



Black Canyon / Maricopa Freeway Specific Plan

City of Phoenix Planning Department
December 1998

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RESOLUTION NO. R-19286

**A RESOLUTION ADOPTING THE BLACK CANYON
/MARICOPA FREEWAY SPECIFIC PLAN.**

WHEREAS, the Phoenix City Council adopted the General Plan for Phoenix 1985-2000 on October 1, 1985, which recognized this freeway as part of the circulation element of the Plan; and

WHEREAS, the Phoenix Planning Commission initiated the Black Canyon/Maricopa Freeway Specific Plan in December, 1996 to address problems encountered by, and to maximize compatibility with adjacent land uses with specific attention to adjacent neighborhoods; and

WHEREAS, considerable citizen participation has occurred, with their involvement at many community meetings, public forums and hearings, as well as personal interviews and telephone conversations, placing emphasis on preserving neighborhood quality; and

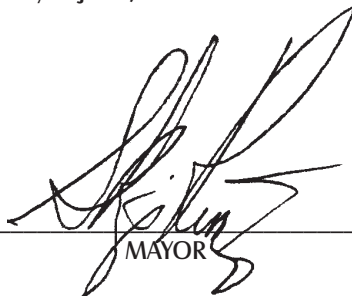
WHEREAS, the Specific Plan is responsive to community input with a format emphasizing a plan elements section and mitigation summary, identifying what realistically can be achieved; and

WHEREAS, through action on December 16, 1998, the Phoenix City Council approved the Black Canyon/Maricopa Freeway Specific Plan, defining actions to be taken to assure additional freeway compatibility with the adjacent area.


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

SECTION 1. That the Black Canyon/Maricopa Freeway Specific Plan, annexed hereto and made a part hereof, is hereby adopted.

PASSED by the Council of the City of Phoenix this 30th day of June, 1999.

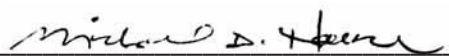


MAYOR



City Clerk

APPROVED AS TO FORM:



Acting City Attorney



City Manager

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BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

SEGMENT - MAP PINNACLE PEAK ROAD TO PECOS ROAD



SEGMENTS BY VILLAGE

SEGMENT BREAKDOWN

	VILLAGE
Segment 1: Pinnacle Peak Road to Deer Valley Drive	Deer Valley
Segment 2: Deer Valley Drive to Yorkshire Drive/Utopia Road	Deer Valley
Segment 3: Yorkshire Drive/Utopia Road to Bell Road	Deer Valley
Segment 4: Bell Road to Acoma Drive	Deer Valley/North Mountain
Segment 5: Acoma Drive to Cactus Road	North Mountain
Segment 6: Cactus Road to Mountain View Road	North Mountain
Segment 7: Mountain View Road to Northern Avenue	North Mountain
Segment 8: Northern Avenue to Maryland Avenue	Alhambra
Segment 9: Maryland Avenue to Camelback Road	Alhambra
Segment 10: Camelback Road to Osborn Road	Alhambra
Segment 11: Osborn Road to McDowell Road	Encanto/Maryvale
Segment 12: McDowell Road to Harrison Street/Southern Pacific Railroad	Maryvale/Estrella/Central City
Segment 13: Harrison Street/Southern Pacific Railroad to 19th Avenue	Estrella/Central City
Segment 14: 19th Avenue to Central Avenue	Central City
Segment 15: Central Avenue to 16th Street	Central City
Segment 16: 16th Street to Salt River	Central City
Segment 17: Salt River to 40th Street	South Mountain
Segment 18: 40th Street to 48th Street (City Limits)	South Mountain
Segment 19: Baseline Road (City Limits) to Mineral Road Alignment	South Mountain/Ahwatukee Foothills
Segment 20: Mineral Road Alignment to Warner Road	Ahwatukee Foothills
Segment 21: Warner Road to Galveston Street Alignment	Ahwatukee Foothills
Segment 22: Galveston Street Alignment to Pecos Road Alignment (City Limits)	Ahwatukee Foothills

MITIGATION ELEMENTS BY SEGMENT

FREEWAY MITIGATION ELEMENTS

Existing Zoning and Land Use

SEGMENTS

1 through 22

Circulation

1 through 12, 16, 17, 20, 22

Noise

3 through 15, 18, 19

Neighborhood Safety and Stabilization

 Neighborhood Safety

 Cut-through Traffic

 Neighborhood Stabilization

All Segments

4, 5, 7 through 16

All Segments

Landscape Enhancement

2,4,5,7 through 9, 11
through 15, 20, 21

Neighborhood Enhancement

 Elevated Maricopa Freeway Enhancement Project

13 through 15

Bicycle Paths and Recreational Trails

2 through 4, 7 through 10, 14, 15, 17
through 22

EXECUTIVE SUMMARY



The Freeway Mitigation Program, created in the City of Phoenix by the 1988 approval of Proposition 17, authorized general obligation bonds to prepare plans and fund projects to mitigate the blighting effects on the city's neighborhoods from existing and proposed freeway construction. This is the fourth plan that the City has undertaken, the previous plans being for the Piestewa Peak Parkway and Freeway, and the Agua Fria/Pim (Outer Loop) Freeway.

The Black Canyon/ Maricopa Freeway Specific Plan study area is 32 miles long from Pinnacle Peak Road at I-17 in the north, to Pecos Road at I-10 in the south. Generally, the width of the study area is ¼-mile on each side of the freeway. This plan **does not** propose to expand the freeway, change the location of the freeway, or purchase or condemn any land.

In this plan, the following elements are covered: Existing Zoning and Land Use, Circulation, Noise, Neighborhood Safety and Stabilization, Landscape Enhancement, Neighborhood Enhancement, and Bicycle Paths and Recreational Trails. These elements are described in this manner:

- ▶ Existing Zoning and Land Use describes what the current use of the land is along the study corridor. Since the freeway is already mostly developed, the policies and recommendations are to identify impacts on land uses adjacent to freeways, evaluate if land uses are in a suitable pattern, and if the uses conform with the City of Phoenix General Plan and/or Zoning Ordinance.
- ▶ Circulation describes areas where the freeway has impacted local traffic patterns. This element identifies circulation issues and recommends that communities have adequate access to and from their neighborhoods. Cut-through traffic is a concern, yet is described in-depth in the Neighborhood Safety and Stabilization Element.
- ▶ Noise concerns freeway noise impact on residential areas. Using City of Phoenix noise reconnaissance techniques in the field and formulas based on the HUD Noise Guidebook, calculations were made to determine where wall locations and heights should be recommended to meet the City of Phoenix adopted noise standard of 65dB. Coordination with Arizona Department of Transportation (ADOT) proposed projects are noted in the plan.
- ▶ Neighborhood Safety and Stabilization concerns the safety and stability of neighborhoods near the freeway. Issues of safety focus on crime, lighting, and cut-through traffic. Stabilization consists of policies and available city-wide programs that promote the preservation of neighborhoods.
- ▶ Landscape describes areas along the freeway where additional landscaping outside ADOT access control supplements what has been planted or is being planned. This would add quantity and quality to landscaping that is closest to the neighborhoods.
- ▶ Neighborhood Enhancement describes methods in which freeway mitigation staff can work with residents to create neighborhood identity projects that integrate freeways and neighborhoods. In the area on I-17 from 19th Avenue to 16th Street, staff is working with the community to design a cultural theme that could be applied to the bridge structures.
- ▶ Bicycle Paths and Recreational Trails describes existing and proposed bike lanes and routes, and recreational trails near the freeway. New bikeways and trails would tie into the existing city network, and recommendations for a pedestrian/bicycle crossing of I-17 are proposed.

INTRODUCTION

The freeway mitigation program was created in the City of Phoenix by the 1988 approval of Proposition 17. This proposition authorized general obligation bonds to prepare plans and fund projects which could mitigate the blighting effects on the city's neighborhoods from existing and proposed freeway construction. The Black Canyon/Maricopa Freeway Specific Plan, the fourth under this program, addresses problems encountered or anticipated in residential neighborhoods adjacent to this freeway corridor. It establishes non-regulatory policies and guidelines to improve the compatibility between the freeway and the residential neighborhoods through which it passes.

The Black Canyon/Maricopa Freeway Specific Plan encompasses an area approximately 32 miles long and 1/2-mile wide centered on the I-17 Freeway from Pinnacle Peak Road in the north to the I-10 Freeway at Pecos Road in the south. Much of the Phoenix Freeway Mitigation Program has dealt with newly built freeways. In this case, the Black Canyon/Maricopa has some of the newest and oldest freeway sections in the city. Also, more so than any of the previous mitigation plans, the freeway planning area passes through a wide range of socio-economic neighborhoods. As a result, some issues will be different from the three previously approved plans for the Piestewa Peak Parkway and Freeway, and the Outer Loop Freeway.

For the last few years the Arizona Department of Transportation (ADOT) has been working on reconstruction projects along the north/south portions of the Black Canyon and Maricopa freeways. And ADOT will continue to work on additional reconstruction projects for several years in the future. These projects with their anticipated completion dates are as follows:

Interstate 17 Projects	Anticipated Completion
Dunlap Avenue Interchange – reconstruction	Completed June 1998
Northern Avenue Interchange – reconstruction	May 1999
Glendale Avenue Interchange – reconstruction	2000 ^A
Bethany Home Road Interchange – reconstruction	August 1999
Camelback Road Interchange – reconstruction	2000 ^A
Peoria Avenue to Glendale Avenue– HOV and auxiliary lanes	1999 or 2000 ^B
Glendale Avenue to Thomas Road – HOV and auxiliary lanes	2000 ^B
Glendale Avenue to Camelback Road – drainage	March 1999

^A Reconstruction of these interchanges should begin after Northern Avenue and Bethany Home Road construction is complete.

^B High Occupancy Vehicle (HOV) and auxiliary lanes construction is from Peoria Avenue to the Grand Avenue/Thomas Road area.

Interstate 10 Projects	Anticipated Completion
Baseline Road to Chandler Blvd. – mainline improvements	Completed Dec. 1997
Guadalupe Road – bridge reconstruction	2000 or 2001

There are other freeway projects that include the Black Canyon and Maricopa Freeways; however, these are listed as long range, future projects. Some of their outcomes may not be revealed for several years, yet when the ADOT improvements are completed, the Black Canyon and Maricopa freeways will be even more of a transportation asset to the city than they were in the past. The following is a listing of long range and future projects along I-17 and I-10:

- ▶ Maricopa County has a project underway called the Northwest Area Traffic Study.
- ▶ ADOT is conducting a long range study of I-17 from the Outer Loop Freeway to Black Canyon City.

- ▶ An ADOT project will make improvements at the 19th Avenue traffic interchange with the Maricopa Freeway. In approximately five years, ADOT plans to lengthen some ramps to alleviate a problem with trucks backing up at the traffic interchange.
- ▶ The City of Phoenix is investigating the possibility of lowering below-grade the Maricopa Freeway from the Durango Curve to the I-17/I-10 interchange near Sky Harbor Airport.
- ▶ A freeway interchange at I-10 and Pecos Road is being planned to connect with the proposed Pecos Parkway.

The freeway mitigation program offers a unique opportunity to cooperatively plan for the land uses and mitigation features that will enable the community to live in harmony with the important transportation service that is brought by the city's emerging freeway network. This program brings together local and state agencies and involves the community in the process of stabilizing the neighborhoods that lie along our freeway corridors.

The ½-mile wide specific planning area runs along the border of or passes through all eight council districts and nine of the thirteen villages within the city. It also provides funding to make many of the improvements that will help bring about compatibility between freeways and residential neighborhoods.

The Black Canyon/Maricopa Freeway Specific Plan addresses the same general category of issues as the previous specific plans with emphasis on land use compatibility, circulation needs, neighborhood safety and stabilization, landscape enhancement, neighborhood enhancement (elevated Maricopa Freeway), and bicycle paths and recreational trails. Throughout the entire planning effort, citizen input and participation has been an ongoing and extensive process.

HISTORY OF THE BLACK CANYON/MARICOPA FREEWAY

Two early planning reports and a review of newspaper articles from the 1960s and 1970s provide some interesting background on this, the oldest freeway in Phoenix. (See figures 1 & 2.)

The earliest report found that made reference to what is now the Black Canyon/Maricopa Freeway (State Route 69) was the "Master Street Plan Phoenix Arizona," prepared by the Phoenix Planning Commission and adopted by the Phoenix City Council on May 17, 1949. This plan was to cover 12 years, 1948-1960 and was prepared with the cooperation of the U.S. Public Roads Administration, the Arizona State Highway Department, the Maricopa County Engineer, and the Phoenix Engineer. Boundaries of the study area were: Northern Avenue on the north, the Salt River on the south, 43rd Avenue on the west and 48th Street on the east.

This plan proposed a "network of major thoroughfares" with a "New State Route 69" to run north from Grand Avenue at 25th Avenue, being one of the four mentioned north-south legs of this network. It was recommended that this be a controlled access highway to substantially reduce intersection problems. Central Avenue, 17th Avenue between Van Buren and Buckeye Road, and 20th Street were the other three major thoroughfares mentioned, and it was inferred that they could have future freeway potential. Nothing was mentioned regarding the current alignment of the east-west Maricopa but Henshaw Road (now Buckeye Road) was mentioned as an important connector to the airport.

This brief plan stated that implementation should be in three stages, but nothing was recommended for the first stage. Stage Two recommended that construction take place on the Black Canyon Route north from its connection with Grand Avenue. This would provide, as the plan states, an efficient high speed route into the city for all northern Arizona traffic as well as local traffic from the northwest section of the Phoenix area. Stage Two also recommended construction of Buckeye/Henshaw Road from 17th Avenue east to the airport to serve a rapidly growing business and residential area to the south of the city and to provide access to industrial areas not on truck routes.

Stage Three recommended that the Black Canyon Highway (State Route 69) be extended south from its intersection with Grand Avenue to connect with Madison and Jefferson Streets. This was to provide a supplementary entrance to the city for passenger traffic and a primary entrance for truck traffic.

Financing for these roads was envisioned as a joint city, state, and federal responsibility. How the federal and state financing was to be done was not made clear.

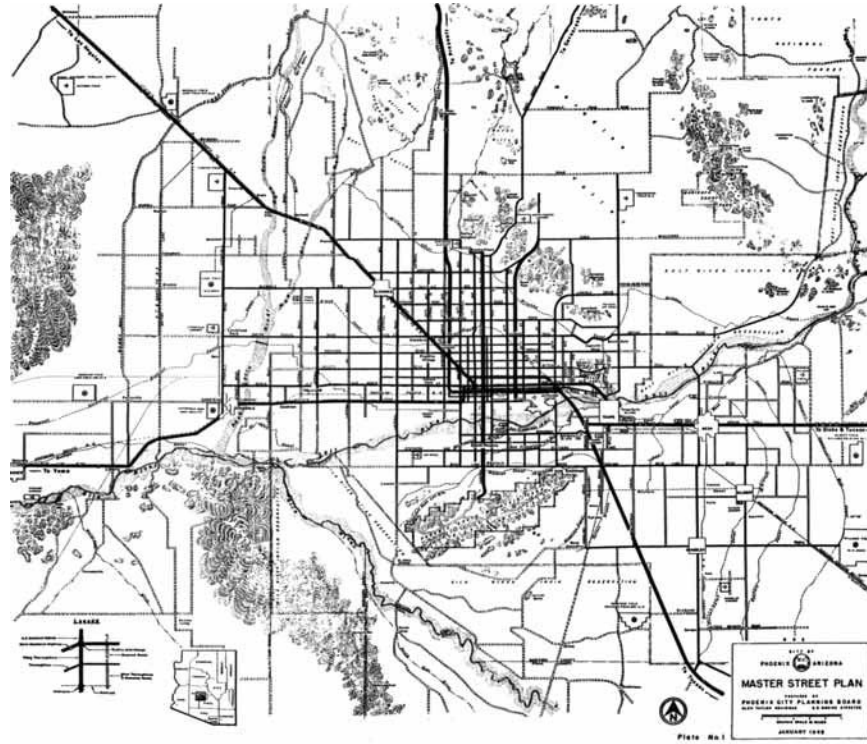


Figure 1: Proposed 1960 Regional Thoroughfare System

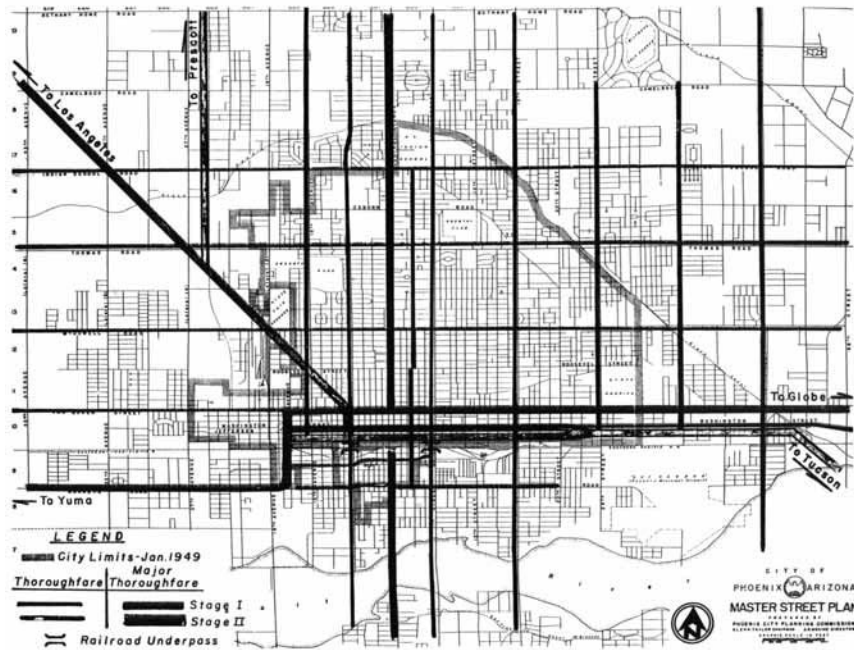


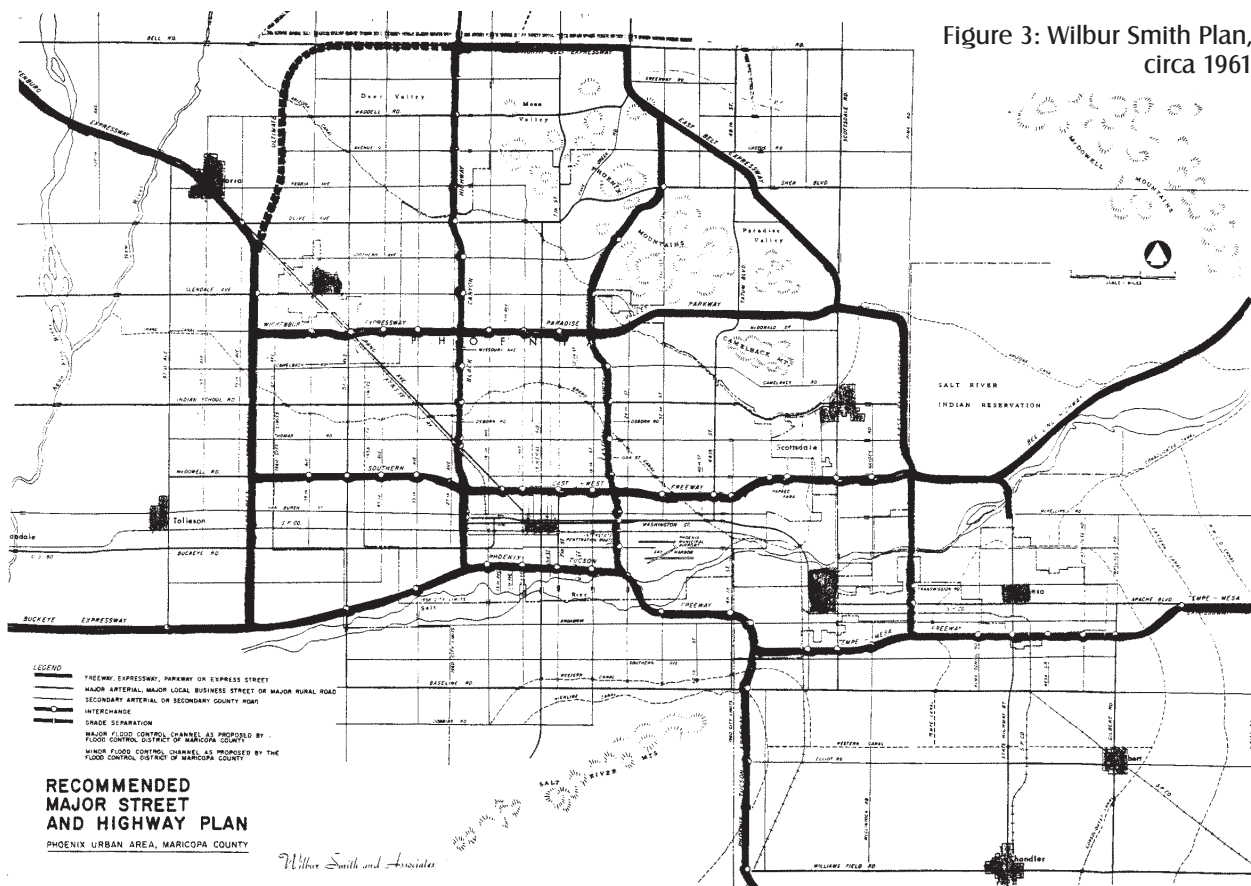
Figure 2: Thoroughfare Development Program - Stage II

The 1961 Wilbur Smith Plan described existing (background data from 1957) traffic conditions for the overall street system including the Black Canyon Highway (S.R. 69, future I-17). There was no congestion recorded on this four-lane highway which extended 7.3 miles between Northern Avenue on the north and Jefferson Street on the south. At that time, it was carrying 20,000 vehicles per day south of Indian School Road and 5,400 vehicles per day north of Northern Avenue.

Mr. John Beatty, Phoenix Planning Director for 27 years (1951-1978), was the chairman of the Coordinating Committee for the Phoenix Urban Area and the Maricopa County Major Street and Highway Plan, known as the Wilbur Smith Plan. In preparation for the 1961 plan, Wilbur Smith and Associates did an analysis of comprehensive technical studies (Traffic Study Phoenix-Maricopa County 1956-57) they had completed in 1957 through an agreement with the State Highway Commission. At the time of the Wilbur Smith study, I-17 was referred to as the Black Canyon Highway (State Route 69) and I-10 was known as the Phoenix-Tucson Freeway (east of the Black Canyon Highway). Both of these Federal Aid Highways (the Federal Government assumed approximately 90% of cost of construction financing with interstate designations) were included in the tentative freeway system. Also, they both were shown continuing north (future I-17) and south (future I-10) of the Phoenix metropolitan area.

In 1961, the Phoenix Urban Area/Maricopa County Major Street and Highway Plan was adopted, and that plan designated the alignment (Bell Road on the north to Williams Field Road on the south) of the Black Canyon and Maricopa freeways as an interstate route. The certificate of adoption for the Major Street and Highway Plan was signed by the Chair of the Arizona State Highway Commission and the Maricopa County Board of Supervisors. It was also signed by a representative of the councils of: Phoenix, Glendale, Avondale, Mesa, Buckeye and Tempe. The plan was prepared for the Arizona State Highway Commission, Maricopa County, and the City of Phoenix in cooperation with the U.S. Department of Commerce, Bureau of Public Roads.

By 1960, the Black Canyon Highway had been under construction for several years and was being improved to freeway standards as part of the National System of Interstate and Defense Highways. At that time, right-of-way had been acquired, frontage roads had been constructed to serve existing traffic, and several miles of the main



roadway were under contract. The Wilbur Smith Plan stated that the Black Canyon Highway, when completed, would provide high quality access to downtown Phoenix from rapidly growing residential suburbs to the north and northwest. Additionally, it was intended to serve heavy volumes of urban area trips as well as interstate traffic movements.

Planned interchange locations along the Black Canyon Highway were major determinants in the recommendations for east-west arterials in the Phoenix urban area. In 1960, the Arizona Highway Department designated ramps at nearly all east-west mile roads and at Grant Street, Adams Street, and Grand Avenue. A Durango Street interchange with the Phoenix-Tucson Freeway was also designated. The Wilbur Smith Plan made recommendations to the Arizona Highway Department that construction of the Black Canyon Highway be modified to include provisions for future interchanges with the east-west freeway routes shown in their report, just north of Camelback Road and just south of Peoria Avenue.

The Wilbur Smith Plan addressed the possibility of collector street crossings of the Black Canyon Highway, however, designers realized this was a problem since the mainline freeway was already under construction. North of Glendale Avenue, the plan stated that collector crossings would not be needed because the existing arterials could provide adequate east-west traffic capacity and because of the moderate densities of existing and planned land use developments. In addition, the Phoenix Mountains restricted the length of east-west arterials in north Phoenix. A need was seen for collector crossings in central Phoenix because the width of mile roads was only four lanes and traffic projections for central Phoenix were much higher than those north of Glendale Avenue.

The Phoenix-Tucson Freeway (I-10) was shown in the Wilbur Smith Plan extending from the Durango Street interchange with the Black Canyon Highway (I-17) to the southern limits of the urban area via the City of Tempe.



Gazette Staff Photo

Figure 4: FREEWAY OVERPASS WORK

Workers widen footwalk and put up protective fence on Northern Avenue overpass spanning Black Canyon Freeway. In background, at left, police officer waits to help direct traffic through narrowed lanes. (Circa 1970's)

More specifically, the freeway was proposed to be located north of the Salt River between Black Canyon Highway and a point east of 24th Street, where the route would cross the river and pass to the south of Bell Butte (east of 48th Street at Broadway). At Bell Butte, the Phoenix-Tucson Freeway turned south. This alignment had already been established within general limits by the Arizona Highway Department and right-of-way had been acquired for some sections. This proposed alignment became a reality in today's I-10 Freeway. This freeway was to provide traffic relief to congested east-west streets between Henshaw (Buckeye) Road and Van Buren by removing through-traffic as well as traffic between downtown Phoenix and the Tempe-Mesa area.

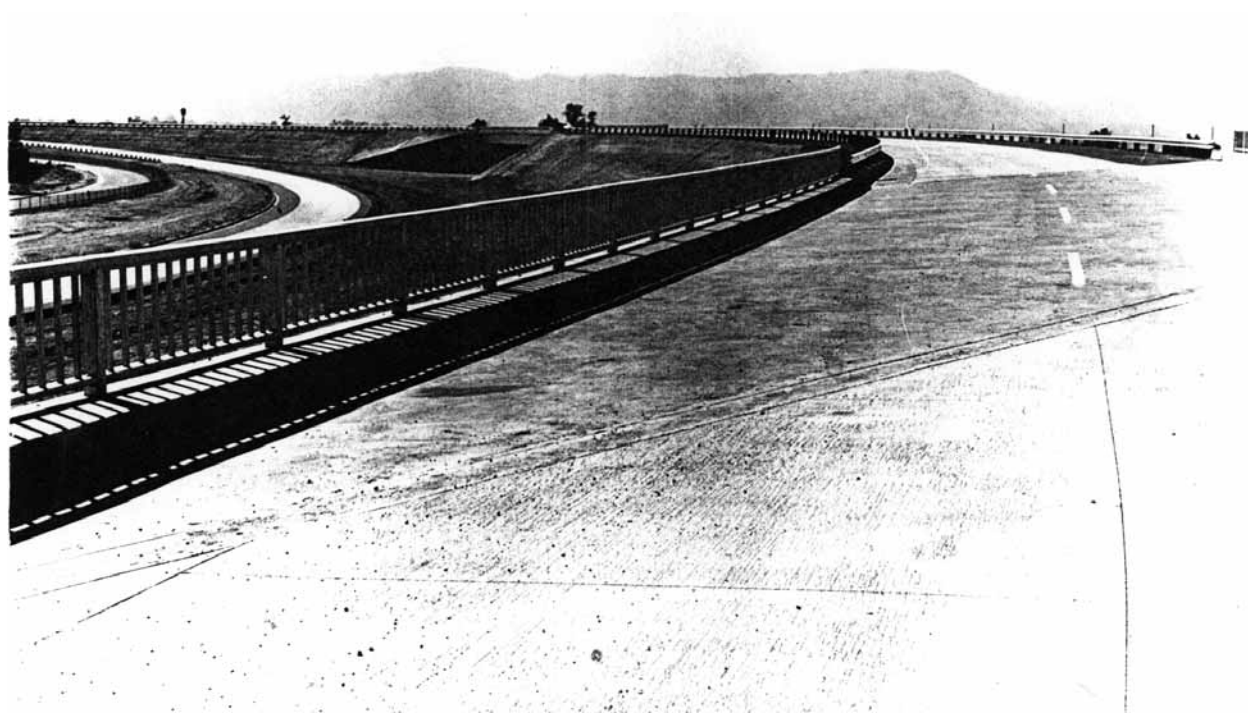
Collector street crossings were originally designated in the Arizona Highway Department's preliminary plans for the Phoenix-Tucson Freeway at 15th Avenue, 11th Avenue, 3rd Street, and 12th Street. The statement was made that these crossings would be adequate given the projected 1980 traffic needs. Eventually all of these freeway undercrossings were constructed with the exception that 12th Street became a pedestrian-only crossing.

Arizona Republic Articles

Articles from the early to mid-1960s described openings of portions of the freeway and upcoming construction. An April 1963 photograph of the Durango Curve, looking south, was part of an article announcing that the freeway had just opened from Encanto Boulevard south to Durango and east to 16th Street. An August 1964 photograph was the bridge over the Salt River, which had been under construction since 1962. The associated article said the contract had just been signed for paving between 16th Street and 40th Street, which would include the bridge connections.

The newspaper described a bid opening in May 1963 for a three-mile extension of the freeway between Northern Avenue and Avenue "Q" (future Cactus Road) with anticipated completion in December 1964. An April 1965 article from the State Highway Department announced that the busiest point in the State Highway System was the Black Canyon Freeway between Indian School and Camelback Roads, with average daily traffic (ADT) of 43,818 vehicles.

A March 1965 article reflected that the Black Canyon Freeway was already causing problems by becoming a neighborhood barrier. Business owners in the Westtown Shopping Center located north of Cactus Road (referred to in the article as Avenue "Q") and west of the freeway quoted reduced monthly sales figures and said the freeway had marooned them. Also, residents of a subdivision north of Cactus Road and east of the freeway were complaining that the freeway isolated them and they were asking for a pedestrian tunnel or overpass to the west side.



(Circa 1963)

Figure 5: I-17 Freeway at the Durango Curve.

Another issue in the mid-1960s found expression in a headline reading, "Safety More Important than Freeway Beauty." This March 1966 article stated that construction approval had just been given for a 32-inch high, 9½-mile long concrete median barrier, minus landscaping, between Buckeye Road and the Arizona Canal. Originally, the barrier was to be broken up with landscaping, as approved by the Valley Beautiful Citizens Council. However, several fatal head-on collisions had resulted when vehicles had crossed the center line. This convinced the State Highway Department that a solid barrier was more important than planters. Completion of the barrier was anticipated in July 1966.

Freeway beautification continued to be an issue and a May 1966 article announced two landscape projects scheduled for completion, referencing the Federal Highway Beautification Act of 1965. Beginning in June 1966, between Thomas and Camelback Roads, shrubs and trees were planted along the frontage and access roads, and vines were used to cover chain link fences. In the same time period, plantings were added along the elevated portion of the freeway between 16th Street and Buckeye Road, as well as along the freeway between the Arizona Canal and Bell Road.

Several years later, in June 1971, the newspaper carried a question about beautification from a Phoenix resident and the reply from a spokesman for the Arizona Highway Department (AHD). The question was why the AHD had not beautified the Black Canyon Freeway between Bethany Home Road and Northern Avenue. The AHD spokesman said there were three problems:



Republic Photo

Figure 6: **SAFETY BARRIER**—Workmen for William Pulice Contractors install frames near Grant Street underpass for a concrete median-barrier that will run down the center of Black Canyon Freeway from Buckeye Road to Arizona Canal. The 32-inch-high buffer, designed to prevent head-on collisions, is scheduled for completion in July. (Circa 1970's)

- ▶ Lack of money.
- ▶ Landscaping is being delayed pending construction.
- ▶ Sterilants were deposited in the soil when the freeway was constructed and recent soil samples show the chemistry is not right for growing plants. He said a few good rains would help to improve this condition. Otherwise, he stated, a lot of topsoil must be removed by men and machinery before greenery can be planted.

In the same year, Arizona Magazine, an insert in the Sunday (Arizona) Republic carried a spoof entitled "How to Drive the Exciting Black Canyon Freeway." This article poked fun at some of the difficulties encountered while driving the freeway, including exiting, entering, and merging at specific locations.

A freeway mitigation measure was shown in a November 1972, photograph and described a "Gigantic Muffler." In hopes of trapping and dissipating some of the Black Canyon Freeway noise, the AHD was testing a new see-through sound screen near Sweetwater Avenue. The long screen was designed by Engineering Corporation of America and built by Reynolds Aluminum Company. The screen consisted of a series of Helmholtz chambers designed to muffle noises.

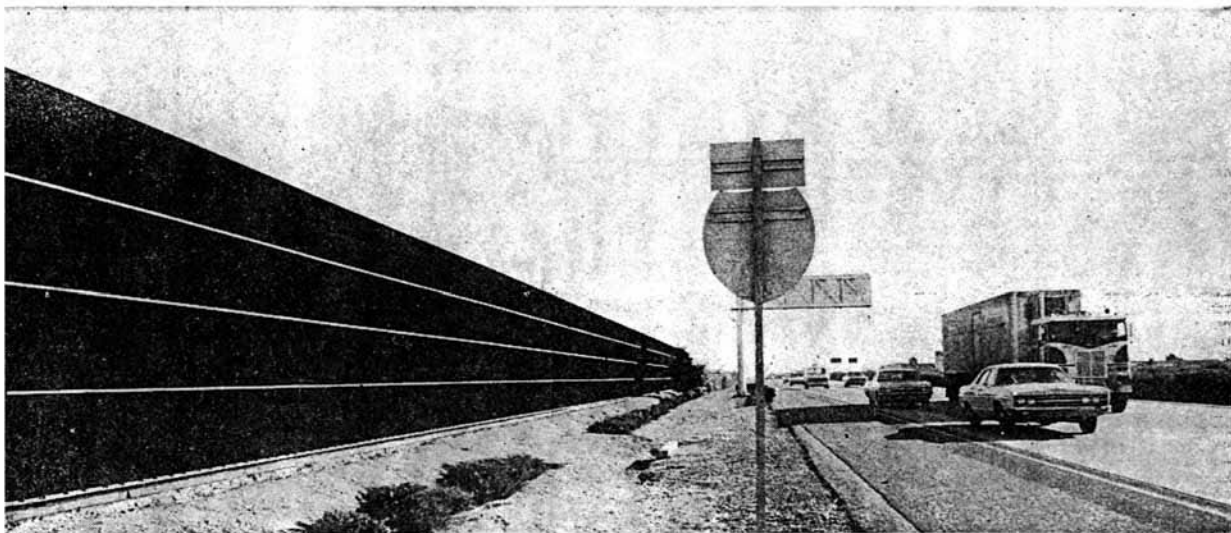


Figure 7: Helmholtz Chambers (Circa 1972) This is the new see-through sound screen which the state highway department is testing near Sweetwater Avenue in hopes of trapping and dissipating some of the Black Canyon Freeway noise. Designed by the Engineering Corp. of America and fabricated by the Reynolds Aluminum Co., the long screen consists of a series of Helmholtz chambers to muffle noises.

However, the congestion on the Black Canyon freeway was hard to laugh at and a June 1973 article quoted State officials as saying the freeway was on the verge of a "breakdown." The 1965 ADT was 42,000 and by 1973 it was as high as 97,000. Officials explained that the freeway was built for 50,000 to 60,000 vehicles per day and that 70,000 to 80,000 could be tolerated, but that at the present 90,000 plus, it was nearing breakdown. This same article gave an evaluation of the ramp metering installed on the highway in October 1972, saying AHD studies show ramp metering had reduced the number of peak-hour accidents and brought a significant speed-up in the flow of traffic.

FREWAY MITIGATION FUNDS

The voters of Phoenix approved a freeway mitigation bond issue program in April 1988. Proposition 17 contained a proposal for \$18 million for "freeway mitigation" to lessen freeway impacts on adjacent neighborhoods and prevent any spread of slums or blighted areas.

In addition to adoption of mitigation plans and policies, a benefit of the Freeway Mitigation Program is providing funding for projects to implement adopted plans. Mitigation funding is limited to the original bond and it is anticipated that some form of mitigation will be part of the upcoming year 2000 city bond election.

The Implementation and Budget sections describe the specific proposed actions and their estimated costs. It must be noted that project costs are estimates only. Funds may shift from project to project in order to ensure that all projects are completed satisfactorily. However, the total budget approved for the Black Canyon/Maricopa Freeway Specific Plan may not be exceeded.

PLAN INITIATION

The Phoenix Planning Commission initiated the Black Canyon/Maricopa Freeway Specific Plan on December 12, 1996. The study area was designated as ¼-mile (within Phoenix) on each side of the freeway from I-17 at Pinnacle Peak Road on the north, to I-10 at Pecos Road on the south.

COMMUNITY INVOLVEMENT

Public involvement in the Black Canyon/Maricopa Freeway Specific Plan has been extensive and has included:

- ▶ Two public meetings in October 1996, attended by nearly 500 people, prior to the Planning Commission's initiation of the plan on December 12, 1996.
- ▶ Six public open houses at different locations in January and February 1997 along the freeway corridor to get "one-on-one" citizen input prior to any plan preparation or analysis.
- ▶ A separate presentation to seven of the nine Village Planning Committees representing areas impacted by the planning process (January through March 1997). These meetings were held to gain public input again, prior to any plan preparation or analysis.
- ▶ Public meetings from November 1997 to March 1998 for the Elevated Maricopa Freeway Enhancement Project.
- ▶ Hundreds of private meetings and telephone calls between planning staff and citizens.
- ▶ Two public meetings to present the draft plan and receive comments, attended by 100 people in October 1998.
- ▶ Presentations before nine village planning committees to receive input and approval on the draft plan.
- ▶ Public hearing before the Planning Commission. Plan recommended for approval November 12, 1998.
- ▶ Public hearing before the City Council. Council approved plan December 16, 1998.



Figure 8: Meetings with Students
(Elevated Maricopa Freeway Enhancement Project)

EXISTING ZONING AND LAND USE



Freeways are associated with the growth of communities and not unlike other cities in the United States, these freeways influenced growth in Phoenix. As described in the History section, these freeways are the first and oldest within the metropolitan Phoenix area. They were associated with shaping growth of Phoenix during the early postwar boom of the 1950's and 1960's. When the freeway was completed, many new neighborhood edges and boundaries were established; the uniform pattern of land uses was disturbed as neighborhoods were bisected by the freeway corridor. One of this plan's goals is to ensure that land uses are stable and workable in the presence of the freeway.

The Black Canyon and Maricopa freeways pass through a 32-mile long region possessing a varied character. At the north end, are sparsely developed areas. Moving south that quickly changes to a rapidly developing and then mature suburban neighborhoods. Continuing south, the freeway enters older, often industrial areas and loops east and south of downtown. After passing south of Sky Harbor Airport, it again traverses newer suburban residential and commercial areas. The study area ends where the I-10 leaves the city and enters the Gila River Indian Community.

The land use element describes existing zoning and land uses within the ½-mile wide corridor of the Black Canyon/Maricopa Freeway Specific Plan. Since this corridor is mostly developed with only a few areas of scattered vacant parcels, the policies and recommendations are to identify impacts on land uses adjacent to freeways, evaluate if land uses are in a suitable pattern, and if uses conform with the City of Phoenix General Plan and/or Zoning Ordinance. Land uses should be stable and workable near the freeway and the mitigation program used to help conserve and stabilize neighborhoods.

A number of the vacant parcels near the freeways are identified as remnant ADOT-owned parcels. These remnant parcels, smaller portions of larger parcels that were purchased for construction of the freeway, were sold to interested parties, are left vacant awaiting a buyer, or are in use by ADOT. Their disposition and reuse potential is ADOT's responsibility but, should be coordinated with the city to determine which parcels can be used to buffer freeway impact on neighborhood areas. Some of the developed or developable parcels may be sold to adjacent property owners in accordance to policies established by ADOT and the City of Phoenix.

Land Use Policies

To assist the evaluation of land use issues, the following overall policies have been identified to improve the function and stability of neighborhoods near freeways.

Policy 1: Coordinate with the village planning policies, the general plan and zoning ordinance to review any land use recommendations that would require an amendment to the City of Phoenix General Plan in association with recommendations of this mitigation plan.

Policy 2: Where land uses do not conform with the current general plan, change may be implemented to ensure compatible land use designations.

Policy 3: Recommendations for vacant parcels within residential areas should implement city infill programs, and not exceed the existing density pattern.

Policy 4: As conditions of re-zoning or site plan/subdivision approval, all new developments adjacent to the freeway should be required to use features in their site plans and building designs that will mitigate noise and reduce other harmful effects of the freeway. These features may include:

- ▶ Siting buildings and outdoor living areas as far from the freeway as possible. Two story residential buildings should not be adjacent to the freeway or frontage road.
- ▶ Utilizing landscaping, walls, fences, and elevation differences, to screen the freeway from view and to attenuate noise.
- ▶ Designing buildings to have fewer, smaller windows facing the freeway. Use double-glazed windows, extra insulation, and solid exterior doors to reduce freeway noise within the interior.

These are described more fully in the Outer Loop Freeway Specific Plan where the Phoenix City Council adopted standards for residential development adjacent to all freeways.

Policy 5: Where necessary, describe situations in which land use recommendations need to coordinate with future and ongoing planning efforts. These are areas where other projects will be implemented for example, the North Black Canyon Corridor Study, north of Pinnacle Peak Road, the Pecos Road and I-10 traffic interchange, and the Pecos Parkway.

Policy 6: ADOT freeway construction projects will be carefully monitored for their impact on residential properties. Mitigation efforts should coordinate with ADOT during preparation and review of construction drawings.

Policy 7: Identify City of Phoenix or ADOT remnant parcels, not needed for construction, to buffer freeway impact on residential areas.

- ▶ A policy between the City of Phoenix and ADOT should be developed concerning the disposition of remnant parcels.
- ▶ ADOT may dedicate some remnant parcels for additional parkland.
- ▶ Small remnant parcels contiguous to access control may be used for bike paths, recreational trails, or landscaping.
- ▶ Other remnant parcels, contiguous to developed or developable properties may be sold to consenting adjacent property owners in accordance with policies set by ADOT and the City of Phoenix.

Issue Sheets by Segment Number

The land use analysis has been divided into 22 segments (see Maps 1-22) from Pinnacle Peak Road to Pecos Road. A physical description of general land uses are described, using the Maricopa Association of Governments (MAG) twenty-four land use categories and zoning districts according to the current City of Phoenix Zoning Ordinance, and General Plan 1985-2000 (June, 1998 update). Freeway mitigation recommendations, in accordance with the policies, are proposed to mitigate impacts in residential areas.

Segment 1: Pinnacle Peak Road to Deer Valley Drive (see Map 1)

General Description

This mile-long northern boundary segment of the specific plan contains sparse development with a variety of uses. Natural desert landscape at Pinnacle Peak Road gives way to dense, mobile home residential and industrial land uses at Deer Valley Drive. Adobe Mountain west of the freeway provides a change of elevation and a scenic view-shed for some of the residents of the mobile home park. The general plan indicates industrial uses east of the freeway and commercial uses west of the freeway. Vacant parcels are zoned for residential, commercial, and industrial development.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 2: Deer Valley Drive to Yorkshire Drive/Utopia Road (see Map 2)

General Description

This segment is dominated by the Outer Loop 101 and I-17 interchange, scheduled for completion in the year 2000. The Outer Loop Freeway generally follows the alignment of Beardsley Road from 51st Avenue to Scottsdale Road. In addition to this mitigation plan, two other plans cover this segment: the Outer Loop Freeway Specific Plan and the Deer Valley Core Plan. For freeway mitigation recommendations, policies and strategies along the Outer Loop, refer to the former, and for specific information about growth issues, recommendations, strategies, and opportunities, refer to the latter.

To the west of the interchange is the Deer Valley Village Core. This core is the focus of commercial land uses, encouraging major village-serving uses to concentrate at this location. Outside the core, there is a decreasing

intensity of uses, allowing urban, suburban, and even rural uses to coexist within the village. The village core may contain as much as 50% of Deer Valley Village's basic employment land uses, 25% of its service employment, and as much as 50% of the multi-family housing units over 15 dwelling units per acre.

Consistent with the general plan land use strategies for village cores, this segment contains an intensity of commercial and industrial land uses within the village. Southwest of the Outer Loop 101 and I-17 interchange, are Phoenix General Hospital and Petco Corporate Offices. On the opposite side northeast of the interchange, are the offices of Discover Card Services, Inc.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

2.1

Location: NWC of Rose Garden Lane and 24th Avenue, east of the freeway.

Issue: ADOT-owned remnant parcels.

Recommendation: Consistent with Land Use Policy #7, it is recommended that small remnant parcels contiguous to larger lots be sold to consenting adjacent property owners in accordance with policies set by ADOT and the City of Phoenix.

Segment 3: Yorkshire Drive/Utopia Road to Bell Road (see Map 3)

General Description

Consistent with the General Plan, land uses in this segment contain residential, commercial, and industrial uses. Near the freeway, most land uses are commercial or industrial with residential areas away from the freeway. Southeast of Utopia Road and the freeway, a major industrial firm, Honeywell, has a facility that is well-landscaped and buffered from surrounding residential uses. Other industrial and commercial uses south of Union Hills Drive to Bell Road provide a clear separation from residential areas. At Bell Road and I-17, this intersection has recently been reconstructed from a cloverleaf pattern of on/off ramps to a diamond interchange.

Land Use Issues

No freeway mitigation land use changes are recommended for this segment.

Segment 4: Bell Road to Acoma Drive (see Map 4)

General Description

This segment has a wide variety of land uses all of which are consistent with the General Plan. South of Bell Road, there is commercial, industrial and planned development land uses. North of Greenway Road and west of the freeway, there are existing industrial development land uses. East of the freeway, a large area of single family homes is buffered from the freeway by high density residential uses and a hotel. Between Greenway Road and Acoma Drive, the dominant land use is single and multi-family homes with some commercial and industrial uses east of the freeway. The commercial and industrial uses serve as buffers between the freeway and the single-family homes

Future development at the southwest corner of Bell Road and I-17 will include a City of Phoenix Park-and-Ride. The park-and-ride will be built east of the Smitty's grocery store and north of a Honeywell facility to provide a parking area for express bus passengers.

Land Use Issues

No freeway mitigation land use changes are recommended for this segment.

Segment 5: Acoma Drive to Cactus Road (see Map 5)

General Description

This segment, much like the previous segment also has a variety of land uses including residential, commercial, and industrial. The area east of the freeway from Acoma Drive to Cactus Road is dominated by single family

residential homes. A commercial center at the northeast corner of I-17 and Thunderbird has a Home Depot store and a few restaurants. West of the freeway, single family homes are located south of Acoma Drive. From Thunderbird Road to Cactus Road, land uses are commercial and industrial, with Metro North Corporate Park as the focal point.

Land Use Issues

Land uses in this segment are consistent with the General Plan and no freeway mitigation land use changes are recommended.

Segment 6: Cactus Road to Mountain View Road (see Map 6)

General Description

Geographic landmarks of this segment include Cave Creek Wash, to the east and lying parallel to the freeway, and Metro Center, southwest of the Peoria Avenue and I-17 traffic intersection. Cave Creek Wash is a greenbelt containing a golf course, open areas, trails, and recreation activities. Between the wash and the freeway is an apartment complex, a vacant parcel, and a business park. The vacant parcel south of the apartment complex is zoned for multi-family residential, although the future land use on the General Plan is industrial.

West of the freeway between Cactus Road and Peoria Avenue, apartment complexes occupy the area between the freeway and the study boundary of 28th Drive. Within the residential area are some commercial uses including neighborhood retail, offices, and a hotel. The residential areas are buffered from the freeway by a landscaped median between the frontage road and a local street, Biltmore Drive.

South of Peoria Avenue, this segment bisects Metro Center, which is the North Mountain Village Core. Similar to the Deer Valley Village Core, the General Plan indicates commercial land use, encouraging major village-serving uses to concentrate at this location. The core promotes interaction and is designed to reduce travel times and trips by being the major destination for the village. Metro Center mall contains over one million square feet of

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 7: Mountain View Road to Northern Avenue (see Map 7)

General Description

Continuing with the southern half of Metro Center, northwest of Dunlap Avenue and I-17, this segment is also part of the North Mountain Village Core. Commercial land use intensity decreases from Metro Center to a mile-long area of commercial uses contiguous to I-17. Other land uses include: single and multi-family residential, light industrial to industrial park, neighborhood commercial, intermediate business, and planned shopping centers.

Unique landmarks of this segment include the Castle and Coasters Amusement Park at the perimeter of Metro Center, the Arizona Canal, and the adjacent Arizona Canal Diversion Channel (ACDC). Both cross underneath the freeway approximately ¼-mile north of Dunlap Avenue. Land uses on either side of the canal in the primary commercial core include retail, offices, and hotels.

ADOT has recently completed reconstruction (June 1998) of the Dunlap Avenue bridge. As part of the bridge reconstruction, additional right-of-way (ROW) on the arterial streets was required to accommodate the additional turn and through lanes. Raising the bridge provides a minimum vertical clearance on I-17. Generally, land uses have not changed in the vicinity of the new bridge, although some private homes at the southwest corner of Dunlap and I-17 were taken for the widening of Dunlap Avenue and the construction of two right turn lanes onto the frontage road and freeway. Right-of-way was needed as a result of bridge reconstruction to increase capacity at this interchange.

ADOT will be widening the freeway south of Peoria to Glendale Avenue to accommodate an HOV lane and auxiliary lanes. Freeway widening to accommodate an HOV lane will require widening the crossroads for bridge replacement and crossroads capacity enhancement. The widening process will not require taking any land adjacent to the frontage roads.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 8: Northern Avenue to Maryland Avenue (see Map 8)

General Description

The two major arterial bridges at Northern Avenue and Glendale Avenue are scheduled to be reconstructed by ADOT in order to accommodate more traffic through the interchanges, as well as an HOV lane. The raised height of the bridges will provide the minimum vertical clearance on I-17. Construction work on the Northern Avenue bridge began in January 1998 and will be completed May 1999. The Glendale Avenue interchange will be reconstructed in 2000. Freeway widening to accommodate an HOV lane will use the existing ROW and land uses near the frontage roads are not expected to change.

Physical features of this segment include a variety of residential and commercial zones, from single-family homes to apartments to neighborhood retail centers to commercial office buildings. These uses are spread throughout, offering a blend of residential zoning and uses in the interior portions between the arterial and collector streets, while commercial areas are found near the major arterials and the I-17 freeway. This pattern of development is consistent with the development pattern as outlined in the General Plan.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

8.1

Location: SWC of Northern Avenue and the I-17 Freeway.

Issue: Three ADOT-owned parcels, two have frontage on Northern Avenue, while the third is at the NWC of Augusta Avenue and the freeway frontage road.

Recommendation: During bridge reconstruction, some of the property frontage for the two parcels along Northern Avenue will be used for the right-of-way, and the third parcel on the frontage road will also lose some of its area for the on-ramp to the freeway. Consistent with Land Use Policy #7, it is recommended that small remnant parcels contiguous to larger lots be sold to adjacent property owners in accordance with policies set by ADOT and the City of Phoenix.

Segment 9: Maryland Avenue to Camelback Road (see Map 9)

General Description

The two major arterial bridges at Bethany Home Road and Camelback Road are scheduled to be reconstructed by ADOT in order to accommodate more traffic. Construction work on Bethany Home Road is scheduled for completion in August 1999, and the Camelback Road interchange in 2000. Widening of these structures requires additional ROW depending on the selected alignment of the bridges. Land uses near the bridges are not expected to change, although some businesses will experience disruption of services during construction.

Land uses include residential and commercial, from single family homes to apartments, from neighborhood retail centers to commercial office buildings. These uses are spread throughout, offering a blend of residential zoning and uses in the interior portions between the arterial and collector streets, while commercial areas are found near the major arterials and the I-17 freeway.

Land uses and zoning follow the general plan from Maryland Avenue to Missouri Avenue. South of Missouri Avenue, where the Paradise Parkway was once planned, the General Plan map identifies industrial land uses. The proposed alignment of the parkway, between Georgia Avenue and Colter Street, was to serve as an area of residential and industrial land uses. Current land uses in the once-proposed mainline alignment consist of multi-family residential, educational and public facilities, and commercial areas. Around the perimeter of the formerly proposed traffic interchange, land uses consist of single-family residential and commercial uses.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 10: Camelback Road to Osborn Road (see Map 10)

General Description

The land uses in this segment are the most varied of any of the segments. Residential and commercial uses are combined in many different zoning districts and land use densities. A majority of the residential uses are multi-family, while only a small portion is single-family. From Camelback Road to Indian School Road, between 19th Avenue and 27th Avenue, is known as the Westwood Neighborhood (between 23rd Avenue and 27th Avenue is included in the specific plan study area). The entire neighborhood, is listed as the most dense in the city, having the most apartment complexes per square mile and an estimated 10,000 people living there.

Commercial land uses are generally found along the arterial streets and some areas along the I-17 frontage roads. Commercial uses include neighborhood and community retail centers, hotels, offices, and warehouse-type uses. There are some industrial uses, yet they are only found in a few areas near arterial streets and along the Grand Canal.

Land Use Issues

Vacant parcels are found throughout this segment in different land use categories. Since this is part of the most dense residential area in Phoenix, new multi-family residential construction should be discouraged. Any vacant parcels should be used to complement the existing residential areas instead of adding more residential uses to the segment. Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

10.1

Location: At the northwest and southwest corners of Indian School Road and I-17.

Issue: An ADOT-owned parcel on the northwest corner and four ADOT parcels on the southwest corner of Indian School Road. One parcel at the southwest corner is a pump station.

Recommendation: Current ADOT policy is to hold remnant parcels for future development of freeway-needed amenities, however, once ADOT determines parcels are not necessary for future development, then parcels contiguous to larger lots should be sold to adjacent property owners or landscaped according to Land Use Policy #7.

Segment 11: Osborn Road to McDowell Road (see Map 11)

General Description

Physical landmarks here include several different transportation corridors: the I-17 freeway, the northwest-southeast corridor of Grand Avenue, and the Atchison, Topeka, and Santa Fe Railway. Residential land uses south of Osborn Road give way to industrial and commercial land uses near Thomas Road and Grand Avenue.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

11.1

Location: The northwest and northeast corners of McDowell Road and the I-17 freeway.

Issue: One ADOT remnant parcel on the northwest corner and one ADOT remnant parcel on the northeast corner of McDowell Road.

Recommendation: These parcels are on hold by ADOT for a possible Grand Avenue/I-17/I-10 freeway concept connection. Current ADOT policy is to hold remnant parcels for future development of freeway needed amenities, however, once ADOT determines these parcels are not necessary for this future connection, then parcels should be sold to adjacent property owners or landscaped according to Land Use Policy #7.

Segment 12: McDowell Road to Harrison Street/Southern Pacific Railroad (see Map 12)

General Description

Major physical features of this segment are the I-17/I-10 interchange, the transition of the I-17 freeway from an at-grade freeway north of McDowell Road to below-grade south of the interchange, Greenwood Memorial Cemetery southeast of the interchange, and the Southern Pacific Railroad. Land uses consist of residential, commercial, and industrial with Van Buren Street dividing the different land uses. North of Van Buren Street is primarily industrial, south is residential, and along the street is commercial. In the southern portion, the Southern Pacific Railroad, provides heavy-rail service to industrial uses adjacent to this rail-line.

Single family homes are located south of Van Buren in older neighborhoods. There are numerous vacant lots throughout the area.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section. The vacant lots are potential sites for infill programs.

12.1

Location: East of I-17, from the frontage road to 21st Avenue, between Fillmore Street and Van Buren Street.

Issue: A mobile home park and other single-family homes located in areas zoned for light industrial and general commercial uses.

Recommendation: As there are no nearby viable residential areas, it is recommended that assistance be provided to transition obsolete residential uses to new or expanded commercial and industrial development.

Segment 13: Harrison Street/Southern Pacific Railroad to 19th Avenue (see Map 13)

General Description

Similar to Segment 12, this segment also incorporates residential, commercial, and industrial land uses. South of the railroad to Sherman Street, industrial zoning and land uses are in accordance with the general plan. Additional industrial facilities are located south of Buckeye Road in the vicinity where the freeway turns from a north-south direction to an east-west direction. Some of the parcels south of the freeway between 25th Avenue and 19th Avenue are owned by the State of Arizona for office buildings and maintenance facilities.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section. In some locations residential uses are included in commercial and industrial areas. At the northwest corner of Sherman Street and 21st Avenue, homes exist in light industrial zoning, on Buckeye Road between 24th Avenue and 21st Avenue, homes are mixed in with general commercial zoning, and in the Durango curve area at 22nd Avenue, some homes exist in light industrial zoning. These residential areas are recommended to transition to the adjacent commercial and industrial uses. The numerous vacant lots here are potential sites for city infill programs.

13.1

Location: Between Durango Street and the frontage road, west of 19th Avenue and adjacent to Arthur H. Hamilton Elementary school.

Issue: Continuous improvement of two vacant ADOT remnant parcels as part of ADOT's policy on improving parcels that benefit community use. At the time of this writing, the larger parcel immediately south of the school has been improved with new landscaping, a guard rail and chain link fence contiguous to the frontage road. Large boulders between utility poles prevent large trucks from parking here, and a small gravel parking area has been added immediately south of the school.

Recommendation: Work with ADOT and Hamilton Elementary School to further develop the parcels as an interpretive park or garden. Coordinate with the Street Transportation Department for any necessary infrastructure needs as required. The other parcel, at the southwest corner of 19th Avenue and Durango Street, is currently used for overflow parking by Whataburger fast food restaurant. This parcel should be developed as either a continuation of the Hamilton School park or as an improved parking facility for the restaurant.

