

FHWA-AZ-EIS-71-19-DS

Prepared for

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

Prepared by

ENVIRONMENTAL PLANNING DIVISION

within the

LOCATION SECTION, HIGHWAY DEVELOPMENT GROUP

ARIZONA HIGHWAY DEPARTMENT

* * *

(DRAFT) SUPPLEMENT TO THE FINAL ENVIRONMENTAL STATEMENT

Administrative Action for

PROJECTS

I-10-2(28) BUCKEYE-CEMETERY ROAD
I-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD

EHRENBERG-PHOENIX HIGHWAY

INTERSTATE AND DEFENSE HIGHWAY 10

IN

MARICOPA COUNTY, ARIZONA

* * *

THIS HIGHWAY IMPROVEMENT IS PROPOSED FOR FUNDING UNDER TITLE 23, U.S.C.
THIS STATEMENT FOR THE IMPROVEMENT WAS DEVELOPED IN CONSULTATION
WITH THE FEDERAL HIGHWAY ADMINISTRATION AND IS SUBMITTED PURSUANT TO:

Section 102(2)(C)
Public Law 91-190
and

Section 309 of the Clean Air Act, Public Law 91-604

9/18/72
Date

J. B. Mertz
For: A. L. CHADWICK
Chief Deputy State Engineer
ARIZONA HIGHWAY DEPARTMENT

CLEARED BY FWHA FOR CIRCULATION AND COMMENTS

9/18/72

A999.911

Jacob Erickson
For H. C. TILZEY, Division Engineer
FEDERAL HIGHWAY ADMINISTRATION

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

SUMMARY

FHWA-AZ-EIS-71-19-DS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECTS

I-10-2(28) BUCKEYE-CEMETERY ROAD
I-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD

EHRENBERG-PHOENIX HIGHWAY
INTERSTATE AND DEFENSE HIGHWAY 10
MARICOPA COUNTY, ARIZONA

NOTE: For the purpose of this Environmental Impact Statement, the above referenced projects are combined. Therefore, where reference is made herein to "the Project", it shall mean the combination of projects unless otherwise specified.

Draft Supplement to the Final Environmental Statement - September 18, 1972

Administrative Action

1. Alternatives to the Proposed Project

Alternate corridors which were considered in determining the final, approved corridor and alignment location of the Interstate and Defense Highway 10 through the subject project area are discussed in this Supplement.

2. Various Modes of Transportation

An evaluation is made of the past and present modes of transportation of the Phoenix Metropolitan Area.

3. Land-Use Evaluations

Both existing and suggested future land-use is discussed, accompanied by appropriate, descriptive maps.

4. Long Range Planning and Development

Consideration is given to the long range planning and development of the communities and other entities in the study area and it is in conformity with the long range planning and development of the various governmental jurisdictions responsible for planning in this area.

5. Air Pollution Considerations

This Supplement contains a discussion and an analysis of air pollution factors and the anticipated impact the proposed highway will affect upon the air quality of the project area.

Summary - Supplement
Projects I-10-2(28)(31)
September 18, 1972
Page 2

6. Noise Considerations

The effect noise will have upon the corridor along the proposed highway alignment is evaluated, accompanied by statistical noise tables.

7. Archaeological Values

An analysis and discussion is made of the archaeological values of the proposed highway corridor in the study area.

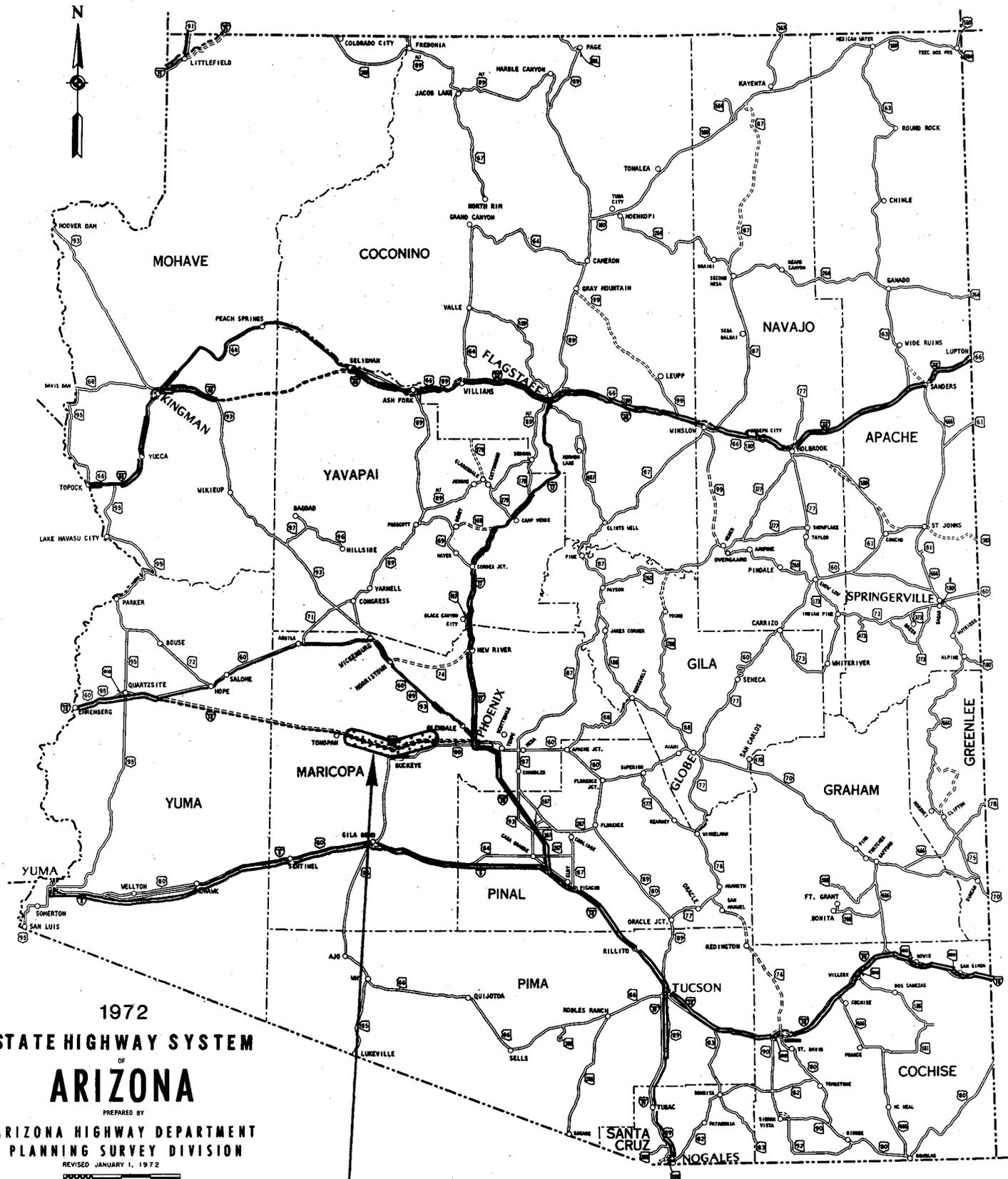
8. Federal, State and Local Agencies From Which Comment on this Supplement to the Final Environmental Impact Statement has been Requested

U.S. Environmental Protection Agency
U.S. Soil Conservation Service
U.S. Bureau of Land Management
U.S. Department of Interior
Luke Air Force Base
Arizona Game and Fish Department
Arizona State Department of Health
Department of Economic Planning and Development
University of Arizona (Arizona State Museum)
Maricopa Association of Governments
Maricopa County Planning and Zoning Department
Maricopa County Flood Control District
City of Phoenix, Community Transportation Development
Phoenix Sky Harbor International Airport
Litchfield Park Properties
City of Goodyear
City of Avondale
City of Tolleson
City of Buckeye
Greyhound Bus Lines
Southern Pacific Transportation Company
Phoenix Transit Corporation

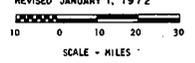
9. This Draft Supplement to the Final Environmental Statement was sent to the Federal Highway Administration, Division Engineer, for transmittal through channels to the Council of Environmental Quality on September 18, 1972.

It was made available to the public through newspaper advertising on September 21, 1972.

* * *
* *
*



1972
 STATE HIGHWAY SYSTEM
 OF
ARIZONA
 PREPARED BY
 ARIZONA HIGHWAY DEPARTMENT
 PLANNING SURVEY DIVISION
 REVISED JANUARY 1, 1972



PROJECT 1-10-2(28) BUCKEYE-CEMETERY ROAD
 PROJECT 1-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD
 MARICOPA COUNTY, ARIZONA

Supplement to the
Final Environmental Statement
for
Ehrenberg-Phoenix Highway
Interstate and Defense Highway 10

Projects

I-10-2(28) BUCKEYE-CEMETERY ROAD
I-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD

Maricopa County, Arizona

NOTE: For the purpose of this Environmental Impact Statement, the above referenced projects are combined. Therefore, where reference is made herein to "the Project", it shall mean the combination of projects unless otherwise specified.*

The Final Environmental Statement for the above project was submitted to the Federal Highway Administration by the Arizona Highway Department on June 15, 1971. Having met all the environmental format requirements in effect at that time, the Final Environmental Statement was accepted by the Department of Transportation on July 16, 1971.

Because that part of the subject project situated between Oglesby Road and Perryville Road has become more controversial in nature since that date and because new requirements have more recently been set forth by the Department of Transportation relative to the preparation of Environmental Impact Statements, the Arizona Highway Department hereby determined to submit this supplement in

* This Supplement addresses those additional environmental factors of the subject project with assigned and specific reference to that portion of the project lying between Oglesby Road and Perryville Road and, because of relevancy, those segments of the I-10 highway between Perryville Road and 67th Avenue in Phoenix, Arizona.

the belief that the discussions contained herein represent a proper evaluation of those factors in the new requirements which were not fully discussed in the original statement.

The previously submitted and accepted Final Environmental Impact Statement also included a third project, I-10-2(16), Tonopah-Buckeye. This project is not controversial in nature and is not included in this Supplemental Statement.

1. Alternatives to the Proposed Project

To adequately evaluate alternatives to the proposed projects as they relate to the Interstate and Defense Highway 10 program, certain factors must be considered.

First of all, the need for a highway system capable of meeting the current and anticipated future requirements of its users had to be established. Such a needs-study was conducted on a nationwide basis in 1939 by the then Bureau of Public Roads of the Federal Government, with the resultant congressional enactment of the Federal Aid Highway Act of 1944 which created the designation of the National System of Interstate and Defense Highways Program. This program promulgated the construction of a series of Interstate and Defense Highway Systems throughout the United States which would serve each individual State with one or more Interstate traffic routes and which would provide an adequate National Defense Highway System throughout the United States.

With the need for and the designation of the National Interstate and Defense Highway network firmly established, the U.S. Congress in 1956 enacted the Federal Aid Highway Act of 1956, which appropriated funds for the beginning of construction of such Interstate and

Defense Highway network. The next major step required the coordination of the local State highway program with the Federal Interstate Highway program. The Interstate Highway 10 traversing Arizona is a vital part of the National System of Interstate and Defense Highways network. The projects to which this supplement is referenced are of great significance to the completion of the Interstate and Defense Highway 10 System.

The second factor which must be considered is the purpose of the highway system. It was readily determined by the study group of 1939 that with the anticipated increase in the number of automobiles, the average daily traffic (ADT) on the existing highways across the United States would soon reach a near disastrous stage and that a greatly improved Interstate Highway System must be adopted and constructed to meet the burgeoning needs of the motoring public. Such recommendation was made to Congress and, as indicated previously, the Interstate Highway concept was accepted and authorized. The Interstate Highway concept was also conducive to the rapid movement of military troops and equipment across the nation and would serve as means of evacuation routes from heavily populated communities and areas in the event of National or civil disaster. Hence, the designation of Defense Highway was added to the Interstate Highway designation.

The third factor in the evaluation process is the location and the type of highway facility which would best meet the specific needs of the public. Federal standards and specifications were adopted and set forth for the location, design and construction of the Interstate and Defense Highway network. Selection of the final location alignment was to be determined by the Highway Department

within each State, subject to the expressed needs of the public through a location public hearing, and subject to final approval of the appropriate agency of the Federal Government. Design criteria established for the Interstate and Defense Highway System required construction of a divided highway with full access control which would permit nonstop, free-flow movement of high speed vehicular traffic between metropolitan areas and from coast to coast. The State Highway Department would be responsible for designing the Interstate Highway facilities within the State, subject to a public hearing and the final approval of the appropriate agency of the Federal Government.

After considering the factors of need, purpose, location and type of facility as discussed above, proper evaluation was made of the necessary disciplines and controls of the proposed projects in their relation to the Interstate and Defense Highway network, which included the consideration of alternatives to the proposed projects as discussed in the following paragraphs.

A. Do-Nothing Alternate

Because construction of the National System of Interstate and Defense Highways is a mandate of the U.S. Congress, the do-nothing alternate would not normally be applicable in a case like this where the discussion relates to a considerable segment of an overall coast to coast highway network. Nevertheless, the consequences of such an alternative are capable of discussion, study and analysis and will be so evaluated here.

Interstate and Defense Highway 10, when constructed, is expected to handle the bulk of interstate traffic between central Arizona and the regions of southern California which are located in or near

Los Angeles. If this section of I-10 were not constructed, such traffic would be required to use existing highways and roads in the areas which do not meet the same high standards as are planned for I-10.

Interstate traffic between the communities of Tonopah and Buckeye would be routed over a series of paved county and state secondary roads to a connection point with U.S. Highway 80, immediately west of Buckeye. These two-lane roads are approximately 28 feet wide, with dirt shoulders, and have design features commensurate to other older rural, low-volume farm roads. An existing 24-foot wide bridge over the Hassyampa River would be a dangerous impedance to the flow of high-speed, heavy volume interstate automobile traffic, with additional hazard to large trucks.

The ADT on these rural roads ranges from 190 vehicles per day in the remote areas to 950 vehicles per day in the more urban areas.

Interstate traffic between Buckeye and Phoenix would utilize U.S. Highway 80, which is a two-lane, 40-foot roadway with paved shoulders and other design features that are substandard to interstate highway requirements.

Use of U.S. 80 by I-10 through traffic would preclude the possibility of truly doing nothing, insofar as the anticipated traffic volumes would require a responsible highway agency to improve U.S. 80 since the highway is considerably below interstate standards. Currently, this section of U.S. 80 has no more than two lanes in most places. Increasing traffic volumes would necessitate reconstruction of the entire highway U.S. 80 to a facility with four or more traffic lanes. Even if the route was constructed as a divided

highway without control of access in accordance with present standards of the Arizona Highway Department, the accident rate would probably be substantially greater than the accident rate for a similar number of cars on a controlled access facility like I-10 (according to data published by the Institute of Traffic Engineers in the Traffic Engineering Handbook).

The most important problems with the do-nothing alternative are that a failure to construct the discussed segment will force drivers coming from the Los Angeles area, who have become accustomed to driving on a highway of interstate safety standards for some 400 miles, to complete this trip to Phoenix on a narrow, two-lane highway with conventional access and lesser safety situations. Further, some 60 miles of the Brenda Cut-off (I-10) west of the terminus of this segment has already been built in reliance upon a completion of the whole route from the Los Angeles area to Phoenix. This accomplished investment in time, material and cost will be partially wasted if the whole route is not completed as planned and now over 60 percent completed.

For the above-mentioned reasons, the do-nothing alternate must be considered as an undesirable and inappropriate alternative.

B. Alternate Route Locations

During the early stages of location planning, several alternate route locations were considered for the Interstate and Defense Highway 10 System which would traverse from the Colorado River on the California border at or near Blythe, California, through central Arizona to the New Mexico border adjoining southeastern Arizona. After a public hearing, which was conducted on July 22, 1958, in

Quartzsite, Arizona, the location for the highway alignment from the Colorado River at Ehrenberg, east to Milepost 30.5 near Brenda, Arizona, a distance of 30.5 miles, was officially determined.

At a public hearing conducted on February 24, 1960, at the Phoenix Women's Club, 302 West Earll Drive, Phoenix, Arizona, the following route proposals "A" through "F" were presented by the Arizona Highway Department for that segment of the proposed highway system between Brenda, Arizona, and the City of Phoenix, a variable distance of 112.9 miles to 143.2 miles. (An Alternate Route map is included on the following page for route identification purposes.)

Route A Proposal

This route parallels existing U.S. Routes 60 and 89 from Grand and Seventh Avenues in downtown Phoenix, progressing northwesterly to Wickenburg, Arizona, westerly to Aguilla, and then southwesterly to the termination point at Brenda (at Milepost 30.5). The length of Route A is 132.5 miles.

Route B Proposal

Route B begins at the intersection of State Route 69 and U.S. Highway 80 in south central Phoenix and progresses southwesterly to a point on 59th Avenue about one-fourth mile south of Broadway Road from where the alignment proceeds west and northwest to Brenda. The length of Route B is 112.9 miles.

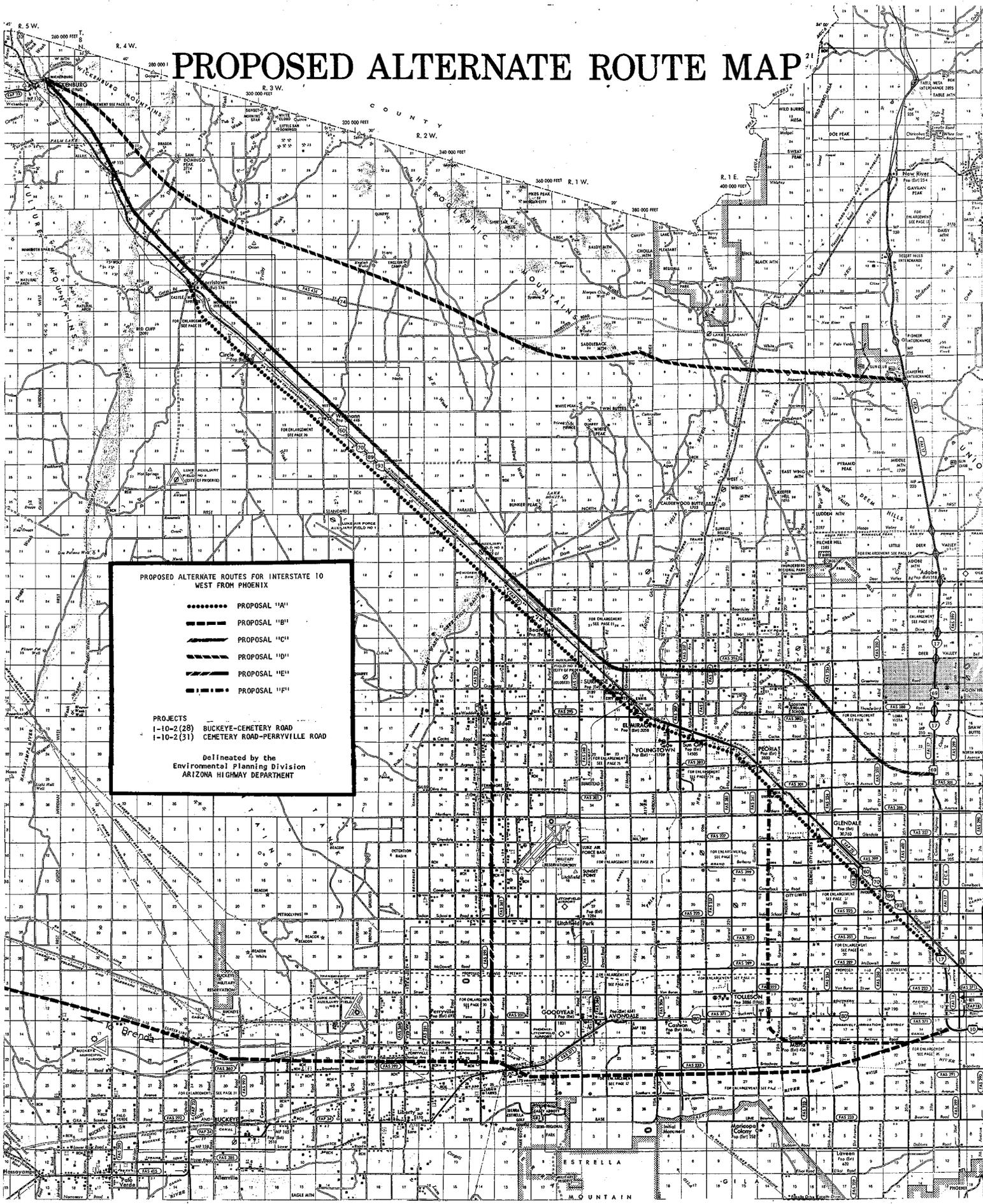
Route C Proposal

Route C begins on Arizona 69 Highway approximately one-half mile north of Olive Avenue and gently curves northwest to a point near the intersection of Bell Road and 83rd Avenue, from whence the route progresses west to the community of Beardsley where Route B swings northwesterly, paralleling U.S. Routes 60 and 89 to Wickenburg. From this point west to Brenda, Route C and Route A are identical. The length of Route C is 136.4 miles.

Route D Proposal

Route D begins on Arizona 69 approximately 15 miles north of Phoenix and progresses westerly and then northwesterly to

PROPOSED ALTERNATE ROUTE MAP



**PROPOSED ALTERNATE ROUTES FOR INTERSTATE 10
WEST FROM PHOENIX**

- PROPOSAL "A"
- PROPOSAL "B"
- ===== PROPOSAL "C"
- ===== PROPOSAL "D"
- ===== PROPOSAL "E"
- PROPOSAL "F"

PROJECTS
 I-10-2(28) BUCKEY-CENETARY ROAD
 I-10-2(31) CENETARY ROAD-PERRYVILLE ROAD

Delineated by the
 Environmental Planning Division
 ARIZONA HIGHWAY DEPARTMENT

the Town of Wickenburg. From this point west to Brenda, Route D is identical to Routes A and C. The length of Route D is 143.8 miles.

Route E Proposal

Route E originates from the same point and follows the same alignment as Route B, progressing west to about one-half mile west of Kimball Road where Route E turns directly north to a connecting point with U.S. Highways 60 and 89. From this point, Route E follows the same alignment as that of Route A which continues northwest through Wickenburg and then westerly to Brenda. The length of Route E is 143.2 miles.

Route F Proposal

Route F originates at the same point as Routes B and E and progresses southwestward in a common alignment to 43rd Avenue at which point Route F separates from B and E and continues west to a sweeping right-hand curve where the alignment continues north, paralleling midway between 75th and 83rd Avenues to a point of intersection with U.S. Highways 60 and 89. From this point, Route F follows the same alignment as that of Routes A and E which continue northwest through Wickenburg and then westerly to Brenda. The length of Route F is 137.4 miles.

