
**ARIZONA UPDATE OF THE
COLORADO RIVER REGIONAL TRANSPORTATION STUDY**

**Final Report
Transportation Plan Update**

Prepared By

Lima & Associates

May 1998

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I. INTRODUCTION

STUDY OVERVIEW AND PURPOSE

The purpose of the Arizona Update of the Colorado River Regional Transportation Study was to update the Arizona portion of the 1993 Colorado River Regional Transportation Study (CRRTS). The study was conducted by the Arizona Department of Transportation (ADOT) in cooperation with Bullhead City and Mohave County. For this study, Bullhead City and Mohave County collected traffic volume data and information on the current population and employment.

The study area for the CRRTS shown in Figure 1 is comprised of Bullhead City; Town of Laughlin, Nevada; City of Needles, California; Fort Mojave Indian Reservation; and unincorporated portions of Mohave County, Arizona. This transportation plan update focused only on the Arizona portions of the CRRTS.

The first step in updating the transportation plan was to analyze the existing socioeconomic and transportation conditions. Next, roadway improvements proposed in the 1993 study were reviewed to identify if enhancements and/or changes should be made to the original recommended improvements. Based on the analysis of the future conditions, the recommended transportation plan was revised. In addition, a transportation improvement program was developed.

STUDY PRODUCTS

The work for this study was documented in the following working papers:

- Working Paper 1. Refined Scope of Work
- Working Paper 2. Existing Conditions
- Working Paper 3. Transportation Model
- Working Paper 4. Future Conditions and Analysis of Alternative Improvements

AGENCY COORDINATION AND PUBLIC INVOLVEMENT

The development of the update of the transportation plan was guided by a Technical Advisory Committee (TAC) comprised of individuals representing the Arizona Department of Transportation (ADOT), Arizona Department of Environmental Quality (ADEQ), Bullhead City, Mohave County, and Western Council of Governments (WACOG). Table I-1 lists the individuals on the TAC. Other partners in the study were the Fort Mojave Indian Tribe; Clark County, Nevada; and the Nevada Department of Transportation (NDOT).

**FIGURE I - 1
STUDY AREA**

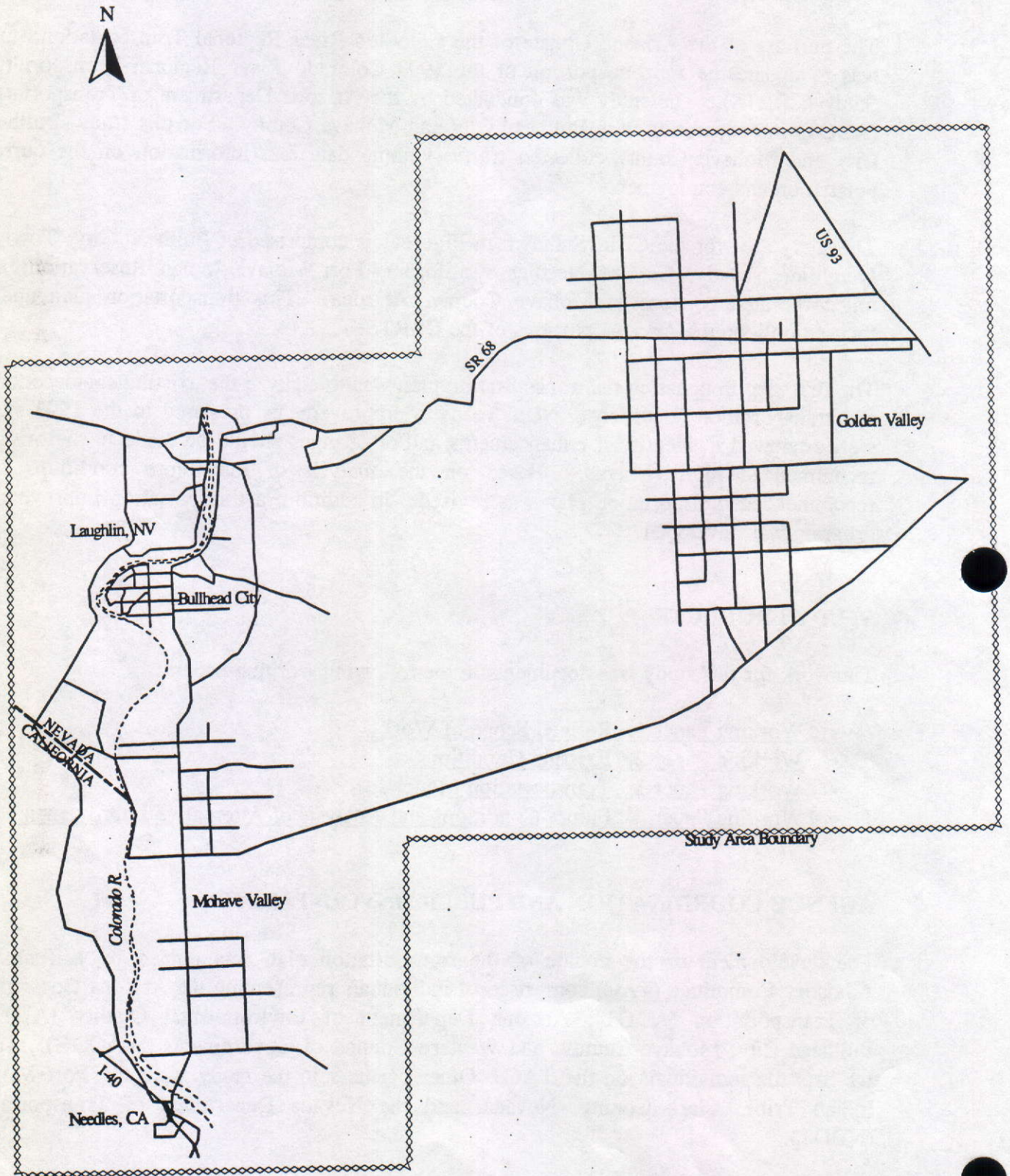


TABLE I-1. TECHNICAL ADVISORY COMMITTEE

Committee Member	Agency
Jacquie Jesse, Councilwoman	City Council, Bullhead City
Janice D. Paul, Planning Official	Community Development Department, Bullhead City
Michael P. Hendrix, P.E., Assistant Director	Public Works Department, Mohave County
Christine Ballard, Director	Planning & Zoning Department, Mohave County
Jim Zaborsky, County Supervisor	Mohave County Board of Supervisors
Dave Barber, Executive Director	Western Arizona Council of Governments
Pat Cupell, Senior Transportation/Air Quality Planner	Transportation Planning Group, Arizona Department of Transportation
Fred Garcia, Senior Transportation Planner	Environmental Planning, Arizona Department of transportation
Philip B. DeNee, Analyst	Arizona Department of Environmental Quality
Debra Brisk, District Engineer	Kingman District, Arizona Department of Transportation

In addition to the agency coordination, several public meetings were held during the course of the study. The first public meeting was held jointly with the Bullhead City Council and the Mohave County Board of Supervisors on October 14, 1997. This meeting included an overview of the study, a review of the existing socioeconomic and transportation conditions, and discussed major transportation issues. The final public meeting was held in the spring of 1998 to present the recommended transportation plan. One public meeting was held with the Mohave County Transportation Commission on April 14, 1998, and another meeting was held with the Bullhead City Council on April 21, 1998. The recommended transportation plan was revised based on comments from the public, Mohave County Transportation Commission, and Bullhead City Council. The Bullhead City Council accepted the study on May 19, 1998.

ORGANIZATION OF THE REPORT

This report documents the method and results of the study and presents a recommended transportation plan and improvement program. The next chapter, Chapter II, presents an analysis of the current socioeconomic and transportation conditions. The future socioeconomic and transportation conditions are then described in Chapter III. The fourth chapter presents an analysis of potential alternatives. The final chapter presents the recommended long-range transportation plan and improvement program.

II. EXISTING CONDITIONS

Bullhead City is located in Mohave County, Arizona on the eastern shore of the Colorado River. The City is situated between the Colorado River on the west and the Black Mountains on the east, which separates the City from Golden Valley. The Town of Laughlin, Nevada is directly west of the City on the west side of the Colorado River.

EXISTING SOCIOECONOMIC CONDITIONS

The current population, dwelling units, and employment were estimated to provide a basis for understanding the socioeconomic conditions within the study area. These socioeconomic estimates will also be used to develop a transportation model for forecasting traffic volumes.

Traffic Analysis Zones

Traffic Analysis Zones (TAZs) are geographic zonal units used to tabulate land use and trip generation data. Boundaries of the TAZs are defined based on similar land uses, physical barriers, and major streets in the transportation system. The TAZs developed for the 1993 CRRTS were modified to accommodate socioeconomic and transportation system changes. Figure II-1 shows the revised TAZ boundaries developed for this study. There is a total of 199 TAZs with 193 internal TAZs and 6 external TAZs. The external TAZs are those zones used to represent traffic, which either originates at or is destined to places outside the study area. For this study, external TAZs are located on SR 93, SR 95, I-40, and SR 163.

Existing Population and Employment

Table II-1 summarizes the estimated 1997 population for the jurisdictions for the study area. The estimated 1997 study area population is 57,762 and the estimated employment is 29,645. Appendix A presents the existing population and employment by TAZ. The Bullhead City Planning Department provided the 1997 population and dwelling unit estimates for the City. The Mohave County Planning Department and the Clark County Planning Department provided building permit data for the years 1990 through 1996 for the portions of Mohave County in the study area and for the Town of Laughlin, respectively. This data was used to expand the estimated 1990 population and dwelling units to 1997 estimates. The remainder of the study area population and dwelling units data was revised using the growth rates for those areas forecasted in the 1993 CRRTS.

**FIGURE II - 1
TRAFFIC ANALYSIS ZONES**

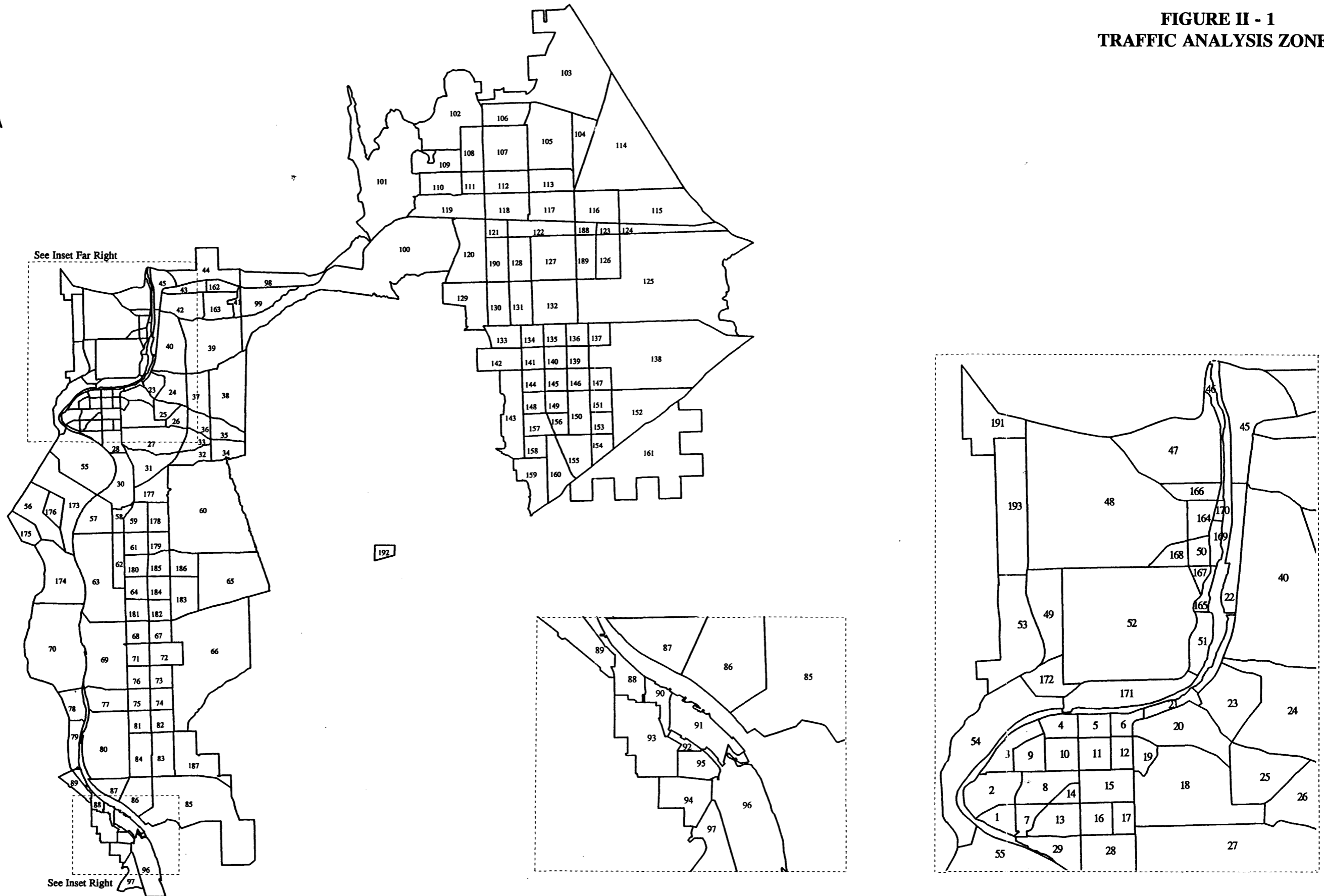


TABLE II-1. 1997 ESTIMATED POPULATION AND EMPLOYMENT

Jurisdiction	Population	Employment
Bullhead City	28,494	6,503
Golden Valley and Mohave County Area	5,093	656
Mohave Valley and Surrounding Areas	10,859	1,242
Town of Laughlin and Clark County Area	6,225	19,210
City of Needles and Surrounding Areas	7,091	2,034
Total	57,762	29,645

Employment is divided into four categories: retail, office, general, and casino. Each of these categories represents a different trip generation rate. The Bullhead City Planning Department provided the current total employment estimates for the City. The Mohave County Planning Department provided the estimated increase of industrial, office, and retail square footage between 1990 and 1997 for Mohave Valley and Golden Valley. Employment for the City of Laughlin was estimated from the square footage increase between 1990 and 1997 for commercial, casino, and retail uses provided by Clark County, Nevada. Based on this date the number of 1997 employees was estimated based on the square footage of commercial, industrial, and office uses. The square footage was then converted to number of employees by using a factor of one employee per 250 square feet for commercial uses, one employee per 400 square feet for office uses, and one employee per 500 square feet for general uses. The remainder of the study area employment was revised using a growth factor of three percent per year. The existing employment is tabulated by TAZ in Appendix A.

EXISTING STREET SYSTEM

The study area street network is comprised of an interstate highway, state highways, urban and rural arterials, and urban and rural collectors. Arizona State Route 95 traverses north-south through the entire study area, and SR 68 traverses east-west through the study area connecting the Bullhead/Laughlin area to US 93 and Golden Valley. Boundary Cone (Oatman) Road to the south is a connector between Mohave Valley and Golden Valley. On the northwest side of the study area, Nevada SR 163 provides access from the west into the region. Interstate 40 provides access to the southern portion of the study area from California and Arizona.

Four existing bridges cross the Colorado River in the study area. One bridge connects SR 95 in Bullhead City to Casino Drive in Laughlin. This bridge will be incorporated into the Arizona State highway system in the near future. Another bridge crosses the Davis Dam to the north and connects Arizona SR 68 to Nevada SR 163 junction. A bridge on Harbor

Street in Needles allows access between California and Arizona in the southern portion of the study area. Another bridge connects the Aha Macav of the Fort Mojave Indian Reservation in the California portion to the Arizona portion of the Indian Reservation.

The following characteristics were inventoried for the street system: 1) functional classification; 2) number of lanes; and 3) speed limits.

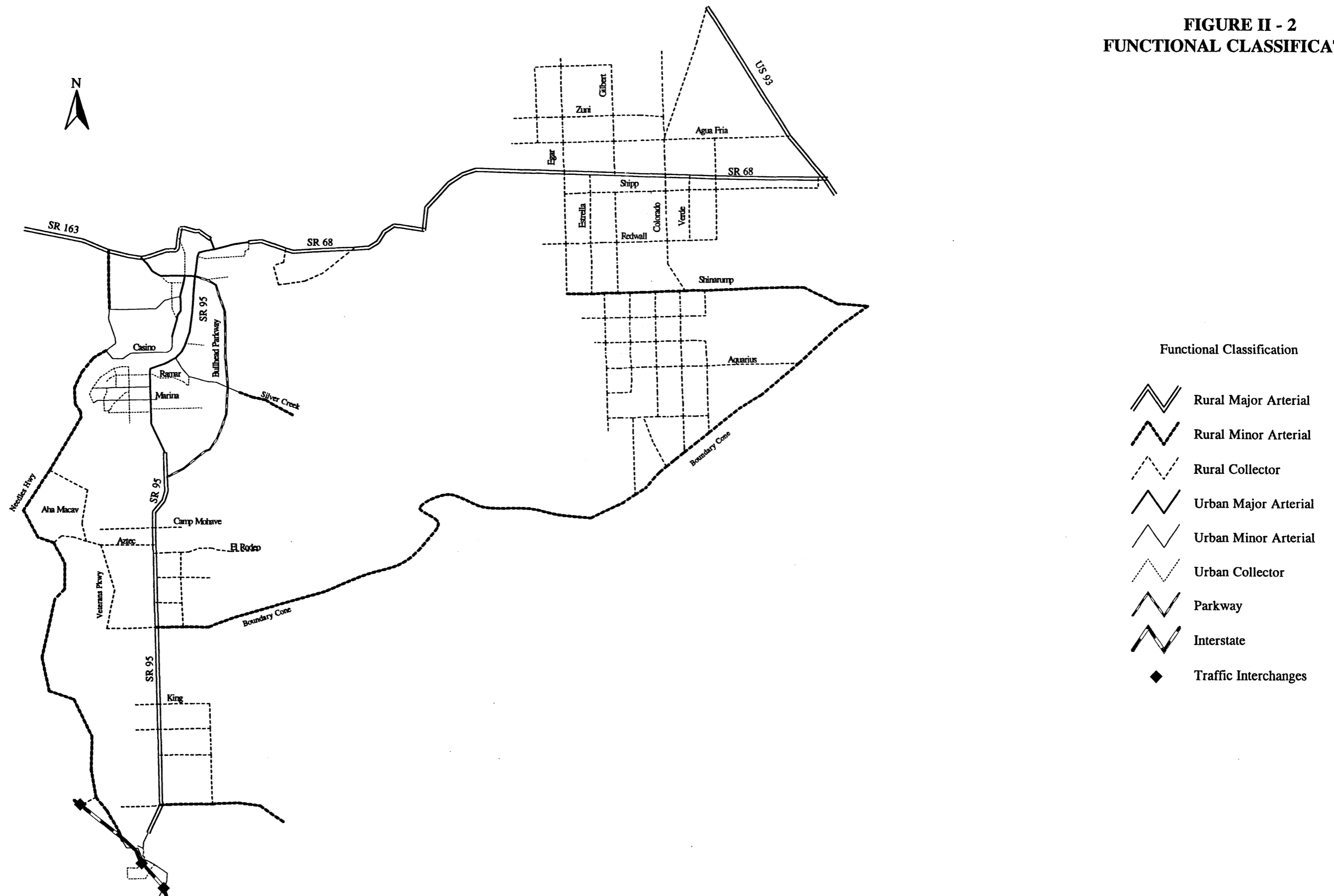
Functional Classification

Roads are classified to define the types of roads that have similar design and traffic characteristics. The functional classification categorizes roads by the function they perform in regard to providing access and mobility. A principal arterial, for example, provides mobility to drivers between long distances with minimal access to adjoining properties. A collector street, on the other hand, provides access to homes rather than serving long distances. Due to the urban and rural characteristics of the study area, each functional classification is further subdivided into the urban and rural category. Figure II-2 shows the functional classification assigned to the street network in the study. In addition to the functional classification shown in the Figure, there is a federal functional classification system which is used to identify state and regionally significant roads which are eligible for federal transportation funds. It is important to note that there is a distinction between local functional classifications and the federal classification. For example, a local road which is designated a minor arterial is not necessarily classified as a minor arterial on the federal functional classification system. The federal system classifies roads on a broader regional and statewide geographical scope.

A principal arterial serves the major centers of activity, carries the highest traffic volume, and serves the longest trips. A principal arterial carries the major portion of trips entering and leaving the urban areas, as well as the majority of through movements bypassing the central area. Principal arterials usually have fully or partially controlled access. In the study area, SR 95 is classified as a principal arterial.

Minor arterials interconnect with the urban principal arterials, provide service for trips of moderate length, and distribute vehicles to the urban collector streets. Minor arterials are usually spaced 1/8 - 1/2 mile in the central business district to 2 - 3 miles in the suburban fringes. In the study area, Hancock Road, Marina Boulevard, Silver Creek Road, within Bullhead city limits, and Casino Drive in Laughlin are classified as urban minor arterials, while Boundary Cone/Oatman Road, Needles Highway, and Shinarump Road are examples of rural minor arterials.

**FIGURE II - 2
FUNCTIONAL CLASSIFICATION**



Collector streets provide traffic circulation within residential neighborhoods and direct access to adjacent property. The collector system distributes trips from the arterials to the local streets. The majority of the study area roadways fall under this category in both the rural and urban areas.

Number Of Lanes

The number of lanes for various roadway facilities in the study area vary from two lanes undivided to four lanes divided. Data for the number of lanes of streets in the network system were collected by driving on all of the arterial and collector streets. Maps displaying the observed number of lanes were reviewed by Bullhead City and Mohave County personnel. The street cross sections include the following lane configurations:

- Two Lanes With a Continuous Left-Turn Lane
- Two Lanes Undivided
- Four Lanes Undivided
- Four Lanes With a Continuous Left-Turn Lane
- Four Lanes Divided

Most collectors and minor arterial streets in the study area are two-lane facilities while most major arterials including SR 95, SR 68, and the Bullhead Parkway are four-lane facilities. However, SR 95, from Valencia Road to the Town of Needles is a two-lane facility. The number of lanes for the arterial and collector streets in the study area are shown in Figure II-3.

