the same future roadway network as the Avenue 62 plan scenario.

Figure 11 depicts the traffic forecast and LOS results of the Mecca/Oasis Land Use Sensitivity Evaluation. The two major regional north-south highways (SR-86S and Harrison Street) experience higher levels of congestion, extending as far south as Avenue 66. More extensive congestion is forecast around the interchanges with SR-86S. In addition, several additional roadway segments exceed the threshold volumes, though most of these segments will operate effectively with their planned capacity because the traffic overload is due to the model's assignment of traffic volumes at a limited number of points on the network.

In general, the sensitivity test shows that additional development east of SR-86S and south of Avenue 66 would increase traffic volumes in the South Valley Parkway study area, particularly on the north-south facilities. The proposed roadway plan for this area should be developed with this growth potential in mind.
Figure 7
Proposed South Valley Road and Bridge District
Current Adopted Riverside County General Plan
Figure 9
Proposed South Valley Road and Bridge District
Avenue 62 Plan
Roadway Plan

Based on the traffic analysis presented above, the plan of roadway classifications for streets in the South Valley Parkway study area were developed to provide sufficient capacity, based on the County's adopted roadway capacity values, to accommodate the forecast traffic volumes.

The level of service analysis (shown previously in Figures 8, 10 and 11) showed deficient areas around the interchanges with SR-86S and along the north-south arterial Harrison Street. The recommendations for the roadway plan will therefore be organized according to the following problem areas:

- Harrison Street – Avenue 50 to Avenue 66
- Airport Boulevard – Highway III to SR-86S
- Avenue 60 overcrossing
- Avenue 62
- Avenue 66 – interchange with SR-86S
- outside of planning area

Harrison Street – Avenue 50 to Avenue 66

Harrison Street is forecast to carry heavy traffic volumes in future years due to the fact that it is a continuous urban arterial that connects Indio and Coachella to areas south of Avenue 70. Parallel streets to Harrison are planned for less capacity and are not continuous through this entire area. For travelers moving in a north-south direction, Harrison is a more attractive option than Highway III and SR-86S because it carries traffic in a direct north-south route while the other two require a longer travel distance because their alignments divert further to the east.

Using the County's LOS thresholds, to achieve LOS C would require the following:

- **Adopted General Plan scenario:**
  - 6-lane expressway from Avenue 64 to Avenue 60;
  - 8-lane expressway from Avenue 60 to Avenue 58;
  - 10-lane expressway from Avenue 58 to Avenue 50.
- **South Valley Parkway Plan scenario:**
  - 8-lane expressway from Avenue 64 to Avenue 60;
  - 10-lane expressway from Avenue 60 to Avenue 52;
  - 12-lane expressway from Avenue 52 to Avenue 50.
- **Sensitivity Test scenario:**
  - 8-lane expressway from Avenue 66 to Avenue 64;
  - 10-lane expressway from Avenue 64 to Avenue 60;
  - 12-lane expressway from Avenue 60 to Avenue 50.

Clearly, in all scenarios, a major roadway facility will be needed to accommodate the demand through this north-south corridor. While some traffic can be expected to use parallel roads (and the forecasts show substantial volumes on all the north-south streets), Harrison can be expected to be the primary north-south arterial corridor through this area because of its direct connectivity.

However, that large a facility (10-12 lanes) does not seem plausible or reasonable to plan for this corridor in the future. An arterial street carrying comparable traffic volumes today – Beach Boulevard in Orange County – is an eight-lane arterial with enhanced intersections (dual left turn lanes and separate right
turn lanes) at major cross-streets. To determine the viability of accommodating the forecast traffic volumes with an eight-lane arterial along Harrison, the traffic model's forecasts were used to evaluate peak hour intersection conditions at the major intersections along Harrison (Airport Boulevard, Avenue 62, and Avenue 66). These intersections would be the critical points in the future roadway system, and if the intersections could function effectively with eight lanes on Harrison and enhanced intersections, then the remainder of the street could be expected to operate effectively as well.