Summary of Routes "A" through "F"

<u>Route</u>	<u>Miles</u>	<u>Cost</u>	<u>Ratio</u>
A	132.5	\$54,991,000	5.34:1
B	112.9	34,477,000	11.53:1
C	136.4	45,946,000	4.35:1
D	143.8	44,967,000	3.52:1
E	143.2	56,803,000	3.53:1
F	137.4	56,746,000	4.21:1

C. Selection of Route B Proposal

In November of 1961, after a thorough evaluation of all pertinent factors had been made, Route B was selected as that route alignment which would best satisfy the requirements and purpose of the National System of Interstate and Defense Highway program. Approval for Route B was granted on December 7, 1961, by the Bureau of Public Roads of the U.S. Department of Commerce with the qualification that the

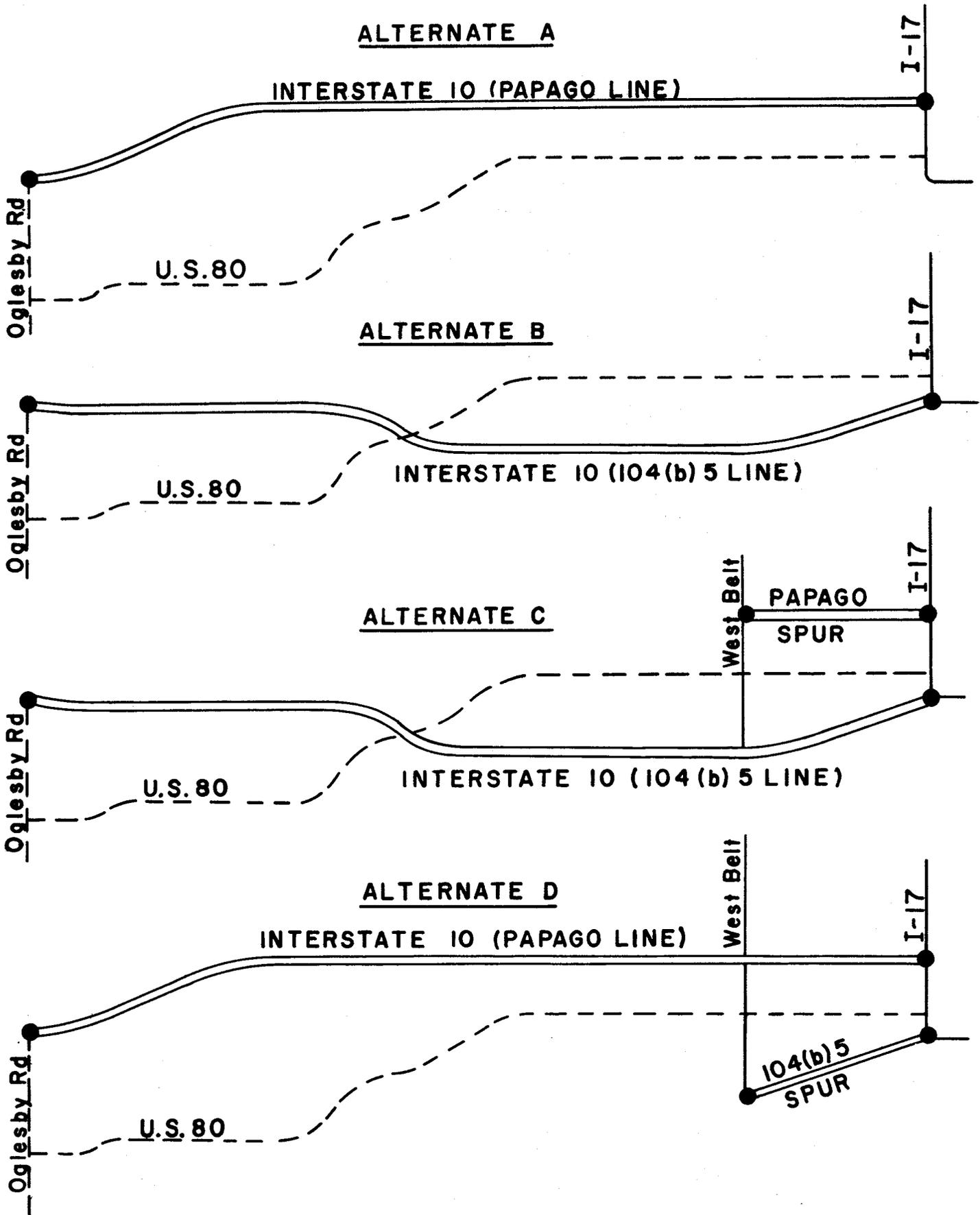
alignment be made as direct as topographic and other physical features permitted between the two terminal points, and that the route be designed and constructed in compliance with standards of the Interstate and Defense Highway Program.

D. Route Refinement (Refer to Map, page 1-9A, attached)

One major purpose of the National System of Interstate and Defense Highways Program was to, through careful local planning, provide an interface of urban and Interstate traffic facilities for the metropolitan areas across the country which would result in the free-flow movement of traffic on the Interstate and Defense Highway where such facility traversed around or through the densely populated centers, and which would serve to improve and enhance the traffic patterns of the urban and rural facilities of such metropolitan centers.

Metropolitan Phoenix and its suburban communities has for many years been one of the fastest growing areas in the United States and the trend is expected to continue without significant change for many more years. Recognizing this well-established growth trend and foreseeing the inevitable traffic problems arising from the requirements for new and improved traffic facilities to adequately accommodate the burgeoning population, the City of Phoenix requested that further studies be made to consider realignment of the Interstate and Defense Highway 10 corridor in the western urban and rural segments of Phoenix in a continuing effort to affect the greatest benefit to the greatest number of people through an improved interface of the area's urban and rural street program with that of the Interstate and Defense Highway 10 to be constructed into Phoenix from the west.

STUDY ALTERNATES



Planning studies which were conducted after 1961 substantiated the need for more and better traffic facilities in the urban and rural areas of west Phoenix and indicated that a greater benefit would be realized by moving the proposed interstate highway alignment northward to a line coincidental to a major east-west urban highway corridor which was included in the "Major Street and Highway Plan" for the Phoenix Metropolitan area, prepared in 1960 through joint coordination and planning of the City of Phoenix, Maricopa County, the Arizona Highway Department, and other involved agencies and municipalities.

E. The 1963 Interstate Route 10 Report

In November 1963, the Arizona Highway Department submitted a report to the Bureau of Public Roads entitled "Interstate Route 10, West Phoenix Metropolitan Analysis of Route Location" which evaluated the alternate routes considered between the community of Buckeye, Arizona, and the connection to I-17 (Black Canyon Freeway) in the City of Phoenix, a distance of approximately 30 miles.

In June 1964, a supplemental report for the above-mentioned report was submitted to the Bureau of Public Roads which set forth a thorough evaluation of the four alternate corridors which were considered in requesting that the interstate alignment from Buckeye to Phoenix be moved from the Buckeye Road corridor to the Papago line corridor. The supplemental report also contained discussions pertinent to land-use and social-economic factors, and planned development and expansion of the communities lying in the outer western segments of the greater Phoenix Metropolitan area. Contained in the following paragraphs is information from the 1964 supplemental

report relative to the proper evaluation of each alternate and the related land-use and social-economic factors as was generally presented. A map is attached herewith for identification of the alternate routes A, B, C, and D, and other maps which indicate land-use and ADT projections for each major alternate. (See Figures 1 through 6)

*(Following indicates beginning and end of quoted content from 1964 Supplemental Report)

Discussion - Alternates (Refer to page 1-9A)

*The Arizona Highway Department has considered all feasible alternates for Interstate 10. It is felt that there are only two practical alternates to consider in the "traffic corridor of influence" lying between a common point northwest of Buckeye and the Black Canyon Freeway in Phoenix (a north-south line which will be considered as the trace of a point). The alternates are:

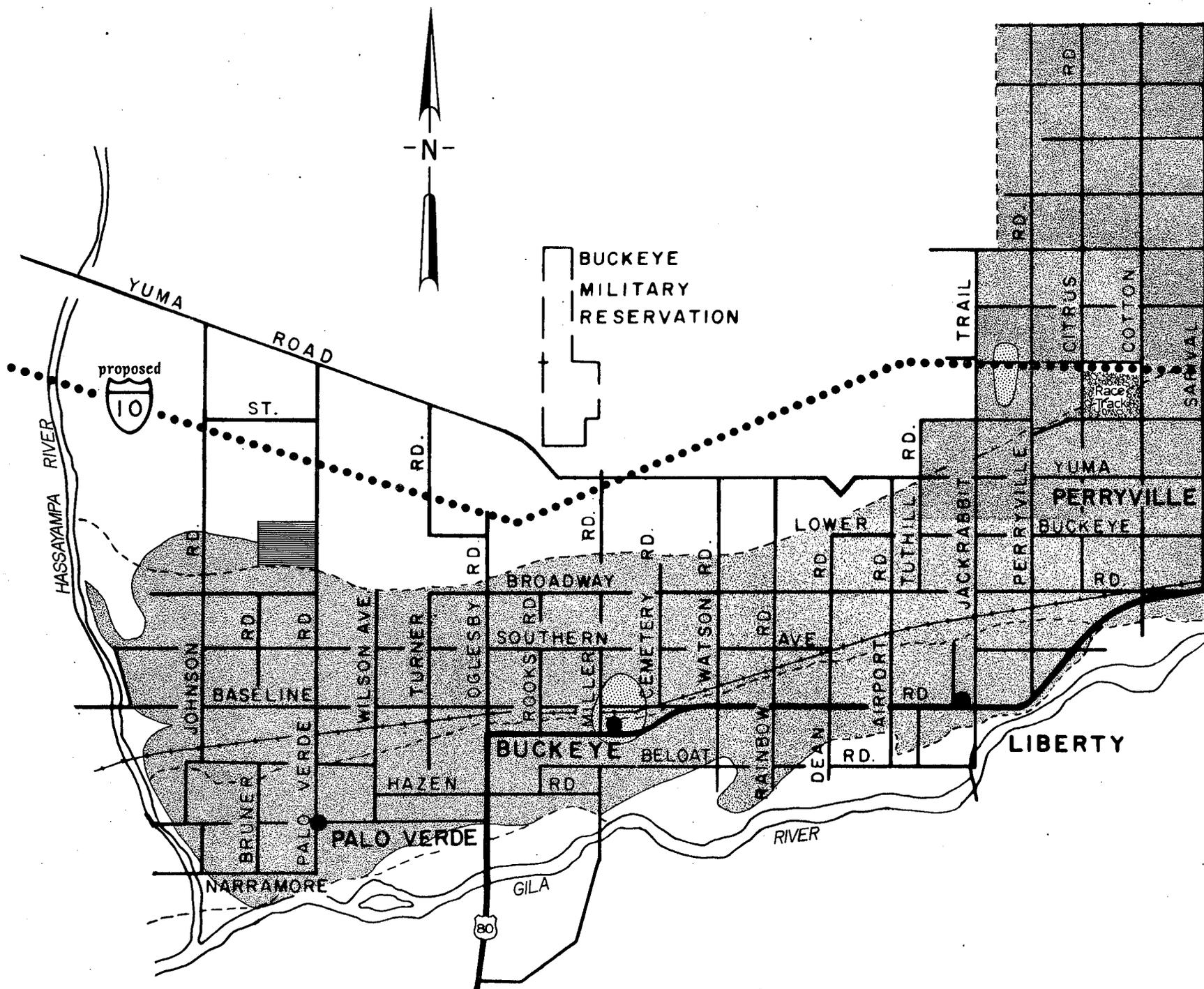
- A. Interstate 10 on the Papago line
- B. Interstate 10 on the 104(b) 5 line (See footnote **)

These two alternates were described and analyzed in the previous reports of November 1963, and Alternate A was recommended. The Bureau of Public Roads pointed out possible refinements to the analysis of these two alternates, and suggested that Alternate C and Alternate D also be included in the analysis.

Land Development and Traffic Service

Figure two depicts existing and expected land development in the traffic corridor study area. Planning studies made by the City of Phoenix and Maricopa County indicate that by 1980 an additional 100,000 persons are expected to occupy the study area bounded by the Black Canyon Freeway on the east, 99th Avenue on the west, the Salt River on the south, and Camelback Road on the north.

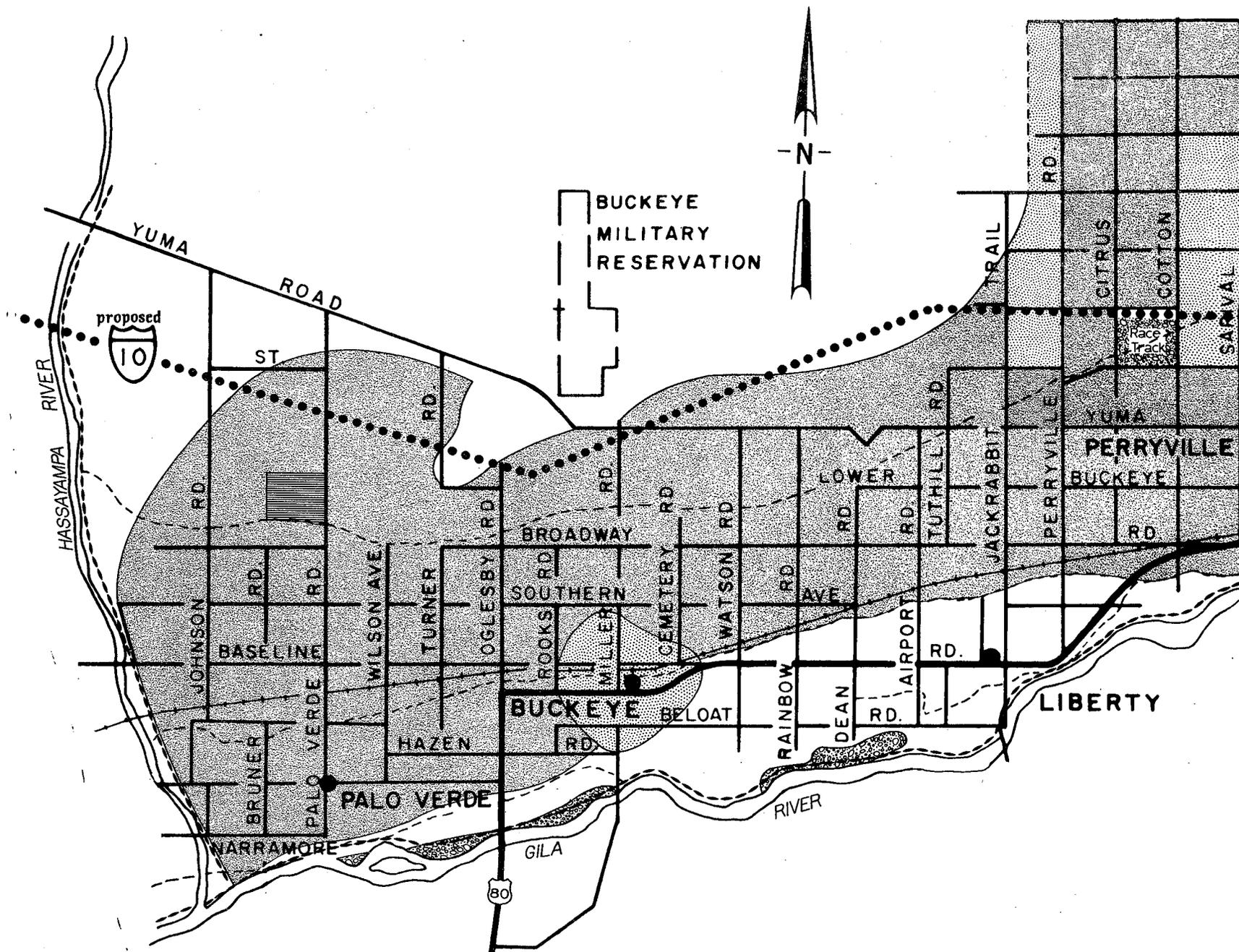
**The 104(b) 5 designation was first applied to a possible highway corridor location between Brenda and Phoenix in early preliminary route studies conducted by the Arizona Highway Department in the 1950's. The term as used in the environmental impact statement is for route identification purposes only, in conjunction with the use of other historical data containing the old designation. The term has no further current significance.



EXISTING LAND USE

- | | | | |
|---|-------------|---|-------------------------|
|  | Agriculture |  | Park or Recreation Area |
|  | Urban |  | Vacant or Desert |
|  | Airport | | |

Prepared by the Environmental Planning Division, Arizona Highway Department, August, 1972, from data supplied by the Maricopa County Planning Department.



SUGGESTED FUTURE LAND USE

- | | | | |
|---|-------------|---|-------------------------|
|  | Agriculture |  | Park or Recreation Area |
|  | Urban |  | Vacant or Desert |
|  | Airport |  | Hiking & Riding Trail |

Prepared by the Environmental Planning Division, Arizona Highway Department, August, 1972, from data supplied by the Maricopa County Planning Department.

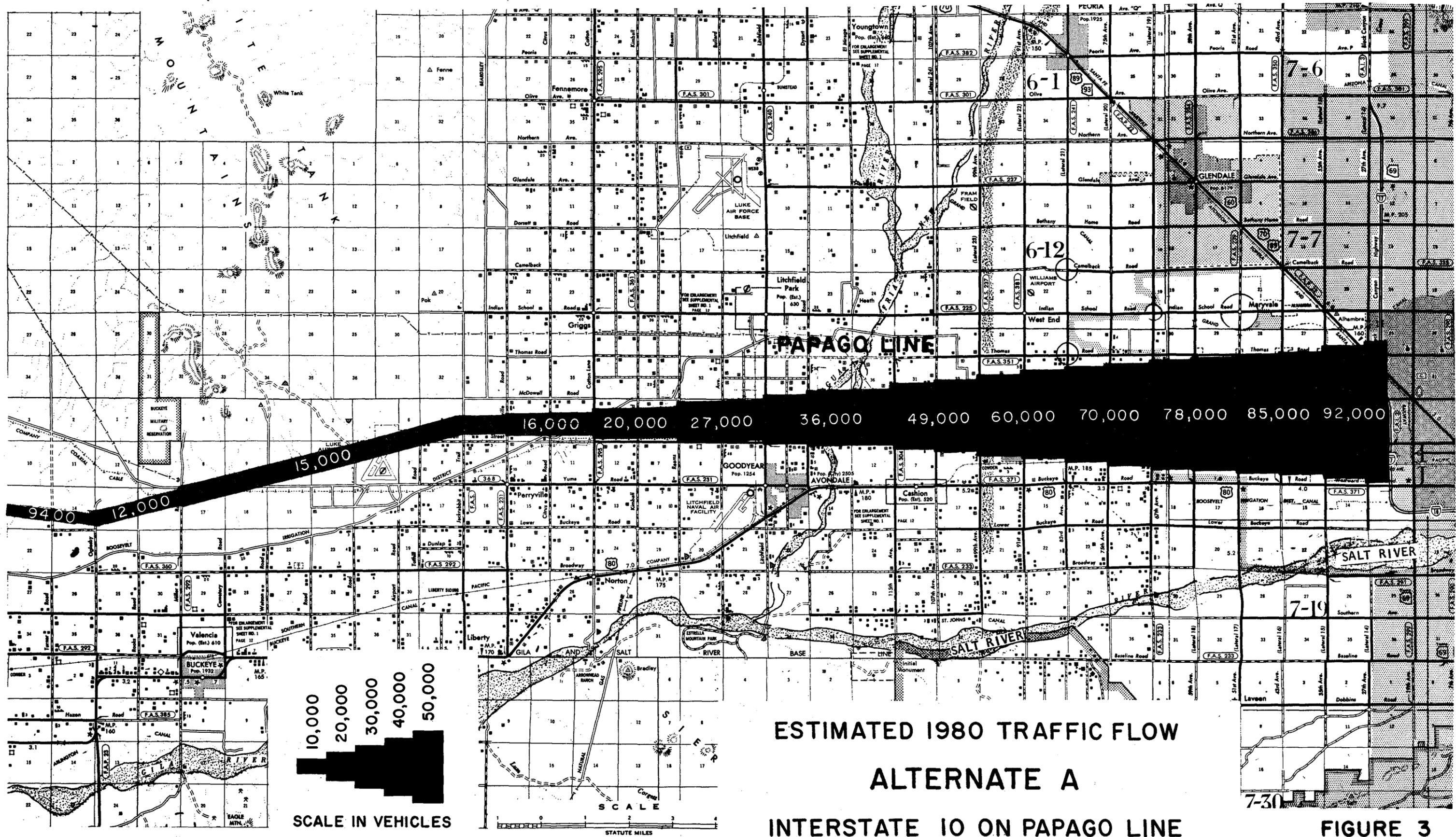
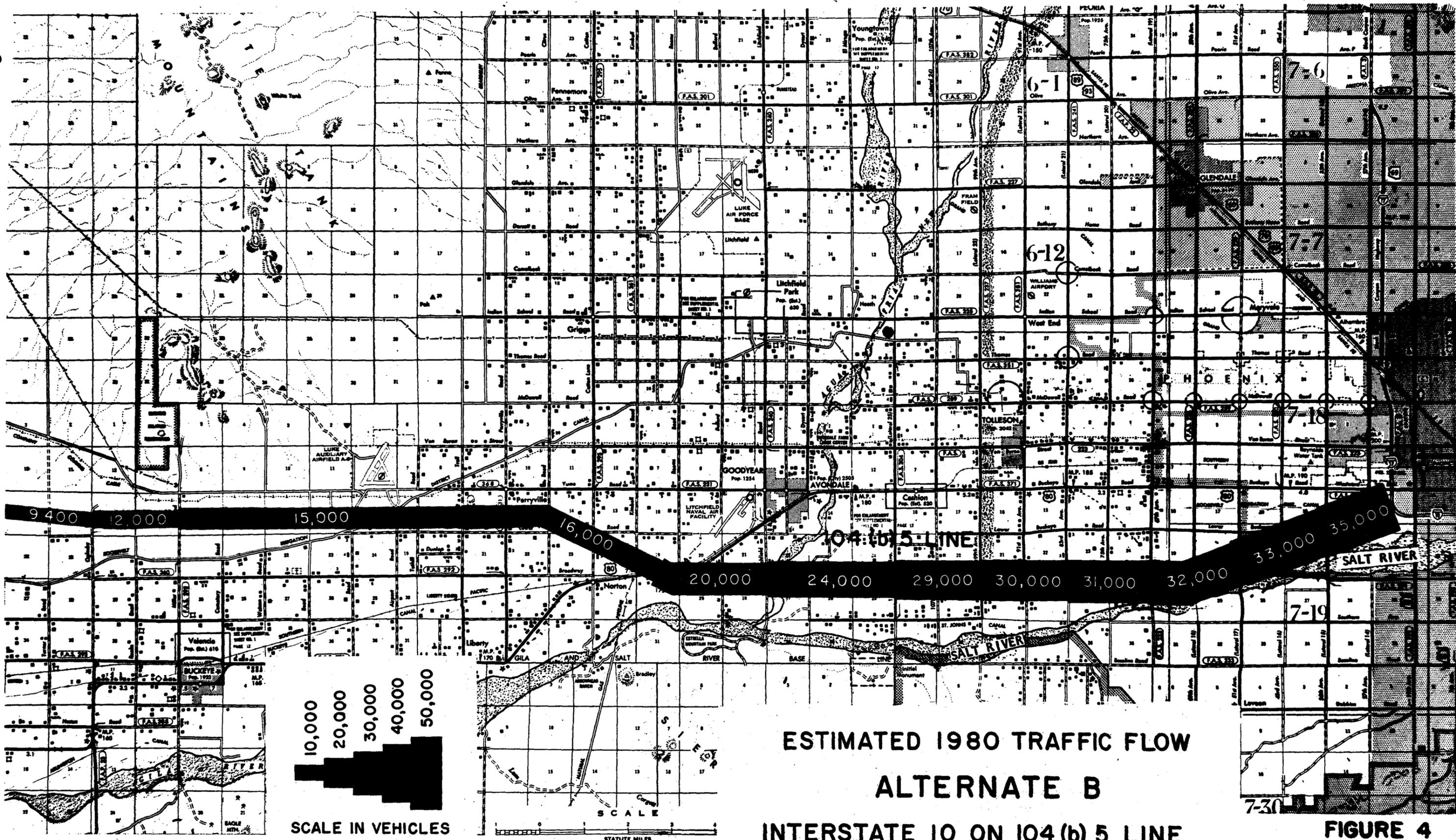
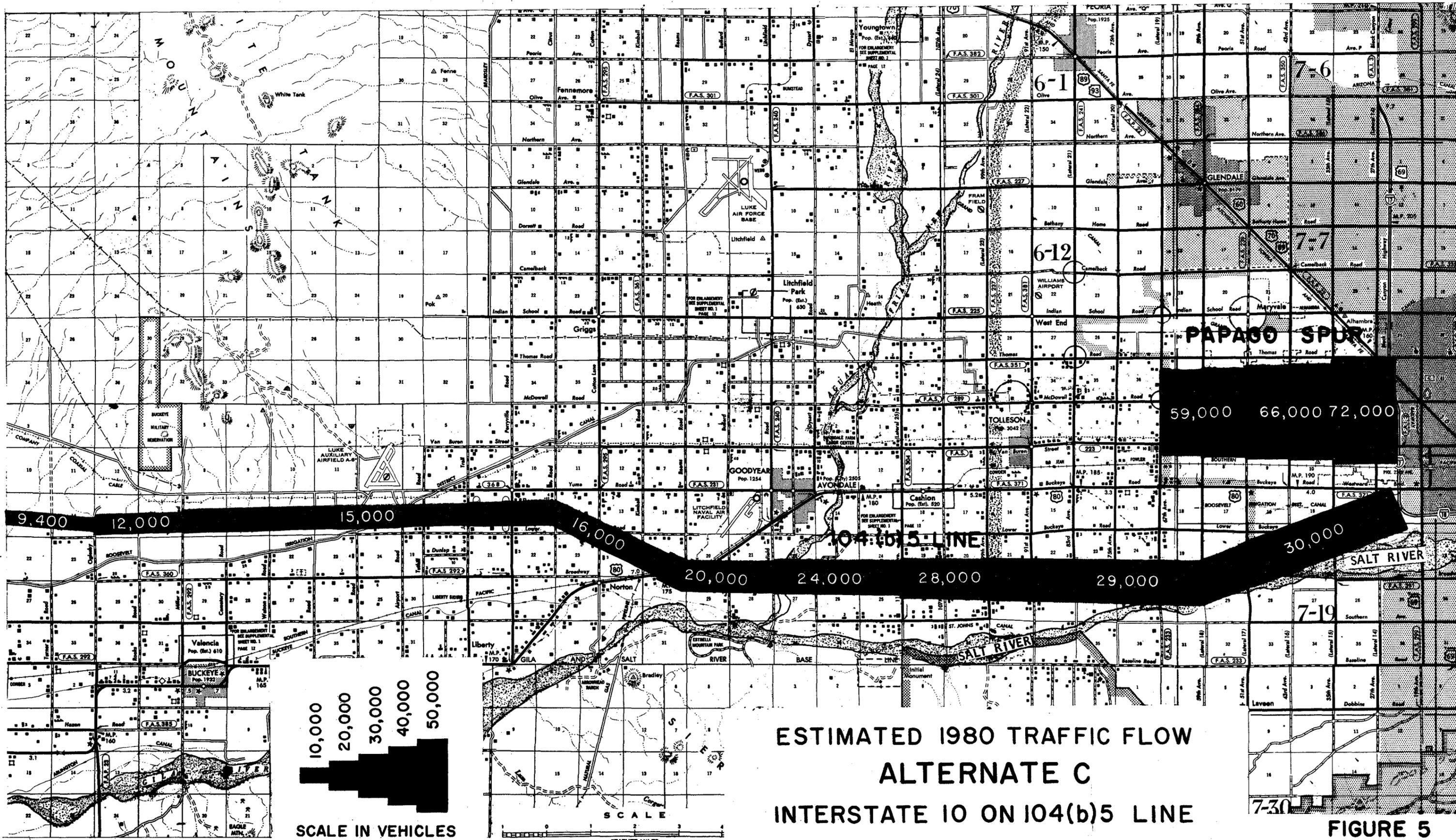