Speed Limits

The posted speed limits are shown on Figure II-4. Speed limits generally range between 25 and 45 mph in the urban environment and between 45 and 55 mph in the rural environment. Bullhead parkway has a posted speed limit of 50 mph, while I-40 has posted speed limits between 65 and 75 mph.

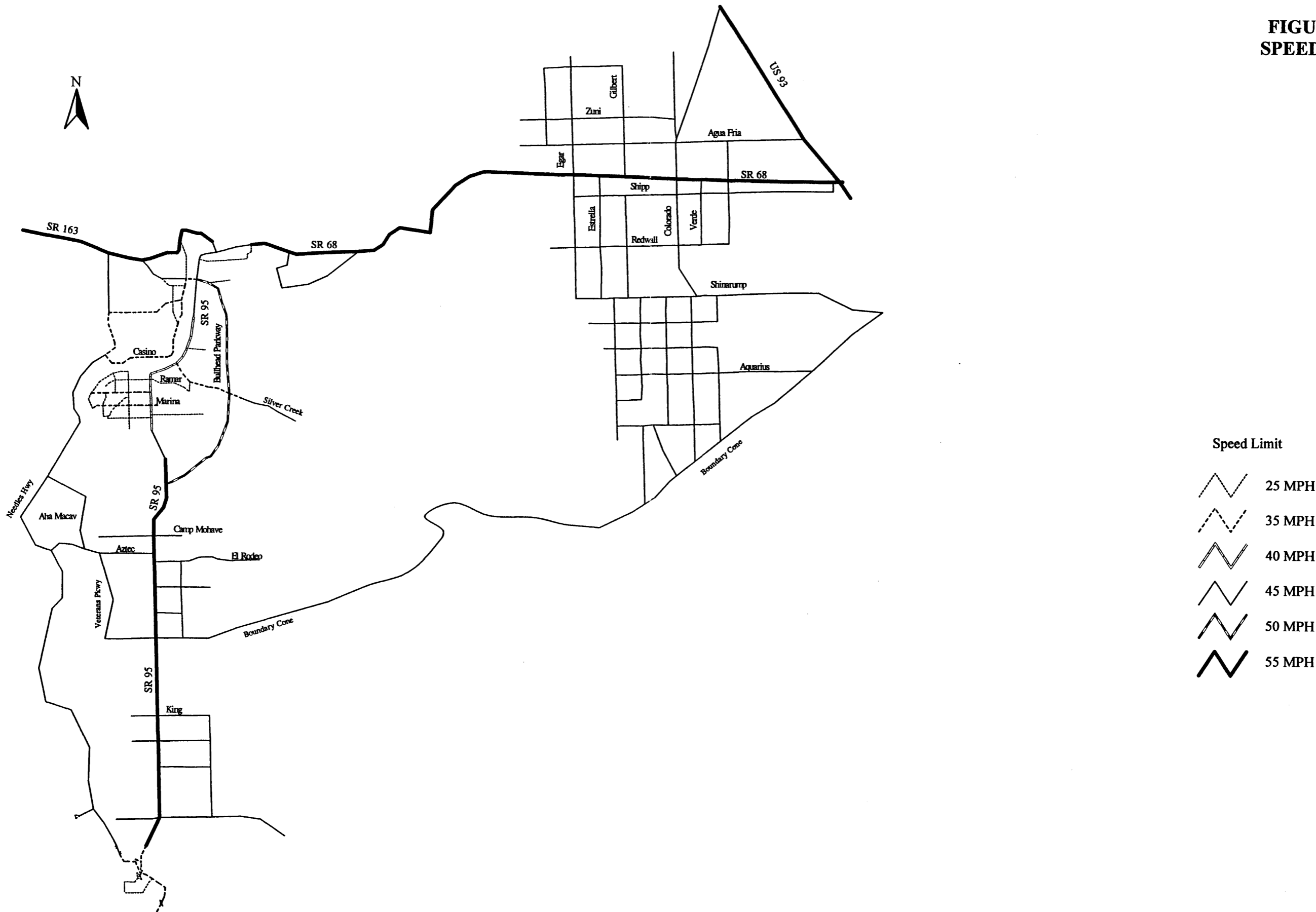
Unpaved Roads

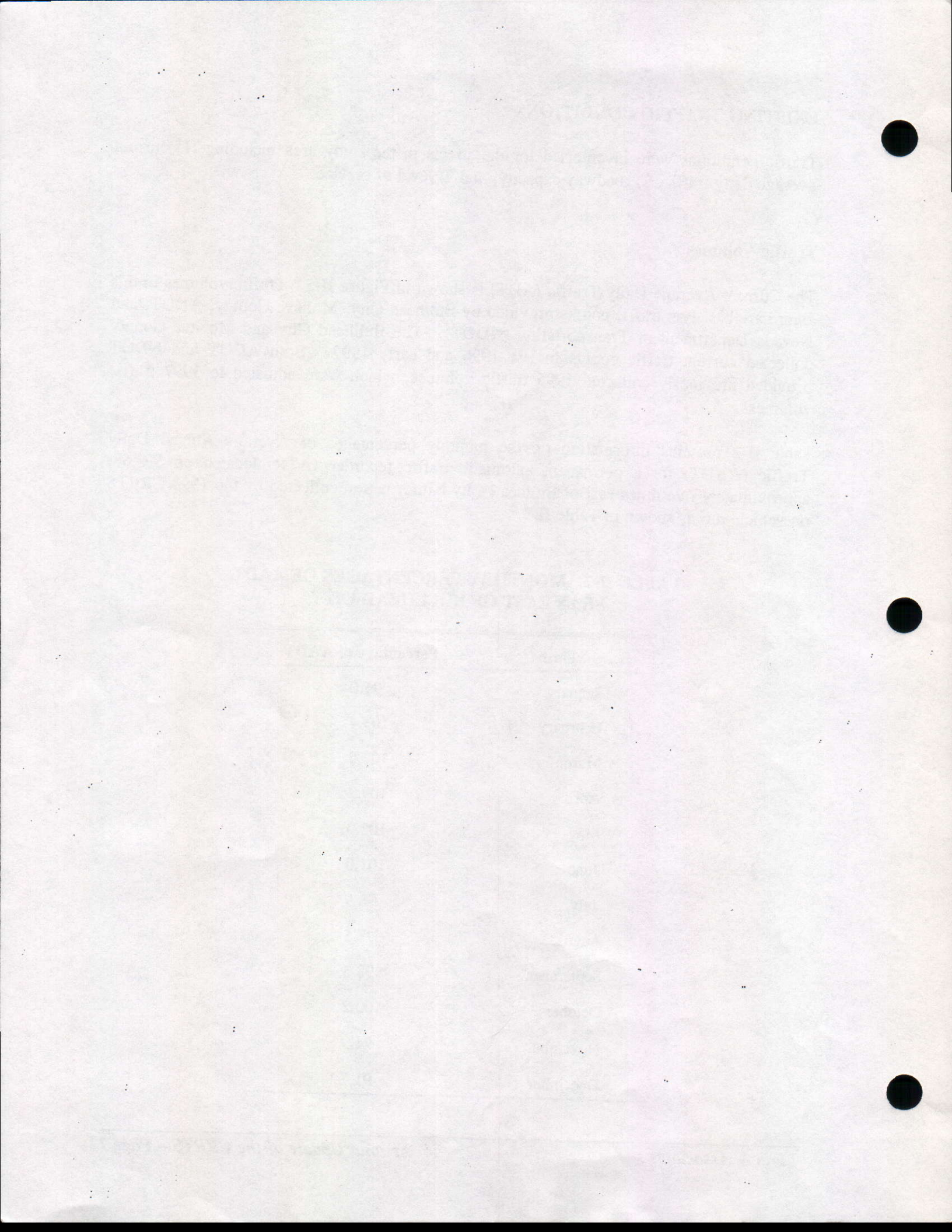
For air quality analysis purposes, an estimate of unpaved road mileage was compiled for Bullhead City and the portion of Mohave County inside the Bullhead City PM₁₀ nonattainment area. Bullhead City has approximately 10 miles of unpaved roads primarily concentrated between Black Mountain Road and Mohave Drive west of SR 95. Mohave Valley has approximately 60 miles of unpaved roads inside the nonattainment area.

**FIGURE II - 3
NUMBER OF LANES**



**FIGURE II - 4
SPEED LIMITS**





EXISTING TRAFFIC CONDITIONS

Traffic conditions were inventoried for the streets in the study area including: 1) current average daily traffic, 2) roadway capacity, and 3) level of service.

Traffic Volumes

The Current Average Daily Traffic (ADT) is shown in Figure II-5. Traffic volumes in this figure are based on traffic counts provided by Bullhead City, Mohave County, ADOT, and Nevada Department of Transportation (NDOT). The Bullhead City and Mohave County collected current traffic counts in late 1996 and early 1997. Both ADOT and NDOT provided previously collected 1995 traffic volumes, which were adjusted to 1997 traffic volumes.

Table II-2 presents information on the monthly percentages of Average Annual Daily Traffic (AADT) for a permanent automatic traffic recorder (ATR) located on SR 68, approximately five miles east of Bullhead City. Information collected by the 1993 CRRTS on vehicle mix is shown in Table II-3.

**TABLE II-2. MONTHLY PERCENTAGES OF AADT
SR 68 EAST OF BULLHEAD CITY**

Month	Percentage of AADT
January	95.0
February	103.4
March	107.5
April	109.2
May	102.0
June	101.0
July	98.9
August	97.5
September	98.3
October	100.2
November	94.9
December	91.7

**FIGURE II - 5
CURRENT AVERAGE DAILY TRAFFIC**

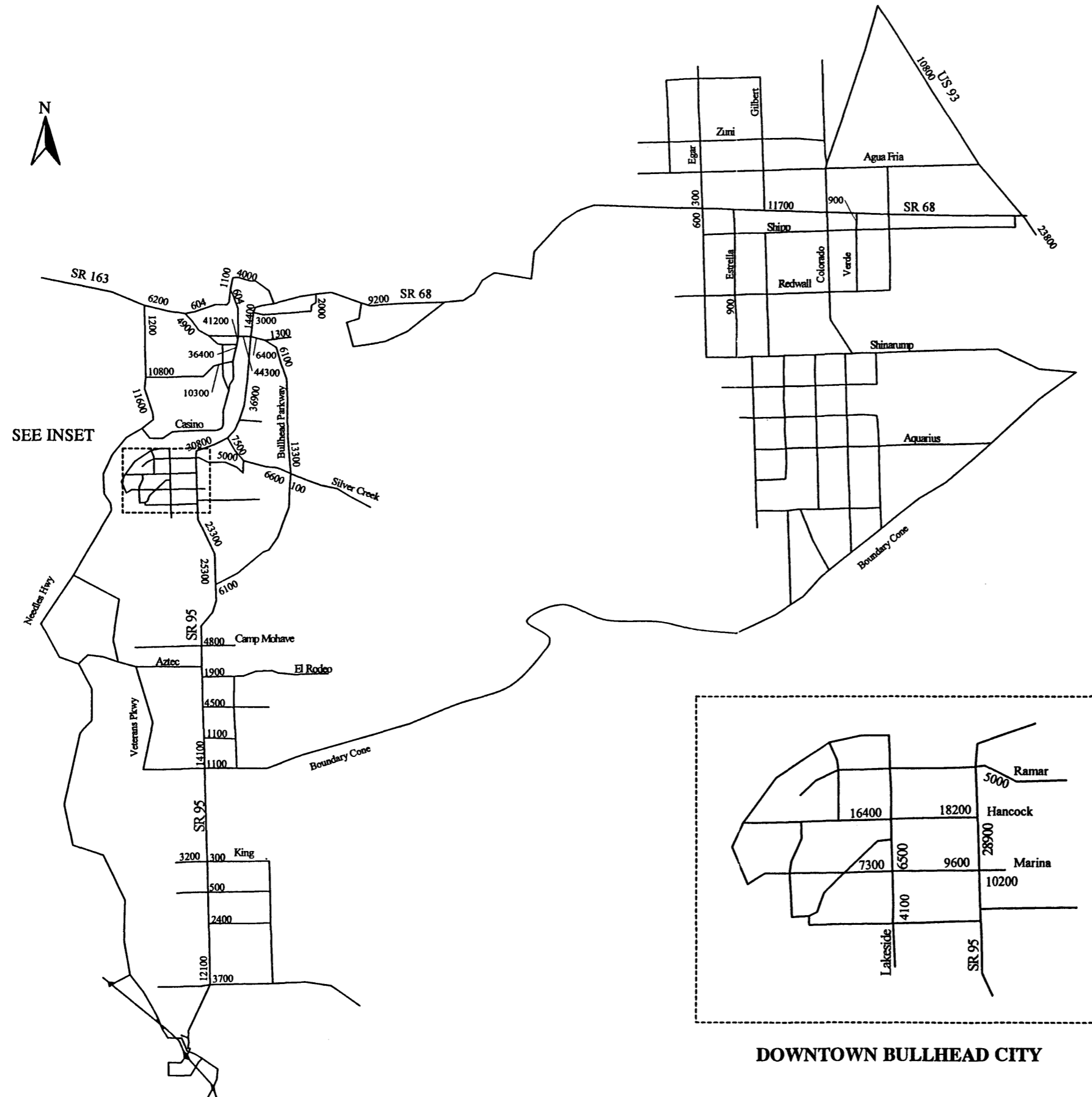


TABLE II-3. VEHICLE MIX

Vehicle Type	Location			
	SR 68	SR 95	SR 163	Needles Highway
Passenger Car	64%	52%	60%	64%
Pick up Truck	29%	42%	29%	27%
Light Truck	1%	3%	1%	1%
Heavy Truck	2%	2%	6%	4%
Recreational Vehicle	3%	1%	3%	3%
Cycle/Other	1%	---	1%	1%

ROADWAY LEVEL OF SERVICE

Levels of service (LOS) of the streets in the study area were estimated using the arterial analysis in the 1994 Highway Capacity Manual. Arterial LOS is based on the average through-vehicle travel speed over the length of the arterial. It is important to note that the LOS of individual intersections could vary from the arterial LOS. An intersection LOS could govern the overall arterial LOS. Levels of service range from LOS A to F, where LOS A represents free flow and LOS F represents forced traffic flow. For traffic forecasting modeling purposes, capacity of a roadway segment is typically defined as the ADT that results in a LOS E operation. LOS E is characterized by large delays and travel speeds that are one-third of the speeds at LOS A.

The Highway Capacity Software (HCS), version 2.0, was used to perform a planning analysis of the arterial street sections to determine their capacities in terms of maximum ADT that can be accommodated by the roadway segment. The directional daily lane capacity by roadway functional classification, as well as the speed, is shown in Table II-4.

The arterial level of service was estimated as a function of volume-to-capacity (v/c) ratios. The LOS ranges, based on v/c ratios, were developed using the HCS Software 2.0 with the same input variables employed in the capacity development. LOS ranges based on the v/c ratio for rural facilities and urban facilities are tabulated in Table II-5. The present LOS operation for each link with ADT volumes was determined based on v/c ratios and is shown in Figure II-6. These ratio values will be compared with v/c ratios resulting from the alternative street networks modeled later in the study and used to determine the effectiveness of each alternative.

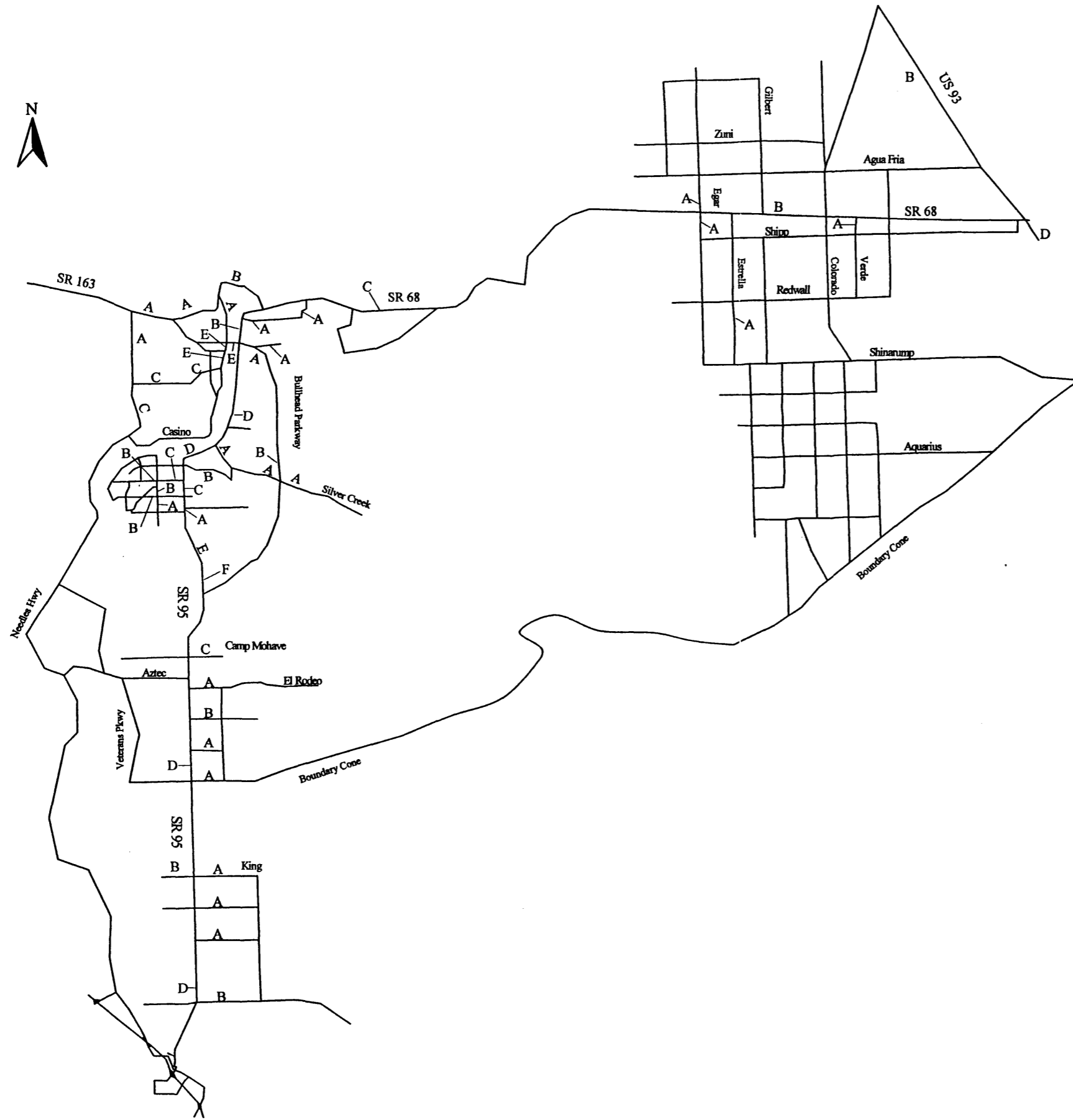
TABLE II-4. DAILY ROADWAY CAPACITIES

Functional Classification	Speed (mph)	Directional Daily Lane Capacity
Rural Major Arterial	55	11,500
Rural Major Arterial (2-lane SR 68 in mountainous terrain)	55	4,800
Rural Minor Arterial	45	8,750
Rural Collector	45	7,750
Urban Major Arterial	35-45	10,800
Urban Minor Arterial	35	8,400
Urban Collector	25-35	7,750
Parkway	50	10,000
Interstate	65	15,250
Ramps	25	8,000

TABLE II-5. LEVELS OF SERVICE

LOS	Rural Maximum V/C	Urban Maximum V/C
A	0.15	0.30
B	0.27	0.50
C	0.43	0.70
D	0.64	0.90
E	1.00	1.00
F	>1.00	>1.00

**FIGURE II - 6
CURRENT LEVEL OF SERVICE**



III. FUTURE CONDITIONS

This section of the report presents the analysis of future socioeconomic and transportation conditions. The next section discusses the future socioeconomic conditions including the estimate of the population and employment for the years 2002, 2007, and 2017. The third section presents future street conditions for the existing street system plus the five-year committee improvement. The final section presents the analysis of alternative roadway improvements.

FUTURE SOCIOECONOMIC CONDITIONS

The future population, dwelling units, and employment were estimated to provide a basis for understanding the future socioeconomic conditions within the study area. These estimates were used to project future traffic volumes in order to analyze the performance of the street system under estimated future socioeconomic conditions.

Future Population and Employment

Lima & Associates coordinated with the following organizations in developing the socioeconomic data:

- Bullhead City Planning Department
- Mohave County Planning Department
- Clark County Planning Department for the Town of Laughlin
- Hollock and Gross for the Fort Mojave Indian Reservation

The remainder of the study area population and dwelling units data were revised using growth rates for those areas forecasted in the 1993 CRRTS.

The estimated future population and employment for the jurisdictions for the study area are summarized in Tables III-1 and III-2. For the year 2017, the estimated study area population is approximately 182,400 persons and the estimated employment is approximately 82,000 employees. Employment is divided into four categories: retail, office, general, and casino. Each of these categories represents a different trip generation rate. Tables B-1, B-2, and B-3 present the population and employment by TAZ for the years 2002, 2007, and 2017, respectively.

TABLE III-1. ESTIMATED POPULATION

Jurisdiction	Population			
	1997	2002	2007	2017
Bullhead City	28,494	32,737	38,234	50,473
Golden Valley and Mohave County Area	5,093	6,065	7,045	8,984
Mohave Valley and Surrounding Areas	8,658	10,808	12,968	17,255
Town of Laughlin and Clark County Area	6,198	11,836	17,709	29,452
City of Needles and Surrounding Areas	5,119	5,893	6,665	8,208
FMIT	4,200	19,965	35,981	68,007
Total Study Area	57,762	87,3040	118,602	182,379

Source: Bullhead City, Mohave County, Hollock and Gross

TABLE III-2. ESTIMATED EMPLOYMENT

Jurisdiction	Employment			
	1997	2002	2007	2017
Bullhead City	6,503	7,797	9,088	11,674
Golden Valley and Mohave County Area	656	1,156	1,660	2,695
Mohave Valley and Surrounding Areas	1,114	1,705	2,286	3,482
Town of Laughlin and Clark County Area	18,595	22,446	26,282	33,999
City of Needles and Surrounding Areas	1,734	2,200	2,669	3,598
Fort Mojave Indian Reservation	1,043	7,375	13,706	26,516
Total Study Area	29,645	42,679	55,691	81,964

FUTURE TRAFFIC CONDITIONS

The performance of the street system was analyzed for the estimated future socioeconomic conditions presented in the previous section. For this analysis, future traffic was projected for the years 2002, 2007, and 2017 on the existing plus committed street network. Committed facilities are those state and local improvements that are currently in adopted transportation programs. The level of service was then estimated for streets in the existing and committed street network.