Segment 14: 19th Avenue to Central Avenue (see Map 14)

General Description

The freeway divides the land uses in this segment: industrial uses are south of the freeway, while older residential neighborhoods are mixed in with some commercial and industrial uses north of the freeway. In the residential areas north of the freeway, there are numerous vacant lots among single family homes and some homes that are directly adjacent to industrial uses.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 15: Central Avenue to 16th Street (see Map 15)

General Description

The freeway also divides the land uses in this segment between residential, commercial, and industrial. Land uses are primarily industrial south of the freeway and west of 12th Street, while those east of 12th Street are residential. The neighborhoods north of the freeway are primarily zoned for multi-family residential, yet most parcels have single family residences on them, with some commercial and industrial uses mixed with them. In residential areas, there are numerous vacant lots among single family homes north of the freeway and some homes that are directly adjacent to industrial uses. Other land uses include two elementary schools, a neighborhood park, and a police substation.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

15.1

Location: Along the 12th Street alignment, the pedestrian tunnel under the I-17 freeway, the southeast corner of 12th Street and Hess Street, and the northwest corner of 12th Street and Hilton Avenue.

Issue: Continuous improvement of two vacant ADOT remnant parcels as part of ADOT's policy on improving parcels that benefit community use.

Recommendation: Consistent with Land Use Policy #7, these two remnant parcels should be landscaped and maintained to benefit the surrounding communities. The pedestrian tunnel under the freeway is recommended for reconstruction to shorten the length of the tunnel by cutting back the embankments. See Neighborhood Safety and Stabilization Element for information on the Elevated Maricopa Freeway Enhancement project.

Segment 16: 16th Street to Salt River (see Map 16)

General Description

Major physical features of this segment is an interchange between I-17 and I-10, and the western boundary of Sky Harbor International Airport. North of I-10, the land is zoned for light industrial uses as part of the Sky Harbor Gateway Industrial Park, which is currently vacant. South of the freeway, land is zoned for primarily industrial use, however, an area of medium density residential exists in a portion of the area.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 17: Salt River to 40th Street (see Map 17)

General Description

Southeast of the Salt River, between the 32nd Street/University Drive traffic interchange and 40th Street, land uses are industrial and commercial with very few residential areas. North of the freeway, a hotel acts as a gateway to the South Bank Industrial Park built between the river and I-10 on reclaimed land. A number of parcels remain vacant, thereby, the area will continue to develop. An unusual feature of this segment is Okemah Park, surrounded by industrial facilities. In the General Plan, this area is designated entirely for industrial land use.

At the traffic interchange between 32nd Street/University and I-10, a number of vacant ADOT owned parcels exist. Between 32nd Street and 36th Street, there are four single family parcels, and one neighborhood retail. The balance are industrial or vacant. Recent re-zoning cases have changed separate parcels to commercial and industrial.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

17.1

Location: At the I-10 and 32nd Street/University Drive interchange.

Issue: Vacant ADOT-owned parcels.

Recommendation: Current ADOT policy is to hold remnant parcels for future development of freeway needed amenities, however, once ADOT determines parcels are not necessary for future development, then parcels contiguous to larger lots should be sold to adjacent property owners or landscaped according to Land Use Policy #7. Studies are underway by ADOT to add enhancements to the interchange as part of a larger freeway enhancement project between 40th Street and Baseline Road.

Segment 18: 40th Street to 48th Street (City Limits) (see Map 18)

General Description

This segment is similar to Segment 17, in which land uses are commercial and industrial with a small number of residential areas. North of the freeway, industrial zoned parcels are in a developed business park, as well as, a mid-rise educational facility, occupied by the University of Phoenix. There are three large parcels, currently vacant; two are zoned as industrial, the other is zoned as commercial mid-rise.

South of the freeway, another business park lies between 40th Street and the 44th Street alignment. East of this area, two parcels are used for residential town homes. A public utility easement divides the two, making room for overhead powerlines. At the northwest corner of 48th Street and Broadway Road, three commercial parcels are occupied by a convenience store, a gas station and a hotel.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.

Segment 19: Baseline Road (City Limits) to Mineral Road Alignment (see Map 19)

General Description

This area lies east of South Mountain Park and consists of the Pointe at South Mountain resort, single-family houses, townhouses, apartments and one area of industrial land use. Land uses associated with the resort include three parcels of neighborhood retail south of Baseline Road, a vacant parcel at the southwest corner of Baseline Road, and the I-10 onramp. South of that is the Highline Canal, a golf course, and a portion of Hilton Resort hotel. Private residential, townhouses, and apartments are located north of Guadalupe Road.

South of Guadalupe Road, the Pointe at South Mountain golf course bisects a new apartment complex and single family homes. The apartments are east of the golf course and west of the I-10 freeway. In the extreme southern portion of this segment is an industrial park. Between the industrial park and the freeway at the intersection of Piedmont Street and 51st Street is another new apartment complex.

Land Use Issues

No freeway mitigation land use changes are recommended for this segment.

Segment 20: Mineral Road Alignment to Warner Road (see Map 20)

General Description

A variety of land uses ranging from residential, commercial, to industrial park are located in this segment. North of Elliot Road and east of 50th Place, is an industrial and office park. Three parcels are currently vacant and zoned

for industrial or commercial uses. Southwest of Elliot Road and I-10, three parcels containing a hotel, restaurant, and a vacant parcel are identified as being in the county. This is what is known as a county island, where parcels of county land have not been annexed into the surrounding community, but are surrounded by that community, in this case, the City of Phoenix. Immediately south of the county island are two different types of residential uses, apartment complexes and single-family patio homes. The apartment complexes are separated from the single-family homes by a drainage channel.

Land Use Issues

All residential land uses have been developed, therefore, no freeway mitigation land use changes are recommended for this segment.

Segment 21: Warner Road to Galveston Street Alignment (see Map 21)

General Description

Existing land uses here are single family residential, a community park, commercial areas, and a business park. Mountain Vista Park, a 44-acre city park north of Ray Road, opened Phase One in November 1997. The second phase will complete the park with a main entrance driveway at 48th Street leading to a new recreation center building. Presently, no completion date for Phase Two has been set.

Land Use Issues

Land uses along Ray Road are designated for retail and commercial use, while south of Ray Road, new commercial office parks are under development. All residential land uses have been developed, and no freeway mitigation land use changes are recommended for this segment.

Segment 22: Galveston Street Alignment to Pecos Road Alignment (City Limits) (see Map 22)

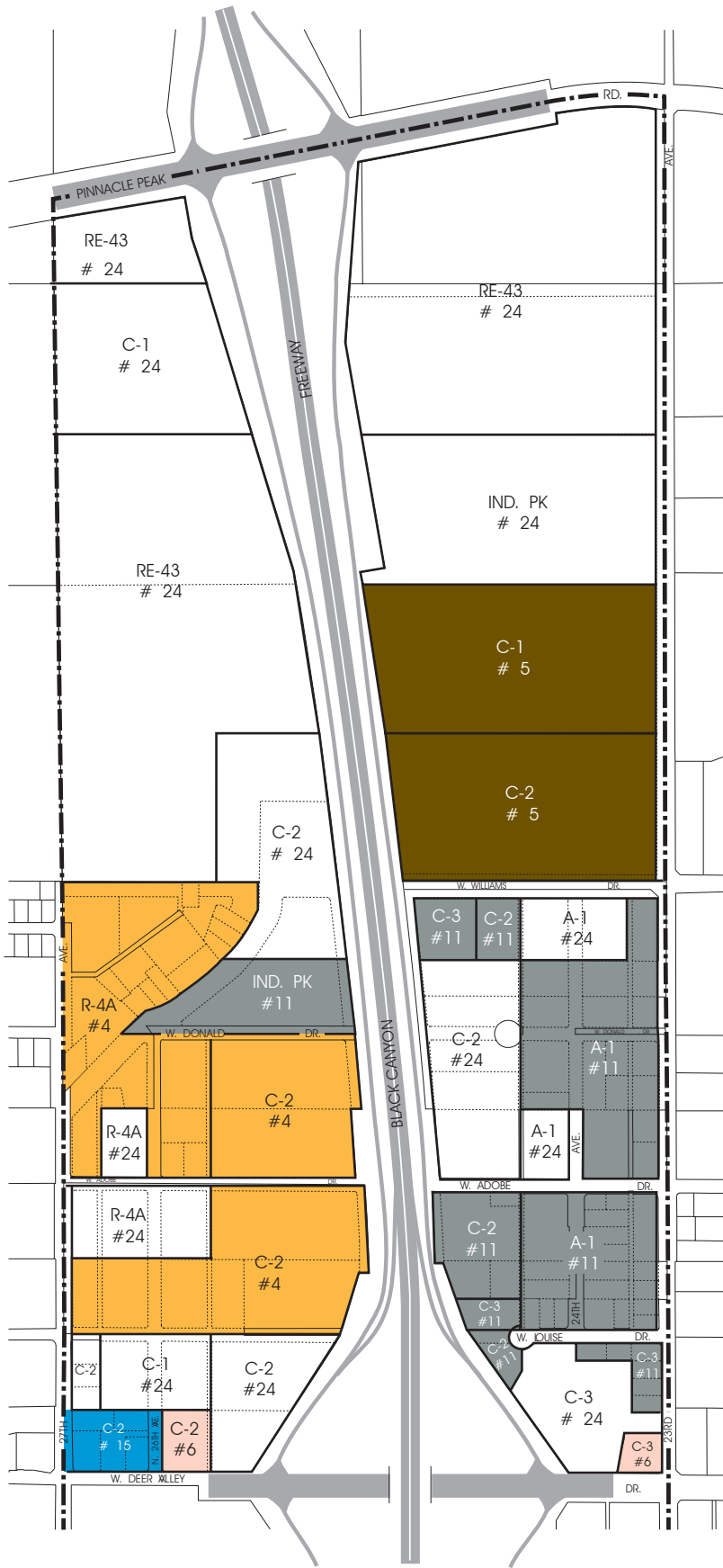
General Description

Current land uses in this segment are commercial and agricultural. The west half of the Chandler Boulevard and I-10 interchange has developed as commercial with hotels, restaurants and a gas station. Areas north and south of the commercial areas are still used for agriculture. According to ADOT, future freeway expansion will require the reconstruction of the Chandler Road bridge between 2002 and 2004.

At the southern boundary of the study area and the city limits, a traffic interchange with I-10 and the Santan/South Mountain freeways is proposed. Currently, discussions are underway between residents, property owners, the City of Phoenix, and others regarding this interchange and nearby land uses.

Land Use Issues

Freeway mitigation recommendations for this segment should conform to the land use policies stated at the beginning of this section.



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LANDUSE
SEGMENT 1 - MAP 1
PINNACLE PEAK ROAD TO DEER VALLEY DRIVE

--- STUDY BOUNDARY



Scale in Feet



Zoning District

RE-43	Residential Estate
R-4A	Multi-family Residential
C-1	Neighborhood Retail
C-2	Intermediate Business
C-3	General Commercial
IND PK	Industrial Park

MAG Land Use Designation

4	Medium Density Residential
5	High Density Residential
6	Neighborhood Retail
11	Industrial
15	Institutional
24	Vacant

General Freeway Mitigation recommendations apply:

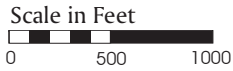
* Future development conforms with the General Plan & Zoning Ordinance, and with Land Use Policies as indicated in the text

* New development should coordinate with the North Black Canyon Corridor Study

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 2 - MAP 2
DEER VALLEY DRIVE TO YORKSHIRE DRIVE/UTOPIA ROAD

--- STUDY BOUNDARY



Zoning District

- R-5 Multi-Family Residential
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- IND PK Industrial Park
- A-1 Light Industrial
- PCD Planned Community District
- PSC Planned Shopping Center

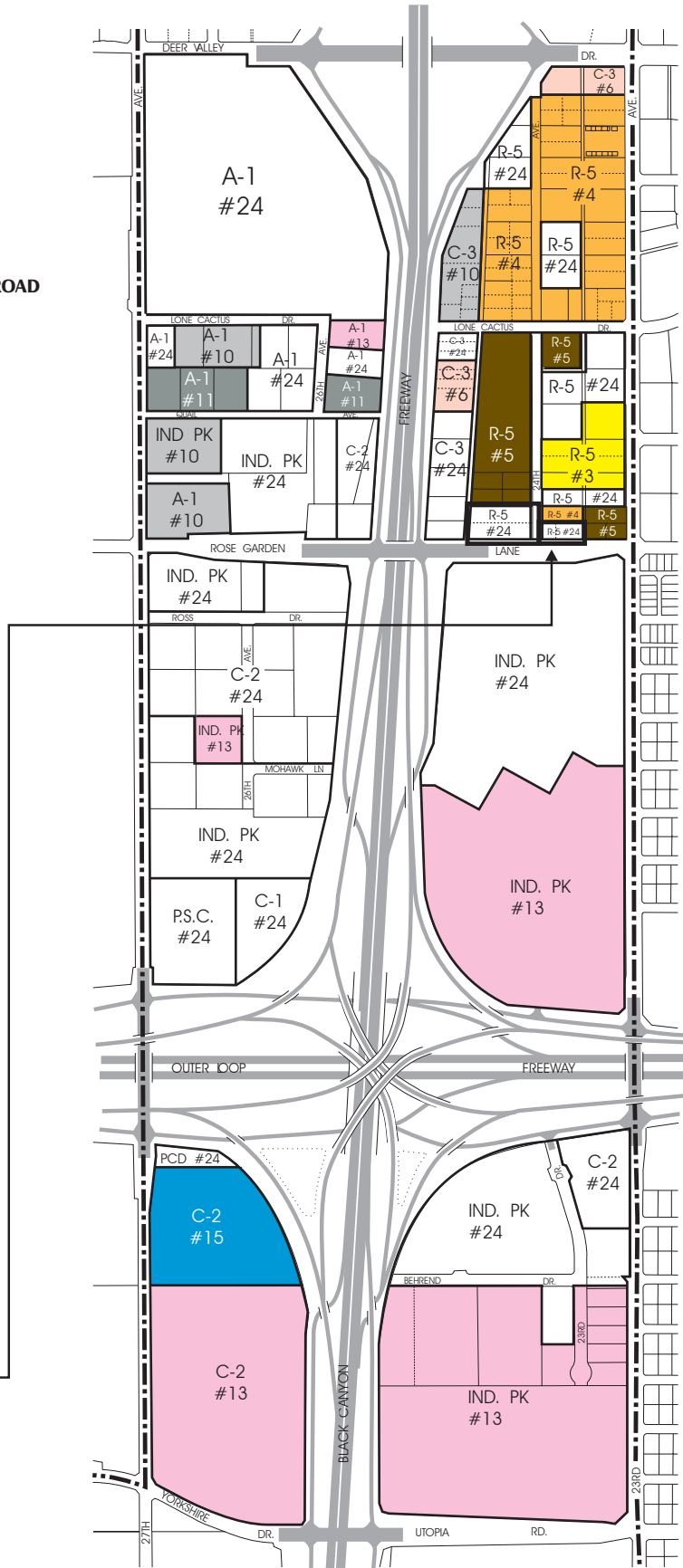
MAG Land Use Designation

- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 10 Warehouse/distribution Centers
- 11 Industrial
- 13 Office
- 15 Institutional
- 24 Vacant

General Freeway Mitigation recommendations apply:

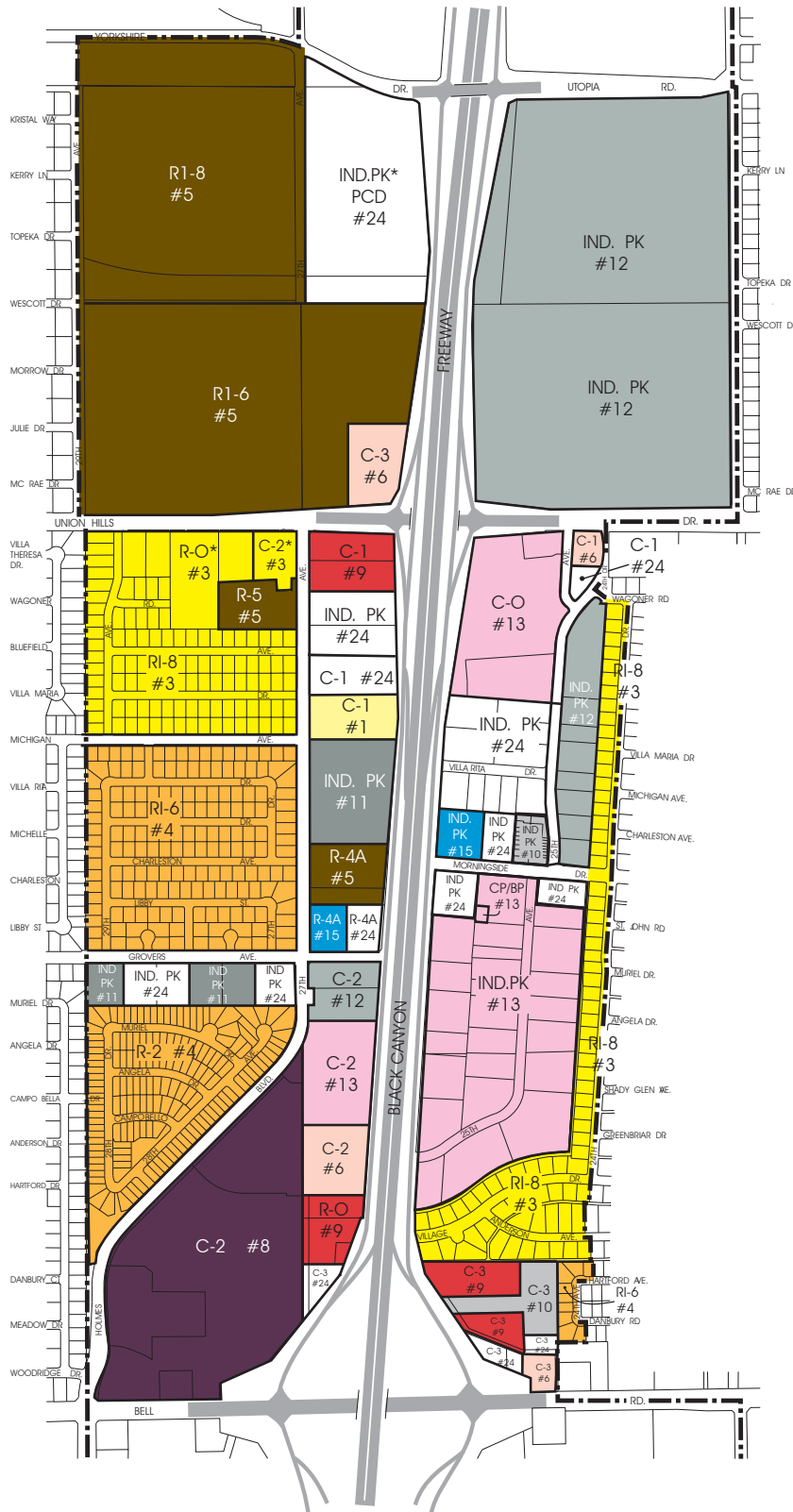
* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

2.1 ADOT - Owned Remnant Parcels; See text for recommendation



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE SEGMENT 3 - MAP 3 YORKSHIRE DRIVE/UTOPIA ROAD TO BELL ROAD



--- STUDY BOUNDARY



Scale in Feet



Zoning District

- R1-8 Single Family Residential
- R1-6 Single Family Residential
- R-5 Multi-Family Residential
- R-4A Multi-Family Residential
- C-O Commercial Office
- C-1 Neighborhood Retail
- C-2 Intermediate Commercial
- C-3 General Commercial
- CP/BP Commerce Park/Business Park
- IND PK Industrial Park
- PCD Planned Community District
- * Other than normal stipulations

MAG Land Use Designation

- 1 Rural Residential
- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 8 Regional Retail
- 9 Hotels, Motels, Resorts
- 10 Warehouse/Distribution Centers
- 11 Industrial
- 12 Business Park
- 13 Office
- 15 Institutional
- 24 Vacant

No Freeway Mitigation Land Use changes are recommended for this segment

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 4 - MAP 4
BELL ROAD TO ACOMA DRIVE

--- STUDY BOUNDARY



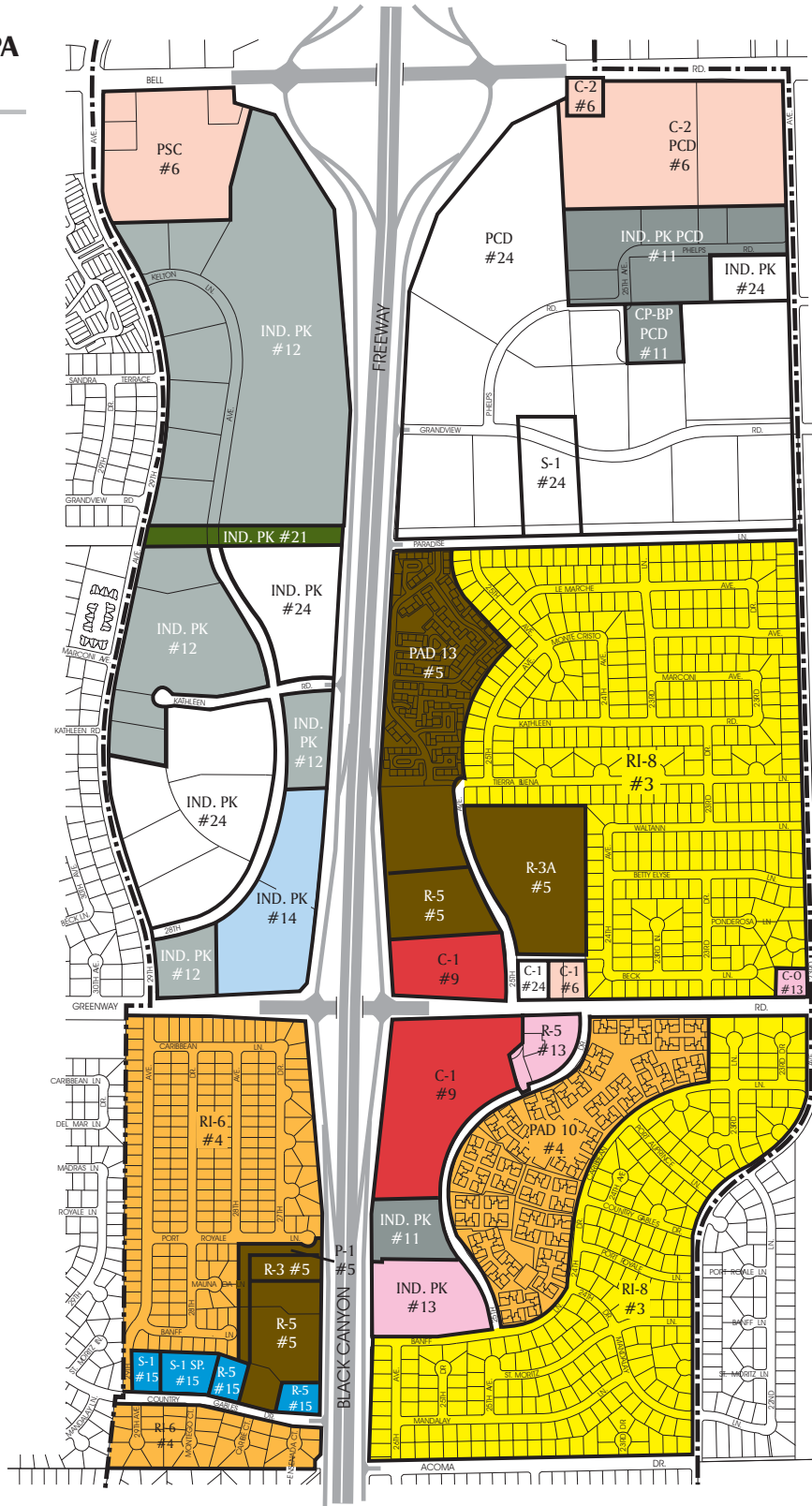
Zoning District

- S-1 Ranch Or Farm Residence
- RI-8 Single Family Residential
- RI-6 Single Family Residential
- R-3 Multi-Family Residential
- R-3A Multi-Family Residential
- R-5 Multi-Family Residential
- C-O Commercial Office
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- CP-BP Commerce Park - Business Park
- INDPK Industrial Park
- PAD Planned Area Development
- PCD Planned Community District
- PSC Planned Shopping Center
- P-1 Limited Parking
- SP Special Permit

MAG Land Use Designation

- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 9 Hotels, Motels, Resorts
- 11 Industrial
- 12 Business Park
- 13 Office
- 14 Educational
- 15 Institutional
- 21 Dedicated Or Non-developable
Open Space
- 24 Vacant

No Freeway Mitigation Land Use
changes are recommended for
this segment



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 5 - MAP 5
ACOMA DRIVE TO CACTUS ROAD

--- STUDY BOUNDARY

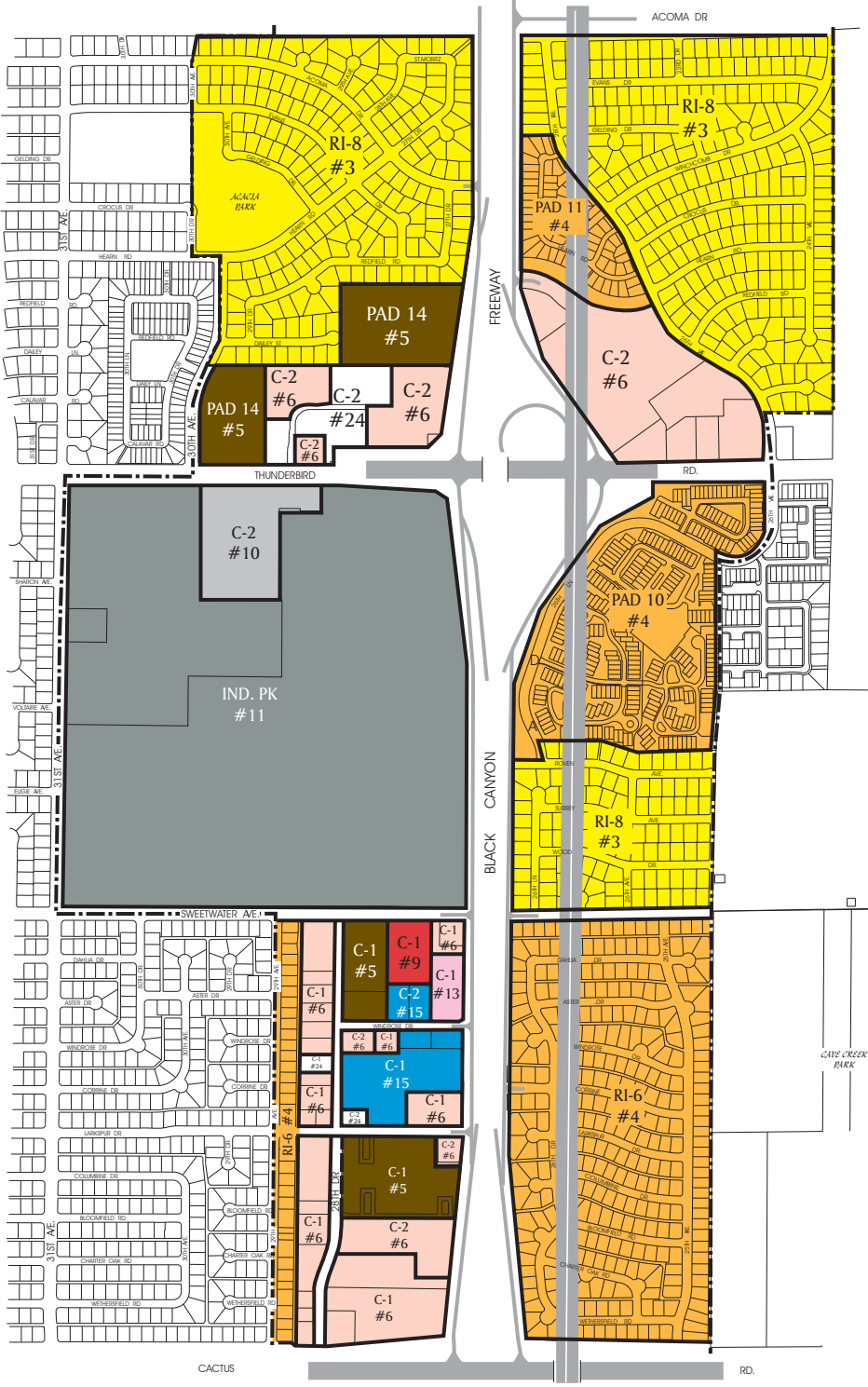


Scale in Feet
0 500 1000

- Zoning District**
- RI-6 Single Family Residential
 - RI-8 Single Family Residential
 - C-1 Neighborhood Retail
 - C-2 Intermediate Business
 - IND PK Industrial Park
 - PAD Planned Area Development

- MAG Land Use Designation**
- 3 Low Density Residential
 - 4 Medium Density Residential
 - 5 High Density Residential
 - 6 Neighborhood Retail
 - 9 Hotels, Motels, Resorts
 - 10 Warehouse/Distribution Centers
 - 11 Industrial
 - 13 Office
 - 15 Institutional
 - 24 Vacant

No Freeway Mitigation Land Use changes are recommended for this segment



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 6 - MAP 6

CACTUS ROAD TO MOUNTAIN VIEW ROAD

--- STUDY BOUNDARY



Scale in Feet
0 500 1000

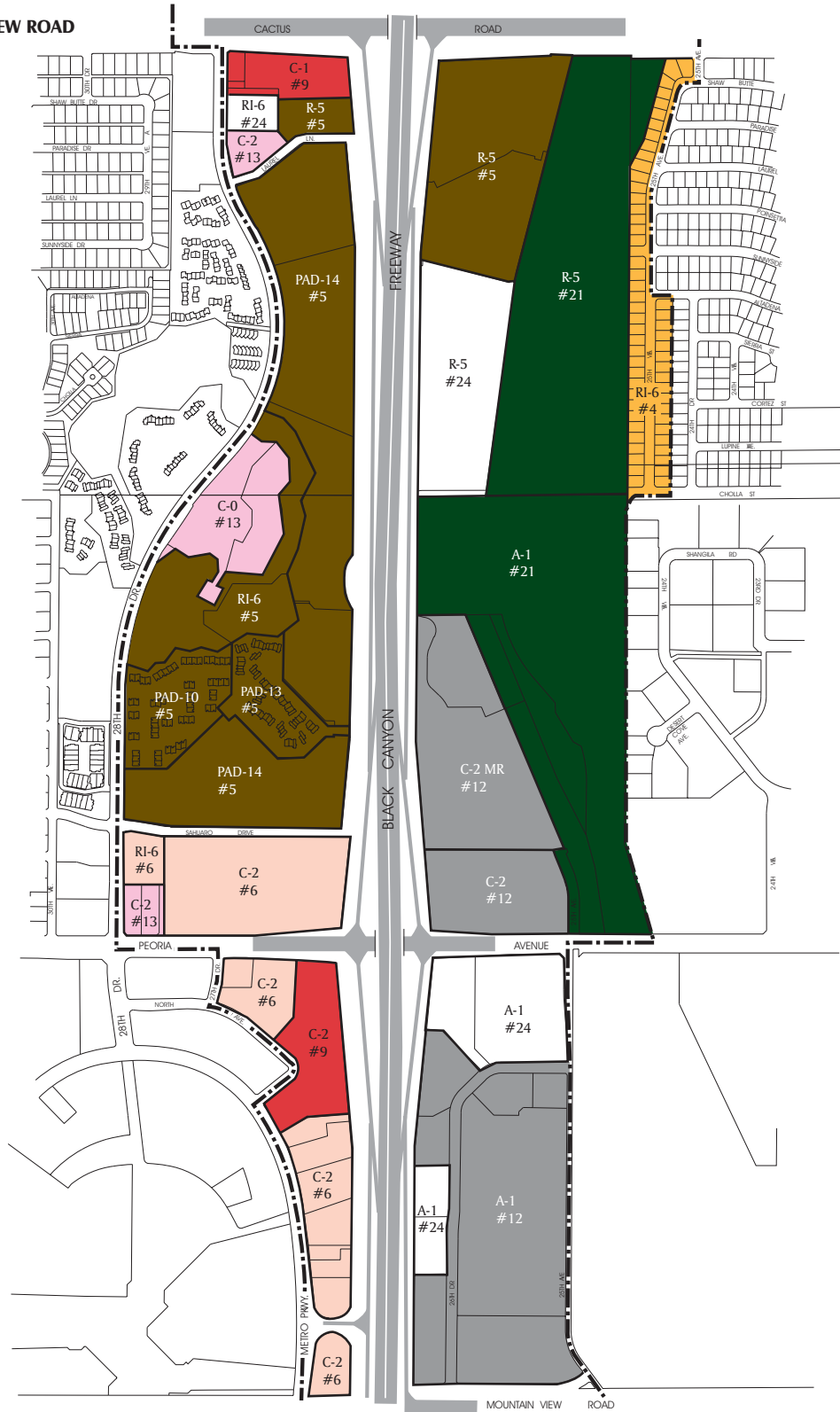
Zoning District

RI-6	Single Family Residential
R-5	Multi-family Residential
C-0	Commercial Office
C-1	Neighborhood Retail
C-2	Intermediate Business
A-1	Light Industrial
PAD	Planned Area Development
MR	Mid-Rise

MAG Land Use Designation

4	Medium Density Residential
5	High Density Residential
6	Neighborhood Retail
9	Hotels, Motels, Resorts
12	Business Park
13	Office
21	Dedicated or Non-developable Open Space
24	Vacant

General Freeway Mitigation recommendations apply:
* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE

SEGMENT 7 - MAP 7

MOUNTAIN VIEW ROAD TO NORTHERN AVENUE



--- STUDY BOUNDARY



Zoning District

- S-1 Ranch Or Farm Residence
- RI-6 Single Family Residential
- R-5 Multi-Family Residential
- C-0 Commercial Office
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- IND PK Industrial Park
- A-1 Light Industrial
- PSC planned shopping center
- MR Mid Rise

MAG Land Use Designation

- 1 Rural Residential
- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 7 Community Retail
- 9 Hotels, Motels, Resorts
- 10 Warehouse/Distribution Center
- 12 Business Park
- 13 Office
- 14 Educational
- 15 Institutional
- 16 Public Facilities
- 17 Large Assembly Area
- 22 Water
- 24 Vacant

General Freeway Mitigation recommendations apply:

- * Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 8 - MAP 8
NORTHERN AVENUE TO MARYLAND AVENUE

--- STUDY BOUNDARY



Zoning District

- RI-6 Single Family Residential
- R-2 Multi-Family Residential
- R-3 Multi-Family Residential
- R-3A Multi-Family Residential
- R-4 Multi-Family Residential
- R-5 Multi-Family Residential
- R-4A Multi-Family Residential
- C-O Commercial Office
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- PAD Planned Area Development
- P-1 Limited Parking

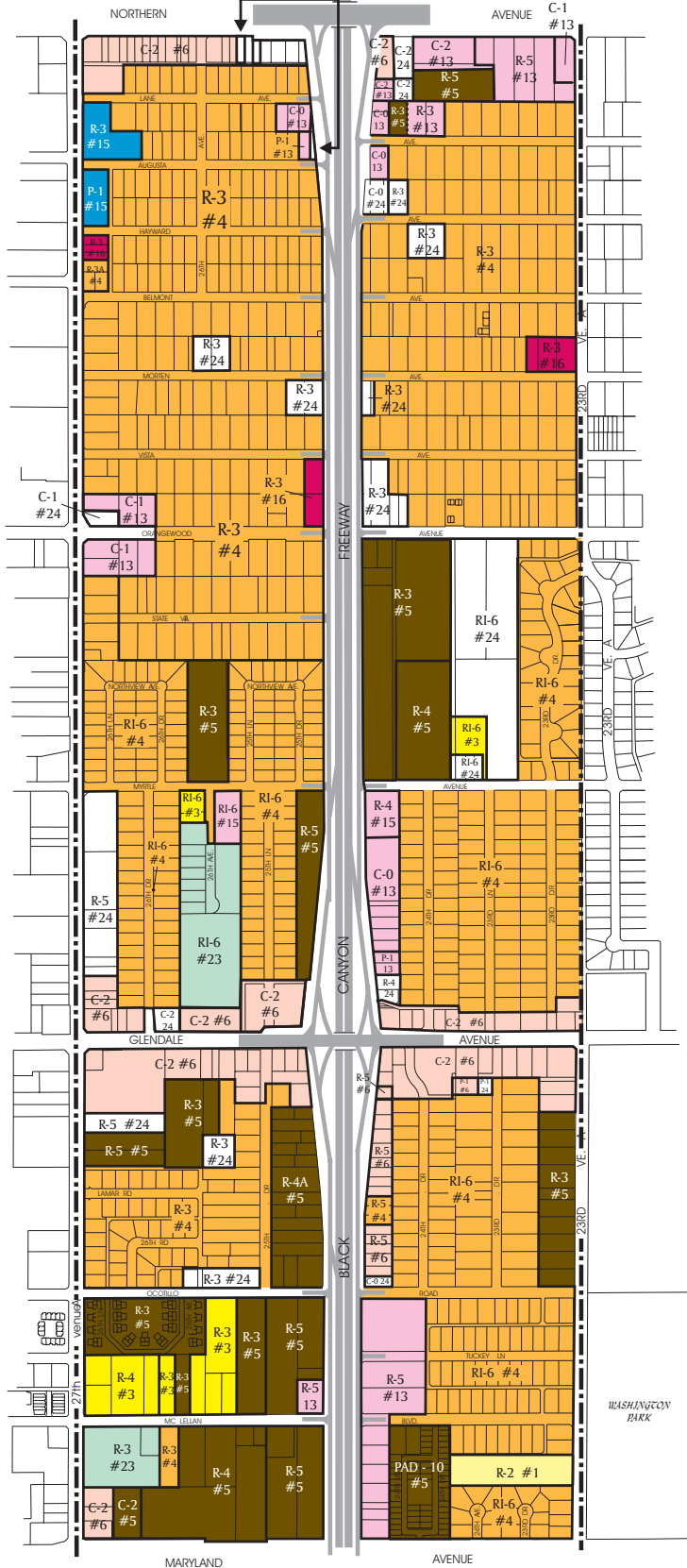
MAG Land Use Designation

- 1 Rural Residential
- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 13 Office
- 15 Institutional
- 16 Public Facilities
- 23 Agriculture
- 24 Vacant

General Freeway Mitigation recommendations apply:

* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

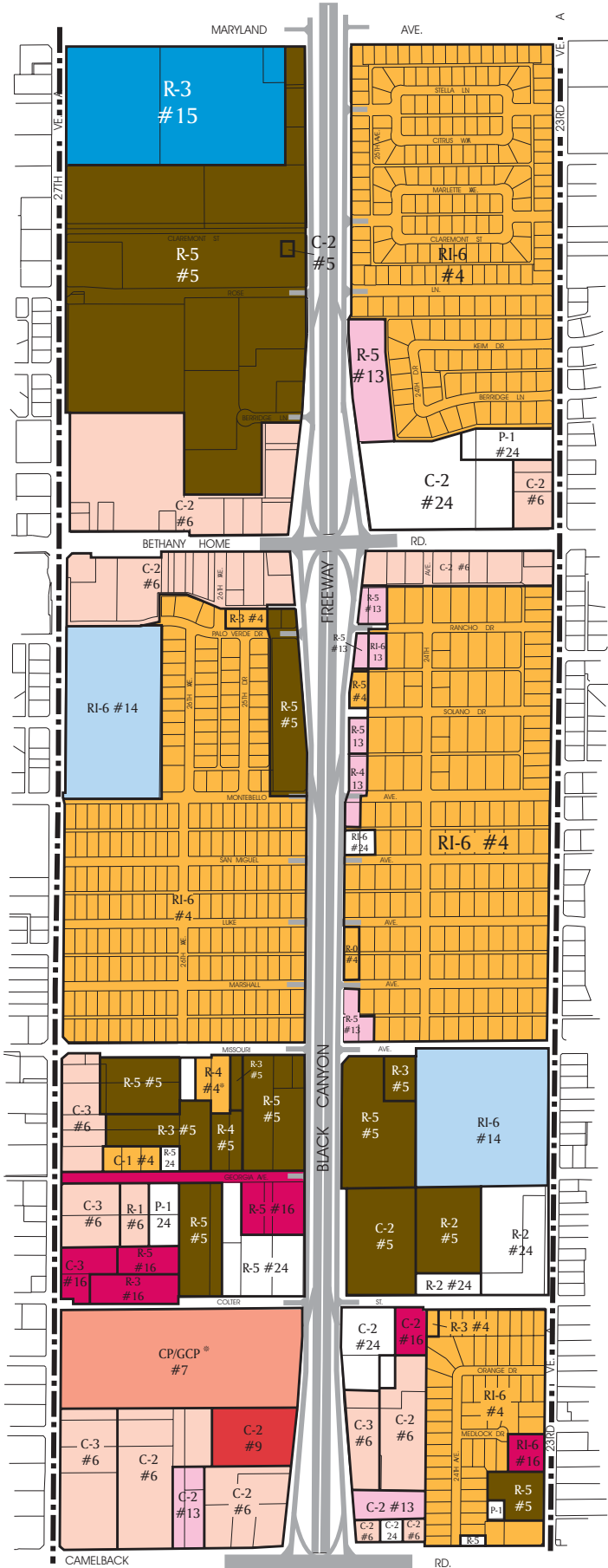
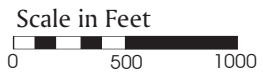
8.1 Adot - Owned Parcels:
See text for recommendation



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 9 - MAP 9
MARYLAND AVENUE TO CAMELBACK ROAD

--- STUDY BOUNDARY



Zoning District

- RI-6 Single Family Residential
- R-2 Multi-family Residential
- R-3 Multi-family Residential
- R-4 Multi-family Residential
- R-5 Multi-family Residential
- R-O Residential Office
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- CP/GCP Commerce Park/general Commerce Park
- P-1 Limited Parking
- * Other than normal stipulations

MAG Land Use Designation

- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 7 Community Retail
- 9 Hotels, Motels, & Resorts
- 13 Office
- 14 Educational
- 15 Institutional
- 16 Public Facilities
- 24 Vacant

General Freeway Mitigation recommendations apply:

* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 10 - MAP 10
CAMELBACK ROAD TO OSBORN ROAD

--- STUDY BOUNDARY



Scale in Feet



Zoning District

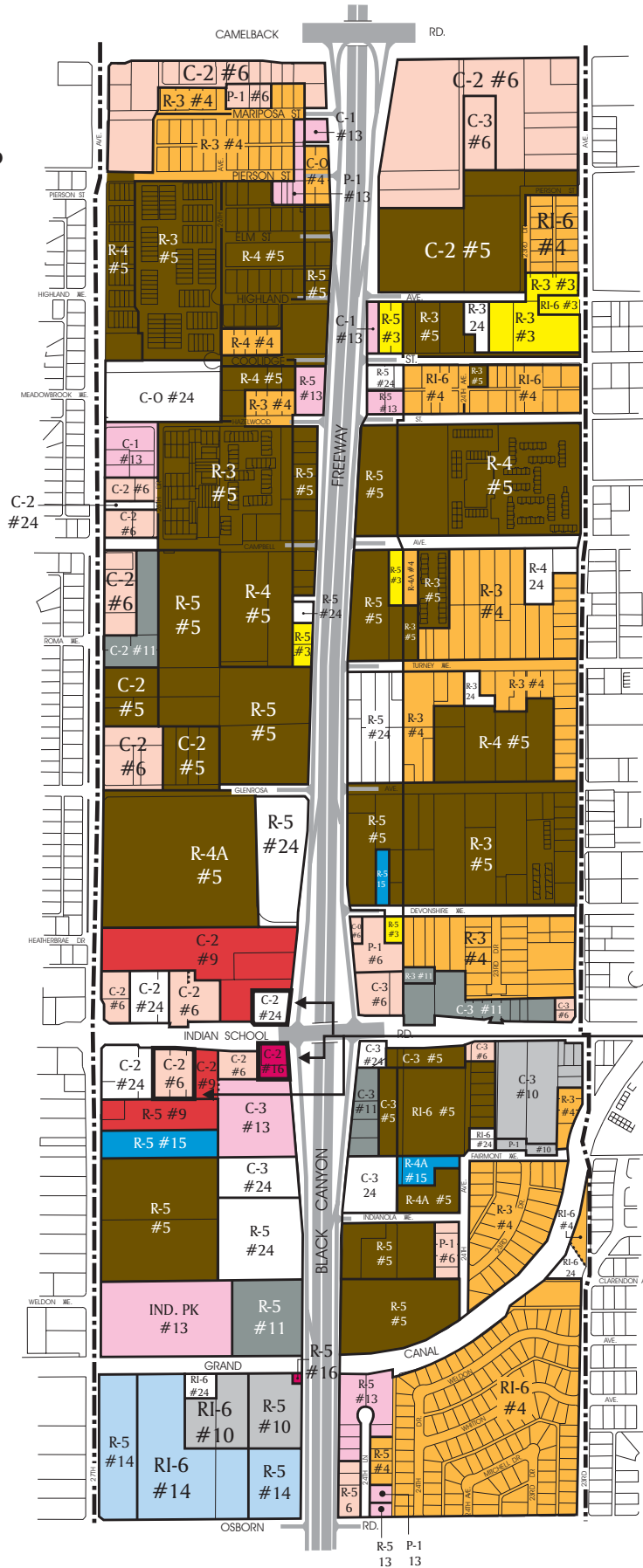
- RI-6 Single Family Residential
- R-3 Multi-Family Residential
- R-4 Multi-Family Residential
- R-5 Multi-Family Residential
- R-4A Multi-Family Residential
- C-O Commercial Office
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- IND PK Industrial Park
- P-1 Limited Parking

MAG Land Use Designation

- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 7 Community Retail
- 9 Hotels, Motels, & Resorts
- 10 Warehouse/Distribution Centers
- 11 Industrial
- 13 Office
- 14 Educational
- 15 Institutional
- 16 Public Facilities
- 24 Vacant

General Freeway Mitigation recommendations apply:

* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text



10.1
Adot - Owned Parcels;
See text for
recommendations

R-5 #13
P-1 #13

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE SEGMENT 11 - MAP 11 OSBORN ROAD TO MCDOWELL ROAD

--- STUDY BOUNDARY



Zoning District

- RI-6 Single Family Residential
- R-3 Multi-Family Residential
- R-5 Multi-Family Residential
- C-2 Intermediate Business
- C-3 General Commercial
- A-1 Light Industry
- A-2 Heavy Industry
- PAD Planned Area Development

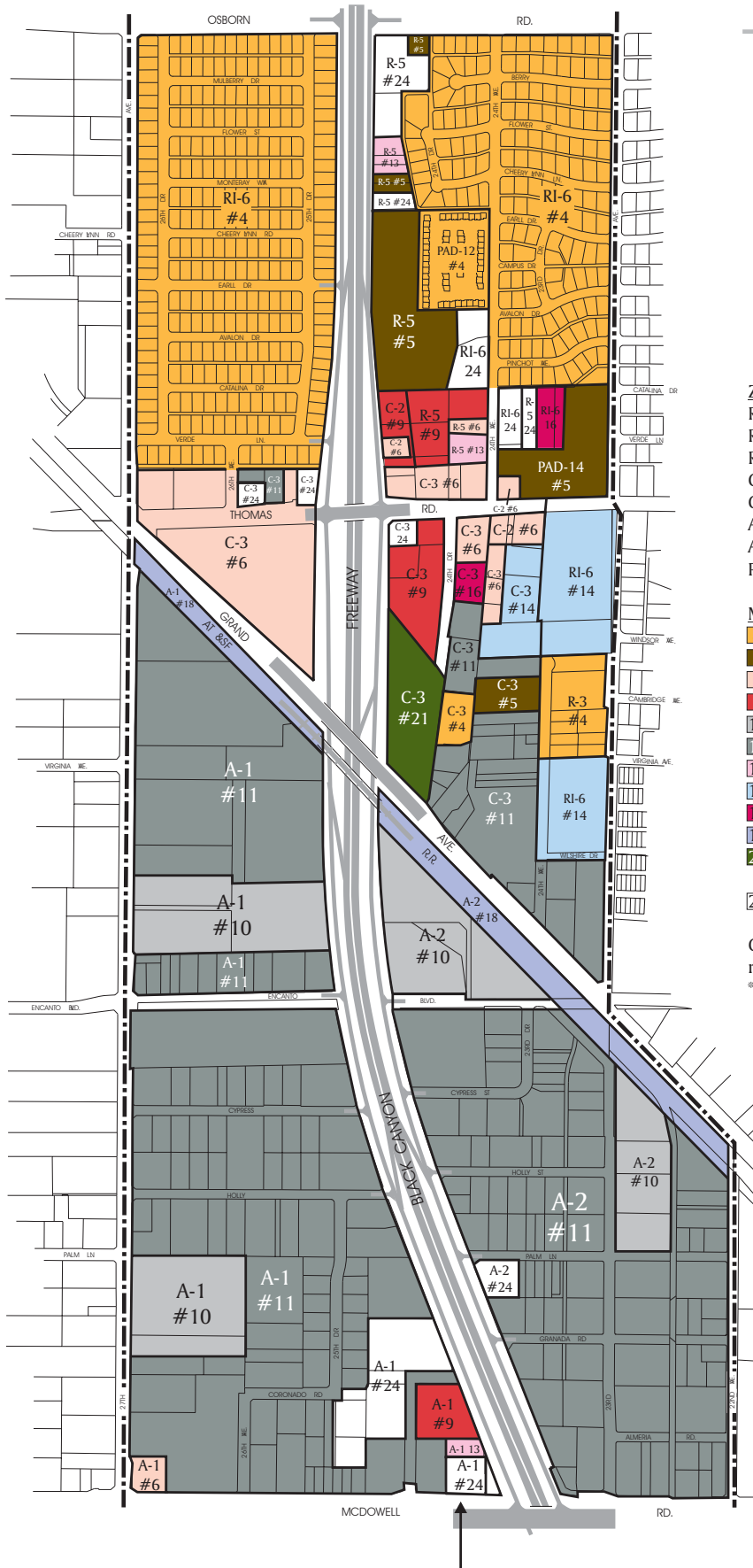
MAG Land Use Designation

- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 9 Hotels, Motels, & Resorts
- 10 Warehouse/Distribution Centers
- 11 Industrial
- 13 Office
- 14 Educational
- 16 Public Facilities
- 18 Transportation
- 21 Dedicated Or Non-Developable Open Space
- 24 Vacant

General Freeway Mitigation recommendations apply:

* Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

11.1
ADOT - Owned Remnant
Parcels; See text
for recommendations



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 12 - MAP 12

MCDOWELL ROAD TO HARRISON STREET/SOUTHERN
PACIFIC RAILROAD

--- STUDY BOUNDARY



Scale in Feet



Zoning District

- RI-6 Single Family Residential
- R-3 Multi-Family Residential
- R-4 Multi-Family Residential
- R-5 Multi-Family Residential
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- A-1 Light Industrial
- A-2 Heavy Industrial
- P-1 Limited Parking
- HP Historic Preservation Overlay

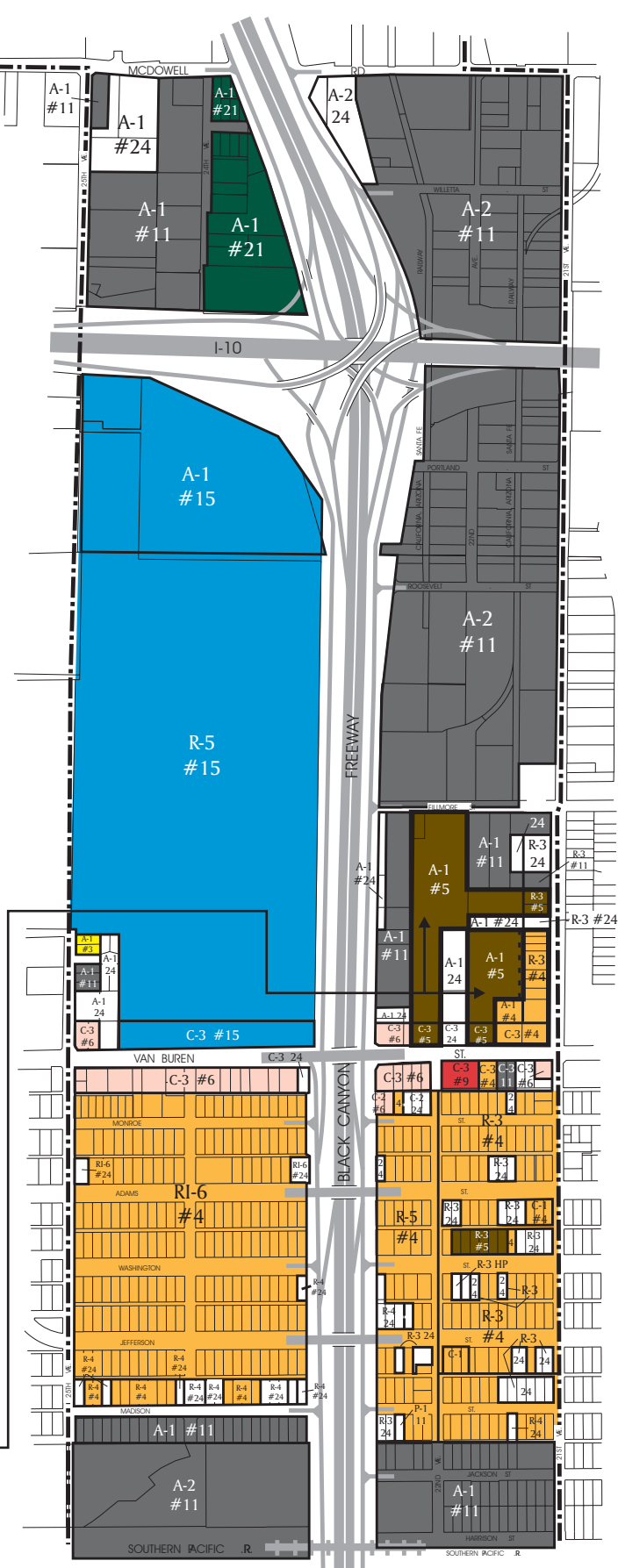
MAG Land Use Designation

- 3 Low Density Residential
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 9 Hotels, Motels, & Resorts
- 11 Industrial
- 15 Institutional
- 21 Dedicated Or Non-Developable
Open Space
- 24 Vacant

General Freeway Mitigation
recommendations apply:

* Future development conforms
with the General Plan and
Zoning Ordinance, and with
land use policies as indicated
in the text

12.1 Residential Land Uses In
Industrial & Commercial
Zones: See text for
recommendation



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 13 - MAP 13

HARRISON STREET/SOUTHERN PACIFIC RAILROAD
TO 19TH AVENUE

--- STUDY BOUNDARY



Scale in Feet



Zoning District

- R-3 Multi-Family Residential
- R-5 Multi-Family Residential
- C-1 Neighborhood Retail
- C-2 Intermediate Business
- C-3 General Commercial
- A-1 Light Industrial
- A-2 Heavy Industrial
- P-1 Limited Parking

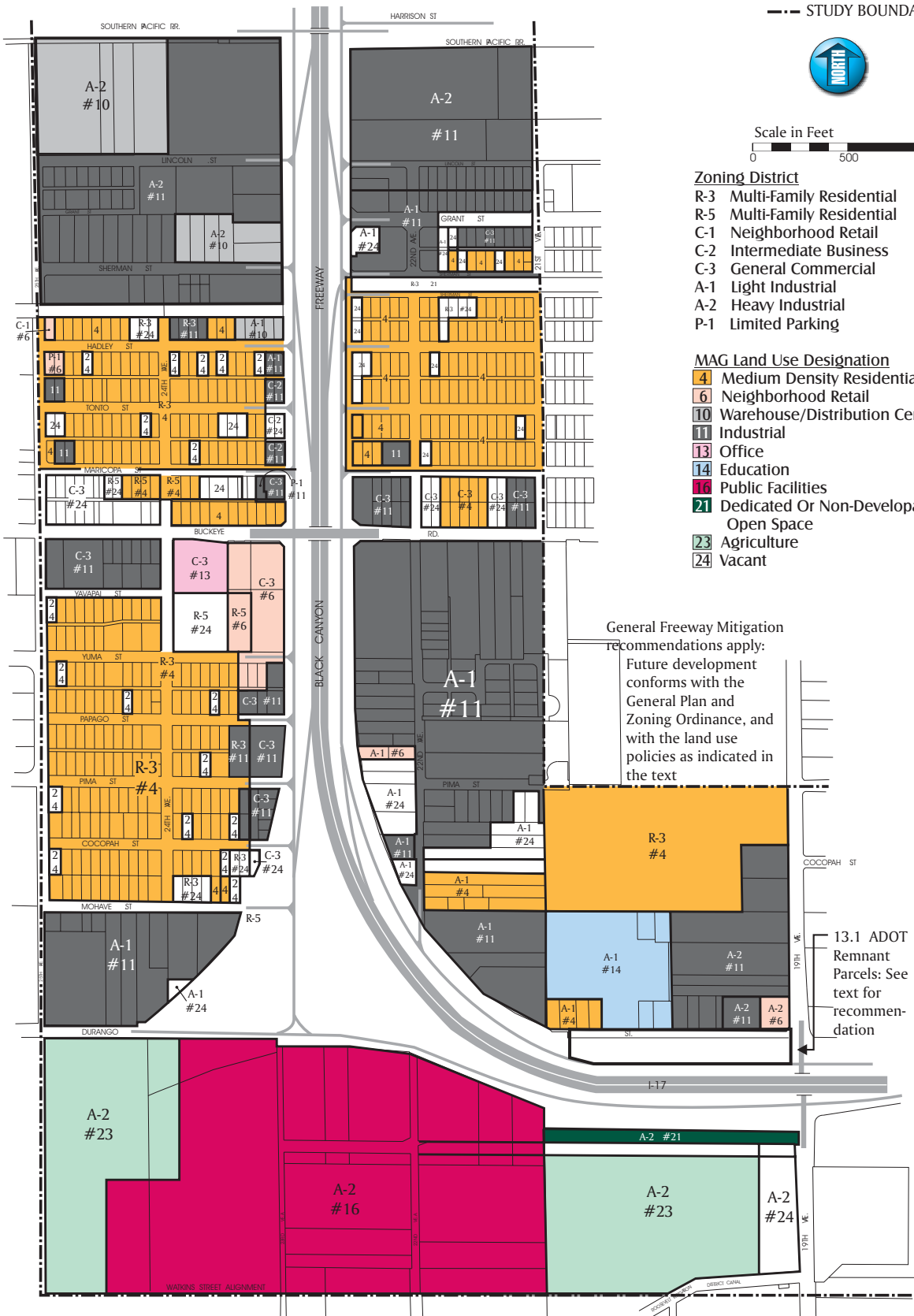
MAG Land Use Designation

- 4 Medium Density Residential
- 6 Neighborhood Retail
- 10 Warehouse/Distribution Centers
- 11 Industrial
- 13 Office
- 14 Education
- 16 Public Facilities
- 21 Dedicated Or Non-Developable Open Space
- 23 Agriculture
- 24 Vacant