Assuming four through lanes in each direction along Harrison, and dual left turn lanes plus a separate right turn lane in all four directions at these three intersections, the peak hour intersection LOS was estimated as follows:

- South Valley Parkway Plan scenario:
  - Harrison/Airport: LOS D
  - Harrison/Avenue 62: LOS E/F
  - Harrison/Avenue 66: LOS C
- Sensitivity Test scenario:
  - Harrison/Airport: LOS D
  - Harrison/Avenue 62: LOS F
  - Harrison/Avenue 66: LOS F

The analysis results indicate that Harrison Street should be planned as an 8-lane expressway (or 8-lane arterial with limited property access) from Avenue 50 to Avenue 66. The General Plan classifies Harrison as a 152-foot right of way urban arterial, which could accommodate eight travel lanes. For the deficient intersection of Harrison and Avenue 62, an intersection grade separation may be needed as a long-term improvement strategy if ultimate buildout traffic volumes reach the levels forecast in this analysis.

The portion of this problem area between Avenue 50 and Avenue 54 is fully within the City of Coachella and outside the County's jurisdiction; the segment between Avenue 54 and Airport Boulevard is bounded by the City of Coachella on the west and the County on the east. The City Circulation Policy Diagram currently shows Harrison as an Enhanced Major Arterial (144-foot right-of-way) from SR-111 to Avenue 54, and as a Major Arterial (120-foot ROW) from Avenue 54 to Airport Boulevard. The County should work with the City of Coachella to amend this designation of Harrison to Enhanced Major Arterial for its entire length through the City so it can accommodate eight travel lanes in the future.

Recommendations:

- Plan Harrison Street as an 8-lane expressway (or 8-lane arterial with limited property access) from Avenue 50 to Avenue 66.
- Plan for sufficient right-of-way so that the possibility of a long-term future intersection grade separation at Harrison/Avenue 62 is not precluded.
- Work with the City of Coachella to modify the City's classification of Harrison to Enhanced Major Arterial for its entire length through the City.

Airport Boulevard – Highway III to SR-86S

Airport Boulevard is projected to carry high volumes of traffic on the west side of SR-86S to SR-111. Due to the proposed interchange with SR-86S in the adopted General Plan, and the concentration of employment (industrial land uses) around the airport, many travelers are projected to use Airport Boulevard to access the freeway. The forecast ADT volume between Hwy III and SR-86S reach 70,000 in the Avenue 62 Plan and 76,000 in the sensitivity test.
For this segment, the critical peak hour conditions were evaluated at the intersection of Airport with Highway III, and at the ramp intersections with SR-86S. This analysis led to the following conclusions:

- The intersection of Airport/Highway III is projected to operate at peak hour LOS F in both the South Valley Parkway Plan and the Sensitivity Test, even with an enhanced intersection.
- Because of the high future volume projected on Airport Boulevard and the high volume of freight rail traffic on the Yuma Main line adjacent to Highway III, Airport Boulevard should be grade separated over the rail line and Highway III. This grade separation will provide the solution to the projected traffic congestion problem at this location.
- With an enhanced interchange design (loop ramps and slip ramps for vehicles entering the freeway, dual turn lanes for vehicles exiting the freeway); the interchange of Airport/SR-86S is projected to operate at peak hour LOS D/E.

Recommendations:

- Airport Boulevard should be grade-separated from Highway III and the rail crossing.
- The proposed interchange at Airport Boulevard/SR-86S should be designed to accommodate heavy future peak hour volumes.

Avenue 60 Overcrossing

In the Avenue 62 Plan and Sensitivity Run roadway network, it was assumed that Avenue 60 would not be connected across Highway III and SR-86S. This configuration forces traffic crossing the freeway to use either Avenue 62 or Airport Boulevard.

The LOS analysis indicates future congestion through both of their interchanges with SR-86S. Connection of Avenue 60 across Highway III and SR-86 would provide an uncongested route for local traffic crossing the freeway, and help to relieve traffic through these interchanges, particularly Avenue 62. Although this would require construction of an expensive bridge structure, since it would need to cross Highway III, the rail line, and the SR-86S freeway, it would provide an important connection for local traffic between the Town Center area and the college development area proposed in the South Valley Parkway land use plan.

Recommendation:

- Include an Avenue 60 crossing of Highway III and SR-86S in the plan.

Avenue 62

Avenue 62 is projected to accommodate high volumes of traffic on both sides of the SR-86S interchange, due to traffic from the planned commercial, residential, and college-related development near the interchange, as well as traffic from the Town Center area further west along Avenue 62.