FIGURE 3



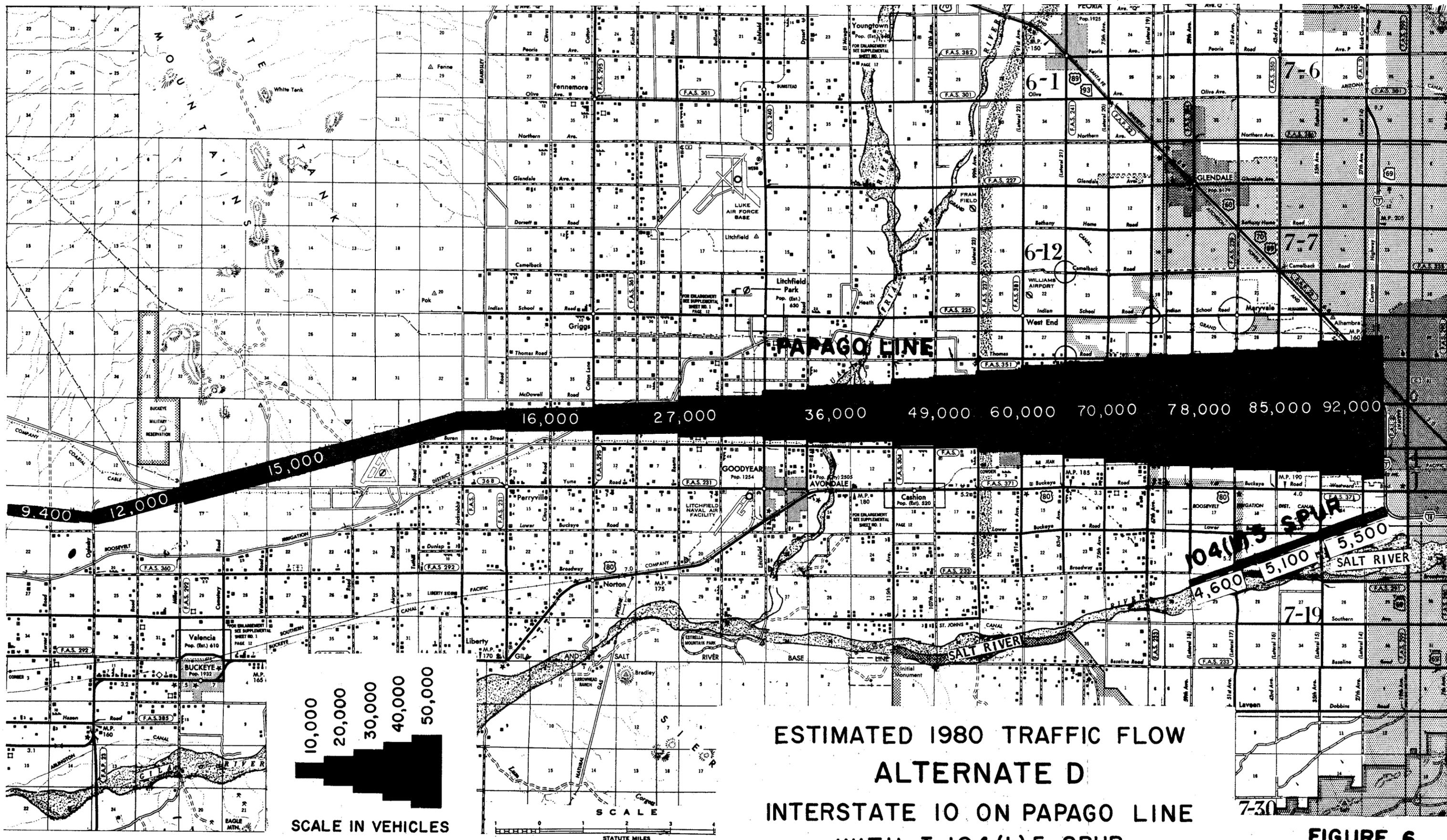
ESTIMATED 1980 TRAFFIC FLOW
 ALTERNATE B
 INTERSTATE 10 ON 104 (b) 5 LINE

FIGURE 4



ESTIMATED 1980 TRAFFIC FLOW
 ALTERNATE C
 INTERSTATE 10 ON 104(b)5 LINE
 WITH PAPAGO SPUR

FIGURE 5



ESTIMATED 1980 TRAFFIC FLOW
 ALTERNATE D
 INTERSTATE 10 ON PAPAGO LINE
 WITH I-104(b)5 SPUR

FIGURE 6

*Farther to the west lies the proposed Goodyear development, which is now being planned as a complete community by the Goodyear Company. There is already some industrial activity in the general area and plans call for expanding industrial operations with over 700 acres allocated for that use. The plans also call for a wide range of housing and for extensive development of commercial, commercial-recreational, and resort-type development. Population estimates for the Goodyear development are between 50,000 and 80,000 persons in the area by 1980, with an ultimate capacity of close to 100,000 persons. This new city will undoubtedly develop affinity with the rest of the metropolitan area, thereby stimulating growth of the surrounding area, including the westward growth of Phoenix.

The increased intensity of land development expected in the west Phoenix Metropolitan Area causes a considerable increase in estimated future traffic volume. This is reflected in the estimated 1980 traffic flow shown by Figures 3, 4, 5, and 6. The traffic demand on the Papago line is much greater than on the 104(b) 5 line. The Papago line would, therefore, provide much greater traffic service. The reason for this is obvious upon examination of Figure 2. The location of the Papago line provides greater service to both existing and future residential, commercial, and industrial population. The Papago line would serve as well, or better, existing small communities to the west, including Tolleson, Avondale, Goodyear, and Buckeye. In keeping with defense considerations of the Interstate system, the Papago line would better serve Luke Air Force Base and the SAGE installation. It would provide comparable service to the Litchfield Naval Air Facility as the 104(b) 5 line.

In terms of vehicle-miles of traffic service the Papago line would serve an estimated 8,632 million vehicle-miles in a 20-year period, assuming 1980 as the average year. This compares to 5,022 million vehicle-miles on the 104(b) 5 line.

*VEHICLE MILES OF TRAVEL

	Alternate A Papago Line	Alternate B 104 (b) 5 Line	Alternate C 104 (b) 5 Line - Plus Papago Spur	Alternate D Papago Line Plus 104 (b) 5 Spur
Vehicle-miles per day in 1980 (millions)	1.18	0.69	0.94	1.21
Annual vehicle-miles in 1980 (millions)	432	251	342	442
20-year vehicle- miles (millions)	8632	5022	6847	8834

Benefit-Cost Analysis

The Benefit-Ratios derived for the four Alternates are:

First Benefit Ratio

Alternate A	$\frac{92,492,690 - 78,684,000}{2,760,000 - 382,000} = \frac{13,808,690}{2,378,000} = 5.81$
Alternate B	$\frac{92,492,690 - 84,695,000}{1,552,000 - 382,000} = \frac{7,797,690}{1,170,000} = 6.66$
Alternate C	$\frac{92,492,690 - 79,978,000}{2,764,000 - 382,000} = \frac{12,514,690}{2,382,000} = 5.25$
Alternate D	$\frac{92,492,690 - 78,244,000}{2,878,000 - 382,000} = \frac{14,248,690}{2,496,000} = 5.71$

Second Benefit Ratio

Difference in Annual Costs

	<u>Investment</u>	<u>User</u>	<u>Ratio to Alternate B</u>
Alternate B	-	-	1.00
Alternate A	1,208,000	6,011,000	4.98
Alternate D	1,326,000	6,451,000	4.86
Alternate C	1,212,000	4,717,000	3.89

The first Benefit-Ratios for the four Alternates are approximately equal. Alternate B, with its lower construction and rights of way costs, is slightly the highest with a value of 6.66. However, it

*provides the least service for all of the possible users.

The second Benefit-Ratio comparing each of the other alternates with Alternate B, which has the higher first benefit-ratio value, shows that the increase in the annual investment for Alternate A would offer a considerable saving to the road users. The results are similar for each of the other Alternates.

The benefit-cost analysis assumes that (1) the study area bounded by the Salt River on the south, Indian School Road on the north, and Interstate 17 on the east, would be served by an existing grid of four-lane arterials; and (2) that five east-west arterials extend westerly from I-17 through an urban type of development to approximately two miles west of Litchfield Road.

Alternate A requires four freeway lanes between its western terminus and 99th Avenue, and six freeway lanes between 99th Avenue and Interstate 17. Alternate B requires four freeway lanes for its entire length. Alternate C requires four freeway lanes for the total length of the 104 (b) 5 line, and six freeway lanes for the Papago spur. Alternate D requires four freeway lanes on the Papago line between its western terminus and 99th Avenue, and six freeway lanes between 99th Avenue and Interstate 17. The 104 (b) 5 spur in Alternate D would serve adequately as a conventional four-lane surface urban arterial.

Construction and rights of way estimates for the four Alternates are:

Alternate A

Construction	\$26,781,000
Rights of way	<u>13,436,000</u>
Total	\$40,217,000

Alternate B

Construction	\$16,152,000
Rights of way	<u>2,991,000</u>
Total	\$19,143,000

Alternate C

Construction	\$27,315,000
Rights of way	<u>12,288,000</u>
Total	\$39,603,000

Alternate D

Construction	\$28,237,000
Rights of way	<u>13,536,000</u>
Total	\$41,773,000

*Since each of the basic alternates in this study is a segment of a longer new alignment for Interstate 10 between Mile Post 31 and Phoenix, an unusual condition exists in regard to the traffic that would use the alternates. A 1980 ADT of 9400 vehicles is estimated on Interstate 10 at the western terminus of the study alternates. None of the present Interstate through traffic operates on the study grid of arterial streets. It uses U.S. 60 (Grand Avenue) as a portion of a much larger local volume. Achievement of balance in the 1980 traffic assignments required that these 9400 vehicles be computed in the Base Condition as operating on an exterior route. This has been done by placing them on U.S. 60 between Morristown and Interstate 17 in Phoenix. Their operation has been assumed in their relation to all vehicles on this highway. Morristown lies directly north of the western terminus of the study alternates. Because the entire 9400 vehicles are assigned to each of the freeway alternates, no residual traffic costs have been computed for U.S. 60.

Commercial vehicle volumes, stops and delay times have been estimated from various studies recently made for this purpose. Classification counts were taken on the arterials and of the comparable city streets. Delay studies were provided by the City of Phoenix. This data was incorporated into trial computations and the percentage factors used in this report were estimated.

A review of highway bond issues, as reported in "Highway Statistics" in the last several volumes, indicates that a net cost of 3 percent to 3.5 percent is the usual rate. Such higher interest rates as are reported appear to be for toll facility bonds or re-funding issues. Those rarely exceed 5 percent. The use of 5 percent as the recovery factor is continued. Although the rate appears somewhat higher than the existing rent for money, it is not believed to be unreasonable. It is suggested that should the cost of money increase greatly above 5 percent, then inflationary or other causes would likewise increase all other cost estimates by some unknown factor.*

*(End of quote from the 1964 Supplemental Report)

F. Public Hearing on Realignment of I-10 Corridor

On May 8, 1965, a public hearing was held in the auditorium of the Arizona Highway Department at 206 South 17th Avenue in Phoenix, Arizona, at which the proposed realignment route of the Interstate and Defense Highway 10 between Oglesby Road near Buckeye, Arizona, and a junction with I-17 Highway in Phoenix was presented for public consideration and discussion. A public notice of the hearing and a letter of certification that such hearing was officially conducted may be found on the following two pages.

Overwhelming support for the proposed new corridor location was presented at the public hearing from officials, representatives, and residents of the cities, towns, businesses, and neighborhoods along the general proximity of the proposed corridor. Typical of such support is the following resolution and comments from the City of Phoenix as officially presented at the public hearing by the then Mayor, Milton Graham.

ARIZONA HIGHWAY DEPARTMENT

NOTICE

OF PUBLIC HEARING

May 8, 1965

Notice is hereby given that a Public Hearing will be conducted by the Arizona Highway Department in the Highway Department's Auditorium located at 206 South 17th Avenue, Phoenix, Arizona, beginning at 9:00 A.M., May 8, 1965.

At that time all interested persons will be afforded an opportunity to express their views on the proposed location of a section of the Interstate Highway System designated as Interstate 10. Discussion will be limited to the one project.

Beginning on the west side of I-17 (Black Canyon Freeway) in the vicinity of Culver and running west generally between Moreland and Belleview Streets to 43rd Avenue, thence continuing along a line located approximately 1/4 Mile south of McDowell Road to Tuthill Road, a distance of approximately 20 Miles; thence southwest to a point on Oglesby Road approximately 1/2 Mile north of lower Buckeye Road - a total distance of approximately 30.4 Miles.

A four to eight lane divided highway with limited access is to be constructed. Grade separations will be located at principal mile crossroads and interchanges located to afford adequate access.

The object of the Public Hearing is to provide an opportunity for every interested citizen and owners of property in the immediate area of the proposed improvement to state their opinions on the location of the highway and its possible economic effects.

The hearing will be recorded and information compiled will receive full consideration in the developing of final plans.

WM. N. PRICE
State Highway Engineer

HOWARD SHELPS
District Engineer

May 12, 1965

Mr. W. H. Baugh
Division Engineer
U. S. Bureau of Public Roads
Phoenix, Arizona

Re: Public Hearing
Papago-West
I-10-2(1)71

Dear Mr. Baugh:

I, WM. N. PRICE, State Highway Engineer, hereby certify that the Arizona Highway Department conducted a public hearing on the above-captioned project at 9 a.m. Saturday, May 8, 1965, in the Auditorium of the Highway Department Building, Phoenix, Arizona.

Consideration was given to the proposed location of a section of Interstate 10 from a point on Oglesby Road 1/2 mile north of Lower Buckeye Road easterly to the junction of I-10 and I-17 at approximately Culver Street and the Black Canyon Freeway.

A four to eight lane divided highway is ultimately to be constructed within this 30.4 mile area, with full control of access, grade separations at principal mile crossroads, and interchanges to afford adequate access.

I further certify that the Arizona Highway Department has considered the economic effect of this proposed location, and finds it to be justified.

Transcript of hearing, copies of notice, and affidavit of publication will be forwarded at a later date.

Very truly yours,

WM. N. PRICE
State Highway Engineer

WNP:fk
In triplicate

(Beginning of quoted content from Milton Graham's presentation at the 1965 public hearing.)

It is indeed a pleasure to have the opportunity to participate in this hearing concerning the location of the Interstate 10 going west from the Black Canyon Freeway.

The location of this important facility is of great importance to the City of Phoenix, and properly located on the Papago Line, it will have long-range beneficial effects. The City of Phoenix strongly supports the shift in the location of the Interstate 10 to the west to the Papago Line.

Further, we urge that every effort be made to accelerate the construction of this most important facility from the Black Canyon westerly at the earliest possible time.

At this time I would like to introduce some of the key members of the City staff -- and inasmuch as I'm speaking from a prepared statement, I'm going to skip that paragraph because I've already done that.

To get down to this: last Tuesday the City Council of the City of Phoenix passed a resolution reaffirming their support for the relocation of Interstate Route I-10 to the Papago Freeway Line.

At this time I would like to present this resolution for the record, and I shall read the same.

"WHEREAS, the Arizona Highway Commission has recommended that the Interstate route going west from the Black Canyon Freeway (I-17) be located along the Papago Freeway line generally a quarter of a mile south of McDowell Road, and

"WHEREAS, the Papago Freeway is the most urgently needed single transportation facility in the Phoenix urban area, and

"WHEREAS, the Papago location will serve several times as much traffic in the design year as the route along the Salt River and thus will provide relief to crowded surface streets, and

"WHEREAS, the Papago line will far better serve the industrial development as well as the residential growth pattern to the west and northwest of Phoenix, and

"WHEREAS, the economic return to the motorist will be approximately five (5) times as great from the Papago line compared to the Salt River location, and

"WHEREAS, the Papago location is four (4) miles closer to Luke Air Force Base and the SAGE installation than the southern location, and

"WHEREAS, the Papago location makes efficient use of limited funds inasmuch as it better serves both interstate and urban traffic, and

"WHEREAS, great savings can be realized if the right of way for the Papago Freeway can be secured prior to the more intense development of the land that is expected on the northerly line as contrasted to the Salt River location,

"NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PHOENIX as follows:

"That the shift to the interstate route I-10 going west from Black Canyon Freeway to the Papago line just south of McDowell Road is most strongly supported and urgently requested;

"That because of the increased traffic service that the freeway would provide through the industrial, commercial, and residential areas to be served by the Papago location, adequate interchanges be provided at least at the following locations:

"Full interchanges -- 35th Avenue, 43rd Avenue, 51st Avenue, 59th Avenue and 67th Avenue.

"Partial interchange at 27th Avenue with service to and from the west.

"Structure with right of way for future interchanges at major arterials west of 67th Avenue where no interchange is provided in the initial construction.

"That the Arizona Highway Department be commended for its efforts to provide this most-needed facility, and urged to proceed as rapidly as possible with the acquisition of right of way and construction of Interstate 10 along the Papago Freeway line west from the Black Canyon Freeway.

"WHEREAS, the immediate operation of the provisions of this resolution is necessary for the preservation of the public peace, health, and safety, an EMERGENCY is hereby declared to exist, and the resolution shall be in full force and effect from and after its passage by the Council, approved by the Mayor, and publication posted as required by law and is hereby exempted from the referendum clause of the City Charter."

The City of Phoenix would like to emphasize that one of the basic reasons for moving the freeway from the Salt River location to the Papago line is to place it where it will serve the people. For this reason it is essential that adequate full interchanges be placed at every major arterial street within the City of Phoenix. If this is not done it would impose problems upon the City of carrying heavy interstate traffic on our local streets for excessive distances. In addition, the lack of interchanges will force the City to expend considerable additional funds, and actually this would be about five and a half to six million dollars to provide more lanes than would otherwise be needed in the major arterial streets in the immediate vicinity of the freeway.

These adverse effects will not result if adequate full interchanges are provided as requested in our resolution.

By placing Interstate 10 on the Papago Freeway line, the freeway system to serve the Phoenix urban area will be accelerated by a decade. This is of tremendous importance to the community in terms of its economy, safety of our motorists, and the provision of adequate traffic service to foster our continued orderly development.

The development of this great urban freeway will have many long-range benefits on our economy. Unquestionably it will accelerate developments along the general Papago corridor in an area where our long-range master planning calls for such industrial, commercial, and residential intensification of development. Unquestionably the freeway will accelerate the value of land and developments in its immediate vicinity. Certainly no better illustration of this exists than our own Black Canyon Highway and the extensive industrial and subdivision developments that have taken place in this service area.

The freeway will benefit the economy from the employment that will be brought about by the construction, as well as the savings to the motorist from this improved traffic facility. Further, it will foster tourist traffic because of the fine service to be provided west to California along Interstate 10. The Papago Freeway line brings the tourist into the heart of the urban area.

Engineering studies that have been done by the Arizona Highway Department show that the user receives approximately five times the return on his investment with the interstate on the Papago line compared to the Salt River line. In short, the Papago location makes far better use of limited funds and gives better service to both interstate and urbanstate traffic.

In summary, the Papago location places this most important facility where the people are and provides a far better return on the motorist's dollar. Furthermore, and even more important, it contributes to the orderly development of the community.

The City of Phoenix urges that every effort be made to provide this most-needed facility as rapidly as possible along the Papago Freeway line west from the Black Canyon Freeway. Thank you very much.

(End of quoted content from Milton Graham's presentation at the 1965 public hearing.)

Also included herein are the comments of Mr. Patrick J. Cusick, Professional Civil Engineer and City Regional Planner, which indicates further the typical support for the proposed corridor location.