Travel Demand Modeling

The travel demand model previously developed for the 1993 CRRTS was updated for this study. This updated model includes an update of current street and highway network and of the current socioeconomic conditions. The travel demand model was then revalidated for current traffic conditions. Working Paper 3, Transportation Models, documents development and validation of the travel demand model.

EXISTING AND COMMITTED NETWORK

Table III-3 presents the transportation improvements currently programmed by ADOT and Mohave County over the 1997-2002 period. The Nevada Department of Transportation (NDOT) and the California Department of Transportation (CalTrans) do not have any committed projects other than routine maintenance. The existing and committed network for the year 2002 is shown in Figure III-1.

In addition to the committed projects, the following studies are in progress:

- Design Concept Study to widen the existing two-lane segments of SR 68 to 4 lanes through the mountain
- Design Concept Study to widen the existing two-lane SR 95 from Courtwright Road to Needles Bridge
- A feasibility study to relocate SR 95 between Courtwright Road and I-40, bypassing the Needles Bridge and the City of Needles

**TABLE III-3. COMMITTED STREET AND HIGHWAY IMPROVEMENTS
1997 - 2002**

Improvement Location	Description	Estimated Cost	Year
State Highway Improvements			
SR 95 - Courtwright to Central Avenue	Right-of-way Acquisition	\$24,000	FY 98
SR 95 - Courtwright to Central Avenue	Utility Reconstruction	\$4,000	FY 98
SR 95 - Courtwright to Central Avenue	Widen to 4 lanes	\$8,600	FY 99
SR 95 - Central Avenue to Marina Boulevard	Construct 5 lanes	\$17,500	FY 98
SR 95 - Hulet - Lipan	Design Roadway	\$900	FY 02
SR 95 - Lipan - Valencia	Design Roadway	\$1,800	FY 01
SR 95 - North Reservation Boundary-Marina Boulevard		\$94	FY 98
SR 95 - Valencia Road - Marina Boulevard	Right-of-way Acquisition	\$6,679	FY 98
SR 95 - Valencia Road - Marina Boulevard	Right-of-way Acquisition	\$13	FY 98
SR 95 and McCormick	Construct NB Right-Turn Lane	\$160	FY 98
SR 95 and 7 th Street	Install Traffic Signal	\$100	FY 98
		Subtotal	\$63,846
City of Bullhead			
Drive Ramar, Baseline and Trane	Install Traffic Signals	\$160	FY 97/98
Marina Boulevard-Trane Road to Lakeside Dive	Construct Roadway	355	FY 98/99
		Subtotal	\$515
Mohave County			
Aztec Road - SR 68 to Shinarump Drive	Grade, Drain & Base Course	\$350	FY 97/98
Aztec Road - SR 68 to Shinarump Drive	Pave	\$325	FY 97/98
Shinarump Drive - East of Aztec	Grade, Drain & Base	\$350	FY 97/98
Shinarump Drive - End of Pavement to Aztec Road	Pave	\$300	FY 97/98
Shinarump Drive - Aztec Road to Colorado Road	Grade & Base	\$120	FY 97/98
Vanderslice Road - Laguna to King	Grade	\$40	FY 97/98
Vanderslice Road - South of Laguna	Grade and Pave	\$250	FY 97/98
Joy Road and SR 95	Install Traffic Signal	\$100	FY 98/98
Mohave Valley - SR 95	Install Traffic Signals	\$50	FY 97/98
		Subtotal	\$1,885
		Total Cost	\$66,246

**FIGURE III - 1
EXISTING AND COMMITTED
NETWORK**



Legend

-  Two Lanes
-  Four Lanes

ROADWAY CAPACITY DEFICIENCIES

The future average daily traffic volumes LOS for the years 2002, 2007, and 2017 are shown in Figures III-2 through III-4, respectfully, for the existing and committed street and highway network. Level of service was estimated using the same methodology described in Chapter II. The analysis of LOS indicate that the following roadway segments will operate at LOS D or worse:

- Existing two-lane segments of SR 68 through the mountain
- SR 95
- Laughlin Bridge
- Needles Highway
- Existing two-lane Veterans Memorial Highway

Due to the increase in future traffic on SR 95 through Bullhead City and the projected traffic growth in the city to the east of SR 95, there is a need to relieve traffic on SR 95. This could be accomplished through better use of the Bullhead Parkway in handling local traffic. For this, additional east-west connections between the parkway and SR 95 are required, as well as more north-south connections in the area between the parkway and SR 95. Because of the increased traffic load, relief is also needed on the Laughlin Bridge.

The urbanization of Mohave Valley and Fort Mojave Indian Reservation areas will contribute to a significant increase of traffic on SR 95, the only continuous north-south road in the area. As a result of the increased traffic in Mohave Valley, there is a need for north-south roadways parallel to SR 95.

The combined growth of the Fort Mojave Indian Reservation casino, resort related activities, and the accompanying residential growth will create another urban node resulting in development similar to that of the existing Laughlin/Bullhead City development. This growth will increase the interaction of activities on both sides of the River.

The anticipated traffic growth between the Kingman/Golden Valley area and the Bullhead City/Laughlin area will contribute to increased congestion and slow speeds on the two-lane section of SR 68, and will restrict passing opportunities through the mountains. A need exists to upgrade the existing two-lane segments on SR 68 to four lanes.

**FIGURE III - 3
2007 LEVEL OF SERVICE
EXISTING AND COMMITTED NETWORK**



Level of Service
 — A - C
 - - - D or Worse

FIGURE III - 4
2017 LEVEL OF SERVICE
EXISTING AND COMMITTED NETWORK



Level of Service

— A - C

~ D or Worse

IV. TRAFFIC ANALYSIS OF ALTERNATIVE ROADWAY IMPROVEMENTS

Level of service was analyzed for alternative roadway improvements. The general type of improvements analyzed included the following:

- Widen the two-lane segments of SR 68 and SR 95
- Relocate SR 95
- Construct an additional Colorado River crossing
- Complete the streets as recommended in the Bullhead City Circulation Element
- Construct an extension of Veterans Memorial Parkway on the Fort Mojave Indian Reservation
- Improve major intersections, such as the SR 95/Laughlin Bridge intersection

The Technical Advisory Committee (TAC) identified specific improvements to be further analyzed, based on the LOS analysis of existing and committed network and a review of the previously recommended and proposed projects. Long-range improvement projects, which identified the 1993 CRRTS, are shown in Table IV-1. The Colorado bridge crossings, proposed in the 1993 CRRTS, were studied in detail by Clark County, Nevada. The results of this study are presented in Final Report: Laughlin Bridge Location Study, March 1, 1996.

ALTERNATIVE IMPROVEMENTS

The potential improvements identified for further analysis are shown in Table IV-2. A base future network, Alternative 1, was developed to represent a street network which include improvements that appear to have a high probability of being implemented over the next 20 years. Alternatives 2 through 10 were then analyzed as separate options to the base future network.

TABLE IV-1. SUMMARY OF 1993 CRRTS RECOMMENDATIONS

Improvement
Widen the Laughlin Bridge from four to six lanes and provide improved intersections at Casino Drive and SR 95
Construct the Rio Rancho Expressway from Needles Highway to Bullhead Parkway. Include traffic interchanges at Casino Drive and SR 95 and a new six-lane bridge over the Colorado River (Pass Canyon location).
Construct the Riverview Drive bridge and widen the Riverview/North Oatman corridor roadway to four lanes.
Construct the Bullhead Parkway extension between Aha Macav Parkway and SR 95, including a four-lane Colorado River bridge.
Construct the Vanderslice/El Rodeo corridor roadways as four-lane arterial streets.
Construct Landon Drive between SR 68 and Bullhead Parkway as a four-lane arterial street.
Widen SR 68 to four lanes between SR 95 and the existing four-lane section.
Pave a network of two lane arterial roadways in Golden Valley including Colorado, Tombstone, Estrella and Shinarump.
Widen the Needles Bridge to four lanes.
Widen SR 95 to four lanes from Valencia Road to the Needles Bridge.
Widen Needles Highway/River Road to four lanes.
Construct the J Street corridor in Needles as a four-lane arterial street between the Needles Bridge and I-40.

**TABLE IV-2. STREET AND ROADWAY IMPROVEMENTS
IDENTIFIED FOR ANALYSIS**

POTENTIAL IMPROVEMENT	Alternative 1 Base Future Network	Alternative Improvement
Bullhead City Circulation Element		
Construct a new bridge crossing at one of the following locations: Silver Creek Road Hancock Road Riverview Drive Extension of Bullhead Parkway to Aha Macav		Alternative 2 Alternative 3 Alternative 4 Alternative 5
Improve Rio Rancho Boulevard from Bullhead Parkway to SR 95	X	
Widen the Riverview/North Oatman corridor roadway to four lanes.	X	
Construct Landon Drive between SR 68 and Bullhead Parkway as a four-lane arterial street	X	
Fort Mojave Indian Reservation/County Improvements		
Construct the Bullhead Parkway extension between the Veterans Memorial Bridge		Alternative 6
Mohave County Road Improvements		
Construct the Mountain View road as a four-lane arterial street	X	
Construct Mountain View Road as a four-lane arterial with a two-lane Vanderslice Road		Alternative 10
Construct Vanderslice Road as a four-lane arterial street		Alternative 11
Construct Ashley Road as a four-lane arterial street		Alternative 12
Pave Shamrock Road	X	
Arizona State Highway Improvements		
Complete the programmed widening of SR 95 to four lanes from Courtwright Road to Central Avenue	X	
Widen SR 95 to four lanes from Courtwright Road to the Needles Bridge	X	
Relocate SR 95 from the Bullhead Parkway to I-40		Alternative 8
Realign SR 95 from north of Courtwright Road To I-40		Alternative 9
Widen SR 68 to four lanes between SR 95 and the existing four-lane section.	X	
Other Improvements		
Widen the Needles Bridge to four lanes.	X	
Widen Needles Highway/River Road to four lanes.	X	
Relocate Needs Highway		Alternative 7

Base Future Network

The 2007, 2017 LOS, and daily traffic volumes for the base future network are illustrated in Figures IV-1 and IV-2, respectively. The improvements in the base future network include the following:

- Completion of the streets in the Bullhead Circulation Element, shown in Table III-3
- Widening of SR 95 to four lanes
- Widening of SR 68 to four lanes through the mountain
- Widening of Mountain View Road as a continuous four-lane arterial

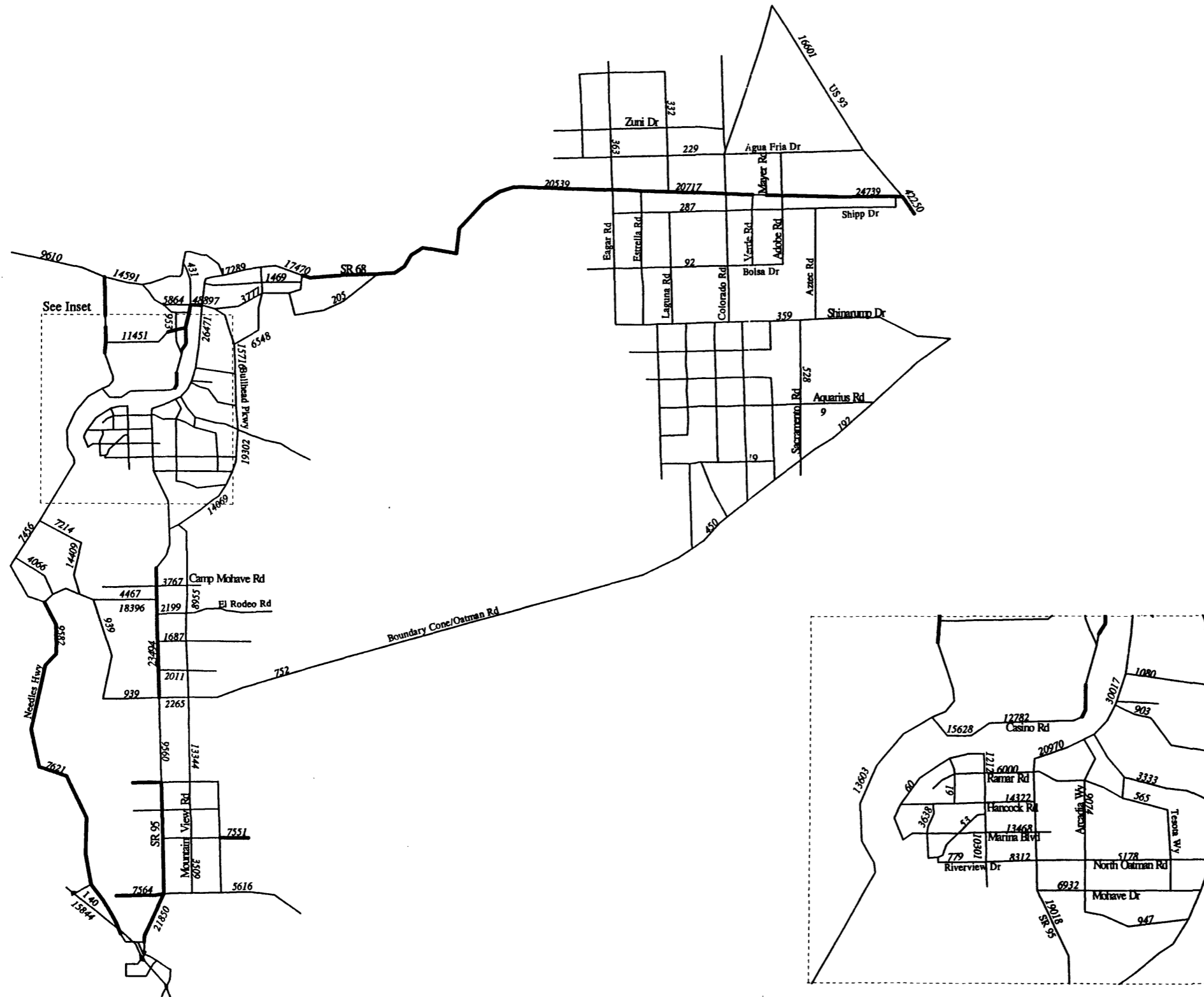
The completion of the streets in the Bullhead Circulation Element will reduce traffic volumes on SR 95 in the City of Bullhead. In addition, the implementation of the Circulation Element will significantly improve internal circulation and distribute more traffic to the Bullhead Parkway; however, the Laughlin Bridge would still have significant traffic volumes. The widening of the Vanderslice/Mountain View corridor will also reduce traffic volumes on SR 95 in Mohave Valley and better distribute traffic volumes in the area. The widening of SR 68 to four lanes will significantly improve the LOS in the section through the mountain.

New Bridge Crossings

Four potential Colorado River bridge crossings were analyzed. Figures IV-3 through IV-6 illustrate the 2017 LOS and daily traffic volumes that will occur if the potential bridge crossings at Silver Creek Road, Hancock Road, and Riverview Drive are in place. All three bridge crossings improve the LOS on portions of SR 95 in the City of Bullhead. However, the Silver Creek crossing increases the traffic volumes on SR 95, south of Silver Creek Road, by approximately 10,000 vehicles per day, but all three crossings reduce the traffic volume on the Laughlin Bridge. Among the three crossings, the Silver Creek crossing reduces the greatest amount of traffic on the Laughlin Bridge by approximately 32,000 vehicles per day. The Silver Creek crossing also increases traffic volume on Silver Creek Road by approximately 9,000 vehicles per day. The Hancock Bridge crossing improves the level of service of SR 95 more than the other two alternative bridge crossings; however, it increases traffic volume on Hancock Road by approximately, 13,000 vehicles per day.

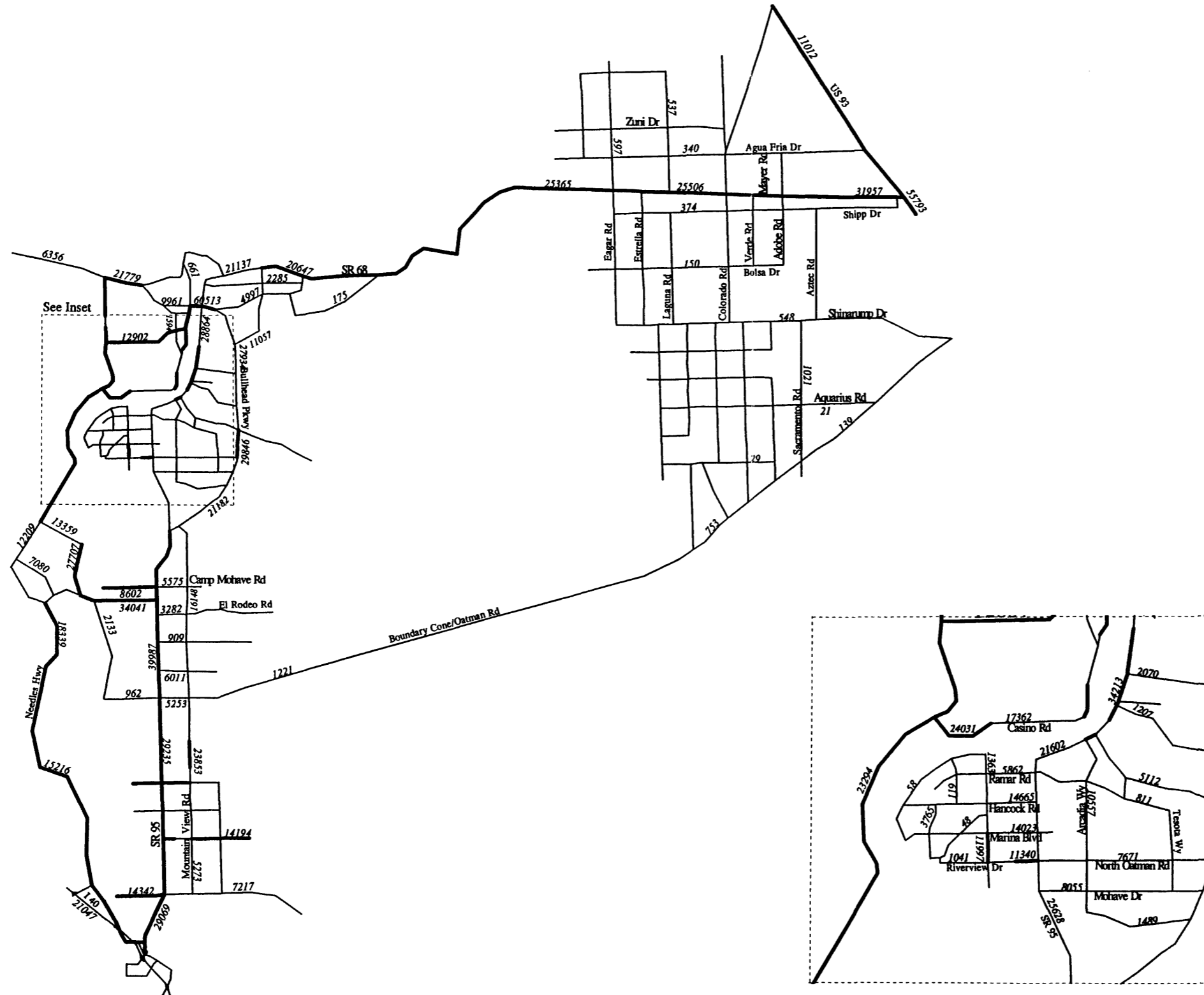
Another alternative bridge crossing studied was a potential bridge from an east-west extension of the Bullhead Parkway to the River and connecting to Aha Macav Parkway. This bridge would carry approximately 10,800 vehicles per day.