For this segment, the critical peak hour conditions were evaluated at the intersection of Avenue 62 with Highway III, at the ramp intersections with SR-86S, and at the intersection of Avenue 62 with Buchanan. This analysis led to the following conclusions:

- Because of the high future volume projected on Avenue 62 and the high volume of freight rail traffic on the Yuma Main line adjacent to Highway III, Avenue 62 should be grade separated over the rail line and Highway III.
• With an enhanced interchange design (loop ramps and slip ramps for vehicles entering the freeway, dual turn lanes for vehicles exiting the freeway); the interchange of Airport/SR-86S is projected to operate at peak hour LOS C/D. However, because of the short distance between the rail line and the SR-86S freeway, the interchange improvements will need to be designed in coordination with the grade separation, and provision of loop ramps may be difficult.

The one-way portion of Avenue 62 through the Town Center operates at acceptable levels of service in both the South Valley Parkway Plan scenario and the Sensitivity Test. The one-way segment of Polk operates effectively as well. From the standpoint of system capacity this concept can be carried forward into subsequent planning. To ensure adequate traffic operations, operational analysis should be conducted at the time of site plan preparation; a curbside lane may be needed so that vehicles entering and exiting the driveways inside the one-way couplet can make those turns without impeding through traffic on Avenue 62.

West of Van Buren Street, the forecast traffic volumes along Avenue 62 in the South Valley Parkway Plan scenario are projected to fall in the range acceptable for a four-lane Arterial. In the Sensitivity Test, these volumes increase due to the higher through traffic demand through this part of the study area. In order to maintain the planned development setbacks through this part of the area, it is recommended that the planned right-of-way for this portion of Avenue 62 continue to be 220 feet. However, for roadway capacity planning purposes it is recommended that this portion of Avenue 62 be planned for four lanes.

Recommendations:

• Avenue 62 should be grade-separated from Highway III and the rail crossing.
• The proposed interchange at Avenue 62/SR-86S should be designed to accommodate heavy future peak hour turning volumes, but will need to be designed to work with the adjacent grade separation over Highway III and the rail line.
• The one-way pair concept for Avenue 62 and Polk Street through the Town Center should be carried forward into subsequent planning.
• West of Van Buren Street Avenue 62 should be planned for four travel lanes in a 220-foot right-of-way.

Avenue 66 interchange with SR-86S

Avenue 66 is projected to carry high traffic volumes on both sides of its planned interchange with SR-86S. In the Sensitivity Test, these heavy volumes extend as far west as Fillmore Street.

For this segment, the critical peak hour conditions were evaluated at the ramp intersections of Avenue 66 with SR-86S. This analysis led to the following conclusions:

• With an enhanced interchange design (loop ramps and slip ramps for vehicles entering the freeway, dual turn lanes for vehicles exiting the freeway), the interchange of Airport/SR-86S is projected to operate at peak hour LOS D/E in the South Valley Parkway Plan scenario, and LOS E/F in the Sensitivity Test.

Recommendations:

• The proposed interchange at Avenue 66/SR-86S should be designed to accommodate heavy future peak hour volumes.
Recommendations Outside the South Valley Parkway Planning Area

The adopted County General Plan designates Avenue 62 as a 6-lane expressway west of SR-86S and a 4-lane secondary arterial east of SR-86S. Due to the high traffic volumes along Avenue 62 east of SR-86S and the possible future development in the community of Mecca, Avenue 62 should be planned as a 6-lane urban arterial on the east side of SR-86S.

On the east side of SR-86S, the County General Plan shows Pierce Street as a north-south 4-lane secondary arterial that does not cross Highway III or SR-86S. North of Avenue 60 the plan shows Pierce turning southeasterly, generally paralleling the freeway until it merges with Buchanan Street just north of Avenue 62. This configuration poses traffic congestion problems due to a high volume of traffic using the combined Pierce/Buchanan roadway and intersecting Avenue 62 near the interchange with SR-86S. To alleviate these problems, Pierce should be realigned to intersect Buchanan further north of Avenue 62, and the intersection with Avenue 62 should be moved as far east as practical to minimize interference with the interchange.

In the Mecca/Oasis Sensitivity Test analysis, the traffic forecast showed substantial additional volumes of traffic on all the north-south roadways, resulting in significantly increased congestion on the SR-86S freeway and Harrison Street. If substantial new development is to be planned for the areas east of SR-86S and south of Avenue 66 (as assumed in the Sensitivity Test), there will be a need for substantial new north-south roadway capacity east of SR-86S. The arterial streets currently designated as Secondary or Major Arterials should be upgraded to higher classifications, and an additional north-south expressway east of and parallel to SR-86S should be considered.
Figure 12
South Valley Road and Bridge District
Proposed Roadway Network
APPENDIX A – Socioeconomic Data
CVATS Model Socio-Economic and Land Use Data

Socioeconomic and land use data variables for 2000 and year 2025 are used as inputs to the Trip Generation program for the development of Trip Productions & Trip Attractions.