"Mr. Chairman, my name is Patrick J. Cusick, Jr. By education and experience I am a professional civil engineer and city and regional planner. I am presently employed as Vice-President and General Manager of the Litchfield Park Land & Development Company. This company is a subsidiary of the Goodyear Tire & Rubber Company, which was established for the purpose of converting the 14,000 acres of Goodyear Farms property, located about 18

"miles due west of downtown Phoenix, into a planned new town having an eventual population of some 90,000 people in approximately 25 years.

"When this new community was conceived, I-10 was to be located several miles south of the Farms' property. Our consultants proposed a direct connection to this road, assuring us after exhaustive studies that we could successfully carry out this project. Now this hearing is being held on a different location -- one which will take this road through the southerly portion of the Goodyear property, between Litchfield Park and the cities of Goodyear and Avondale. Our consultants now tell us that the net effect of this on our undertaking is to shorten somewhat the development period.

"I mention this only to indicate quite honestly that the gain to us from this shift, while quite real, is nevertheless relatively in the order of 'good' versus 'better'."

"But please do not misinterpret my position here today: it is one of unequivocal support of the presently-proposed location for Interstate 10 from Interstate 17, the Black Canyon Freeway, west.

"It seems to me that the important issue that must occupy our attention at this hearing is not the extent of benefits or injury to individuals or groups but the general public benefit from this facility in this location, now and in the future. I have honestly attempted to appraise it objectively from this viewpoint as a professional planner, and my study confirms the wisdom of the location proposed by the Arizona Highway Department.

"Close in to a major metropolitan area, such as Phoenix, a freeway inevitably must serve two major classes of vehicular traffic -- local and long distance. While long distance traffic can usually accommodate itself to a variety of route locations -- a few miles more or less making little difference -- local traffic has very much less origin-to-destination flexibility. It is, therefore, necessary that, in a location such as the one we are considering today, the dominant determinant of a freeway's route be its local traffic-serving aspects --within, of course, the obvious limitations of economics as measured by user-benefits, which include consideration of total costs.

"In my opinion this is a location for I-10 which not only will accommodate long distance traffic very well, but also will provide excellently for the intra-Phoenix-metropolitan-area movements having their origins or destinations west of Black Canyon Freeway.

"Thus, it will be immediately beneficial to a sizeable proportion of the people, businesses, and industries located in that part of our community. But the long-range benefits will surely dwarf

"this by comparison since one of the major directions -- perhaps the only one -- of population growth, in an area which even today continues to increase at a rate well in excess of the national average, is west. In that direction the Phoenix area has room to grow unhindered by mountains, Indian Reservations, or other deterrents.

"I regret my detailed knowledge of the needs of the west side of Phoenix is not so intimate as to make it possible to comment constructively on the tentative locations of the interchanges on this portion of I-10, with one exception. That exception is, of course, in the Litchfield Park area where the interchanges shown for Litchfield Road and Cotton Lane make all kinds of good sense, since they will be vitally needed.

"I do not presently feel that any interchange will be necessary between Cotton Lane and Litchfield Road, but I would like to suggest that consideration be given to the necessity to providing an interchange at Dysart Road. During the past several years Maricopa County has invested substantially in improving this artery so as to make it possible for Dysart to accommodate the considerable amount of through north-south traffic in this part of the country -- apparently principally moving between Grand Avenue and Buckeye Road and desiring to avoid Luke Field, the Litchfield Naval Air Facility, Goodyear Aerospace, Uni-dynamics, the centers of Goodyear and Litchfield Park, and so forth -- all of which are and will continue to be served by Litchfield Road. Our excellent County Engineer, Mr. Lanford, can best advise you about this; but it does appear desirable to me, on the basis of close observation of the traffic in the Goodyear Farms area, that an exception be made in the spacing of interchanges on I-10 in order to provide one at Dysart Road, as well as at Litchfield Road.

"And I think, incidentally, that if this were done this would provide for a lot of the problem that was mentioned by the representative of the Luke Air Force Base when he spoke here. The Dysart Road interchange would permit even more traffic to bypass the gates of Luke Field.

"In summary, my position is one of full support and endorsement of the proposed location of I-10 west from the Black Canyon Freeway because I sincerely believe that this location is best from the standpoint of the general public interest and the present and future economic development of Maricopa County and the Phoenix area as a whole. Thank you."

Representatives for Maricopa County made the following two presentations:

1. Maricopa County Flood Control District

"MR. OHSIEK: I am L. E. Ohsiek, I am representing the Maricopa County Flood Control District. I am here just representing the Flood Control District, not the rest of the County.

"I'd like to invite your attention to the fact that the Maricopa County Flood Control Program includes the channelization of the Agua Fria River, and I think the State Highway Department-- I know they are completely familiar with the plan, they have received copies of our report and the information is available, we will be happy to cooperate at any time.

"A letter has been given to Mr. Price, outlining the general information. I should like to point out that the letter states -- gives the top width of the channel; actually that should be 'bottom width'.

"We have here some copies of plans which we wish to turn over to you. They show in a little more detail the locations of the channel, and we are available for technical consultation with your people at any time and will be very happy to cooperate and coordinate the program insofar as related to the Flood Control Project in this area. Thank you."

2. County Engineer for Maricopa County
Mr. Sam Lanford, County Engineer

"For the purpose of cutting our presentation short, I wish to state on behalf of County officials we do support and heartily recommend the Papago alignment as proposed over the Salt River alignment.

"We do have some concern as to the locations -- for study purposes acknowledged -- of the proposed interchanges versus grade separations. We have long-range plans on certain County arterials which, while minor today, in the overall planning will become of much more major importance than they now are, or will become much more important than some routes which are considered important today.

"We would like to request, before final decisions are made on the location of specific interchanges or grade separations, that representatives from some of the local communities on the west side with County officials and the State Highway Department, study the effects, not only of the present County road system, but the plans which are under way for long-range development in order to meet the needs of the future in our local road system as well as the County development plans."

Objections

The only objections set forth at the above public hearing were from two land owners from the area of the proposed corridor who objected to the location of the corridor and the lack of traffic interchanges, as indicated in the following statements taken in their entirety from the public hearing transcript.

1. "Mr. Clifford A. Clements. I'm a resident of Phoenix, Arizona.

"I have a personal interest in this hearing. I own the South Half of the North Half of Section 5, 1 North and 1 East, and I farm that.

"According to your map up here there is an interchange proposed on 107th Avenue which is on the west boundary of my property, but there is no interchange on 99th Avenue. This, I think should be a must because 99th Avenue goes all the way through to Northern. I think that the study should still be made for the use of the Salt River Freeway in place of this one you have up here. Thank you."

2. "My name is Ray Cowden, I own property in the West Half of Section 4, lying just east of 99th Avenue, also the West Half of Section 9 directly south of that, and also some property in Section 8 where my headquarters for my operations are.

"First, you realize that I have a personal interest in this location, and I'm opposed to where it's been located because it creates some serious problems for me in my operation. But if it is finally decided this will be the location of this freeway, why, it's most important that you have interchanges at more places than you now indicate you will have them. Especially 99th Avenue because that is the one avenue that goes all the way through to Glendale and on to Northern. Glendale is the first street north of this and will have a bridge over the Agua Fria and New River.

"Then as far as Tolleson is concerned, the town is growing to the west, a subdivision will be started very shortly west of the present town. The high school grounds are past the center of Section 9; they also plan their municipal buildings west of the high school grounds and purchased the property for those.

"If this location is decided as the proper place to put the freeway, it is most important that we do have adequate interchanges so the public can use it. And those of us who are left out there in the farming business can properly operate our farms without having to go around the section to get to our other property that is left on the north side of the field. Thank you."

Much concern was expressed relative to the types and location of traffic interchanges and grade separations throughout the length of the proposed project. The public was advised that future traffic studies and analyses would indicate the type and location of the interchanges necessary to accommodate the projected traffic requirements of the highway, and that such requirements would be reflected in the final design plans for the facility.

Subsequent to this public hearing and about 1970, a group calling themselves "Citizens for Mass Transit and Against Freeways" was formed under the direction of Professor Gerald Judd who is a chemistry professor at Phoenix College. Their avowed purpose is to stop the construction of all freeways in the Phoenix Urban area. On August 25, 1971, the group sent a letter to the Arizona Highway Department demanding it stop the construction of Interstate and Defense Highway 10 (Papago Freeway), including the section here under discussion. This was done by a short letter enclosing a copy of a news release made by the group that they would soon file a suit against Secretary of Transportation, John R. Volpe, to accomplish this purpose and that they had hired an attorney to do this.

On November 23, 1971, this suit was filed in United States District Court and is entitled "Citizens for Mass Transit and Against Freeways, et al vs. John R. Volpe, Secretary of the Department of Transportation" and is cause Number CIV 71-636 PHX CAM. The avowed purpose of the law suit was set forth by the attorney for this group in a memorandum filed on January 19, 1972, page 3, as follows:

"The purpose of the suit quite clearly is to stop the building of urban freeways. Contrary to the obligations of the proposed intervenors, there is nothing in the lawsuit which will prevent the construction of the Brenda cutoff, Interstate highway or any other rural facilities."

Secretary Volpe is being defended by the United States Attorney's Office for the District of Arizona and the Department of Justice. The State of Arizona, the City of Phoenix and the County of Maricopa have also intervened and are assisting in its defense. Litchfield Park Properties, Inc., the planner and developer of Litchfield Park, Arizona, which plans to increase that community to a size of some

50,000 to 80,000 people on some 13,000 acres it owns in the area, has also intervened and is involved in the defense of the suit on behalf of Secretary Volpe. The Oglesby Road to Perryville section of Interstate and Defense Highway 10 here discussed became "controversial" because in July of 1972, the Plaintiffs in the above entitled lawsuit amended their Complaints to include this section of highway in the suit along with the other sections of the same highway which run eastward from Perryville Road to and through the Phoenix urban area.

G. Selection of Realignment Route "A"

After carefully analyzing and evaluating the data compiled from the various traffic and area studies performed relative to the Interstate and Defense Highway program in the west Phoenix metropolitan area, and after careful consideration of the information presented at and compiled from the public hearing, the Arizona Highway Department requested Federal approval of realignment Route "A" for location of the Interstate and Defense Highway 10 between Oglesby Road in Buckeye, Arizona, and a connection on Interstate and Defense Highway 17 at a point coincidental to the Papago Line in Phoenix, Arizona.

H. Federal Approval of Realignment Route "A"

On March 8, 1965, the Bureau of Public Roads accepted the realignment concept as being feasible and in the best interest of the public. Federal approval of the specific alignment location within the accepted corridor was given in three stages in accordance with the following:

- (a) December 28, 1965, location approval was given to that section of I-10-2 from two miles west of Oglesby Road near Buckeye, Arizona, east to one-quarter mile west of Airport Road.
- (b) August 30, 1966, location approval was given to that section of I-10-2 from one-quarter mile west of Airport Road east to 67th Avenue.
- (c) April 12, 1967, location approval was given to that section of I-10-2 from 67th Avenue east to junction of I-17 in Phoenix, Arizona.

2. Various Modes of Transportation

The study area of this Environmental Impact Statement Supplement of the Interstate and Defense Highway 10 begins at Oglesby Road near the community of Buckeye, Arizona, and terminates at Perryville Road. However, since any system or means of commercial or public transportation to the communities, towns, and cities in or contiguous to the study area would probably be provided through transportation facilities operating in or through the City of Phoenix, the discussion of the various modes of transportation as contained herein shall encompass a greater geographic area so as to include adequate evaluation of such facilities and services.

A. Local Transit System

Several types of local transit systems have been employed to serve the needs of Metropolitan Phoenix as indicated in the following paragraphs quoted from Transit and the Phoenix Metropolitan Area (VATTS Report Number 10, 1970).

"Horse-drawn cars marked the beginning of transit in Phoenix in 1887. The system grew to a five-car operation with eight miles of track in 1892. Electric railway cars replaced the horse car system by 1895. Fire, unprofitable expansion, and organized labor led to purchase by the City in 1925 for \$20,000. This completed the first of three cycles of public-private ownership of Phoenix Transit Systems.

"Rebuilding of the system was financed by a \$750,000 bond issue, and in 1928, the first of 18 street cars began operation. The City system expanded to 17 street cars and 23 buses by 1941.

"Private operation in 1935 provided bus service to Tempe and Mesa.

"In the early 1940's, the City began converting street car lines to bus operation. A fire also curtailed the City street car operation, destroying all but six cars which remained on one line until 1948 when the line was converted to bus operation.

"In the 1950's, the private line then operating within the extended limits of the City of Phoenix, changed ownership twice and, eventually, purchased the City system providing an integrated service for the entire City.

"In 1966, the ownership transferred to the Phoenix Transit Corporation, a subsidiary of Chromallory American. Local service is presently provided in Phoenix, Scottsdale, and Glendale. Sun Valley Busline operates between Phoenix, Tempe, and Mesa. Greyhound Busline provides a similar service to the communities to the southwest of Phoenix. A jitney service operated on the Arizona State University campus for several years, but financial problems resulted in its closure in 1969.

"The historical trend to the Phoenix Transit Corporation has been a steady decline in revenue passengers and passenger revenue. Other sources of revenue, including charter service and advertising, have been steadily increasing, but it has not been sufficient to offset the decline in passenger revenue. The history of revenue passenger use is shown on Table 3.

"Table 3

Yearly Phoenix Bus Transit Patronage

<u>Year</u>	<u>Revenue Passengers</u>
1960	9,309,573
1961	8,785,691
1962	6,415,263*
1963	7,813,739
1964	7,366,656
1965	6,917,424
1966	7,419,175
1967	5,180,372
1968	5,131,331
1969	4,786,130

*56-day strike

Source: Phoenix Transit Corporation Semi-annual reports filed by the company with the Arizona State Corporation Commission.

"The trend is similar to other transit operations. People who are essentially captive users of transit probably account for most of the current use of transit in Phoenix. The Phoenix Transit regularly scheduled bus routes have about 18,000 paid fares per weekday or about 9,000 users of the weekday service.

"High school students represent approximately 12 percent of the total passengers on these routes. Weekend patronage falls off sharply to about 9,000 paid fares on Saturday and 2,500 on Sunday.

"In 1947, there was an average of 71,318 transit trips per day. Of this total, 17,337 were school trips. Ten years later, there were 38,042 school transit trips per day. However, the total number of trips per day had decreased 13,741 to 57,577 in 1957. Last year there were 4.5 million less revenue passengers than in 1960. There were only 4.8 million passengers utilizing the 1969 Phoenix bus transit service which operated about 3 million total bus miles.¹⁵ This is less than 2 revenue passengers per revenue mile.

"Currently, a great deal of interest surrounds transit as a solution to the urban transportation problem. New transit systems and improvements to the existing systems may result in increased passenger utilization.

¹⁵City of Phoenix, Personalized Transit Study - History of Mass Transit and Travel Time Studies for Automobile and Transit, June, 1969. pp. 18-20; Wilbur Smith & Associates, A Major Street and Highway Plan - Phoenix Urban Area - Maricopa County, May 1960, p. 43."

* * *

During the 1950's, bus transit service was provided to the outlying communities of Tolleson, Avondale, Goodyear, Litchfield Park, and Luke Air Force Base, west of Phoenix, which are located in the general study area. The service originated in Phoenix and was an extended operational route of the metropolitan transit facilities.

Because of the continued decline of revenue passengers on the metropolitan transit system and because of extreme financial difficulties, revisions to service routes and schedules were made which terminated operations on the extended route to the aforementioned communities. Current service routes of the metropolitan transit system do not extend west of 59th Avenue within the western city

limits of Phoenix proper. Only commercial carrier bus service is now available to these areas, as is more fully explained in the following Part B of this supplement. There is no local service to Litchfield Park or Luke Air Force Base or to any portion of the area west of Litchfield Park.

B. Commercial Carrier Bus Service

Commercial bus service to some communities south of the study area is currently provided by Interstate facilities of the Greyhound Bus Line and Continental Trailways Bus Lines and by Intrastate services of the Arizona Bus Lines.

Greyhound presently operates two westbound and two eastbound daily schedules between Phoenix, Arizona, and San Diego, California, which serves the communities of Cashion (on U.S. Highway 80), Tolleson, Avondale, Goodyear, and Buckeye.

Arizona Bus Lines operates two westbound and two eastbound daily schedules between Phoenix and Ajo, Arizona, with service points identical to those of the Greyhound Bus Line.

Continental Trailways Bus Lines operates one daily schedule each way between Phoenix and San Diego, California, via Buckeye, Arizona.

In addition to the above service which exists presently over U.S. Highway 80 along the proposed Interstate and Defense Highway 10 corridor through the study area, commercial bus service is also provided to the communities and towns located along U.S. Highways 60 and 89 between Phoenix, Arizona, and Los Angeles, or other points in California and Las Vegas, Nevada.

The Greyhound Bus Line operates 13 westbound and 12 eastbound daily schedules between Phoenix and Los Angeles, via Wickenburg,

Arizona. It is anticipated that approximately 70 percent of this service will be rerouted onto the new Interstate and Defense Highway 10 upon completion.

Two daily schedules are maintained each way between Phoenix and Flagstaff via Wickenburg, Arizona, which will continue unaffected.

The following passenger traffic data was furnished by Greyhound which represents the total numbers of east and westbound Greyhound passengers traveling between Phoenix and Los Angeles and between Phoenix and San Diego, in the years 1968 and 1971.

Phoenix - Los Angeles

<u>1968</u>	<u>1971</u>
E.B. 158,000	E.B. 148,000
W.B. 160,000	W.B. 145,000

Phoenix - San Diego

<u>1968</u>	<u>1971</u>
E.B. 16,500	E.B. 15,500
W.B. 16,500	W.B. 15,400

The Las Vegas, Tonopah, Reno Stage operates two eastbound and two westbound daily schedules between Phoenix and Reno, Nevada, via Wickenburg and Kingman, Arizona. No rerouting is expected to occur to these schedules when the Interstate and Defense Highway 10 is completed.

Sun Valley Bus Line operates two westbound and two eastbound daily Intrastate schedules between Phoenix and Parker via Wickenburg and Hope, Arizona. No routing change is anticipated for these services.

Continental Trailways maintains six daily schedules each way between Phoenix and Los Angeles, California, via Wickenburg, Arizona. It is anticipated that some future rerouting onto the proposed new Interstate and Defense Highway 10 may occur.

Figures are not readily available to include in this supplement statement which would indicate the total number of revenue passengers of the study area who utilize the commercial, long-distance bus services for short trip commuter-type purposes. The percentage, however, is believed to be extremely low.

With regard to local transit trips, use of bus transportation or other forms of public transit does not seem a viable alternative since almost all of the area within one mile on either side of the proposed highway route has a population density of less than one person per acre or 640 persons per square mile.

The anticipated future rerouting of some of the existing commercial bus services onto the Interstate and Defense Highway 10 will provide an improved potential of transportation opportunities for persons of the study area and metropolitan Phoenix.

C. Railroad Transportation Facilities

Railroad transportation, since its introduction into Arizona in the 1800's, has been a major contributing factor in the growth and development of early Phoenix and the surrounding communities that make up the Phoenix Valley Area. The valley area has for many years been served by two principal railroad companies.

The Santa Fe Railroad Company, until recent years, afforded passenger service to the Phoenix area via a daily train schedule from the mainline connection at Ash Fork or Flagstaff in northern Arizona. With the decline of passengers in the 1950's, the daily schedule was reduced to a multiweekly schedule; and with the continued decline of revenue passengers, passenger service between the mainline and Phoenix was discontinued altogether in May, 1967.

The Southern Pacific Transportation Company, operating in the central and southern part of the State, has provided passenger service to the Phoenix area with mainline accommodations available to the Los Angeles area on the west coast, and Chicago and other points to the east via New Orleans. Railroad stations for many years were maintained for passenger service in the study area at Goodyear and at Buckeye, Arizona. The station at Goodyear was identified as "Litchfield" station due to the fact that most passengers to or from the station were visitors and patrons of the Wigwam Resort located four miles north of Goodyear in the community of Litchfield Park, Arizona. However, because of the decline of passengers, both the Litchfield and Buckeye stations were long ago closed down and abandoned by the Southern Pacific, leaving the communities through the study area west of Phoenix without railroad passenger service.

The following information table was supplied by the Southern Pacific Transportation Company relative to the numbers of daily trains and the numbers of revenue passengers pertinent to the Phoenix area for the period 1957-1971.

Trains Operated West of Phoenix

	<u>Number of Trains in each Direction</u>
January through September 1957	4 (Daily)
October 1957 through April 18, 1964	3 (Daily)
April 19, 1964 through August 17, 1967	2 (Daily)
August 18, 1967 through September 30, 1970	1 (Daily)
October 1, 1970 through December 31, 1971	1 (Tri-Weekly)

Passenger Loadings West of El Paso Years 1957-1971

<u>Year</u>	<u>Westbound Annual Passengers</u>	<u>Eastbound Annual Passengers</u>
1957	236,155	232,140
1958	218,635	223,015
1959	215,715	224,475
1960	205,326	225,090
1961	202,940	218,635
1962	181,040	190,895
1963	188,705	188,340
1964	146,034	138,348
1965	128,845	114,245
1966	112,055	104,025
1967	80,300	76,285
1968	69,540	77,226
1969	63,145	64,970
1970	54,073	53,427
1971	31,668	31,512

* * *

This factual information clearly indicates the steady decline of rail passengers and the subsequent reduction of rail service obviated by such decline. This declining trend is generally typical of that experienced by railroad transportation companies across the country.

In 1971, Amtrak, which is a federally-subsidized organization, assumed responsibility for management of passenger train service throughout the United States. In recent discussion with Southern Pacific personnel in Phoenix, it was learned that passenger volume

in the area has shown some increase since Amtrak assumed management of the railroad passenger facilities of that company.

Historical operational data of the new management concept is at this point too limited to draw any conclusions for future projections. However, because railroad stations do not exist in the study area, it is believed that the railroad will not in any way contribute to the solution of the short-trip commuter type transportation problems associated to the Phoenix metropolitan area, as it is known today.

Should Amtrak be highly successful in promoting long-trip passenger service, it is conceivable that some influence could be reflected on the number of motorists who might elect to ride the trains rather than drive automobiles on such long trips. It must also be assumed that some of the potential railroad passengers would probably come from other sources or modes of long-trip transportation facilities such as the airlines and the buslines. It is not possible to factually predict a reasonable picture of future railroad passenger service and revenue passengers at this time, but with improved management offering much improved passenger service, the railroad may at some future time once again become a major carrier of long-trip passengers.

D. Air Transportation Facilities

Phoenix-Litchfield Municipal Airport

Contained in the 1963 Interstate Route 10 Report and the 1964 Supplement prepared by the Arizona Highway Department was reference to the Litchfield Naval Air Facility.