**FIGURE IV - 1
2007 LEVEL OF SERVICE
ALTERNATIVE 1
BASE FUTURE NETWORK**



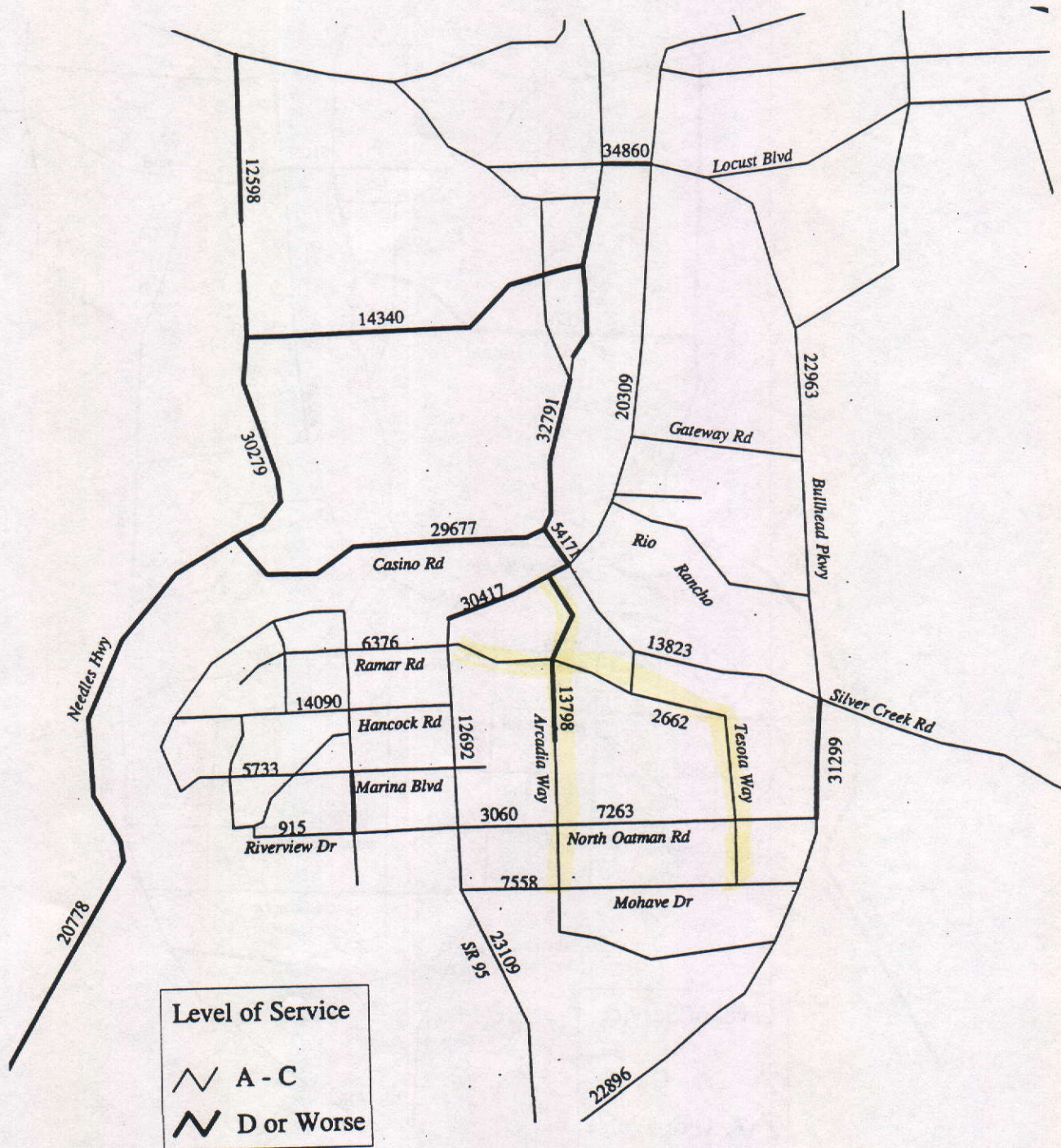
Level of Service
 ∟ A - C
 ∟ D or Worse

**FIGURE IV - 2
2017 LEVEL OF SERVICE
ALTERNATIVE 1
BASE FUTURE NETWORK**



Level of Service
 — A - C
 = D or Worse

FIGURE IV - 3
2017 LEVEL OF SERVICE
ALTERNATIVE 2 - SILVER CREEK BRIDGE



**FIGURE IV - 4
2017 LEVEL OF SERVICE
ALTERNATIVE 3 - HANCOCK BRIDGE**

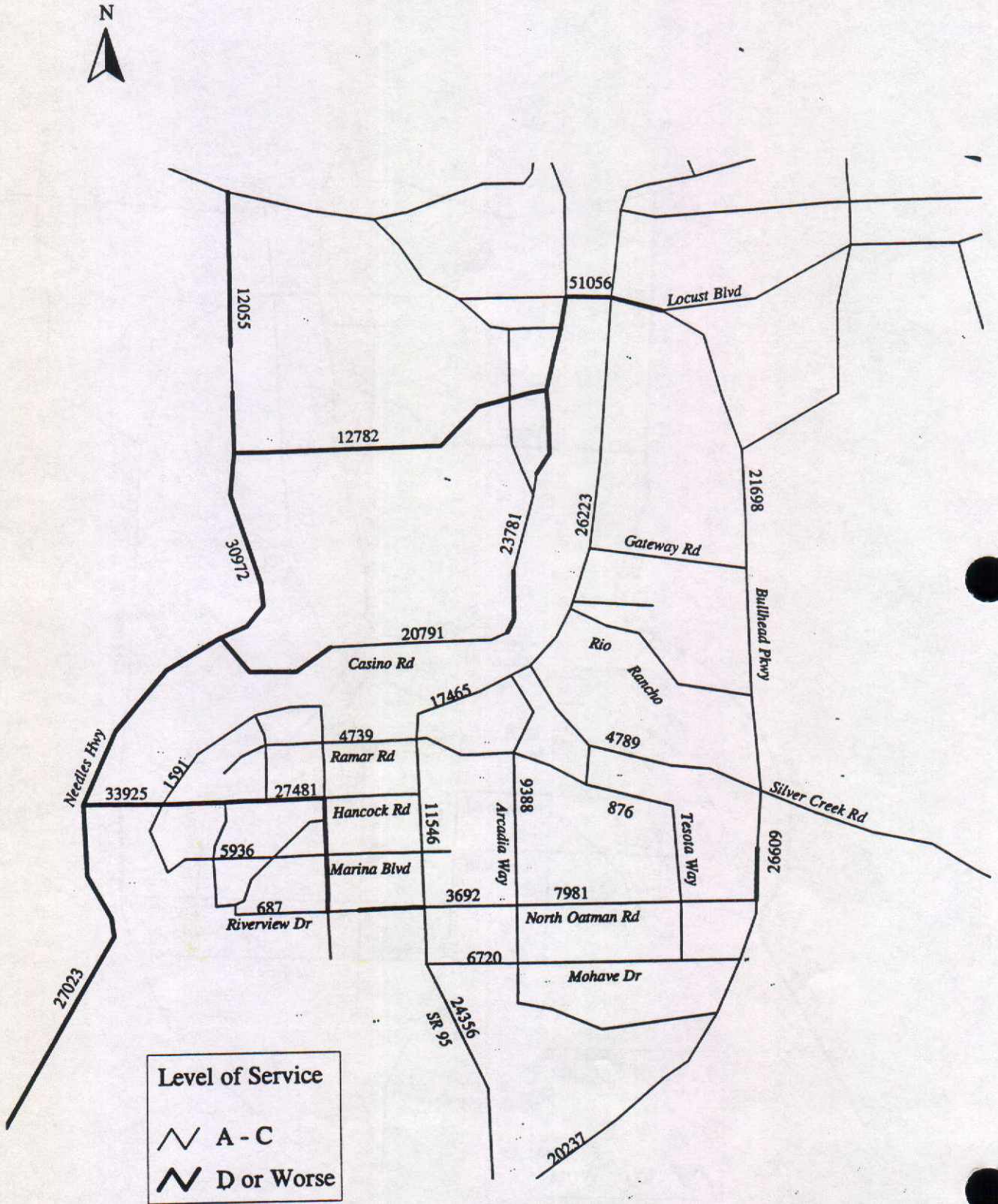


FIGURE IV - 5
2017 LEVEL OF SERVICE
ALTERNATIVE 4 - RIVERVIEW/N. OATMAN BRIDGE

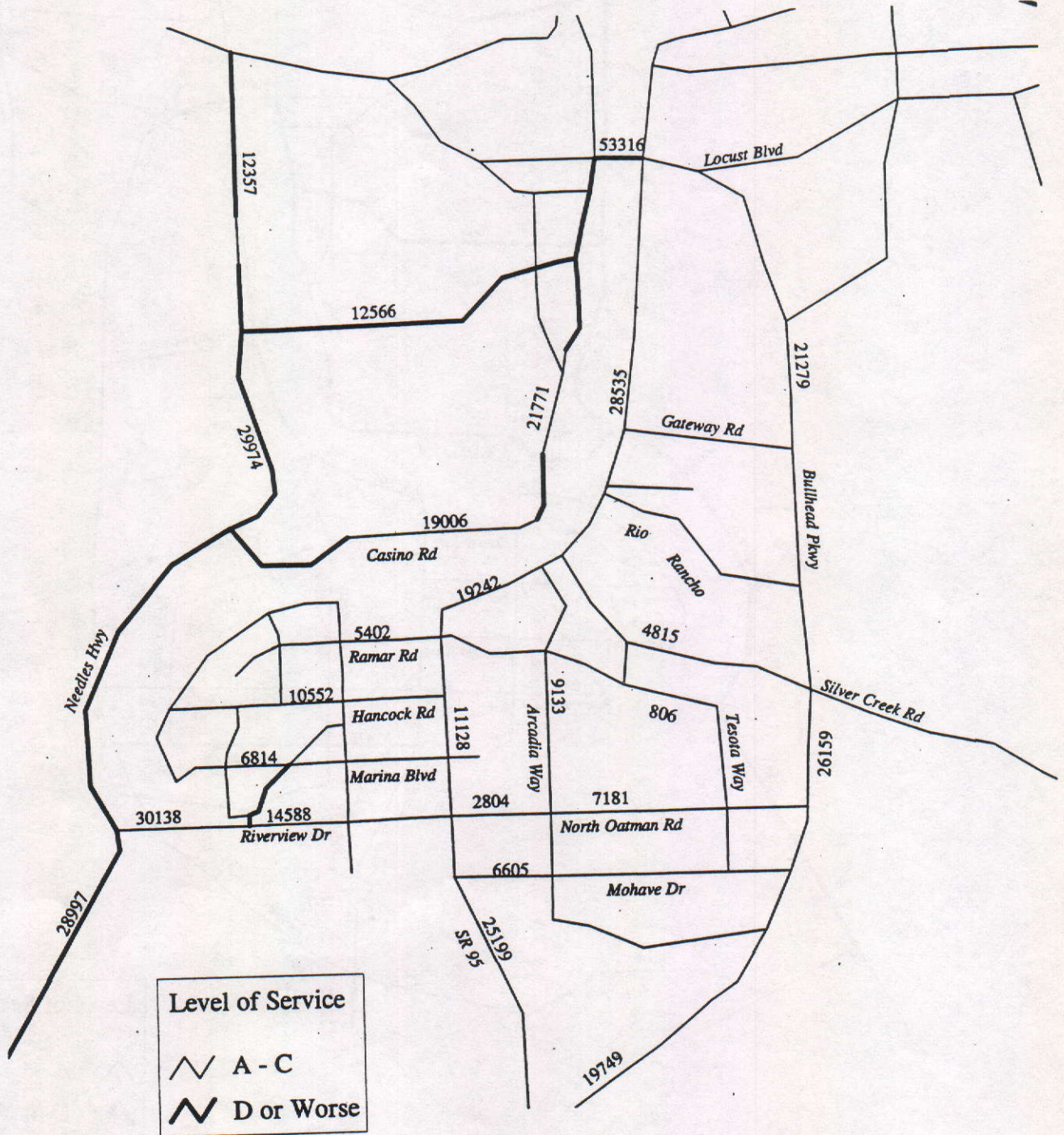
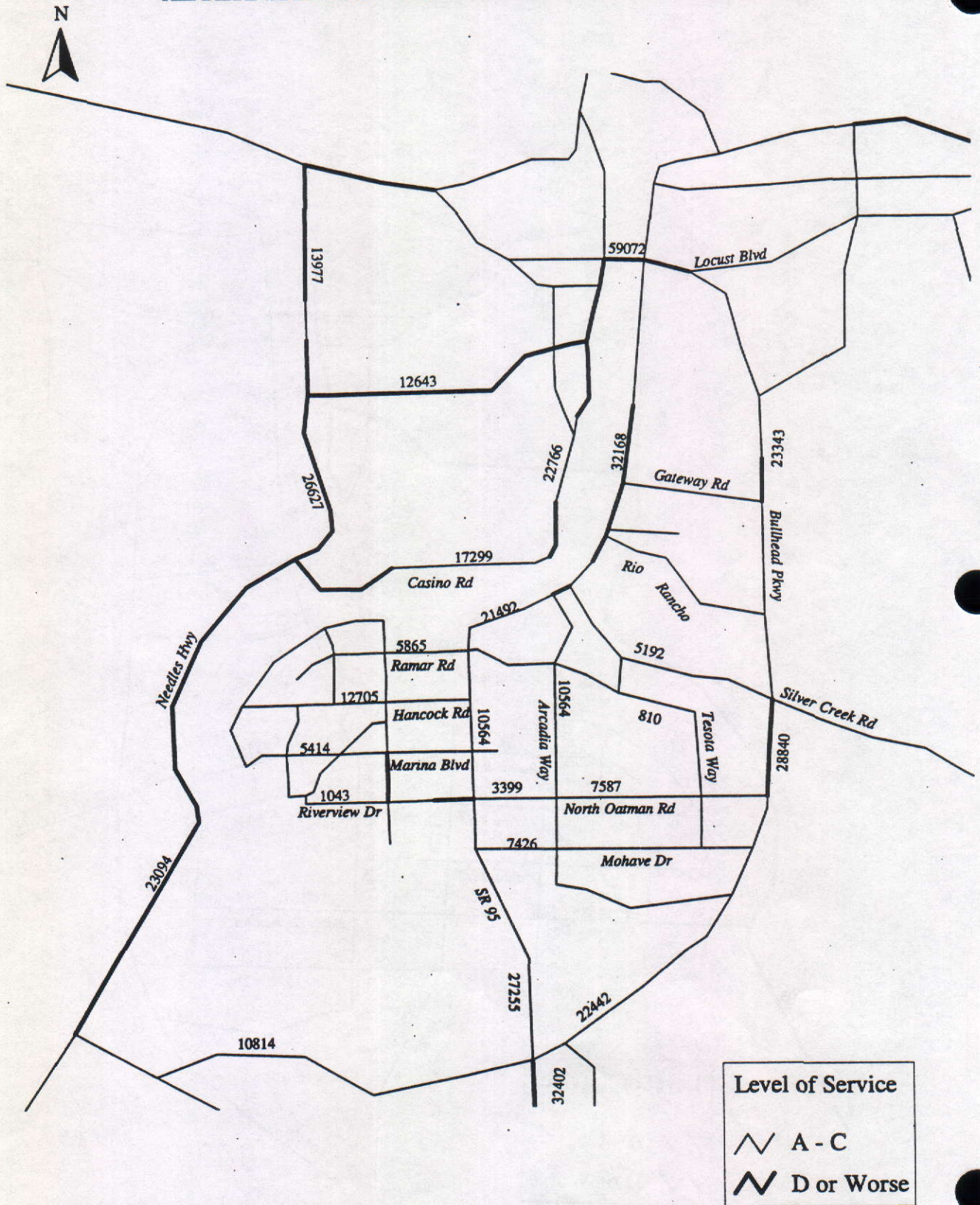


FIGURE IV - 6
2017 LEVEL OF SERVICE
ALTERNATIVE 5 - BULLHEAD PARKWAY BRIDGE



Extension of Bullhead Parkway/Veterans Memorial Parkway

Alternative 6, illustrated in Figure IV-7, is an extension of the Bullhead Parkway to the west and south to Veterans Memorial Parkway. The extension of the Parkway reduces traffic on SR 95 south of the Parkway by approximately 7,000 vehicles per day. The extension of the Parkway south to Veterans Parkway would impact Section 10 owned by the Bureau of Land Management (BLM). This area is designated as a park and a conservation area. BLM has cooperative agreements with wildlife agencies to conserve the area for wildlife protection. The extension could also impact the Fort Mojave site.

Relocation of Needles Highway

Figure IV-8 illustrates Alternative 7, which is a relocation and major improvement of the Needles Highway to parallel SR 95 on the west side of the Colorado River and connect directly to Aha Macav. The improvement of Needles Highway did not reduce traffic on SR 95.

Relocation of SR 95 Between the Bullhead Parkway and I-40

Alternative 8, shown in Figure IV-9, is a proposed major relocation of SR 95 between the Bullhead Parkway and I-40 and ties into SR 95 from the south of I-40. The analysis indicates that the relocated SR 95 diverts a small amount of traffic from existing SR 95.

Relocation of SR 95 to I-40

This alternative, illustrated in Figure IV-10, is a relocation of SR 95 north of Courtwright Road and presents a direct connection with I-40 northwest of the City of Needles. This alternative would divert a significant amount of traffic from the existing SR 95 south of Courtwright Road and from the Needles Bridge and Needles City streets.

Mountain View Road/Ashley Road Corridor

Mohave County is considering the designation of a future four-lane road in the Mountain View Road/Ashley Road corridor. Ashley Road is currently a north-south undeveloped alignment located three miles to the east of SR 95. The base future network included Mountain View Road as a four lane arterial. Alternatives 10 through 12 include alternative lane configurations for Mountain View Road, Vanderslice Road, and Ashley Road. Alternative 12 includes the improvement of Ashley Road as a high speed limited access arterial. Table IV-3 presents a comparison of traffic volumes for the alternative lane configurations. The traffic volumes presented in the table indicate that Mountain View Road carries a significant amount of traffic in all the potential scenarios. This significance

of Mountain View Road as a north-south arterial is due to road's proximity to SR 95 and the distribution of projected land use in the SR 95/Ashley Road Corridor.

OTHER POTENTIAL IMPROVEMENTS

Another project, under consideration by ADOT, is the improvement of the SR 95/Laughlin Bridge intersection, including exclusive southbound right-turn lanes and additional signing. This project would improve the intersection level of service.

The Sierra Club recently proposed an additional alternative to those currently under consideration for the Hoover Dam Bypass. This additional alternative would traverse Arizona 68 to Arizona 95 in Bullhead City, cross the Colorado River, and connect to Nevada 95. The Colorado River crossing would be on either new bridge or the existing bridge which would be widened. Since the CRRTS update was being finalized when this alternative was proposed, the update did not analyze the impacts of the Hoover Dam Bypass. However, an alternative bypass crossing the Colorado River in the Bullhead/Laughlin area would impact traffic in the area. If the alternative is included in the Environmental Impact Study for the bypass, a detail traffic analysis of the alternative must be conducted.