General Freeway Mitigation

recommendations apply:
Future development conforms with the General Plan and Zoning Ordinance, and with the land use policies as indicated in the text

13.1 ADOT Remnant Parcels: See text for recommendation



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

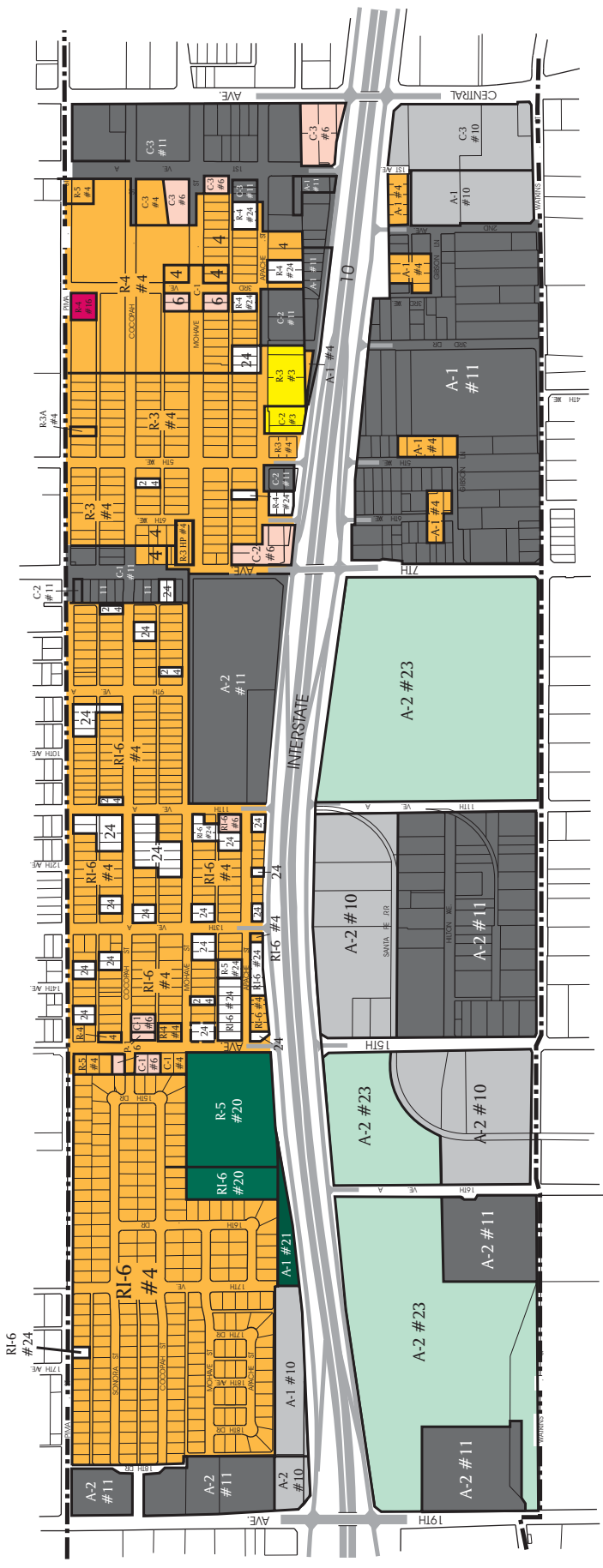
EXISTING ZONING & LAND USE
SEGMENT 14 - MAP 14
19TH AVENUE TO CENTRAL AVENUE

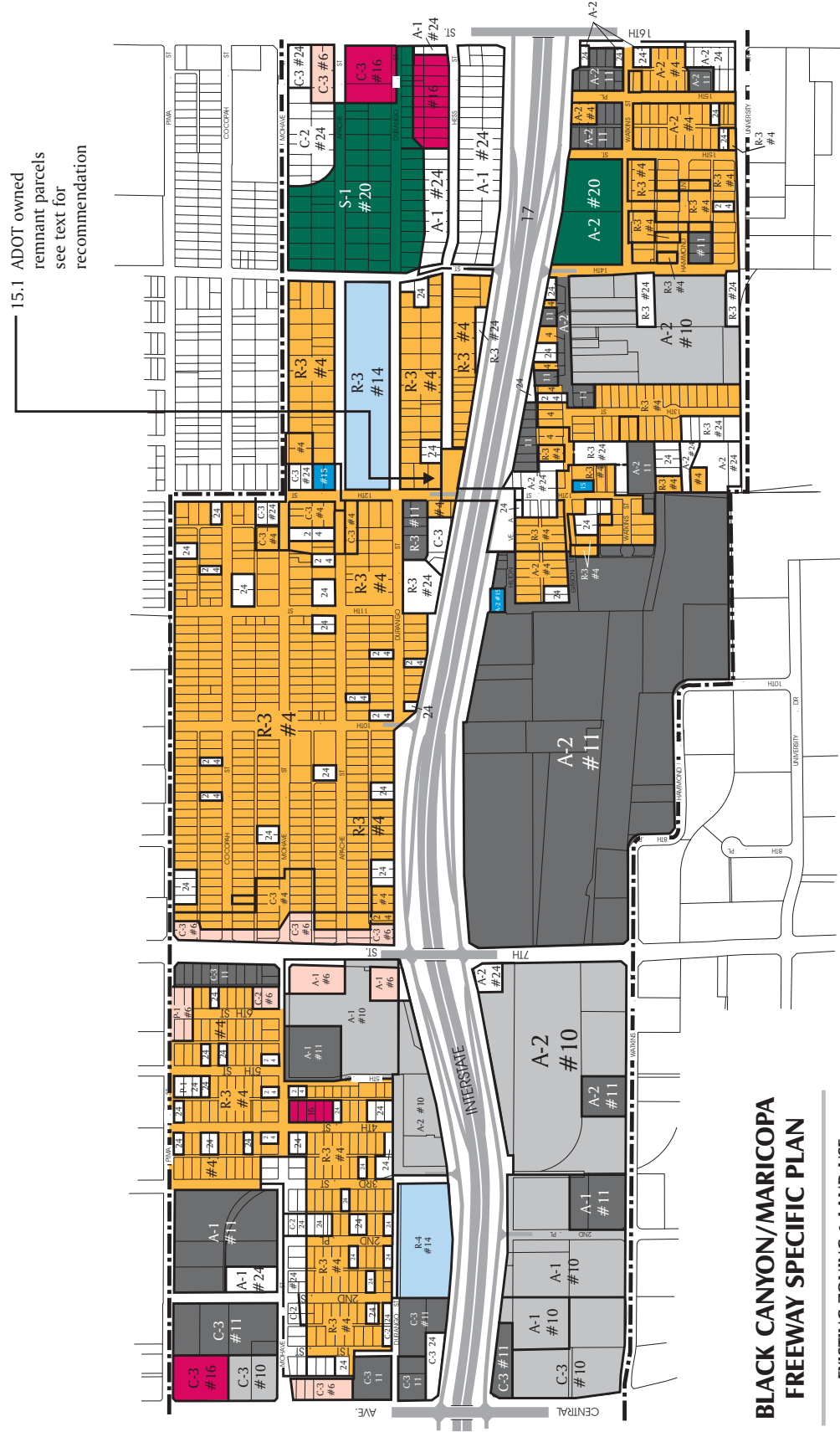
--- STUDY BOUNDARY



- Zoning District**
- RI-6 Single Family Residential
 - R-3 Multi-Family Residential
 - R-4 Multi-Family Residential
 - R-5 Multi-Family Residential
 - C-1 Neighborhood Retail
 - C-2 Intermediate Business
 - C-3 General Commercial
 - A-1 Light Industrial
 - A-2 Heavy Industrial
 - P-1 Limited Parking
 - HP Historic Preservation Overlay
- MAG Land Use Designation**
- 3 Low Density Residential
 - 4 Medium Density Residential
 - 6 Neighborhood Retail
 - 10 Warehouse/Distribution Centers
 - 11 Industrial
 - 16 Public Facilities
 - 20 Recreational Open Space
 - 21 Dedicated Or Non-Developable
 - Open Space
 - 23 Agriculture
 - 24 Vacant

General Freeway Mitigation recommendations apply:
* Future development conforms with the General Plan and Zoning Ordinance, and with land use policies as indicated in the text





15.1 ADOT owned remnant parcels see text for recommendation

Zoning District

- S-1 Ranch or Farm Residence
- R-3 Multi-Family Residential
- R-4 Multi-Family Residential
- C-2 Intermediate Business
- C-3 General Commercial
- A-1 Light Industrial
- A-2 Heavy Industry
- P-1 Limited Parking

MAG Land Use Designation

- 4 Medium Density Residential
- 6 Neighborhood Retail
- 9 Hotels, Motels, Resorts
- 10 Warehouse/Distribution Centers
- 11 Industrial
- 14 Educational
- 15 Institutional
- 16 Public Facilities
- 20 Recreational Open Space
- 24 Vacant

Zoning District

- S-1 Ranch or Farm Residence
- R-3 Multi-Family Residential
- R-4 Multi-Family Residential
- C-2 Intermediate Business
- C-3 General Commercial
- A-1 Light Industrial
- A-2 Heavy Industry
- P-1 Limited Parking

General Freeway Mitigation recommendations apply:

- * Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

EXISTING ZONING & LAND USE

SEGMENT 15 - MAP 15

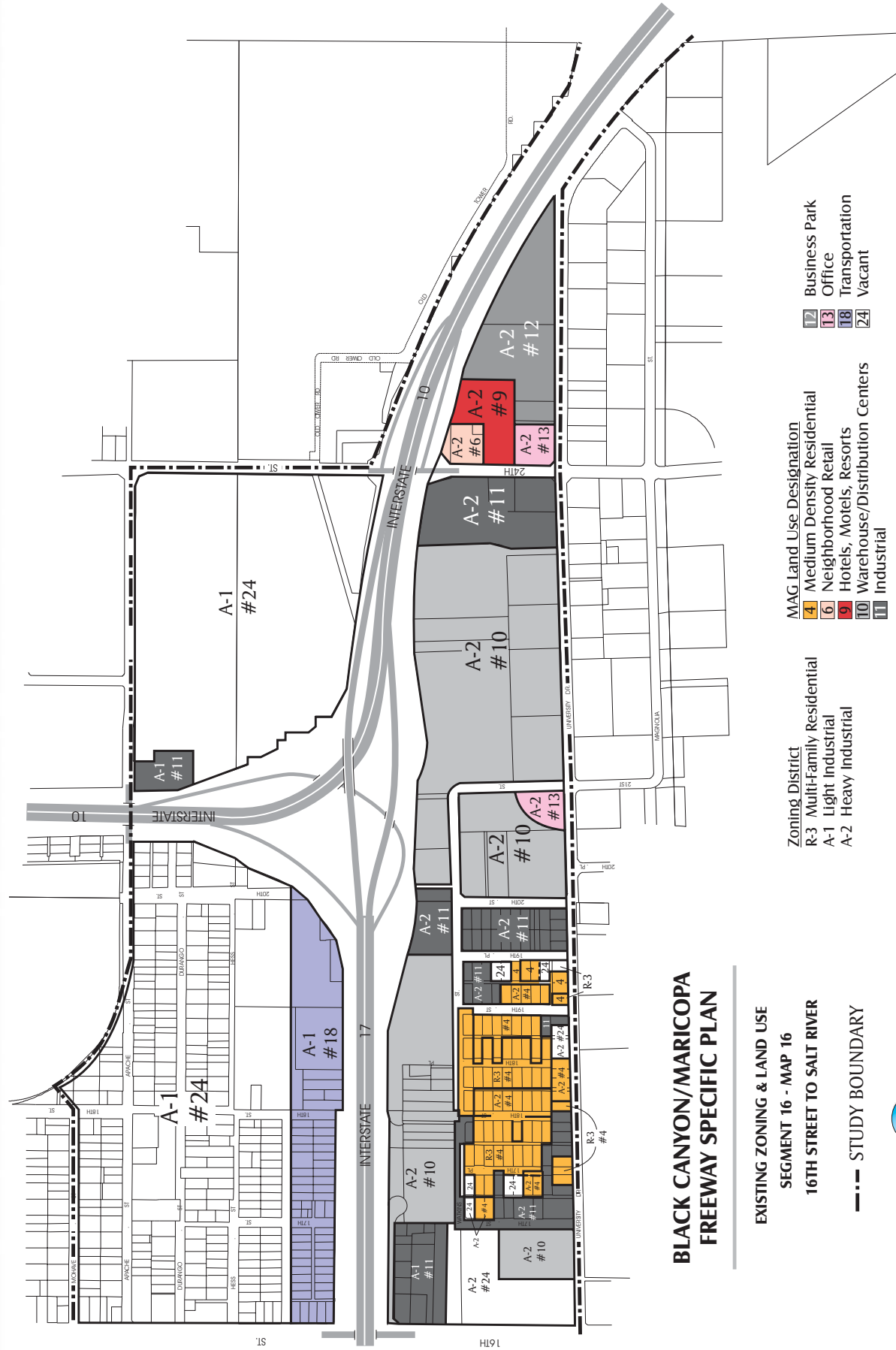
CENTRAL AVENUE TO 16TH STREET

--- STUDY BOUNDARY



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
 SEGMENT 16 - MAP 16
 16TH STREET TO SALT RIVER
 --- STUDY BOUNDARY

- | | |
|------------------------------|-----------------------------------|
| Zoning District | MAG Land Use Designation |
| R-3 Multi-Family Residential | 4 Medium Density Residential |
| A-1 Light Industrial | 6 Neighborhood Retail |
| A-2 Heavy Industrial | 9 Hotels, Motels, Resorts |
| | 10 Warehouse/Distribution Centers |
| | 11 Industrial |
| | 12 Business Park |
| | 13 Office |
| | 18 Transportation |
| | 24 Vacant |



Scale in Feet
 0 500 1000

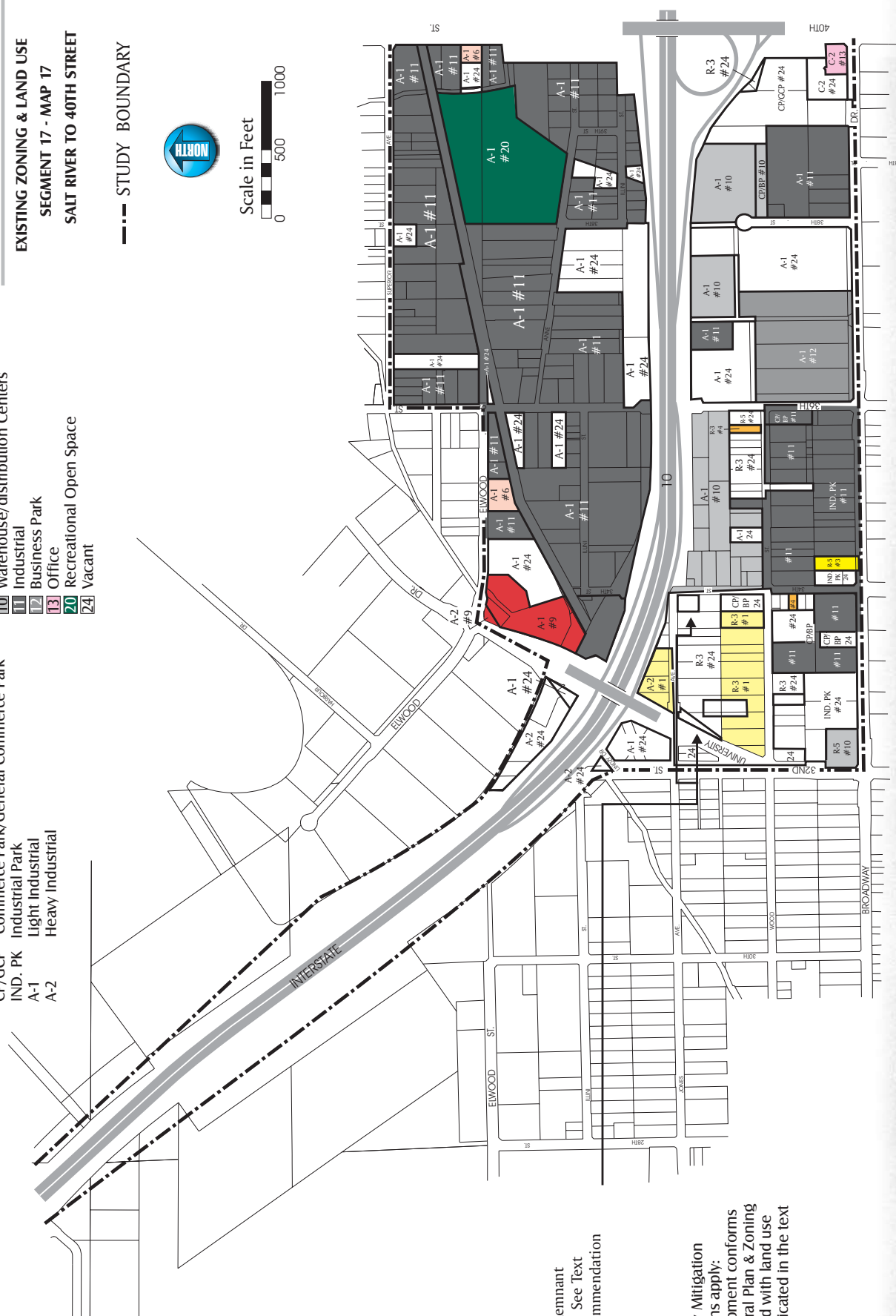
General Freeway Mitigation recommendations apply:
 * Future development conforms with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 17 - MAP 17
SALT RIVER TO 40TH STREET

- | | |
|--|-----------------------------------|
| Zoning District | Mag. Land Use Designation |
| R-3 Multi-Family Residential | 1 Rural Residential |
| R-5 Multi-Family Residential | 3 Low Density Residential |
| C-2 Intermediate Business | 4 Medium Density Residential |
| CP/BP Commerce Park/Business Park | 6 Neighborhood Retail |
| CP/GCP Commerce Park/General Commerce Park | 9 Hotels, Motels, Resorts |
| IND. PK Industrial Park | 10 Warehouse/distribution Centers |
| A-1 Light Industrial | 11 Industrial |
| A-2 Heavy Industrial | 12 Business Park |
| | 13 Office |
| | 20 Recreational Open Space |
| | 24 Vacant |

--- STUDY BOUNDARY



17.1 ADOT Remnant
Parcels: See Text
for recommendation

General Freeway Mitigation
recommendations apply:
* Future development conforms
with the General Plan & Zoning
Ordinance, and with land use
policies as indicated in the text

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

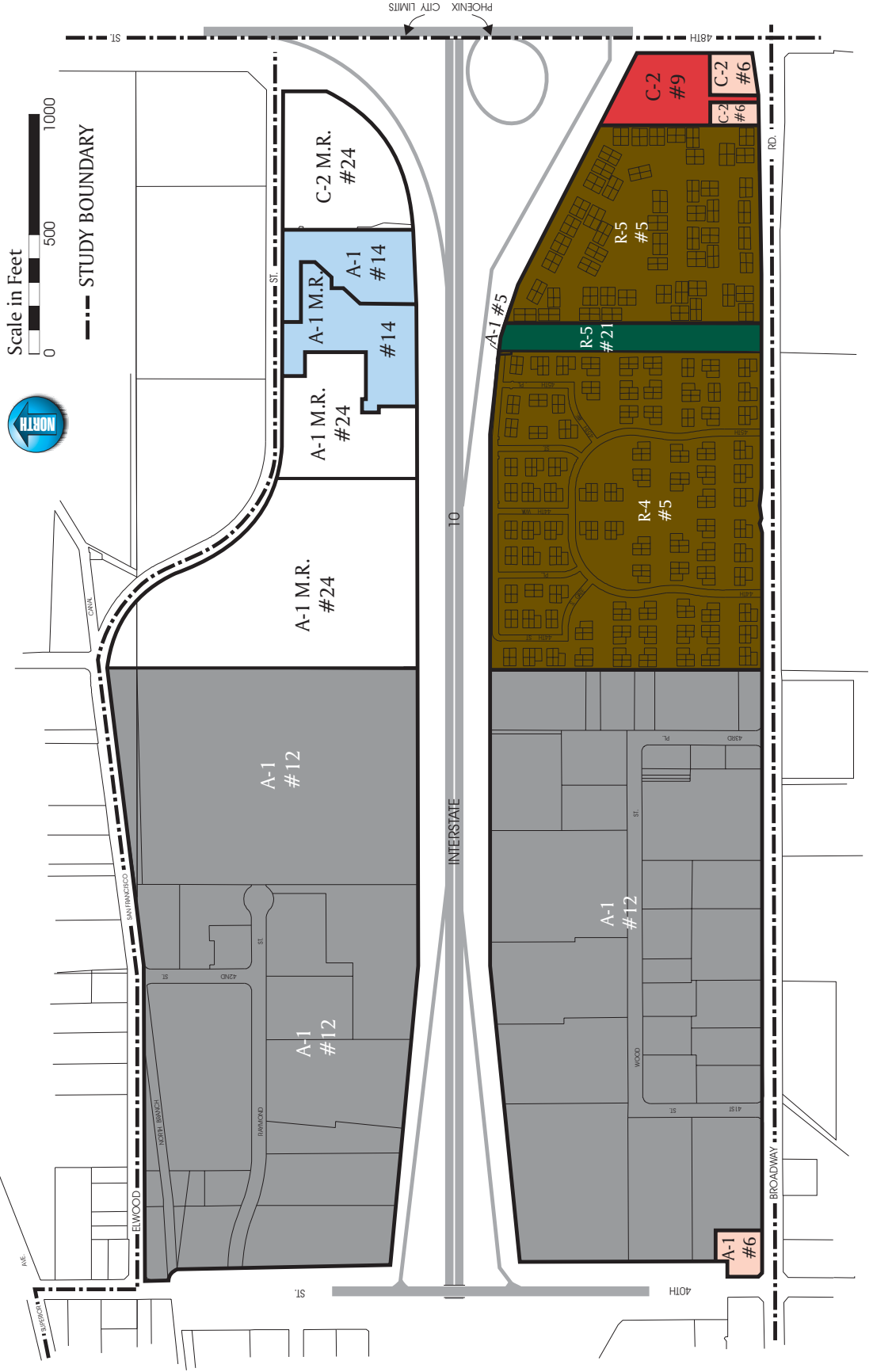
EXISTING ZONING & LAND USE
SEGMENT 18 - MAP 18

40TH STREET TO 48TH STREET (CITY LIMITS)

General Freeway Mitigation recommendations apply:
* Future developments conform with the General Plan & Zoning Ordinance, and with land use policies as indicated in the text

- MAG Land Use Designation**
- 5 High Density Residential
 - 6 Neighborhood Retail
 - 9 Hotels, Motels, Resorts
 - 12 Business Park
 - 14 Educational
 - 21 Dedicated Or Non-developable Open Space
 - 24 Vacant

- Zoning District**
- R-4 Multi-Family Residential
 - R-5 Multi-Family Residential
 - C-2 Intermediate Business
 - A-1 Light Industrial
 - M.R. Mid-Rise



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

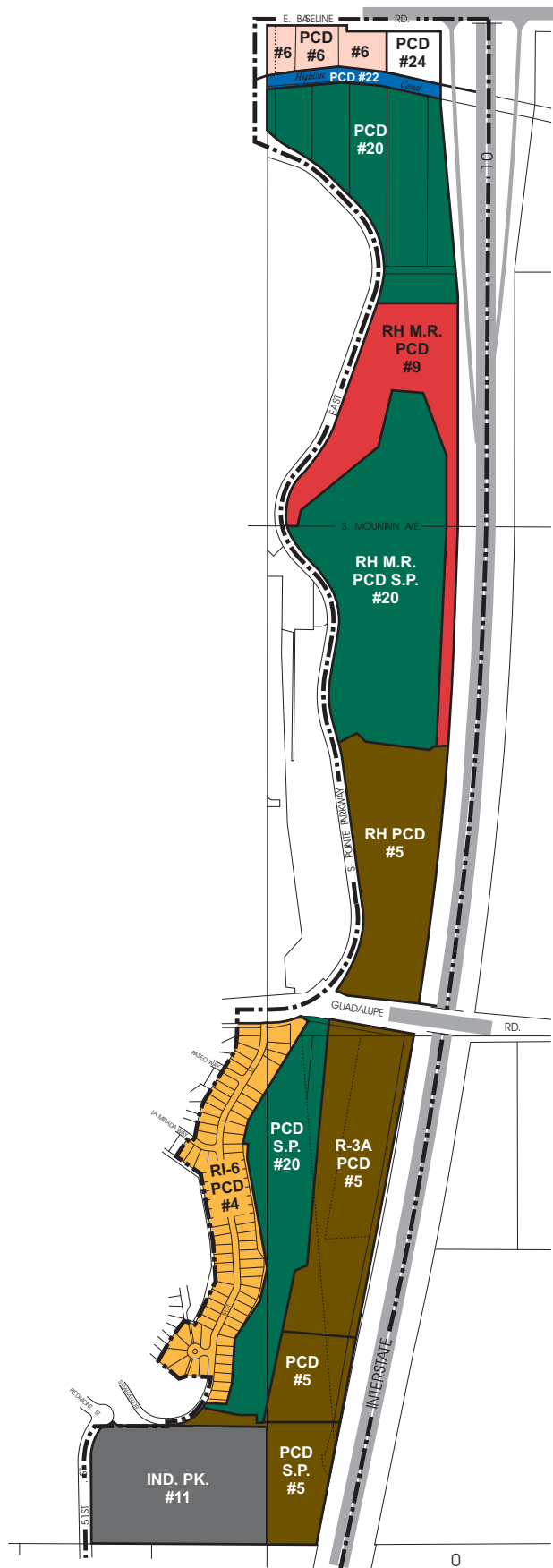
EXISTING ZONING & LAND USE
SEGMENT 19 - MAP 19

BASELINE ROAD (CITY LIMITS) TO MINERAL ROAD
ALIGNMENT

--- STUDY BOUNDARY



Scale in Feet



Zoning District

- RI-6 Single Family Residential
- R-3A Multi-Family Residential
- IND PK Industrial Park
- RH Resort District
- PCD Planned Community District
- S.P. Special Permit
- M.R. Mid-Rise

MAG Land Use Designation

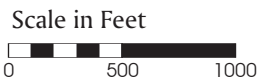
- 4 Medium Density Residential
- 5 High Density Residential
- 6 Neighborhood Retail
- 9 Hotels, Motels, Resorts
- 11 Industrial
- 20 Recreational Open Space
- 22 Water
- 24 Vacant

No Freeway Mitigation
land use changes are
recommended for this
segment

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 20 - MAP 20
MINERAL ROAD ALIGNMENT TO WARNER ROAD

--- STUDY BOUNDARY



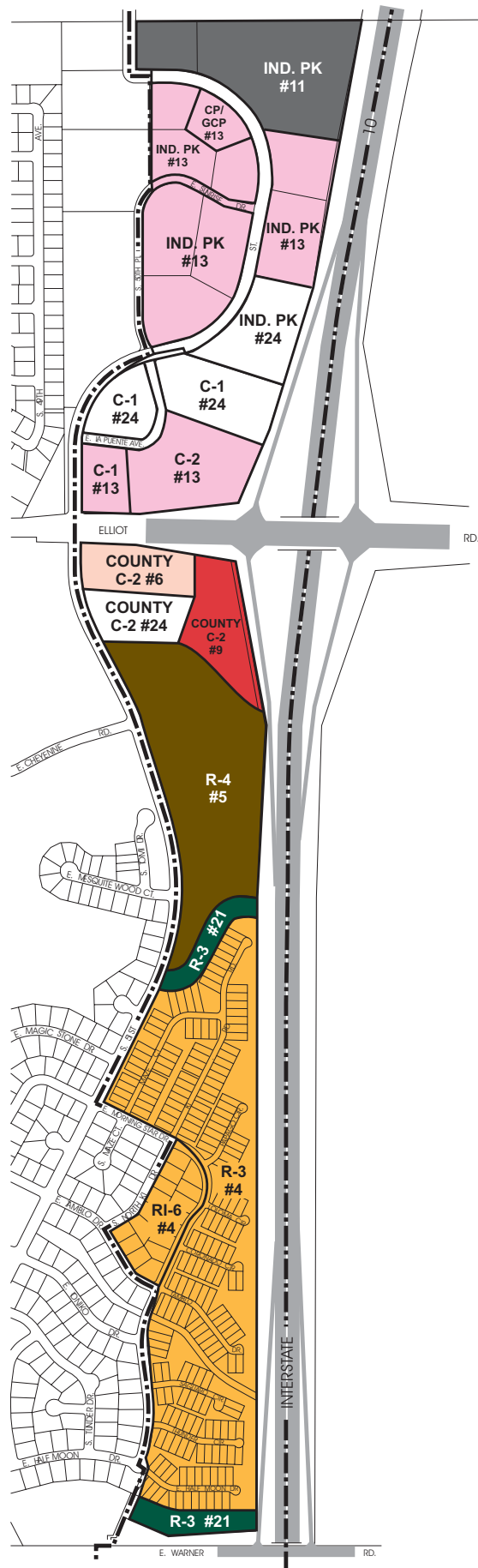
Zoning District

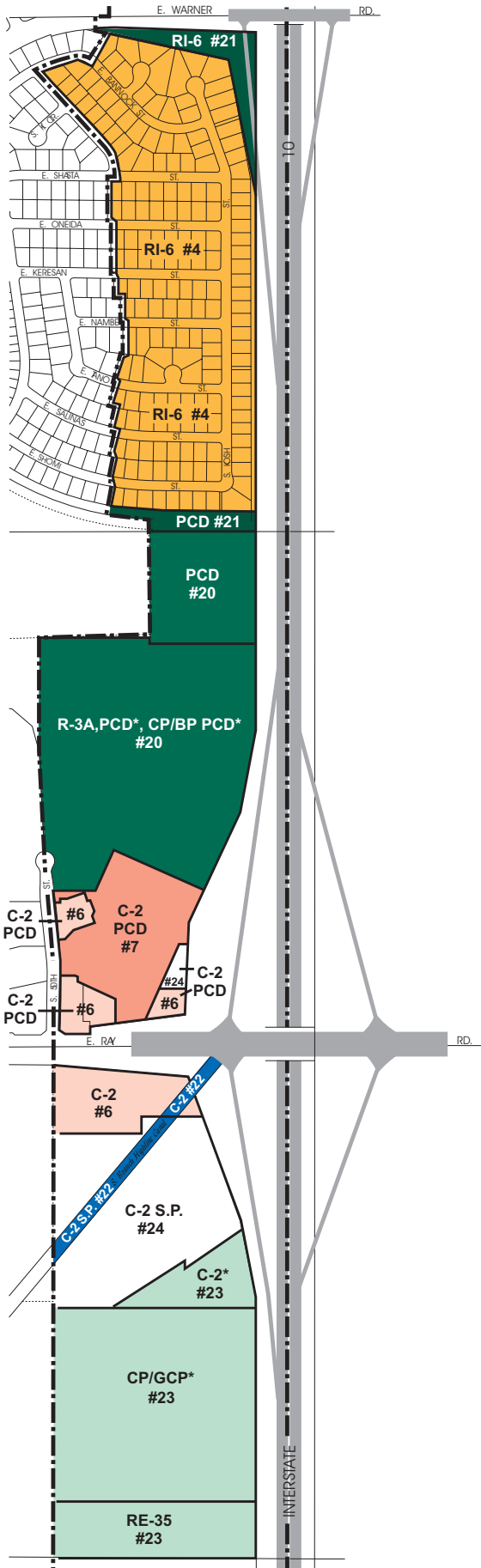
R1-6	Single Family Residential
R-3	Multi-Family Residential
R-4	Multi-Family Residential
C-1	Neighborhood Retail
C-2	Intermediate Business
CP	Commerce Park
GCP	General Commerce Park
IND. PK	Industrial Park
COUNTY C-2	Intermediate Commercial

MAG Land Use Designation

4	Medium Density Residential
5	High Density Residential
6	Neighborhood Retail
9	Hotels, Motels, Resorts
11	Industrial
13	Office
21	Dedicated Or Non-developable Open Space
24	Vacant

No Freeway Mitigation
land use changes are
recommended for this
segment





BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE

SEGMENT 21 - MAP 21

WARNER ROAD TO GALVESTON STREET ALIGNMENT

--- STUDY BOUNDARY



Scale in Feet



Zoning District

R1-6	Single Family Residential
R-3A	Multi-Family Residential
C-2	Intermediate Business
CP	Commerce Park
GCP	General Commerce Park
BP	Business Park
PCD	Planned Community District
SP	Special Permit
*	Other Than Normal Stipulations

MAG Land Use Designation

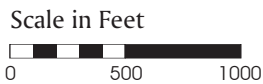
4	Medium Density Residential
6	Neighborhood Retail
7	Community Retail
20	Recreational Open Space
21	Dedicated Or Non-developable Open Space
22	Water
23	Agriculture
24	Vacant

No Freeway Mitigation land use changes are recommended for this segment

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

EXISTING ZONING & LAND USE
SEGMENT 22 - MAP 22
GALVESTON STREET ALIGNMENT TO PECOS ROAD
ALIGNMENT (CITY LIMITS)

--- STUDY BOUNDARY



Zoning District

RE-35	Single Family Residential
R-4A	Multi-Family Residential
C-2	Intermediate Business
CP	Commerce Park
GCP	General Commerce Park
IND PK	Industrial Park

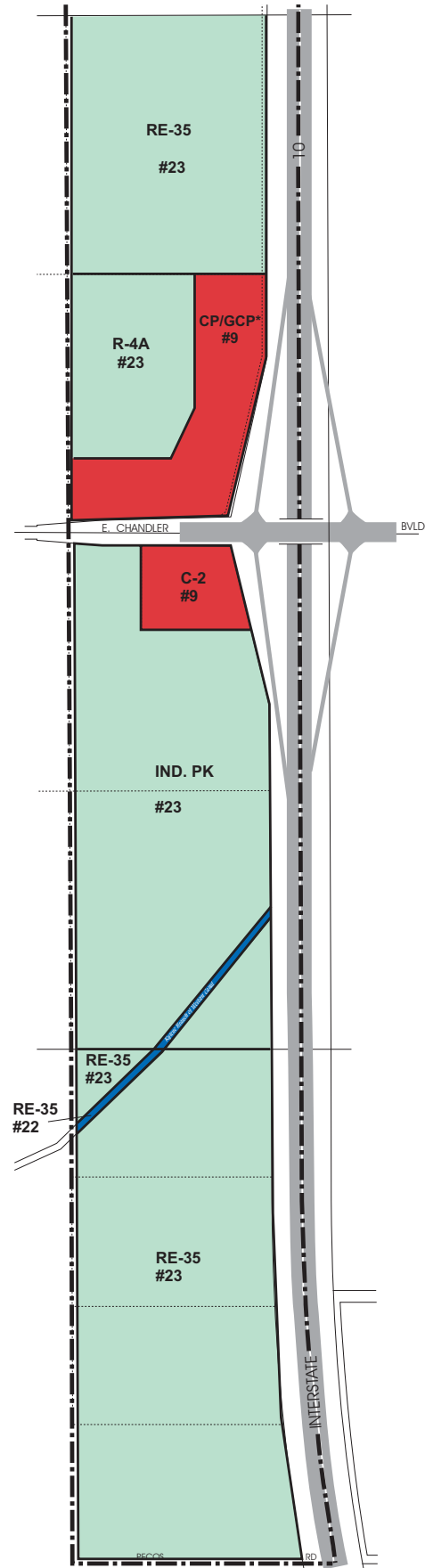
MAG Land Use Designation

	Hotels, Motels, Resorts
	Water
	Agriculture

General Freeway Mitigation
recommendations apply:

* Future development conforms
with the General Plan and Zoning
Ordinance, and with land use
policies as indicated in the text

* New development should
coordinate with the Proposed
Pecos Road Traffic Interchange



CIRCULATION ELEMENT



At the regional level, freeways can serve to link distant parts of a metropolitan area. This linkage increases mobility from predominantly residential areas to employment centers, while also permitting the expansion of regional market centers. For example, the area surrounding the I-17 interchange with the Outer Loop (Loop 101), the Deer Valley Core, is rapidly developing. Much of the industrial development in the northern part of the metro area has located along the Black Canyon/Maricopa Freeway, while much of the explosive growth in the Ahwatukee Foothills village has been facilitated by I-10 freeway access.

Freeways can also alter and sometimes impede local traffic circulation. Of particular interest are changes in residential circulation patterns. If the freeway bisects a neighborhood, it creates one set of circulation impacts. If the residential area was laid out with knowledge of the freeway alignment, local circulation can be quite different. In the older, more central portion of the Black Canyon and Maricopa Freeways, the freeway bisected existing established neighborhoods, however, in the more outlying areas the freeway existed prior to adjacent development.

Circulation Policies

To assist the evaluation of circulation issues, the following overall policies have been identified. Policies addressing cut-through traffic circulation are included in the neighborhood safety and stabilization element.

Policy 1: Continue and enhance where necessary appropriate and adequate community access and local circulation to support the land use plan, existing and future transit plans, and the economic, cultural, environmental, social, and safety needs of the area.

Policy 2: Any new residential development or redevelopment in the planning area is encouraged to follow the voluntary traffic calming concepts which City Council approved in June 1997. This includes 28-foot wide local streets with squared-off curbs, landscaped strips between the street and sidewalk, turn diverters, and traffic islands to create a safer, more friendly neighborhood environment.

Park-and-Ride Facilities

There is an existing transit facility, Metro Center Transit Center, west of I-17 between Peoria Avenue and Dunlap Avenue. This center has been in existence for several years and is heavily used as a park-and-ride and as a transfer location for local and express buses. It presently serves the needs of transit patrons in the northwest Valley.

The City of Phoenix's adopted long range transit plan identifies Bell Road and I-17 as the location of a future park-and-ride. The planned 5.5 acre facility on the southeast corner is funded and scheduled to open in the year 2000 with a first phase of 250 parking spaces. As needed, a later phase of 200 spaces may be added. Express busses will use the existing and planned HOV lanes along I-17.

Park-and-ride facilities are also anticipated by the Public Transit Department at four other locations along the Black Canyon/Maricopa:

- ▶ Deer Valley Road and I-17
- ▶ Peoria Avenue and I-17
- ▶ Elliot Road and I-10
- ▶ Chandler Boulevard and I-10

However, at this time these future facilities are unfunded and the specified site for these facilities has not been determined.

Issue Sheets by Segment Number

The purpose of the Circulation Element specifically identifies circulation issues and proposes direction and action. The study area has been divided into segments like the Existing Zoning and Land Use Element (see Maps 23-37). Freeway mitigation recommendations, in accordance with the policies, are proposed to mitigate impacts in residential areas. Segments 12-15, 18, 19, and 21 do not have freeway mitigation recommendations.

Segment 1: Pinnacle Peak Road to Deer Valley Drive (see Map 23)

1.1

Location: Along Pinnacle Peak Road between I-17 and 35th Avenue.

Issue: Major street reconstruction. The city's Five-Year Arterial Street and Drainage Program designates Pinnacle Peak Road between I-17 and 35th Avenue for major street construction in 2001 or 2002.

Recommendation: Any freeway mitigation projects near this area should be constructed in conjunction with this city project, if possible. Also, the Freeway Mitigation Team should review future construction drawings to determine if there are any freeway mitigation issues that should be addressed.

1.2

Location: At I-17 and Deer Valley Road.

Issue: The Public Transit Department has designated a future park-and-ride facility at a yet-to-be-determined location at this traffic interchange. Currently this facility is unfunded.

Recommendation: Public Transit should conduct their customary citizen participation process, and complete an environmental assessment. This will ensure the best location for the ultimate facility.

Segment 2: Deer Valley Drive to Yorkshire Drive/Utopia Road (see Map 24)

2.1

Location: Along Deer Valley Drive between I-17 and 19th Avenue.

Issue: The City's Five Year Arterial Street and Drainage Program designates Deer Valley Drive Between I-17 and 19th Avenue for major construction in 2001 or 2002.

Recommendation: The Freeway Mitigation Team should review future construction drawings to determine if there are any mitigation issues that should be addressed.

2.2

Location: On I-17, between the Outer Loop Freeway (Agua Fria/Loop 101) and in the vicinity of Thomas Avenue/Grand Avenue, a distance of 13¼ miles.

Issue: The Arizona Department of Transportation (ADOT) may construct High Occupancy Vehicle (HOV) lanes and auxiliary lanes in their fiscal year 2000; however, for the portion between Dunlap and Glendale Avenues the projected construction is scheduled for fiscal year 1999. There will be no new right-of-way acquired and no anticipated condemnation or purchase of any property. In addition, for the portion between Glendale Avenue and Camelback Road, ADOT anticipates construction of a drainage project in 1998 or 1999.

Recommendation: As part of the design of this project, ADOT should conduct updated noise studies to determine impacts. Where their standard is exceeded, they should construct the needed noise walls in the first construction phase. See the Noise Element for specific policies. ADOT should also install landscaping to buffer any impact on adjacent residential developments. See the Landscape Element for specific policies. The City and ADOT should coordinate the design and construction of any approved mitigation measures.

2.3

Location: Yorkshire/Utopia Drive between I-17 and 27th Avenue.

Issue: Only a temporary connection at this location was made by ADOT during the first construction phase for the traffic interchange because adequate right-of-way was not available at that time.

Project Update: At the time of this writing, Yorkshire Drive west of the freeway will be improved in conjunction with the start of construction on the east half of the mainline Outer Loop freeway. The City of Phoenix and developers in the area are funding this project. This traffic interchange is an integral part of the Deer Valley Core circulation pattern.

Segment 3: Yorkshire Drive/Utopia Road to Bell Road (see Map 25)**3.1**

See Text for 2.2

Segment 4: Bell Road to Acoma Drive (see Map 26)**4.1**

Location: Southwest corner of I-17 and Bell Road

Issue: The City of Phoenix' adopted long range transit plan identifies this location for a future park-and-ride. The planned 5.5 acre facility on the southwest corner is funded and scheduled to open in the year 2000 with a first phase of 250 parking spaces. As needed, a later phase of 200 spaces may be added. Express buses will use the existing and planned HOV lanes along I-17.

Recommendation: Continue to coordinate closely with ADOT in the design and construction of this facility.

4.2

See Text for 2.2

Segment 5: Acoma Drive to Cactus Road (see Map 27)**5.1**

See Text for 2.2

Segment 6: Cactus Road to Mountain View Road (see Map 28)**6.1**

See Text for 2.2

6.2

Location: At I-17 and Peoria Avenue.

Issue: The Public Transit Department designates a future park-and-ride at a yet-to-be-determined location in the vicinity of this traffic interchange. This currently is an unfunded facility.

Recommendation: Public Transit should conduct their customary citizen participation process, and complete an Environmental Assessment. This will help ensure the best location for the ultimate park-and-ride facility.

Segment 7: Mountain View Road to Northern Avenue (see Map 29)**7.1**

See Text for 2.2

7.2

Location: Dunlap Avenue and I-17 traffic interchange.

Issue: ADOT has recently reconstructed this interchange from a diamond interchange to a modified urban interchange.

Recommendation: ADOT should monitor noise, access, mobility, and safety impacts on the residential area to the southwest and mitigate any problems. ADOT should also monitor pedestrian and bicycle movement through the interchange.

7.3

Location: Northern Avenue and I-17 traffic interchange.

Issue: Traffic interchange undergoing ADOT reconstruction from a diamond to a modified urban interchange. Anticipated completion in May 1999.

Recommendation: ADOT should mitigate any noise and visual impacts on adjacent residential neighborhoods, facilitate ample provisions for pedestrians and bicyclists in conjunction with the mainline and interchange improvements, and monitor the impact on the residential area to the south and mitigate any problems.

Segment 8: Northern Avenue to Maryland Avenue (see Map 30)

8.1

See Text for 2.2

8.2

Location: Glendale Avenue and I-17 traffic interchange.

Issue: ADOT anticipates reconstructing this traffic interchange from a diamond to a modified urban interchange. Anticipated completion is scheduled for 2000.

Recommendation: ADOT should mitigate any noise and visual impacts on adjacent residential neighborhoods and should facilitate ample provisions for pedestrians and bicyclists in conjunction with the mainline and interchange improvements. The freeway overpass may be modified in the future to accommodate bicycle facilities; see Bicycle Paths and Recreational Trails element.

Segment 9: Maryland Avenue to Camelback Road (see Map 31)

9.1

See Text for 2.2

9.2

Location: Bethany Home Road and I-17 traffic interchange.

Issue: ADOT anticipates rebuilding this traffic interchange from a diamond to a modified urban interchange beginning October 1998 with anticipated completion in August 1999.

Recommendation: ADOT should mitigate any noise and visual impacts on adjacent residential neighborhoods and should facilitate ample provisions for pedestrians and bicyclists. The freeway overpass may be modified in the future to accommodate bicycle facilities. Residential developments are just behind the first tier of development, which is commercial. As one option, sidewalks should be widened to better accommodate bicycles. This is explained further in the Bicycle Path and Recreational Trails Element of this plan.

9.3

Location: Area bounded by Montebello Avenue, 23rd Avenue, Camelback Road, and I-17.

Issue: As explained in the Maricopa County Flood Control District's Metro Phoenix Study, there are extensive flooding problems in this location.

Recommendation: While the cost to solve this problem is beyond the resources of the freeway mitigation program, ADOT, the Maricopa Flood Control District, and the City of Phoenix should work together to achieve a solution. At this time, the City's intent is to work on this problem with ADOT as part of ADOT's reconstruction of the Camelback Road traffic interchange reconstruction. However, there is no funding as yet to accomplish the City's drainage goals at this location.

Segment 10: Camelback Road to Osborn Road (see Map 32)

10.1

Location: Camelback Road and I-17 traffic interchange.

Issue: ADOT anticipates changing this traffic interchange from a diamond to a modified urban interchange. Anticipated completion is scheduled for 2000.

Recommendation: ADOT should mitigate any noise and visual impacts on adjacent residential neighborhoods and should facilitate ample provisions for pedestrians and bicyclists in conjunction with the mainline and interchange improvements. The freeway overpass may be modified in the future to accommodate bicycle facilities; see Bicycle Paths and Recreational Trails element.

Flooding problems in this area may be alleviated through a possible joint project between the City of Phoenix, ADOT, and the Maricopa County Flood Control District.

10.2

See Text for 2.2

Segment 11: Osborn Road to McDowell Road (see Map 33)

11.1

Location: Area bounded by Earll Drive, I-17, and Grand Avenue.

Issue: Because Grand Avenue and the railroad are at a higher elevation they act like a dam and water backs up behind them to flood the adjacent neighborhood. The Maryvale Area Drainage Master Study (1997) identified the area west of I-17 to I-10, south of the canal as a flood problem area.

Recommendation: While the cost to solve this problem is beyond the resources of the freeway mitigation program, ADOT, the Maricopa County Flood Control District, and the City of Phoenix should work together to achieve a solution. The next step is to do an engineering analysis and then a cost study.

11.2

Location: In the vicinity of the Grand Avenue and Thomas Road on I-17.

Issue: See Text for 2.2. Construction of High Occupancy Vehicle (HOV) lanes and auxiliary lanes by ADOT. The project is planned to end in this area.

Segments 12-15 do not have freeway mitigation recommendations.

Segment 16: 16th Street to Salt River (see Map 34)

16.1 & 16.2

Location: East of 16th Street and west of 24th Street along I-10.

Issue: Adding freeway ramps or a frontage road system on the east side of 16th Street and on the west side of 24th Street would improve access to this area, and especially to the area south of I-10. Preliminary cost studies indicate to make both of these upgrades operational would cost approximately \$25 million.

Recommendation: ADOT should conduct a feasibility study on adding these additional ramps so that in conjunction with an appropriate future ADOT project in the vicinity, these can be considered. Reconstruction of 24th Street with handicap accessible ramps by the Aviation Department to coincide with runway expansion; project to bid in October 1998.

Segment 17: Salt River to 40th Street (see Map 35)

17.1

Location: East and west of the 32nd Street/University Drive/I-10 traffic interchange.

Issue: Previously, it was not clear to exiting motorists that southbound 32nd Street, was also accessed from this interchange.

Project completed: Shortly after the Black Canyon/Maricopa Freeway Specific Plan process began, the Freeway Mitigation Team and Street Transportation Department staff worked with ADOT and the Federal Highway Administration to have two additional 32nd Street exit signs installed. Now it is more clear that this exit is for 32nd Street in addition to University Drive.

Segments 18 and 19 do not have freeway mitigation recommendations.

Segment 20: Mineral Road Alignment to Warner Road (see Map 36)

20.1

Location: The northwest and southwest corners of I-10 and Elliot Road.

Issue: The Public Transit Department has designated a future park-and-ride location in the vicinity of this traffic interchange. Currently this facility is unfunded.

Recommendation: Public Transit should conduct their customary citizen participation process, and complete an Environmental Assessment report. This will ensure the best location for the ultimate park-and-ride facility.

Segment 21 does not have freeway mitigation recommendations.

Segment 22: Galveston Street Alignment to Pecos Road Alignment (City Limits) (see Map 37)

22.1

Location: The northwest and southwest corners of Chandler Boulevard and I-10.

Issue: The Public Transit Department has designated a future park-and-ride facility in the vicinity of this traffic interchange. As of the writing of this plan, this facility is unfunded.

Recommendation: Public Transit should conduct their customary citizen participation process, and as has been done with previous park-and-ride facilities, complete an Environmental Assessment report. This will ensure the best location for the ultimate park-and-ride facility.

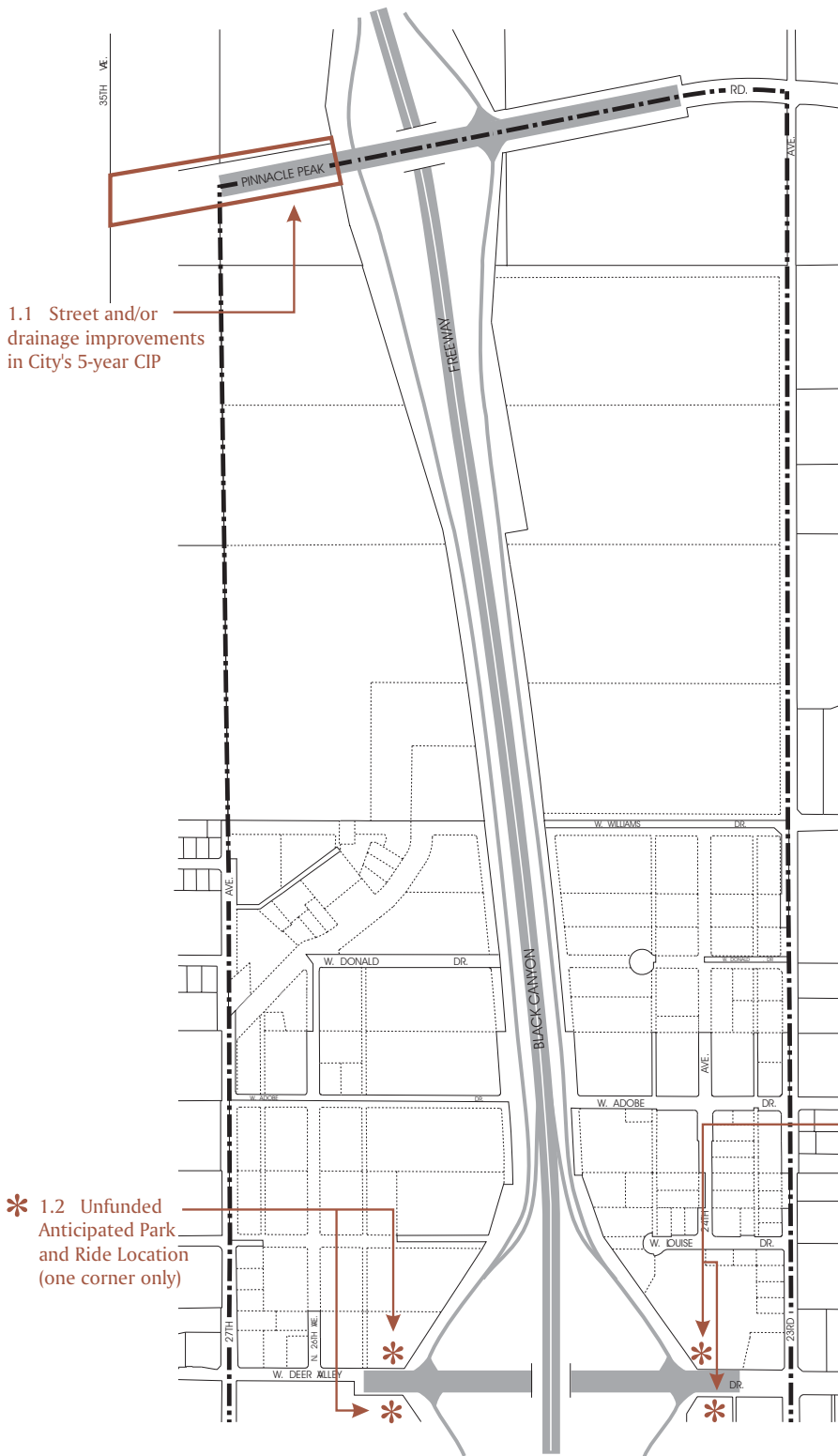
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 1 - MAP 23
PINNACLE PEAK RD. TO
W. DEER VALLEY DR.

--- STUDY BOUNDARY



Scale in Feet
0 500 1000



1.1 Street and/or drainage improvements in City's 5-year CIP

* 1.2 Unfunded Anticipated Park and Ride Location (one corner only)

* 1.2 Unfunded Anticipated Park and Ride Location (one corner only)

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

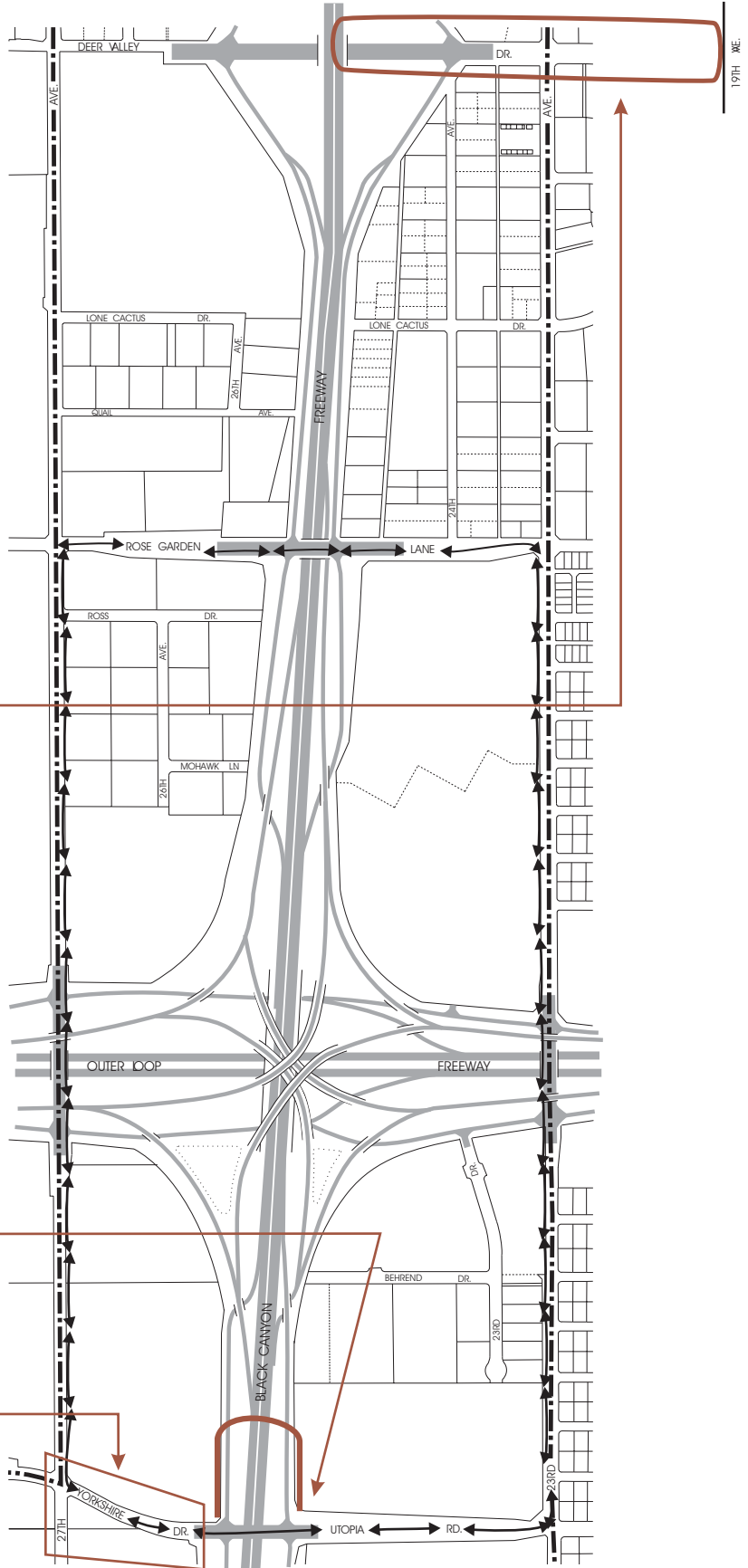
SEGMENT 2 - MAP 24

DEER VALLEY DR. TO YORKSHIRE DR./
UTOPIA RD.

--- STUDY BOUNDARY
↔ CIRCULATION PATTERN



Scale in Feet



2.1 Street and/or drainage improvements in City's 5-year CIP

2.2 Continuous HOV and auxiliary lanes by ADOT (~FY 2000) between the Outer Loop Fwy (Loop 101) and Thomas Rd./Grand Ave., a distance of 13 1/4 miles.