Because this facility is located just east of the study area of this Supplemental Environmental Statement, and because future use of

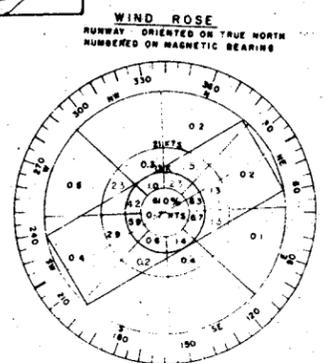
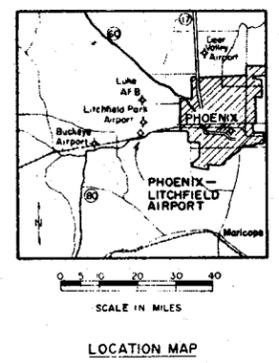
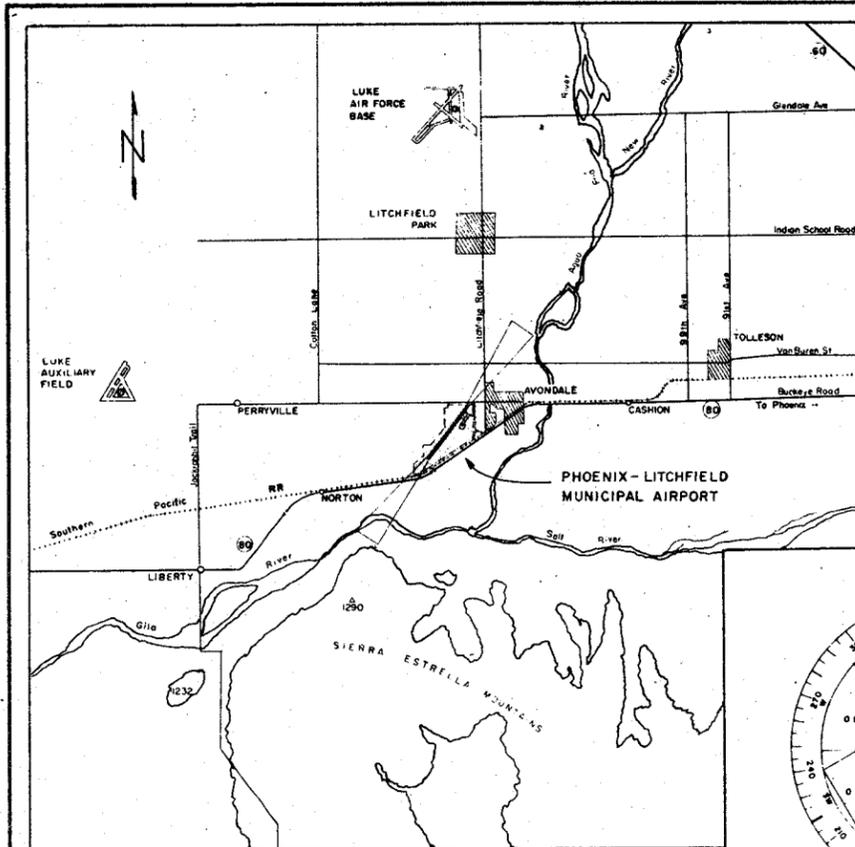
the airport facility is expected to be of significant importance in the major air transportation picture in the Phoenix Metropolitan area, the following discussion is included herein to indicate and evaluate the anticipated relationship between that air facility and the proposed Interstate and Defense Highway 10 to be constructed through the study area.

The Phoenix-Litchfield Municipal Airport is a satellite facility of the Phoenix-Sky Harbor International Airport located in the City of Phoenix. The satellite airport, formerly the U.S. Naval Litchfield Facility, was purchased from the Federal Government by the City of Phoenix in 1968.

The airport is located on Litchfield Road, approximately one and one-half miles south of the proposed Interstate and Defense Highway 10 corridor, in the Town of Goodyear, Arizona, some 18 miles west of Phoenix and six miles east of the study area.

An Airport Layout Plan, dated 1971, is included herein (see page 2-10A). Shown on the plan are the many and various buildings on the airport grounds as well as the aircraft tie-down areas, the 8,500 foot by 150 foot asphaltic concrete non-instrument runway, the clear zones, and all other existing amenities pertinent to the airport property.

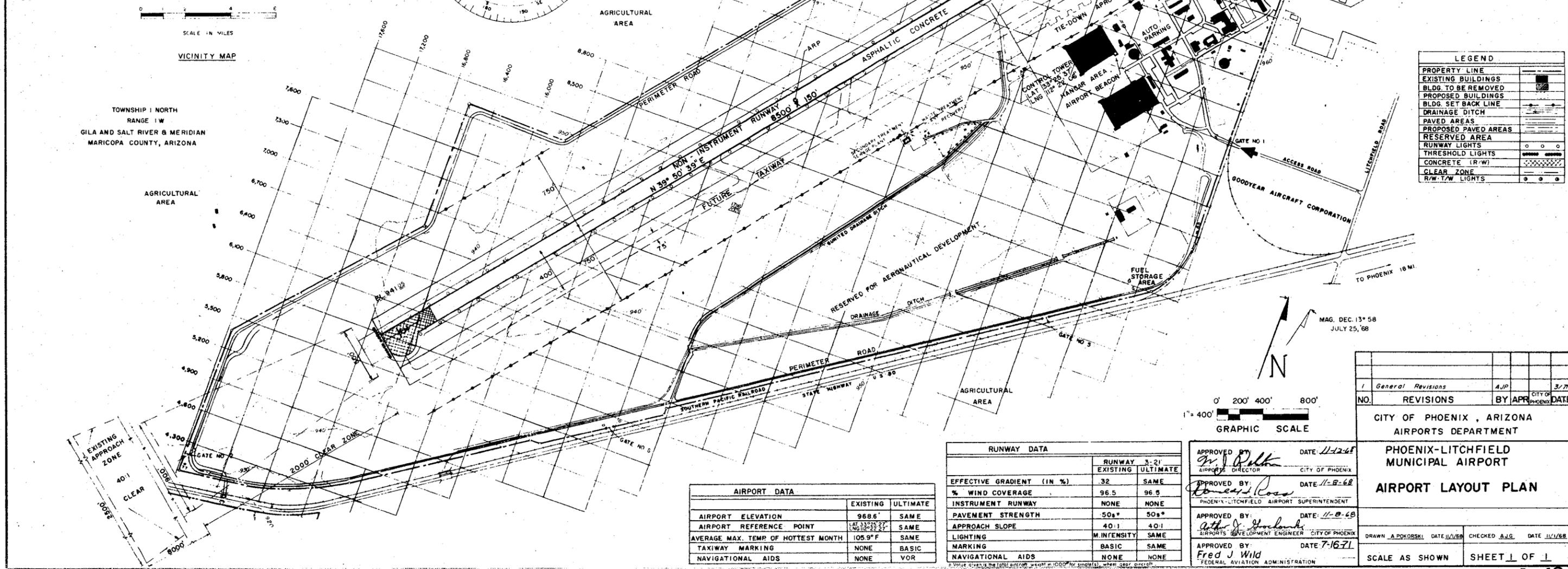
The airport was acquired by the City of Phoenix as an auxiliary air service facility to which some of the smaller and lighter aircraft could be relocated from Phoenix Sky Harbor International Airport as a result of planned expansion to the larger metropolitan facility, and as a result of increasing demands for more small-aircraft service facilities in the area.



PERIOD OF COVERAGE, APRIL 1945 THROUGH DEC 1952
 PERCENTAGE OF WIND COVERAGE
 100-3.5 = 96.5

TOWNSHIP 1 NORTH
 RANGE 1W
 GILA AND SALT RIVER & MERIDIAN
 MARICOPA COUNTY, ARIZONA

LEGEND	
PROPERTY LINE	---
EXISTING BUILDINGS	■
BLDG. TO BE REMOVED	▨
PROPOSED BUILDINGS	□
BLDG. SET BACK LINE	---
DRAINAGE DITCH	- - -
PAVED AREAS	▨
PROPOSED PAVED AREAS	▨
RESERVED AREA	▨
RUNWAY LIGHTS	○ ○ ○
THRESHOLD LIGHTS	○ ○ ○
CONCRETE (R-W)	▨
CLEAR ZONE	○ ○ ○
R/W, T/W LIGHTS	○ ○ ○



AIRPORT DATA		
	EXISTING	ULTIMATE
AIRPORT ELEVATION	9686'	SAME
AIRPORT REFERENCE POINT	140 33' 23"	SAME
AVERAGE MAX. TEMP. OF HOTTEST MONTH	105.9°F	SAME
TAXIWAY MARKING	NONE	BASIC
NAVIGATIONAL AIDS	NONE	VOR

RUNWAY DATA		
	RUNWAY 3-21	ULTIMATE
EFFECTIVE GRADIENT (IN %)	32	SAME
% WIND COVERAGE	96.5	96.5
INSTRUMENT RUNWAY	NONE	NONE
PAVEMENT STRENGTH	50s*	50s*
APPROACH SLOPE	40:1	40:1
LIGHTING	M. INTENSITY	SAME
MARKING	BASIC	SAME
NAVIGATIONAL AIDS	NONE	NONE

APPROVED BY: *W. J. Balth* DATE: 11-12-68
 AIRPORTS DIRECTOR CITY OF PHOENIX
 APPROVED BY: *James Ross* DATE: 11-8-68
 PHOENIX-LITCHFIELD AIRPORT SUPERINTENDENT
 APPROVED BY: *Arthur J. Gochinski* DATE: 11-8-68
 AIRPORTS DEVELOPMENT ENGINEER CITY OF PHOENIX
 APPROVED BY: *Fred J. Wild* DATE: 7-16-71
 FEDERAL AVIATION ADMINISTRATION

NO.	REVISIONS	BY	APPROVED	DATE
1	General Revisions	AJP		3/7

CITY OF PHOENIX, ARIZONA
 AIRPORTS DEPARTMENT
PHOENIX-LITCHFIELD MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
 DRAWN A. POKORSKI DATE 11/1/68
 CHECKED A.J.G. DATE 11/1/68
 SCALE AS SHOWN SHEET 1 OF 1

The following air traffic information was furnished by the City of Phoenix which indicates the numbers and types of operations occurring at the Litchfield facility for the fiscal years 1968 through 1971, and the numbers of aircraft based at the airport during those years.

Phoenix-Litchfield Municipal Airport
Activity Report (Fiscal Years)

	<u>1968-1969</u>	<u>1969-1970</u>	<u>1970-1971</u>
Air Force Itinerant	175	69	19
Air Force Local	693	416	32
Civil-Itinerant	19,878	36,813	53,628
Civil-Local	<u>34,993</u>	<u>70,670</u>	<u>164,134</u>
	55,739	107,968	217,813
 Based Aircraft	 31	 34	 87

* * *

The Litchfield Airport will accommodate many types of propeller and jet-powered aircraft including the larger Boeing 727 and 707 jet liners, and similar crafts; however, the principal user will be the smaller piston-type planes, and the executive-jet craft such as the Lear Jet 23 and 24, North American Sabreliner 6 and 40, the Hawker Siddley 125, etc.

One very large, vacant hangar located near the runway, because of having been constructed for servicing and testing all types of naval aircraft prior to acquisition of the facility by the City, affords an excellent potential service capability to some large commercial aircraft user or perhaps to some governmental agency such as the Air National Guard, who might desire to locate at the Litchfield site.

Considerations for future development and improvement of the airport by the City of Phoenix are reflected in the Proposed Airport Development Plans. (See page 2-11A)

Because of the demands of the public for more small aircraft facilities to accommodate the rapidly increasing numbers of such aircraft, the Litchfield Airport is expected to assume a significant status in the future overall transportation program in the metropolitan Phoenix area.

The proposed Interstate and Defense Highway 10, upon completion, will serve as a catalyst to crystalize the orderly growth and further planned development of the Phoenix-Litchfield Municipal Airport.

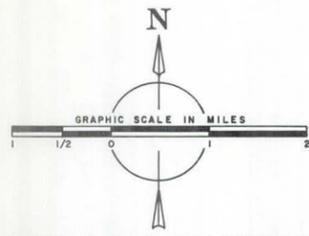
Traffic to or from the Litchfield Airport will not generally be commuter-type in nature and therefore will not contribute toward the solution of the short-trip roadway problems existing in the metropolitan Phoenix area. The facility will, however, permit expansion of the Phoenix Sky Harbor International Airport to more adequately and safely accommodate the rapidly increasing numbers of long-trip air passengers utilizing the Phoenix Airport.

E. Other Factors

In the evaluation of other modes of transportation, it is important to consider that the area adjacent to the proposed I-10 Highway corridor in the study area has very low population density. It is almost totally vacant except for the community of White Tanks (Perryville) which has 700 to 800 people. Attached hereto on the following pages 2-12A and 2-12B are the latest density maps for the area adjacent to the study area, published by the Maricopa Planning and Zoning Department. The study area is significantly lower in population.

As can be seen by the maps, the population density reflects the rural characteristics of the subject area. A sufficient population

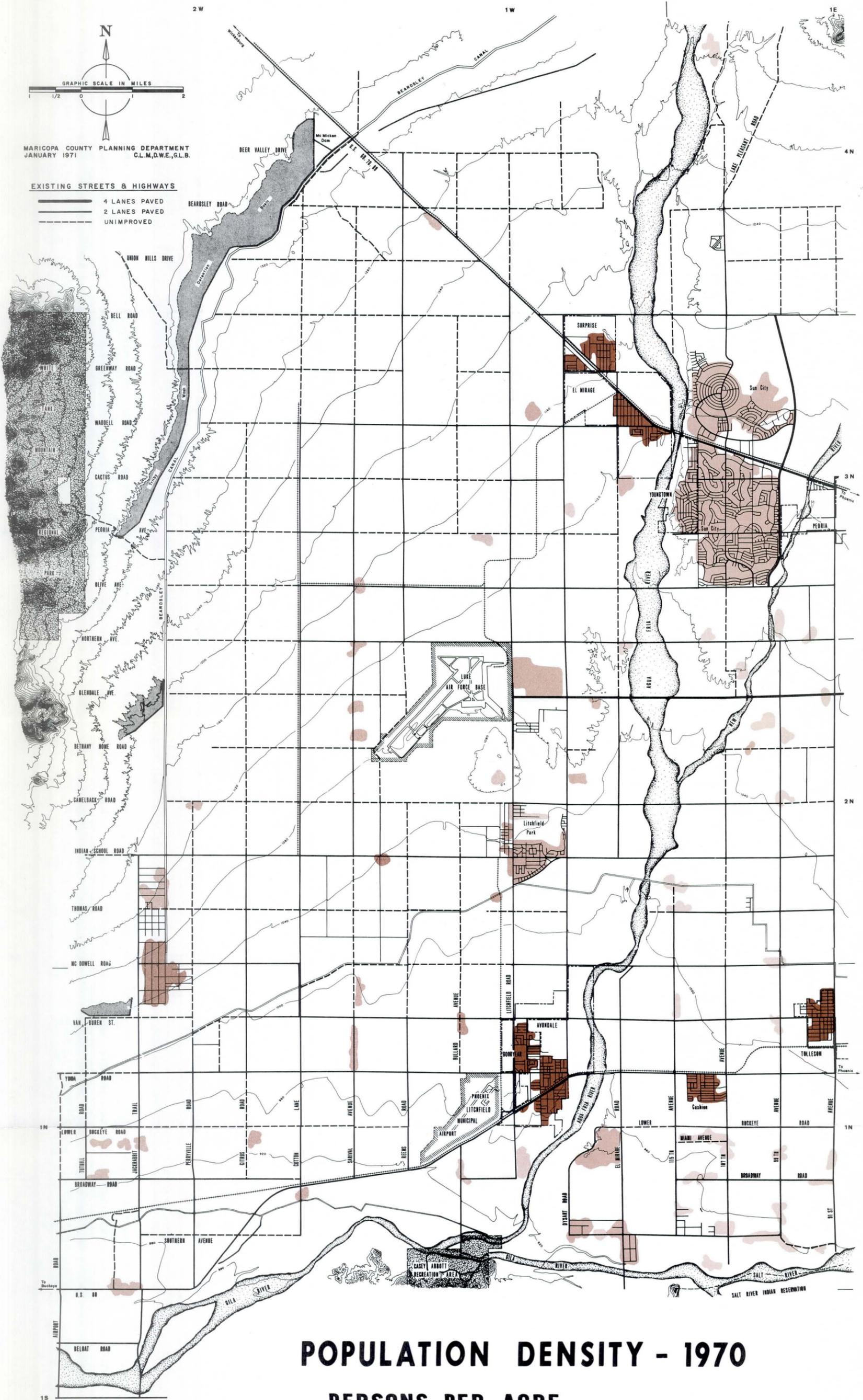
WEST CENTRAL MARICOPA COUNTY, ARIZONA



MARICOPA COUNTY PLANNING DEPARTMENT
JANUARY 1971
C.L.M., D.W.E., G.L.B.

EXISTING STREETS & HIGHWAYS

- 4 LANES PAVED
- 2 LANES PAVED
- UNIMPROVED

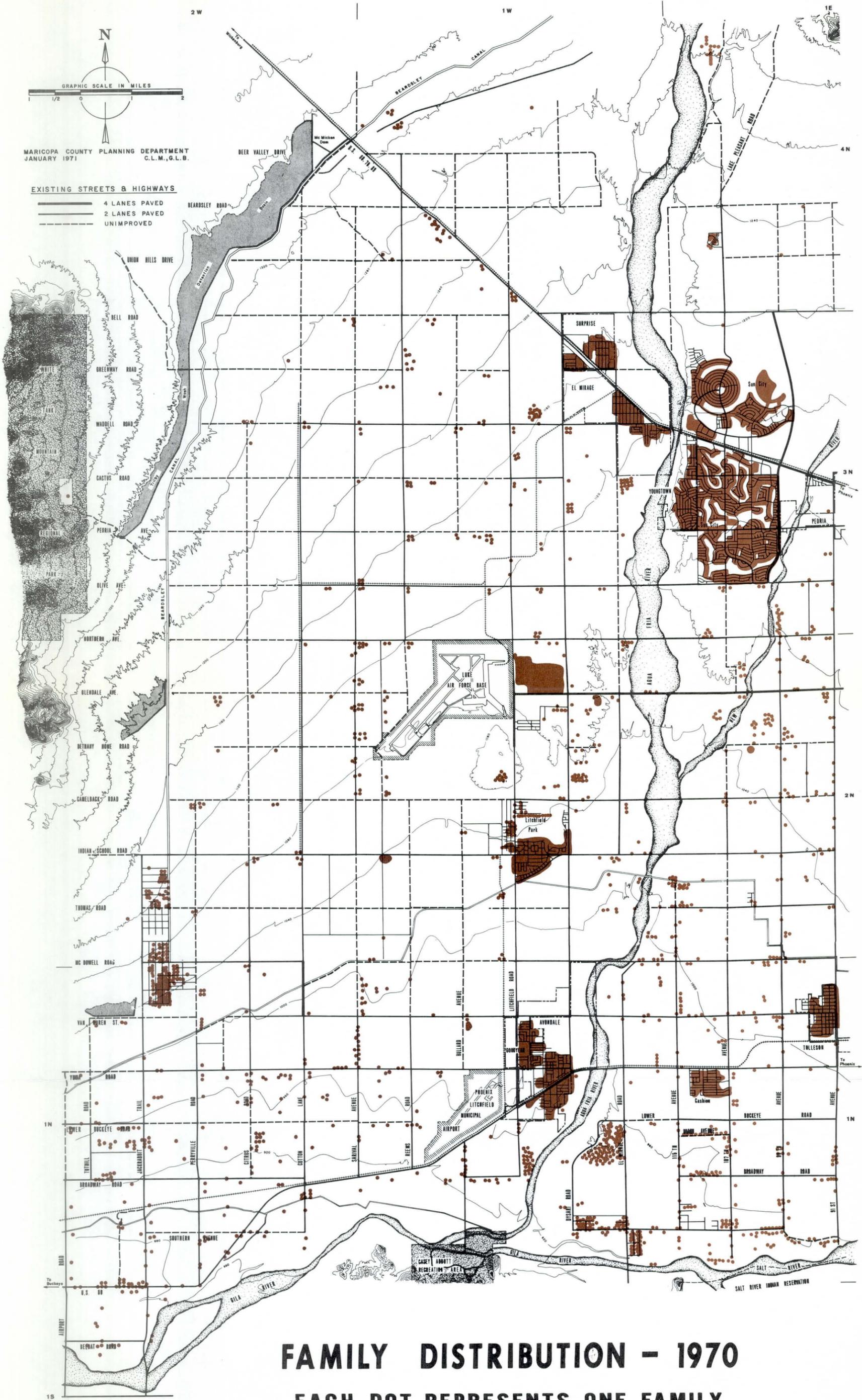


POPULATION DENSITY - 1970

PERSONS PER ACRE

- | | | | |
|--|------------|--|--------------|
| | 0 TO .49 | | 1.0 TO 9.9 |
| | .50 TO .99 | | 10.0 OR MORE |

WEST CENTRAL MARICOPA COUNTY, ARIZONA



density required to justify and support public transportation as a feasible alternative to this planned Interstate Highway segment is not evidenced.

Further, a substantial portion of traffic on this highway will be interstate cars and trucks traversing between Phoenix and the metropolitan areas of southern and central California. An alternate means of transportation, which would require these travelers (or the goods and commodities being transported by interstate truck) to change modes of transportation when they reach or are leaving the outskirts of the Phoenix area, hardly seems possible in the reasonable, foreseeable future.

3. Land Use Evaluation

Land-use in the study area has remained generally stable and unchanged over the past several years. However, because construction of the proposed Interstate and Defense Highway 10 is expected to influence land-use along the highway corridor, discussions have been included herein which evaluate the existing and proposed future use of these lands, and the impact the highway will affect upon the land-use, planning and development of the communities in the study area.

A. Existing Land-Use (see Figure 1 which follows page 1-11)

Beginning at Oglesby Road north and west of the community of Buckeye, Arizona, and progressing eastward nine miles to the community of Perryville (White Tanks), Arizona, the proposed highway corridor traverses vacant, arid, and sparsely vegetated desert lands.

Continuing eastward between Jackrabbit Road and Perryville Road, the land-use is designated as residential and desert. Here the highway corridor passes through a residential area of very low density population as evidenced by the fact that only four houses and a small community church are encroached upon by the highway right of way. (There are approximately 250 homes and other buildings in the community spread over four square miles.)

B. Suggested Future Land-Use (see Figure 2 which follows page 1-11)

Data used in preparation of the Suggested Future Land-Use Map was furnished by the Planning Departments of the City of Phoenix and Maricopa County, and is subject to change at the direction of those having authority for approval of the final future land-use maps being prepared for the City and the County.

From the beginning of the study area at Oglesby Road to Perryville Road to the east, the land-use pattern in the highway corridor area is expected to change very little, if any, except at the point of traffic interchanges which will probably be developed commercially for traffic-related services and accommodations. As the Town of Buckeye, Arizona, expands northward toward Interstate and Defense Highway 10, it is expected that some of the presently vacant, arid desert land south of the highway corridor will be converted to agricultural or other use.

After the Interstate Highway and Oglesby Road are constructed, Oglesby Road will become the major connector route between the I-10 Highway and U.S. Highway 80 in Buckeye and Interstate 8 to the south. Evaluation of this connector route is contained in Final Environmental Impact Statement AZHD-EPD-EIS-71-8F which was accepted by T.E.U. on June 18, 1971.

In the first part of May, 1972, the Planning and Zoning Department of Maricopa County issued its report on suggested land uses for an area between 91st Avenue westward to Airport Road and from Northern Avenue south to the Gila and Salt River. The land uses suggested in that report along the proposed freeway route are all compatible to the construction of the freeway between Perryville Road and Oglesby Road. Further, the section of the report regarding transportation for the area calls for the construction of Interstate and Defense Highway 10 along the route proposed is a major, needed transportation element. The suggested land-use map published as a part of the report shows Interstate and Defense Highway 10 as a prominent part of its suggested land uses.

On May 11, 1972, this planning report was presented to the Maricopa County Board of Supervisors as the recommended official plan for the area. As of this date, the Plan is being evaluated by the Board of Supervisors but has not yet been adopted.