The variables used as inputs include:

- **OFSF** - Occupied full year single family dwelling units
- **OFMF** - Occupied full year multiple family dwelling units
- **PY** - Part year households
- **Room** - Hotel Rooms
- **RES1** - Very Low Density Residential (Acre)
- **RES2** - Low Density Residential (Acre)
- **PARK** - Parks, Golf Courses (Acre)
- **COMM** - Commercial (Acre)
- **PUBL** - Public Facility (Acre)
- **OFF** - Office Building, Government Building, Health Facility, Etc (Acre)
- **LIND** - Light Industrial (Acre)
- **HIND** - Heavy Industrial (Acre)
- **Corridor (COR)** - The Corridor variable was developed to identify whether a particular TAZ, bordered SR-111, contained a segment of SR-111, or was not adjacent to SR-111.
- **MALL** - The Mall variable denotes whether a TAZ contains a major commercial shopping mall.
- **Low Density Residential (LRES)** - The Low Density Residential variable was generated by consolidating the RES1 and RES2 land use variables.
- **COM2** - The COM2 variable was developed by collapsing the land use variables COMM, PUBL, AND OFF into a single variable.
- **LABF (Labor Force)** - This variable represents the number of workers by residence. The 2000 LABF data was obtained from the 2000 Census. SCAG developed the 2025 LABF by applying the rate of workers per household (1.4) to the number of households estimated for year 2025.
- **SPOP (Seasonal Population)** - Seasonal population is defined as those persons who come to live in the Coachella Valley during the winter season. These persons generally come to escape colder climates where they live during the rest of the year. The Seasonal Population (SPOP) is calculated automatically within the trip generation program from the Visitors (derived from hotel rooms) and Part-Year Residents (PY) data. This variable is utilized on the attraction side in the trip generation program.
- **SCHNR (School Enrollment)** - This variable was developed from actual school registration data from school districts. Students were allocated to each TAZ by address matching. The current model is more accurate since the previous model used acreages rather than actual registration data. School registration data was developed independently from a GIS point file from CVAG. School enrollment data for 2025 was developed by applying a yearly growth of 2%, which was based on the relative difference of school registration between 2000 and 2020 in the previous model.
- **Game** - A “Game” is defined as either a slot machine or a card game.
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APPENDIX B – Sensitivity Test Run Assumptions
Sensitivity Test Assumptions

- The following residential density values were used for the regions to the south and east of our study area:
  - 3 miles south of Avenue 66 - 2 DU/acre
  - Further south to the County line - 1 DU/acre
  - East of SR-86 between Airport Blvd. and the County line
    - 1 mile - 3 DU/acre
    - 2 miles - 2 DU/acre
    - 3 miles - 1 DU/acre

  The DU’s refer to occupied full year single family dwelling units.
  Source: T&EB Planning

- The following guidelines for commercial development within a residential area were applied:
  - For every 5,000 new homes there will be a grocery anchored shopping center up to 10 acres in size with 100,000 square-feet of retail space included
  - Another grocery anchored shopping center will be developed with each additional 5-7,000 new homes
  - After three grocery anchored shopping centers are generated, the next commercial development would be a community center of up to 25 acres with 225,000 square-feet of retail.
  - Once there are 35,000 full time resident equivalents (3.5 people per DU) a power center at the freeway will be developed.

  Source: Robert Wolf

- The following guidelines for schools in the south and east regions of the sensitivity test were applied:
  - There are 0.3364 K-6th aged students per single-family detached household dwelling unit.
  - There are 0.0866 7th-8th aged students per single-family detached household dwelling unit.
  - There are 0.1430 9th-12th aged students per single-family detached household dwelling unit.

  Source: T&EB Planning

- The following guidelines for industrial uses in the south and east regions of the sensitivity test were applied:
  - 40 acres for every 50,000 new homes

  Source: Robert Wolf

- The following guidelines for office uses in the south and east regions of the sensitivity test were applied:
  - 60 acres for every 50,000 new homes

  Source: Robert Wolf