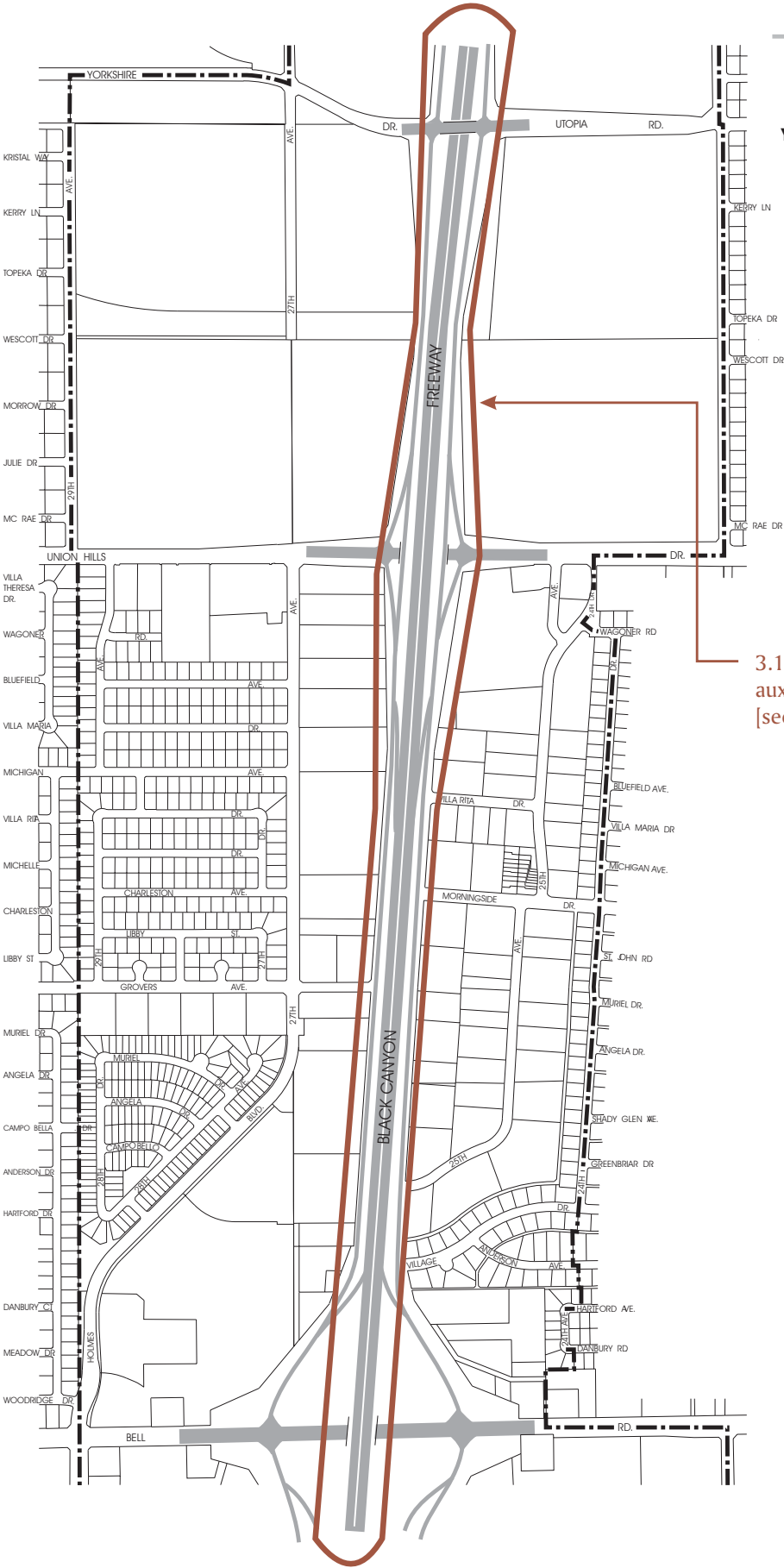
2.3 City of Phoenix to upgrade this connection which is integral for the main core circulation pattern shown by arrows

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

SEGMENT 3 - MAP 25
YORKSHIRE DR./UTOPIA RD. TO BELL RD.

--- STUDY BOUNDARY



3.1 Continuous HOV and auxiliary lanes by ADOT (~Fy 2000) [see text 2.2]

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 4 - MAP 26
BELL RD. TO ACOMA DR.

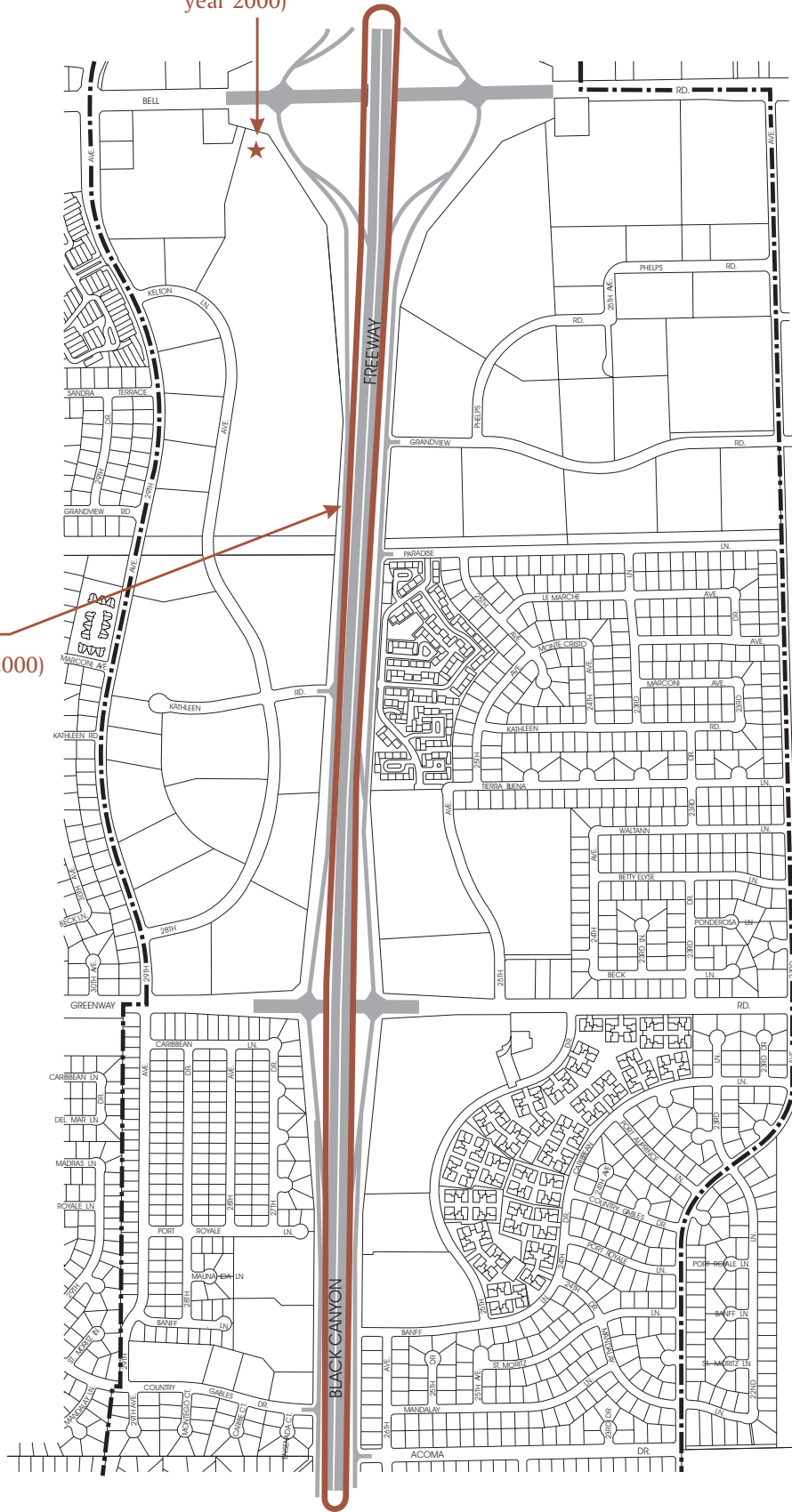
--- STUDY BOUNDARY



Scale in Feet
0 500 1000

4.1 Transit Park and Ride
(Funded and scheduled to open in the
year 2000)

4.2 Continuous HOV and
auxiliary lanes by ADOT (~Fy 2000)
[see text 2.2]



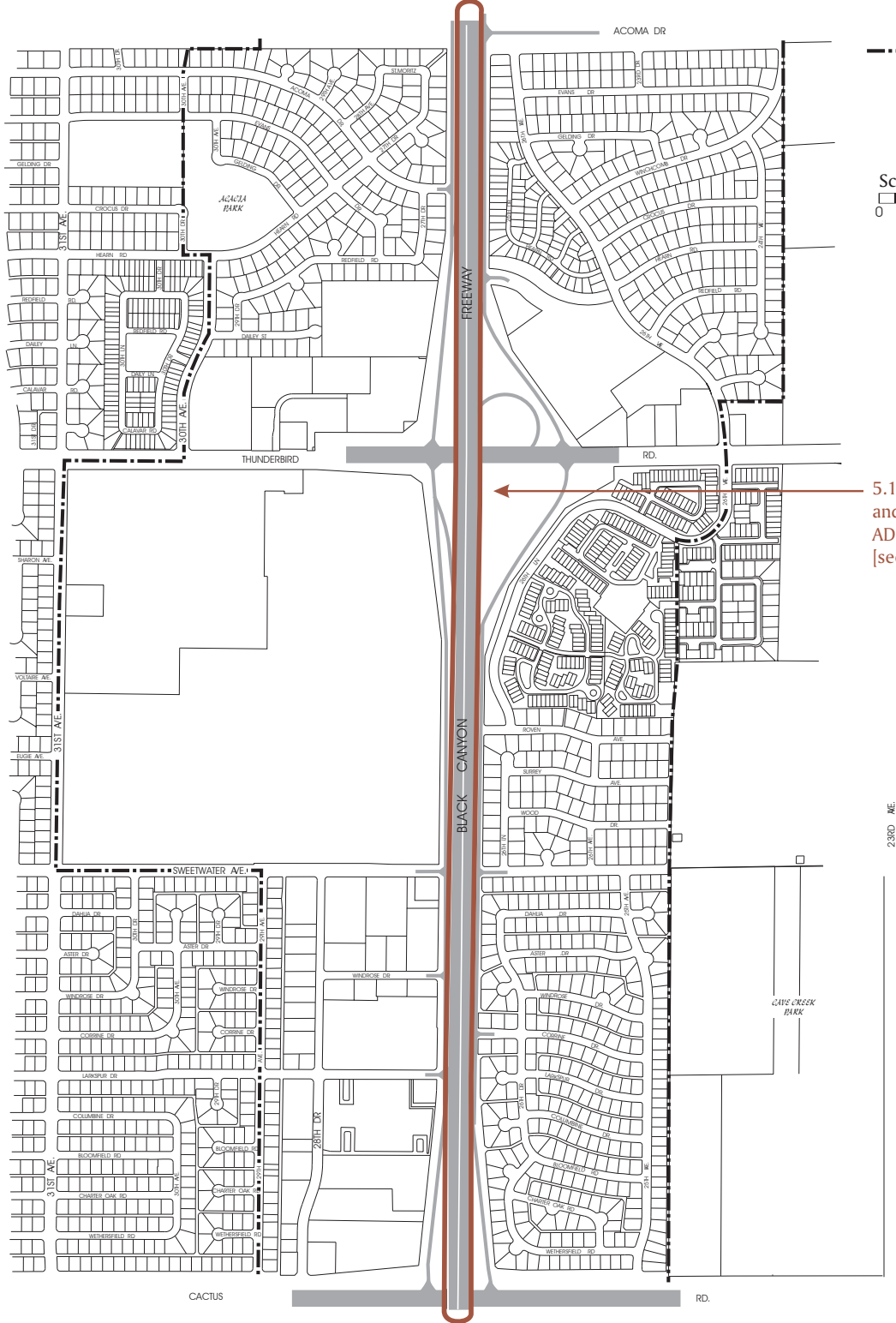
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 5 - MAP 27
ACOMA DR. TO CACTUS RD.

--- STUDY BOUNDARY



Scale in Feet
0 500 1000



5.1 Continuous HOV and auxiliary lanes by ADOT (≈Fy 2000) [see text 2.2]

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

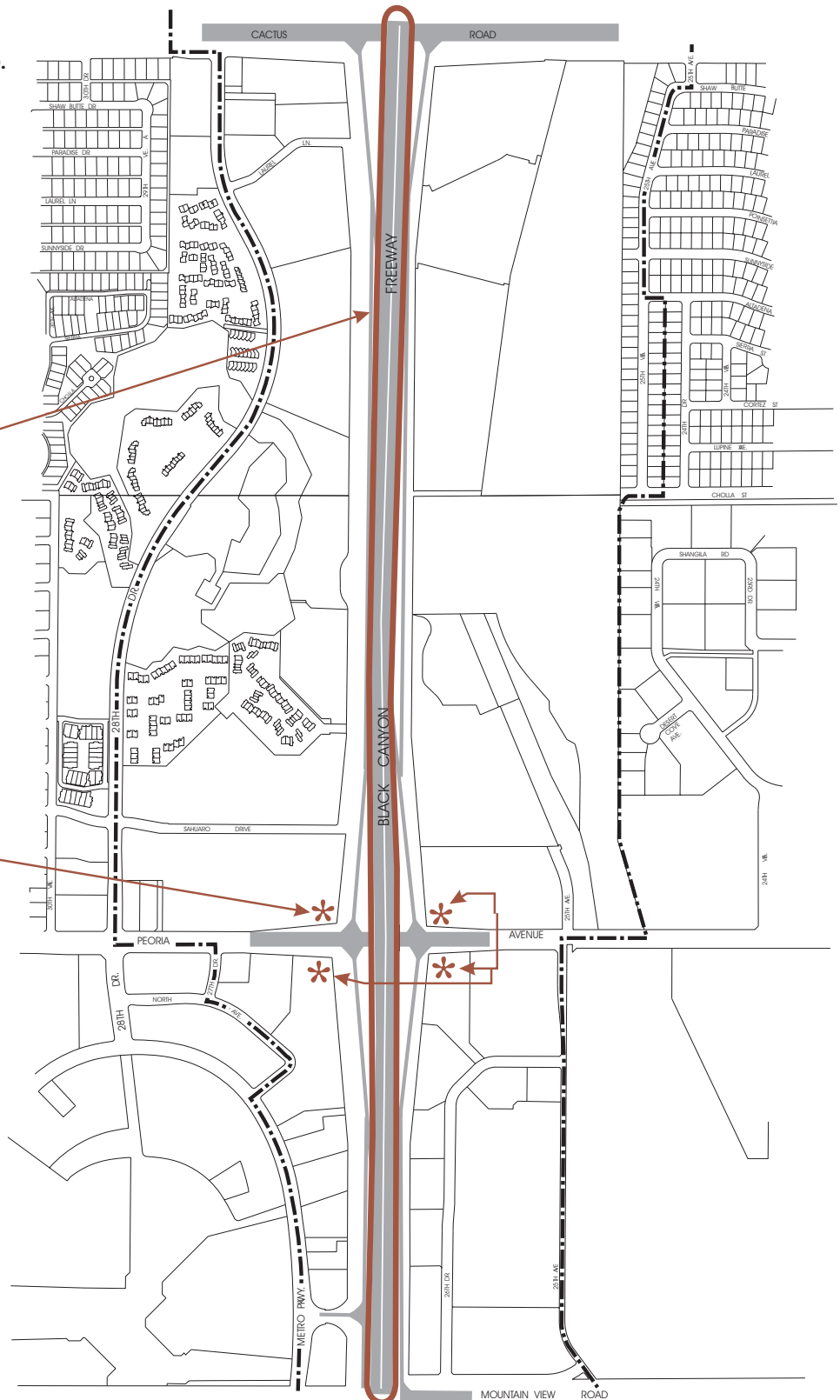
SEGMENT 6 - MAP 28

CACTUS RD. TO MOUNTAIN VIEW RD.

--- STUDY BOUNDARY



Scale in Feet



6.1 Continuous HOV and auxiliary lanes by ADOT (~Fy 2000) [see text 2.2]

* 6.2 Unfunded Anticipated Park and Ride location (one corner only)

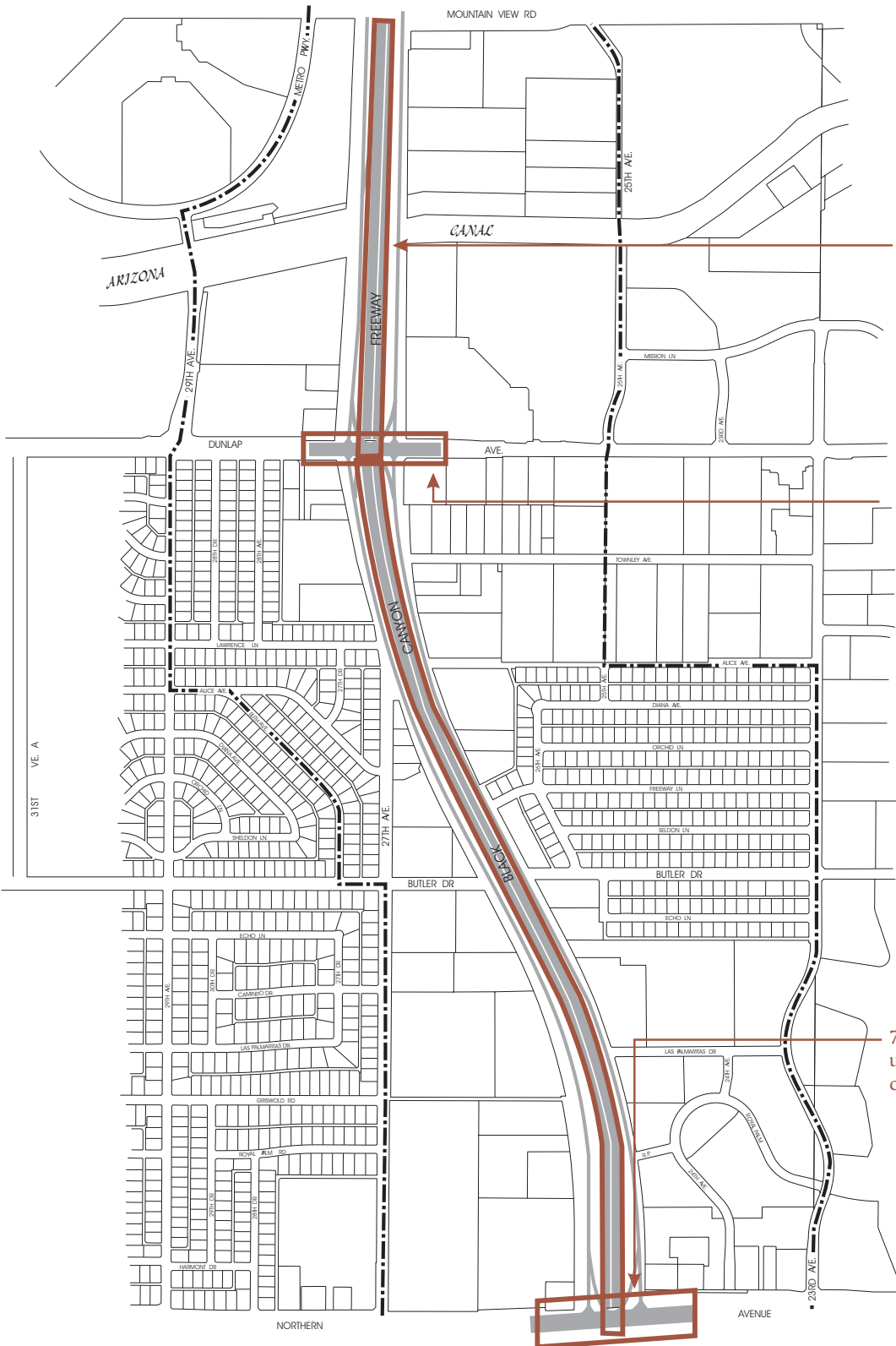
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 7 - MAP 29
MOUNTAIN VIEW RD. TO
NORTHERN AVE.

--- STUDY BOUNDARY



Scale in Feet
0 500 1000

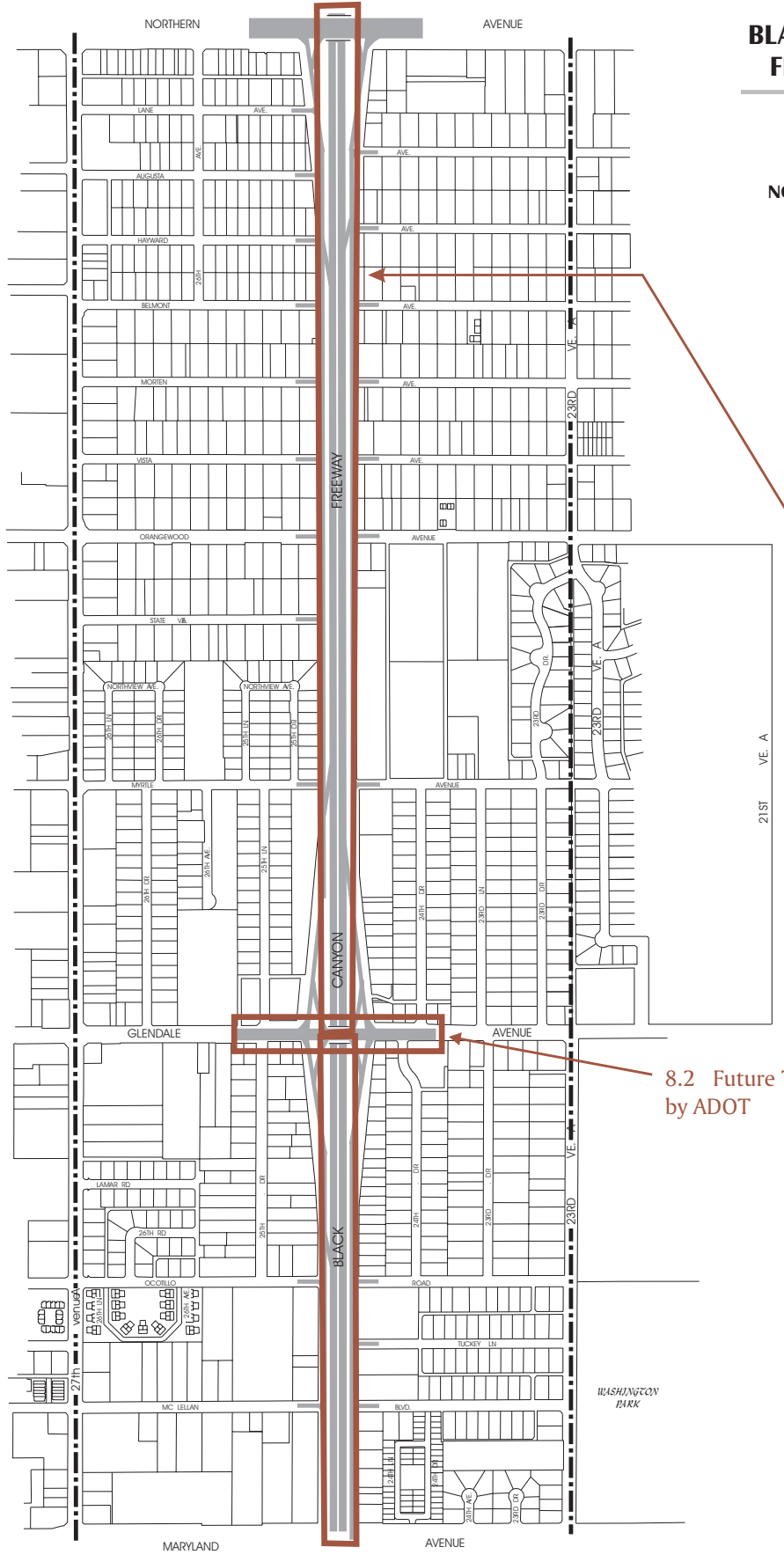


7.1 Continuous HOV and auxiliary lanes by ADOT (~Fy 2000) [see text 2.2]

7.2 Traffic Interchange (TI) improvements recently completed by ADOT

7.3 Northern Avenue (TI) undergoing reconstruction; completion in May 1999

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 8 - MAP 30
NORTHERN AVE. TO MARYLAND AVE.

--- STUDY BOUNDARY



8.1 HOV and auxiliary lanes by ADOT (FY 1999). Continuous HOV and auxiliary lanes by ADOT (~FY 2000). Also by ADOT drainage improvements (FY 1998) [see text 2.2]

8.2 Future TI improvements by ADOT

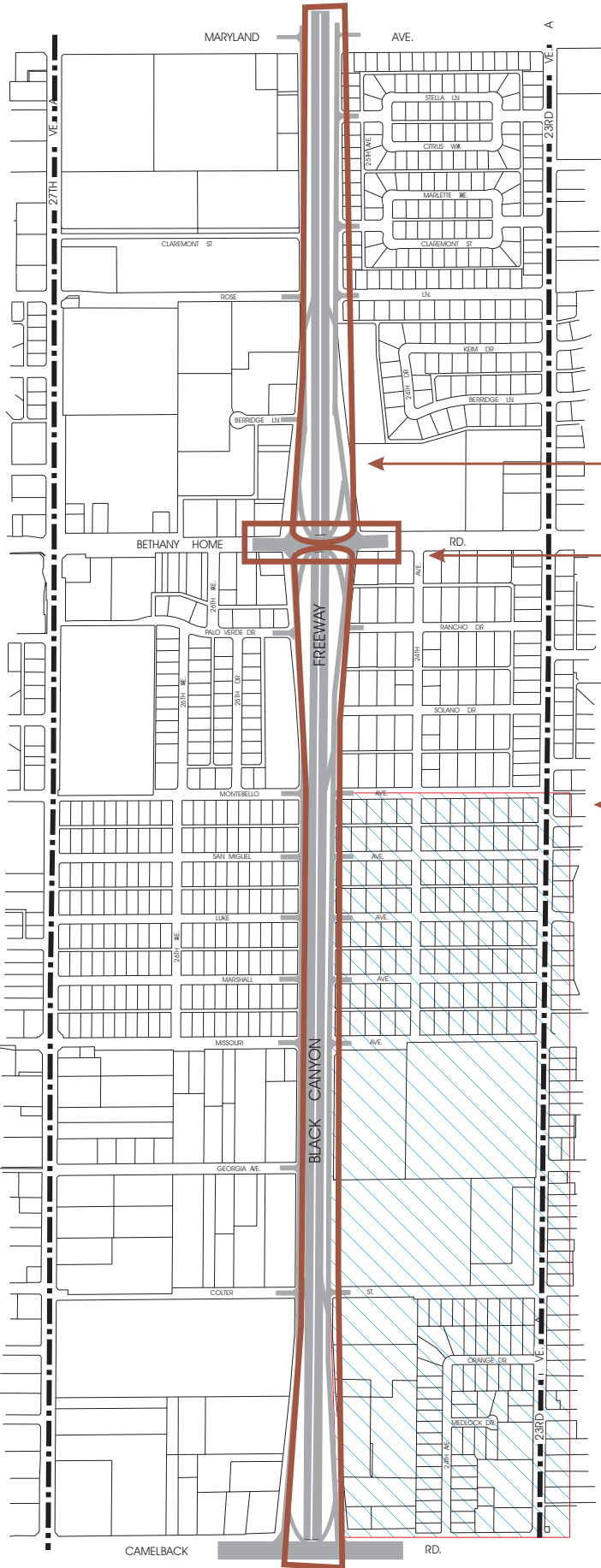
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

SEGMENT 9 - MAP 31

MARYLAND AVE. TO CAMELBACK RD.

--- STUDY BOUNDARY



9.1 Continuous HOV and auxiliary lanes by ADOT (~FY 2000). Also by ADOT drainage improvements (FY 1998) [see text 2.2]

9.2 Bethany Home Road TI undergoing reconstruction; completion in August 1999.

9.3 Flooding Problems 

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION
SEGMENT 10 - MAP 32
CAMELBACK RD. TO OSBORN RD.

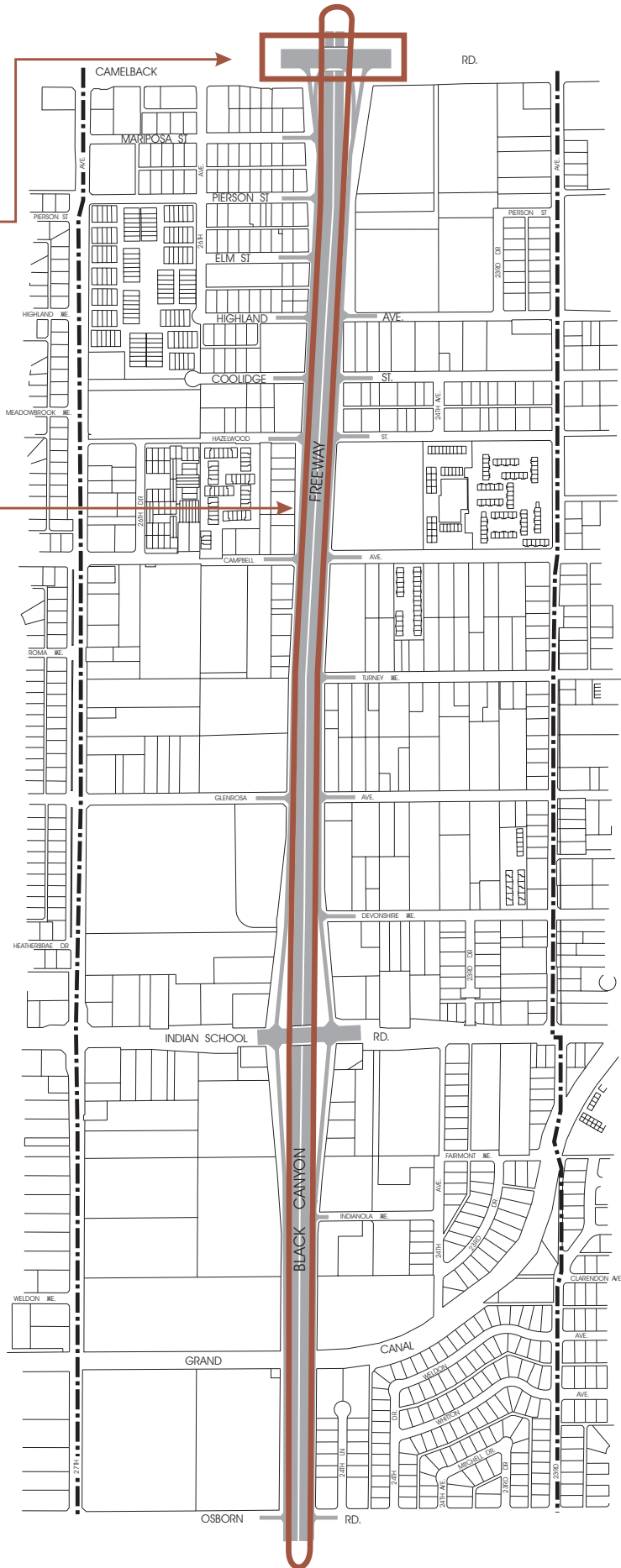
--- STUDY BOUNDARY



Scale in Feet
0 500 1000

10.1 Future TI improvements
by ADOT

10.2 Continuous HOV and
auxiliary lanes by ADOT (~FY 2000)
[see text 2.2]



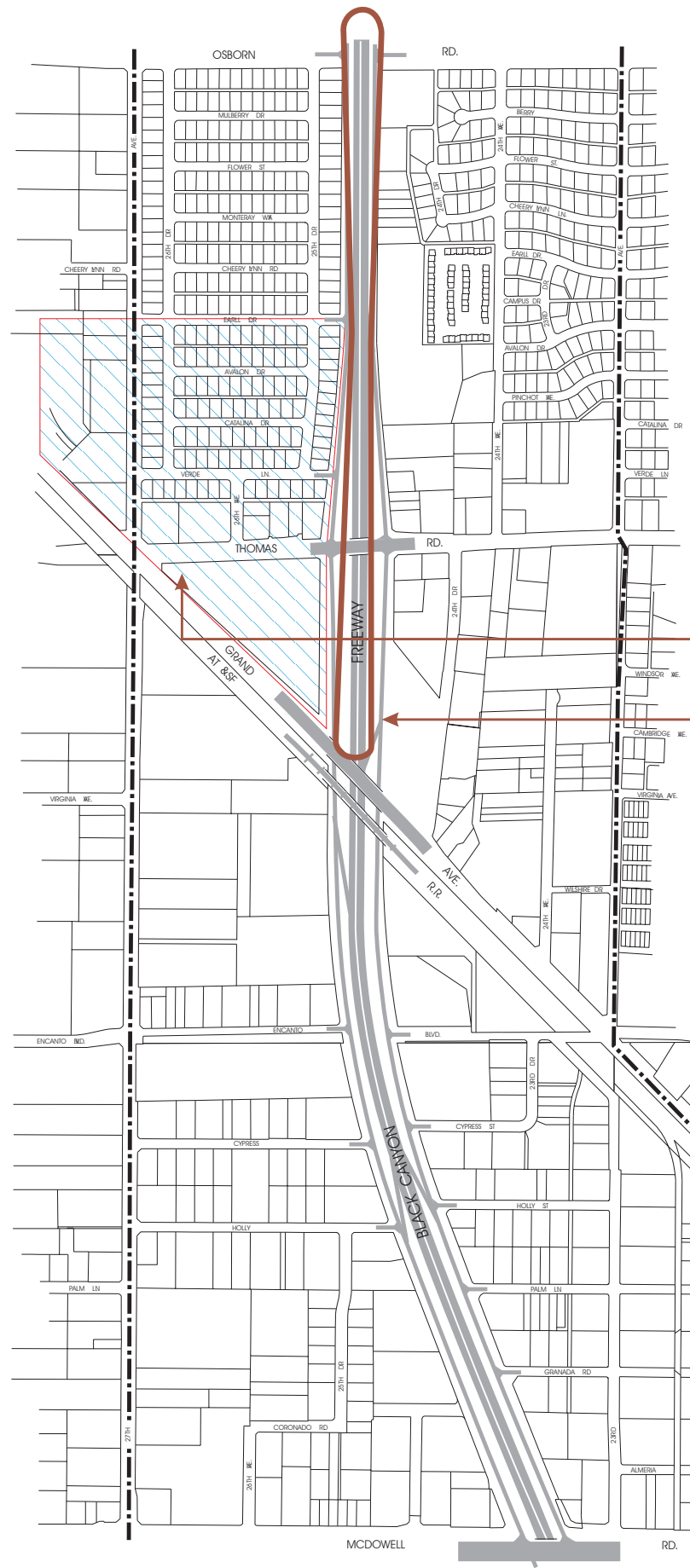
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

SEGMENT 11 - MAP 33

OSBORN RD. TO MCDOWELL RD.

--- STUDY BOUNDARY



11.1 Flooding problems



11.2 Continuous HOV and auxiliary lanes by ADOT (≈FY 2000) [see text 2.2]

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

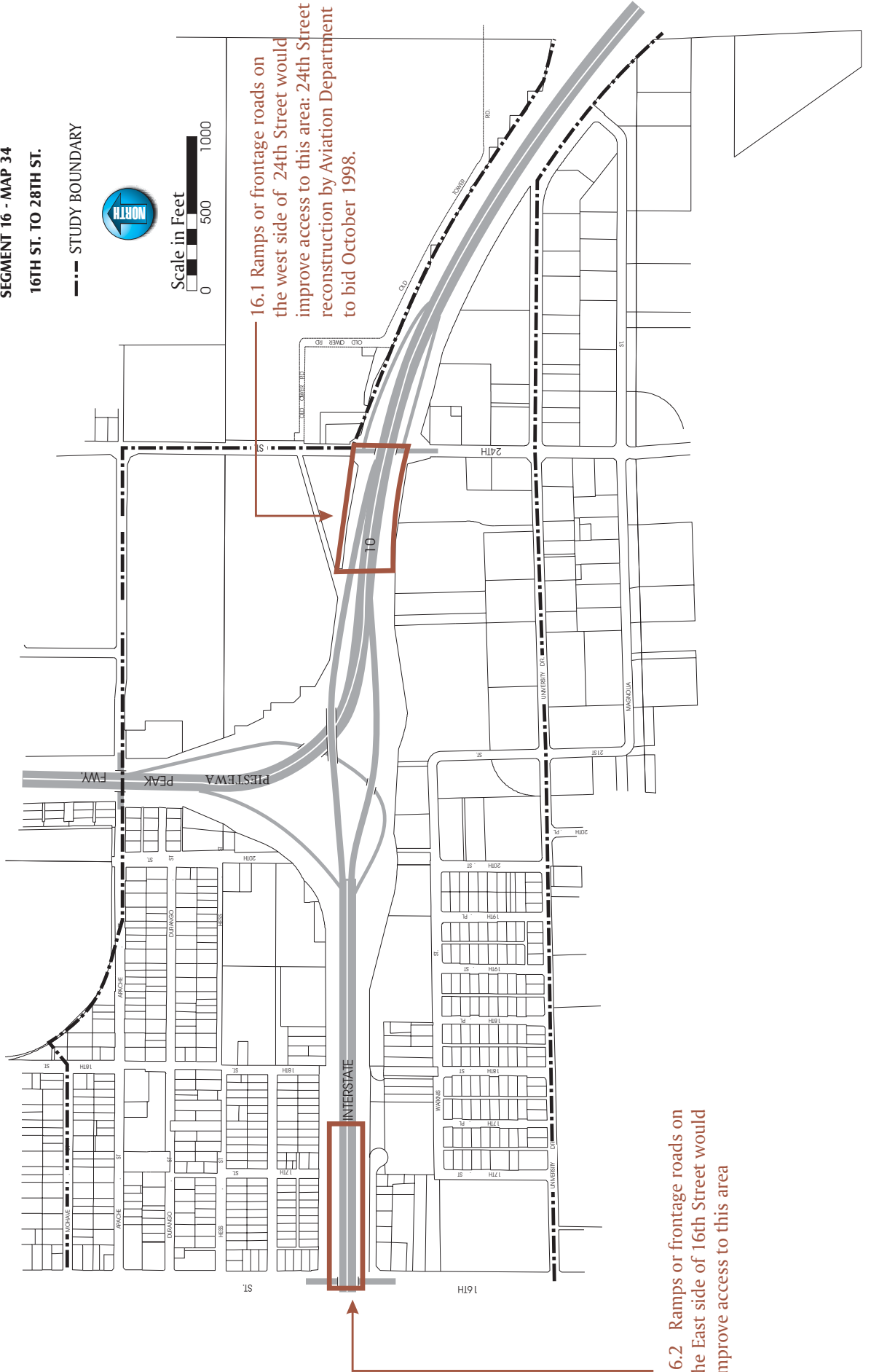
SEGMENT 16 - MAP 34

16TH ST. TO 28TH ST.

--- STUDY BOUNDARY



Scale in Feet
0 500 1000



16.1 Ramps or frontage roads on the west side of 24th Street would improve access to this area: 24th Street reconstruction by Aviation Department to bid October 1998.

16.2 Ramps or frontage roads on the East side of 16th Street would improve access to this area

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

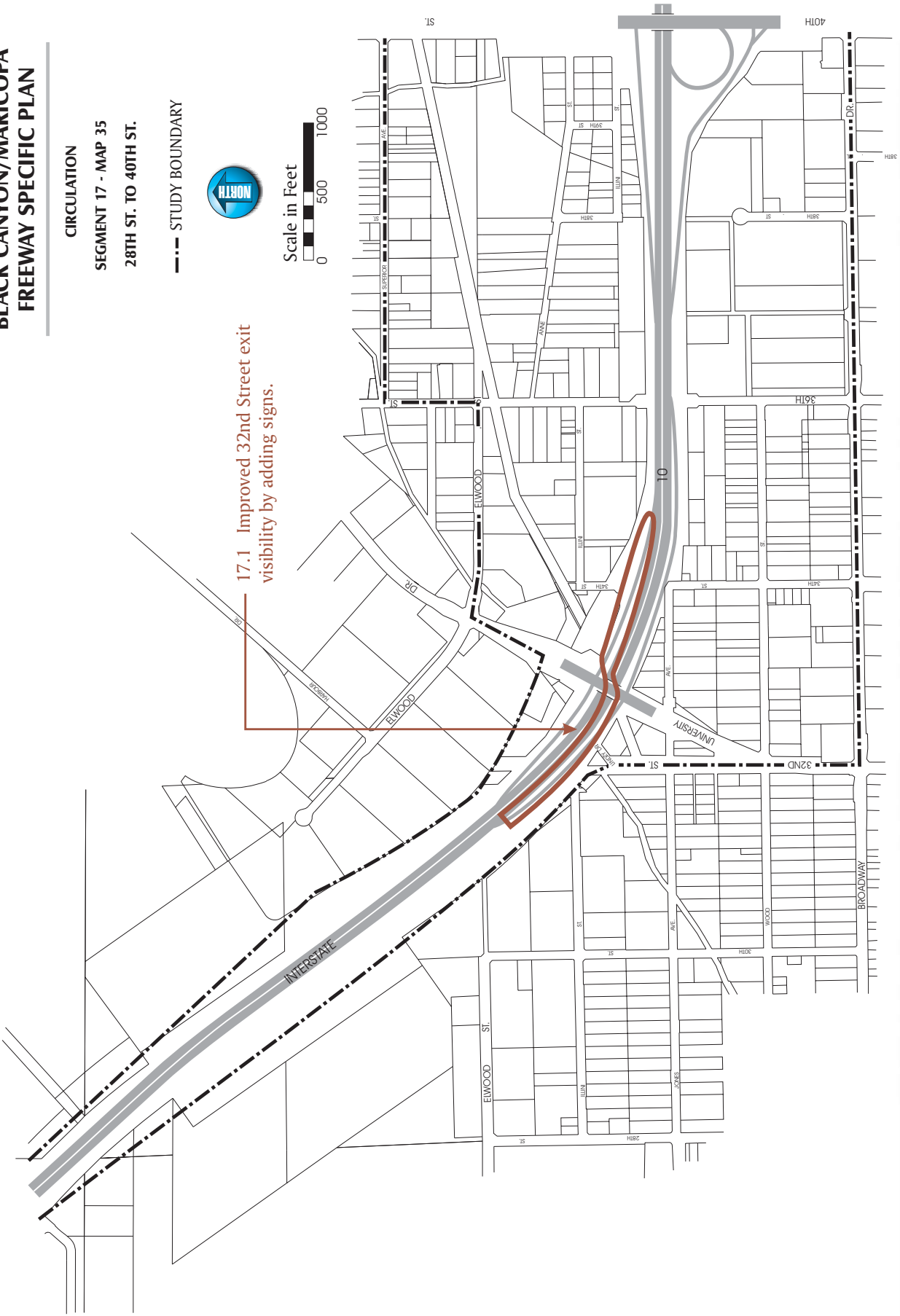
SEGMENT 17 - MAP 35

28TH ST. TO 40TH ST.

--- STUDY BOUNDARY



17.1 Improved 32nd Street exit
visibility by adding signs.



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

CIRCULATION

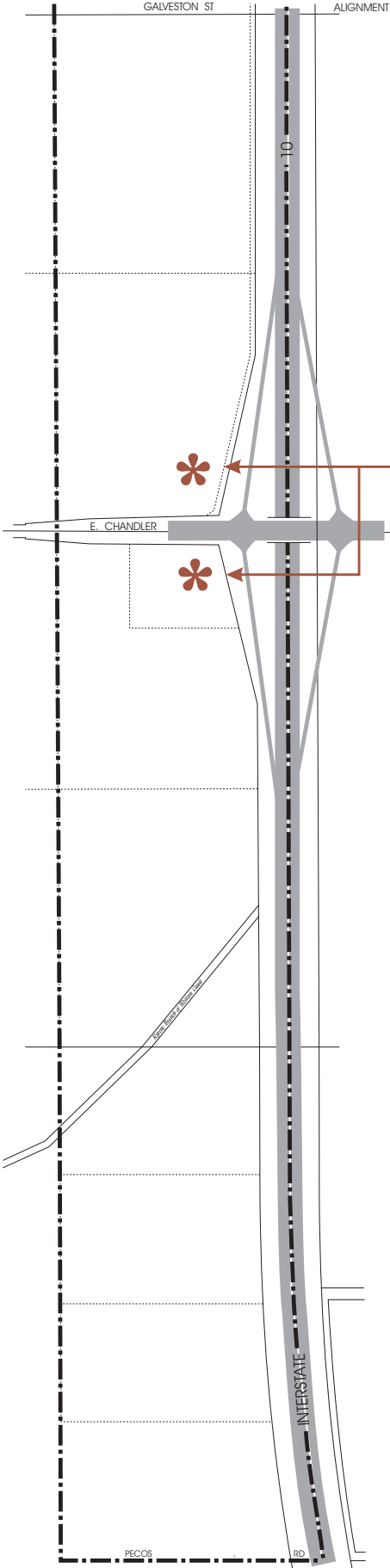
SEGMENT 22 - MAP 37

GALVESTON ST. ALIGNMENT TO
PECOS RD. ALIGNMENT

--- STUDY BOUNDARY



Scale in Feet



22.1 Unfunded
* Anticipated Park and Ride location
(one corner only)

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

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NOISE ELEMENT



Impacts

One of the most frequently identified concerns expressed about freeways by nearby residents is the noise they generate. Sound in the neighborhoods is constantly present, when unwanted sound, such as freeway noise, becomes more noticeable, daily activities are disrupted. Concerns about noise can be classified as a physical, or actual, impact and as a psychological, or perceived, impact.

Both physical and perceived impacts can be equally real to nearby residents. Physical impacts can usually be successfully mitigated to recognized standards, where noise levels in outside private spaces should be 65 dB (or 67 dB, according to ADOT standards) or less.

Perceived impacts are not easily solved. They can include a change in the neighborhood ambient noise level, what was once a quiet neighborhood street, is now more noticeable because of increased freeway traffic volumes. "It is noisier now that the freeway is here than it was before." Or, realizing the freeway is "out there" because its traffic is visible to adjacent residents makes us believe that noise is getting louder. These impacts can be reduced by implementing various mitigation techniques, in combination with reducing average noise levels to accepted standards.

However, all noise cannot be eliminated, but effective mitigation can reduce the level of noise in adjacent neighborhoods. Techniques to reduce noise levels will be discussed in this section.

Noise Dynamics

Prior to discussing the process that was used to determine noise mitigation needs, some basic noise principles will be reviewed. Sound level (noise) refers to a logarithmic measure of small but rapid pressure changes in the air. A decibel (dB) is the unit scale of a sound level and dB(A) is a weighting where an electronic filter in a sound level meter is used to approximate the frequency response of the human ear.

A sound change of 1 dB(A) is imperceptible to the human ear and a change of 3 dB(A) is just perceptible. However, a change of 5 dB is clearly noticeable and a 10 dB(A) change is perceived as a doubling or halving of noise.

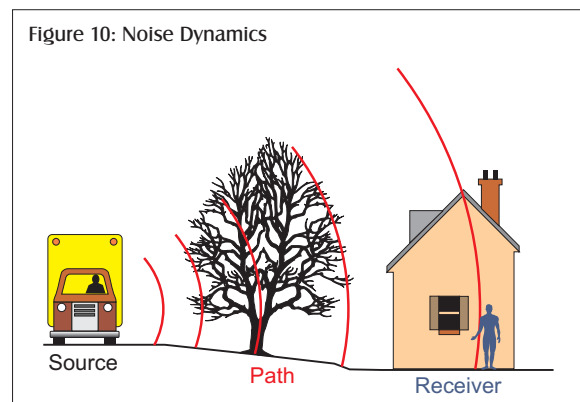
Any noise source generates a given amount of energy, which travels along a path to arrive at the receiver. The dynamics of the perception of noise are based on the relationship between the noise (source), and the person or place exposed to the noise (the receiver), and the path the noise will travel from the source to the receiver.

Given the source-receiver-path relationship, noise can be reduced by three basic methods:

- ▶ Reduce the amount or intensity of noise coming from the source.
- ▶ Increase the distance (length of path) between the source and the receiver.
- ▶ Physically block the path of the noise from the source to the receiver.

Method One can only be accomplished by reducing noise emitted from vehicles traveling on the facility, by reducing their speed, or by reducing the total number of vehicles. In the case of noise from a public roadway, such as the Black Canyon/Maricopa Freeway, these hold limited possibilities. The more feasible options are limited to Methods Two and Three.

Method Two could be feasible in conjunction with freeway expansion if the Arizona Department of Transportation (ADOT) ever extends the right-of-way for freeway reconstruction by removing the closest receptors, or in new developments where yard setbacks can be increased. However, other than minimal acquisitions for interchange upgrades, ADOT has no plans, at this time, to obtain additional freeway rights-of-way.



Method Three involves the construction of noise walls, concrete barriers, or berms. The construction of noise walls or concrete barriers is the most common noise mitigation alternative. Berms require more physical space than walls and are considered in settings where land is available. They can be landscaped to add to the attractiveness of the freeway edge.

Concrete barriers or jersey barriers as they are often called, play an important role in mitigating noise. They are used primarily for safety purposes to divert vehicles back onto the road, but engine and tire noise can be reduced if the barriers are high enough.

Noise Analysis

The goal in mitigating physical impacts of noise is to reduce freeway noise to a standardized, acceptable level. There are two generally accepted methods of determining noise standards. The first is the daily average noise level (Leq). As the name implies, it is an average of the noise levels for a 24-hour period. This standard is used by the Federal Highway Administration (FHWA), which has adopted 67 dB(A) Leq as its guide for an acceptable level of traffic noise in residential areas. The second noise measurement standard is the day-night noise level (Ldn). This standard, also for a 24-hour period of time, is one where night levels (between 10 p.m. and 7 a.m.) receive an extra 10 dB(A) rating. This accounts for the added annoyance of unwanted sound during sleeping hours. The Ldn standard is used by the Department of Housing and Urban Development (HUD) as their measurement standard. They have adopted 65 dB(A) Ldn as the acceptable level of traffic noise in residential areas.

Different public agencies involved in the planning process for the Black Canyon/Maricopa Freeway have aligned themselves with these two standards. ADOT has chosen the FHWA standard of 67 dB(A) Leq as its noise threshold and mitigates noise in accordance with their "Noise Abatement Policy" as approved by the Federal Highway Administration on July 23, 1996. The Phoenix City Council has adopted HUD's 65 dB(A) Ldn as the acceptable level of noise for residential areas adjacent to freeway corridors. This latter standard will be applied throughout this specific plan in determining the appropriate mitigation measures.

For comparison purposes, the HUD [Noise Guidebook](#) includes a table that lists examples of sound levels: near a jet engine (140 dB), threshold of pain (130 dB), hard rock band (120 dB), accelerating motorcycle at a few feet away (110 dB), auto horn ten feet away (100 dB), noisy urban street (90 dB), school cafeteria, untreated surfaces (80 dB), near freeway auto traffic (60 dB), average office (50 dB), soft radio music in apartment (40 dB), average residence without stereo playing (30 dB), average whisper (20 dB), and rustle of leaves in the wind (10 dB). The normal range of speech lies between 48 dB and 72 dB.

Process

Noise recommendations established by this plan were derived through a two-step process. First, reconnaissance noise assessments were conducted by staff in the field to determine noise levels in residential areas adjacent to the freeway. Second, using formulas in the HUD Noise Guidebook, calculations were made to determine wall locations and heights needed to mitigate freeway noise to meet the City's standard (HUD's standard) of 65 dB(A) Ldn.

One hundred and nine reconnaissance noise assessments were conducted. The result of the assessments indicates that of those locations, 75 needed mitigation to meet the HUD noise standard.

Overall Noise Mitigation Policies

To assist the evaluation of noise issues, the following overall policies have been identified:

Policy 1: Encourage ADOT to conduct noise studies as soon as possible at locations where city reconnaissance assessments indicated that standards are exceeded, and provide noise mitigation, as needed, to meet the standard. Furthermore, with freeway improvements and citizen input, ADOT should perform additional noise studies and projections along the freeway corridor and consider visual mitigation walls where their noise standards are not exceeded or when it is relatively close to exceeding the level.

Policy 2: Encourage ADOT to conduct new noise studies/projections in conjunction with the project that has constructed, or will construct High Occupancy Vehicle (HOV) lanes and auxiliary lanes on I-17 between Peoria Avenue and Thomas Road. Install needed noise walls at the start of construction where ADOT's noise standard has been exceeded. ADOT should consider visual mitigation walls where their noise standards are not exceeded or when it is relatively close to exceeding the level.

As part of the HOV and auxiliary lane project, ADOT's original noise wall recommendations were revisited to reflect current land uses in the corridor. Noise walls were constructed in a number of locations in the past four years (dated 1998 and earlier) along this corridor based on documented noise studies.

Policy 3: Encourage ADOT to use designs to make noise walls a positive aesthetic element on the neighborhood side.

Policy 4: Encourage ADOT to use four-foot high concrete barriers in lieu of guard rails in any new construction where guard rails may be proposed adjacent to existing or planned residential development.

Policy 5: Encourage ADOT to use rubberized asphalt for frontage road, ramp, mainline construction, reconstruction or repair where existing or planned residential areas are adjacent.

Policy 6: Include a consistent design/art motif in any city funded noise walls to improve the appearance on the neighborhood side. This could include, but not be limited to, a contrasting row of block at or near the top of the wall. Establish a policy for ADOT to include aesthetic treatments on walls built by ADOT.

Policy 7: Assess the need for city funded noise walls, located between the Outer Loop Freeway (Loop 101) and I-10, after ADOT completes noise walls as a consequence of the addition of HOV and auxiliary lanes. The HOV lanes and auxiliary lanes are not in full use at the time of this writing.

Policy 8: Encourage the trucking industry to reduce the use of "Jake Brakes" and encourage associated regulating agencies to enforce rules to limit the use of those brakes which cause loud noises.

Policy 9: Require new residential development adjacent to the freeway to follow freeway noise mitigation standards, criteria, and policies as adopted on February 15, 1995, by the Phoenix City Council. Council adopted these mitigation measures, city-wide, in conjunction with adoption of the Outer Loop Freeway Specific Plan.

Policy 10: Coordinate, as much as possible, city noise walls with other nearby city construction projects.

Policy 11: Do not build noise walls for residences located in non-residential zoning districts.

Policy 12: Consider city funded noise mitigation only where the noise level exceeds the city standard by approximately 2 dB(A) to meet the 3 dB(A) threshold to be perceptible.

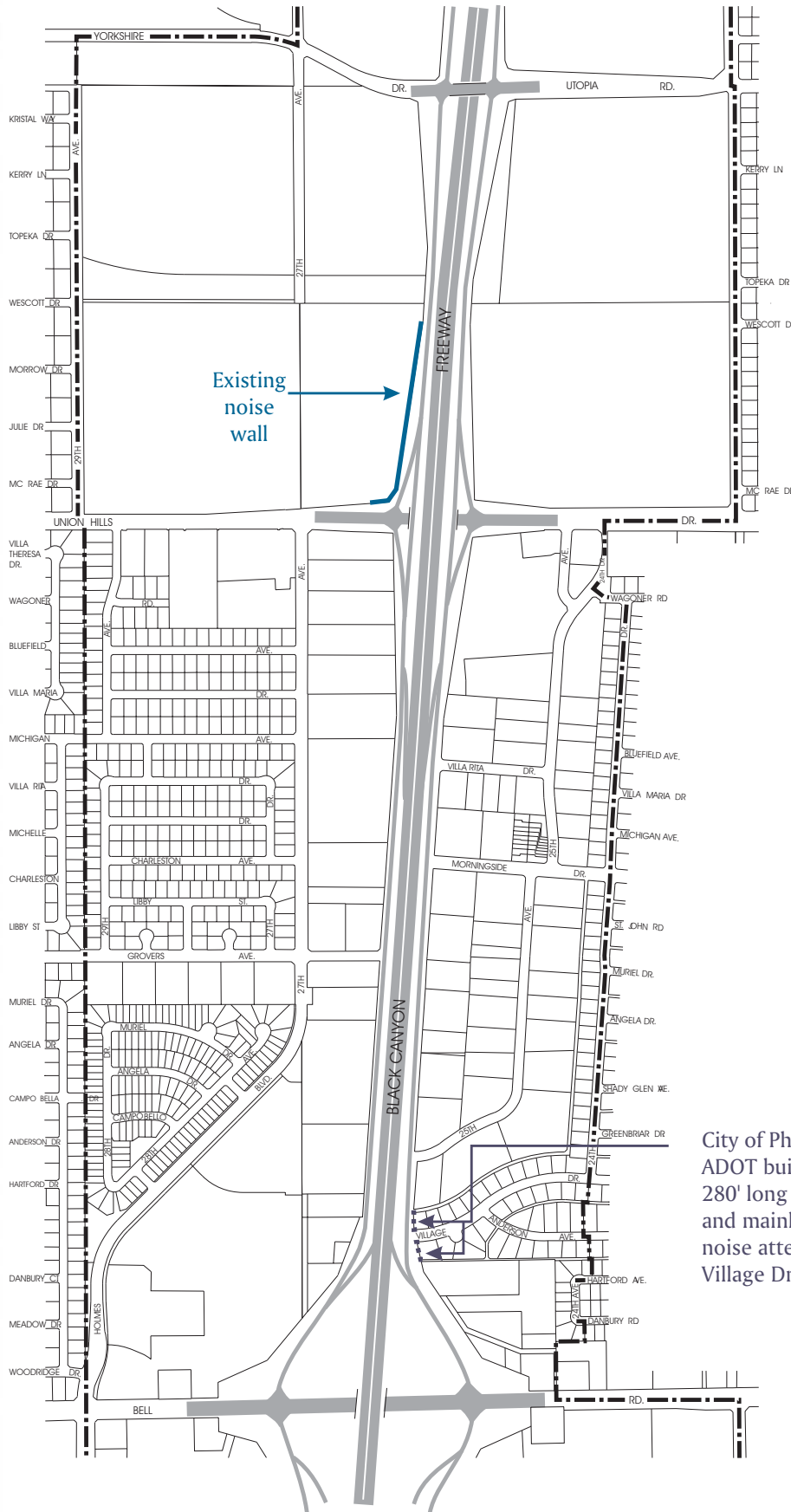
Policy 13: Obtain construction easements, and agreements for perpetual maintenance and repair, from property owners prior to construction of city funded noise walls on private property.

Policy 14: City funded noise walls are to be constructed of 8" thick CMU block, fully grouted.

Maps 38 through 53 designate existing ADOT noise walls as of July 1998, and where the City of Phoenix proposes ADOT build new noise walls as of December 1998. In several locations where ADOT has installed noise walls, city reconnaissance noise studies indicate that ADOT should extend the length and/or height of these walls. Segments 3 through 15, 18, 19, and 21 include specific recommendations for noise walls.