C. Land-Use Summary

Land use within the mile-wide corridor traversed by the highway is expected to be affected by the presence of the facility. Although it is likely that most of the corridor will retain its current status as undeveloped desert, it is expected that residential development will continue along the east end of the project near Jackrabbit and Perryville Roads. At all traffic interchanges commercial, primarily travel-oriented, development can be expected to occur.

East of the project urbanization is occurring as metropolitan Phoenix continues to increase population and economic activity. Although the subject project does not lie within the area which the Maricopa Association of Governments Transportation Planning Program anticipates to comprise the 1995 urban limits, it is certain that the nearby Phoenix metropolitan area will exert considerable influence on the project's corridor. If urban development occurs in a leap-frogging pattern, it is possible that the area around the Jackrabbit Road interchange would undergo a trend toward urbanization. However, although this has been the trend in the past, planning and zoning authorities are currently encouraging a more organized type of development in the portions of Maricopa County which are affected by the presence of metropolitan Phoenix.

Changes in land use as shown on the existing and the suggested future land-use maps is indicative of the coordination and long-range planning instituted by the City of Phoenix and Maricopa County in conjunction with the towns and cities in the study area to meet the planned growth and development needs of those communities.

When land in the study area is being utilized according or similar to the suggested future land-use map, such change from agricultural to industrial, commercial and residential classification will favorably influence the tax base and economic structure of the communities in the study area and of Maricopa County and the State.

4. Long-Range Planning and Development

Growth and development is expected to occur in and around the towns and cities located near the study area in anticipation of, in conjunction with, or subsequent to the construction of the proposed Interstate and Defense Highway 10.

A. Communities with Similarities

Many similarities exist between the communities of Tolleson, Avondale, Goodyear, and Buckeye relative to existing or anticipated long-range planning and land-use for the areas along the proposed highway corridor. Because of such similarities, the discussions contained in the following paragraphs will apply generally to the entire area which is comprised of those communities.

Several factors exist which are of significance to the future growth and development of the area; some of the most important of these are:

- (a) The fact that lands are available for most all types of expansion purposes within or generally adjacent to the town or city limits of each respective community within the area;
- (b) Land values in the area generally are more attractive to prospective industrial, commercial, and residential developers and builders than similar lands located closer to the Phoenix area;
- (c) A generally stable labor force is available in or near the area to meet requirements of potential new commerce and industry;
- (d) Adequate transportation facilities are planned (Interstate and Defense Highway 10) which will provide easy access for local commuters and which will provide better local and long-distance traffic routes for incoming and outgoing commercial and industrial goods and products. The City of Buckeye is also developing its airport at a location near I-10 three miles west of Oglesby Road;

- (e) Municipal officials of the area are very interested in and are actively engaged in attracting new commercial, industrial, and residential growth in their local community;
- (f) Long-range planning is being undertaken which will provide adequate land-use for the expanding communities within the area, thereby assuring the orderly growth and development of the entire area, and which will provide for the improvement and extension of municipal services and facilities for those communities.
- (g) Development and expansion of the respective communities within the area is part of the planned growth pattern established in the development of the master plan for the entire Phoenix metropolitan area as a result of joint coordination between the cities, the County, and the State.

Current and planned expansion consists of annexation of lands to enlarge municipal boundaries, plotting of lands for development to accommodate present and future industrial and commercial growth, and the construction of literally hundreds of single and multiple family dwellings.

Should the same trend occur here which has been experienced in other cities and towns along previously constructed Interstate and Defense highways elsewhere in the State, commercial and industrial land-use will develop along the highway corridor and at major traffic interchanges with high and low density residential development occurring in contiguous areas thereto. When this occurs, a very favorable impact will be effected to the economic and tax base structure of the entire community.

B. Litchfield Park

Located six miles east of the study area (see Figure 1 following page 1-11) but not similar in fact, or in planning to other previously mentioned communities, is the community of Litchfield Park which is located on 13,000 acres of land lowned by the Goodyear Farms, a subsidiary of Goodyear Tire and Rubber Company of Akron, Ohio. The community is located immediately north of the proposed highway corridor between Camelback Road on the north and McDowell Road on the south, and lies generally between Dysart Road on the east and Cotton Lane on

the west. The center of the present municipality is situated in the vicinity of Litchfield Road and Indian School Road.

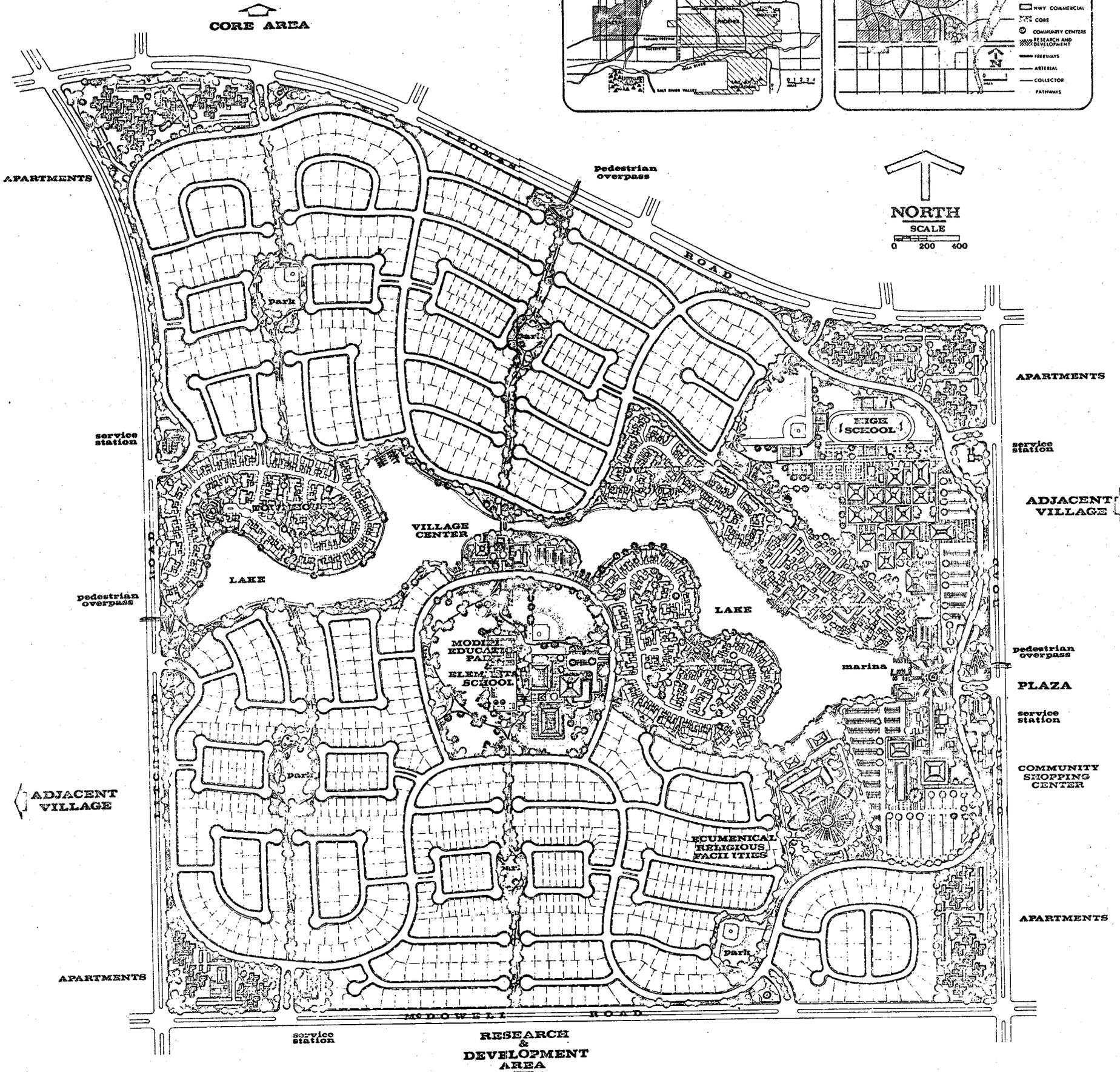
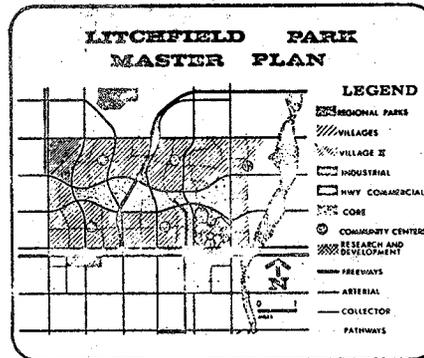
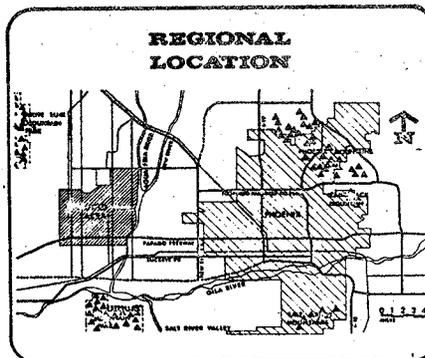
Long-range planning provides for the orderly growth and development of a city containing six separate but interrelated communities. Each community will be comprised of two villages, and will provide a compact and convenient community center of business and professional offices and a wide range of retail shops, stores, and service centers. Each village will be comprised of neighborhoods containing centrally located elementary schools, a recreation center, and a modern general store, and will include recreational and housing areas.

Included in the overall city concept will be large commercial and industrial centers to accommodate existing and future enterprise, department stores, shops, restaurants, hotels, high-rise apartments, office buildings, and civic and medical centers.

A map of Village II is included herein on the following page 4-3A which portrays the somewhat, although not altogether, typical planning and development concept of the villages which will make up the City of Litchfield Park.

When fully developed, the planned city will be substantially self-supporting and will contain a resident population of approximately 90,000.

The City has been planned to utilize the Interstate and Defense Highway 10 when constructed. Land-use and development along the area immediately north of the proposed highway corridor is planned to be compatible with the highway corridor and the traffic interchanges planned for Litchfield Road, and Dysart Road.



MASTER PLAN OF VILLAGE II

Development of the City of Litchfield Park is in part dependent upon the proposed highway. The highway when constructed will act as a catalyst to hasten development, and will provide for orderly growth of the entire region, both in and adjacent to the study area.

C. Luke Air Force Base

Luke Air Force Base is located on Litchfield Road at Glendale Avenue, approximately five miles north of the proposed highway corridor and is six miles east of the study area.

The following is an excerpt from the Westsider Newspaper, published April 5, 1972, in Avondale, Arizona:

"The base opened during the pre-war emergency in 1941 and has grown over the years to its current recognition of being the largest tactical training wing in the world, hosting six USAF tactical squadrons and one of the German Luftwaffe.

"The work force of 8,500 at Luke includes 2,000 civilians and representatives. The total population of the base is 27,000 which includes servicemen and their families.

"The annual operation of the base contributes \$80 million to the economy of the valley area which represents payrolls, supplies, and construction on the base.

"Luke averages about 550 to 700 runway actions daily."

Servicemen from Luke who reside off-base generally are located in Glendale, Maryvale, or Phoenix. Others find housing available in one of the aforementioned communities along the study area. Many are daily commuters to and from Phoenix.

Construction of the proposed Interstate and Defense Highway 10 through Arizona will connect Luke Air Force Base to the coast-to-coast network of Interstate and Defense highways being built across the nation, thereby improving the land access routes of all Air Force

ground-type support vehicles, equipment, and operational personnel in the event of National or Civil emergencies or disasters.

In the event of a National air alert, the proposed highway will also serve as a fast commuter carrier for quick base access to off-base servicemen residing in areas along the highway corridor.

The proposed highway is expected to contribute favorably as a means of easy access for the shopping commuters who reside on or near the base, and who shop in the Phoenix area, and for the many retired military personnel and their families who live throughout metropolitan Phoenix and who commute to the shopping, medical, and hospital facilities found on the base.

It is expected that I-10 traffic bound to or from the base will utilize the traffic interchange planned at Dysart Road. Some base traffic, however, will probably use the Litchfield Road Interchange.

Because the proposed Interstate and Defense Highway 10 is located some five miles south of the immediate proximity of Luke Air Force Base, no adverse impact or incompatibility is expected to occur as a result of construction of the proposed highway project. The highway will, however, afford the previously mentioned benefits to both the base and its personnel, and to the continued operation of Luke, which when analyzed in simple consideration, is a significant and vital enhancement to the economic structure of the entire Phoenix metropolitan area and the State of Arizona.

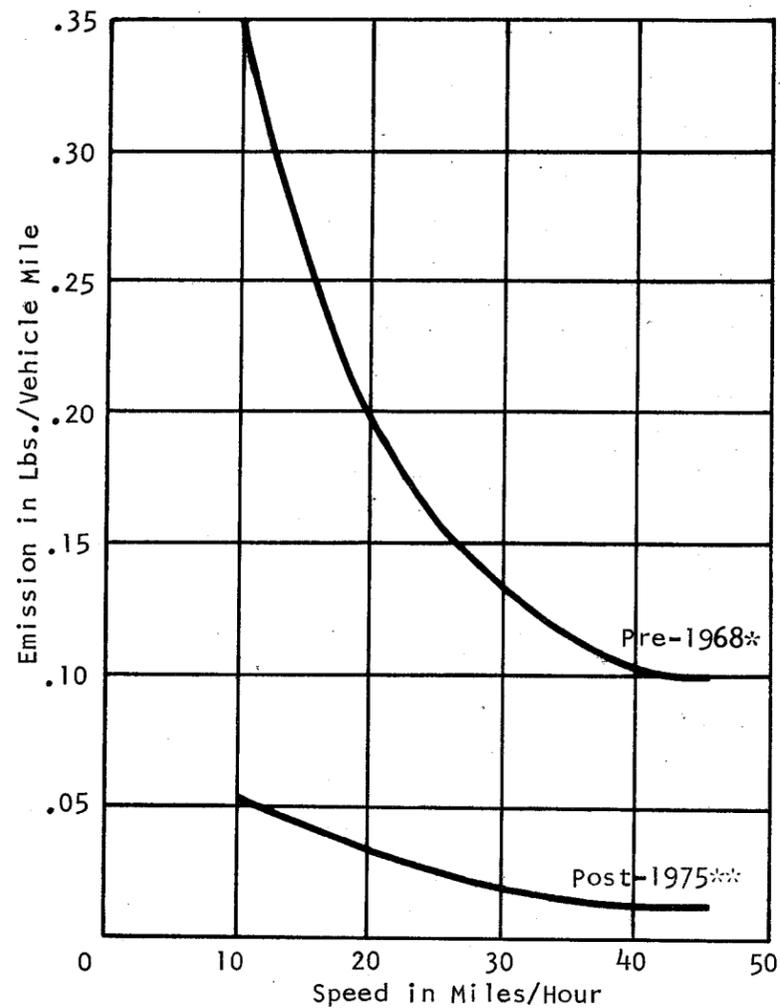
5. Air Pollution Considerations

The section of Interstate and Defense Highway 10 from Oglesby Road to Perryville Road, although traversing an area consisting primarily of native desert terrain, will become the new backbone of an already extant network of lesser highway facilities. Where such a network of roadways exists, it has not generally been possible to correlate overall air pollution levels or even automotive air pollution levels with the volume of traffic using any one highway facility.

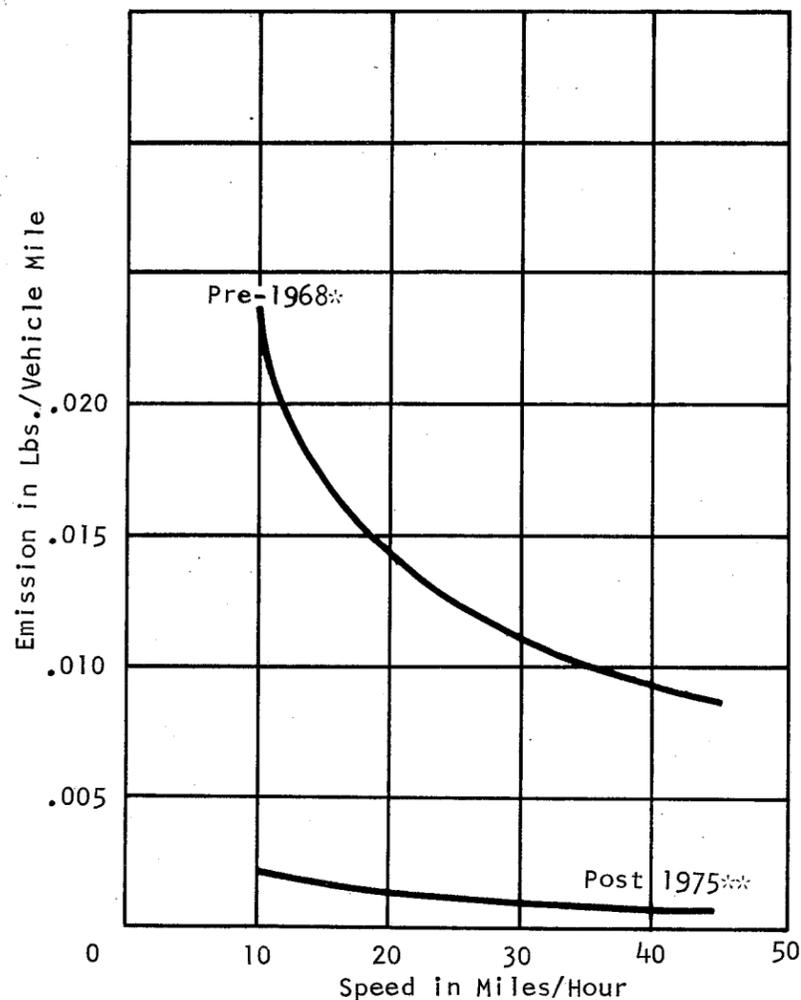
Although construction of this project will facilitate the production of a greater number of vehicle miles daily near the western edge of the Phoenix Metropolitan area, it is reasonable to assume that overall long-term air pollution levels in that area will decline and not be as great at any time during the design life of the facility as they are currently. This apparent contradiction is due to the effect which the requirements of recently enacted legislation will have on individual pollution sources. In August 1971, the Federal Environmental Quality Council stated in a report to the Congress that, "We have apparently (as of 1968) reached the peak level of automotive pollution, and as older cars are replaced by newer ones..we can expect automobile-related pollution to decline."*

Traffic data supplied by the Transportation Planning Program of the Maricopa Association of Governments (MAG) indicates that the total traffic volume on U.S. 80, I-10, and U.S. 60 during the year 1995 at the western limit of MAG planning area is estimated to be approximately 35,500 vehicles per day essentially, regardless of the alignment chosen for I-10. The 1970 traffic flow on U.S. 80 and U.S. 60

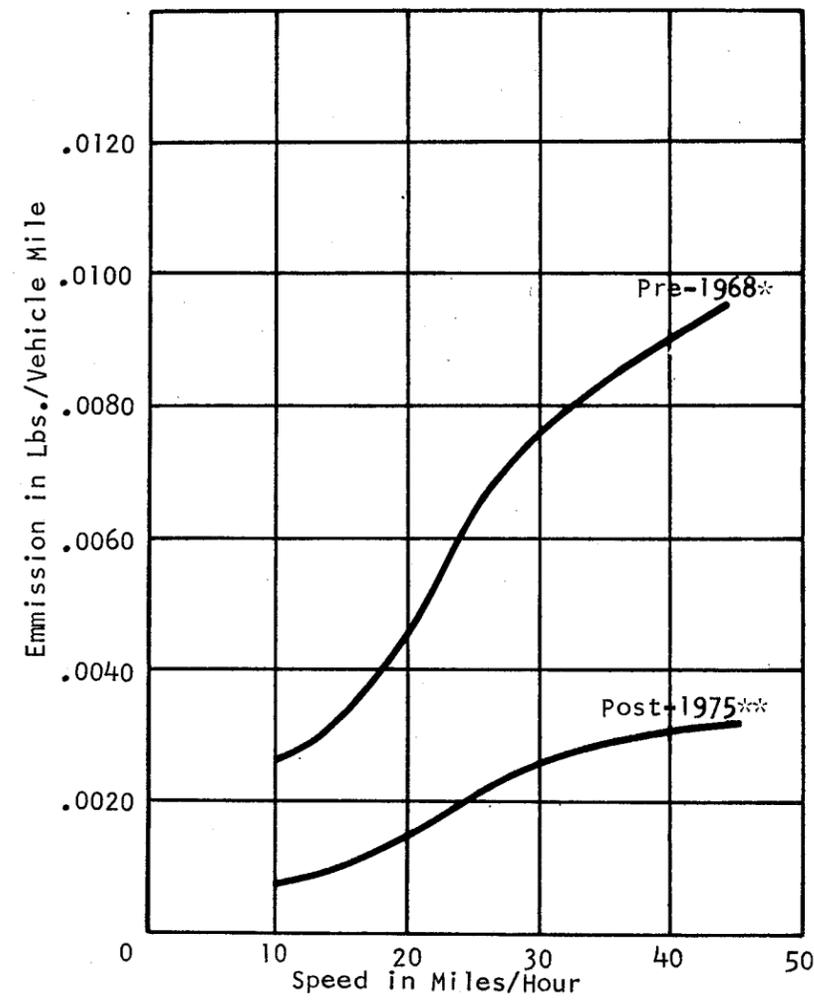
*See charts on following sheet "A" which compares pollutant emissions with travel speed for pre-1968 (uncontrolled) and post-1975 vehicles.



Carbon monoxide vehicular emission versus speed.



Hydrocarbon vehicular emission versus speed.



Nitrogen oxide vehicular emission versus speed.

* Source: 2nd Report Secretary of H.E.W. to U.S. Congress pursuant to P.L. 88-206 Clean Air Act, 2/19/65, Table 1.

** Based on 1975 Emission Standards Set by U.S. Congress.

VEHICULAR POLLUTANT EMISSIONS VERSUS SPEED

(I-10 traffic uses U.S. 60) was approximately 13,350 vehicles per day, most of which were not fitted with devices capable of significantly reducing pollution. Therefore, despite a traffic flow 2.6 times as great, controls already legislated will permit this increased number of vehicles to produce less total pollution in 1995 than did their 1970 counterparts. Further legislative action over this time span could cause a further reduction in total pollutant emissions.

Construction of I-10 on new alignment can have the further unquantifiable benefit of dispersing those emissions which remain, rather than concentrating them along the existing U.S. 60 or U.S. 80 highways. As average vehicle speed is maintained or even increased by the construction of added high speed traffic capacity, the output per vehicle of hydrocarbons and carbon monoxide can decrease. The quantity of all major deleterious automotive pollutant emissions is related to the travel speed of the subject vehicle. But, only the production of nitrogen oxides increases with vehicle speed. Production of both hydrocarbons and carbon monoxide generally decreases as speed increases.*

Concentration of individual pollutants is as much a function of ambient weather conditions as of any other factor. For instance, it is apparent that pollutants will disperse from the immediate highway right of way unless air flow (windspeed) is absolutely negligible. Truly still air is a rarity even in the Salt and Gila River Valleys where periods of so-called air stagnation occur commonly, particularly during the winter months. It can be seen that increased windspeed causes an increase in the rate of dispersion of pollutants from a highway.

*See charts on preceding sheet "A" which compares pollutant emissions with travel speed for pre-1968 (uncontrolled) and post-1975 vehicles.

The photochemical formation of pollutants which do not occur initially in automotive emissions is also a function of weather conditions since sunlight is a basic requirement of the photochemical process. In this respect, the climate of the Salt and Gila River Valleys is also somewhat disadvantageous since Phoenix receives more hours of sunshine annually than any other major American city.