FIGURE IV - 7
2017 LEVEL OF SERVICE
ALTERNATIVE 6 - EXTENDED PARKWAY

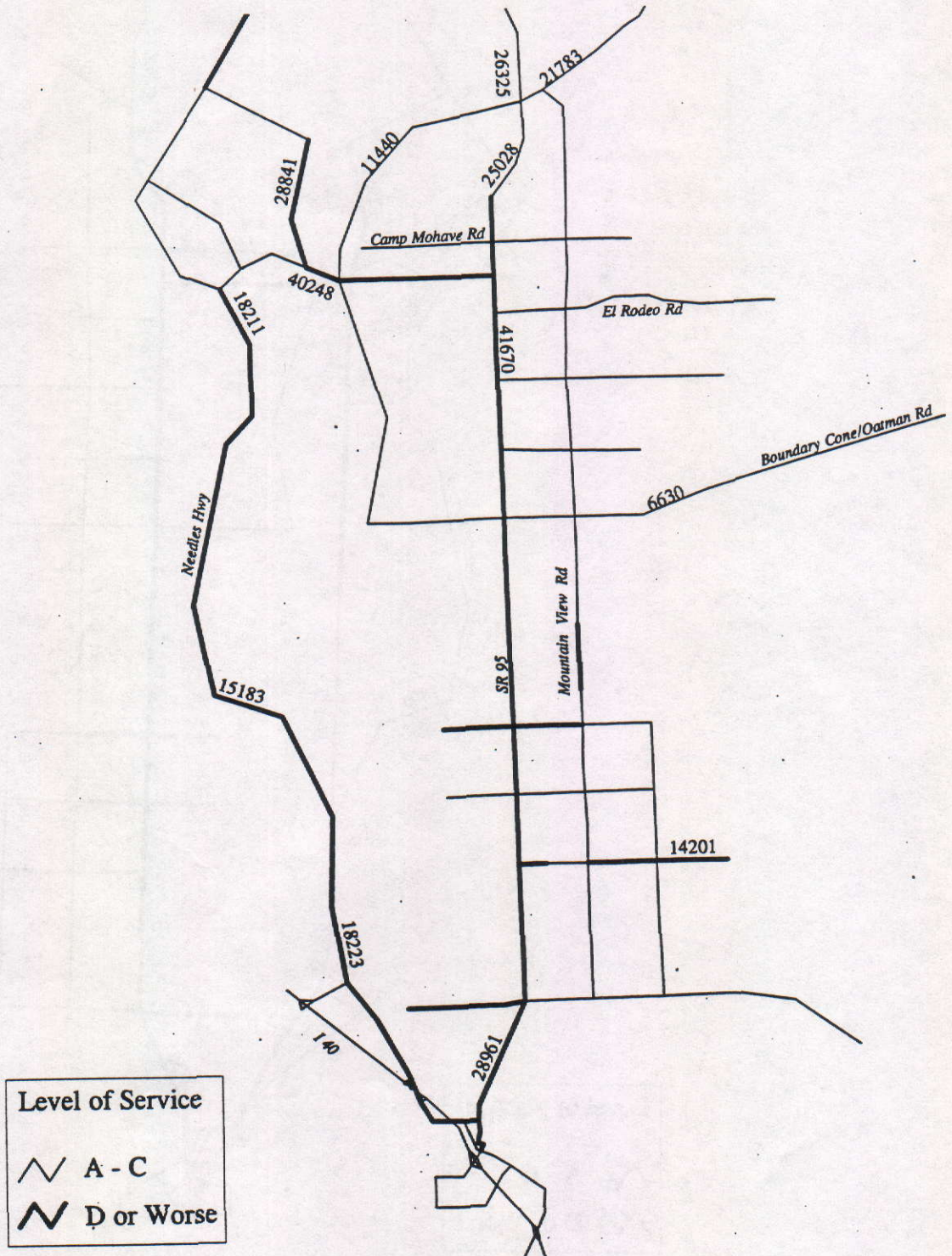
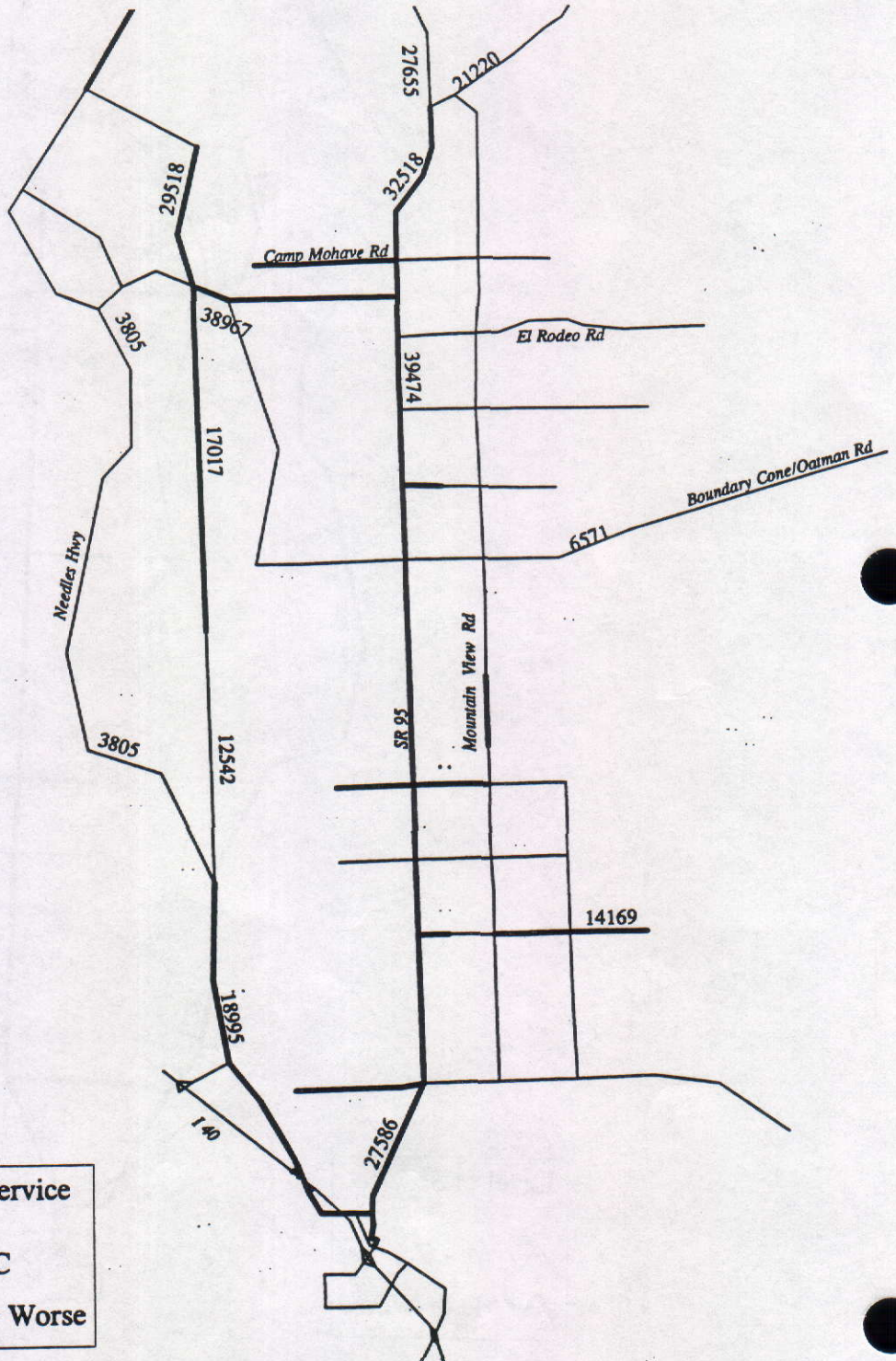
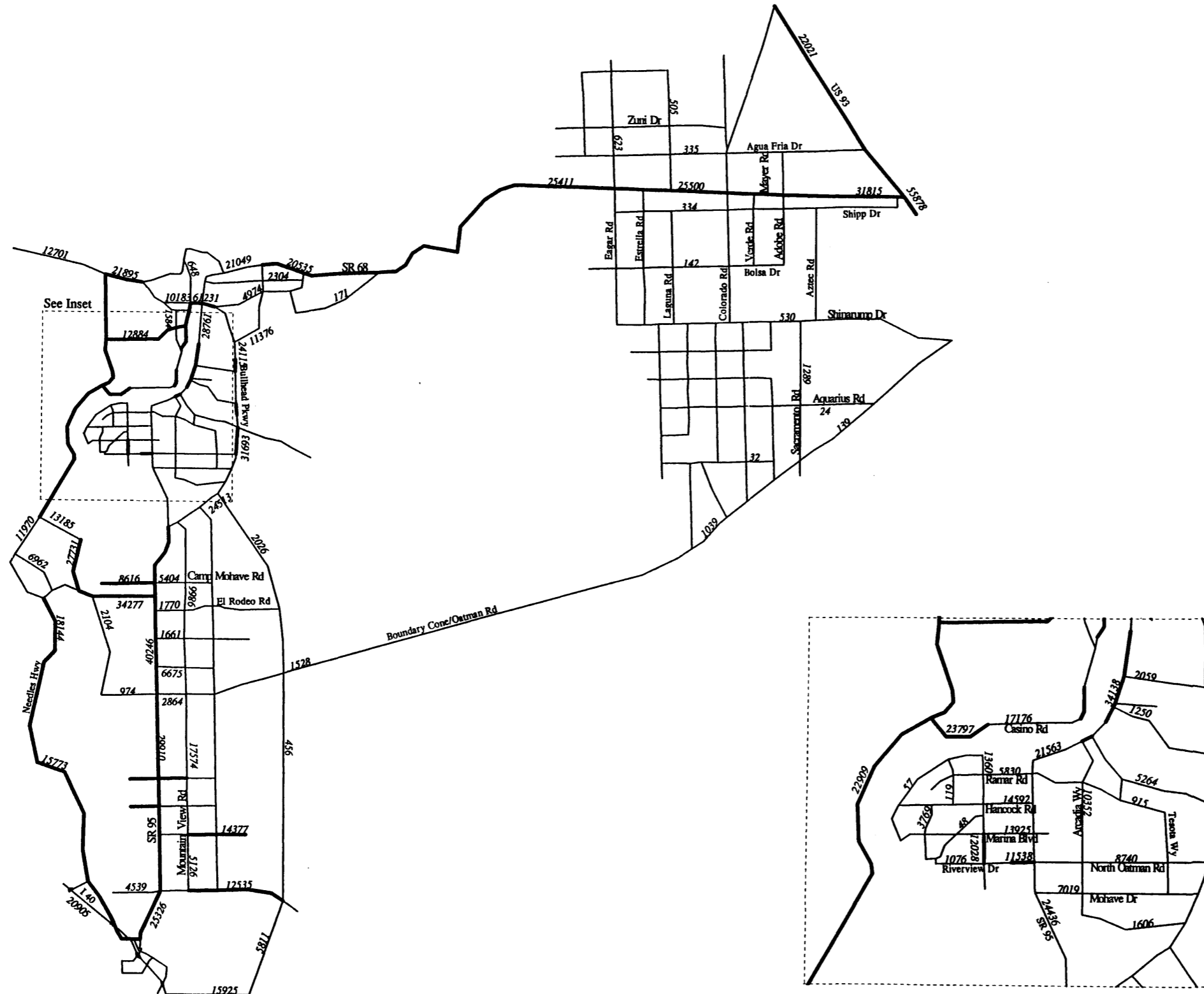


FIGURE IV - 8
2017 LEVEL OF SERVICE
ALTERNATIVE 7 - RELOCATED NEEDLES HIGHWAY



Level of Service	
	A - C
	D or Worse

**FIGURE IV - 9
2017 LEVEL OF SERVICE
ALTERNATIVE 8
SR 95 BYPASS**

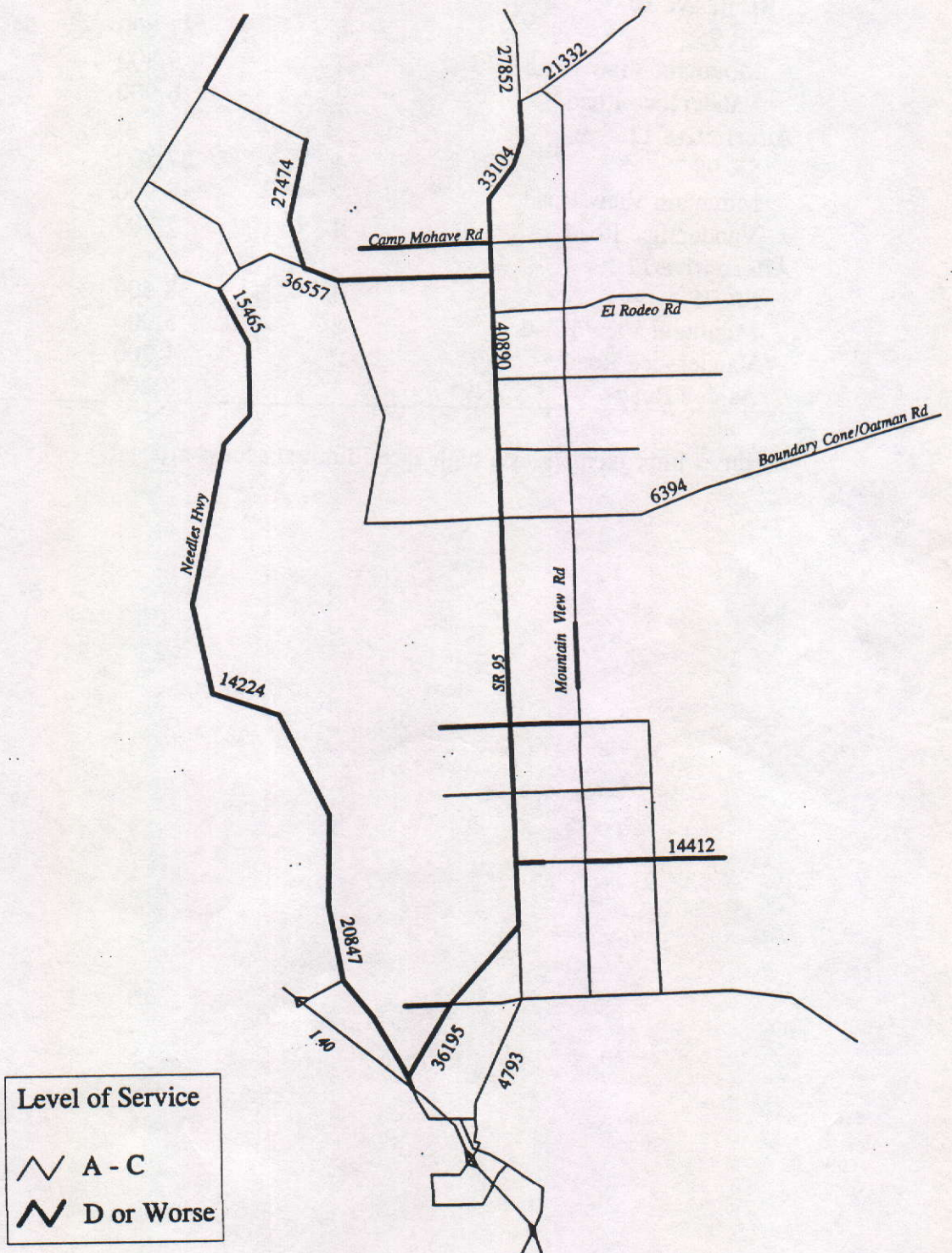


Level of Service

∩ A - C

∩ D or Worse

**FIGURE IV - 10
2017 LEVEL OF SERVICE
ALTERNATIVE 9 - SR 95 BRIDGE BYPASS**



**TABLE IV-3. COMPARISON OF TRAFFIC VOLUMES FOR
THE MOUNTAIN VIEW/ASHLEY ROAD CORRIDOR**

Alternative	Number of Lanes	2017 Daily Traffic Volumes	
		Camp Mohave to Rodeo	Boundary Cone to King
Alternative 10			
SR 95	4	37,800	30,900
Mountain View Road	4	9,300	16,200
Vanderslice Road	2	6,900	8,800
Alternative 11			
SR 95	4	37,800	31,100
Mountain View Road	2	8,900	14,000
Vanderslice Road	4	7,300	10,700
Alternative 12			
SR 95	4	38,500	27,500
Mountain View Road	2	5,900	15,000
Vanderslice Road	2	1,200	7,600
Ashley Road*	4	8,200	7,800

*assumes improvement as a high speed limited access arterial

SUMMARY OF THE ANALYSIS OF IMPROVEMENTS

Major findings of the analysis of potential improvements include the following:

- A new bridge between Bullhead City and the Town of Laughlin would improve the level of service on SR 95 and reduce traffic on the existing Laughlin Bridge.
- The closer that a new bridge is to the existing Laughlin Bridge, the more that traffic would be reduced on the existing bridge.
- New east-west and north-south streets between SR 95 and the Bullhead Parkway, as identified in the Bullhead City General Plan and Capital Improvement Program, will distribute traffic more uniformly between SR 95 and Bullhead Parkway and reduce traffic on SR 95.
- Construction of arterial roadways parallel to SR 95, such as Mountain View Road, Vanderslice Road, and Veterans Parkway, significantly reduces traffic on SR 95 and will provide better local traffic circulation.
- The paving of selected roads in Golden Valley will improve the continuity of roadways and improve the internal traffic circulation.
- Paving existing unpaved roads, located in the Bullhead City Particulate (PM₁₀) nonattainment area, will reduce vehicle particulate emissions.
- The widening of SR 68 to four lanes through the mountain pass will significantly improve the LOS and increase operating speeds on SR 68.
- The completion of the programmed widening of SR 95 will improve the LOS and increase operating speeds on SR 95.
- The widening of SR 95 between Courtwright Road and Needles Bridge will improve the level of service and increase operating speeds on SR 95 south of Courtwright Road.
- A direct connection of SR 95 to I-40 would reduce traffic delay through the City of Needles and improve the connection from other areas of Arizona and California to the Bullhead/Laughlin area.

V. TRANSPORTATION PLAN AND IMPLEMENTATION PROGRAM

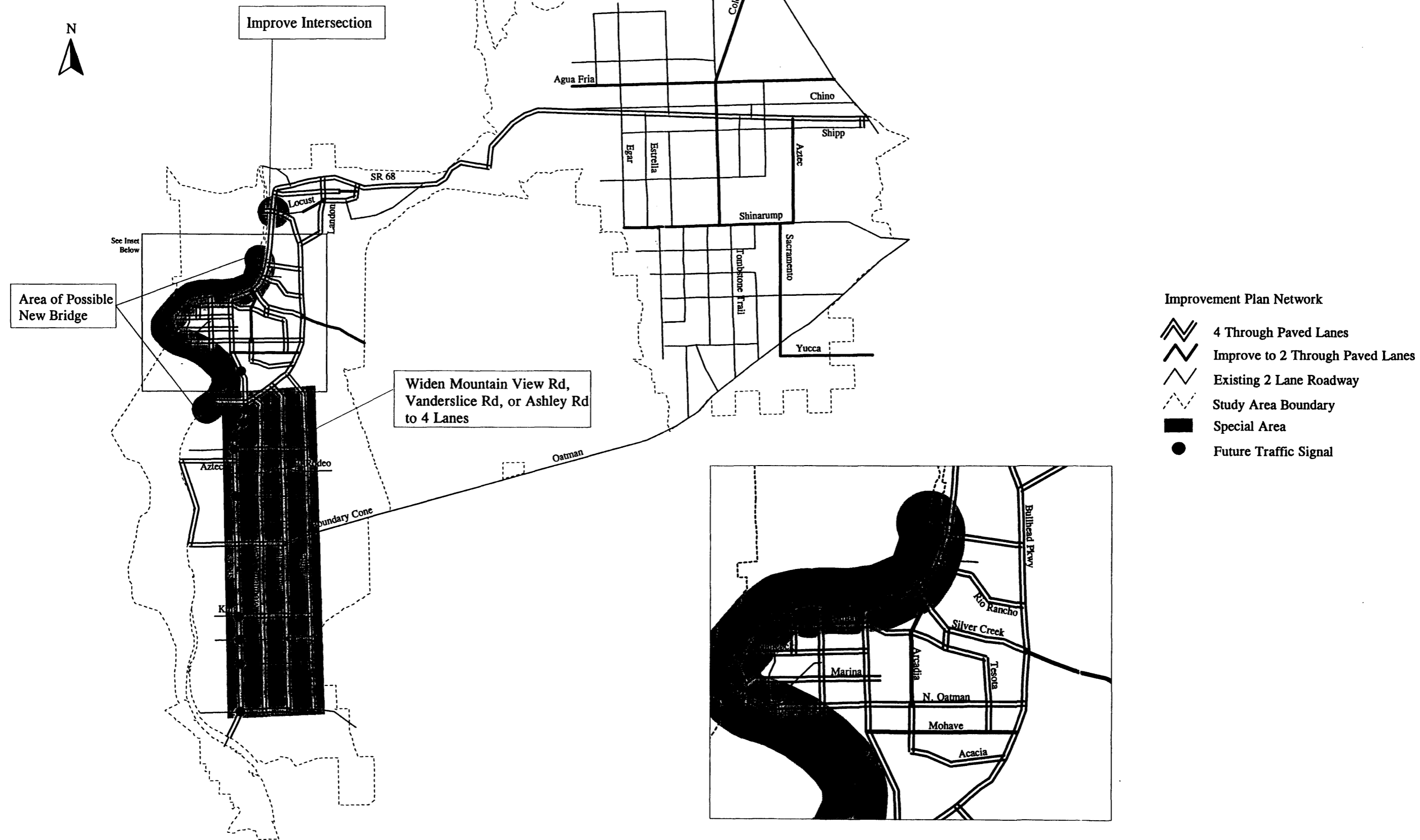
This chapter presents the recommended long-range plan for Bullhead City, Mohave Valley, and Golden Valley. A Transportation Improvement Program (TIP) is also presented along with cost estimates and the agencies responsible for implementing the improvements.

RECOMMENDED TRANSPORTATION PLAN

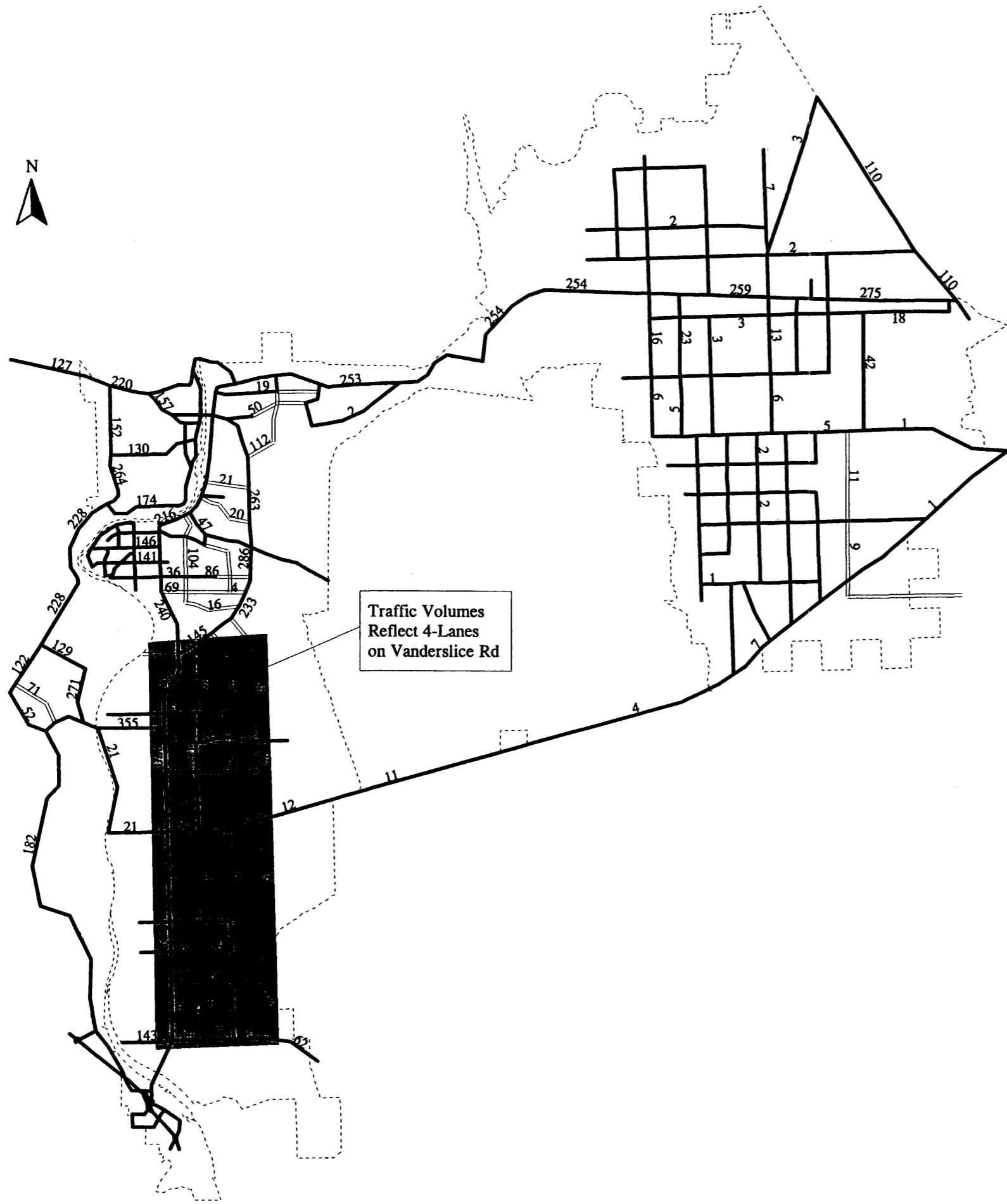
The recommended 2017 long-range transportation plan is shown in Figure V-1. Major new facilities are shown in Figure V-2. The 2017 long-range plan includes the following improvements:

- Complete widening SR 95 from Needles Bridge to Central Avenue.
- Widen SR 68 to four lanes through the mountain pass.
- Construct city collector and arterial streets in the Bullhead City General Plan and Capital Improvement Program.
- Construct a new Colorado River crossing between Bullhead City and the vicinity of the Town of Laughlin.
- Construct Mountain View Road and Vanderslice Road as continuous two-lane arterials between Courtwright Road and the Bullhead Parkway.
- Construct a four-lane road along an existing alignment in the Mountain View Road/Vanderslice Road/Ashley Road corridor. Mohave County should designate either Mountain View Road, Vanderslice Road, or Ashley Road as a future four-lane arterial. This designation would include a roadway cross-section, adequate right-of-way width, and access management control. The County should reserve right-of-way along this future designated four-lane arterial.
- Widen Camp Mohave Road, Boundary Cone Road, King Street, and Courtwright Road to four lanes between SR 95 and the future designated four-lane arterial.
- Extend Bullhead Parkway from SR 95 west to Veterans Memorial Parkway.