Segments 1, 2, 16, 17, 20, and 22, do not include proposals for any noise walls based on existing conditions. In Segments 1, 2, 16, and 17, there are no residential areas where the freeway level exceeds the minimum abatement standard, 65 dB(A) by over 1 dB(A). In Segment 20, no additional walls are proposed since all existing residential areas (from the drainage channel south of Elliot Road to Warner Road) are protected by an ADOT wall. The remaining land adjacent to the freeway (north of Elliot Road at the Mineral Road alignment to the drainage channel) is zoned for industrial or commercial uses. No noise walls are proposed in Segment 22 because this area is mostly undeveloped and is planned for Commerce Park land uses in the general plan.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION

SEGMENT 3 - MAP 38

YORKSHIRE DRIVE/UTOPIA ROAD TO BELL ROAD

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



City of Phoenix proposes ADOT build a noise wall, 6' high, 280' long between the frontage road and mainline freeway and provide noise attenuation for homes on Village Drive

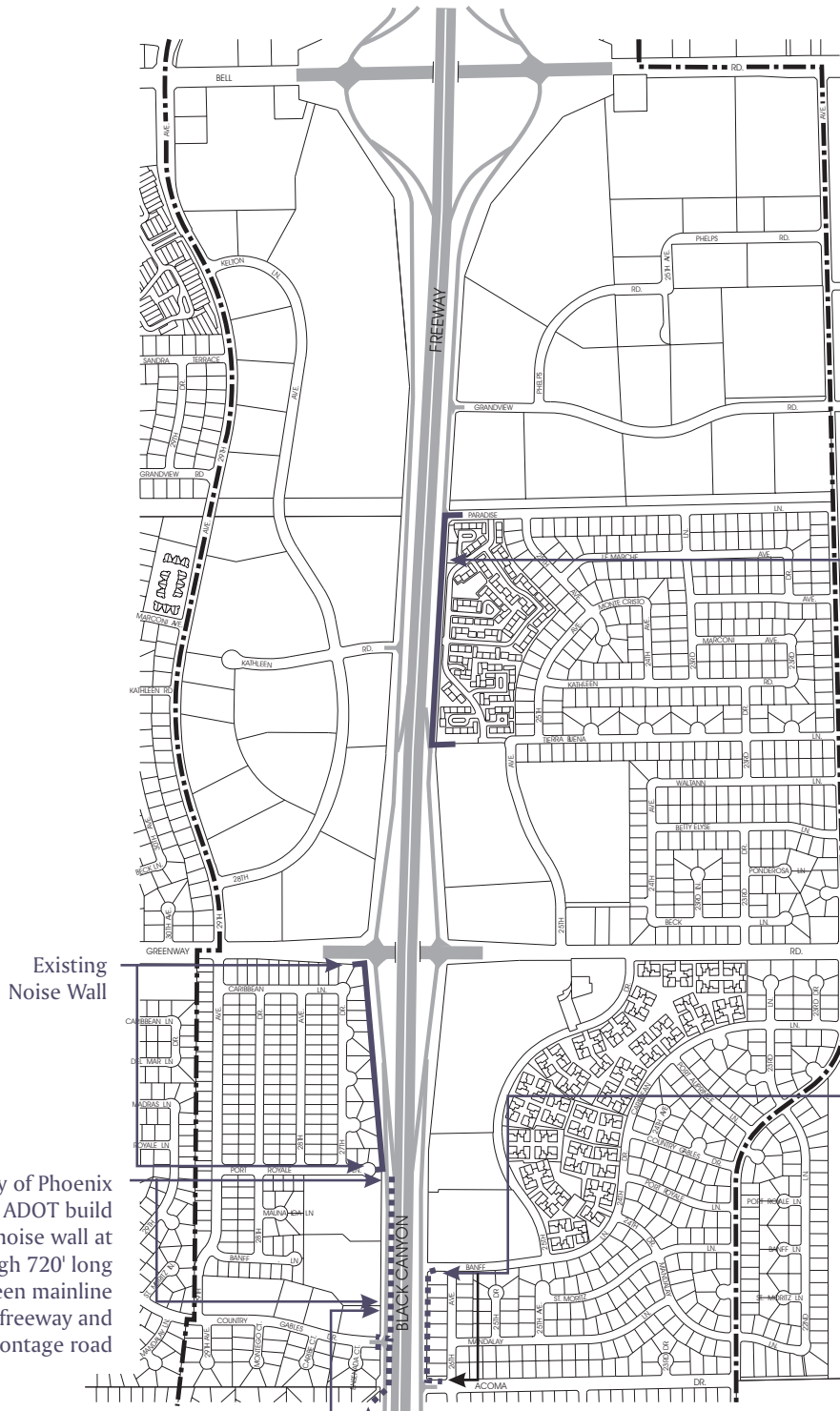
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION SEGMENT 4 - MAP 39 BELL RD. TO ACOMA DR.

- STUDY BOUNDARY
- EXISTING WALL
- ... PROPOSED WALL



Scale in Feet
0 500 1000



ADOT add two courses of block to this existing 7' high 8" thick, 1410' long wall

City of Phoenix proposes ADOT build a noise wall, 8' high 700' long between mainline freeway and frontage road

Existing Noise Wall

City of Phoenix proposes ADOT build a noise wall at 14' high 720' long between mainline freeway and frontage road

City of Phoenix proposes ADOT build a noise wall at 10' high 600' long between mainline freeway and frontage road

**BLACK CANYON/MARICOPA
FREEWAY SPECIFIC PLAN**

**PROPOSED NOISE WALL MITIGATION
SEGMENT 6 - MAP 41
CACTUS RD. TO MOUNTAIN VIEW RD.**

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



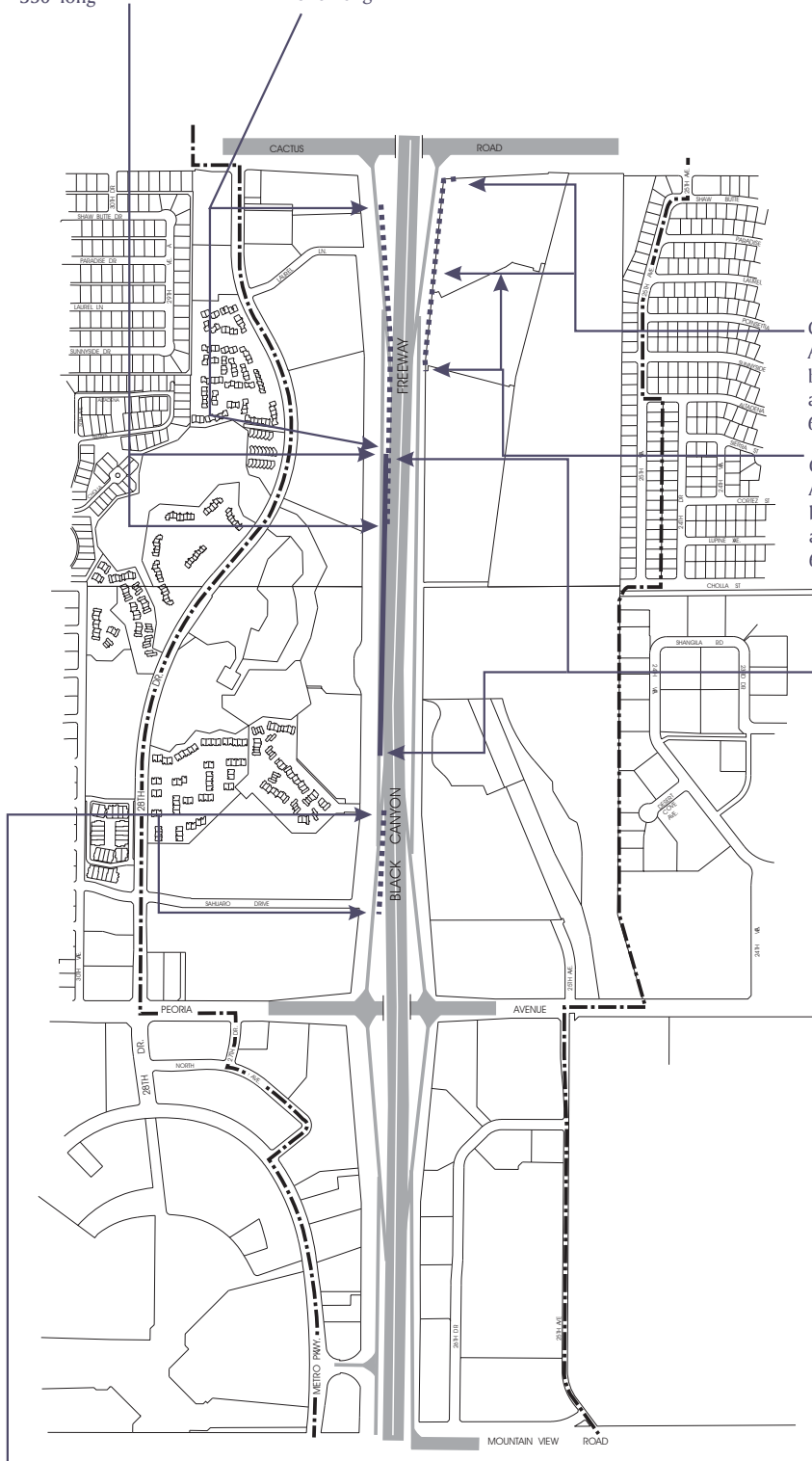
City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 350' long

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 8' high, 1640' long

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 8' high, 600' long

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 10' high, 650' long

Existing noise wall



City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 8' high, 550' long

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 600' long, height determined by ADOT (Refer to Policies 1 & 2)

Proposed City of Phoenix Noise Wall 8' high 300' long

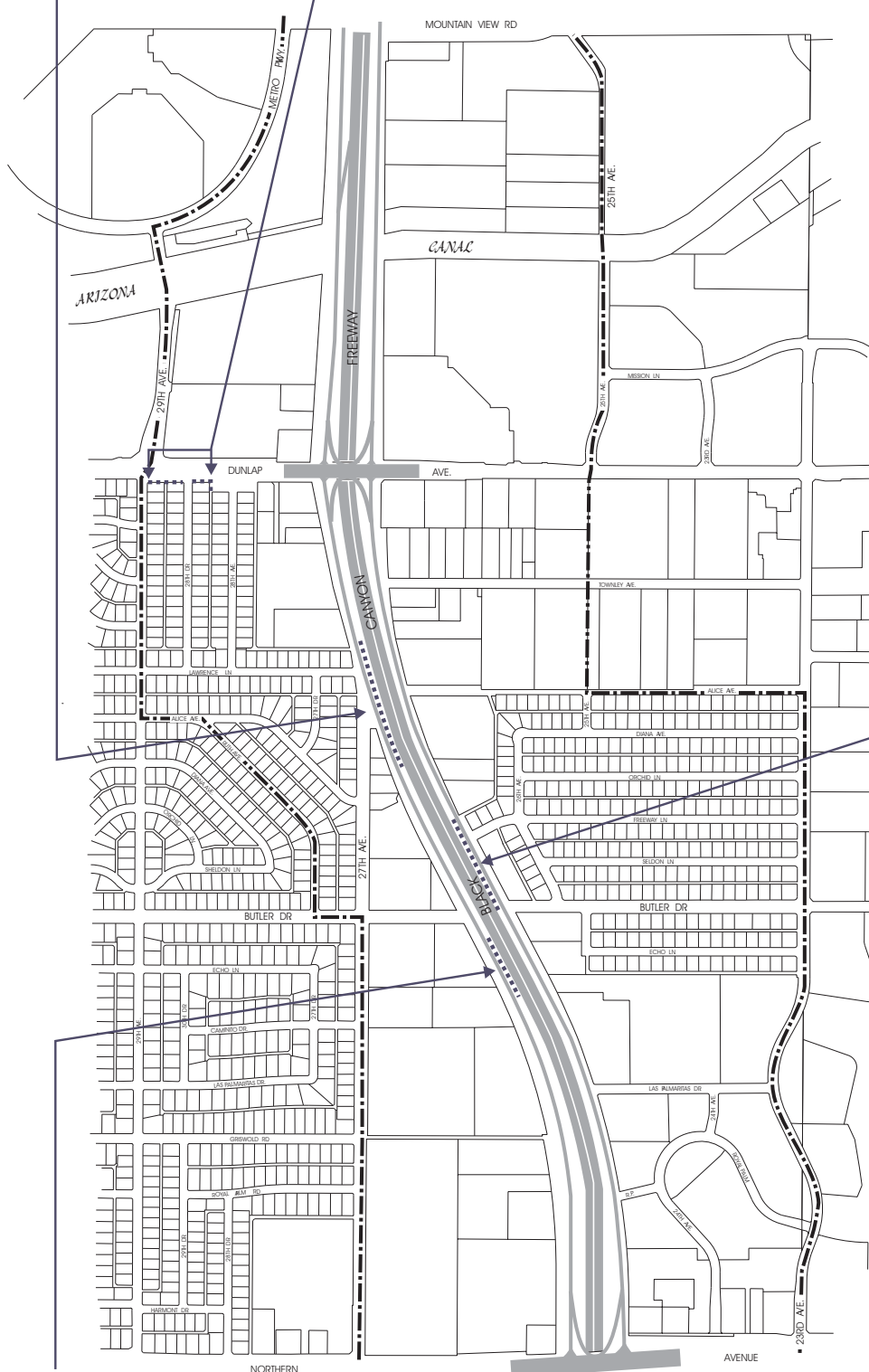
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 7 - MAP 42
MOUNTAIN VIEW RD. TO NORTHERN AVE.

- STUDY BOUNDARY
- EXISTING WALL
- ⋯ PROPOSED WALL



Scale in Feet
0 500 1000



City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 700' long, height determined by ADOT (Refer to Policies 1 & 2)

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 1200' long, height determined by ADOT (Refer to Policies 1 & 2)

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION SEGMENT 8 - MAP 43

NORTHERN AVE. TO MARYLAND AVE.

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL

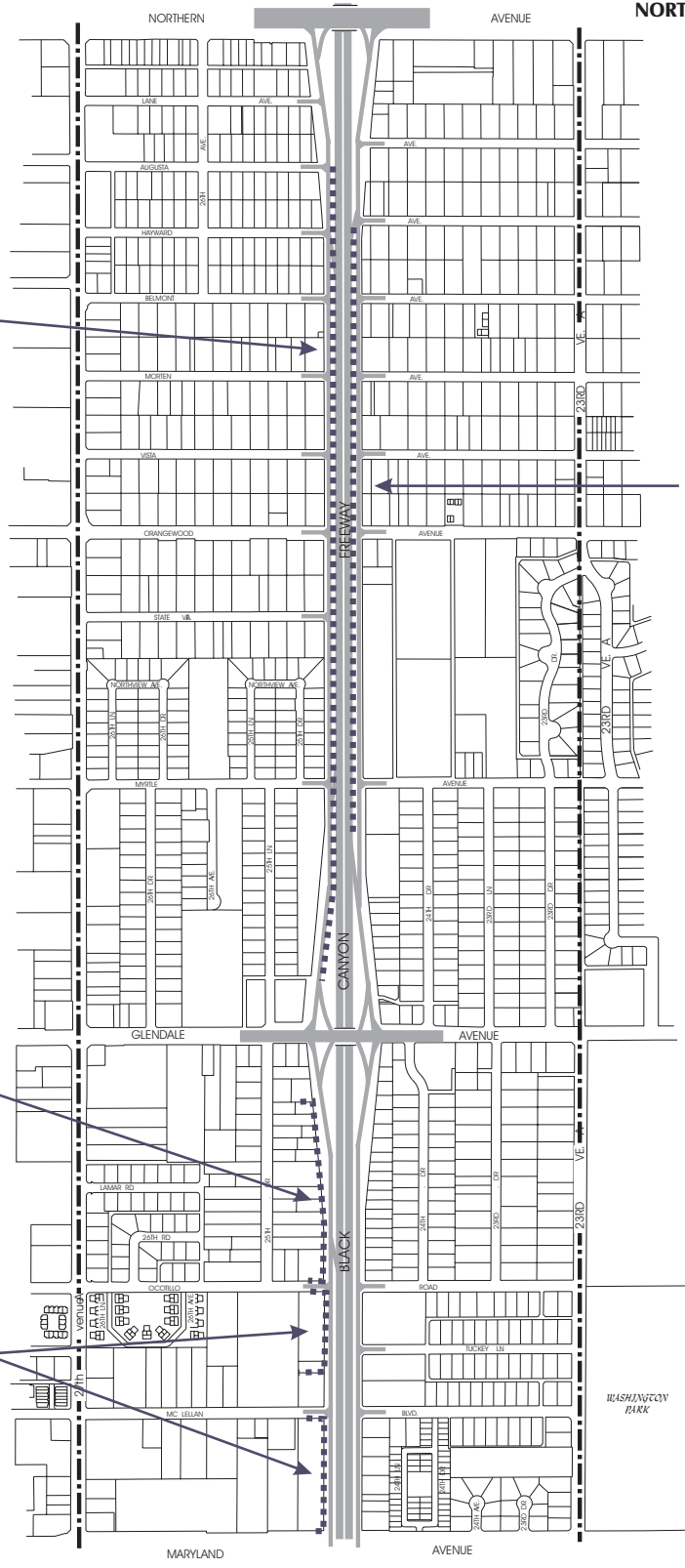


City of Phoenix
proposes ADOT
build a noise wall
between mainline
freeway and
frontage road,
8' high, 4600' long
(Refer to Policies
1 & 2)

City of Phoenix
proposes ADOT
build a noise wall
between mainline
freeway and
frontage road,
8' high, 3200' long
(Refer to Policies
1 & 2)

City of Phoenix
proposes ADOT
build a noise wall
between mainline
freeway and
frontage road,
8' high,
1000' long
(Refer to Policies
1 & 2)

City of Phoenix
proposes
ADOT build
a noise wall
between mainline
freeway and
frontage road,
6' high,
1100' long
(Refer to Policies
1 & 2)



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION SEGMENT 9 - MAP 44 MARYLAND AVE. TO CAMELBACK RD.

City of Phoenix proposed ADOT build a noise wall 8' high, 1500' long between mainline freeway and frontage road (Refer to policies 1 & 2)

City of Phoenix proposed ADOT build a noise wall 6' high, 700' long between mainline freeway and frontage road (Refer to policies 1 & 2)

City of Phoenix proposed ADOT build a noise wall 8' high, 2810' long between mainline freeway and frontage road (Refer to policies 1 & 2)

City of Phoenix proposes ADOT build a noise wall on median between frontage road and access road in front of homes 6' high, 1250' long

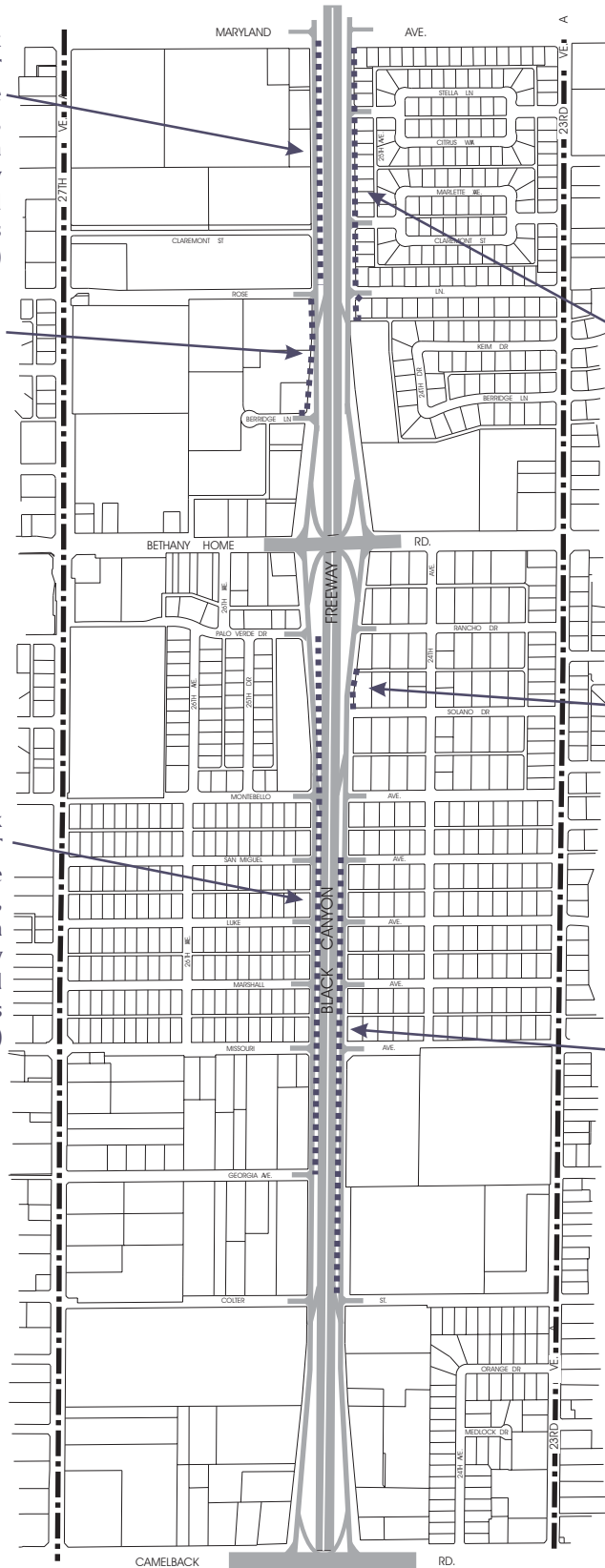
City of Phoenix proposed ADOT build a noise wall 6' high, 200' long between mainline freeway and frontage road (Refer to policies 1 & 2)

City of Phoenix proposed ADOT build a noise wall 6' high, 3000' long between mainline freeway and frontage road (Refer to policies 1 & 2)

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



Scale in Feet
0 500 1000



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 10 - MAP 45
CAMELBACK RD. TO OSBORN RD.

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



Scale in Feet
0 500 1000

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 660' long. (Refer to policies 1 & 2)

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 900' long. (Refer to policies 1 & 2)

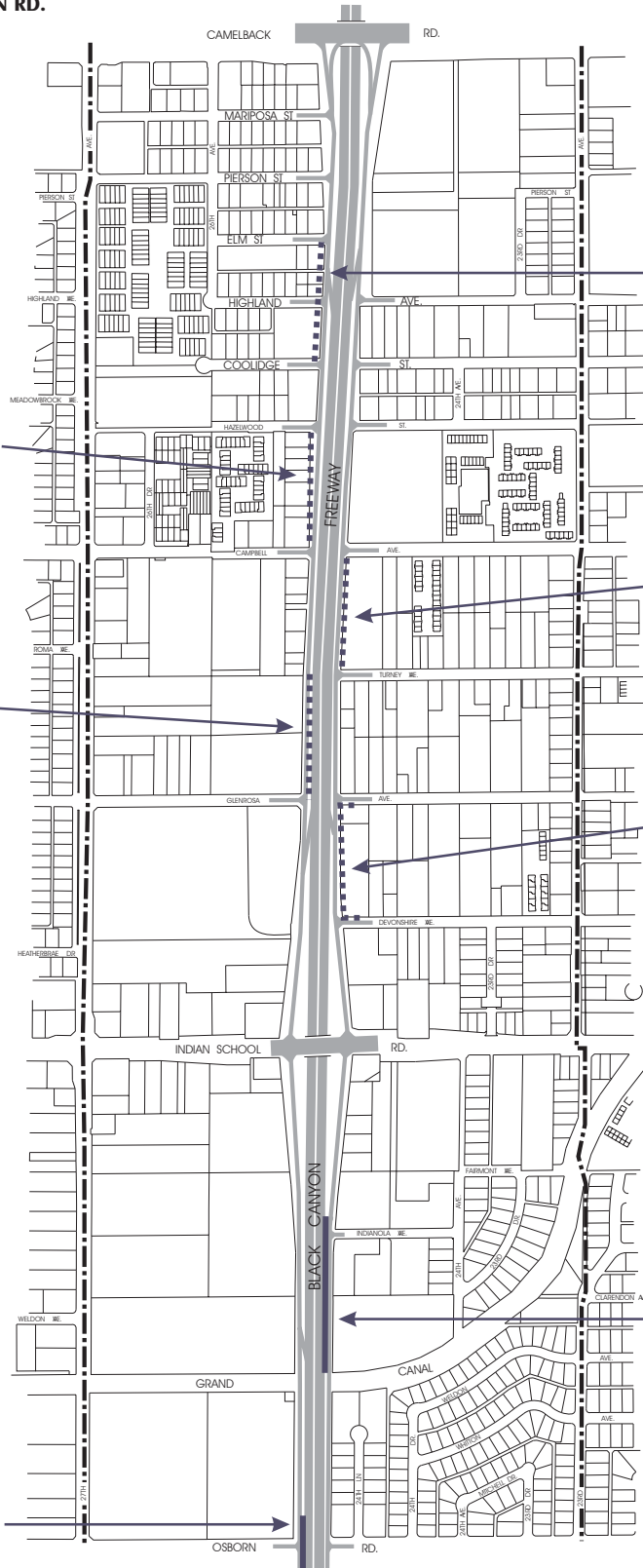
City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 8' high, 600' long. (Refer to policies 1 & 2)

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 600' long. (Refer to policies 1 & 2)

City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 670' long. (Refer to policies 1 & 2)

Existing noise wall

Existing noise wall

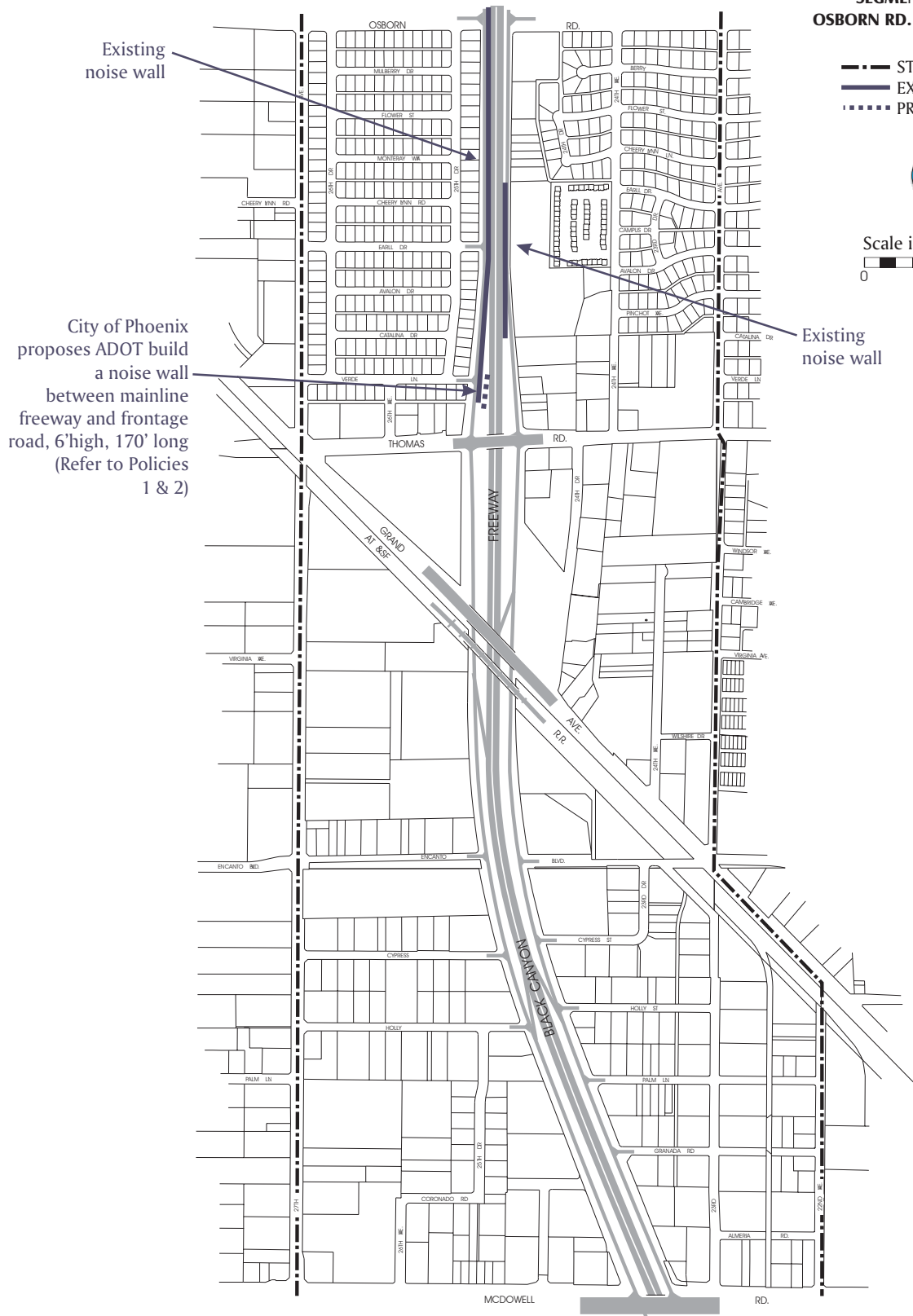
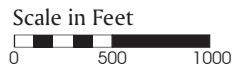


BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 11 - MAP 46
OSBORN RD. TO MCDOWELL RD.

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



Existing noise wall

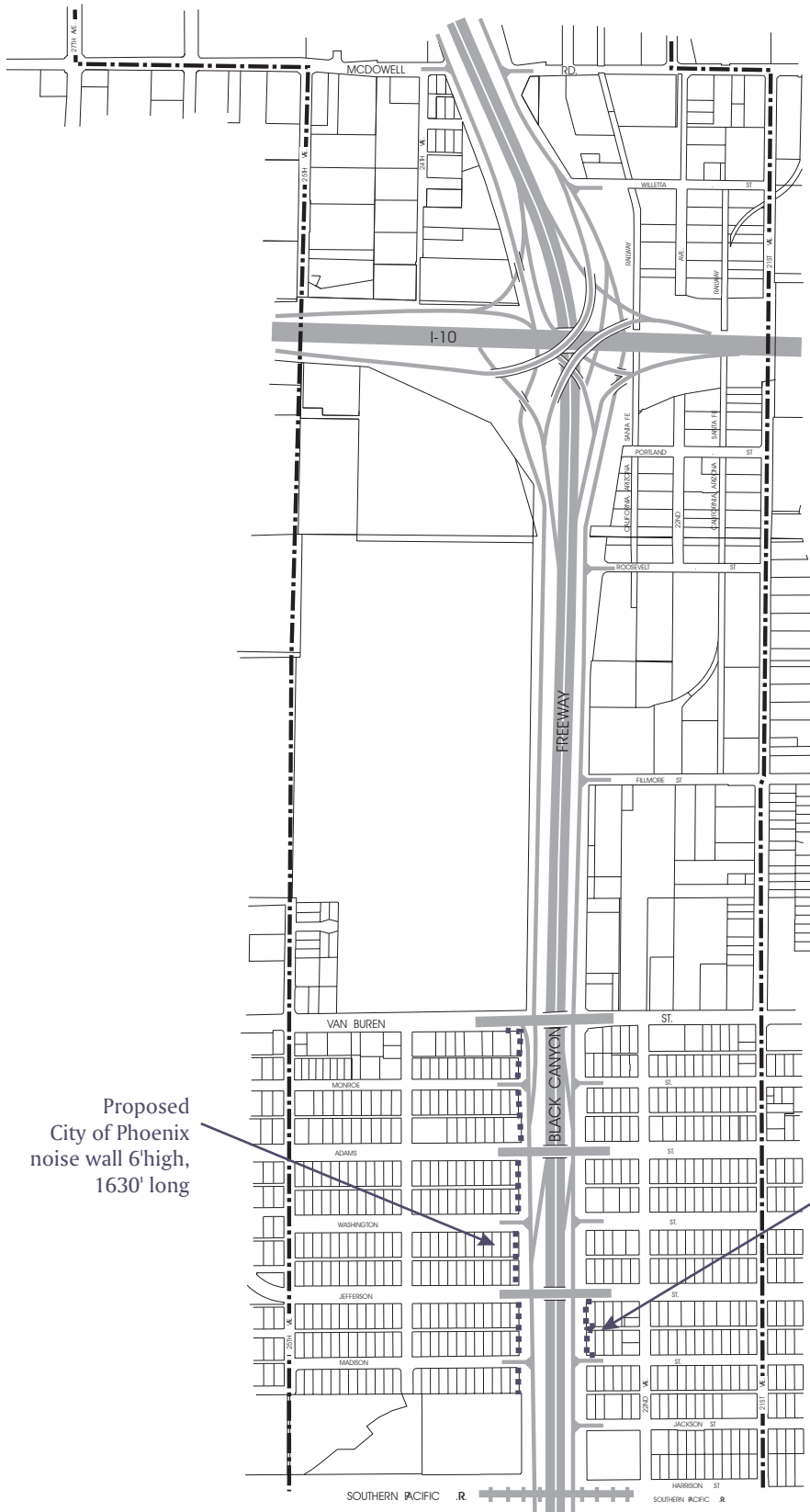
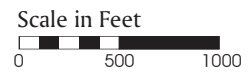
City of Phoenix proposes ADOT build a noise wall between mainline freeway and frontage road, 6' high, 170' long (Refer to Policies 1 & 2)

Existing noise wall

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 12 - MAP 47
MCDOWELL RD. TO SOUTHERN PACIFIC
RAILROAD

- STUDY BOUNDARY
- EXISTING WALL
- ⋯ PROPOSED WALL



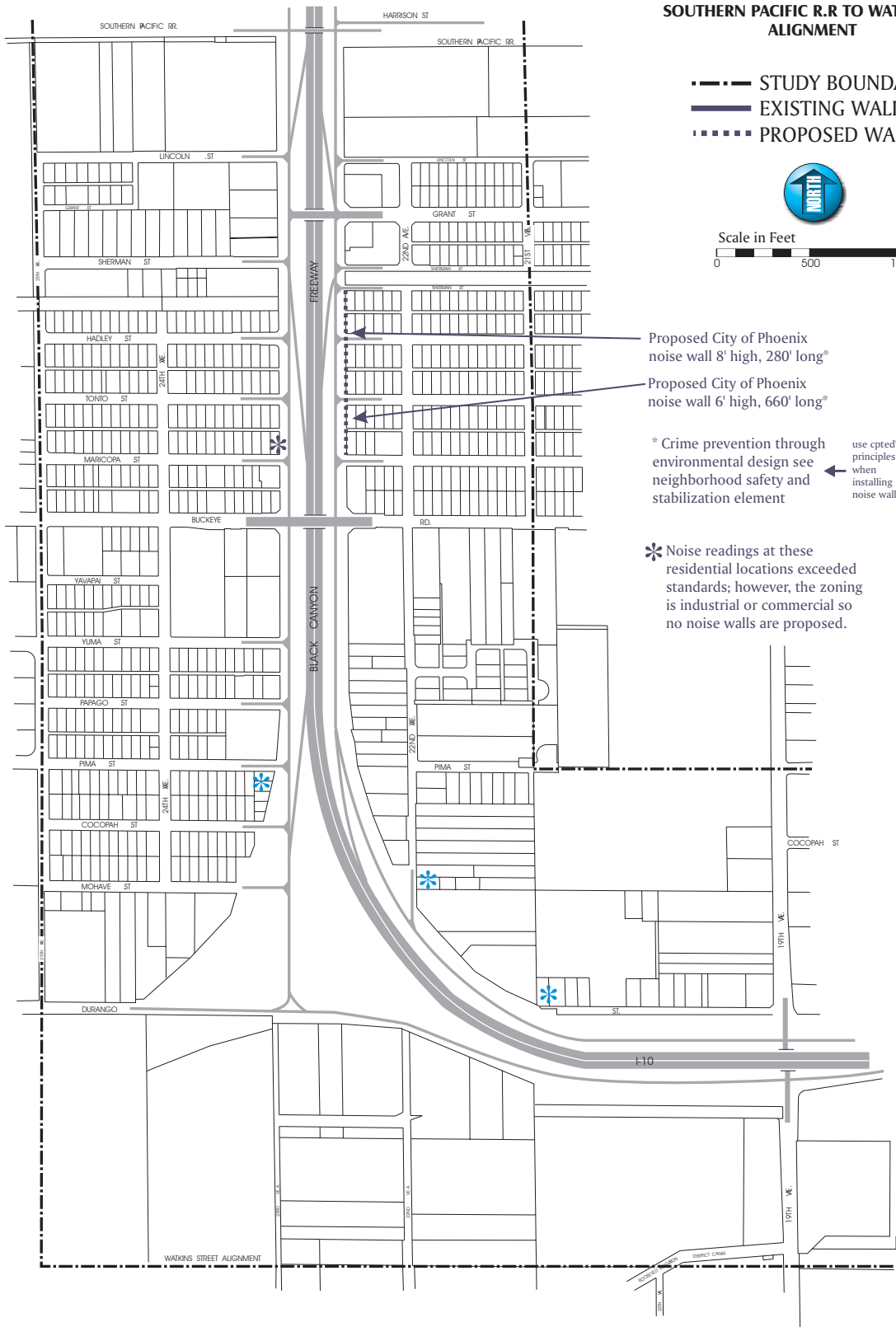
Proposed
City of Phoenix
noise wall 6'high,
1630' long

Proposed
City of Phoenix
noise wall
8' high, 300' long.
On north lot two
courses can be
added to existing
7' high, 8" thick wall.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 13 - MAP 48
SOUTHERN PACIFIC R.R. TO WATKINS ST.
ALIGNMENT



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 14 - MAP 49
19TH AVE. TO CENTRAL AVE.

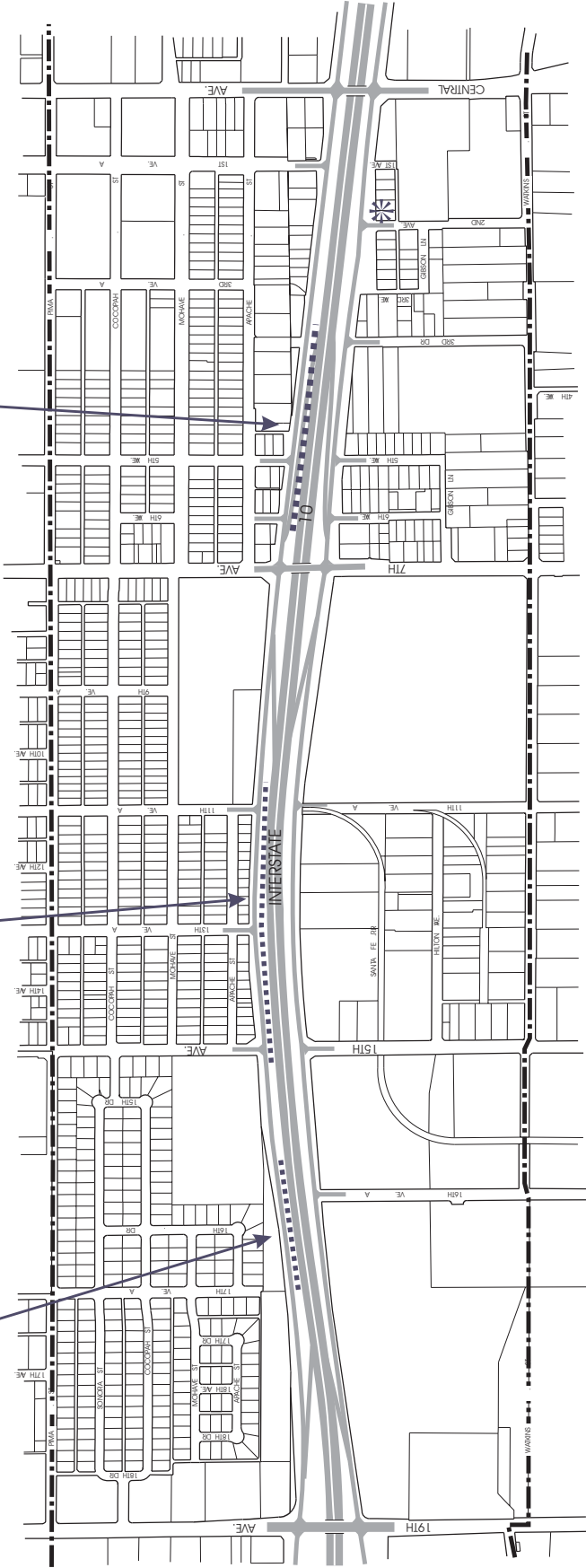
- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED 32" HIGH CONCRETE JERSEY BARRIER, BY THE CITY OF PHOENIX



Proposed barrier,
600' long

Proposed barrier,
1350' long

Proposed barrier,
1050' long



* A noise reading at this residential location exceeded standards; however, the zoning and general plan designations are industrial so a noise wall is not proposed

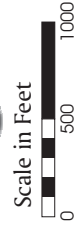
BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

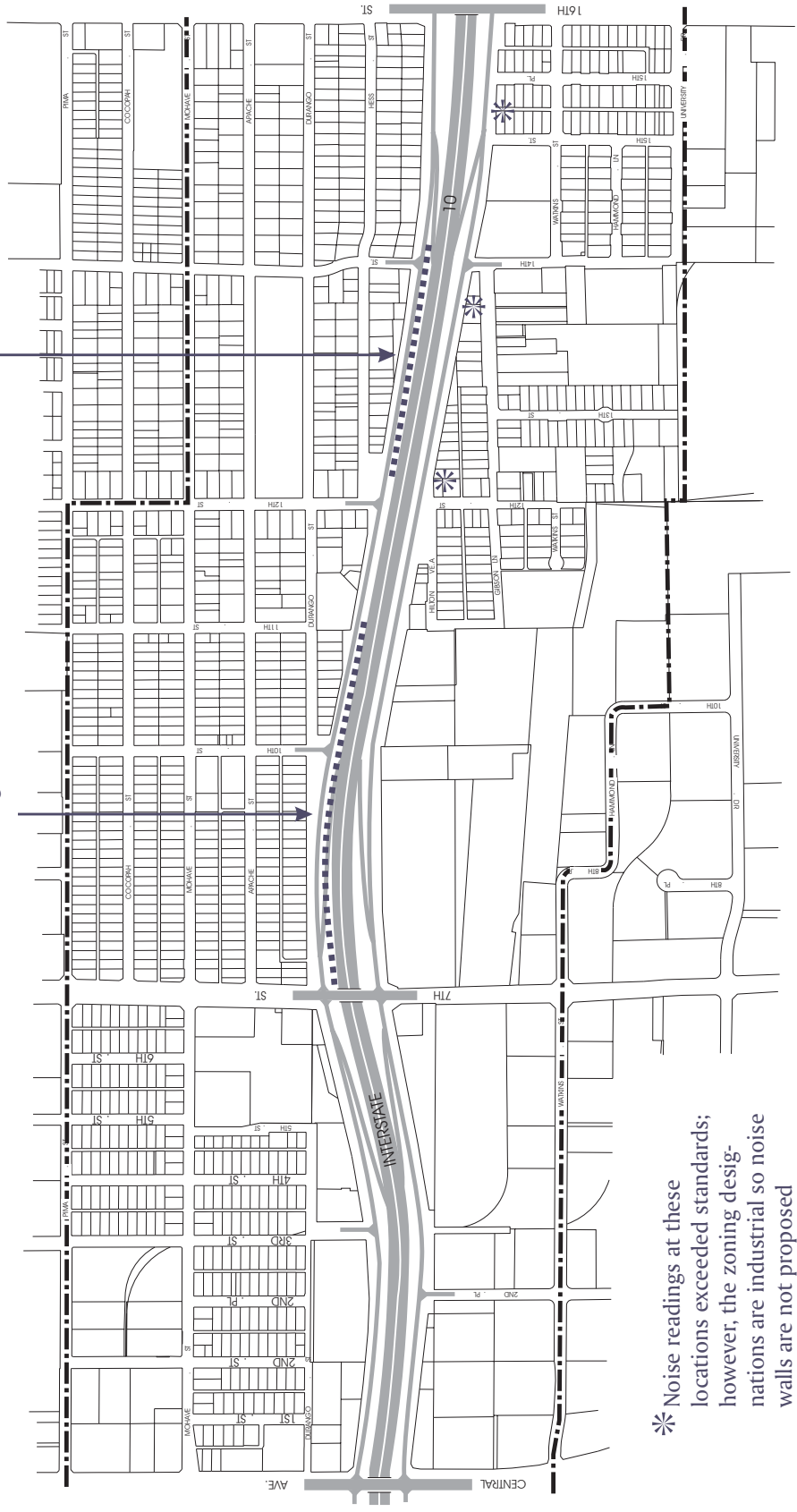
PROPOSED NOISE WALL MITIGATION
 SEGMENT 15 - MAP 50
 CENTRAL AVE. TO 16TH ST.

- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED 32" HIGH
CONCRETE JERSEY BARRIER
BY THE CITY OF PHOENIX



Proposed barrier
1080' long

Proposed barrier
2010' long

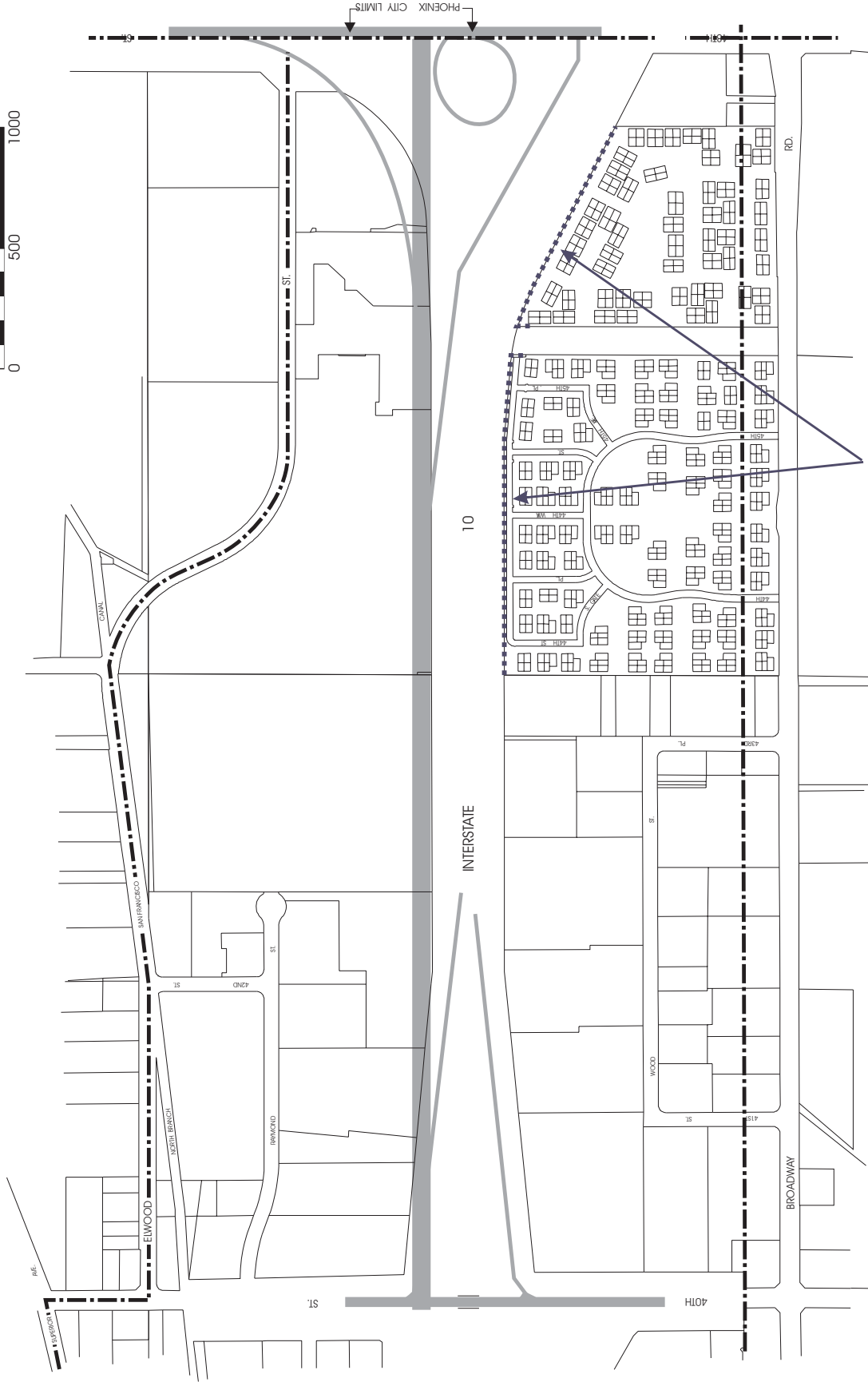


* Noise readings at these locations exceeded standards; however, the zoning designations are industrial so noise walls are not proposed

BLACK CANYON/MARICOPA FREeway SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 18 - MAP 51
40TH ST. TO 48TH ST.

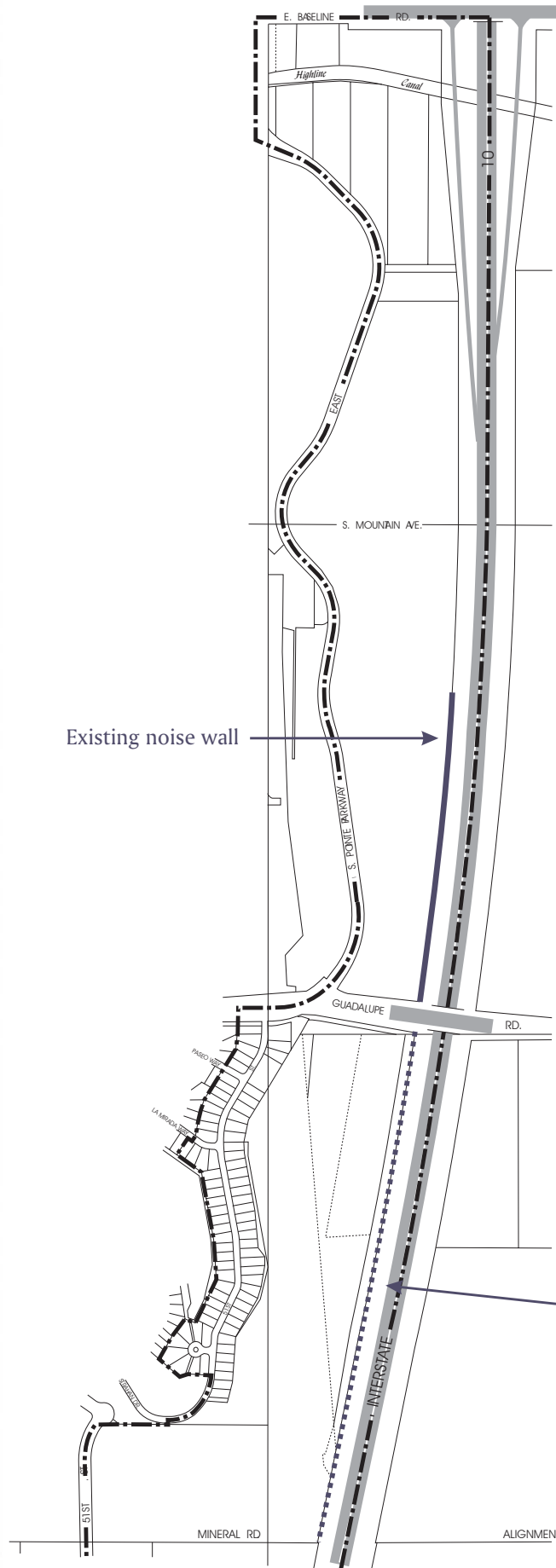
- STUDY BOUNDARY
- EXISTING WALL
- PROPOSED WALL



The City of Phoenix recommends that ADOT raise their existing 12' high wall at this location to 16' high. Presently, freeway noise levels behind the wall exceed ADOT standards

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 19 - MAP 52
BASELINE RD. TO MINERAL RD. ALIGNMENT



Existing noise wall →

City of Phoenix proposes ADOT build a noise wall at this location 16' high, 2800' long
ADOT recently completed freeway improvements in this area so they should mitigate noise. Presently, freeway noise levels behind the wall exceed ADOT standards.

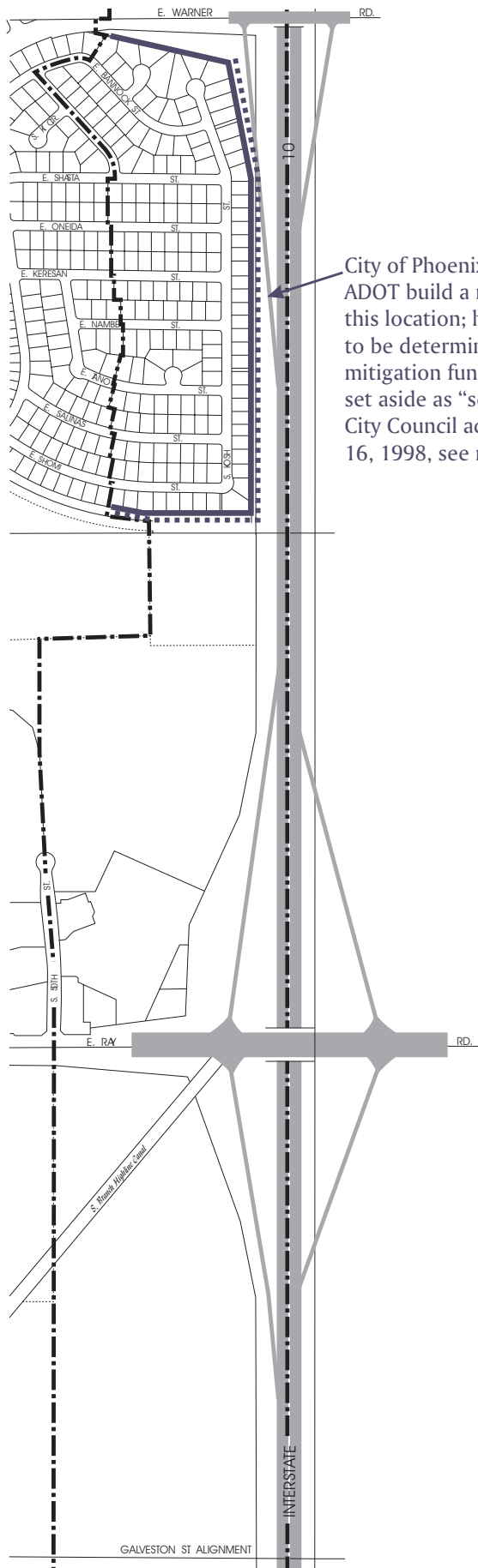
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

PROPOSED NOISE WALL MITIGATION
SEGMENT 21 - MAP 53
WARNER RD TO GALVESTON ST. ALIGNMENT

- STUDY BOUNDARY
- EXISTING WALL
- ⋯ PROPOSED WALL



Scale in Feet



City of Phoenix proposes ADOT build a noise wall at this location; height and length to be determined. Freeway mitigation funding has been set aside as "seed" funding per City Council action on December 16, 1998, see mitigation budget

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

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NEIGHBORHOOD SAFETY AND STABILIZATION



Freeways can impact neighborhoods in many ways. Impacts can be positive or negative, short-term or long-term. A positive impact can be easy accessibility to the freeway, while a negative impact can be increased traffic congestion. Construction noise and dust are short-term impacts; bisection of neighborhoods, visual impacts, and safety are long-term; fluctuation of property values and number of vacant parcels can be both short-term and long-term. The combination of these impacts can have a destabilizing effect upon neighborhoods. As a result, citizens may have a fear of isolation, and neighborhoods may lose their identity and property value.

The purpose of this plan is to reduce those fears and mitigate the impacts of the freeway to the greatest possible degree. Through the Neighborhood Safety and Stabilization element, freeway mitigation will provide policies and recommendations promoting safe, stable communities along the Black Canyon/Maricopa Freeway corridor.

NEIGHBORHOOD SAFETY

Neighborhood safety is important to all citizens, not only for physical reasons, but emotional as well. Many lessons have been learned to keep neighborhoods active and desirable places to live, raise families, and recreate. It is important when a freeway is next to a neighborhood that it does not lessen those factors of safe, healthful conditions.

In this plan, safety will address three areas of concern: crime, lighting, and cut-through traffic mitigation. Crime and lighting issues are identified by impact and policy statements, while cut-through traffic is identified by issue statements and maps.

Crime

Crime and the fear of crime have had a profound impact on citizens living in neighborhoods throughout the city. Some citizens living in neighborhoods near freeways have heightened concerns about greater access and higher traffic volumes in their neighborhoods because of the freeway.

Several city departments have excellent programs and/or resources in place that are targeted to helping neighborhoods. For example, in the Planning Department, a Safe Communities Program has been established. This is a proactive, coordinated response to safety and crime issues that threaten the safety and stability of Phoenix neighborhoods. Combining programs that identify safety issues regarding design of the physical environment with safety programs, the Safe Communities Program will encourage community outreach and education, and raise resident awareness of how to deal with safety and crime issues.

The following departments have programs that can improve neighborhood safety and reduce crime:

- ▶ Development Services Department: Site planning process, incorporating Crime Prevention Through Environmental Design principles.
- ▶ Fire Department: Fire Safety/Emergency Medical Services, Urban Services.
- ▶ Human Services Department: Homelessness, Resident Assistance.
- ▶ Neighborhood Services Department: Fight Back Programs, Neighborhood Notification Office, Graffiti Busters/Graffiti Vandal Catching, Lead Hazard Control, Neighborhood Associations.
- ▶ Parks, Recreation, and Library Department: Adopt-a-Park and Safety.
- ▶ Planning Department: Safe Communities Program Coordination.
- ▶ Police Department: Twenty-two community-based programs such as Operation Community Watch, Crime Free Multi-housing Program, Gang Resistance Education and Training, Block Watchers on Patrol, Neighborhood Cleanup, Community Action Officers.
- ▶ Street Transportation Department: Street Lighting, Neighborhood Traffic Management Program, Traffic Signals, Routine Traffic-Related Requests, Street Maintenance, Neighborhood Street Improvement.

An effective tool to reduce criminal activity is a Neighborhood Safety Audit. A safety audit is a group activity to comprehensively survey a neighborhood and identify areas where a feeling of safety is compromised. The main goal of a safety audit is to reduce the opportunity for crime to be committed. Examples of typical problems may be poor lighting, overgrown vegetation, dark alleys and entrapment areas. Once an audit has been completed, identified problems can be resolved by the property owner or resident. When that is not the case, city staff will work with the neighborhood to identify potential resources that may be available. In communities where an audit has been performed and changes made, criminal activity has been reduced.

Policy 1: Encourage residents to participate in programs that are part of the City's Safe Communities program.

Policy 2: Encourage residents to conduct a neighborhood safety audit when they feel unsafe in their community.

Lighting

When the boundary of an existing neighborhood is near the freeway right-of-way, some street lighting may have been removed during construction. Other instances where lighting may be insufficient is in neighborhoods where vandals damage street lights or the distance between light poles is too great to provide enough illumination. Lighting from the freeway and in some cases, the frontage roads may not provide enough illumination for safe neighborhoods. On the other hand, there may be too much lighting from the freeway causing a nuisance to adjacent neighborhoods.