Carbon monoxide concentrations in the central part of Phoenix have in the past attained levels greatly in excess of proposed national air quality standards and have been among the highest in the nation. The highest recorded levels are, however, less than half of the concentration required to bring about any detectable impairment of performance by volunteers in experiments at the Medical College of Wisconsin. Concentrations of carbon monoxide near I-10 west of Phoenix can be expected to be considerably less than those recorded in central Phoenix because of lesser concentrations of people and vehicular movement. It is not likely that national air quality standards for carbon monoxide will be exceeded in rural areas such as that which I-10 will traverse west of Phoenix in the section from Oglesby Road to Perryville Road.

Hydrocarbon concentrations in the Phoenix area have been considerably less than those called out in air quality standards and can be expected to remain so, particularly as overall emissions per vehicle continue to decrease under the influence of existing legislation. Therefore, for the Phoenix area, hydrocarbon emissions are of significant consequence only as they contribute to the formation of other pollutants through photochemical processes after leaving the individual vehicle's exhausts.

Nitrogen oxides concentrations in central Phoenix have also been in excess of proposed State and National air quality standards. These compounds also are necessary ingredients in the formation of photo-chemical pollutants. It is, however, not likely that air quality standards for nitrogen oxides will be exceeded in rural desert areas such as that west of Phoenix from Oglesby Road to Perryville Road along I-10 because of lower vehicle concentrations.

Lead, as found in automotive emissions, is significant primarily as it affects the production of other pollutants. Discontinuing the addition of lead to automotive fuels can be beneficial in furthering the effective longevity of other emission control devices proposed for automotive use. Regarding the direct effect of lead in gasoline, Washington Academy of Sciences stated in the summer of 1971 publication that there have been no known cases of any illness or death to animals or man traceable to lead particles from automobile exhausts. A study, by the University of California at Riverside, of crops similar to those grown along the alignment of I-10 near the east end of the project resulted in the following statements:

"The combined findings from the edible portion of...(cauliflower, tomatoes, cabbage, and Valencia oranges) suggest that automobile lead particulates are not absorbed. They exist rather as a topical dust coating of which at least 50 percent can be removed by simple water washing. Neither did these crops show any inclination to absorb lead via their root systems."

Deposition of lead particles on native desert flora along the project corridor will have far less influence on the human environment than depositing of lead on croplands.

When consideration is given to the continued further elimination of lead from automotive fuels, it becomes apparent that automotive lead emissions from vehicles using I-10 west of Phoenix will not bring about significant consequences.

Photochemically produced pollutants, those which are associated with smog of the variety commonly found in Los Angeles, are also found in central Phoenix in quantities in excess of those permitted by State and National air quality standards. As with other pollutants, however, particularly nitrogen oxides from which photochemical pollutants derive in part, it is not likely that concentrations beyond permissible limits will occur in areas adjacent to the Oglesby Road to Perryville Road section of I-10 because of the rural nature of the area which certainly does not attain the vehicular concentrations of a central city area.

The foregoing comments apply generally to any routing for Interstate and Defense Highway 10 in the area west of Phoenix since all routings so far considered would have essentially the same effect on long-distance travel.

The subject project from Oglesby Road to Perryville Road cannot reasonably be said to be an urban freeway. The project lies within the Phoenix Standard Metropolitan Statistical Area (Phoenix SMSA) only because SMSA's are uniformly defined to be coterminous with Maricopa County. This county is one of the largest in the United States, having a land area of 9,238 square miles, most of which is devoid of population and urbanization of any form. Along the project corridor lies the community of Perryville, also known as White Tanks, which has a population of less than 800 spread over several square miles. The incorporated community of Buckeye lies four miles south of the proposed highway and had a 1970 census population of approximately 2,800.

Within this context, no form of urban mass transit exists currently nor is any funded for application in the foreseeably near future. If, however, it is assumed that a significant portion of the metropolitan economic activity will be served by public transportation, it does not necessarily follow that overall pollution levels will be reduced. Studies done by the General Motors Corporation (see Note A) indicate that after currently effective pollution-control legislation has been fully implemented, automobiles will have pollutant emission rates per person carried quite similar to those of public transportation vehicles on a pollutant mass basis, regardless of whether such transit vehicles are powered by internal combustion engines or electricity. Pollutants considered included carbon monoxide, hydrocarbons, nitrogen oxides, and sulfur dioxide. These four categories will encompass virtually all automotive emissions under Federal criteria for 1975 because of the reduction of lead usage in automotive fuels.

It is apparent that the use of electrically powered transit vehicles in the Phoenix area would effectively reduce the quantity of pollutant emissions at the point where transportation is actually provided; but this does not mean that regional pollution is abated. It is currently being found necessary to construct fossil-fueled generating plants to supply the electrical needs of the Phoenix area and other parts of the southwestern United States. Implementation of an electrically powered transit system would require the construction of even more generating stations. As an example, it has been estimated that the Bay Area Rapid Transit System, now being implemented

NOTE A: It should be remembered that various divisions of the General Motors Corporation also produce vehicles oriented toward rubber-tired and rail transit applications. Hence, the interest of the Corporation is not served exclusively by the promotion of automobile usage.

in the San Francisco Bay area, will consume as much electricity as a city of approximately one-quarter million population. Provision of enough electrical generating capacity to meet the proportionate additional electrical needs of Metropolitan Phoenix would involve fossil-fueled generating stations which have sulfur dioxide as a major pollutant emission. Although such generating stations would probably not be located in the immediate urban area, they would have significant impact on the environment. For instance, on the basis of government air quality standards, it takes at least one hundred tons of carbon monoxide to reach the same level of concern in the atmosphere as one ton of sulfur dioxide.

The alternative of doing nothing would probably result in less automotive pollutant emissions in the immediate vicinity of the highway; but the overall effect would be a redistribution rather than reduction of pollutant emissions. Long distance travel would probably continue to occur essentially undiminished, although certainly not unhindered. Traffic from completed portions of I-10 along the Brenda cutoff would use Buckeye Road (U.S. 80) into Phoenix anyway, as is currently planned for the interim period prior to completion of the Oglesby Road to Perryville Road section.

In summary, it is readily apparent that the construction and use of Interstate and Defense Highway 10 from Oglesby Road to Perryville Road will have considerable impact upon the environment. This impact will not, however, be detrimental if considered relative to legislated pollutant emission controls and the probable beneficial impact of redistributed traffic flows.

6. Noise Considerations

Construction of Interstate and Defense Highway 10 in a corridor from Oglesby Road to Perryville Road or along any comparable routing will have a definite impact upon the noise characteristics of the environment. Provision of a high-speed, high-capacity highway where none existed previously will cause a concentration of automotive noise in the immediate vicinity of the highway corridor.

The specific noise levels to be expected in the vicinity of I-10 west of Phoenix were calculated using the methods of National Cooperative Highway Research Program Report 117 and are reported in the accompanying Table A for representative areas along the roadway and for a roadway at or near natural grade. (See following page.)

Policy and Procedure Memorandum (PPM) 90-2 of the Federal Highway Administration establishes the following criteria for exterior noise levels where the various land uses are present.

<u>Land Use Category</u>	<u>Design Noise Level - L₁₀</u>	<u>Description of Land Use Category</u>
A	60 dBA (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	70 dBA (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
C	75 dBA (Exterior)	Developed lands, properties or activities not included in categories A and B above.
D	---	For requirements on undeveloped lands see paragraphs 5.a(5) and (6) of PPM 90-2.

TABLE A

Noise levels in dBA (decibels on A-scale) expected from traffic on Interstate and Defense Highway 10 between Oglesby Road and Perryville Road. (^L10/^L50)

<u>Distance to near lane</u>	<u>Oglesby Road to Miller Road</u>	<u>Miller Road to Perryville Road</u>
100 feet	71/65	73/68
200 feet	68/62	70/65
400 feet	63/--	65/61
600 feet	--/--	61/--
800 feet	--/--	60/--
1000 feet	--/--	--/--

--: Noise levels shown thusly are less than 60 dBA, hence, acceptable for all outdoor activities.

^L10: Noise level exceeded ten percent of time during peak traffic hours, the basis of Federal standards.

^L50: Noise level exceeded 50 percent of time during peak traffic hours, the "average."

Assumed conditions: 70 mph running speed, flat, level roadway, ten percent truck traffic.

The exterior noise levels apply to outdoor areas which have regular human use and in which a lowered noise level would be of benefit. These goal noise level values are applied only at those locations where outdoor activities actually occur. The goal values need not be applied to those portions of a tract of land devoted to parking, storage, non-use, or other non-noise-sensitive uses. Areas which have limited human use and where lowered noise levels would produce little benefit and developed areas having uses which are not significantly affected by high noise levels, such as junk yards, heavy industrial areas, railroad yards, parking lots, etc., need not be considered in applying the goal noise level values.

It can be seen from Table A that the traffic noise will not exceed even the most stringent limitations of PPM 90-2 at a distance of more than 800 feet from the roadways even under the most favorable conditions near Jackrabbit Road where traffic volumes and thusly noise levels are highest. If the freeway's vertical alignment is such that the roadways are either raised or lowered significantly relative to the adjacent ground level, then the area of significant noise impact is reduced.

Because most of the land adjacent to the proposed routings for Interstate and Defense Highway 10 is currently undeveloped desert, even the highest noise levels projected to be generated by the highway traffic will be acceptable at most points. It is, however, reasonable to assume that some of the land within one thousand feet of the freeway will be developed within the foreseeable near future. PPM 90-2 provides that local officials have the responsibility to control such land development, to establish zoning, and to see that

future development is compatible with the highway. The Arizona Highway Department can be of considerable assistance to local officials in these efforts.

The width of the freeway right of way corridor totally precludes any development within one hundred feet of either roadway. Along the proposed right of way corridor and within eight hundred feet of the proposed roadways there are (were) in the community of Perryville (White Tanks) between Jackrabbit and Perryville Roads about thirty properties, most residences, which must be considered under the provisions of PPM 90-2. Of these developed properties several will be (were) taken for right of way purposes, hence will not ever be subject to traffic noise from the freeway. All of the remaining properties are located in such manner that they will experience noise levels which are acceptable under the provisions of PPM 90-2, although these noise levels will certainly be greater than the existing ambient level.

The subject will bring about change in the noise environment of the corridor through which it passes. However, the effect of the project on existing properties will not be significantly adverse.

* * *
* *
*

MJT:JS:RGH:mjp

JACK WILLIAMS
GOVERNOR

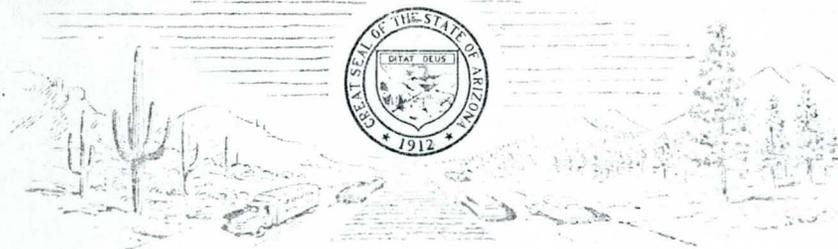
LEW DAVIS
CHAIRMAN

RUDY E. CAMPBELL
VICE CHAIRMAN

WALTER W. SURRETT
MEMBER

WALTER A. NELSON
MEMBER

LEN W. MATTICE
MEMBER



JUSTIN HERMAN
STATE HIGHWAY DIRECTOR

WM. N. PRICE
STATE HIGHWAY ENGINEER

ARIZONA HIGHWAY DEPARTMENT
Phoenix, Arizona 85007

September 19, 1972



Maricopa County
Flood Control Office
3325 West Durango
Phoenix, Arizona 85009

Re: Projects
I-10-2(28) Buckeye-Cemetery Road
I-10-2(31) Cemetery Rd.-Perryville Rd.
Ehrenberg-Phoenix Highway
Maricopa County, Arizona

Gentlemen:

Enclosed please find errata for the Draft Supplement to the Final Environmental Impact Statement for the referenced projects. The enclosed sheets were inadvertently omitted in printing and binding of the document.

Please insert the enclosed three pages immediately after page 6-4.

Yours very truly,

WM. N. PRICE
State Highway Engineer

A. L. CHADWICK
Chief Deputy State Engineer

ALC/MJT/cm

Enclosures

cc: H. C. Tilzey, Division Engineer
Federal Highway Administration

AIR MAIL

ERRATA

DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL STATEMENT

FHWA-AZ-EIS-71-19-DS

I-10-2(28) BUCKEYE-CEMETERY ROAD
I-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD

EHRENBERG-PHOENIX HIGHWAY
INTERSTATE AND DEFENSE HIGHWAY 10
MARICOPA COUNTY, ARIZONA

(INSERT AFTER PAGE 6-4)

7. ARCHAEOLOGICAL VALUES

There are no archaeological sites in the path of these proposed projects. (See attached "Arizona State Museum Highway Salvage Project Record" for I-10-2(28) and I-10-2(31))

There are no districts, sites, buildings, structures or objects within the Projects that are included in the National Register for Historic Preservation. The Projects do not impinge upon nor offer isolation or alteration of the surrounding environment of any National Landmark or other entity included in the National Register. There is no introduction of visible, audible or atmospheric elements that are out of character with any historic property or setting.

A copy of this Draft Supplement and Errata have been forwarded to the Arizona State Parks and comment from the State Liaison Officer has been invited.

ARIZONA STATE MUSEUM - HIGHWAY SALVAGE PROJECT RECORD

PROJECT Buckeye-Cemetery Road I 10-2(28)

R/W SURVEY

Nov. 11-13 1970 1970-48 LCM, BB
 Date Job By

Sites: None

Disposition:

ARCHAEOLOGICAL CLEARANCE GRANTED BY
 ARIZONA STATE MUSEUM

MATERIAL PITS	Dates	Job	By	Sites	Disposition
# 7577					
7460	AS	ABOVE		NONE	
7458		"			
7459		"			
7461		"			ARCHAEOLOGICAL CLEARANCE GRANTED BY
7462		"			ARIZONA STATE MUSEUM
7007		"			
2342		"			

REMARKS:

ARIZONA STATE MUSEUM - HIGHWAY SALVAGE PROJECT RECORD

PROJECT Cemetery Rd-Herryville Rd I 10-2(31)

R/W SURVEY

Nov. 11-13, 1970 1970-48 LCH, BB
 Date Job By

Sites: None

Disposition:

ARCHAEOLOGICAL CLEARANCE GRANTED BY
 ARIZONA STATE MUSEUM

MATERIAL PITS		Dates	Job	By	Sites	Disposition
#	7007	AS	ABOVE		NONE	
	2342		"			
	7567		"			
	7468		"			
	7469		"			
	8107		"			
						ARCHAEOLOGICAL CLEARANCE GRANTED BY ARIZONA STATE MUSEUM

REMARKS:

CONCLUSION

Other matters previously discussed in the statement accepted on July 16, 1971, as to which this agency felt no further comment was required, have not been discussed in this Supplement. As to such matters, this Supplement will rely on the discussion contained in that statement, a copy of which is attached.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL
ENVIRONMENTAL IMPACT STATEMENT
FOR
EHRENBERG-PHOENIX HIGHWAY
IN
MARICOPA COUNTY, ARIZONA

INTERSTATE HIGHWAY 10

PROJECT I-10-2(16)
PROJECT I-10-2(28)
PROJECT I-10-2(31)

TONOPAH-BUCKEYE
BUCKEYE-CEMETERY ROAD
CEMETERY ROAD-PERRYVILLE ROAD

PURSUANT TO SECTION 102(2)(C)

P. L. 91-190

This statement has been compiled by the

ENVIRONMENTAL PLANNING BRANCH

of the

ROADSIDE DEVELOPMENT DIVISION

within the

DESIGN SECTION, HIGHWAY DEVELOPMENT GROUP

ARIZONA HIGHWAY DEPARTMENT

in cooperation with the

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

SUMMARY SHEET

PROJECTS	EHRENBERG-PHOENIX HIGHWAY 1-10-2(16) TONOPAH-BUCKEYE 1-10-2(28) BUCKEYE-CEMETERY ROAD 1-10-2(31) CEMETERY ROAD-PERRYVILLE ROAD
----------	---

JUNE 15, 1971

FINAL ENVIRONMENTAL STATEMENT

For the purpose of this Final Environmental Statement, the three above named projects are combined. Therefore, when reference is made herein to the project, it shall mean the combination of projects unless otherwise specified.

Federal, State and Local Agencies From Which Comment Has Been Received

(a) Federal Highway Administration - The sections discussed herein have since inception been considered as part of the Federal-aid Interstate Highway System. As a result of the Federal-aid status of the project, assistance has been extended to the Arizona Highway Department by the Federal Highway Administration.

(b) Arizona Game and Fish Department - Information regarding population densities and species of game and wildlife in the project area has been received from the Arizona Game and Fish Department.

(c) U.S. Soil Conservation Service and the Maricopa County Flood Control District - Information and plans relative to flood control have been received from the above agencies.

(d) Interested Persons from the Proposed Area - Information, requests, suggestions and complaints have been received by the Arizona Highway Department from interested persons of the project area.

Comment on the Draft Environmental Impact Statement was received from the following agencies:

- (1) Soil Conservation Service by letter dated April 26, 1971.
- (2) Maricopa County Flood Control District by letter dated April 19, 1971.
- (3) Arizona Game and Fish Department by letter dated April 20, 1971.

Environmental Impact

The construction of another segment of this Interstate highway, to modern, safe and efficient standards, will have beneficial effects on the local community, the State and the Nation, by permitting the safe, uninterrupted movement of Interstate traffic.

Adverse Environmental Effects Which Cannot be Avoided

The primary adverse effect of construction of this project will be encroachment on the scenic beauty of the desert which the project traverses.

Alternatives

Numerous considerations have been made relative to the location and design of this segment of highway. The proposed location was selected because it is the most direct and most economically feasible route.

This Action is Administrative

FINAL ENVIRONMENTAL STATEMENT

INTERSTATE HIGHWAY 10

PROJECT I-10-2(16)	TONOPAH-BUCKEYE
PROJECT I-10-2(28)	BUCKEYE-CEMETERY ROAD
PROJECT I-10-2(31)	CEMETERY ROAD-PERRYVILLE ROAD

EHRENBERG-PHOENIX HIGHWAY
MARICOPA COUNTY, ARIZONA

1. Location, Description and Purpose of Proposed Project

This project, designated as the Tonopah-Perryville Rd. Section of the Ehrenberg-Phoenix Interstate 10 Highway, is located in west-central Maricopa County, Arizona.

The project begins approximately $6\frac{1}{2}$ miles east of the community of Tonopah, at Station 5314, near the center of Section 36, Township 2 North, Range 6 West, and continues southeasterly for a distance of about 11.5 miles to Oglesby Road where it then proceeds northeasterly for a distance of about 10.4 miles to Perryville Road at Station 6472 in the northeast corner of Section 4, Township 1 North, Range 2 West.

The purpose of this project is to provide grade and drain for a new 4-lane divided highway, comprised of two 38 foot roadways within a full access controlled fenced 308 foot right of way, over a new alignment. The project will be built to Federal Interstate Highway requirements and will, upon completion of surfacing under a different project number at a future date, be an integral part of the Interstate 10 Highway System.

The proposed project will consist of two 38 foot roadways, divided by a median of approximately 84 feet in width, built over an elevated fill approximately 5 feet high. Final construction will include adequate drainage throughout the length of the project, 5 wire fence, cattle guards where required, and other features in compliance with the Highway Safety Act and other Federal and State requirements. A rest area will

be designed and constructed at a future date near the area where Turner Road will terminate at the proposed project alignment, approximately one mile west of the Oglesby Road T.I. on Interstate 10.

Final construction of the proposed subject section will include adequate traffic interchanges and grade separations as required, at major traffic intersection points throughout the project. Bridges or other drainage facilities will be constructed to control or permit the cross-flow of drainage waters under the roadway.

The traffic count pattern for this section of the Ehrenberg-Phoenix Highway is contingent upon completion of the entire subject highway. When the highway is opened to traffic, the ADT over the Tonopah-Perryville Road Section will be:

- (a) Tonopah-Oglesby Road, 7,400 vehicles
- (b) Oglesby Road-Miller Road, 8,100 vehicles
- (c) Miller Road-Perryville Road, 10,000 vehicles

A projection for the same portions of the highway section for the year 1990 is:

- (a) Tonopah-Oglesby Road, 11,900 vehicles
- (b) Oglesby Road-Miller Road, 13,000 vehicles
- (c) Miller Road-Perryville Road, 19,000 vehicles

2. Probable Impact of the Proposed Project on the Environment

Three public hearings have been conducted relative to the ultimate design and location of the Ehrenberg-Phoenix Interstate 10 Highway. The first hearing was held on February 24, 1960, to consider alternate proposals for the highway alignment. A location hearing was held on May 8, 1965, to consider the alignment of the highway as it generally is proposed today. A design hearing was held on June 17, 1970, to consider the proposed engineering and design features of the highway.

From the Public Hearings and subsequent meetings and discussions with interested groups and persons, considerations are being included in the

final design of the proposed project, primarily relative to drainage and irrigation facilities in the area, flood control problems and adequate access road connections at main traffic intersections.

An earthen flood control dyke is to be constructed by the Soil Conservation Service which will generally parallel the north boundary of the subject highway project from the Hassayampa River eastward for a distance of approximately 14 miles, to a point east of Rainbow Road. The construction of the dyke will vary in height from about 8 feet to 30 feet depending on the ground surface level. A drainage channel and a control spillway will be provided at the extreme west end of the dyke-reservoir project to permit controlled release of the retained waters from the reservoir into the Hassayampa River. This flood control project will effect an extremely favorable impact on the area environment inasmuch as storm run-off waters, which normally flood the project area, will then be contained in the dyke-reservoir, permitting the design and construction of the Interstate-10 Highway and improvement of other tributary roads south of Interstate-10 Highway within the flood control area, without the construction of extensive bridges and other water diversion or retention facilities.

The highway corridor traverses desert lands containing a variety of species of desert plants and shrubs at the west end of the project, giving way to sparse and arid lands near the east end of the project. Major specimen ocotillo and Saguaro cacti in the path of construction will be transplanted to areas adjacent to the highway project within the right of way. In the more heavily vegetated desert area, a minimum of reseeding or revegetation will be required to retain the beauty of the desert. In the sparser desert area the existing vegetation will be

preserved wherever possible, and some reseeding of native grasses and forbs will be accomplished so as to minimize the construction impact on the scenic beauty of the desert.

The Arizona Game and Fish Department classifies the project area as of low big-game density, and medium density of small game. There are no major game trails or crossings in the area of the project and only minor impact is anticipated to wildlife in the project area. The resultant conditions after construction of the aforementioned flood control dyke, and the highway project will have a favorable impact on the area inasmuch as a more continuous water supply will be available in the dyke-reservoir pot-holes, and a more stable condition will exist for any nesting or feeding areas situated to the south of the highway project below the dyke. A 5-wire fence will be installed along each side of the right of way throughout the length of the project for the protection of any wildlife or domestic animals in the area.

There is no archaeological salvage on this project.

Thirteen material pit sites have tentatively been selected for use on this project. Eleven of the pits will be located on the north side of the flood control dyke which will parallel the highway. Excavation of materials from these pits will serve to deepen the floor of the reservoir behind the dyke and will thus enlarge the retention capacity of the dyke-reservoir. Pot-holes will also be created by such excavation which, as a result, will provide a continuous source of water for wildlife in the area even though the reservoir is emptied through controlled release of the retained flood waters.