**FIGURE V-1
ARIZONA IMPROVEMENTS AND
LONG-RANGE TRANSPORTATION PLAN**



**FIGURE V - 2
ARIZONA IMPROVEMENTS AND
LONG-RANGE TRANSPORTATION PLAN
2017 TRAFFIC VOLUMES**



TRANSPORTATION STUDIES

The following studies are either in progress or recommended by this study:

- Complete the design concept and public meetings for a bridge crossing.
- Complete the design concept and the design for SR 68 through the mountain pass.
- Complete a design concept for widening SR 95 from Courtwright Road to Needles Bridge.
- Initiate and complete a feasibility study of relocating SR 95 from the vicinity of Courtwright Road connecting I-40 just northwest of the City of Needles.
- Initiate and complete a feasibility study of relocating SR 95 from Bullhead Parkway southeast connecting to I-40 east of the Colorado River.
- Conduct a detailed traffic analysis for the proposed Hoover Dam Bypass crossing the Colorado River in the Bullhead/Laughlin area.
- Initiate and complete a Bullhead City Transit Planning Study.

OTHER PLANNING RECOMMENDATIONS

Planning and Designing Streets

The following recommendations will help improve traffic circulation in the study area as new streets are constructed and existing streets are reconstructed:

- Since Bullhead City and portions of Mohave Valley are within the Bullhead Particulate PM_{10} nonattainment area, *local and collector streets in future subdivisions in Mohave Valley should be paved with either curbs or paved shoulders to reduce vehicle particulate emissions.*
- The internal circulation systems for newly developed and redeveloped areas should be coordinated through a partnership of the City, County, Indian Reservation, ADOT and private developers.
- New and improved arterial streets should be continuous and run parallel to SR 95 in order to reduce traffic on the state route.
- To minimize the number of new access points along state routes, access for newly developed and redeveloped areas should be coordinated among the City, County, Fort Mojave Indian Reservation, and ADOT.

Metropolitan Planning Organization

An urban area of 50,000 persons or more is eligible to be designated as a Metropolitan Planning Organization (MPO) by the Federal Department of Transportation. An MPO would have transportation planning responsibility for the urban area and would be eligible for federal funds. According to the population forecasts, the combined population of Bullhead City and the Town of Laughlin will reach approximately 50,000 within ten years. In addition, the urban growth in the Fort Mojave Indian Reservation; Mohave County, Arizona; and Clark County, Nevada could accelerate the population growth in the contiguous urban area. Local governments should begin to work with the Local Government Section of ADOT's Transportation Planning Group, NDOT, and the Federal Highway Administration (FHWA) in laying the groundwork for an MPO. Recommendations for plan monitoring and updating will help set the technical groundwork. In addition, local governments should begin to discuss objectives for the MPO and begin to research the technical and institutional requirements for forming an MPO.

A formal Transportation Planning Organization (TPO) should be set up to monitor population growth and the progress made toward implementing the transportation plan. The committee should also develop a time schedule, process, and list specific steps for the transition to an MPO. It is important that political leadership be established for the TPO and that a "champion" be identified to steer the implementation of the transportation plan.

Transit Planning

Although transit planning was not within the scope of this study, transit will fulfill mobility needs, particularly for the transportation disadvantaged, and help to reduce vehicle-miles traveled. Bullhead City is currently negotiating with ADOT to conduct a citywide transit study. *A transit study is needed to identify transit needs, develop a transit plan, and prepare a transit program with definite transit projects and funding sources.*

IMPLEMENTATION

Important transportation issues in the Colorado River Region include a new bridge crossing in the Bullhead Laughlin area, the Hoover Dam Bypass, and a direct connection of SR 95 to I-40. All these issues have far reaching local, regional, and statewide consequences in both Arizona and California. A partnership of the state transportation agencies, cities, counties, and the Fort Mojave Indian Reservation should be formed to: 1) build a consensus on the major issues, 2) structure an organized approach to the issues, 3) and partner on funding the needed transportation improvements. The partnership could collectively work to identify existing funding sources and focusing on finding new sources of funding.

A formal regional transportation planning organization should be formed as a focus for identifying transportation needs and solutions. As the urbanized area approaches 50,000

population, the transportation planning organization could develop into an MPO. The transportation planning organization and then an MPO would be an organized forum for implementing solutions and leveraging transportation funding for needed improvements.

TRANSPORTATION IMPROVEMENT PROGRAM

A transportation improvement program was developed for implementing the recommended transportation plan. Horizon year, costs, and the responsible agency or agencies summarized improvements in the plan. Estimated improvement costs include funds previously programmed by ADOT, Bullhead City, or Mohave County. Costs for projects that have not been programmed were estimated based on the unit costs presented in Table V-1. The improvement costs are also summarized by the total cost for each agency in Table V-2. The improvement program shown in Table V-3 includes a phasing of design and construction of improvements over a 20-year period. Table V-4 summarizes improvements according to estimated costs and the appropriate agency or agencies responsible for implementing the improvements.

TABLE V-1. UNIT COSTS

Item	Unit Cost
Improvement Type	
Construct and pave a 2-lane city/county road	\$150,000/mile
Construct a New 4-Lane City/County Road or Reconstruct a 2-lane City/County Road to 4 Lanes	\$500,000/mile
Construct a new 4-lane rural state road	\$700,000/mile
Construct a New Bridge	\$10,000,000
Install Traffic Signal	\$100,000
Study	
Design Concept Report	\$150,000

Note: Costs include design and contingencies

TABLE V-2. SUMMARY OF COSTS BY AGENCY

Agency	1997-2002	2002-2007	2007-2017	Total
Bullhead City	\$9,125,000	\$28,240,000	\$0	\$37,365,000
Mohave County	\$1,135,000	\$3,525,000	\$16,500,000	\$21,160,000
ADOT	\$34,200,000	\$31,150,000	\$0	\$65,350,000
Fort Mojave Indian Tribe	\$0	\$2,900,000	\$0	\$2,900,000
Partnership	\$800,000	\$10,650,000	\$0	\$11,450,000
Totals	\$45,260,000	\$76,465,000	\$16,500,000	\$138,225,000

TABLE V-3. CRRTS AREA IMPROVEMENT PROGRAM IN ARIZONA

Project Location	1997 - 2002	2002 - 2007	2007-2017
Ramar Rd, Baseline Rd., and Trane Rd. Marina Blvd.	Install traffic signal Improve to Minor Arterial standards from Trane to Lakeside		
Goldrush Rd. Bullhead Pkwy.	Phased construction to collector street standards Phased construction to minor arterial standards from SR 95 to Locust	Phased construction to minor arterial standards from SR 95 to Locust Phased construction to minor arterial standards	
City Minor Arterial Streets Arcadia Blvd/Acacia Way (4.7 mi.) Landon Dr. (2.1 mi.) Locust Blvd. (2.0 mi.) McCormick Blvd. (3.0 mi.) North Oatman Rd. (3.2 mi.) Ramar Rd. (4.0 mi.) Rio Rancho Blvd. (2.0 mi.) Riverview Dr. (1.9 mi.) Riverview Blvd. (1.4 mi.)	Design Concept, Design, Public Meetings		
City Collector Streets Clearwater Dr. (1.0 mi.) Colorado Blvd. (1.0 mi.) La Puerta Rd. (2.0 mi.) Mohave Dr. (3.8 mi.) Riverfront Dr. (3.0 mi.) River Gardens Dr. (1.0mi.) Tesota Way (1.50 mi.)	Design Concept, Design, Public Meetings		Phased construction to collector street standards
New Bridge Crossing (location to be determined)	Design Concept, Design, Public Meetings		Construct new 4-lane bridge
Transit Plan for Bullhead City Extend Bullhead Pkwy.	Conduct planning process		Construct new 4-lane road from SR 95 to possible new bridge. Widen to 4 lanes from Temple Bridge to Boundary Cone
Veterans Pkwy.			
Shinarump Dr. Shinarump Dr. Aztec Rd. (Mohave Valley)	Pave from the end of Pavement to Aztec. Construct a new section from Aztec to Colorado.		Widen to 4 lanes from Temple Bridge to SR 95
Aztec Rd. (Golden Valley)	Construct and pave from SR 68 to Shinarump		

TABLE V-3. CRRTS AREA IMPROVEMENT PROGRAM IN ARIZONA (continued)

Project Location	1997 - 2002	2002 - 2007	2007-2017
Joy Lane	Install traffic signal at SR 95		
Vanderslice Rd.	Grade and pave from N. of Courtwright to Laguna		
Vanderslice Rd.	Grade from Laguna to S. of King	Pave 2 lanes from Laguna to S. of King	
Vanderslice Rd.		Pave 2 lanes from King to Bullhead Pkwy	
Mountain View Rd.		Pave 2 lanes from Courtwright to Bullhead Pkwy.	
Mountain View Rd. or Vanderslice Rd.			Construct and pave 4 lanes from Courtwright Rd. to Bullhead Pkwy.
Colorado Rd.		Pave 2 lanes from SR 68 to Shinarump	Construct and pave 2 lanes from SR 68 to SR 93
Sacramento Rd./Yucca Dr.			Pave 2 lanes from Shinarump to Yucca
Aqua Fria Rd.			Pave 2 lanes from Bapchule Rd. to SR 93
Camp Mohave Rd.			Widen to 4 lanes from SR 95 to Vanderslice
Boundary Cone Rd.			Widen to 4 lanes from Veterans Pkwy. to Vanderslice
King St.			Widen to 4 lanes from SR 95 to Vanderslice
Courtwright Rd.			Widen to 4 lanes from SR 95 to Vanderslice
SR 95/Laughlin Bridge	Intersection improvement, signing		
SR 95	Construct 5-lane roadway from Central to Marina		
SR 95	Widen to 4 lanes from Courtwright to Central		
SR 95 King Rd., Willow Dr., Laguna Rd., Valencia Rd., Courtwright Rd	Install traffic signals at intersections		
SR 95	Design Concept Report, 4-lane widening from Courtwright to Needles Bridge	Widen to 4 lanes from Courtwright to Needles Bridge	
SR 95	Feasibility study for possible relocation from Courtwright to I-40		
SR 95	Feasibility study for possible relocation from Bullhead Pkwy. to I-40		
SR 68	Design Concept Report, Design	Widen to 4 lanes from MP 3 to MP 17	
	Widen to 4 lanes from MP 1 to MP 3		

TABLE V-4. CRRTS AREA IMPROVEMENT COSTS IN ARIZONA

Location	Description	Miles	Estim. Cost (\$000s)	Responsible Agency	Status
1997-2002					
Intersection of Ramar Rd., Baseline Rd., and Marina Blvd. from Trane Rd. to Lakeside	Install Traffic Signals Improve to City Minor Arterial Standards	--	\$160	BHC	Programmed
Goldrush Rd.	Improve to City Collector Street Standards	2.4	\$5,365	BHC	Programmed
Bullhead Pkwy. from SR 95 to Locust Blvd.	Improve to Minor Arterial Standards	1.1	\$3,000	BHC	Programmed
New Bridge - location to be determined	Design 4-lane bridge	9.5	\$550	BHC	Programmed
Transit plan for Bullhead City	Conduct transit plan	--	\$500	Local Gov. Partnership	Concept
Shinarump Rd. from Aztec Rd. to Colorado Rd.	Construct and pave 2 lanes	--	\$50	BHC/ADOT	Concept
Shinarump Rd. from end of Pavement to Aztec Rd.	Construct and pave 2 lanes	3.0	\$120	Mohave Co.	Programmed
Aztec Rd. (Golden Valley)	Construct and pave 2 lanes	4.0	\$300	Mohave Co.	Programmed
Joy Lane at SR 95	Install Traffic Signals	4.5	\$325	Mohave Co.	Programmed
Vanderslice Rd. from N of Courtwright Rd to Laguna Rd.	Grade & Pave 2 lanes	--	\$100	Mohave Co.	Programmed
Vanderslice Rd. from Laguna Rd. to S. of King St.	Grade 2 lanes	1.5	\$250	Mohave Co.	Programmed
SR 95/Laughlin Bridge	Intersection improvement, signing	2.0	\$40	Mohave Co.	Programmed
SR 95 from Central to Marina	Construct 5-lane Roadway	--	\$500	ADOT	Programmed
SR 95 from Courtwright to Central	Widen to 4 lanes	5	\$17,500	ADOT	Programmed
SR 95 from Courtwright to Needles Bridge	Design Concept Report for 4-lane widening	12.7	\$8,600	ADOT	Programmed
SR 95 from Courtwright to I-40	Feasibility study for possible relocation	--	\$150	ADOT	Programmed
SR 95 from Bullhead Pkwy to I-40	Feasibility study for possible relocation	--	\$150	Joint Partnerships	Concept
SR 68 from Milepost 1 to Milepost 17	Design Concept Report, Design widening to 4 lanes	--	\$3,200	ADOT	Programmed
SR 68 from Milepost 1 to Milepost 3	Widen to 4 lanes	2.0	\$4,250	ADOT	Programmed

TABLE V-4. CRRTS AREA IMPROVEMENT COSTS IN ARIZONA (continued)

Location	Description	Miles	Estim. Cost (\$000)	Responsible Agency	Status
2002-2007					
Bullhead Pkwy. from SR 95 to Locust	Improve to Minor Arterial Standards	9.5	\$5,000	BHC	Programmed
City Minor Arterial Streets (see Table 3)	Improve to City Minor Arterial Standards	24.3	\$12,600	BHC	Programmed
City Collector Streets (see Table 3)	Improve to City Collector Standards	13.3	\$10,640	BHC	Programmed
New Bridge - location to be determined	Construct 4-lane bridge	--	\$10,000	Local Gov. Partnership	Concept
Extension of Bullhead Parkway to possible new bridge.	Design and Construct 4-lane road	1.3	\$650	Local Gov. Partnership	Concept
Veterans Memorial Parkway from Temple Bridge to Oatman Rd.	Widen to 4 lanes	3.5	\$1,750	FMIT	Concept
Aztec Rd. from Temple Bridge to SR 95	Widen to 4 lanes	2.3	\$1,150	FMIT	Concept
Vanderslice Rd. from King St. to Bullhead Pkwy	Pave 2 lanes	10.0	\$1,500	Mohave Co.	Concept
Mountain View Rd. from Courtwright to Bullhead Pkwy	Pave 2 lanes	13.5	\$2,025	Mohave Co.	Concept
SR 95 from Courtwright to Needles Bridge	Widen to 4 lanes	2.0	\$1,400	ADOT	Concept
SR 68 from Milepost 3 to Milepost 17	Widen to 4 lanes	14.0	\$29,750	ADOT	Programmed FY 2003
2007-2017					
Mountain View Rd. or Vanderslice Rd. from Courtwright Rd. to Bullhead Pkwy	Construct and pave 4 lanes	14.0	\$7,000	Mohave Co.	Concept
Sacramento Rd./Yucca Dr. from I-40 Griffith Interchange to SR 68	Construct and pave 2 lanes	11.0	1,650	Mohave Co.	Concept
Colorado Rd. from SR 68 to SR 93	Construct and pave as 2 lanes	7.0	\$1,05	Mohave Co.	Concept
Aqua Fria Rd. from Bapchule Rd. to SR 93	Construct and pave 4 lanes	12.0	\$1,80	Mohave Co.	Concept
Camp Mohave Rd. from SR 95 to Vanderslice Rd.	Widen to 4 lanes	2.0	\$1,000	Mohave Co	Concept
King St. from SR 95 to Vanderslice Rd.	Widen to 4 lanes	2.0	\$1,000	Mohave Co	Concept
Boundary Cone Rd. from Veterans Pkwy. to Vanderslice Rd.	Widen to 4 lanes	4.0	\$2,000	Mohave Co	Concept
Courtwright Rd.	Widen to 4 lanes	2.0	\$1,000	Mohave Co	Concept

PLAN MONITORING AND UPDATING

The rapid growth of the area necessitates that the transportation system be monitored on a regular basis and the transportation plan be updated every five-years. Continuous monitoring of the transportation system will allow for efficient periodic updating of the transportation plan. The following databases should be maintained for monitoring land use and transportation systems:

- Street inventory
- Travel characteristics
- Socioeconomic conditions

Maintenance of these databases will provide an up-to-date record of the transportation system and will provide the City and County with information on how well the system is performing.

Street Inventory

Inventory of current street conditions presented in this report should be updated on a yearly basis and include the following characteristics: 1) number of travel and parking lanes, 2) roadway width, 3) estimates of street segment capacity, and 4) location of traffic signals and stop signs.

Travel Characteristics

The City currently maintains a database of traffic counts. Furthermore, the City and County should establish a regular traffic count program so there will be accurate traffic count information over a three-year period. The traffic count program would collect 48-hour average daily traffic counts on selected street segments. In addition, the agencies should continue to perform traffic counts of traffic signal warrant studies in accordance with the Manual of Uniform Traffic Control Devices as well as maintain a yearly database on accidents.

Street and Traffic Database

Street condition and traffic count data should be maintained on a regular basis using database management software. The agencies would maintain the data according to a plotted TRANPLAN network map and then transfer the data into a TRANPLAN format database. The data would be referenced by street name, ANODE, and BNODE.

Socioeconomic Conditions

In order to maintain the TRANPLAN traffic forecast model, it is important that the following socioeconomic data be kept up to date: 1) number of dwelling units; 2) population; and 3) employment for commercial, office, and industrial uses. The City should continue to maintain its residential and commercial permit database by tract, block, and lot number. The current permit database should be modified to include the corresponding TAZ number, tract and block, and a classification of commercial, industrial, and office uses.

TRAFFIC FORECASTING MODEL

The TRANPLAN traffic forecasting model for the CRRTS area was updated for this study. As noted previously, the street and traffic data should be maintained in a database referenced by ANODE and BNODE numbers. The TRANPLAN model could then be updated quickly and inexpensively. Due to limited staff resources and funds, it is recommended that the City use an outside consultant to run the TRANPLAN model as needed. The following data for a TRANPLAN model have been submitted to the City: 1) 1995 and future network data, 2) spreadsheet for socioeconomic data and trip generation, and 3) TRANPLAN control files.

REVENUE SOURCES

This section discusses potential revenue sources for funding the recommended transportation improvements.

Highway User Revenue Fund (HURF)

The HURF is the primary state highway funding source. Revenues are generated by the following taxes and fees related to motor vehicle use:

- Gasoline and fuel taxes
- Motor carrier taxes
- Vehicle licenses taxes
- Motor vehicle registration fees
- Border crossing fees
- Other miscellaneous fees

The State Constitution limits the use of HURF revenues to fund only highways, not other transportation modes. The HURF revenues are collected and deposited into the Fund and distributed to ADOT, cities, towns, and counties. Funds are distributed as an entitlement share and are proportional to population and to the Economic Strength Project Fund. HURF distributions may be used as a debt service for revenue bond projects.

Local Transportation Assistance Fund (LTAF)

The LTAF is funded by the Arizona Lottery for use by cities and towns requesting the funds. The LTAF funds are allocated in proportion to the relative population of all Arizona cities and towns. Each requesting municipality is guaranteed a minimum of \$10 thousand dollars. Currently, \$23 million may be deposited in LTAF from the Arizona lottery fund each fiscal year. Cities and towns greater than 300,000 persons must use LTAF funds for public transportation. In addition, up to ten percent of the requested funds may be used for the arts, or disabled and handicapped assistance.

The Regional Area Road Fund (RARF)

Some counties are granted authority by State law (A.R.S. 42-1482 through 42-1484) to exact transportation excise taxes subject to voter approval. The statute permits an increase in existing sales taxes by as much as 10 percent for transportation projects.

Federal Highway Funds

Federal funds are apportioned in accordance with the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). The funds include the following categories:

- Interstate Construction
- Interstate Maintenance
- National Highway System
- Surface Transportation Program (STP)
- Congestion Mitigation Air Quality (CMAQ)
- Transportation Enhancement Funds
- Bridge Replacement and Rehabilitation Funds
- Safety Funds
- Rail-Highway Crossing Improvement Funds.
- Highway Planning Research
- Metropolitan Planning
- Minimum Allocation
- Donor State Bonus
- Maintenance

The FY 95-96 estimated statewide apportionment was approximately \$271.3 million.

Local Government Transportation Program

The Arizona Department of Transportation administers a federally funded Local Government Transportation Program for the Metropolitan Planning Organizations (MPOs) and the rural Councils of Governments (COGs). Approximately \$52.0 million was allocated for Local Government projects in FY 95-96. The bulk of this amount, approximately \$44.3 million, was allocated to the Maricopa Association of Governments (MAG) and the Pima Association of Governments (PAG). The remainder was allocated to the four rural COGs and to the Yuma Metropolitan Planning Organization (YMPO).

Funds which are eligible to be distributed to the rural COGs include: 1) State Transportation Program (STP) funds, 2) bridge replacement and/or rehabilitation funds, 3) safety funds, and 4) rail-highway improvement funds.

Economic Strength Projects Fund

Local governments are eligible sponsors and co-sponsors of transportation projects financed by the Arizona Economic Strength Projects fund. This fund is sponsored by the Arizona Department of Commerce and funded by HURF. A local match must provide at least 10 percent of the project cost. The fund finances selected road projects that support economic development objectives.

Governor's Office of Highway Safety

Federal funds are allocated to finance state and local government highway safety projects. These program funds, in the form of reimbursable contracts, are administered by the Governor's Office of Highway Safety. Funds are provided under the National Highway Safety Act and funded through grants from the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHSTA). The safety priority areas are listed below:

NHSTA Priority Program Areas

- Police traffic services
- Emergency medical services
- Impaired driving
- Occupant protection
- Traffic records
- Motorcycle safety
- Pedestrian/bicycle safety

FHWA Priority Program Areas

- Corridor safety improvement programs
- Rural and local technical assistance programs
- Safety studies of specific safety problems
- Pedestrian and bicycle safety
- Outreach programs
- Safety management systems

Public Transit

Public transit for small urban and rural areas is funded by federal transportation funds from Sections 5310, 5311, 5303, and 5313. Section 5311 funds general public service in rural areas. Approximately \$3.8 million is funded annually for general public systems in Arizona's rural and small urban areas. Sections 5303 and 5313 funds are available for statewide planning transit assistance. The Section 5310 Program funds vehicles for specialized transportation services for the elderly or disabled. These services include passenger trips, meal deliveries, and miscellaneous trips. Revenue sources for the specialized services include older America Act Funds, Community Development Block Grant funds, County funds, and private funds.