The Arizona Department of Transportation (ADOT) provides lighting within the freeway right-of-way. In areas where there are frontage roads, the right-of-way extends to the outside edge of the frontage roads. Beyond this point, the City of Phoenix is responsible for the lighting. The Street Transportation department and the public utility companies, Salt River Project (SRP) and Arizona Public Service (APS), can assist neighborhoods in providing adequate lighting.

Phoenix City Council has approved a policy that provides for lighting at every street intersection, on every new major street, and retrofitting of existing streets with lighting as modernization occurs. Where there are great distances between lights, or unusual conditions exist, a mid-block lighting program allows residents to request, via petition, streetlights at a minimum spacing of 250 feet. One stipulation of the policy is that existing streetlights must be at least 500 feet apart. This policy is used as a crime deterrent and every request from citizens is investigated and lighting installed if it meets the requirements.

Through the utility companies, SRP and APS, a Dusk-To-Dawn Lighting program is available to residents and business owners. Also used as a crime deterrent, this lighting can be installed in parking lots, parks, playgrounds, industrial areas, alleys, private streets, patios or in remote areas. The program provides an installed light fixture and residents pay a fixed monthly fee for the cost of the light. Residents can opt for the utility company to own and maintain the pole and/or light, or the residents can own and maintain their own equipment. Individuals, groups of residents, or businesses sign a contract with the utility company for a minimum of three years with APS, and with SRP, a 4-year or 20-year contract.

Overall Lighting Policies

The following policies are recommended for residents to work with the city to identify areas where improved lighting is necessary in their neighborhoods.

Policy 1: Any neighborhood area, street, or alley with insufficient lighting should be reported to the Street Transportation Department for attention. Residents should inquire about the Dusk-to-Dawn Lighting programs offered by SRP or APS.

Policy 2: Where lighting requires maintenance or replacement, residents should report the address, location or pole number to the Street Transportation department. Where additional lighting is required, the street lighting technician should determine if it meets the Mid-block Street Light Spacing Policy.

Policy 3: All lighting on bridge structures, underpasses, overpasses, and tunnels should be vandal resistant.

Policy 4: Continuous frontage road lighting should be provided by ADOT. Where lighting is required, ADOT should coordinate with the Street Transportation Department to determine if lighting should be installed between the frontage road and the freeway, ADOT right-of-way, or at the outside edge of the frontage road, City of Phoenix jurisdiction.

Cut-through Traffic Mitigation

The Neighborhood Traffic Management Program (NTMP) has been an important tool for mitigating the impact of cut-through traffic in neighborhoods adjacent to freeways. The NTMP was established in 1989 by the Phoenix City Council to help shield neighborhoods from excessive cut-through traffic and speeding, and to restore safety and livability in affected neighborhoods.

As part of the Operations Division of the Street Transportation Department, the Neighborhood Traffic Management Team (NTMT) is structured to work directly with neighborhood groups who are experiencing excessive cut-through traffic. The support for mitigation options is gained by a petition process (70% or more consensus), thus empowering residents to divert traffic away from affected neighborhoods back to the major streets. Since many motorists are anxious to avoid congested intersections at or near freeways, they will often cut-through adjacent neighborhoods with disregard for local speed limits to follow what they perceive to be a faster route.

In some locations along the specific plan corridor, residents commented that at least one street in their neighborhood has cut-through traffic problems. In response, the NTMT has indicated that an investigation may be warranted.

Some cut-through traffic problems between Dunlap Avenue and Camelback Road on I-17 may be reduced when ADOT completes reconstruction of five interchanges. The Dunlap Avenue interchange was completed in June 1998, Northern Avenue is expected to be complete in May 1999, Bethany Home Road in August 1999, and the Glendale Avenue and Camelback Road design/build process to start in 1999 or 2000. These interchanges are being changed from a diamond-type design to modified urban interchanges with more travel and turning lanes.

After the interchange improvements are completed, ADOT intends to add an additional HOV lane and auxiliary lanes on the Black Canyon from Peoria Avenue to south of the Thomas Road/ Grand Avenue area. The new lanes are scheduled to be open to traffic by September 2000.

Cut-through Traffic Policies

The presence of freeways alter traffic patterns in nearby neighborhoods; therefore, residents need to carefully evaluate features that could reduce their safe environment. The following policies recommend residents work with the City to identify areas where cut-through traffic is prevalent and where street mitigation procedures may prove necessary.

Policy 1: Any residents concerned with cut-through traffic in their neighborhoods should contact the City of Phoenix Neighborhood Traffic Management Team. The NTMT should work with residents to determine if their neighborhood qualifies as an area for mitigation options to reduce cut-through traffic.

Policy 2: Where it is reported that crime in neighborhoods contiguous to the freeway is exacerbated by easy access into the neighborhoods or where residents identify escape routes for criminal activity, the Freeway Mitigation team in conjunction with the NTMT should investigate street closures or street diverters as options. Any street closures or diverters that are proposed should incorporate terminus landscaping treatment. (See Landscape Enhancement Element). In addition, planning for safety improvements will be coordinated with the city's Safe Communities Program.

Issue Sheets by Segment Number

Residents in several areas along the Black Canyon/Maricopa Freeway, (see Maps 54-65), have cited neighborhood safety concerns in regard to cut-through traffic. Although these neighborhoods have been specifically identified as areas that could benefit from street mitigation, other areas may also require attention. Neighborhoods not identified here and experiencing cut-through traffic situations should contact the City's Neighborhood Traffic Management Team for assistance. Freeway mitigation related cut-through traffic measures were not found to be needed in Segments 1-3, 6, and 17-22.

Segments 1-3 do not have freeway mitigation recommendations.

Segment 4: Bell Road to Acoma Drive (see Map 54)

4.1

Location: From Greenway Road to Acoma Drive, between the freeway and 23rd Avenue.

Issue: Traffic is too fast on 25th Drive in the residential area. This is a cut-through route to avoid the congestion at the Greenway Road and I-17 traffic interchange.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program which investigates mitigation options to reduce cut-through traffic. Specific traffic mitigation options may include two speed humps on 25th Drive, spaced approximately 500 feet apart and a small semi-diverter on the southeast corner of Banff Lane and the frontage road, prohibiting right turns onto Banff Lane.

Segment 5: Acoma Drive to Cactus Road (see Map 55)

5.1

Location: From Acoma Drive to Thunderbird Road, between the freeway and Cave Creek Wash.

Issue: Cut-through traffic on 26th Avenue, to avoid the Thunderbird Road and I-17 interchange.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options include three speed humps from Acoma Drive to Hearn Road, spaced approximately 500 feet apart.

5.2

Location: From Sweetwater Avenue to Cactus Road, between the freeway and 23rd Avenue.

Issue: Cut-through traffic on 25th Avenue and Corrine Drive to avoid Cactus Road and I-17 interchange; heavy congestion during peak commuting hours, difficulty turning onto Cactus Road or 25th Avenue.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options include three speed humps on 25th Avenue, one between Bloomfield Road and Wethersfield Road, the second between Corrine Drive and Larkspur Drive, and the third between Aster Drive and Windrose Drive. One speed hump on Corrine Drive is also recommended, equidistant between 25th Avenue and 26th Drive.

5.3

Location: 28th Drive and Cactus Road, west of the freeway.

Issue: Traffic light not having adequate left turn capability from southbound 28th Drive to eastbound Cactus Road, and from eastbound Cactus Road to northbound 28th Drive.

Recommendation: The Street Transportation Department should investigate this intersection to determine if it warrants better traffic signal management.

Segment 6 does not have freeway mitigation recommendations.

Segment 7: Mountain View Road to Northern Avenue (see Map 56)

7.1

Location: From Dunlap Avenue to Butler Drive, between 31st Avenue and 27th Avenue, west of the freeway.

Issue: This is an area the Neighborhood Traffic Management Team has been working with, however, residents have not been able to reach a consensus regarding measures to reduce traffic on 29th Avenue, 28th Avenue, and Lawrence Lane. Cut-through traffic is avoiding the congestion at Dunlap Avenue and I-17 freeway interchange and the south entrance to the MetroCenter Mall.

Recommendation: Residents should continue to work with the NTMT. Specific traffic mitigation options include two speed humps spaced approximately 500 feet apart on 28th Avenue, one speed hump between 28th Avenue and 27th Drive, and a semi-diverter at the southwest corner of Lawrence Lane and 27th Avenue, prohibiting right turns onto the frontage road or 27th Avenue.

7.2

Location: From Alice Avenue to Echo Lane, between the freeway and 23rd Avenue, in the Freeway Park Neighborhood.

Issue: Cut-through commuter traffic on Freeway Lane and Alice Avenue in both directions toward the freeway and away from the freeway.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for traffic mitigation. Specific traffic mitigation options will be determined by the residents of the neighborhood and the traffic management team.

Segment 8: Northern Avenue to Maryland Avenue (see Map 57)

8.1

Location: From Northern Avenue to Glendale Avenue, between 27th Avenue and the freeway, also known as the Glen Canyon Vista Neighborhood Association (GCVNA).

Issue: In the northern section of the GCVNA, reports of cut-through traffic on Lane Avenue, Augusta Avenue, and Hayward Avenue, avoiding the Northern Avenue and I-17 interchange. These roads have direct access to the southbound freeway frontage road and on-ramp.

Recommendation: Residents of the neighborhood association should continue to work with the NTMT. Specific traffic mitigation options include two speed humps spaced approximately 500 feet apart on Lane Avenue, Augusta Avenue, and Hayward Avenue. Where the streets intersect with the frontage road, three semi-diverters should be installed. This will prohibit motorists from making right turns onto the frontage road to get onto the freeway on-ramp.

8.2

Location: From Orangewood Avenue to Glendale Avenue, between the freeway and 23rd Avenue.

Issue: Cut-through commuter traffic on 23rd Drive and 23rd Avenue in both directions to avoid traffic on Glendale Avenue and Northern Avenue.

Recommendation: Residents of the neighborhood should work with the NTMT to study the flow and amount of traffic where 23rd Drive and 23rd Avenue split, just south of Orangewood Avenue. Specific traffic mitigation options will be determined by the residents of the neighborhood and the traffic management team.

Segment 9: Maryland Avenue to Camelback Road (see Map 58)

9.1

Location: From Maryland Avenue to Bethany Home Road, between the freeway and 23rd Avenue.

Issue: Cut-through commuter and truck traffic on 23rd Avenue, Maryland Avenue, Stella Lane, Citrus Way, Marlette Avenue, Claremont Street, and Rose Lane avoiding the Bethany Home Road and I-17 traffic interchange.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options include two speed humps on each road: Stella Lane, Citrus Way, Marlette Avenue, Claremont Street, and Rose Lane.

9.2

Location: From Bethany Home Road to Palo Verde Drive, between 27th Avenue and the freeway; and from Bethany Home Road to Rancho Drive, between the freeway and 23rd Avenue.

Issue: Cut-through traffic on 26th Avenue and Palo Verde Drive as well as 24th Avenue and Rancho Drive to and from the southbound and northbound frontage roads, respectively.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options west of the freeway may include a speed hump on 25th Avenue between Bethany Home Road and Palo Verde Drive, a speed hump on Palo Verde Drive

between 27th Avenue and 26th Avenue, and signage at 26th Avenue and Palo Verde limiting traffic access to the frontage road. Another option at Palo Verde Drive and the frontage road may be a semi-diverter at the intersection prohibiting motorists from turning right onto the frontage road for easy access to the freeway on-ramp south of this area.

East of the freeway, traffic mitigation options may include a speed hump on 24th Avenue between Bethany Home Road and Rancho Drive, a speed hump on Rancho Drive between 24th Avenue and 23rd Avenue, and a semi-diverter at the intersection of Rancho Drive and the frontage road prohibiting motorists from turning right onto Rancho Drive from the frontage road.

9.3

Location: From Colter Street to Camelback Road east of the freeway, between the frontage road and 23rd Avenue.

Issue: Cut-through traffic on Colter Street, and 24th Avenue and Orange Drive through a residential neighborhood avoiding traffic congestion at the Camelback Road and I-17 interchange.

Recommendation: The Neighborhood Traffic Management Team should revisit this area to determine if it qualifies as an area for their program. Specific traffic mitigation options may include two speed humps spaced approximately 500 feet apart on Colter Street, and 24th Avenue and Orange Drive.

Segment 10: Camelback Road to Osborn Road (see Map 59)

10.1

Location: From Camelback Road to Highland Avenue, between 27th Avenue and the freeway.

Issue: Cut-through traffic accessing the southbound freeway on-ramp via Mariposa Street, Pierson Street, Elm Street, and 26th Avenue by avoiding the Camelback Road and I-17 interchange.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options may include two speed humps spaced approximately 500 feet apart on Mariposa Street and Pierson Street, one speed hump on Elm Street, and three semi-diverters on the three streets where they intersect with the frontage road. This will prohibit motorists from turning right on the frontage road to get onto the freeway onramp.

10.2

Location: From Devonshire Avenue to Indian School Road, between the frontage road and 23rd Avenue.

Issue: Cut-through traffic on Devonshire Avenue and 23rd Avenue avoiding the Indian School Road and I-17 interchange.

Recommendation: The NTMT should revisit this area to determine if it qualifies as an area for their program. The NTMT was involved with this neighborhood for a short time in 1991. Specific traffic mitigation options may include two speed humps on Devonshire Avenue spaced approximately 500 feet apart and a semi-diverter at the intersection of Devonshire Avenue and the frontage road. This will prohibit motorists from turning right on the frontage road to get onto the freeway onramp.

Segment 11: Osborn Road to McDowell Road (see Map 60)

11.1

Location: From Earll Drive to Thomas Road, between 27th Avenue and the frontage road.

Issue: This area was previously under study by the Neighborhood Traffic Management Team and there is now renewed resident interest because of cut-through traffic. Residents report there is cut-through traffic on Verde Lane and 26th Avenue avoiding the Thomas Road and I-17 interchange.

Recommendation: Residents of this area should contact the NTMT about revisiting this area to determine if there are measures available to alleviate cut-through traffic. Cut-through traffic is using the neighborhood streets to avoid the I-17 and Thomas Road interchange and also the Thomas Road, 27th Avenue and Grand Avenue intersection. Specific traffic mitigation options may include a semi-diverter at the intersection of Verde Lane and

the frontage road to prohibit traffic from turning into the neighborhood from the frontage road, or street signage limiting the hours that traffic from the frontage road and Thomas Road can turn into the neighborhood.

ADOT is planning to reconstruct the Thomas Road, 27th Avenue and Grand Avenue intersection. The project would provide an overpass for Thomas Road over the intersection, similar to the treatment at Indian School Road, 35th Avenue and Grand Avenue. Current ADOT scheduling puts the completion of the overpass at 2004.

Segment 12: McDowell Road to Harrison Street/Southern Pacific Railroad (see Map 61)

12.1

Location: From Van Buren Street to Harrison Street/Southern Pacific Railroad, between 25th Avenue and the freeway frontage road.

Issue: Mid-block streets having access to the frontage road and truck cut-through traffic. Complaints about the need for a stop sign at the 24th Avenue and Washington Street intersection.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program of traffic mitigation options. Other options not included in their program may include a 27.5 foot radius cul-de-sac where Monroe Street intersects with the frontage road, and a 45 foot radius cul-de-sac where Washington Street intersects with the frontage road. These types of street closures will prohibit neighborhood cut-through traffic from reaching the frontage roads and increase neighborhood safety.

At 24th Avenue and Washington Street, the Street Transportation Department should determine if a stop sign is necessary at this intersection.

12.2

Location: From Van Buren Street to Harrison Street/Southern Pacific Railroad, between the freeway frontage road and 21st Avenue.

Issue: Mid-block streets having access to the frontage road and truck cut-through traffic.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program of traffic mitigation options. Other options not included in their program may include a 27.5 foot radius cul-de-sac where Monroe Street intersects with the frontage road, and 45 foot radius cul-de-sacs where Washington Street and Madison Street intersect with the frontage road. These types of street closures will prohibit neighborhood cut-through traffic from reaching the frontage roads and increase neighborhood safety.

Segment 13: Harrison Street/Southern Pacific Railroad to 19th Avenue (see Map 62)

13.1

Location: From Grant Street to Buckeye Road, between the freeway and 21st Avenue.

Issue: Mid-block streets having access to the frontage road and truck cut-through traffic.

Recommendation: Residents should work with the NTMT to determine if specific traffic mitigation options are required. Other options not included in the NTMP program may include a 27.5 foot radius cul-de-sac where Maricopa Street intersects with the frontage road, and 45 foot radius cul-de-sacs where Hadley Street and Tonto Street intersect with the frontage road. These types of street closures will prohibit neighborhood cut-through traffic from reaching the frontage roads and increase neighborhood safety.

13.2

Location: From Hadley Street to Buckeye Road, between 25th Avenue and the freeway.

Issue: Mid-block streets having access to the frontage road and truck cut-through traffic.

Recommendation: Residents should work with the NTMT to determine if specific traffic mitigation options are required. An option not included in the NTMP program includes a 45 foot radius cul-de-sac where Tonto Street intersects with the frontage road. This type of street closure will prohibit neighborhood cut-through traffic from reaching the frontage road and increase neighborhood safety.

13.3

Location: From Yuma Street to Mohave Street, between 25th Avenue and the freeway.

Issue: Mid-block streets having access to the frontage road and truck cut-through traffic.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. An option not included in the NTMP program includes a 45 foot radius cul-de-sac where Cocopah Street intersects with the frontage road. This type of street closure will prohibit neighborhood cut-through traffic from reaching the frontage road and increase neighborhood safety.

13.4

Location: Durango Street, west of 19th Avenue and north of the Maricopa Freeway.

Issue: An ADOT remnant parcel, north of the frontage road, between 19th Avenue and the Durango Curve is being developed jointly between ADOT, Hamilton Elementary School, and the City of Phoenix into an interpretive park for student and faculty use. Large trucks park on the remnant parcel and use Durango Street to cut-through to the northbound frontage road.

Recommendation: For safety purposes, recommend ADOT investigate and apply for street abandonment for half of the city-owned ROW on Durango Street (ADOT owns the south half of the ROW, while the City of Phoenix owns the north half) to install two 45-foot radius cul-de-sacs, one near the main entrance to the school, the other where Durango Street intersects with the frontage road. This is to eliminate the cut-through traffic of trucks using Durango Street instead of the frontage road for access to the freeway, and to increase the safety of children who will be crossing the road to and from the park.

Segment 14: 19th Avenue to Central Avenue (see Map 63)

14.1

Location: From Pima Street to the I-17 Freeway, between 19th Avenue and Central Avenue.

Issue: Local streets having problems with truck cut-through traffic from nearby industrial facilities and providing easy escape routes for criminal activity to and from the neighborhood or freeway.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies as an area for their program. Specific traffic mitigation options between 18th Drive and 17th Avenue may include two speed humps spaced in the mid-block area on Sonora Street and Cocopah Street. Between 16th Drive and 15th Drive, also on Sonora Street and Cocopah Street, two additional speed humps should be added.

Between 15th Avenue and 7th Avenue, street mitigation options may indicate that ten speed humps spaced approximately 500 feet apart are required: four each on Cocopah Street and Mohave Street, and two speed humps on Apache Street between 15th Avenue and 11th Avenue. Additional mitigation should include diagonal diverters at the intersections of Cocopah Street with 13th Avenue and 9th Avenue. The diagonal diverters connect opposite corners of an intersection creating alternate traffic patterns that divert cut-through traffic.

Similar mitigation options are recommended for the streets between 7th Avenue and Central Avenue. Six speed humps should be spaced approximately 500 feet apart on Cocopah Street, Mohave Street, and Apache Street between 5th Avenue and 3rd Avenue. Two additional speed humps on Mohave Street and Apache Street between 3rd Avenue and 1st Avenue should be installed. Diagonal diverters should be installed at the intersection of Cocopah Street and 5th Avenue and at Mohave Street and 3rd Avenue. A 45 foot radius cul-de-sac not included with the Neighborhood Traffic Management Program should be installed at the intersection of 5th Avenue and the frontage road. All these options should prohibit neighborhood cut-through traffic, decrease potential escape routes for criminal activity, thereby increasing neighborhood safety.

Segment 15: Central Avenue to 16th Street (see Map 64)

15.1

Location: From Pima Street to the I-17 Freeway, between Central Avenue and 16th Street.

Issue: Local streets having problems with truck cut-through traffic from nearby industrial facilities and providing easy escape routes for criminal activity to and from the neighborhood or freeway.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if it qualifies for their program. Specific traffic mitigation options between 7th Street and 10th Street may include two speed humps each spaced approximately 500 feet apart on Cocopah Street, Mohave Street, and Apache Street. Between 10th Street and 12th Street, traffic mitigation should have two speed humps each spaced in the mid-block areas of Cocopah Street, Mohave Street, Apache Street, and Durango Street. Then, between 12th Street and 14th Street, two speed humps spaced approximately 500 feet apart should be installed on Apache Street, Durango Street, and Hess Street.

Additional mitigation should include diagonal diverters at the intersections of Cocopah Street and 10th Street, and Apache Street and 11th Street. Diagonal diverters connect opposite corners of an intersection creating alternate traffic patterns that would divert cut-through traffic. All these options should prohibit neighborhood cut-through traffic, decrease potential escape routes for criminal activity, thereby increasing neighborhood safety.

Segment 16: 16th Street to Salt River (see Map 65)

16.1

Location: From Watkins Street to University Drive, between 17th Street and 21st Street.

Issue: Local streets having excessive traffic congestion during peak hours.

Recommendation: The Neighborhood Traffic Management Team should study this area to determine if traffic mitigation options can be installed here.

Segments 17-22 do not have cut-through traffic related freeway mitigation recommendations.

NEIGHBORHOOD STABILIZATION

The neighborhood stabilization element consists of policies and programs which promote the preservation and stabilization of residential neighborhoods. Preservation of viable neighborhoods has become one of the highest commitments of the City of Phoenix. As the focus of this mitigation program is on freeway and neighborhood compatibility, any reasonable effort to assure that neighborhoods and residential areas adjacent to the freeway remain stable should be pursued.

Freeways near neighborhoods can impact specific land uses, local circulation, noise levels, safety, landscaping, bike paths, and recreational trails. Its physical presence makes it a part of the everyday environment in adjacent neighborhoods. In some locations, isolation and loss of neighborhood identity were a result of the freeway, dividing cohesive neighborhoods into smaller segments. Some problems associated with this include reduced accessibility due to poor circulation in the neighborhood, creation of new neighborhood edges and boundaries, or making access to schools or services more difficult.

Reducing neighborhood isolation and loss of identity can be assisted through collaborative efforts including incorporating the other elements in this document: land uses that are compatible with neighborhoods (see Land Use element); improved surface street circulation and less cut-through traffic in the neighborhoods (see Circulation and Neighborhood Safety elements); noise mitigation for residents living near the freeway (see Noise element); involvement in the Safe Communities program (see Neighborhood Safety element); improved landscaping in residential areas near the freeway (see Landscape element); incorporation of enhancements and cultural elements near freeways and interchanges (see Freeway Enhancement element); and inclusion of new bicycle paths and recreational trails in the neighborhoods and across the freeway (see Bicycle Paths and Recreational Trails element).

Neighborhood Stabilization Policies

The following policies will assist in creating stable neighborhoods:

Policy 1: Where appropriate and where adjacent residents are in agreement, develop remnant parcels into community gardens, rest areas, neighborhood gathering places, etc. to provide residents with a sense of "place." Coordinate with the Existing Zoning and Land Use, Landscape Enhancement, the Elevated Maricopa Freeway Enhancement Project, and the Bicycle Paths and Recreational Trails elements.

Policy 2: Encourage residents and property owners to participate in city sponsored programs to improve their homes and neighborhoods, develop a unique, neighborhood identity (through Neighborhood Services and Housing Department, as well as the Police Department and Planning Department or through the Elevated Maricopa Freeway Enhancement Project).

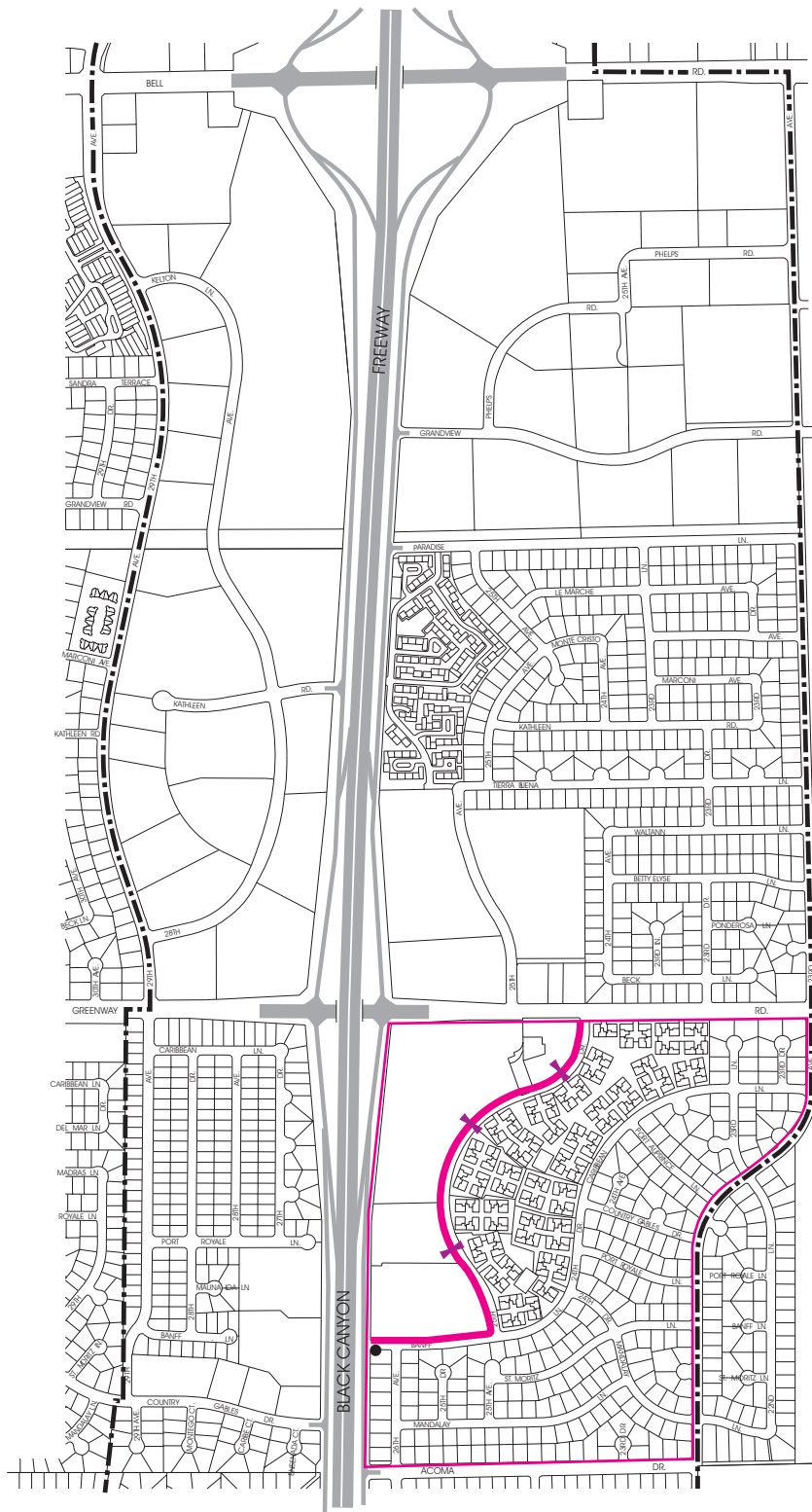
Policy 3: Residential privacy should be reasonably maintained with emphasis on minimizing direct views between freeway traffic and nearby housing or outdoor living areas.

Policy 4: Residential land uses should be shielded from freeway glare, sun-reflecting surfaces, vehicle headlights, and high, overhead freeway mast lights.

Improvement and Neighborhood Stabilization Programs

Neighborhood improvement programs are offered by the City of Phoenix Neighborhood Services Department and the Housing Department. These programs are available to assist qualifying individual homeowners in repairing their own homes or participating in programs that will help their community as a whole.

- ▶ **Neighborhood Revitalization:** Provides assistance to help neighborhood groups become self-sufficient. The program also provides information on existing city services, which will help bring new life to their neighborhoods.
- ▶ **Fight Back:** This program is a resident mobilization effort that provides a temporary increase in city services in areas designated by the Mayor and City Council to reduce crime and blight and revitalize neighborhoods. Fight Back groups can literally take back their neighborhood from deteriorating influences.
- ▶ **Neighborhood Development:** Addresses comprehensive neighborhood revitalization by preserving and improving physical condition, appearance, and value of residential and business properties and enhancing the economic base of neighborhoods. Programs function in Neighborhood Initiative and Redevelopment areas. They administer comprehensive strategies with other agencies to promote revitalization of neighborhoods.
- ▶ **Housing Rehabilitation:** Provides assistance for low- and moderate-income residents, especially homeowners with home repairs and full rehabilitation. Programs include full rehabilitation of owner-occupied homes, construction of new houses in targeted areas, emergency repairs, weatherization (to reduce utility costs), rental rehabilitation, and landscaping, roofing and painting assistance.
- ▶ **Home Maintenance Training:** Free informative class offered each month to residents interested in learning how to make cost-saving minor home repairs.
- ▶ **Home Improvement Loan Program:** Provides qualifying homeowners with the opportunity to apply for low interest loans to make home repairs.
- ▶ **Neighborhood Economic Development:** Program oversees redevelopment and economic revitalization activities in several redevelopment and other low income areas. Physical improvements, such as infrastructure improvements and commercial building rehabilitation are promoted. Neighborhood economic enhancements include linking residents with jobs.
- ▶ **Paint and Tool Lending Program:** Program to help fight and paint over graffiti neighborhoods. Any neighborhood group or Block Watch listed with the Neighborhood Services Department can receive paint and supplies or borrow clean-up tools to improve their neighborhood.
- ▶ **Community Development Block Grant Program:** Funded by the U.S. Department of Housing and Urban Development, this program assists in revitalizing neighborhoods and housing in primarily low-income areas, and provides facilities and services to promote economic development.







BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY
&
STABILIZATION

CUT - THROUGH TRAFFIC
SEGMENT 4 - MAP 54

BELL RD. TO ACOMA DR.

-  STUDY BOUNDARY
-  CUT - THROUGH TRAFFIC
-  SPEED HUMP
-  SEMI-DIVERTER



Scale in Feet
0 500 1000

4.1 Cut - through traffic
and potential neighborhood
Traffic Management Program
NTMP area

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY & STABILIZATION

CUT - THROUGH TRAFFIC

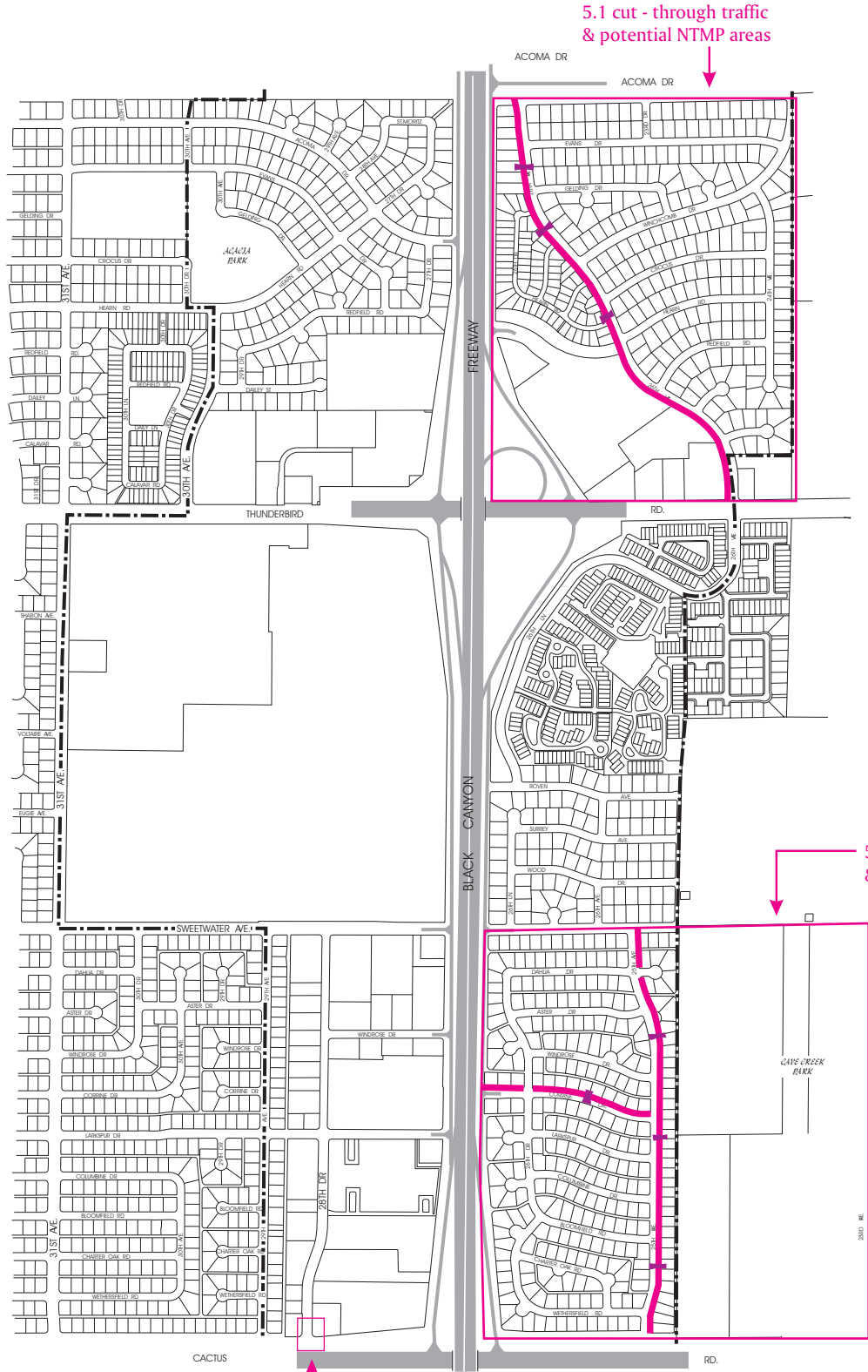
SEGMENT 5 - MAP 55

ACOMA DR. TO CACTUS RD.

- STUDY BOUNDARY
- CUT - THROUGH TRAFFIC
- SPEED HUMP
- SEMI-DIVERTER



Scale in Feet



5.1 cut - through traffic
& potential NTMP areas





5.2 cut - through traffic
& potential NTMP areas

5.3 traffic
intersection
light & left
turn capability

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

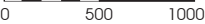
NEIGHBORHOOD SAFETY & STABILIZATION

CUT - THROUGH TRAFFIC SEGMENT 7 - MAP 56 MOUNTAIN VIEW RD. TO NORTHERN AVE.

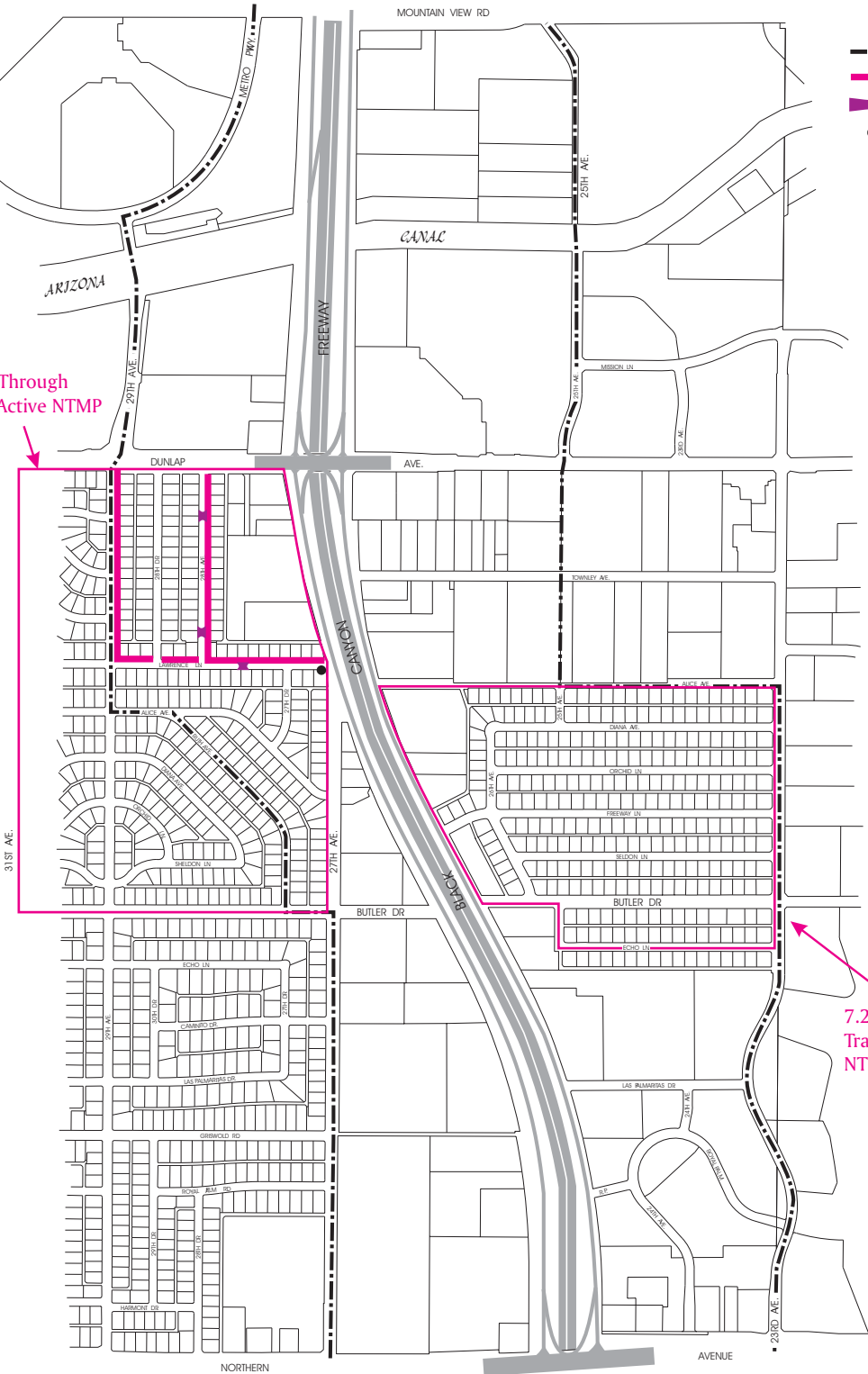
-  STUDY BOUNDARY
-  CUT - THROUGH TRAFFIC
-  SPEED HUMP
-  SEMI-DIVERTER



Scale In Feet



7.1 Cut - Through
Traffic & Active NTMP
Area







7.2 Cut - Through
Traffic & Potential
NTMP Area

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

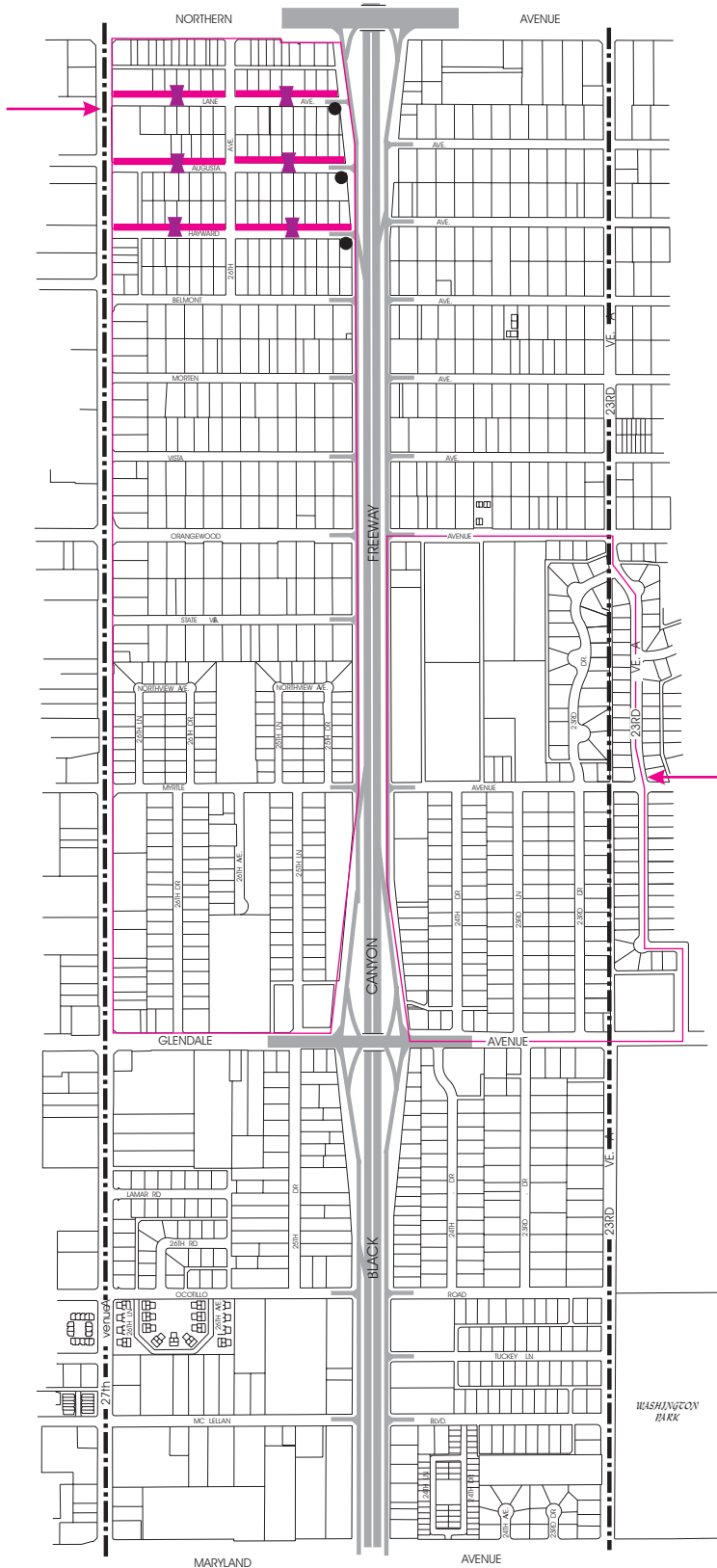
NEIGHBORHOOD SAFETY & STABILIZATION

CUT - THROUGH TRAFFIC SEGMENT 8 - MAP 57 NORTHERN AVE. TO MARYLAND AVE.

-  STUDY BOUNDARY
-  CUT - THROUGH TRAFFIC
-  SPEED HUMP
-  SEMI-DIVERTER



8.1
Cut - Through
Traffic & Active
NTMP Area







8.2 Cut - Through
Traffic & Active
NTMP Area

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY & STABILIZATION

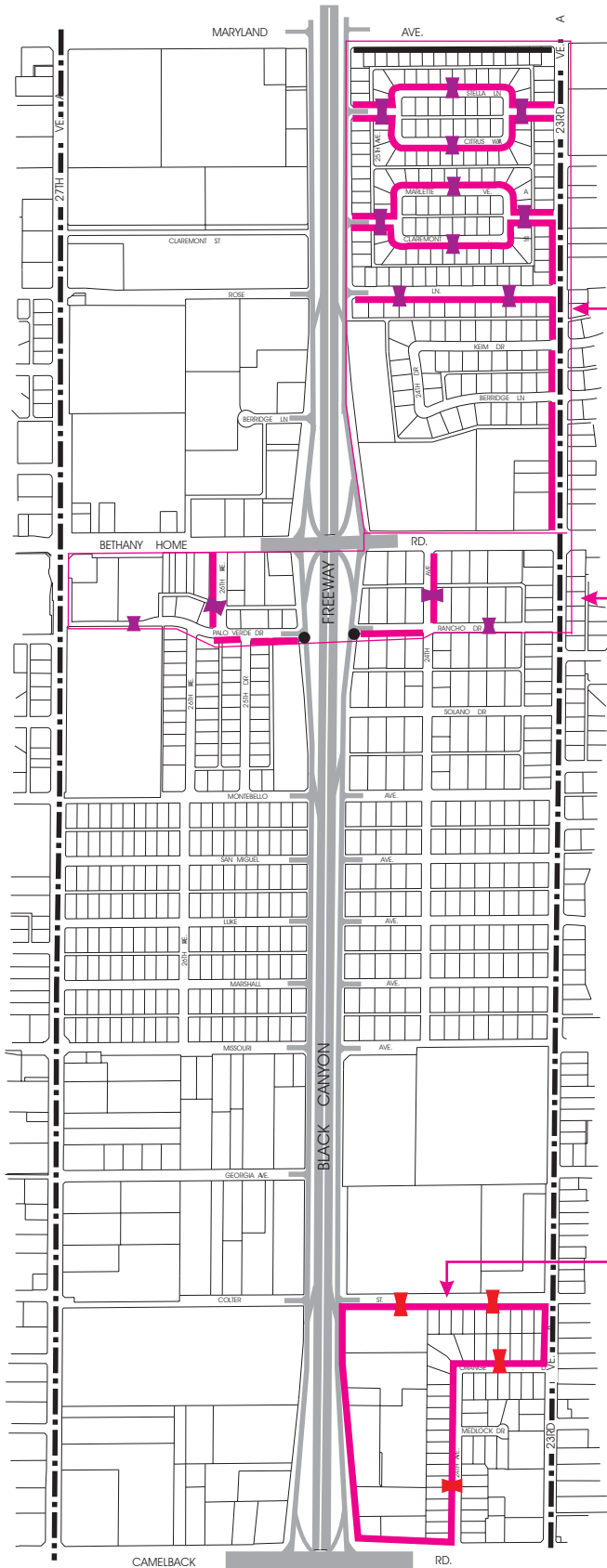
CUT - THROUGH TRAFFIC SEGMENT 9 - MAP 58

MARYLAND AVE. TO CAMELBACK RD.

-  STUDY BOUNDARY
-  CUT - THROUGH TRAFFIC
-  SPEED HUMP
-  SEMI-DIVERTER



Scale in Feet
0 500 1000



9.1 Cut - Through Traffic
& Potential NTMP Area

9.2 Cut - Through Traffic
& Potential NTMP Area

9.3 Cut - Through Traffic
& Potential NTMP Area

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

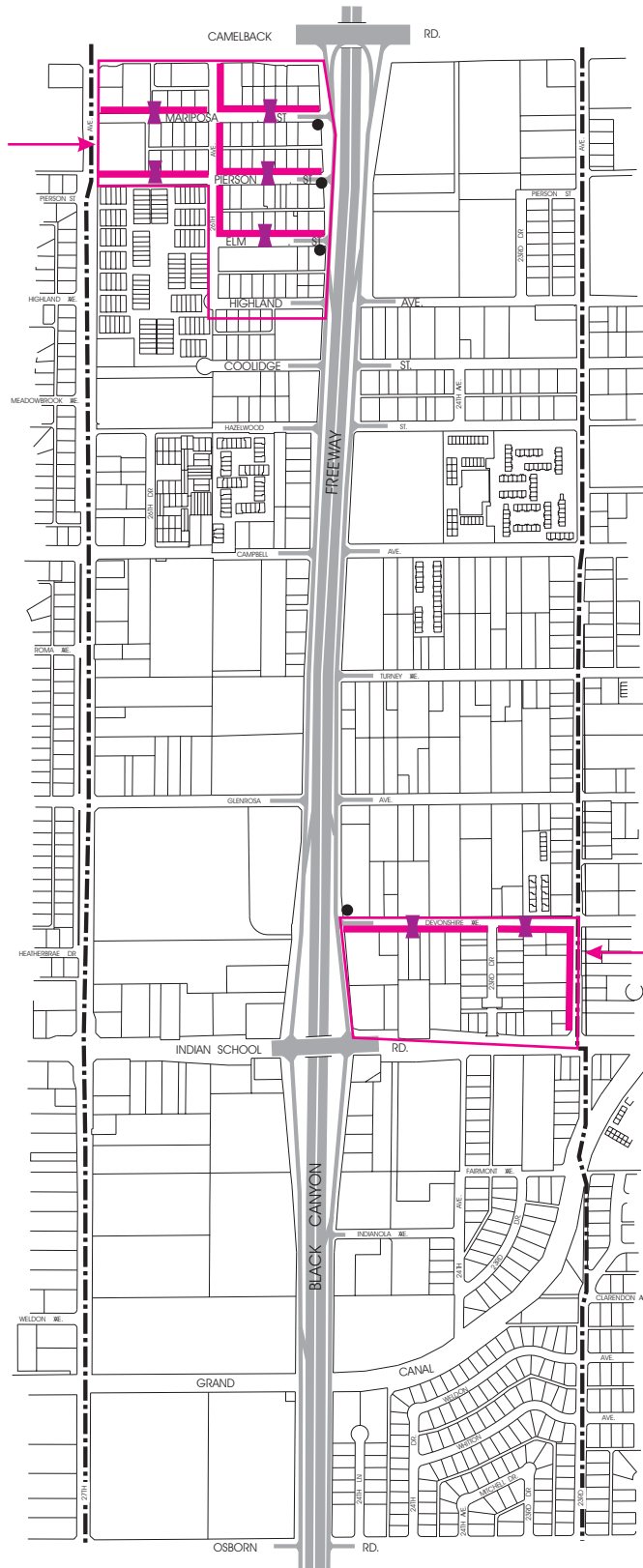
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY & STABILIZATION

CUT - THROUGH TRAFFIC SEGMENT 10 - MAP 59

CAMELBACK RD. TO OSBORN RD.

10.1 Cut - Through Traffic & Potential NTMP Area



- STUDY BOUNDARY
- CUT - THROUGH TRAFFIC
- ▭ SPEED HUMP
- SEMI-DIVERTER







Scale in Feet
0 500 1000

10.2 Cut - Through Traffic & Potential NTMP Area

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY & STABILIZATION

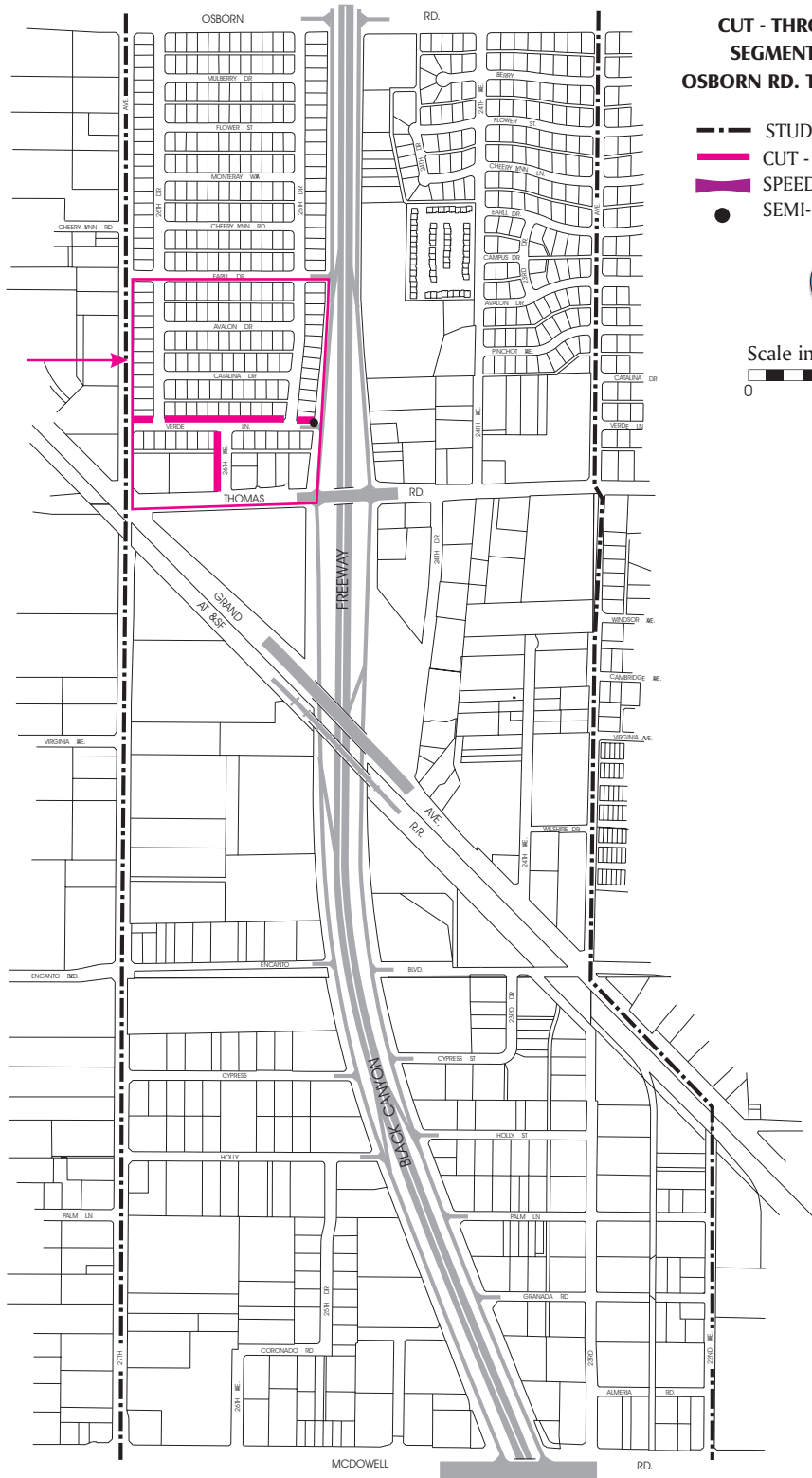
CUT - THROUGH TRAFFIC SEGMENT 11 - MAP 60 OSBORN RD. TO MCDOWELL RD.

-  STUDY BOUNDARY
-  CUT - THROUGH TRAFFIC
-  SPEED HUMP
-  SEMI-DIVERTER



Scale in Feet
0 500 1000

11.1 Cut - Through
Traffic & Previously A
NTMP Area; Renewed
Resident Interest



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

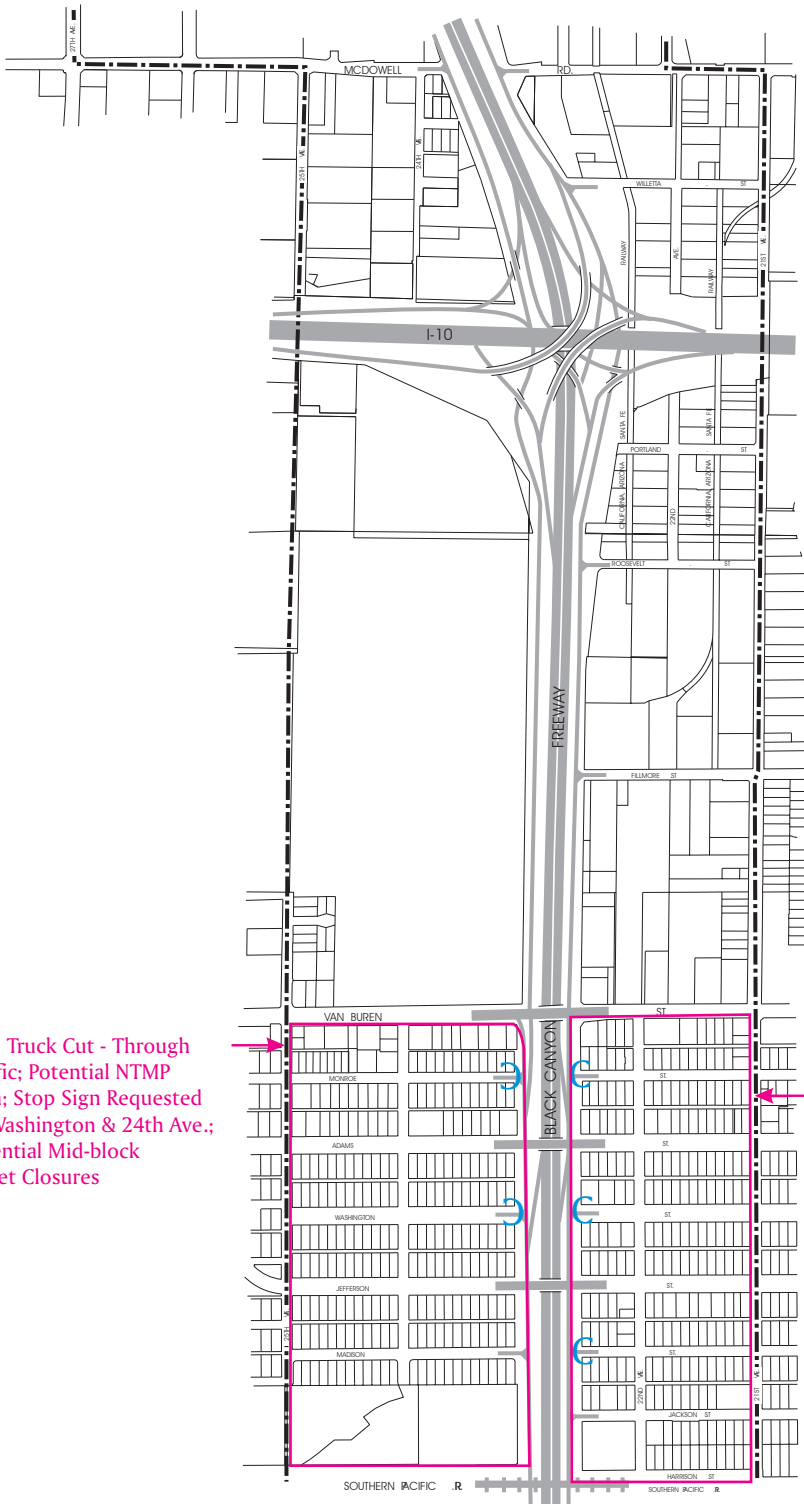
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY
&
STABILIZATION

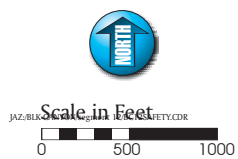
CUT - THROUGH TRAFFIC

SEGMENT 12 - MAP 61

MCDOWELL RD. TO SOUTHERN PACIFIC R.R.