The remaining two pits are to be located on the south side of the project. One of these pits will be approximately 1,000 feet right of Station 5465 and the second pit will be about seven miles right of Station 6260.

None of the above pits will be visible from the highway project. Haul roads will be obliterated in the proximity of the project. Desert growth is expected to heal the scars caused by construction of the remaining haul roads. Revegetation using native forbs, shrubs and grasses will be accomplished on obliterated haul roads on that part of the project where such a program is practical. Construction of this project will, upon completion, provide a modern, safe highway system for the benefit of the sparsely settled communities in the area of the project, as well as for the benefit of the travelling public on a State and nationwide level.

The completed project will afford the motorist a view of the White Tank Mountains to the north of the highway, and the Estrella Mountains to the south. The view to the north will be somewhat restricted by the earthen flood control dyke which will parallel the highway. The Soil Conservation Service, responsible for the construction of the dyke, will reseed and promote regeneration of vegetation on the south side of the dyke which is visible from the highway. Such a program, when coupled with the anticipated normal desert surface growth in the area, will soften the construction impact on the scenic beauty of the area.

Preliminary information indicates that approximately four single family dwellings and one community church building will require relocation. All relocations will be accomplished in compliance with applicable State and Federal regulations.

Planned development, by private enterprise, of the area near the intersection of Cemetery Road and Yuma Road is underway (as presented at the June 17, 1970, Public Hearing). It is anticipated that the construction of this subject highway project will be a major favorable contributing

influence on all present and future expansion of the areas which the alignment traverses.

The rest area being planned for the area near Turner Road and the Interstate 10 Highway will provide a very favorable impact on the area inasmuch as full facilities will be constructed for the rest area on both the north and south sides of the highway, including water, flush toilets, picnic tables, ramadas, etc.

3. Probable Adverse Environmental Effects Which Cannot be Avoided

The basic right of way width for this project is 308 feet, with flaring as required at interchange and grade separation locations.

The necessary acquisition and removal of this land from its normal use represents a slight encroachment on natural wildlife habitat, which cannot be avoided.

The right of way alignment will be an encroachment upon the scenic value of the desert and will necessitate removal of native desert plants in the construction path.

The roadway is to be constructed on fill which will be approximately five feet above the level of the desert floor, which will result in an unavoidable impact on the scenic value of the area.

Blowing dust created during the construction stages of the project will present a temporary air pollution problem which cannot be entirely avoided.

Construction scars to the desert surface in the construction area cannot be avoided.

The riding trails of horse riding enthusiasts in the White Tank foothills area will be slightly relocated.

4. Alternatives to the Proposed Project

During the early design stages of the Ehrenberg-Phoenix Highway, a number of alternate possible alignment locations were considered, mostly north of the proposed alignment. Acceptance of any of the alternates would have resulted in a tremendous increase in cost in that the routes were of longer distance and would have required much construction of fills, cuts and other features required for such project. The proposed route was selected as the most direct and most economical alignment for the Interstate 10 Highway. Final design of some traffic interchanges and grade separations on the proposed project are under consideration by the SHD and the Federal Highway Administration at the time of preparation of this Statement.

5. The Relationship Between Local Short-Term Uses of Environment and the Maintenance and Enhancement of Long-Term Productivity

With the construction of this project, after the flood control dyke is erected, the present and future residents in the area of the Flood Control project and in areas to the south of the project will have a modern, safe transportation route to the metropolitan areas of the State and the nation.

The project will also permit developers of the area to plan effective growth in, and utilization of, the areas which were once unreachable, thus becoming a long-term enhancement for development and better use of the area.

6. Irreversible and Irretrievable Commitments of Resources

The total land required for the right of way alignment of this project and the traffic interchanges and grade separations, will be irrevocably committed to the purpose of the highway. This encroachment upon the desert lands in the construction path will not curtail the use of the land since the land is generally inaccessible without the highway project. However, the proposed project will, on the other hand,

open accessibility to the desert which will enhance future planned use of such areas.

7. Problems and Objections Raised by Others

As previously noted, the design public hearing was held on June 17, 1970. The comments received then and later through correspondence can be summarized with several general statements:

- (a) More access was desired for the area north of the highway between Oglesby Road and Jackrabbit Trail.
- (b) Additional interchanges were requested for many of the locations where only grade separations are now proposed.

There was no express opposition to the location or profile. A significant number of comments were made endorsing the proposal and urging that design and construction proceed as rapidly as possible.

The State Highway Department has solicited and evaluated comments from interested persons in the area of the proposed project. Design plans are under study by the State Highway Department and the Federal Highway Administration to determine the highway construction features for the proposed project.

The U.S.D.A. Soil Conservation Service concur in measures to be taken to protect the environment. This agency indicated its sympathy with our statement relative to leaving pot holes in the reservoir area, resulting from material removal. Such pot holes would retain water for wildlife even though the reservoir was emptied. However, S.C.S. suggests prior to construction that legal water rights be acquired and that concurrence of health authorities be obtained. These measures will be taken prior to the construction phase. Letter from S.C.S. is attached.

The Flood Control District, Maricopa County, agrees that no adverse environmental effect will accrue from implementation of this project.

The letter of comment is appended.

A letter of comment from the Arizona Game and Fish Department is attached.

Minor alterations in text have been made to accommodate the desires of this agency.

We stated, "The Soil Conservation Service, responsible for construction of the dyke, will reseed and promote regeneration of vegetation on the south side of the dyke which is visible from the highway."

Presumably, the Arizona Game and Fish Department desires that the entire dyke structure be revegetated. This will of necessity be determined by S.C.S. who is constructing the dyke. We are sure that S.C.S. will follow sound agronomic policy in controlling erosion.

8. Proposed Action to Minimize Harm from Unavoidable Adverse Environmental Effects

The encroachment effect of the project alignment to the scenic desert beauty will be minimized by careful transplanting of certain desert cacti and other plants from the construction path to areas along the roadway, within the project right of way. Slopes along the roadway will be reseeded to native vegetation where practical to minimize the harm to the scenic desert beauty.

Blowing dust during the construction stages will be minimized and controlled as much as possible by water sprinkling.

Construction scars in the project area will be reseeded to native vegetation where practicable. It is anticipated that other normal desert surface growth will heal most other scars left from construction.

Persons desiring to ride horses from one side of the highway project to the other side, in the area of the White Tank foothills riding trail will be able to cross under the highway through the grade separation

underpass at either Perryville Road, or Jackrabbit Trail, or through the drainage structure under the highway approximately 3/4 mile west of Jackrabbit Trail.

ARIZONA HIGHWAY DEPARTMENT

NOTICE OF PUBLIC HEARING
February 24, 1960

Notice is hereby given that a Public Hearing will be conducted by the Arizona Highway Department at the Phoenix Woman's Club, 302 West Earll Drive, Phoenix, Arizona, on February 24, 1960, beginning at 9:00 A.M.

At that time all interested persons will be given an opportunity to be heard concerning their views on the proposed locations of the following section of Interstate Highway 10:

Beginning at a point along the Phoenix Freeway and terminating at a point east of Quartzsite at M.P. 30.5.

A four-lane limited access divided highway is to be eventually constructed between these points with necessary interchange and grade separation structures to permit adequate access.

Interested citizens and owners of property in the immediate area of the proposed improvements will have the opportunity to state their opinions concerning the proposed locations or any other location of this section of Interstate 10, and their possible economic effects. These comments will be recorded at the time and will receive consideration with final design determinations.

ARIZONA HIGHWAY DEPARTMENT

A. L. CHADWICK
Assistant State Engineer

HOMER RICHARDS
District Engineer

*H. Public Hearing
(Brenda cut off)*

October 9, 1962

Mr. W. H. Baugh
Division Engineer
U.S. Bureau of Public Roads
Phoenix, Arizona

Re: Public Hearing
Interstate 10-1
(Brenda Cut-off)

Dear Mr. Baugh:

I, J. R. VAN HORN, State Highway Engineer of the Arizona Highway Department, do hereby certify that a public hearing was held on February 24, 1960, at the Phoenix Women's Club, 302 W. Earll Drive, Phoenix, Arizona, beginning at 9:00 a.m. The following was discussed:

Proposed location of section of Interstate Highway 10, beginning at a point along the Phoenix Freeway and terminating at a point east of Quartzsite at Milepost 30.5. A four-lane limited access divided highway is to be eventually constructed between these points, with necessary interchange and grade separation structures to permit adequate access.

Transcript of this hearing was forwarded to your office April 18, 1960.

Very truly yours,

J. R. VAN HORN
State Highway Engineer

JRVH/cjw
In triplicate

THIS COPY FOR CENTRAL FILES • ONLY •

ARIZONA HIGHWAY DEPARTMENT

NOTICE

OF PUBLIC HEARING

May 8, 1965

Notice is hereby given that a Public Hearing will be conducted by the Arizona Highway Department in the Highway Department's Auditorium located at 206 South 17th Avenue, Phoenix, Arizona, beginning at 9:00 A.M., May 8, 1965.

At that time all interested persons will be afforded an opportunity to express their views on the proposed location of a section of the Interstate Highway System designated as Interstate 10. Discussion will be limited to the one project.

Beginning on the west side of I-17 (Black Canyon Freeway) in the vicinity of Culver and running west generally between Moreland and Belleview Streets to 43rd Avenue, thence continuing along a line located approximately 1/4 Mile south of McDowell Road to Tuthill Road, a distance of approximately 20 Miles; thence southwest to a point on Oglesby Road approximately 1/2 Mile north of lower Buckeye Road - a total distance of approximately 30.4 Miles.

A four to eight lane divided highway with limited access is to be constructed. Grade separations will be located at principal mile crossroads and interchanges located to afford adequate access.

The object of the Public Hearing is to provide an opportunity for every interested citizen and owners of property in the immediate area of the proposed improvement to state their opinions on the location of the highway and its possible economic effects.

The hearing will be recorded and information compiled will receive full consideration in the developing of final plans.

WM. N. PRICE
State Highway Engineer

HOWARD SHELPS
District Engineer

May 12, 1965

Mr. W. H. Baugh
Division Engineer
U. S. Bureau of Public Roads
Phoenix, Arizona

Re: Public Hearing
Papago-West
I-10-2(1)71

Dear Mr. Baugh:

I, WM. N. PRICE, State Highway Engineer, hereby certify that the Arizona Highway Department conducted a public hearing on the above-captioned project at 9 a.m. Saturday, May 8, 1965, in the Auditorium of the Highway Department Building, Phoenix, Arizona.

Consideration was given to the proposed location of a section of Interstate 10 from a point on Oglesby Road 1/2 mile north of Lower Buckeye Road easterly to the junction of I-10 and I-17 at approximately Culver Street and the Black Canyon Freeway.

A four to eight lane divided highway is ultimately to be constructed within this 30.4 mile area, with full control of access, grade separations at principal mile crossroads, and interchanges to afford adequate access.

I further certify that the Arizona Highway Department has considered the economic effect of this proposed location, and finds it to be justified.

Transcript of hearing, copies of notice, and affidavit of publication will be forwarded at a later date.

Very truly yours,

WM. N. PRICE
State Highway Engineer

WNP:fk
In triplicate

Governor
JACK WILLIAMS

Commissioners
JACK MANTLE, CHAIRMAN, TUCSON
HOMER L. G. KRYGER, YUMA
MILTON G. EVANS, FLAGSTAFF
ROBERT J. SPILLMAN, PHOENIX
GLEN D. DALY, WINSLOW

Director
ROBERT A. JANTZEN

Asst. Director, Operations
PHIL M. COSPER

Asst. Director, Services
ROGER J. GRUENEWALD



ARIZONA GAME & FISH DEPARTMENT

2222 West Greenway Road Phoenix, Arizona 85023 942-3000

April 20, 1971

Mr. William N. Price
State Highway Engineer
Arizona Highway Department
1739 West Jackson
Phoenix, Arizona 85007

Attention: Mr. A. L. Chadwick

Dear Mr. Price:

In accordance with the provisions of Section 102 (2) (C) of the National Environmental Policy Act, we have reviewed the Draft Environmental Statement for Project I-10-2 (16), (28) and (31). Following are recommended changes, additions, deletions and other comments we wish to have incorporated into the statement:

Probable Impact of the Proposed Project on the Environment

Page 4, Paragraph 1, Line 3: Delete the word "no" and add "only minor".

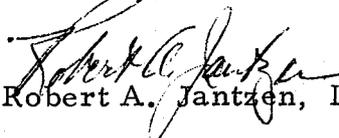
Page 4, Paragraph 5, Lines 2 and 3: Change sentence 3 to read "Scars caused by construction of the remaining haul roads will require a long period of time to heal."

Page 4, Paragraph 5, Line 4: Delete "grasses" and add "vegetation".

Page 5, Paragraph 1, Line 6: Delete "the south side of" and "which is visible from the highway."

This concludes our comments on the Draft Statement. If we can be of any further assistance, please contact us.

Sincerely,


Robert A. Jantzen, Director

RAJ:nrh

RECEIVED

APR 22 1971

ARIZONA HIGHWAY DEPARTMENT
ROADSIDE DEVELOPMENT DIV.

JRA



Flood Control District
of
Maricopa County
3325 WEST DURANGO STREET
PHOENIX, ARIZONA 85009

April 19, 1971

Mr. A. L. Chadwick ¹⁰²
Chief Deputy State Engineer
Arizona Highway Department
1739 West Jackson Street
Phoenix, Arizona 85007

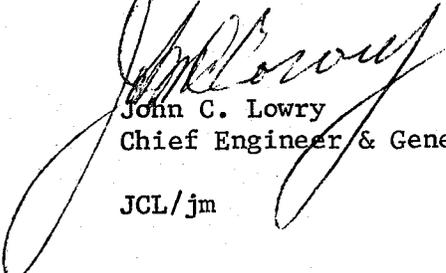
Dear Mr. Chadwick:

Re: Projects I-10-2(16) Tonopah-Buckeye
I-10-2(28) Buckeye-Cemetery Road
I-10-2(31) Cemetery Road-Perryville Road
EHRENBERG-PHOENIX HIGHWAY

This acknowledges receipt of your letter of April 12, 1971 to which was attached a summary sheet of the above-mentioned projects together with a draft of an environmental statement.

All of this correspondence has been carefully studied by this office and the following comment is made. It is the opinion of the Flood Control District of Maricopa County, Arizona staff that no adverse impact will occur if the statements contained in the environmental draft are followed.

Sincerely,


John C. Lowry
Chief Engineer & General Manager

JCL/jm

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Arizona State Office, 6029 Federal Building, Phoenix, Arizona 85025

April 26, 1971

Mr. Wm. N. Price
State Highway Engineer
Arizona Highway Department
206 South 17th Avenue
Phoenix, Arizona 85007

RECEIVED

APR 28 1971

ARIZONA HIGHWAY DEPARTMENT
ROADSIDE DEVELOPMENT DIV.

Re: Buckeye Watershed - Highway Projects: Interstate 10 -
Tonopah-Buckeye
Buckeye-Cemetery Road
Cemetery Road-Perryville Road

Dear Mr. Price:

The draft of the ENVIRONMENTAL IMPACT STATEMENT for the Tonopah-Buckeye, Buckeye-Cemetery Road, and Cemetery Road-Perryville Road sections of the Ehrenberg-Phoenix Highway transmitted with your letter of April 12, 1971 has been reviewed.

It appears that all practical measures have been taken to protect the natural environment, that the overall environmental impact will be beneficial to the area, and that construction should proceed as planned.

We are in sympathy with the comment in par. 2 page 4 of the statement relative to leaving pot-holes in the reservoir area that could result from material pits or dike construction.

If pot-holes are contemplated or permitted it appears that legal water rights should be acquired together with the concurrence of health authorities.

Sincerely yours,



M. E. Strong
State Conservationist

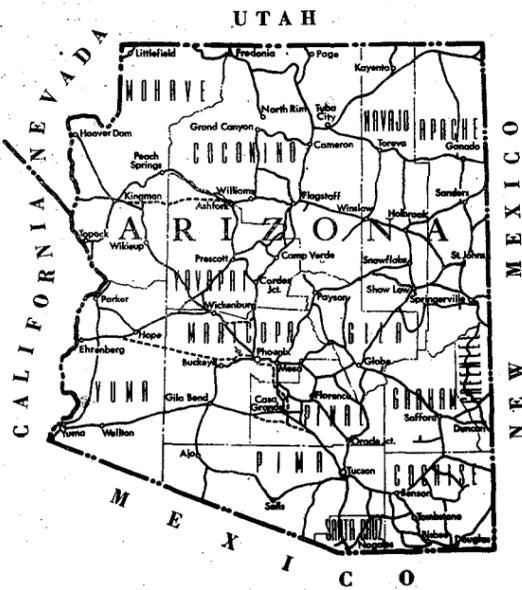
RECEIVED

APR 28 1971

WM. N. PRICE
STATE ENGINEER



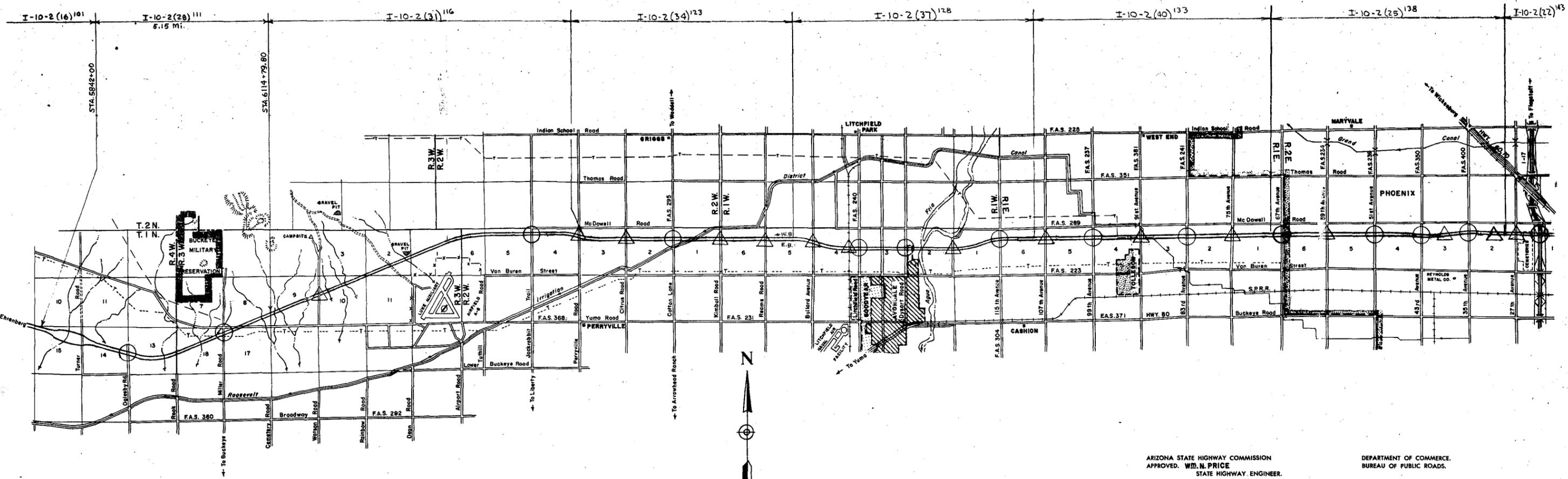
W.S.E. 1-7-66



STATE OF ARIZONA
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
EHRENBERG — PHOENIX
MARICOPA COUNTY

B.P.R. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
7	ARIZ.	1-10-2(28)	1		



ARIZONA STATE HIGHWAY COMMISSION
APPROVED. **W.D. N. PRICE**
STATE HIGHWAY ENGINEER.

DEPARTMENT OF COMMERCE.
BUREAU OF PUBLIC ROADS.

APPROVED _____ DATE _____
DEPUTY STATE ENGINEER

RECOMMENDED FOR APPROVAL _____ DATE _____
DIVISION ENGINEER.

APPROVED _____ DATE _____
ASSISTANT STATE ENGINEER

APPROVED _____ DATE _____
REGIONAL ENGINEER

REDUCED SIZE
DO NOT SCALE

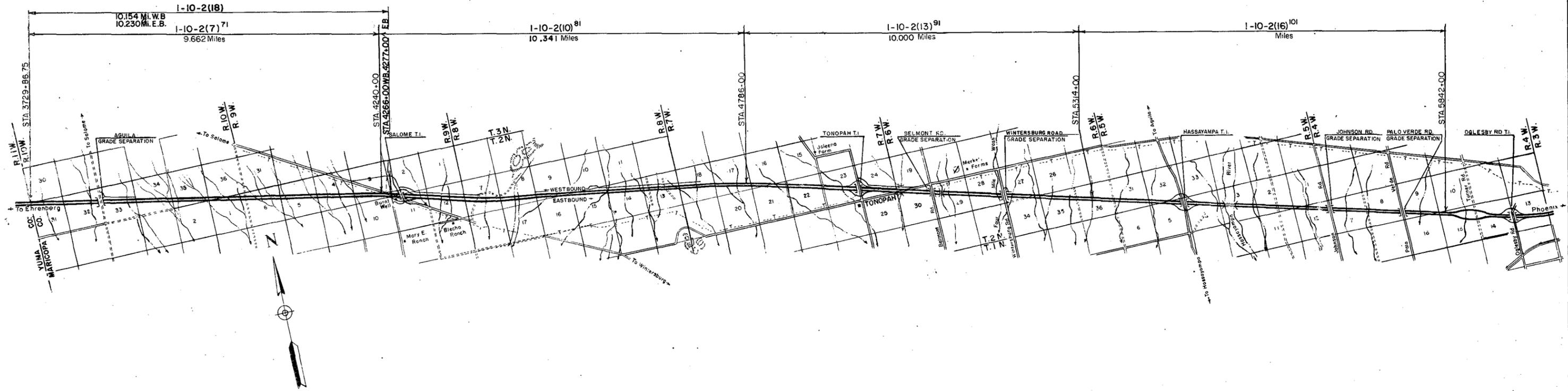
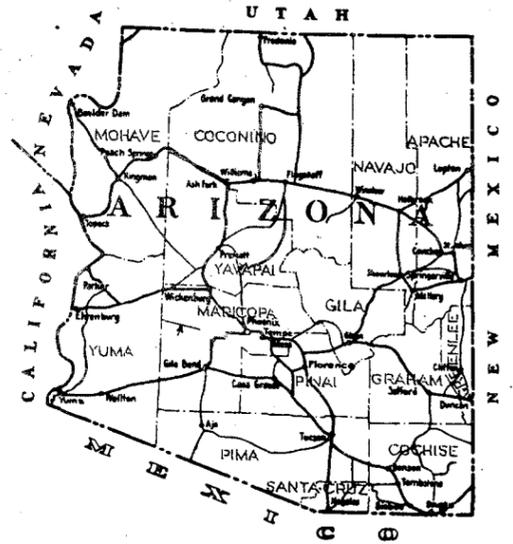
SCALE: 1" = 1 Mile

WSE-5-2-63

B.P.R. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT.
7	ARIZ.	1-10-2(7)	1	60	

STATE OF ARIZONA
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
EHRENBERG—PHOENIX
MARICOPA COUNTY



ARIZONA STATE HIGHWAY COMMISSION
APPROVED: **W.M. N. PRICE**
STATE HIGHWAY ENGINEER.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
CHIEF DEPUTY STATE ENGINEER

APPROVED _____ DATE _____
DIVISION ENGINEER

APPROVED _____ DATE _____
DEPUTY STATE ENGINEER

REDUCED SIZE
DO NOT SCALE

SCALE: 3/4" = 1 Mile