ADOT is also the designated grantee for Federal Transit Authority (FTA) Section 5303, MPO Transit Planning Assistance, and Section 5313 for rural transit planning assistance.

Pedestrian/Bicyclist Funding

Revenue sources for bicycle facilities primarily used for transportation are available from the following sources:

- Federal funds are available to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System (NHS).
- Federal Lands Highway Funds are available to construct bicycle facilities and pedestrian walkways in connections with roads, highways, and parkways. These funds are distributed at the discretion of the department administering the funds.

Other available funding for bicycle and pedestrian facilities are:

- The National Recreational Trails Fund which provides for bicyclist and pedestrian recreational programs.
- The Scenic Byways Program which can fund bicycle facilities along highways.
- Federal Transit Funds which can be used to provide bicycle and pedestrian access to transit facilities, including shelters and bicycle parking facilities.

REFERENCES

JHK & Associates, Colorado River Regional Transportation Study, JHK and Associates, 1993.

Louis Berger, Final Report. Laughlin Bridge Location Study, March 1, 1996.

Presnell Associates, Inc. Preliminary: Transportation Planning Study for the Colorado River Agency. Volume IV. Fort Mojave Indian Reservation.

APPENDIX A

**CURRENT SOCIOECONOMIC DATA
BY TRANSPORTATION ANALYSIS ZONE**

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES

TAZ	1997 Population	1997 DUs	Employment Data			
			Retail	Office	General	Casino
1	1,027	441	30	20	0	0
2	3,091	1,327	65	10	0	0
3	1,006	432	0	0	25	0
4	937	402	0	0	0	0
5	964	414	0	50	0	0
6	622	267	150	20	30	0
7	809	347	160	0	0	0
8	2,094	899	175	0	0	0
9	790	339	0	0	0	0
10	834	358	180	45	0	0
11	1,145	491	120	0	0	0
12	529	227	190	35	0	0
13	1,869	802	50	0	50	0
14	422	181	50	0	20	0
15	0	0	0	0	500	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	1,426	612	650	35	65	0
19	519	233	75	35	40	0
20	1,090	468	100	0	250	0
21	588	252	115	0	0	0
22	1,617	694	205	0	205	0
23	227	97	25	0	300	0
24	4	2	30	0	190	0
25	359	154	0	0	0	0
26	143	61	0	0	0	0
27	296	127	200	15	100	0
28	2,022	868	200	175	0	0
29	0	0	0	0	0	0
30	605	260	45	30	80	0

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
31	279	120	65	0	70	0
32	4	2	0	0	0	0
33	105	45	0	0	0	0
34	0	0	0	0	0	0
35	0	0	0	0	1	0
36	32	14	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	34	15	0	0	0	0
40	662	284	100	40	425	0
41	193	83	50	20	20	0
42	630	270	110	45	0	0
43	179	77	250	0	0	0
44	6	3	0	0	0	0
45	29	12	0	0	0	0
46	12	5	0	0	40	0
47	0	0	0	0	0	0
48	0	0	0	0	95	0
49	601	258	40	0	10	0
50	29	12	0	0	0	1,200
51	0	0	0	0	0	0
52	0	0	0	0	25	0
53	3,861	1,657	80	0	20	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	27	12	0	0	0	0
57	0	0	0	0	0	0
58	75	32	0	33	3	0
59	557	239	14	0	0	0
60	363	156	0	0	11	0

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
61	627	269	20	80	61	0
62	785	337	34	69	61	0
63	0	0	18	2	0	0
64	255	109	30	8	10	0
65	28	12	0	0	0	0
66	28	12	0	0	0	0
67	384	165	0	0	0	0
68	193	83	0	0	0	0
69	675	290	15	5	0	0
70	39	17	0	0	0	0
71	104	45	0	10	0	0
72	384	165	0	0	0	0
73	0	0	0	0	0	0
74	340	146	0	0	0	0
75	1	0	0	1	0	0
76	130	56	0	0	5	0
77	499	214	30	10	10	0
78	10	4	0	0	0	0
79	286	123	14	6	4	0
80	40	17	5	0	0	0
81	1,006	432	13	5	2	0
82	250	107	0	0	0	0
83	344	148	0	0	0	0
84	56	24	0	0	0	0
85	161	69	15	5	62	0
86	1,027	441	108	30	72	0
87	504	216	131	40	60	0
88	276	118	150	0	50	0
89	33	14	50	50	100	0
90	1,657	711	25	15	60	0

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
91	1,438	617	0	0	60	0
92	424	182	100	100	100	0
93	1,055	453	0	100	200	0
94	653	280	50	25	25	0
95	908	390	100	100	100	0
96	235	101	50	50	250	0
97	77	33	50	25	25	0
98	3	1	0	0	0	0
99	0	0	0	0	0	0
100	60	26	0	0	0	0
101	0	0	0	0	0	0
102	0	0	0	0	0	0
103	57	24	0	0	0	0
104	0	0	0	0	0	0
105	51	22	0	0	0	0
106	1	0	0	0	0	0
107	69	30	0	0	0	0
108	5	2	0	0	0	0
109	1	0	0	0	0	0
110	10	4	0	0	0	0
111	24	10	0	0	0	0
112	124	53	0	0	0	0
113	0	0	0	0	0	0
114	2	1	0	0	0	0
115	1,322	567	0	0	0	0
116	692	297	80	0	20	0
117	199	85	80	0	20	0
118	224	96	80	0	20	0
119	3	1	0	0	0	0
120	54	23	0	0	0	0

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
121	11	5	6	5	0	0
122	94	40	80	4	20	0
123	126	54	65	3	22	0
124	243	104	80	1	20	0
125	504	216	0	0	0	0
126	246	106	0	0	0	0
127	88	38	0	0	0	0
128	143	61	0	0	0	0
129	115	49	0	0	0	0
130	107	46	0	0	0	0
131	43	18	0	0	0	0
132	10	4	0	0	0	0
133	68	29	0	0	0	0
134	5	2	0	0	0	0
135	0	0	0	0	0	0
136	0	0	0	0	0	0
137	5	2	0	0	0	0
138	79	34	0	0	0	0
139	0	0	0	0	0	0
140	0	0	0	0	0	0
141	8	3	0	0	0	0
142	0	0	0	0	0	0
143	0	0	0	0	0	0
144	0	0	0	0	0	0
145	3	1	0	0	0	0
146	0	0	0	0	0	0
147	8	3	0	0	0	0
148	0	0	0	0	0	0
149	0	0	0	0	0	0
150	2	1	0	0	0	0

TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
151	0	0	0	0	0	0
152	11	5	0	0	0	0
153	0	0	0	0	0	0
154	8	3	0	0	0	0
155	0	0	0	0	0	0
156	1	0	0	0	0	0
157	0	0	0	0	0	0
158	8	3	0	0	0	0
159	0	0	0	0	0	0
160	16	7	0	0	0	0
161	72	31	0	0	0	0
162	252	108	0	60	0	0
163	378	162	80	0	15	0
164	19	8	55	0	30	0
165	0	0	300	0	0	5,920
166	0	0	0	0	50	0
167	0	0	0	0	0	0
168	0	0	0	0	0	0
169	0	0	10	0	0	8,400
170	0	0	0	0	0	2,320
171	173	74	0	0	0	0
172	1,503	645	0	0	0	0
173	0	0	0	0	0	615
174	0	0	0	0	0	0
175	0	0	0	0	0	0
176	0	0	0	0	0	0
177	676	290	11	2	0	0
178	557	239	11	2	0	0
179	0	0	0	0	0	0
180	375	161	10	3	3	0

**TABLE A-1. EXISTING POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)**

TAZ	1997 Population	1997 Dus	Employment Data			
			Retail	Office	General	Casino
181	0	0	0	0	0	0
182	128	55	0	0	0	0
183	0	0	0	0	0	0
184	375	161	5	0	8	0
185	342	147	6	0	4	0
186	0	0	0	0	0	0
187	161	69	6	0	75	0
188	13	6	25	5	20	0
189	69	30	0	0	0	0
190	86	37	0	0	0	0
191	0	0	0	0	0	0
192	105	45	20	0	0	0
193	0	0	0	0	0	0
194	0	0	0	0	0	0
195	0	0	0	0	0	0
196	0	0	0	0	0	0
197	0	0	0	0	0	0
198	0	0	0	0	0	0
199	0	0	0	0	0	0
TOTALS	57,762	24,791	5,542	1,499	4,149	18,455

APPENDIX B

**FUTURE SOCIOECONOMIC DATA
BY TRANSPORTATION ANALYSIS ZONE**

TABLE B-1. 2002 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES

TAZ	2002 Population	2002 DUs	Employment Data				Total
			Retail	Office	General	Casino	
1	1,052	452	30	20	0	0	50
2	3,116	1,337	65	10	0	0	75
3	1,031	443	0	0	25	0	25
4	950	408	0	0	0	0	0
5	970	416	0	50	0	0	50
6	622	267	150	20	30	0	200
7	822	353	160	0	0	0	160
8	2,107	904	175	0	0	0	175
9	865	371	0	0	0	0	0
10	849	364	180	45	0	0	225
11	1,158	497	120	0	0	0	120
12	533	229	190	35	0	0	225
13	1,877	805	50	0	50	0	100
14	422	181	50	0	20	0	70
15	0	0	0	0	550	0	550
16	106	46	0	0	0	0	0
17	0	0	50	0	0	0	50
18	1,501	644	716	29	55	0	800
19	524	225	75	35	40	0	150
20	1,115	479	100	0	250	0	350
21	596	256	115	0	0	0	115
22	1,617	694	205	0	205	0	410
23	235	101	13	0	475	0	488
24	254	109	22	45	308	0	375
25	484	208	0	0	0	0	0
26	418	179	17	0	0	0	17
27	596	256	333	9	61	0	403
28	2,072	889	200	175	0	0	375
29	0	0	0	0	0	0	0
30	905	388	78	25	66	0	168
31	404	173	64	121	0	0	185
32	154	66	5	0	12	0	17
33	255	110	5	0	5	0	10
34	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0
36	332	142	5	0	0	0	5
37	300	128	5	0	75	0	80
38	0	0	0	0	0	0	0
39	509	218	87	0	0	0	87
40	662	284	71	19	809	0	899
41	218	94	50	20	20	0	90
42	880	378	101	92	0	0	193
43	192	82	255	0	0	0	255
44	31	13	0	0	0	0	0
45	29	12	0	0	0	0	0
46	0	0	0	0	78	0	78

TABLE B-1. 2002 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2002 Population	2002 DUs	Employment Data				Total
			Retail	Office	General	Casino	
47	0	0	0	0	0	0	0
48	2,235	959	101	9	74	0	184
49	1,207	518	78	0	19	0	97
50	0	0	0	0	0	1,352	1,352
51	0	0	0	0	0	1,142	1,142
52	0	0	0	0	48	0	48
53	4,735	2,032	155	0	39	0	194
54	3	1	0	0	0	0	0
55	0	0	0	0	0	0	0
56	2,059	884	0	0	493	0	493
57	524	225	58	5	42	0	105
58	89	38	0	31	3	0	34
59	663	285	60	0	0	0	60
60	421	181	0	0	38	0	38
61	747	320	22	87	67	0	176
62	935	401	40	81	71	0	192
63	728	312	145	16	0	0	161
64	304	127	37	10	12	0	59
65	33	14	1	0	1	0	2
66	965	414	104	9	76	0	189
67	463	199	19	2	14	0	35
68	232	100	9	1	7	0	17
69	1,823	849	209	70	0	0	279
70	1,893	813	205	19	149	0	373
71	124	52	112	10	82	0	204
72	1,389	591	121	11	88	0	220
73	1,864	800	205	19	149	0	373
74	405	174	17	2	12	0	30
75	1	1	103	9	75	0	188
76	155	66	0	0	15	0	15
77	594	248	49	16	16	0	82
78	10	5	0	0	0	0	0
79	276	126	237	102	68	0	407
80	63	27	195	0	0	0	195
81	1,197	514	68	26	10	0	104
82	0	0	0	0	0	0	0
83	477	220	24	2	18	0	44
84	75	32	209	19	152	0	380
85	192	80	14	5	57	0	76
86	1,222	524	111	31	74	0	216
87	600	251	124	38	57	0	218
88	236	109	295	0	98	0	393
89	590	185	115	115	229	0	458
90	1,389	596	22	13	53	0	88
91	1,179	509	0	0	58	0	58
92	323	138	83	83	83	0	248

TABLE B-1. 2002 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2002 Population	2002 DUs	Employment Data				Total
			Retail	Office	General	Casino	
93	1,203	502	0	87	174	0	261
94	811	345	39	19	19	0	77
95	954	403	80	80	80	0	240
96	335	133	53	53	263	0	368
97	212	85	42	21	21	0	83
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	127	54	13	1	10	0	24
101	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0
103	71	30	4	0	3	0	8
104	0	0	0	0	0	0	0
105	60	26	3	0	2	0	6
106	6	2	1	0	0	0	1
107	81	35	5	0	4	0	9
108	7	3	1	0	0	0	1
109	6	2	1	0	0	0	1
110	12	5	1	0	0	0	1
111	29	13	2	0	1	0	3
112	143	61	8	1	6	0	15
113	0	0	0	0	0	0	0
114	3	1	0	0	0	0	0
115	1,548	664	92	8	67	0	167
116	811	348	130	0	32	0	162
117	233	100	80	0	20	0	100
118	262	113	82	0	21	0	103
119	4	2	0	0	0	0	0
120	63	27	4	0	3	0	7
121	14	6	5	5	0	0	10
122	110	47	69	3	17	0	90
123	148	63	60	3	20	0	83
124	285	122	84	1	21	0	106
125	590	253	35	3	25	0	63
126	288	124	17	2	12	0	31
127	130	56	10	1	8	0	19
128	168	72	10	1	7	0	18
129	135	58	8	1	6	0	14
130	125	54	7	1	5	0	13
131	50	22	3	0	2	0	5
132	12	5	1	0	0	0	1
133	80	34	4	0	3	0	8
134	7	3	1	0	0	0	1
135	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0
137	7	3	1	0	0	0	1
138	93	40	6	1	4	0	10

TABLE B-1. 2002 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2002 Population	2002 DUs	Employment Data				Total
			Retail	Office	General	Casino	
139	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0
145	4	2	0	0	0	0	0
146	0	0	0	0	0	0	0
147	10	4	1	0	0	0	1
148	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0
150	8	3	1	0	1	0	2
151	0	0	0	0	0	0	0
152	13	6	1	0	0	0	1
153	0	0	0	0	0	0	0
154	9	4	1	0	0	0	1
155	0	0	0	0	0	0	0
156	3	1	0	0	0	0	0
157	0	0	0	0	0	0	0
158	9	4	1	0	0	0	1
159	0	0	0	0	0	0	0
160	19	8	1	0	1	0	2
161	84	36	5	0	4	0	9
162	502	215	16	49	0	0	65
163	628	269	97	0	11	0	108
164	0	0	83	0	46	0	129
165	0	0	259	0	0	6,308	6,567
166	2	1	53	5	39	0	97
167	17	7	1	0	1	0	2
168	0	0	0	0	0	0	0
169	0	0	9	0	0	8,552	8,561
170	0	0	0	0	0	2,333	2,333
171	0	0	0	0	0	1,225	1,225
172	1,402	602	81	7	59	0	147
173	874	375	25	0	25	2,625	2,675
174	0	0	0	0	0	0	0
175	1,456	625	17	2	12	0	31
176	1,456	625	34	3	25	0	62
177	844	362	17	15	0	0	77
178	663	284	50	9	0	0	59
179	0	0	0	0	0	0	0
180	446	187	28	8	8	0	45
181	1,456	625	449	41	327	0	817
182	152	65	6	1	4	0	11
183	0	0	0	0	0	0	0
184	446	192	17	0	26	0	43

**TABLE B-1. 2002 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)**

TAZ	2002 Population	2002 DUs	Employment Data				Total
			Retail	Office	General	Casino	
185	407	175	23	0	15	0	38
186	0	0	0	0	0	0	0
187	1,432	613	17	0	214	0	231
188	16	7	20	4	16	0	39
189	81	35	4	0	3	0	8
190	101	43	6	1	4	0	11
191	0	0	0	0	0	0	0
192	123	52	28	0	0	0	28
193	2,235	959	160	15	116	0	290
TOTALS	87,304	37,423	9,556	2,043	7,498	23,537	42,678

TABLE B-2. 2007 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES

TAZ	2007 Population	2007 DUs	Employment Data				Total
			Retail	Office	General	Casino	
1	1,077	462	30	20	0	0	50
2	3,141	1,348	65	10	0	0	75
3	1,056	453	0	0	25	0	25
4	962	413	0	0	0	0	0
5	977	419	0	50	0	0	50
6	622	267	150	20	30	0	200
7	834	358	160	0	0	0	160
8	2,119	909	175	0	0	0	175
9	940	404	0	0	0	0	0
10	864	371	180	45	0	0	225
11	1,170	502	120	0	0	0	120
12	537	231	190	35	0	0	225
13	1,884	809	50	0	50	0	100
14	422	181	50	0	20	0	70
15	0	0	0	0	600	0	600
16	213	91	0	0	0	0	0
17	0	0	100	0	0	0	100
18	1,576	677	761	31	58	0	850
19	530	227	75	35	40	0	150
20	1,140	489	100	0	250	0	350
21	603	259	115	0	0	0	115
22	1,617	694	205	0	205	0	410
23	242	104	17	0	633	0	650
24	604	259	32	63	435	0	530
25	609	262	0	0	0	0	0
26	793	340	35	0	0	0	35
27	1,096	470	405	11	74	0	490
28	2,122	911	200	175	0	0	375
29	0	0	0	0	0	0	0
30	1,405	603	83	26	70	0	180
31	529	227	81	154	0	0	235
32	304	130	10	0	25	0	35
33	405	174	10	0	10	0	20
34	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0
36	832	357	10	0	0	0	10
37	800	343	10	0	150	0	160
38	0	0	0	0	0	0	0
39	1,243	531	175	0	0	0	175
40	662	284	97	26	1,109	0	1,232
41	243	104	50	20	20	0	90
42	1,130	485	121	109	0	0	230
43	204	87	260	0	0	0	260
44	56	24	0	0	0	0	0
45	29	12	0	0	0	0	0
46	0	0	0	0	115	0	115

TABLE B-2. 2007 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2007 Population	2007 DUs	Employment Data				Total
			Retail	Office	General	Casino	
47	0	0	0	0	0	0	0
48	4,470	1,918	150	14	109	0	273
49	1,812	777	115	0	29	0	144
50	0	0	0	0	0	1,503	1,503
51	0	0	0	0	0	2,283	2,283
52	0	0	0	0	72	0	72
53	5,609	2,407	230	0	58	0	288
54	7	3	0	0	0	0	0
55	0	0	0	0	0	0	0
56	4,091	1,756	0	0	370	0	370
57	1,048	450	115	10	84	0	209
58	104	44	0	28	3	0	31
59	770	330	105	0	0	0	105
60	480	206	0	0	65	0	65
61	867	372	24	95	72	0	191
62	1,085	466	46	93	82	0	221
63	1,456	625	272	30	0	0	302
64	353	145	43	12	14	0	69
65	39	17	2	0	2	0	4
66	1,903	816	208	19	151	0	378
67	542	232	39	4	28	0	70
68	272	117	19	2	14	0	35
69	2,971	1,407	403	134	0	0	537
70	3,748	1,608	410	37	298	0	745
71	144	59	219	20	160	0	399
72	2,394	1,017	242	22	176	0	440
73	3,728	1,600	410	37	298	0	745
74	469	201	32	3	24	0	59
75	1	1	207	19	150	0	376
76	180	77	0	0	25	0	25
77	689	283	68	23	23	0	113
78	10	5	0	0	0	0	0
79	265	128	461	198	132	0	790
80	86	36	385	0	0	0	385
81	1,389	596	122	47	19	0	187
82	0	0	0	0	0	0	0
83	610	292	48	4	35	0	87
84	94	39	418	38	304	0	760
85	223	92	13	4	53	0	70
86	1,418	607	115	32	76	0	223
87	696	286	116	35	53	0	204
88	197	100	440	0	147	0	586
89	1,147	355	179	179	359	0	717
90	1,120	481	19	11	45	0	75
91	920	400	0	0	56	0	56
92	221	95	66	66	66	0	197

TABLE B-2. 2007 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	Employment Data						
	2007 Population	2007 DUs	Retail	Office	General	Casino	Total
93	1,351	552	0	74	148	0	222
94	968	410	27	14	14	0	54
95	1,001	417	60	60	60	0	180
96	435	165	55	55	276	0	387
97	347	137	33	17	17	0	66
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	194	83	27	2	20	0	49
101	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0
103	85	36	9	1	6	0	16
104	0	0	0	0	0	0	0
105	69	29	7	1	5	0	12
106	11	5	2	0	1	0	3
107	93	40	9	1	7	0	17
108	8	3	1	0	0	0	1
109	11	5	2	0	1	0	3
110	15	6	1	0	1	0	2
111	35	15	3	0	2	0	6
112	162	70	17	2	12	0	30
113	0	0	0	0	0	0	0
114	4	2	0	0	0	0	0
115	1,775	762	184	17	134	0	334
116	929	399	180	0	45	0	225
117	267	115	80	0	20	0	100
118	301	129	86	0	21	0	107
119	4	2	0	0	0	0	0
120	73	31	7	1	5	0	13
121	17	7	5	4	0	0	9
122	126	54	58	3	15	0	76
123	169	73	56	3	19	0	77
124	326	140	89	1	22	0	112
125	676	290	70	6	51	0	127
126	330	142	34	3	25	0	62
127	172	74	21	2	15	0	38
128	192	82	20	2	14	0	36
129	155	66	16	1	12	0	29
130	144	62	15	1	11	0	27
131	58	25	6	1	4	0	10
132	14	6	1	0	1	0	2
133	91	39	9	1	7	0	17
134	8	3	1	0	0	0	1
135	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0
137	8	3	1	0	0	0	1
138	106	45	10	1	8	0	19