C CUL-DE-SAC STREET
CLOSURE
- - - STUDY BOUNDARY



12.1 Truck Cut - Through Traffic; Potential NTMP Area; Stop Sign Requested At Washington & 24th Ave.; Potential Mid-block Street Closures

12.2 Truck Cut - Through Traffic; Potential NTMP Area; Potential Mid-block Street Closures

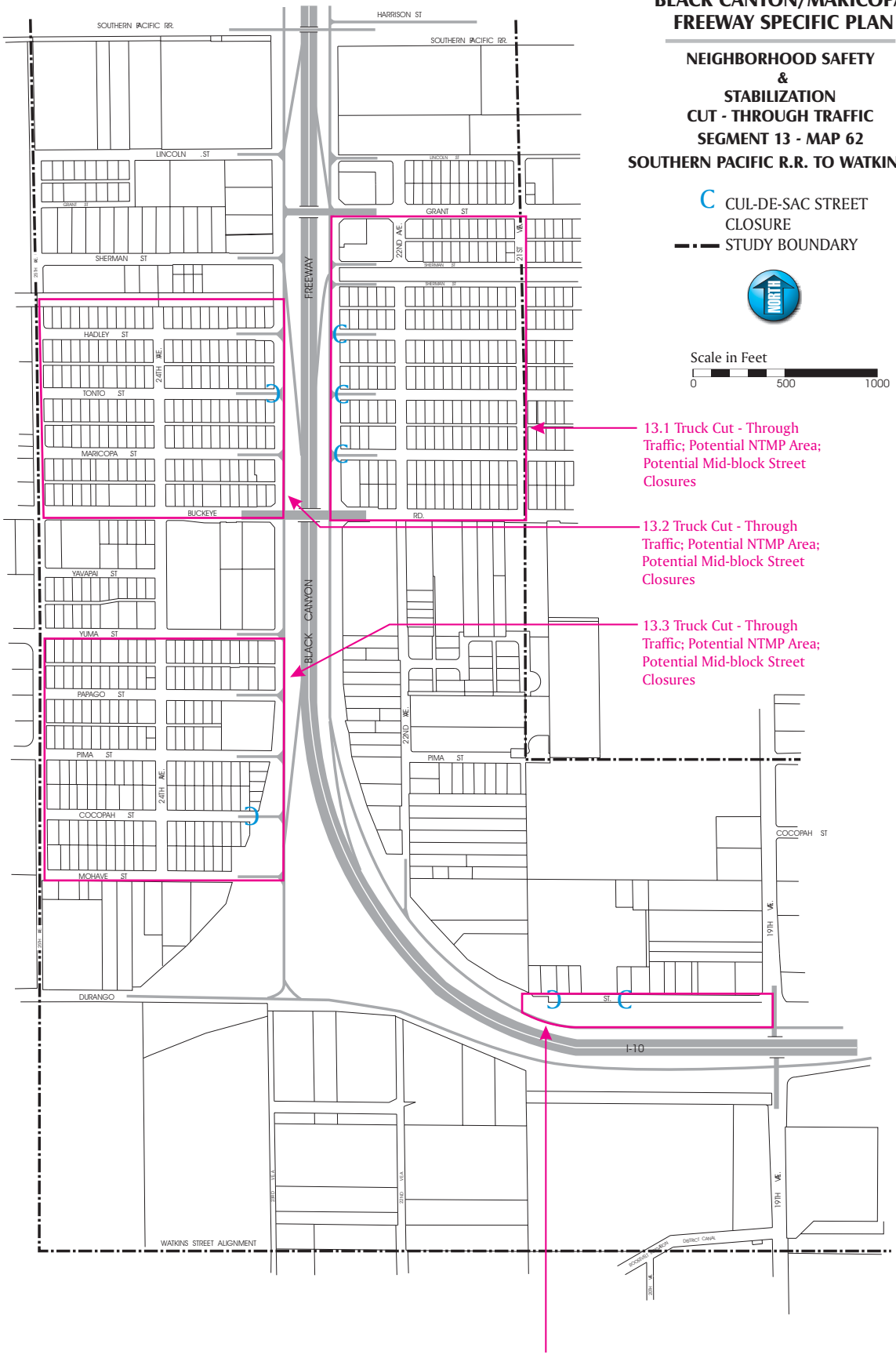
**BLACK CANYON/MARICOPA
FREEWAY SPECIFIC PLAN**

**NEIGHBORHOOD SAFETY
&
STABILIZATION
CUT - THROUGH TRAFFIC
SEGMENT 13 - MAP 62
SOUTHERN PACIFIC R.R. TO WATKINS ST.**

C CUL-DE-SAC STREET
CLOSURE
- - - STUDY BOUNDARY



Scale in Feet
0 500 1000



13.1 Truck Cut - Through
Traffic; Potential NTMP Area;
Potential Mid-block Street
Closures

13.2 Truck Cut - Through
Traffic; Potential NTMP Area;
Potential Mid-block Street
Closures

13.3 Truck Cut - Through
Traffic; Potential NTMP Area;
Potential Mid-block Street
Closures

13.4 Truck Cut - Through
Traffic; Potential Street
Closures

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

- STUDY BOUNDARY
- SPEED HUMP
- C CUL-DE-SAC
- DIAGONAL DIVERTER

**BLACK CANYON/MARICOPA
FREEWAY SPECIFIC PLAN**

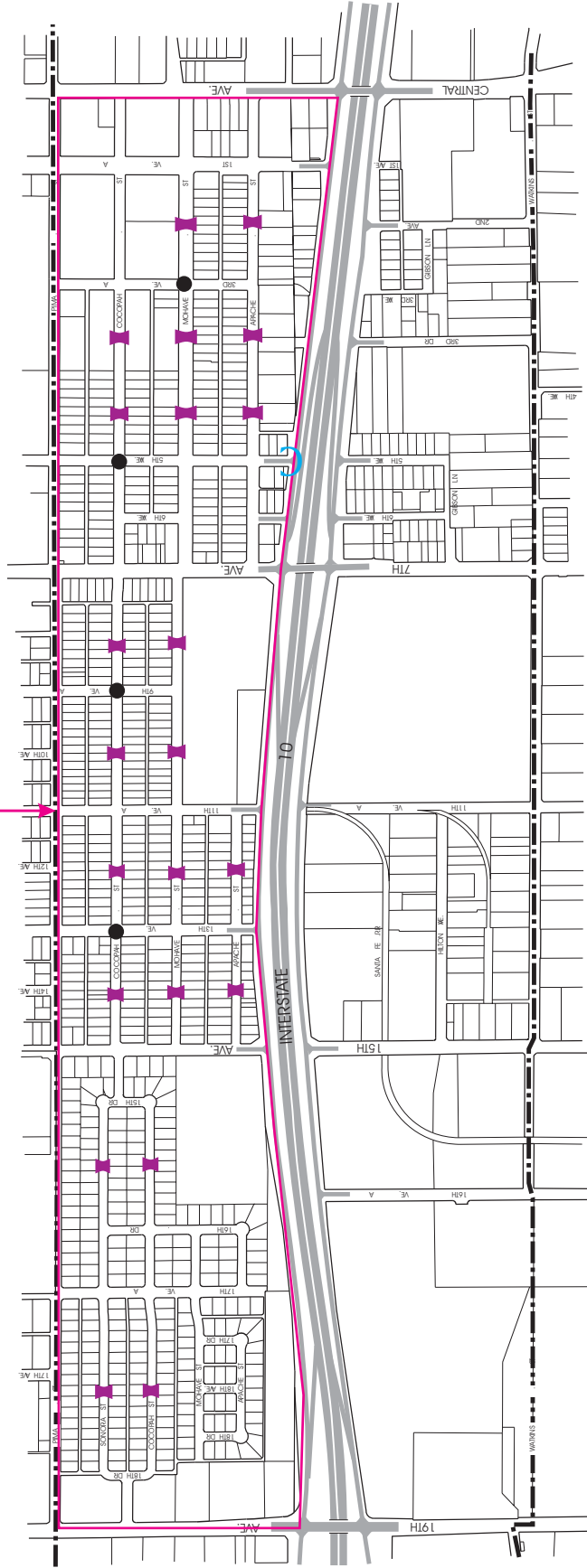
**NEIGHBORHOOD SAFETY
&
STABILIZATION
CUT - THROUGH TRAFFIC**

SEGMENT 14 - MAP 63

19TH AVE. TO CENTRAL AVE.



14.1 Cut - Through Traffic
(auto And Truck): Potential
NTMP Area



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD SAFETY & STABILIZATION

CUT - THROUGH TRAFFIC

SEGMENT 15 - MAP 64

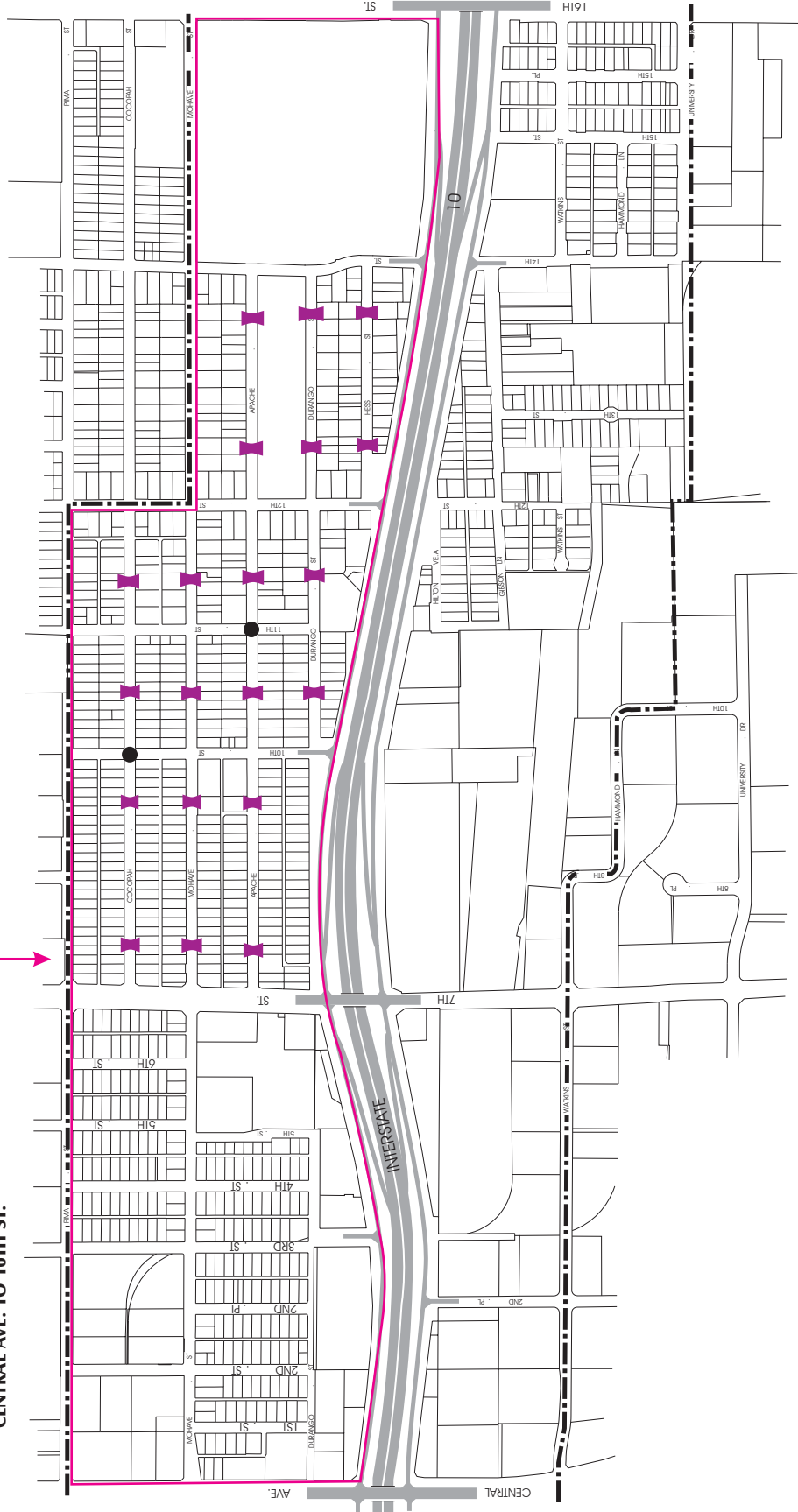
CENTRAL AVE. TO 16TH ST.

- STUDY BOUNDARY
- SPEED HUMP
- DIAGONAL DIVERTER

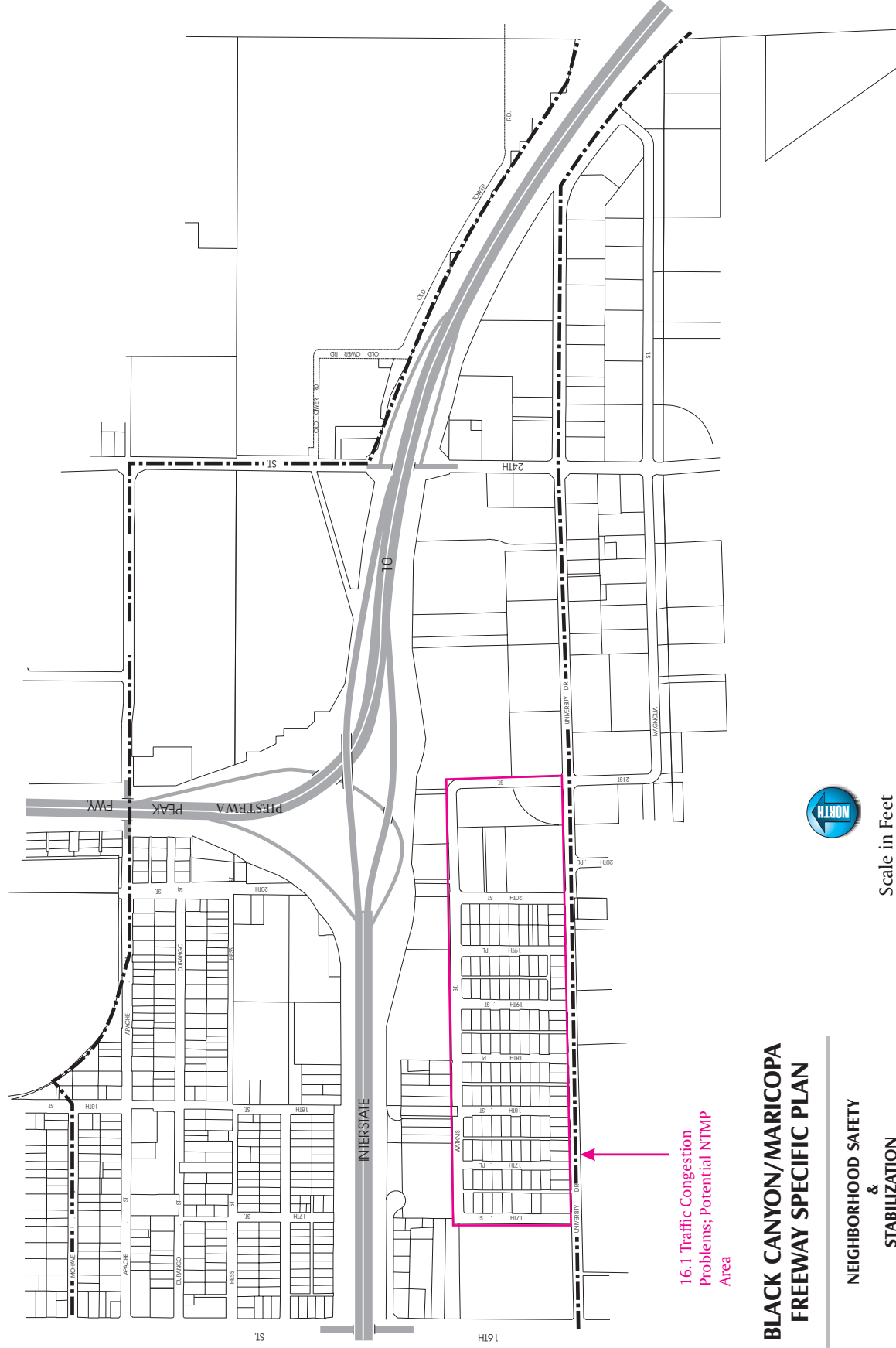


Scale in Feet
 0 500 1000

15.1 Cut - Through Traffic
 (auto & Truck); Potential
 NTMP Area



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



16.1 Traffic Congestion Problems; Potential NTMP Area

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

- NEIGHBORHOOD SAFETY & STABILIZATION CUT - THROUGH TRAFFIC SEGMENT 16 - MAP 65 16TH ST. TO 24TH ST.
- STUDY BOUNDARY



LANDSCAPE ENHANCEMENT ELEMENT



The objective of this element is to lessen impacts of the freeway on residential neighborhoods through which it passes with a program of enhanced landscaping. Enhanced landscaping is defined as installing additional plant materials outside a freeway's access control line (neighborhood side) by the City of Phoenix supplementing what has been planted or planned by the Arizona Department of Transportation. The access control line is usually marked by a chain link fence approximately six-feet high that restricts access to the freeway and to traffic interchanges.

The goal of this element is to create a landscape setting on the neighborhood side of freeways that enhances the bare-dust concept and provides a segue to the existing neighborhood. This objective will be accomplished with the effective use of plant materials, planting designs, and landscape policies to meet neighborhood landscaping needs.

Overall Landscape Enhancement Policies

The following policies have been developed to ensure landscape continuity and overall benefit from the landscape enhancement recommendations.

Policy 1: Provide enhanced landscaping adjacent to residential areas, as designated in this plan, which is designed to provide focal points, as well as, soften and screen the visual impact of the freeway.

Policy 2: Allow for proper visibility of city signs and streets, and avoid landscaping where vegetative litter will interfere with drainage facilities.

Policy 3: Install and maintain landscape areas to facilitate surveillance. Post with "No Trespassing" signs and maintain an open zone from two to five feet high. This will discourage people from hiding in landscaped areas.

Policy 4: Encourage ADOT to retain and maintain landscaping in their jurisdiction and to replace, as soon as possible, any existing landscaping which may have to be temporarily removed for construction or other purposes. An example where landscaping has been removed can be found on I-10 from the Guadalupe Road area to south of Ray Road. With any freeway construction project, ADOT should add additional landscaping on the neighborhood side.

Policy 5: Maintenance of any city-funded landscaping installed on private property will be the responsibility of the property owner.

Policy 6: Avoid landscaping areas where care of plant materials would pose an undue risk to maintenance personnel.

Policy 7: Use hearty, drought tolerant, native plants due to the negative impact of adjacent traffic and the heat radiated by the road surfaces and walls.

Policy 8: Highest priority should be given to landscaping adjacent to the older neighborhoods.

Policy 9: Prior to installation of enhanced landscaping, ADOT should do a test to ensure soil is not sterilized. Some soil was sterilized by ADOT during construction of the freeway.

Policy 10: Implementation is recommended to be a joint City of Phoenix/ADOT design installation process through an intergovernmental agreement (IGA). This method will allow for the most effective use of plant materials, irrigation systems, and landscaping funds.

Policy 11: Provide watering systems for the enhanced landscaping funded by the city.

Policy 12: With few exceptions (see Existing Condition "I"), areas between frontage roads and the mainline freeway will not be landscaped due to prohibitive costs and the harsh environment for plant material.

Policy 13: Flowering ground cover should be used to increase the beauty and variety of landscaped areas.

Policy 14: ADOT should increase and maintain landscaping at the traffic interchanges along the Black Canyon/Maricopa.

Policy 15: Where trees are called for it is assumed they are 15 gallon, hearty, and drought tolerant in trafficked areas, otherwise use 1 gallon or 5 gallon trees.

Policy 16: Landscaping at proposed cul-de-sac locations (see Neighborhood Safety) should incorporate terminus landscaping treatment. Terminus landscaping should have a moderate degree of color variety and form to prevent monotony. The landscape elements selected should create a sense of place and make a visual statement of significance, often emphasizing vertical elements, and extend fully around the perimeter of the cul-de-sac.

Policy 17: Encourage ADOT to replace gunite or concrete sloped freeways and on/off ramps with landscaping and decomposed granite. An example of this type of area can be found on I-17 between Van Buren Street to the Durango Curve.

Landscape Maintenance

ADOT and the City of Phoenix must properly maintain all landscaping if it is to retain its benefit to adjacent neighborhoods. Presently there is an intergovernmental agreement (IGA) between ADOT and the City which designating those landscaped areas along the Black Canyon/Maricopa Freeway which the City is responsible to maintain. After City Council adopts a freeway specific plan designating additional landscaping, on the neighborhood side, a revised IGA should be negotiated with ADOT by the City's Street Transportation Department. The Street Transportation Department currently maintains the city's portion of freeway-related landscaping addressed in the IGA. More staff may be needed to oversee maintenance of the expanded landscaping recommended in this plan.

The largest area of freeway landscaping presently maintained by Street Transportation is bounded on the north by Thomas Road and on the south by Buckeye Road. There are many residential neighborhoods adjacent to the freeway along this length, and residential neighborhoods are the only areas where freeway mitigation funds can be used. Several other smaller areas, mostly near freeway traffic interchanges, are also maintained by Street Transportation; however, they are not adjacent to residential neighborhoods. The Phoenix Parks Department pays the costs of water for all freeway landscaping outside access control and makes repairs and maintains water meters, vacuum breakers, and backflow prevention devices. If the Phoenix City Council approves additional landscaped areas as shown in this plan, the city will have to greatly enlarge the area they maintain.

Within areas for which they are responsible, Street Transportation only maintains landscaping outside the access control fence (including ADOT remnant parcels), or if there is no access control fence they maintain only outside the frontage road. When the City does landscape inside the frontage road or the access control (which is currently ADOT's responsibility to maintain), such as the slopes on each side of the elevated Maricopa Freeway, ADOT has indicated they would prefer the city to takeover landscape maintenance of those areas.

Existing Conditions and Responsive Site Specific Enhancement Policies

Through fieldwork and site analysis, nine unique situations were identified where enhanced landscaping would be appropriate with reference to existing landscaping, the adjacent street configuration, and adjacent dwelling configurations. Combining this information with experience in constructing and maintaining freeway mitigation landscaping yields a site specific landscape enhancement policy establishing a theme for each of the nine situations. Following the list of the nine enhancement policies, the recommended enhancements are identified for each of the study roadway segments. The existing conditions and enhancement policies are as follows:

A. Existing Condition: Single family homes backing or siding onto a frontage road where there is room for landscaping in the currently bare ground between the frontage road and the homes. A privacy wall may or may not be present.

- ▶ Enhancement Policy: If adequate room, plant canopy trees 20 to 30 feet apart in the space between the frontage road and the privacy wall. When mature, these trees will provide an additional freeway buffer for the contiguous homes, and will also improve the view along the frontage road.

B. Existing Condition: Single family homes facing onto the frontage road or an adjacent road paralleling the frontage road, where there may or may not be room for landscaping. There may be no existing landscaping, sparse landscaping, or effective landscaping at these locations.

- ▶ Enhancement Policy: Where the freeway is not elevated landscaping should include a variety of color, fine textures, detail emphasis, and highlight plantings to avoid monotony for those living in the homes facing on the frontage road. Where the freeway is elevated, continuous trees near the traffic lanes may be used to screen the view of passing vehicles.
- C. Existing Condition: Single family without a wall (may have a chain link fence), siding onto a frontage road, where there is room for landscaping.
- ▶ Enhancement Policy: Dense shrubbery which will ultimately grow to a height of approximately seven to eight feet is appropriate to help screen the view of the adjacent traffic. However, in areas where ease of police surveillance is crucial, higher canopy trees and low ground cover could be used. A noise wall (if justified) could be used in lieu of the landscape screen.
- D. Existing Condition: Multi-family where the project's perimeter wall lies along the frontage road and there is room between the wall and the frontage road for landscaping.
- ▶ Enhancement Policy: Plant hearty, drought tolerant canopy trees 20 to 30 feet apart in the space between the frontage road and the privacy wall. When mature, these trees will provide an additional freeway buffer for the contiguous homes, and will also improve views along the frontage road.
- E. Existing Condition: Multi-family projects where there is a setback between the buildings and the frontage road and no perimeter wall, but there is room for roadside landscaping. A main entrance to the project is from the frontage road or adjacent road parallel to the frontage road.
- ▶ Enhancement Policy: Plant canopy trees on approximately 30-foot centers with low decorative and flowering ground cover under the canopy. However, if there is existing, attractive and appropriate landscaping, if anything is added, it should compliment that.
- F. Existing Condition: Linear areas near parks or open space where a recreational trail could be developed.
- ▶ Enhancement Policy: Any landscape design should be done in conjunction with overall trail planning so the landscaping and recreational trail can support and compliment each other.
- G. Existing Condition: Well-maintained mobile home parks that front or side on the frontage road where there is room for landscaping.
- ▶ Enhancement Policy: Plant canopy trees on approximately 30-foot centers with low decorative and flowering ground cover under the canopy or consider use of a screen wall.
- H. Existing Condition: ADOT remnant parcels adjacent to residential lots.
- ▶ Enhancement Policy: Where there are not opportunities to combine the remnant parcels with adjacent properties, plant canopy trees in clusters with decomposed granite.
- I. Existing Condition: Local streets "T" into the frontage road and there is adequate room for healthy landscape growth between the frontage road and the mainline freeway.
- ▶ Enhancement Policy: A landscaped focal point should be created through clustering of contrasting trees and larger groupings of flowering ground cover. Vertical elements should be emphasized. Shrubby may be appropriate in certain locations.

Issue Sheets by Segment Number

The following are proposed landscape enhancements for these plan segments where opportunities exist (see Maps 66-76). Segments 1, 3, 6, 10, and 16- 22 are not recommended for landscaping enhancements. After Segment 15, at 16th Street, there are no more frontage roads along the Black Canyon and Maricopa Freeways.

Segment 1 does not have freeway mitigation recommendations.

Segment 2: Deer Valley Drive to Yorkshire Drive/Utopia Road (see Map 66)

2.1

Location: Northeast corner of I-17 and Rose Garden Lane.

Issue: ADOT has an unlandscaped storm water detention basin approximately 3.5 acres in size at this location.

Recommendation: The City encourages ADOT to landscape this basin, which is contiguous on the east side of the basin to an apartment complex, in conjunction with the Outer Loop 101 landscaping project. ADOT is planning to landscape this basin as part of the construction project to complete the eastern half traffic interchange of the Outer Loop Freeway and I-17.

Segment 3 does not have freeway mitigation recommendations.

Segment 4: Bell Road to Acoma Drive (see Map 67)

4.1 (Existing Conditions and Enhancement Policy: A and I)

Location: Between Banff Lane and the Redfield Road Alignment, contiguous to the east side of the northbound frontage road.

Issue: A strip of bare earth approximately fifteen feet wide (within ADOT right-of-way) lies along the rear wall of homes heavily impacted by the adjacent frontage road and freeway.

Recommendation: Install irrigation and plant trees along this length which when mature will provide an additional freeway buffer, and secondarily will improve the view along the frontage road.

Segment 5: Acoma Drive to Cactus Road (see Map 68)

5.1 (Existing Conditions and Enhancement Policy: A)

Location: Between Banff Lane and the Redfield Road Alignment, contiguous to the east side of the northbound frontage road.

Issue: A strip of bare earth approximately fifteen feet wide (within ADOT right-of-way) lies along the rear wall of homes heavily impacted by the adjacent frontage road and freeway.

Recommendation: Install irrigation and plant trees along this length which when mature will provide an additional freeway buffer, and secondarily will improve the view along the frontage road.

5.2 (Existing Conditions and Enhancement Policy: A and I)

Location: Between Acoma Drive and Redfield Road, contiguous to the west side of the southbound frontage road.

Issue: A strip of bare earth approximately twelve to fifteen feet wide (within ADOT right-of-way) lies along the rear wall of homes heavily impacted by the adjacent frontage road and freeway.

Recommendation: Install irrigation and plant trees along this length which when mature will provide an additional freeway buffer, and secondarily will improve the view along the frontage road.

5.3 (Existing Conditions and Enhancement Policy: A and I)

Location: Between Columbine Drive and Cactus Road, contiguous to the east side of the northbound frontage road.

Issue: A strip of bare earth approximately fifteen feet wide (within ADOT right-of-way) is located along the rear wall of homes heavily impacted by the adjacent frontage road and freeway.

Recommendation: Install irrigation and plant trees along this length which when mature will provide an additional freeway buffer, and secondarily will improve the view along the frontage road. The central portion of this strip has some existing landscaping.

Segment 6 does not have freeway mitigation recommendations.

Segment 7: Mountain View Road to Northern Avenue (see Map 69)

7.1 (Existing Conditions and Enhancement Policy: B and C)

Location: The home north of Lawrence Lane, west of the frontage road.

Issue: This home is heavily impacted by the frontage road traffic, and may not be protected by the anticipated ADOT noise wall in this area.

Recommendation: Landscaping and irrigation should be installed adjacent to the impacted home.

7.2 (Existing Conditions and Enhancement Policy: H)

Location: The triangular shaped ADOT remnant parcel at the southeast corner of 27th Avenue and the southbound frontage road.

Issue: The triangular shaped ADOT remnant parcel is bare earth that is between homes and the frontage road. The remnant has an approximate area of 8000 square feet.

Recommendation: A mix of trees and ground cover with appropriate irrigation should be used on the ADOT remnant parcel.

Segment 8: Northern Avenue to Maryland Avenue (see Map 70)

8.1 (Existing Conditions and Enhancement Policy: A, E, G)

Location: Just north of Hayward Avenue and almost (the southern end of the mobile home park) to Glendale Avenue, contiguous to the west side of the southbound frontage road.

Issue: Irrigation and landscaping would help to mitigate the effect of the freeway in this residential area; however, there is only five to ten feet of ADOT right-of-way available.

Recommendation: This may not be a wide enough area to maintain viable landscaping, so only a line of trees should be considered.

Segment 9: Maryland Avenue to Camelback Road (see Map 71)

9.1 (Existing Conditions and Enhancement Policy: B and I)

Location: Between Maryland Avenue and just south of Rose Lane between the northbound frontage road and 25th Avenue.

Issue: Between the frontage road and 25th Avenue is a curbed median approximately ten feet wide. All or most of this width is ADOT right-of-way.

Recommendation: This median should be landscaped and irrigated to improve the environment of the homes facing 25th Avenue and the frontage road.

Segment 10 does not have freeway mitigation recommendations.

Segment 11: Osborn Road to McDowell Road (see Map 72)

11.1 (Existing Conditions and Enhancement Policy: A and I)

Location: Between Osborn Road and one lot south of Verde Lane, contiguous to the west side of the southbound frontage road.

Issue: There is approximately ten feet of ADOT right-of-way between the outside edge of the frontage road and the rear property line/wall of the homes that back up to the frontage road. This strip is bare and there is no curb along the outside edge of the frontage road. There is an ADOT noise wall between the mainline freeway and the frontage road. ADOT has planted a small area at the southern end of this strip.

Recommendation: Supply irrigation and plant trees along this length which when mature will provide an additional freeway buffer and secondarily, will improve the view along the frontage road.

Segment 12: McDowell Road to Harrison Street/Southern Pacific Railroad (see Map 73)

12.1 (Existing Conditions and Enhancement Policy: C and I)

Location: Between Monroe Street and Madison Street, on both sides of the freeway, outside of the frontage roads.

Issue: The City of Phoenix already maintains some landscaping in this area, with some of it between the mainline freeway and the frontage roads.

Recommendation: Some additional ground cover and trees should be added between the frontage roads and the residential uses. There is approximately 10 feet of ADOT right-of-way beyond the outside edges of the frontage roads.

Segment 13: Harrison Street/Southern Pacific Railroad to 19th Avenue (see Map 74)

13.1

Location: South of Durango Street between the 21st and 20th Avenue alignments.

Issue: ADOT and the Hamilton Elementary School are jointly developing this area into a park/garden area.

Recommendation: The City of Phoenix commends this type of beautification effort along the freeway, and encourages continued maintenance to preclude secluded areas. The city will plant, not through mitigation funds, additional trees along Durango Street.

13.2

Location: The southwest corner of Durango Street and 19th Avenue.

Issue: This ADOT remnant parcel is being used for truck parking incidental to the businesses adjacent to the north. This parcel is not adjacent to a residential area so freeway mitigation funds should not be expended here.

Recommendation: Even though this area may remain as parking, it should be fully improved with hard surface parking and extensive landscaping to city parking standards complementary to ADOT's and Hamilton Elementary School efforts on the park/garden to the west. The city will plant, not through mitigation funds, additional trees along Durango Street.

Segment 14: 19th Avenue to Central Avenue (see Map 75)

14.1 (Existing Conditions and Enhancement Policy: A and I)

Location: Between 15th and 11th Avenue, contiguous to the north side of the westbound frontage road.

Issue: There is approximately five feet or less of ADOT right-of-way on the north side of the frontage road; however, enhanced landscaping is needed in this area.

Recommendation: Seek to obtain landscape easements from the property owners in this area and enhance the area along the north side of the frontage road with landscaping.

14.2 (Existing Conditions and Enhancement Policy: A)

Location: Between 5th Avenue and the 3rd Drive alignment, contiguous to the north side of the westbound frontage road.

Issue: There may be as little as five feet or less of ADOT right-of-way on the north side of the frontage road; however, enhanced landscaping is needed in this area.

Recommendation: If needed, seek to obtain landscape easements from the property owners in this area and enhance the area along the north side of the frontage road with landscaping and irrigation. The area between the north edge of the frontage road and the existing homes is approximately five feet wide so landscaping may be minimal.

Segment 15: Central Avenue to 16th Street (see Map 76)**15.1 (Existing Conditions and Enhancement Policy: H)**

Location: Between 10th Street and three lots east of 7th Street, on the south side of Durango Street.

Issue: There is an ADOT remnant parcel at this location between Durango Street and the westbound frontage road. It varies in width from approximately 70 feet on the east end to approximately 15 feet on the west end, and it is approximately 1200 feet in length. There are already well-established trees on this remnant. **Recommendation:** Add enhanced landscaping including irrigation to this area; however, avoid creating secluded areas.

15.2 (Existing Conditions and Enhancement Policy: H)

Location: Between 10th Street and the 11th Street alignment contiguous to the north side of the westbound frontage road.

Issue: The ADOT remnant on the north side of the frontage road varies from approximately 40 feet in width on the east end, tapering to approximately 10 feet in width at the center and then to approximately 20 feet in width at the west end near 10th Street. Homes back up to this area and would benefit from a landscaped area.

Recommendation: Irrigate and landscape this ADOT remnant with trees and ground cover designed to avoid secluded areas.

15.3 (Existing Conditions and Enhancement Policy: H)

Location: Between 14th Street and approximately 250 feet east of 12th Street, contiguous to the north side of the westbound frontage road.

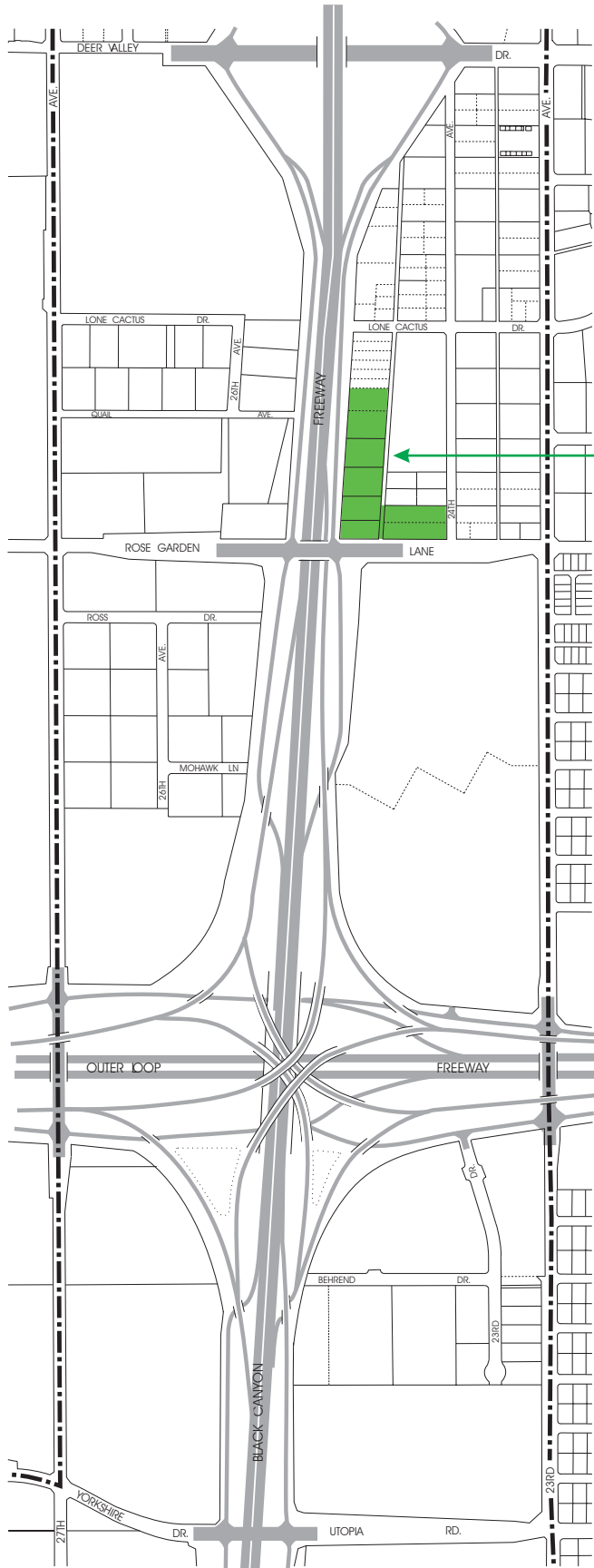
Issue: Homes back on this strip of ADOT excess right-of-way/remnant, which varies in width from approximately 20 feet on the east end to 10 feet on the west end. There is a small triangle of right-of-way near the center of this strip which is approximately 50 feet deep at its widest.

Recommendation: Install irrigation and landscape this ADOT right-of-way strip with a combination of trees and ground cover designed to preclude secluded areas.

Segments 16-22 do not have freeway mitigation recommendations.

Note: Landscape enhancement funding that was proposed for Segments 20 and 21, has been diverted to a noise wall in Segment 20, Map 53, with City Council approval of the specific plan on December 16, 1998.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT

SEGMENT 2 - MAP 66

DEER VALLEY DR. TO YORKSHIRE DR./UTOPIA RD.

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT



2.1 Encourage ADOT to landscape this currently bare detention basin in conjunction with the east half traffic interchange of I-17/Loop 101

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT

SEGMENT 4 - MAP 67

BELL RD. TO ACOMA DR.

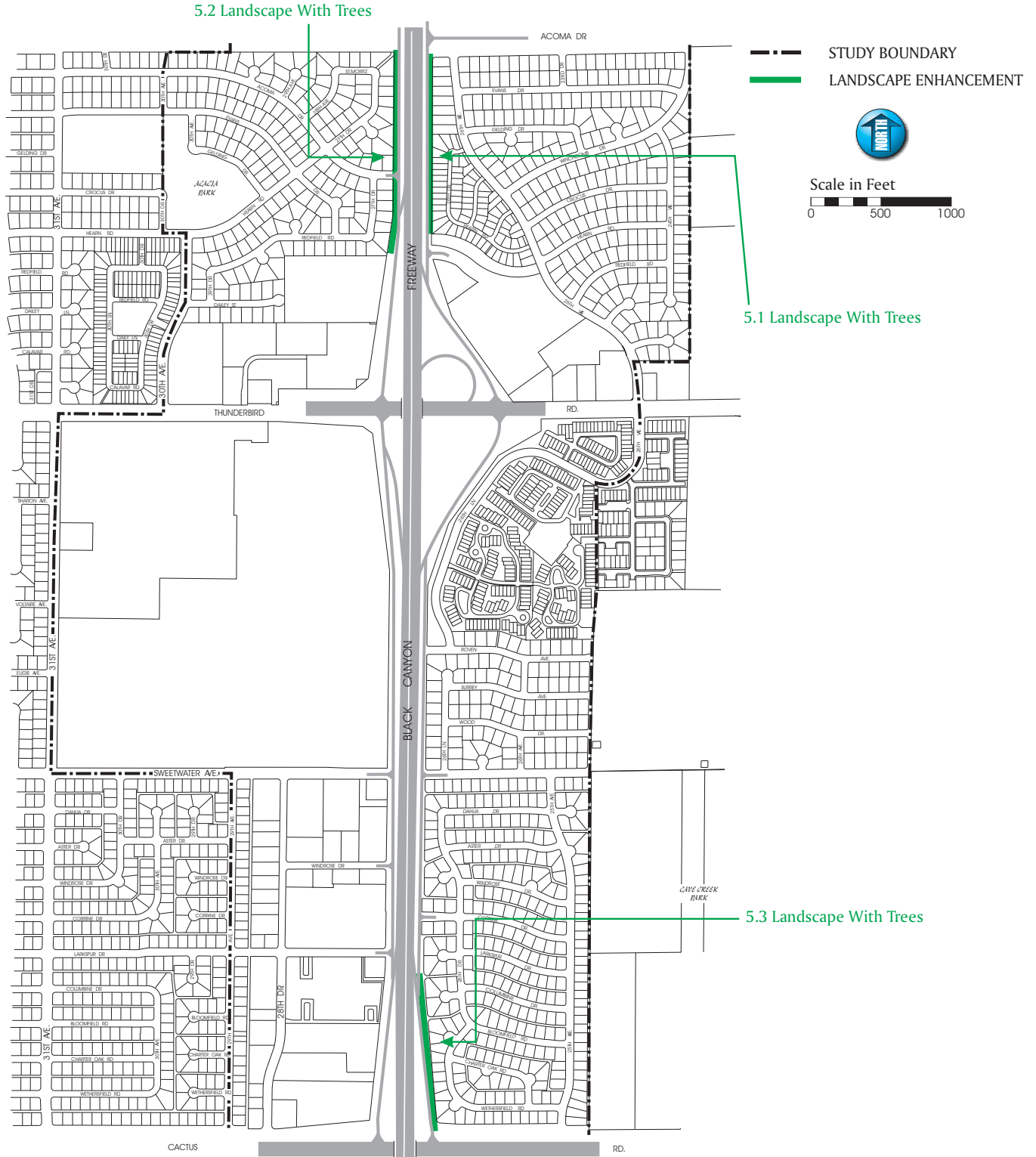
-  STUDY BOUNDARY
-  LANDSCAPE ENHANCEMENT



4.1 Landscape with trees

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT
SEGMENT 5 - MAP 68
ACOMA DR. TO CACTUS RD.



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

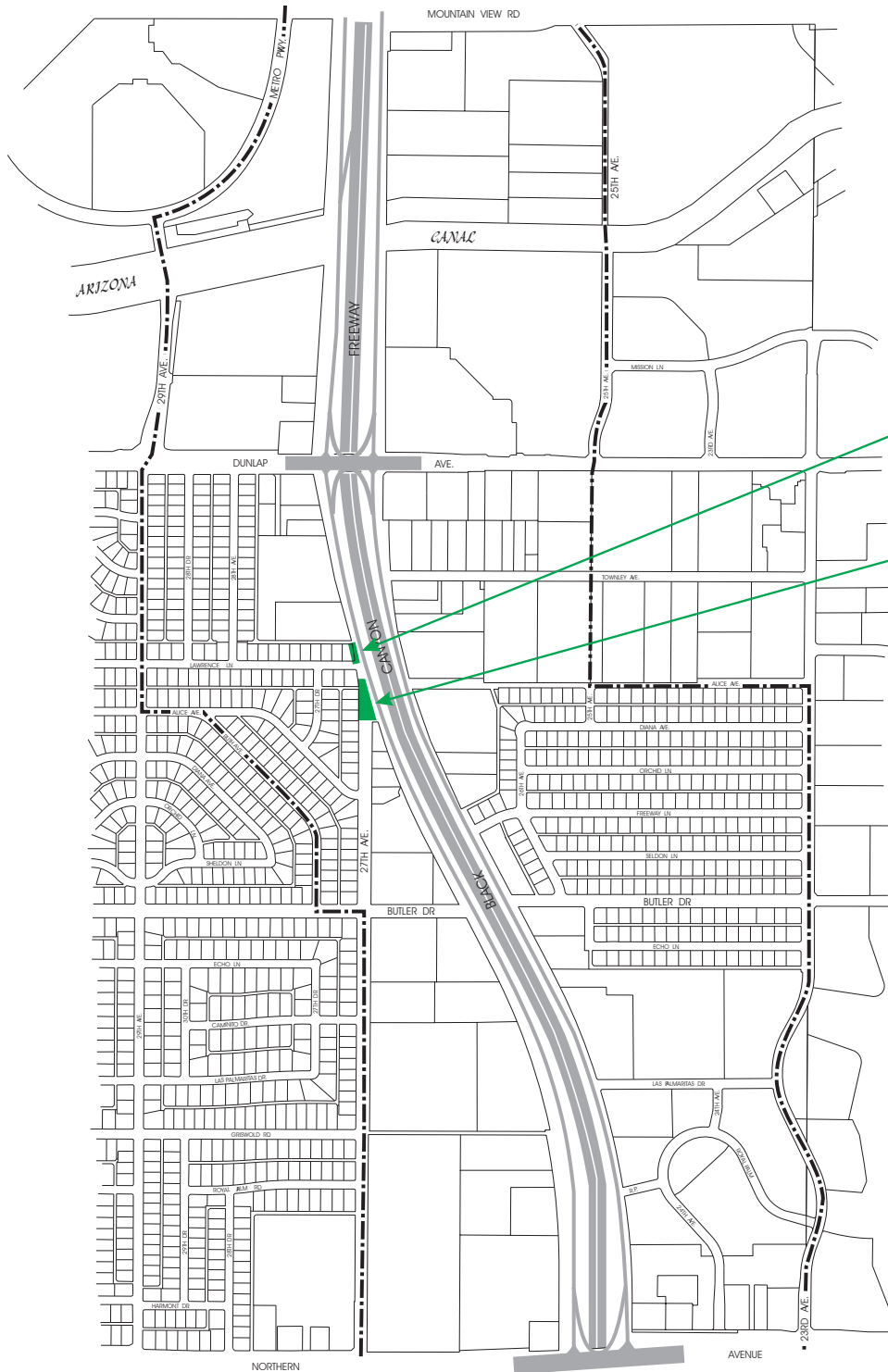
LANDSCAPE ENHANCEMENT

SEGMENT 7 - MAP 69 MOUNTAIN VIEW RD. TO NORTHERN AVE.

- STUDY BOUNDARY
- █ LANDSCAPE ENHANCEMENT



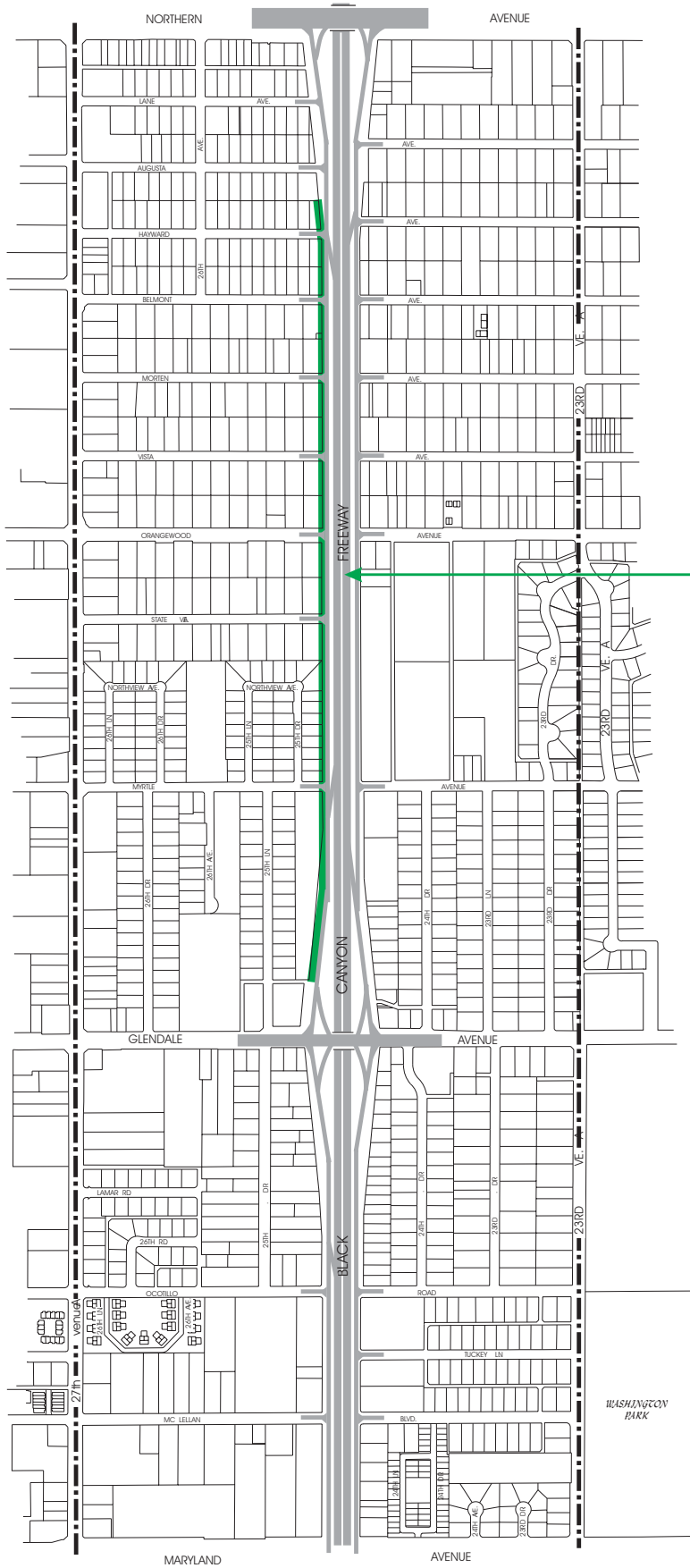
Scale in Feet
0 500 1000



7.1
Landscape
adjacent to
homes

7.2 ADOT remnant parcel
should be landscaped

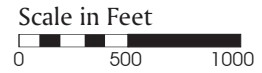
BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT
SEGMENT 8 - MAP 70
NORTHERN AVE. TO MARYLAND AVE.

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT

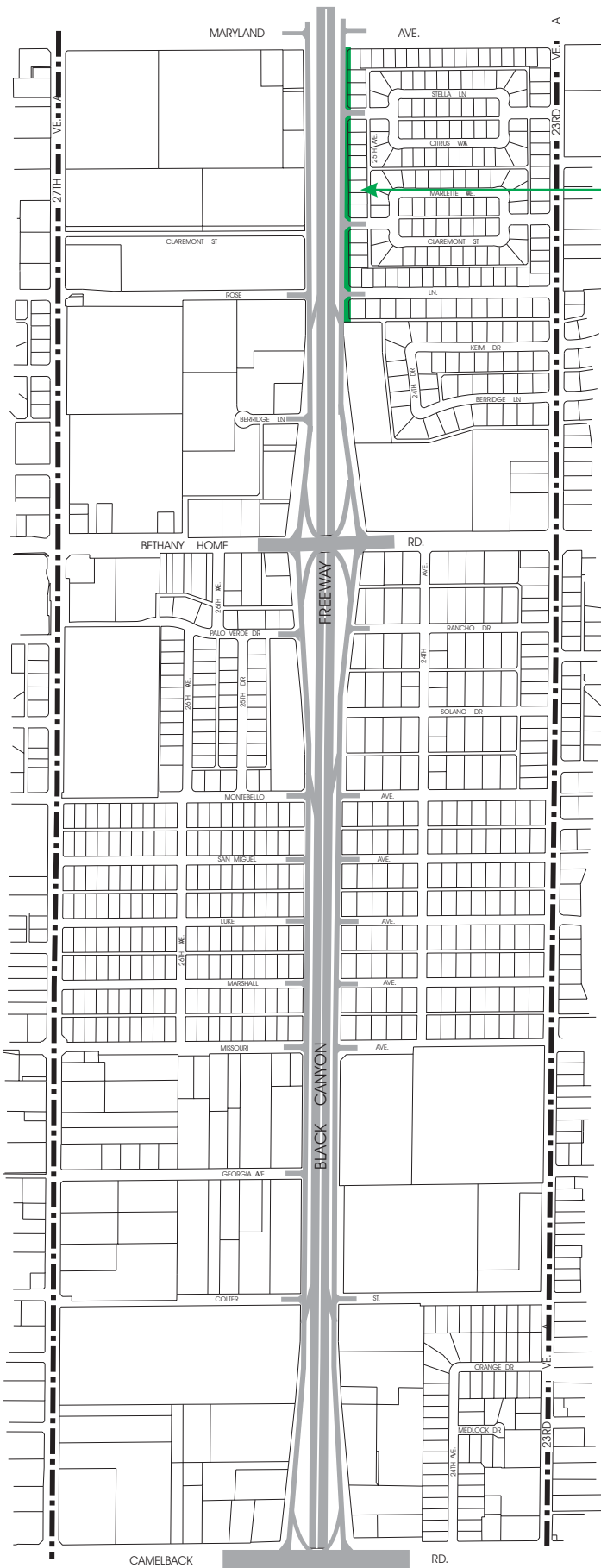
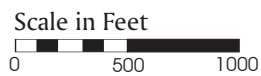


8.1 Landscape, If Right-of-way Is Sufficient

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

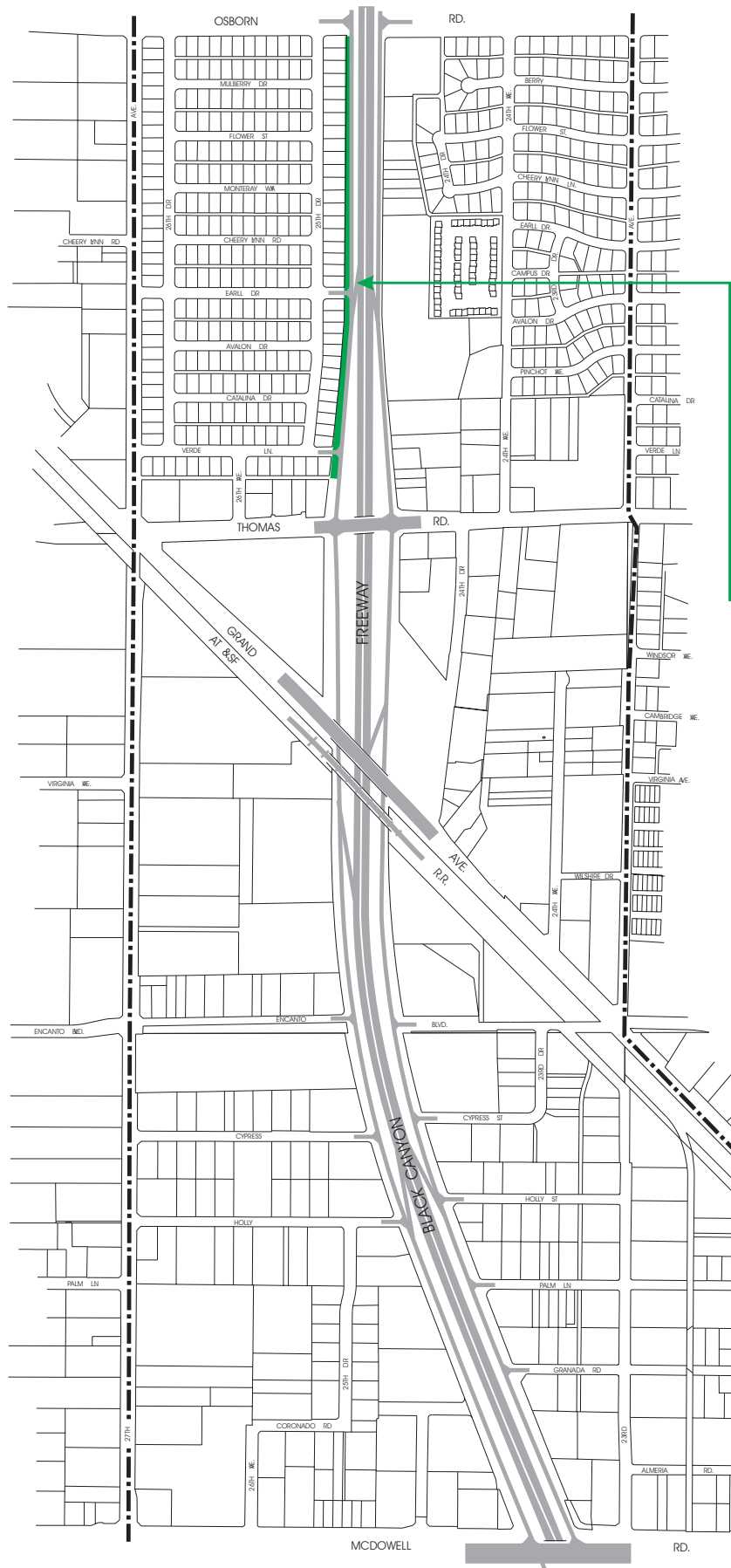
LANDSCAPE ENHANCEMENT
SEGMENT 9 - MAP 71
NORTHERN AVE. TO CAMELBACK RD.

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT



9.1 Landscape the existing median between the Frontage Road and 25th Avenue

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT
SEGMENT 11 - MAP 72
OSBORN RD. TO MCDOWELL RD.