TABLE B-2. 2007 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	Employment Data						
	2007 Population	2007 DUs	Retail	Office	General	Casino	Total
139	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0
145	4	2	0	0	0	0	0
146	0	0	0	0	0	0	0
147	11	5	1	0	1	0	2
148	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0
150	14	6	2	0	1	0	3
151	0	0	0	0	0	0	0
152	15	6	1	0	1	0	2
153	0	0	0	0	0	0	0
154	11	5	1	0	0	0	1
155	0	0	0	0	0	0	0
156	4	2	1	0	0	0	1
157	0	0	0	0	0	0	0
158	11	5	1	0	0	0	1
159	0	0	0	0	0	0	0
160	22	9	2	0	2	0	4
161	97	41	10	1	7	0	18
162	752	323	18	53	0	0	70
163	878	377	108	0	12	0	120
164	0	0	112	0	61	0	173
165	0	0	273	0	0	6,640	6,913
166	5	2	79	7	58	0	144
167	34	15	2	0	2	0	4
168	0	0	0	0	0	0	0
169	0	0	10	0	0	8,702	8,712
170	0	0	0	0	0	2,333	2,333
171	0	0	0	0	0	2,450	2,450
172	1,302	559	162	15	118	0	294
173	1,747	750	50	0	50	5,250	5,350
174	0	0	0	0	0	0	0
175	2,912	1,250	34	3	25	0	62
176	2,912	1,250	69	6	50	0	125
177	1,012	435	32	27	0	0	141
178	769	330	89	16	0	0	105
179	0	0	0	0	0	0	0
180	518	212	46	14	14	0	74
181	2,912	1,250	898	82	653	0	1,633
182	177	76	12	1	9	0	22
183	0	0	0	0	0	0	0
184	518	222	28	0	45	0	73

**TABLE B-2. 2007 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)**

TAZ	2007		Employment Data				Total
	Population	2007 DUs	Retail	Office	General	Casino	
185	472	203	39	0	26	0	65
186	0	0	0	0	0	0	0
187	2,703	1,156	28	0	354	0	382
188	19	8	15	3	12	0	29
189	93	40	9	1	7	0	17
190	116	50	12	1	8	0	21
191	0	0	0	0	0	0	0
192	141	58	35	0	0	0	35
193	4,470	1,918	320	29	232	0	581
TOTALS	118,601	50,806	13,554	2,580	10,315	29,162	55,691

**TABLE B-3. 2017 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES**

TAZ	2017		Employment Data					Total
	Population	2017 DUs	Retail	Office	General	Casino		
1	1,127	484	30	20	0	0	50	
2	3,191	1,370	65	10	0	0	75	
3	1,106	475	0	0	25	0	25	
4	987	424	0	0	0	0	0	
5	989	424	0	50	0	0	50	
6	622	267	150	20	30	0	200	
7	859	369	160	0	0	0	160	
8	2,144	920	175	0	0	0	175	
9	1,090	468	0	0	0	0	0	
10	894	384	180	45	0	0	225	
11	1,195	513	120	0	0	0	120	
12	545	234	190	35	0	0	225	
13	1,899	815	50	0	50	0	100	
14	422	181	50	0	20	0	70	
15	0	0	0	0	700	0	700	
16	426	183	0	0	0	0	0	
17	0	0	200	0	0	0	200	
18	1,726	741	850	35	65	0	950	
19	540	232	75	35	40	0	150	
20	1,190	511	100	0	250	0	350	
21	618	265	115	0	0	0	115	
22	1,617	694	205	0	205	0	410	
23	257	110	25	0	950	0	975	
24	1,404	603	50	100	690	0	840	
25	859	369	0	0	0	0	0	
26	1,643	705	70	0	0	0	70	
27	2,296	985	550	15	100	0	665	
28	2,222	954	200	175	0	0	375	
29	0	0	0	0	0	0	0	
30	2,605	1,118	95	30	80	0	205	
31	779	334	115	220	0	0	335	
32	604	259	20	0	50	0	70	
33	705	303	20	0	20	0	40	
34	0	0	0	0	0	0	0	
35	0	0	0	0	0	0	0	
36	2,032	872	20	0	0	0	20	
37	2,000	858	20	0	300	0	320	
38	0	0	0	0	0	0	0	
39	2,953	1,267	350	0	0	0	350	
40	662	284	150	40	1,709	0	1,899	
41	293	126	50	20	20	0	90	
42	1,630	700	160	145	0	0	305	
43	229	98	270	0	0	0	270	
44	106	45	0	0	0	0	0	
45	29	12	0	0	0	0	0	
46	0	0	0	0	190	0	190	
47	0	0	0	0	0	0	0	
48	8,940	3,837	248	23	181	0	451	
49	3,023	1,297	190	0	48	0	238	
50	0	0	0	0	0	1,806	1,806	

TABLE B-3. 2017 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2017 Population	2017 DUs	Employment Data				Total
			Retail	Office	General	Casino	
51	0	0	0	0	0	4,567	4,567
52	0	0	0	0	119	0	119
53	7,356	3,157	380	0	95	0	475
54	14	6	1	0	1	0	2
55	0	0	0	0	0	0	0
56	8,155	3,500	0	0	125	0	125
57	2,097	900	230	21	168	0	419
58	132	57	0	24	2	0	26
59	982	421	196	0	0	0	196
60	596	256	0	0	119	0	119
61	1,106	475	27	110	84	0	221
62	1,385	594	57	117	103	0	277
63	2,913	1,250	525	58	0	0	583
64	450	180	56	15	19	0	90
65	49	21	5	0	4	0	10
66	3,777	1,620	416	38	302	0	756
67	699	300	77	7	56	0	140
68	350	150	39	4	28	0	70
69	5,266	2,525	791	264	0	0	1,054
70	7,456	3,200	820	75	596	0	1,491
71	183	74	433	39	315	0	787
72	4,404	1,870	485	44	352	0	881
73	7,456	3,200	820	75	596	0	1,491
74	598	257	66	6	48	0	120
75	1	1	413	38	300	0	750
76	229	98	0	0	46	0	46
77	878	351	106	35	35	0	176
78	10	6	0	0	0	0	0
79	244	134	907	389	259	0	1,555
80	132	55	764	0	0	0	764
81	1,771	760	230	89	35	0	354
82	0	0	0	0	0	0	0
83	876	437	96	9	70	0	175
84	132	54	836	76	608	0	1,520
85	284	114	10	3	43	0	57
86	1,808	773	121	34	81	0	235
87	887	355	100	31	46	0	177
88	117	81	728	0	243	0	971
89	2,261	696	308	308	617	0	1,233
90	583	250	13	8	30	0	50
91	402	183	0	0	51	0	51
92	18	8	31	31	31	0	93
93	1,647	651	0	48	95	0	143
94	1,283	539	4	2	2	0	8
95	1,093	444	20	20	20	0	60
96	634	230	60	60	302	0	423
97	616	240	16	8	8	0	32
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	327	140	54	5	39	0	98

TABLE B-3. 2017 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	2017 Population	2017 DUs	Employment Data				Total
			Retail	Office	General	Casino	
101	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0
103	112	48	18	2	13	0	34
104	0	0	0	0	0	0	0
105	86	37	14	1	10	0	26
106	20	9	3	0	2	0	6
107	117	50	19	2	14	0	35
108	11	5	2	0	1	0	3
109	20	9	3	0	2	0	6
110	19	8	3	0	2	0	6
111	45	19	7	1	5	0	14
112	200	86	33	3	24	0	60
113	0	0	0	0	0	0	0
114	5	2	1	0	1	0	2
115	2,227	956	367	33	267	0	668
116	1,166	500	280	0	70	0	350
117	335	144	80	0	20	0	101
118	377	162	90	0	23	0	113
119	5	2	1	0	1	0	2
120	91	39	15	1	11	0	27
121	22	9	4	3	0	0	7
122	158	68	36	2	9	0	47
123	212	91	46	2	16	0	64
124	409	176	97	1	24	0	123
125	848	364	140	13	102	0	254
126	414	178	68	6	50	0	124
127	256	110	42	4	31	0	77
128	241	103	40	4	29	0	72
129	194	83	32	3	23	0	58
130	180	77	30	3	22	0	54
131	72	31	12	1	9	0	22
132	17	7	3	0	2	0	5
133	114	49	19	2	14	0	34
134	11	5	2	0	1	0	3
135	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0
137	11	5	2	0	1	0	3
138	133	57	22	2	16	0	40
139	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0
145	5	2	1	0	1	0	2
146	0	0	0	0	0	0	0
147	14	6	2	0	2	0	4
148	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0
150	25	11	4	0	3	0	8

TABLE B-3. 2017 POPULATION AND EMPLOYMENT
BY TRANSPORTATION ANALYSIS ZONES (continued)

TAZ	Employment Data						
	2017 Population	2017 DUs	Retail	Office	General	Casino	Total
151	0	0	0	0	0	0	0
152	19	8	3	0	2	0	6
153	0	0	0	0	0	0	0
154	13	6	2	0	2	0	4
155	0	0	0	0	0	0	0
156	7	3	1	0	1	0	2
157	0	0	0	0	0	0	0
158	13	6	2	0	2	0	4
159	0	0	0	0	0	0	0
160	27	12	4	0	3	0	8
161	121	52	20	2	15	0	36
162	1,252	537	20	60	0	0	80
163	1,378	591	130	0	15	0	145
164	0	0	169	0	92	0	261
165	0	0	300	0	0	7,307	7,607
166	10	4	131	12	95	0	238
167	69	30	5	0	4	0	9
168	0	0	0	0	0	0	0
169	0	0	10	0	0	9,003	9,013
170	0	0	0	0	0	2,372	2,372
171	0	0	0	0	0	4,900	4,900
172	1,100	472	324	29	236	0	589
173	3,495	1,500	100	0	100	10,500	10,700
174	0	0	0	0	0	0	0
175	5,825	2,500	69	6	50	0	125
176	5,825	2,500	138	13	100	0	250
177	1,348	579	61	52	0	0	270
178	980	421	166	30	0	0	196
179	0	0	0	0	0	0	0
180	660	264	83	25	25	0	132
181	5,825	2,500	1,797	163	1,307	0	3,267
182	225	97	25	2	18	0	45
183	0	0	0	0	0	0	0
184	660	283	51	0	81	0	132
185	602	258	72	0	48	0	120
186	0	0	0	0	0	0	0
187	5,244	2,243	51	0	631	0	682
188	24	10	4	1	3	0	7
189	116	50	19	2	14	0	35
190	145	62	24	2	17	0	44
191	0	0	0	0	0	0	0
192	177	71	50	0	0	0	50
193	8,940	3,837	639	58	465	0	1,162
TOTALS	182,387	78,106	21,569	3,655	15,962	40,455	81,797

CITY OF BULLHEAD CITY

1255 Marina Boulevard
Bullhead City, AZ 86442-5733
(520) 763-9400 TDD (520)763-9400

June 24, 1998

Mr. Pete Lima
LIMA AND ASSOCIATES
7250 North 16th Street, Suite 412
Phoenix, AZ 85020

Dear Mr. Lima:

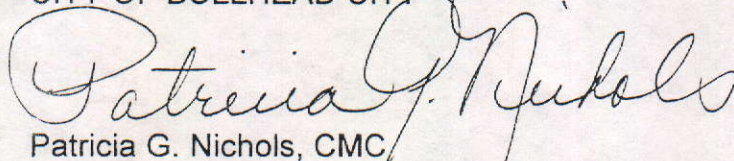
RE: ARIZONA DEPARTMENT OF TRANSPORTATION - ARIZONA UPDATE OF
THE COLORADO RIVER REGIONAL TRANSPORTATION STUDY

At their meeting of May 19, 1998, the Bullhead City Council voted to accept the Arizona Update to the Colorado River Regional Transportation Study.

Should you have any questions regarding this matter, please contact Ms. Janice Paul, Planning Official at (520) 763-0123.

Sincerely,

CITY OF BULLHEAD CITY



Patricia G. Nichols, CMC
City Clerk

/dlp

cc: Ilene Frisch, Community Development Director
Janice Paul, Planning Official



CITY OF BULLHEAD CITY

COUNCIL COMMUNICATION

MEETING DATE: 05/19/98

Pete Lima (602) 331-0600

SUBJECT: ARIZONA DEPARTMENT OF TRANSPORTATION - ARIZONA UPDATE OF THE COLORADO RIVER REGIONAL TRANSPORTATION STUDY

DEPT OF ORIGIN: CDD - PLANNING & ZONING DIVISION

DATE SUBMITTED: MAY 7, 1998

SUBMITTED BY: ILENE S. FRISCH, COMMUNITY DEVELOPMENT DIRECTOR

SUMMARY:

This is a request for the Mayor and City Council to accept the Arizona Update to the Colorado River Regional Transportation Study.

In June, 1996 the Arizona Department of Transportation entered in to a contract with Lima & Associates to update the Arizona portion of the Colorado River Regional Transportation Study. The first step in update was to analyze existing socioeconomic and transportation conditions. Next, roadway improvements proposed in the 1993 Study were reviewed to identify if enhancements and/or changes should be made to the original recommended improvements. Based on the analysis of future conditions, the recommended transportation plan was revised. In addition, a transportation improvement program was developed.

Development of the update was guided by a Technical Advisory Committee (TAC) comprised of individuals representing the following agencies:

Arizona Department of Transportation (ADOT)
Bullhead City
Mohave County
Fort Mojave Indian Tribe
Clark County, Nevada
Nevada Department of Transportation

This Committee met eight times to review the document and a public hearing was held on October 14, 1997.

The update is now complete and ADOT is asking the City to accept the new document.

FISCAL IMPACT:

REVIEWED BY:

Diane Archer
FINANCE DEPARTMENT

There will not be any fiscal impacts to the City as a result of accepting the Arizona Update to the Colorado River Regional Transportation Study.


ATTACHMENTS:

Executive Summary of the Arizona Update to the Colorado River Regional Transportation Study.

RECOMMENDATION:

Motion to accept the Arizona Update to the Colorado River Regional Transportation Study.

APPROVED FOR SUBMITTAL BY:



Department Head



City Manager

CITY CLERK'S USE ONLY
COUNCIL ACTION TAKEN

RESOLUTION NO. _____ CONTINUED TO _____
ORDINANCE NO. _____ REFERRED TO _____
APPROVED 5/19/98 _____ DENIED _____
OTHER _____ FILE NO. _____



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull

John F. Hagen, Acting Director

February 10, 1999

The Honorable Norm Hicks, Mayor
 City Administration Building
 1255 Marina Boulevard
 Bullhead City, Arizona 86442

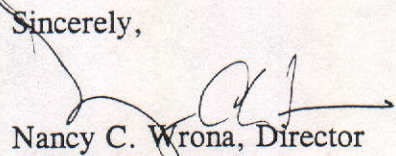
SUBJECT: Bullhead City Moderate PM₁₀ Nonattainment Area

Dear Mayor Hicks:


The Arizona Department of Environmental Quality (ADEQ) is ready to submit to the U.S. Environmental Protection Agency (EPA) a request to revoke the nonattainment status for PM₁₀ for the Bullhead City area. The request is based on air quality data from 1994-96, which show the area was in attainment for the 24-hr and annual standards and is consistent with EPA's December 1997 guidance regarding the preexisting PM₁₀ national ambient air quality standards (NAAQS). In addition to having clean air, the state must also demonstrate that each reasonably available control measure (RACM) implemented to help the area reach attainment will continue to ensure there are no future violations of the PM₁₀ NAAQS.

As part of its research, ADEQ has verified with Janice Paul that the specified RACMs included in the enclosed list have been implemented by the City for the nonattainment area. We appreciate the assistance of Ms. Paul in this task. It is critical that the RACMs implemented are maintained. Since EPA's action to revoke the PM₁₀ standards for the Bullhead City area is dependent upon the RACMs remaining in place, please call me at (602) 207-2308 if you have any concerns over the fact that these RACMs must continue to be implemented by the City.

Sincerely,


 Nancy C. Wrona, Director
 Air Quality Division

Enclosures (1)

cc: Janice Paul 

Hope all is going well for you!

**Control Measures Developed and Implemented for the Bullhead City
Moderate PM₁₀ Nonattainment Area**

Measures developed and implemented by the Arizona Department of Transportation:

- Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Require dust control plans for construction or land clearing projects.
- Provide for traffic rerouting or rapid clean up of temporary sources of dust on paved roads.
- Require curbing and pave or stabilize shoulders of paved roads.

Measures developed and implemented by Mohave County:

- Permit required for excavation and grading.
- Prohibit permanent unpaved haul roads and parking or staging areas at commercial, municipal or industrial facilities.
- Require the paving or chemical stabilization of unpaved roads.
- Pave, vegetate, or chemically stabilize unpaved parking areas.
- Provide for storm water drainage to prevent water erosion onto paved roads.

Measures developed and implemented by Clark County, Nevada:

- Dust control permit required for construction activities, including surface grading and trenching.
- Require curbing and pave or stabilize shoulders of paved roads.

Measures developed and implemented by the Arizona Department of Environmental Quality (ADEQ):

- Require dust control measures for material storage piles.

Measures developed and implemented by the U.S. Forest Service, Bureau of Land Management and Arizona Department of State Lands, in cooperation with ADEQ:

- Prescribed burning.

Arizona Update of the CRRTS

2017 Population and Dwelling Units

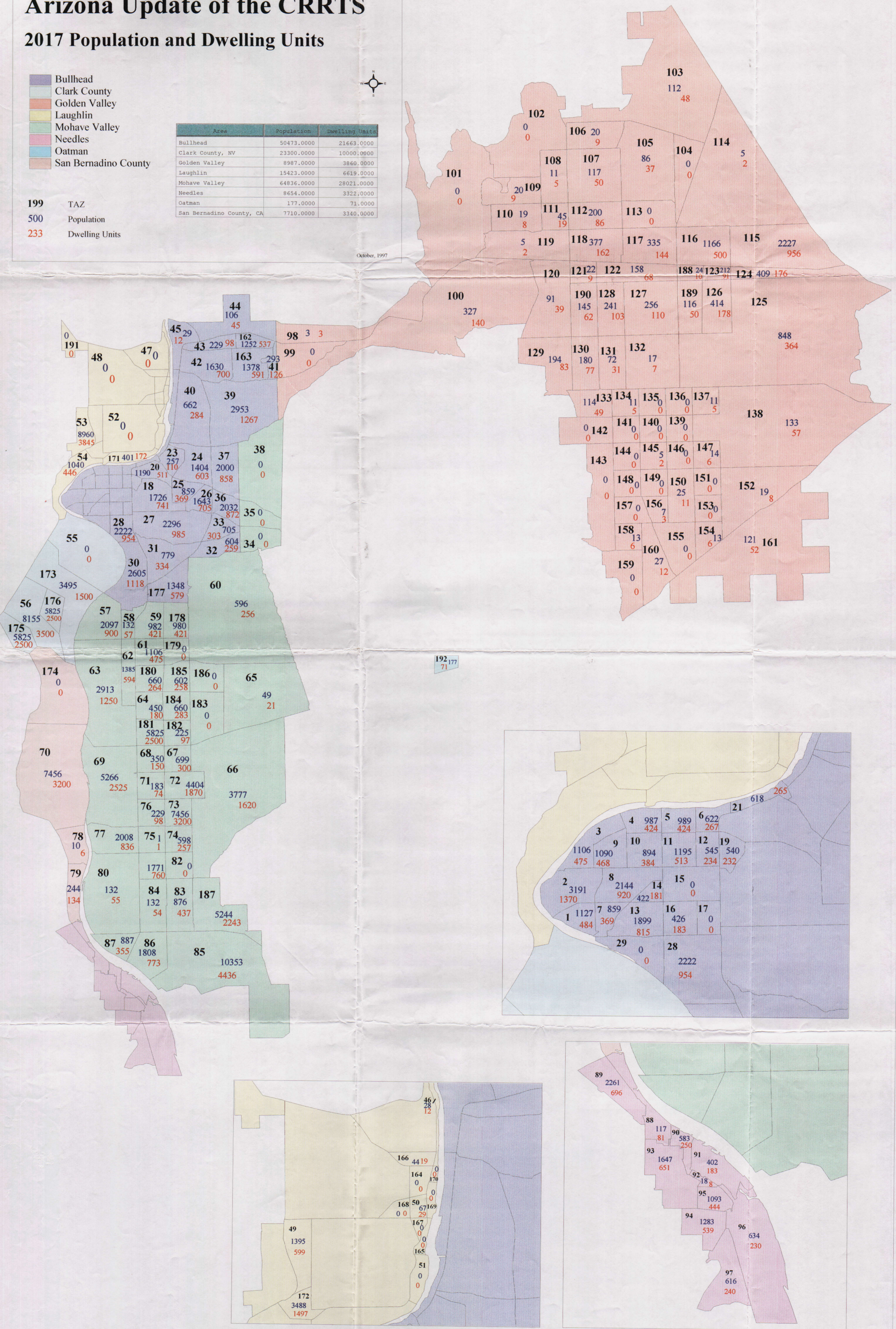
- Bullhead
- Clark County
- Golden Valley
- Laughlin
- Mohave Valley
- Needles
- Oatman
- San Bernadino County

Area	Population	Dwelling Units
Bullhead	50473.0000	21663.0000
Clark County, NV	23300.0000	10000.0000
Golden Valley	8987.0000	3860.0000
Laughlin	15423.0000	6619.0000
Mohave Valley	64836.0000	28021.0000
Needles	8654.0000	3322.0000
Oatman	177.0000	71.0000
San Bernadino County, CA	7710.0000	3340.0000

- 199** TAZ
- 500** Population
- 233** Dwelling Units



October, 1997



Arizona Update of the CRRTS

2017 Employment

- Bullhead
- Clark County
- Golden Valley
- Laughlin
- Mohave Valley
- Needles
- Oatman
- San Bernadino County

Area	Employment
Bullhead	11517.0000
Clark County, NV	11200.0000
Golden Valley	2698.0000
Laughlin	23488.0000
Mohave Valley	14010.0000
Needles	3064.0000
Oatman	50.0000
San Bernadino County, CA	2524.0000

199 TAZ
500 Employees

October, 1997