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT





Scale in Feet
0 500 1000

11.1 Landscape
with trees

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

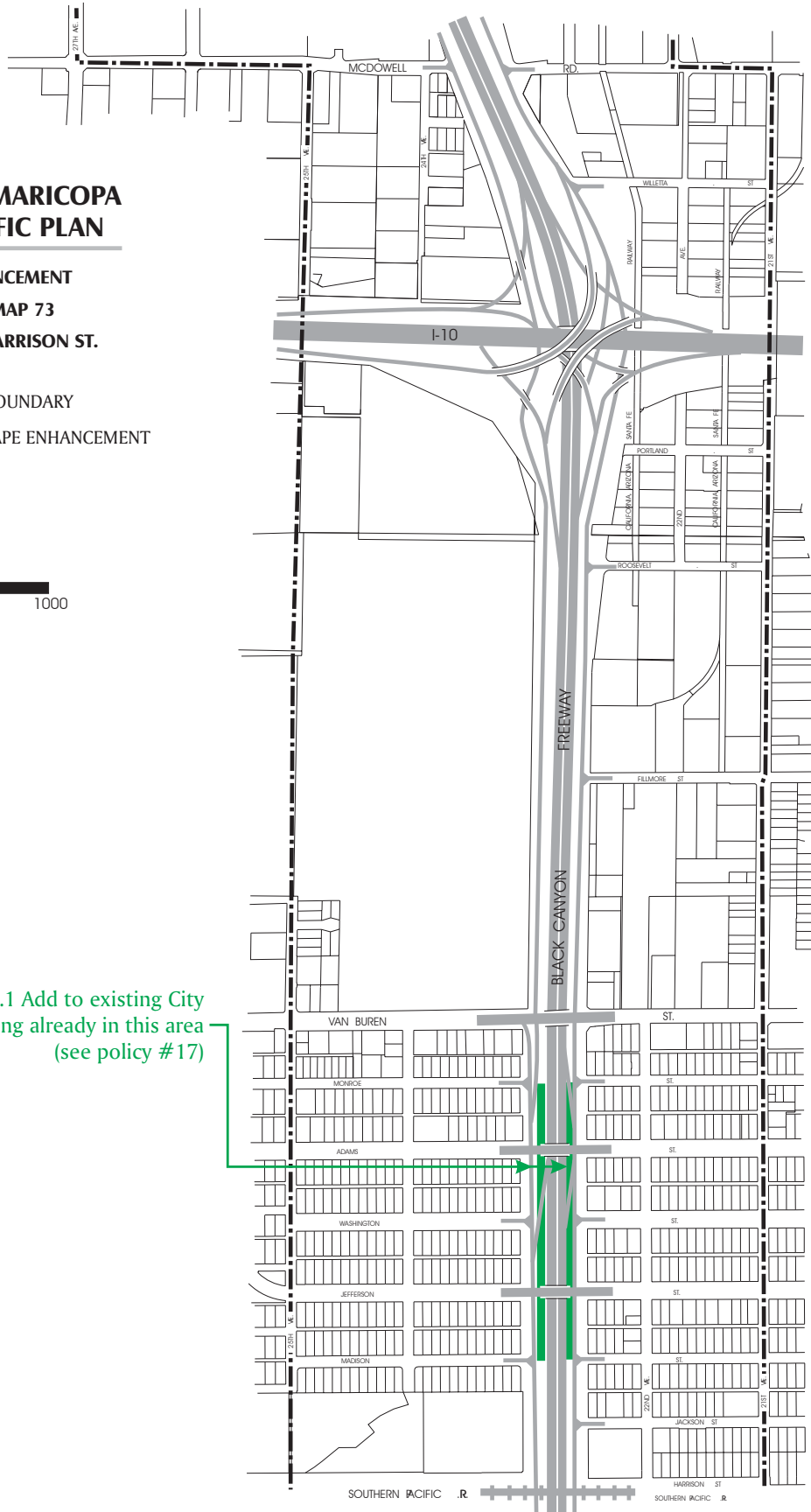
LANDSCAPE ENHANCEMENT
SEGMENT 12 - MAP 73
MCDOWELL RD. TO HARRISON ST.

-  STUDY BOUNDARY
-  LANDSCAPE ENHANCEMENT



Scale in Feet
0 500 1000



12.1 Add to existing City
landscaping already in this area
(see policy #17)



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

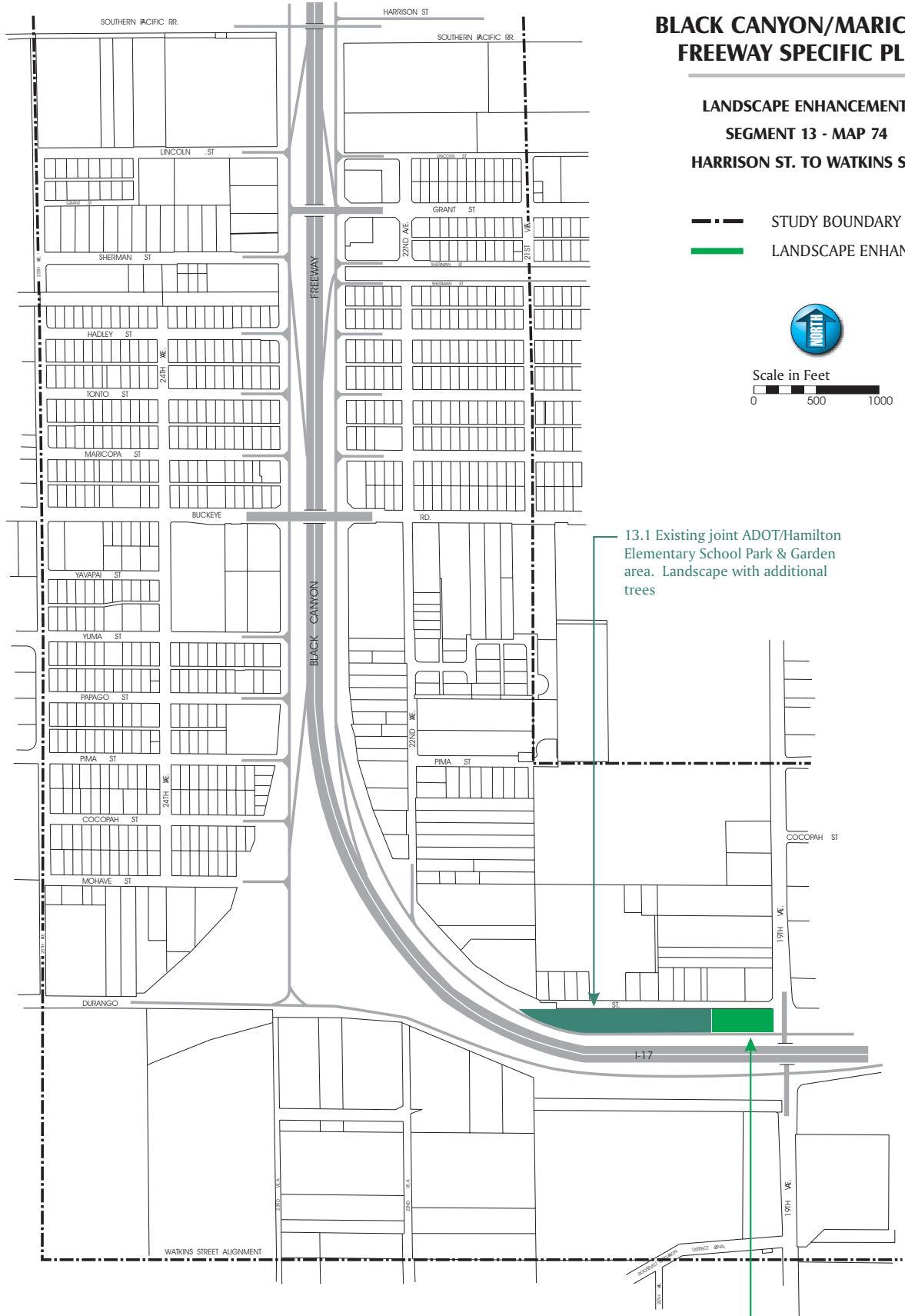
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT
SEGMENT 13 - MAP 74
HARRISON ST. TO WATKINS ST.

-  STUDY BOUNDARY
-  LANDSCAPE ENHANCEMENT



Scale in Feet
0 500 1000



13.1 Existing joint ADOT/Hamilton Elementary School Park & Garden area. Landscape with additional trees

13.2 The City recommends improvement of this parking area and landscape with additional trees

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

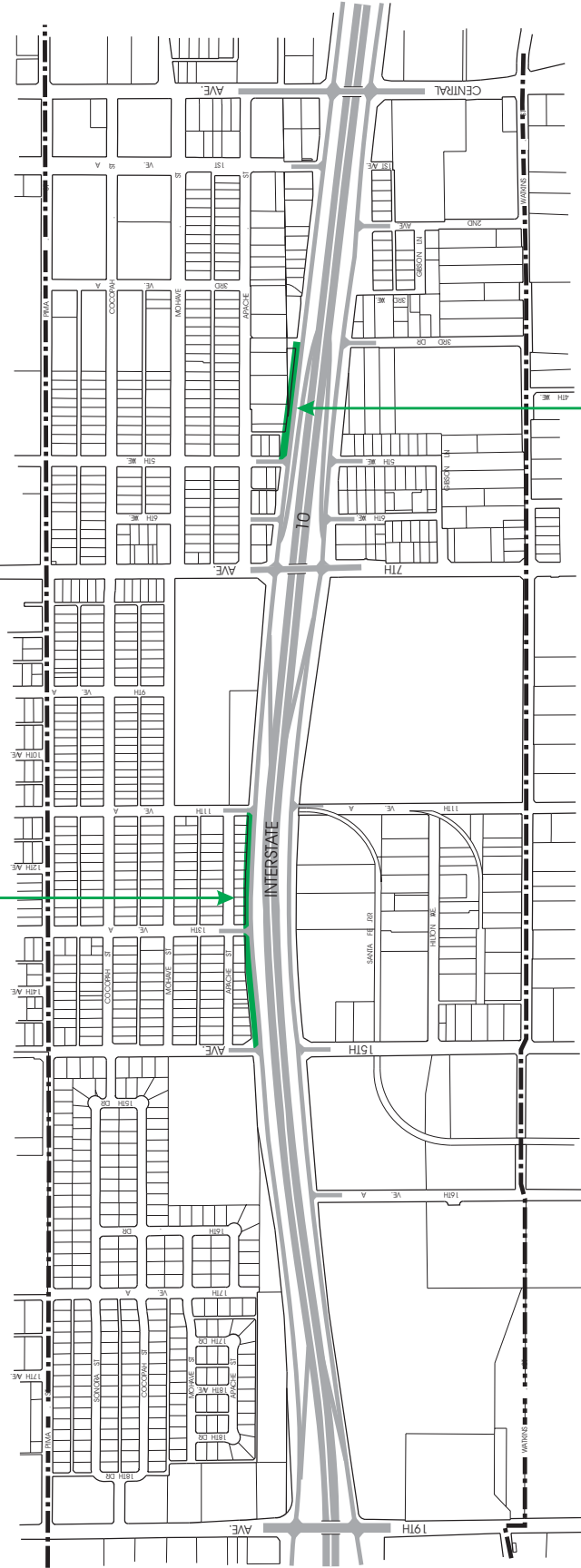
LANDSCAPE ENHANCEMENT
SEGMENT 14 - MAP 75
19TH AVE. TO CENTRAL AVE.

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT



14.1 Provide landscaping on the neighborhood side of the Frontage Road

14.2 Provide landscaping on the neighborhood side of the Frontage Road



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

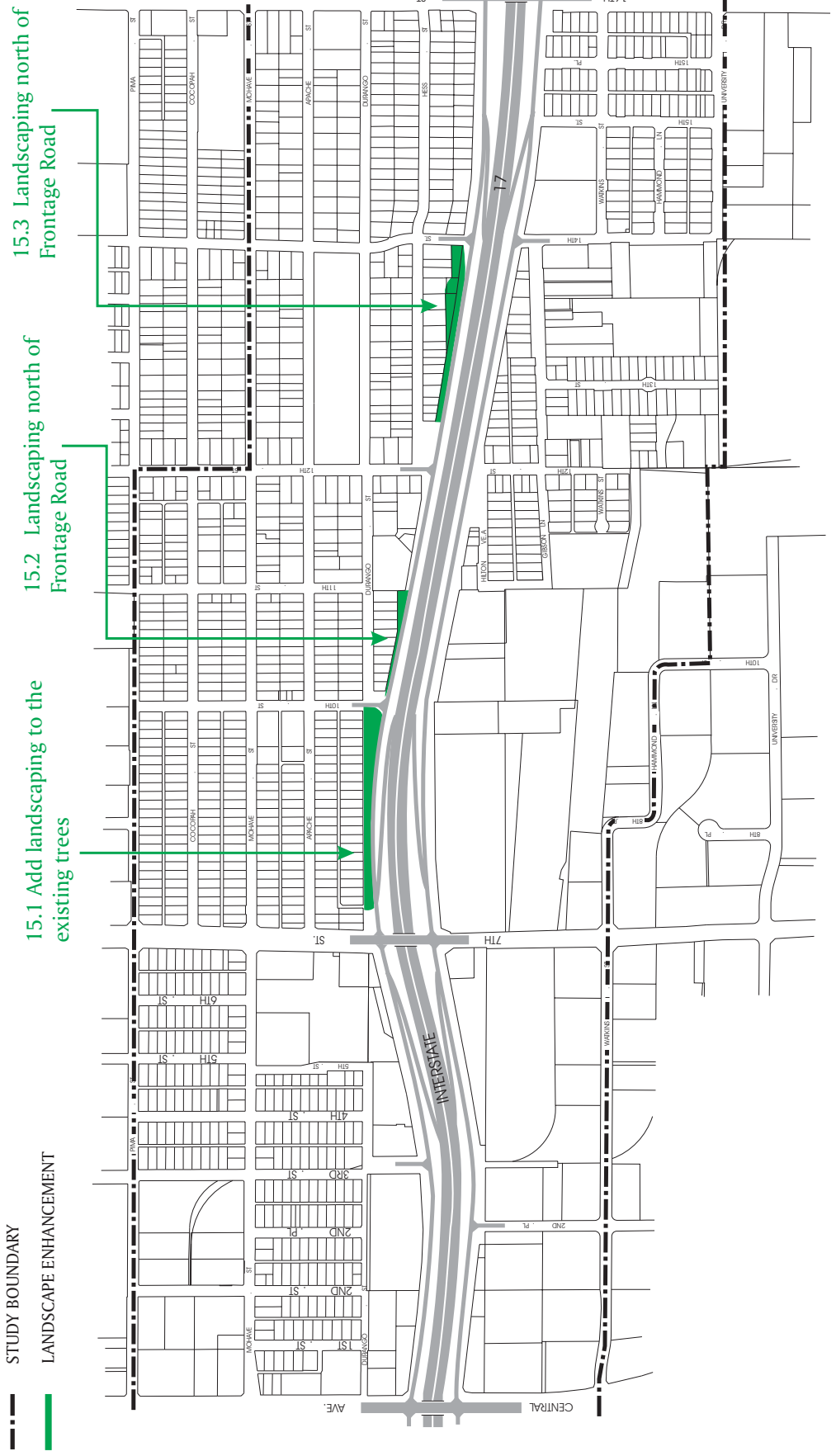
BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

LANDSCAPE ENHANCEMENT
SEGMENT 15 - MAP 76
CENTRAL AVE. TO 16TH ST.



Scale in Feet
0 500 1000

- STUDY BOUNDARY
- LANDSCAPE ENHANCEMENT



15.1 Add landscaping to the existing trees

15.2 Landscaping north of Frontage Road

15.3 Landscaping north of Frontage Road

NEIGHBORHOOD ENHANCEMENT



Often freeways are the most prominent public works structures in a neighborhood or even a community. However, the design and location of these structures typically responded to goals of safety, efficiency and cost, and did not adequately consider community disruption or appearance. Some freeway structures, particularly elevated portions of freeways, cut through neighborhoods, isolating schools, parks, shopping, and friends. The structures themselves are often barren of landscaping, constructed of heavy appearing concrete or steel which create dark, often unmaintained and uninviting locations beneath them.

However, it is possible to design or enhance freeways with a sensitivity to the areas through which they pass. For example, depressed freeways, following natural barriers can minimize the disruption to neighbors and minimize noise impacts. Structural elements can be designed as pieces of urban design. Landscaping the outer edges of freeways can be done to screen traffic, blending the roadway with adjoining neighborhoods. And public art can be integrated into designs to reflect neighborhood traditions and the community's cultural heritage.

Many examples in the Phoenix and Tucson metropolitan areas illustrate freeways that have become an asset to their neighbors. The Piestewa Peak Parkway, including the award winning Thomas Road interchange for example, was built to a high quality of design and landscaping incorporating not only contemporary and historical artistic elements, but involving surrounding neighborhoods in its actual design. The Miracle Mile interchange in Tucson reflects a community artistic expression to turn massive concrete walls into art pieces. The Sky Harbor Expressway, the Hohokam Expressway, the Agua Fria, and Pima Freeway are incorporating Native American themes and designs near the interchanges.

Neighborhood Enhancement Policies

The following enhancement policies should assist freeway mitigation staff in working with residents to create neighborhood identity projects that integrate freeways with neighborhoods:

Policy 1: Create a sense of place or visual identity in neighborhoods along the freeway. Involve the community in identifying and incorporating positive features or themes of their neighborhood with freeway structures.

Policy 2: Enhance landscaping that provides better screening of the freeway, softens the appearance of noise walls, and improves the compatibility of the freeway with adjacent neighborhoods.

Policy 3: Create a positive edge for the freeway with neighborhoods through the use of walls, barriers, or landscaping; create focal points, and use decorative materials. Use graphic designs, materials, patterns, and colors.

Policy 4: Locate enhancements where the public and adjacent residents have access, such as trails, parks, and landscaped areas along the freeway.

ELEVATED MARICOPA FREEWAY ENHANCEMENT PROJECT

There remains a need to improve and upgrade older portions of Phoenix' freeways, namely the east/west portion of the Maricopa Freeway. This freeway was built before visual and design features were considered essential to the community. Portions of this freeway were built elevated for extended distances, further creating a visual and psychological barrier in the adjoining communities.

During public open houses and meetings held by the Planning Department in the fall of 1996 and early 1997, many citizens living near the elevated freeway viewed it as a blight to their neighborhood. It was stated that the freeway cuts through many residential neighborhoods; it is archaic, unattractive and visually obtrusive. It acts as a physical and psychological barrier through central Phoenix. Some residents felt slighted because other city freeways had been beautified but not the one through their neighborhood.

Elevated Maricopa Freeway Enhancement Policies

Through a series of special meetings and workshops held from November 1997 to March 1998, the following policies have been developed:

Policy 1: Refurbish bridge overpasses by cleaning the structures and removing pigeon roosting opportunities. Measures to eliminate pigeons from underneath the bridge structures should be cost-effective and permanent. Paint concrete and steel surfaces.

Policy 2: Install upgraded lighting on the frontage roads (see Neighborhood Safety section), within the freeway overpasses, and in the 12th Street pedestrian tunnel. Lighting fixtures should be vandal-resistant while providing acceptable illumination in dark areas. Maintenance of fixtures should be done on a timely basis.

Policy 3: Change the visual appearance of the overpasses by introducing a cultural theme or identity reflective of adjacent neighborhoods.

Policy 4: Involve interested local schools and community groups in enhancement projects. Create an "Adopt-an-Overpass" program where school children can participate in after-school projects.

Policy 5: Landscaping should be maintained to minimize hiding places.

Policy 6: Mitigate speeding traffic on frontage roads and cut-through traffic on other residential streets (see Neighborhood Safety section).

Issue Sheets by Segment Number

The following recommendations are for specific applications of the aforementioned policies for enhancement of the elevated Maricopa Freeway (Segments 13-15 and Maps 77-79 only).

Segment 13 Harrison Street/Southern Pacific Railroad to 19th Avenue (see Map 77)

13.1

Location: Two ADOT remnant parcels on Durango Street, west of 19th Avenue and north of the Maricopa Freeway.

Issue: Development of an ADOT-owned remnant parcel for Hamilton Elementary School use.

Recommendation: Coordinate with ADOT and Hamilton Elementary School to develop two remnant parcels into an interpretive park. The parcel located immediately south of the school is being landscaped and designed by an organized group of students and faculty in the CHAMPPS (Champs Have and Model Positive Peer Skills) program and with ADOT. A smaller parcel, east of this parcel should be developed for future use by the school group.

13.2

Location: 19th Avenue bridge overpass.

Issue: Refurbishment of bridge overpass.

Recommendation: As suggested by citizens, the bridge overpass should be cleaned of stains and pigeon droppings, better lighting installed, and painted and decorated to reflect a cultural design or theme of nearby neighborhoods. Coordinate with Hamilton Elementary School and Murphy Elementary School District in creating an after-school enhancement program.

Segment 14: 19th Avenue to Central Avenue (see Map 78)

14.1

Location: 15th Avenue, 7th Avenue, and Central Avenue bridge overpasses.

Issue: Refurbishment of bridge overpasses.

Recommendation: As suggested by citizens, the bridge overpass should be cleaned of stains and pigeon droppings, better lighting installed, and painted and decorated to reflect a cultural design or theme of nearby neighborhoods. Coordinate with Bethune, Lowell, and Dunbar Elementary Schools, and the Phoenix Elementary School District in creating an after-school enhancement. The Central Avenue overpass should incorporate a multi-cultural theme that ties all the neighborhoods in the area together.

14.2

Location: 11th Avenue bridge overpass.

Issue: Refurbishment of bridge overpass.

Recommendation: As suggested by citizens, the bridge overpass should be cleaned of stains and pigeon droppings, better lighting installed, and painted to match a common color used in other bridge overpass improvements.

Segment 15: Central Avenue to 16th Street (see Map 79)**15.1**

Location: 3rd Street bridge overpass.

Issue: Refurbishment of bridge overpass.

Recommendation: As suggested by citizens, the bridge overpass should be cleaned of stains and pigeon droppings, better lighting installed, and painted to match a common color used in other bridge overpass improvements.

15.2

Location: 7th Street and 16th Street bridge overpasses.

Issue: Refurbishment of bridge overpasses.

Recommendation: As suggested by citizens, the bridge overpass should be cleaned of stains and pigeon droppings, better lighting installed, and painted and decorated to reflect a cultural design or theme of nearby neighborhoods. Coordinate with Herrera and Ann Ott Elementary Schools, and the Phoenix Elementary School District in creating an after-school enhancement program.

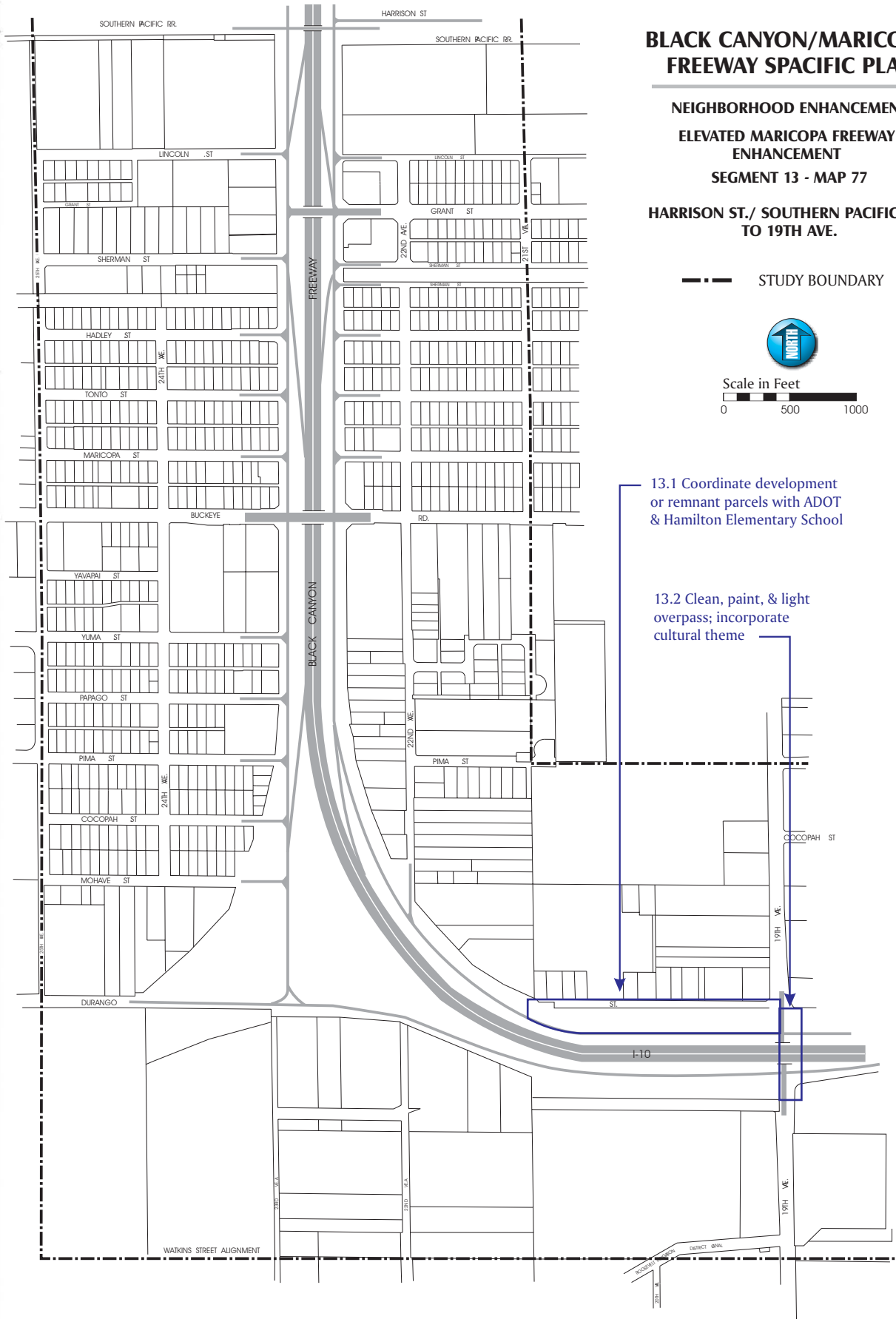
15.3

Location: 12th Street pedestrian tunnel.

Issue: Residents at public meetings suggested improving the appearance and usability of the tunnel. Residents have said that the current condition of the tunnel lends itself as being an ideal place for homeless people and gang activity. This is a key accessway for pedestrians and school children crossing under the Maricopa Freeway.

Recommendation: Coordinate with ADOT in redesigning the tunnel openings to shorten the overall length of the tunnel. Tunnel entrances should incorporate seating areas and a cultural design or theme. Install upgraded lighting in addition to using more natural light. Interior walls should continue the cultural design or theme from the entrances and be coated with graffiti-resistant sealer.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD ENHANCEMENT

ELEVATED MARICOPA FREEWAY
ENHANCEMENT

SEGMENT 13 - MAP 77

HARRISON ST./ SOUTHERN PACIFIC R.R.
TO 19TH AVE.

--- STUDY BOUNDARY



Scale in Feet



13.1 Coordinate development
or remnant parcels with ADOT
& Hamilton Elementary School

13.2 Clean, paint, & light
overpass; incorporate
cultural theme

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

NEIGHBORHOOD ENHANCEMENT

ELEVATED MARICOPA FREEWAY
ENHANCEMENT

SEGMENT 14 - MAP 78

19TH AVE. TO CENTRAL AVE.

STUDY BOUNDARY

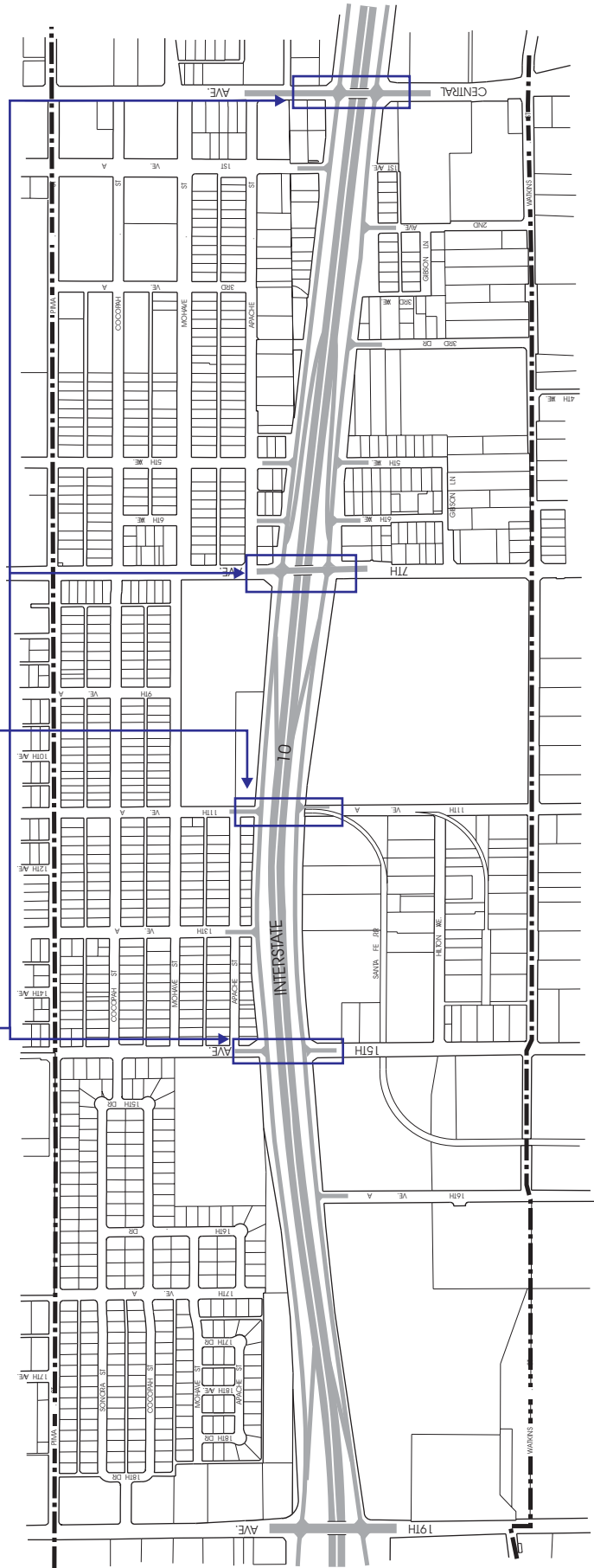


Scale in Feet



14.1 Clean, paint & light
overpass; incorporate
cultural theme

14.2 Clean, paint & light
overpass



BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

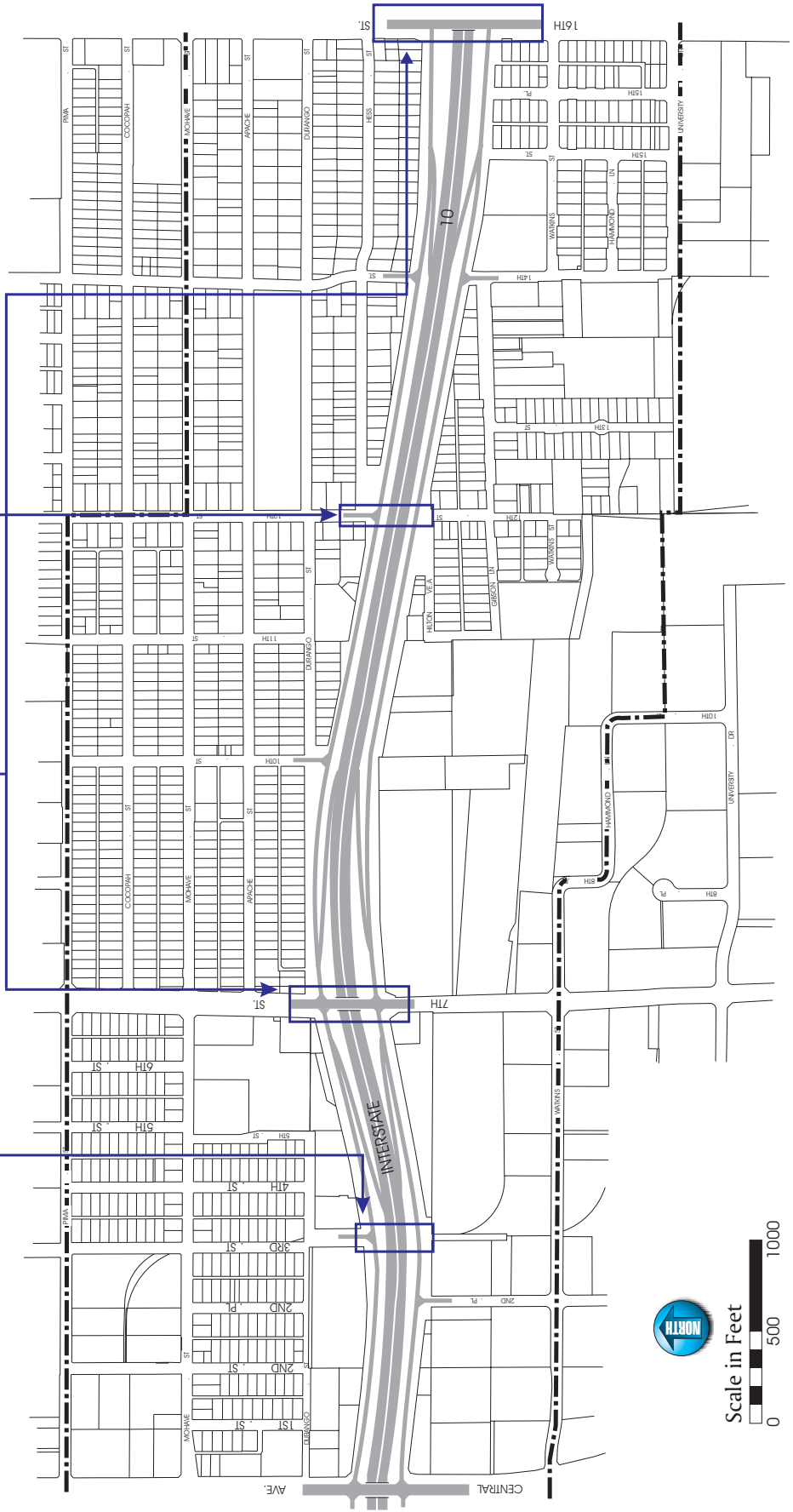
NEIGHBORHOOD ENHANCEMENT
ELEVATED MARICOPA FREEWAY ENHANCEMENT

SEGMENT 15 - MAP 79

CENTRAL AVE. TO 16TH ST.

STUDY BOUNDARY

- 15.1 Clean, paint & light overpass
- 15.2 Clean, paint & light overpass; incorporate cultural theme
- 15.3 Redesign approaches to pedestrian tunnel



BICYCLE PATHS & RECREATIONAL TRAILS



The Bicycle Paths and Recreational Trails element describes existing and proposed bicycle lanes and routes, as well as the recreational trails located near the Black Canyon and Maricopa Freeways. New paths and trails will connect with existing bicycle facilities and trails consistent with the adopted Phoenix Bikeway System, and Phoenix Parks, Recreation, and Library Department plans. The General Plan for Phoenix contains many policies in support of bicycle paths and recreational trails.

Bike paths, bike lanes, signed streets, wide outside lanes and wide sidewalk paths are part of a multi-modal circulation system within the city. These facilities should help to achieve important objectives such as using a bicycle to commute to and from work or connect with designated park-and-rides which helps reduce traffic congestion and air pollution on streets and freeways. Transit facilities are equipped with bus bike racks to ensure convenient connections and some facilities have bicycle storage.

This plan proposes continuity of facilities to support a circulation system needed by the commuter bicyclist. Coordination with ADOT and City of Phoenix Streets Department to utilize mid-mile streets, frontage roads, and newly reconstructed bridges over I-17 should prove beneficial to commuter as well as recreational bicyclists. Paths also integrate with the city's recreational bicycle trail system.

Incorporating recreational trails with on-street bicycle facilities are an integral part of the city's overall recreation system. These trails can accommodate horseback riding, hiking, running and mountain biking. This plan proposes a recreational trail system that connects open space areas with residential communities and on-street bicycle facilities.

Bicycle Paths & Recreational Trails Policies

The primary goal of this element is to integrate new bicycle lanes and routes and recreational trails with the existing network found within and adjacent to the study corridor. Policies assisting in achieving this goal are:

Policy 1: Design and construct bicycle paths and recreational trails in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards. Provide measures which restrict access, as much as possible by unauthorized vehicles. Coordinate with the City of Phoenix Safe Communities program to ensure that designs follow Crime Prevention Through Environmental Design (CPTED) standards.

Policy 2: As funds are available, install adequate lighting, in accordance with accepted standards, along all bicycle lanes and recreational trails. Where new facilities intersect with existing bicycle facilities, ensure that lighting is provided.

Policy 3: Provide multi-modal opportunities to link existing and planned bicycle facilities and recreational trails with existing and planned park-and-rides and transit routes.

Policy 4: In conjunction with ADOT bridge reconstruction projects on I-17, new structures should incorporate bicycle crossings of the freeway. On Camelback Road, Bethany Home Road, and Glendale Avenue, the outside lanes should be restriped and/or the islands and barriers modified on these structures. The City of Phoenix and ADOT should investigate, coordinate, and construct additional crossings of the freeway corridor or existing crossings improved upon where appropriate.

Policy 5: Where possible, frontage roads and freeway right-of-way should accommodate bicycle lanes or separated paths outside of the access control line. These routes should include necessary lighting, and connections to local streets.

Policy 6: Trails for equestrian use and bicycle paths should be separated whenever possible.

Policy 7: New bicycle paths and recreational trails will be maintained by the City of Phoenix when located according to adopted plans and built to city standards.

Policy 8: As included in the Outer Loop Freeway Specific Plan, investigate, coordinate and construct a crossing over the Black Canyon Freeway at either Rose Garden Lane or Yorkshire Road/Utopia Road bridges.

Policy 9: Bicycle paths crossing under the freeway should be designed to current safety standards. When located on sidewalks, there should be a safety barrier between the bicycle path and vehicular travel lanes.

Issue Sheets by Segment Number

The following segments (see Maps 80-93) have been specifically identified as areas that could benefit from additional bike lanes and/or recreational trails. Freeway mitigation recommended bicycle facilities were not found to be needed in Segments 1, 5-7, 11-13, and 16. Segment 2 (Map 80), recommends using existing bikeways to connect with proposed frontage road connectors. Segments 8-10 (Maps 83-85), propose bicycle lanes on newly reconstructed I-17 bridges at Glendale Avenue and Bethany Home Road, separate bridge structures on Maryland Avenue and Colter Street, and a crossing at Grand Canal. Segment 20 (Map 91), recommends a bicycle lane connection with an existing bikeway. Segment 21 (Map 92), proposes a future connection under the freeway using an existing tunnel with a City of Tempe park facility when it is constructed.

Segment 1: No freeway mitigation sponsored bicycle facilities are recommended.

Segment 2: Deer Valley Road to Yorkshire Drive/Utopia Road (see Map 80)

2.1

Location: Rose Garden Lane bridge over the Black Canyon Freeway.

Issue: Need for crossing of the freeway at Rose Garden Lane.

Recommendation: In order to provide a crossing of the freeway, it is recommended that the City of Phoenix and ADOT investigate, coordinate, and construct bicycle lanes on the bridge, on a separate, cantilevered structure, or a freestanding structure near the bridge. From the Outer Loop Freeway Specific Plan, it was recommended that any future mitigation plan be used to identify freeway crossings for bicycle lanes. The Deer Valley Core Specific Plan also calls for a bicycle lane on Rose Garden Lane. At the time of its construction, the bridge at Rose Garden Lane did not include provisions for bicycle lanes or a recreational trail crossing of the freeway.

The separate structure should provide a minimum width of ten feet to accommodate for both eastbound and westbound cycling or pedestrian traffic. Depending on which side of the existing bridge the new structure is located, cyclists or pedestrians should take advantage of existing crosswalks and proposed bicycle lanes on the approaches to the bridge. Funding a cantilevered or a freestanding structure would come from a separate source or a future bond. Current estimates range from \$216,000 for a cantilevered structure to \$750,000 for a freestanding structure.

2.2

Location: From Rose Garden Lane to Yorkshire Drive/Utopia Road, on 27th Avenue and 23rd Avenue.

Issue: Striped bicycle lanes on 27th Avenue and 23rd Avenue connecting to Rose Garden Lane and Yorkshire Drive/Utopia Road.

Recommendation: Striped bicycle lanes should be installed on 27th Avenue and 23rd Avenue providing a north/south route for cyclists who will be crossing the freeway at Rose Garden Lane and Yorkshire Drive/Utopia Road. There are two schools located on 27th Avenue north of Rose Garden Lane: Deer Valley Junior High School and Barry Goldwater High School. Both of these roads should provide biking continuity around the Outer Loop Freeway and I-17 stack interchange. On 23rd Avenue, from Rose Garden Lane to south of the Outer Loop, the bicycle lane should connect with an existing sidewalk path, yet the bicycle lane should continue to Utopia Road and 23rd Avenue. The Deer Valley Core Specific Plan also calls for bicycle lanes on 23rd Avenue.

2.3

Location: Yorkshire Drive/Utopia Road bridge over the Black Canyon Freeway.

Issue: Need for crossing of the freeway at Yorkshire Drive/Utopia Road.

Recommendation: In order to provide a crossing of the freeway, it is recommended that the City of Phoenix and ADOT investigate, coordinate, and construct bicycle lanes on the bridge, on a separate, cantilevered structure or a freestanding structure near the bridge. From the Outer Loop Freeway Specific Plan, it was recommended that any future mitigation plan be used to identify freeway crossings for bicycle lanes. The Deer Valley Core Specific Plan also calls for bicycle lanes on Yorkshire Drive/Utopia Road. At the time of its construction, the bridge at Yorkshire Drive/Utopia Road did not include provisions for bicycle lanes or a recreational trail crossing the freeway.

The separate structure should provide a minimum lane width of ten feet to accommodate for both eastbound and westbound cycling or pedestrian traffic. Depending on which side of the existing bridge the new structure is located, cyclists or pedestrians should take advantage of existing crosswalks and proposed bicycle lanes on the approaches to the bridge. Funding a cantilevered structure would come from a separate source or a future bond. Current estimates range from \$216,000 for a cantilevered structure to \$750,000 for a freestanding structure.

Segment 3: Yorkshire Drive/Utopia Road to Bell Road (see Map 81)

The Street Transportation Department should install bicycle lanes on 23rd Avenue between Utopia Road and Union Hills Drive as a connection to existing and proposed bicycle facilities. No freeway mitigation sponsored bicycle facilities are recommended for this segment.

Segment 4: Bell Road to Acoma Drive (see Map 82)

The Street Transportation Department should install bicycle lanes on 23rd Avenue and Bell Road to Grandview Road, connecting with a recreational trail between Grandview Road and Paradise Lane, continue the bicycle lane on 23rd Avenue to Greenway Road, and continuing on 23rd Avenue to Acoma Drive. Here the bicycle lane could be built as a short recreational trail connecting with the Cave Creek Municipal Golf Course. No freeway mitigation sponsored bicycle facilities are recommended for this segment.

Segments 5-7 were not found to need freeway mitigation recommended bicycle facilities.

Segment 8: Northern Avenue to Maryland Avenue (see Map 83)

8.1

Location: From Glendale Avenue to Maryland Avenue, between 27th Avenue and 23rd Avenue.

Issue: Need for crossing the freeway at Glendale Avenue using existing facilities on 27th Avenue, 25th Avenue, Ocotillo Road, 24th Drive, and 23rd Avenue.

Recommendation: The City of Phoenix is recommending that existing striped bicycle lanes on the local neighborhood streets in the vicinity of the bridge be utilized as part of its overall network of bicycle lanes, therefore, bicycle lanes are required on the bridge. All necessary signage and striping will be provided by the City of Phoenix. ADOT should modify outside travel lanes and islands to accommodate bike lanes on its future reconstruction of the Glendale Avenue traffic interchange. The extra width would allow for striped bicycle lanes on the bridge and the approaches to the bridge.

Cyclists traveling east on Ocotillo Road turn north on the 25th Drive bicycle lane west of the freeway, use the bicycle lane on Glendale Avenue and the south side of the bridge, turn south on 24th Drive east of the freeway, then turn east on Ocotillo Road. Cyclists traveling west on Ocotillo Road, turn north on 24th Drive east of the freeway, cross Glendale Avenue in a bicycle lane, use the bicycle lane on the north side of the bridge, cross Glendale Avenue at 25th Drive, travel south on 25th Drive, then turn and continue west on Ocotillo Road.

Segment 9: Maryland Avenue to Camelback Road (see Map 84)

9.1

Location: On Maryland Avenue, both sides of the freeway.

Issue: Potential location for pedestrian/bicycle bridge crossing the freeway.

Recommendation: The City of Phoenix and ADOT should coordinate and investigate this location for a pedestrian and bicycle bridge crossing over the freeway and the frontage roads. Striped bicycle lanes from 23rd Avenue and 27th Avenue could be extended on Maryland Avenue to connect with the bridge.

Cost estimates for this project are estimated at \$3 million, including the purchase of homes, right-of-way, and construction of the bridge. This project is currently unfunded and not included in this specific plan.

9.2

Location: On Bethany Home Road between 23rd Avenue and 27th Avenue.

Issue: Inclusion of bicycle lanes on outside travel lanes with the reconstruction of the Bethany Home Road traffic interchange.

Recommendation: ADOT should modify the outside travel lanes and islands for striped bicycle lanes on Bethany Home Road as part of the bridge reconstruction process. The City of Phoenix would provide striped bicycle lanes on the east/west approaches to the Bethany Home Road traffic interchange. Connection with existing bicycle lanes would occur at 23rd Avenue and 31st Avenue.

9.3

Location: On Colter Street, both sides of the freeway.

Issue: Potential location for pedestrian/bicycle bridge crossing the freeway.

Recommendation: The City of Phoenix and ADOT should coordinate and investigate this location for a pedestrian and bicycle bridge crossing over the freeway and the frontage roads. Striped bicycle lanes from 23rd Avenue to the frontage road and from 27th Avenue could be extended on Colter Street to connect with the bridge.

Cost estimates for this project are estimated at \$3 million, including the purchase of homes, right-of-way, and construction of the bridge. This project is currently unfunded and not included in this specific plan.

Segment 10: Camelback Road to Osborn Road (see Map 85)

10.1

Location: Crossing at Grand Canal and the freeway.

Issue: Potential pedestrian/bicycle crossing of the freeway, contiguous to the Grand Canal.

Recommendation: The City of Phoenix and ADOT should coordinate and investigate this location for a pedestrian and bicycle crossing of the freeway and frontage roads. The existing recreational trail along the Grand Canal from 23rd Avenue and 27th Avenue could be extended to the entrances of the crossing structure.

Cost estimates for a tunnel contiguous to Grand Canal, under the frontage roads and the freeway is estimated at \$1 million. A crossing over the freeway and frontage road similar to Maryland Avenue and Colter Street is estimated at \$3 million. These optional crossings are currently unfunded and not included in this specific plan.

Segments 11-13 were not found to need freeway mitigation recommended bicycle facilities.

Segment 14: 19th Avenue to Central Avenue (see Map 86)

An existing bicycle lane on Pima Street from 15th Avenue to Central Avenue continuing to 16th Street is shown in this segment. A bicycle lane is proposed from the Street Transportation Department Bikeway Program on Central Avenue from Madison Street in downtown Phoenix to Baseline Road. There are no freeway mitigation sponsored bicycle facilities recommended for this segment.

Segment 15: Central Avenue to 16th Street (see Map 87)

Existing bicycle lanes are present on Pima Street between Central Avenue and 16th Street; a continuation from 15th Avenue in Segment 14. A north/south bicycle lane is located on 7th Street and continues from Washington Street to Baseline Road. Another feature is the pedestrian tunnel under the Maricopa Freeway at 12th Street, connecting two neighborhoods together.

The Street Transportation Department Bikeway Program is proposing bicycle lanes on Central Avenue from Madison Street to Baseline Road. However, no freeway mitigation sponsored bicycle facilities are recommended for this segment.

Segment 16 was not found to need freeway mitigation recommended bicycle facilities.

Segment 17: Salt River to 40th Street (see Map 88)

The Street Transportation Department should install bicycle lanes on Broadway Road between 32nd Street and 40th Street as part of their Bikeway Program. Bicycle lanes should continue west on Broadway Road to 24th Street where an existing bicycle route is in place and east to 48th Street. No freeway mitigation sponsored bicycle facilities are recommended for this segment.

Segment 18: 40th Street to 48th Street (City Limits) (see Map 89)

The Street Transportation Department should install bicycle lanes on Broadway Road between 40th Street to 48th Street as part of their Bikeway Program. No freeway mitigation sponsored bicycle facilities are recommended for this segment.

Segment 19: Baseline Road (City Limits) to Mineral Road Alignment (see Map 90)**19.1**

Location: From Baseline Road to Guadalupe Road, on South Pointe Parkway East, west of I-10.

Issue: Striped bicycle lanes on South Pointe Parkway East.

Recommendation: From Baseline Road to Guadalupe Road, bicycle lanes are recommended to connect the recreational trail on the Highline Canal to other routes south and west of this area including those in South Mountain Park.

19.2

Location: Guadalupe Road and Interstate 10 traffic interchange.

Issue: Need for bicycle crossing of the freeway.

Recommendation: Future bridge reconstruction at the Guadalupe Road bridge by ADOT should incorporate extra width outside lanes for striped bicycle lanes. Future bicycle lanes from the City of Phoenix, Town of Guadalupe, and the City of Tempe may need a viable east/west crossing of the freeway.

19.3

Location: South Pointe Parkway West, Guadalupe Road, 48th Street, and Piedmont Road, west of the freeway.

Issue: Continuation of striped bicycle lanes outside the freeway mitigation study area.

Recommendation: The City of Phoenix Street Transportation department is recommended to install bicycle lanes outside the Black Canyon/Maricopa Freeway Specific Plan study area. This will provide continuity of bicycle lanes as proposed in segments 19.1 and 19.4.

19.4

Location: On 51st Street to Piedmont Road, south of Guadalupe Road and west of the freeway.

Issue: Continuation of striped bicycle lanes on 51st Street, Piedmont Road to the 48th Street and Piedmont intersection.

Recommendation: Striped bicycle lanes are recommended to continue the network of bicycle lanes as proposed in segments 19.1, 19.3, and 20.1. This route would supplement existing striped bicycle lanes on 48th Street south of Mineral Road.

Segment 20: Mineral Road Alignment to Warner Road (see Map 91)**20.1**

Location: On 51st Street north of Elliot Road, west of the freeway.

Issue: Striped bicycle lanes on 51st Street to connect to existing bicycle lanes on 51st Street south of Elliot Road.

Recommendation: Continue striped bicycle lanes on 51st Street north of Elliot Road. South of Elliot Road, existing bicycle lanes continue on 51st Street to Warner Road.

Note: Additional recreational trail funding that was proposed for Segment 20, approximately 1/2-mile south of Elliot Road on 51st Street to Warner Road, west of the freeway has been diverted to a noise wall in Segment 20, Map 53, with City Council approval of the specific plan on December 16, 1998.

Segment 21: Warner Road to Galveston Street Alignment (see Map 92)

A tunnel connection with a future City of Tempe park facility exists at the northeast corner of Mountain Vista Park and the drainage channel. The tunnel is sized to accommodate pedestrians and bicyclists, yet current access to the tunnel is restricted and is used for drainage only.

Note: Recreational trail funding that was proposed for Segment 21, from 51st Street and Warner Road to Mountain Vista Park, between 48th Street and the I-10 Freeway has been diverted to a noise wall in Segment 20, Map 53, with City Council approval of the specific plan on December 16, 1998.

Segment 22: Galveston Street Alignment to Pecos Rd. Alignment (City Limits) (see Map 93)

22.1





Location: Chandler Boulevard and Interstate 10 traffic interchange.

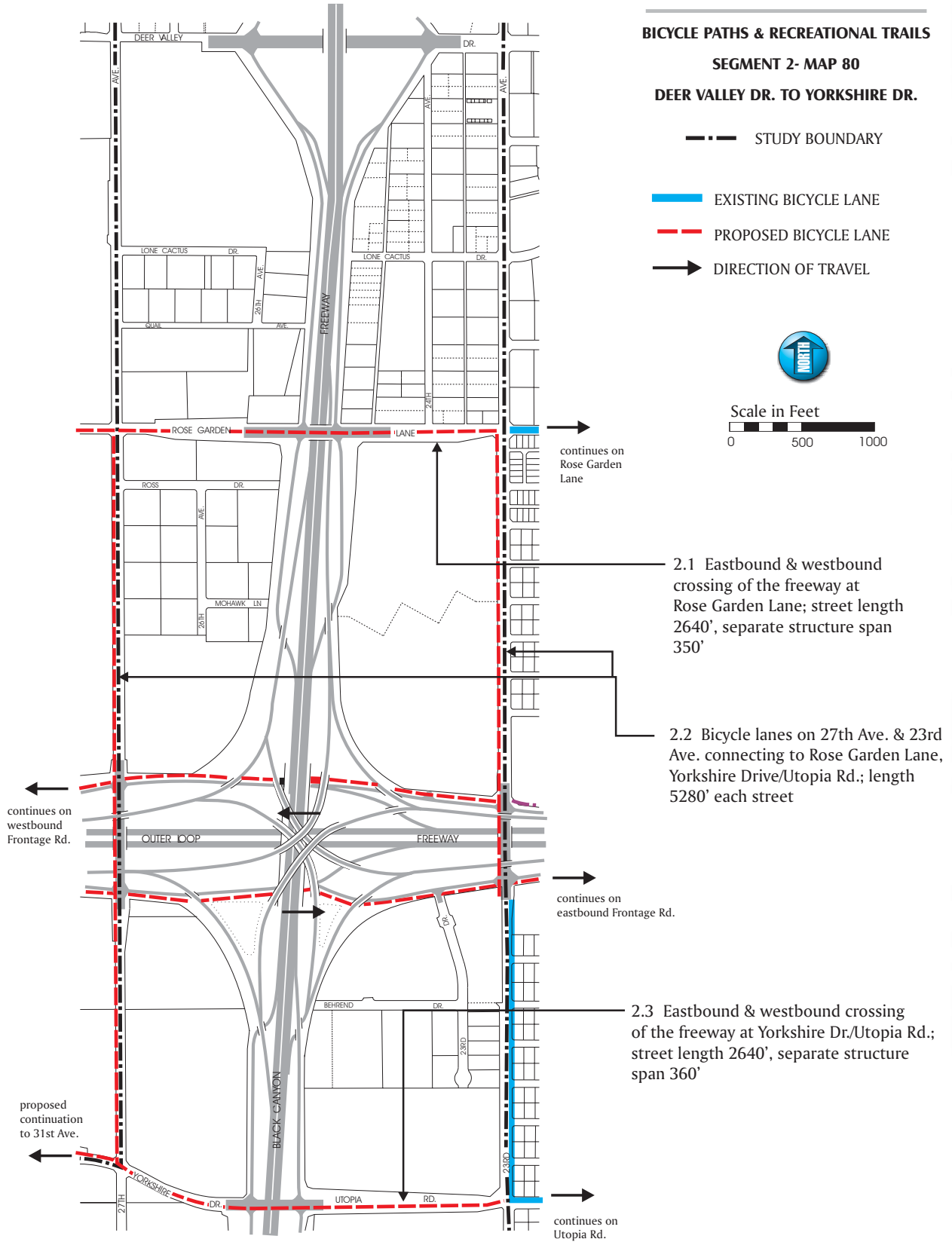
Issue: Need for bicycle crossing of the freeway.

Recommendation: Future bridge reconstruction at Chandler Boulevard and the freeway by ADOT should incorporate a viable east/west crossing of the freeway for bicyclists. Extra width outside lanes and modified island design could incorporate striped bicycle lanes.

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS SEGMENT 2- MAP 80 DEER VALLEY DR. TO YORKSHIRE DR.




-  STUDY BOUNDARY
-  EXISTING BICYCLE LANE
-  PROPOSED BICYCLE LANE
-  DIRECTION OF TRAVEL

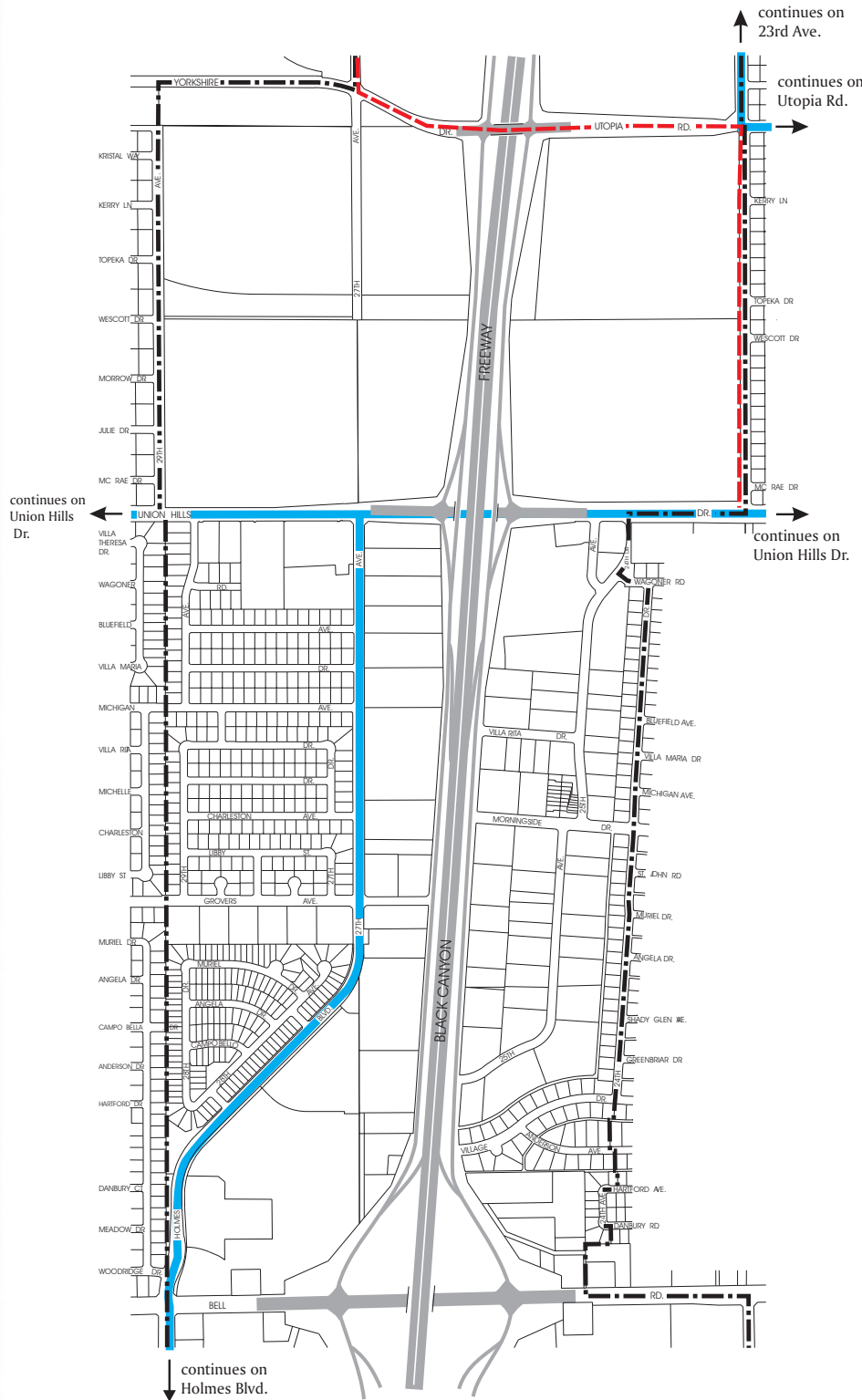


**BLACK CANYON/MARICOPA
FREEWAY SPECIFIC PLAN**

BICYCLE PATHS & RECREATIONAL TRAILS

**SEGMENT 3 - MAP 81
YORKSHIRE DR. TO BELL RD.**

-  STUDY BOUNDARY
-  EXISTING BICYCLE LANE
-  PROPOSED BICYCLE LANE



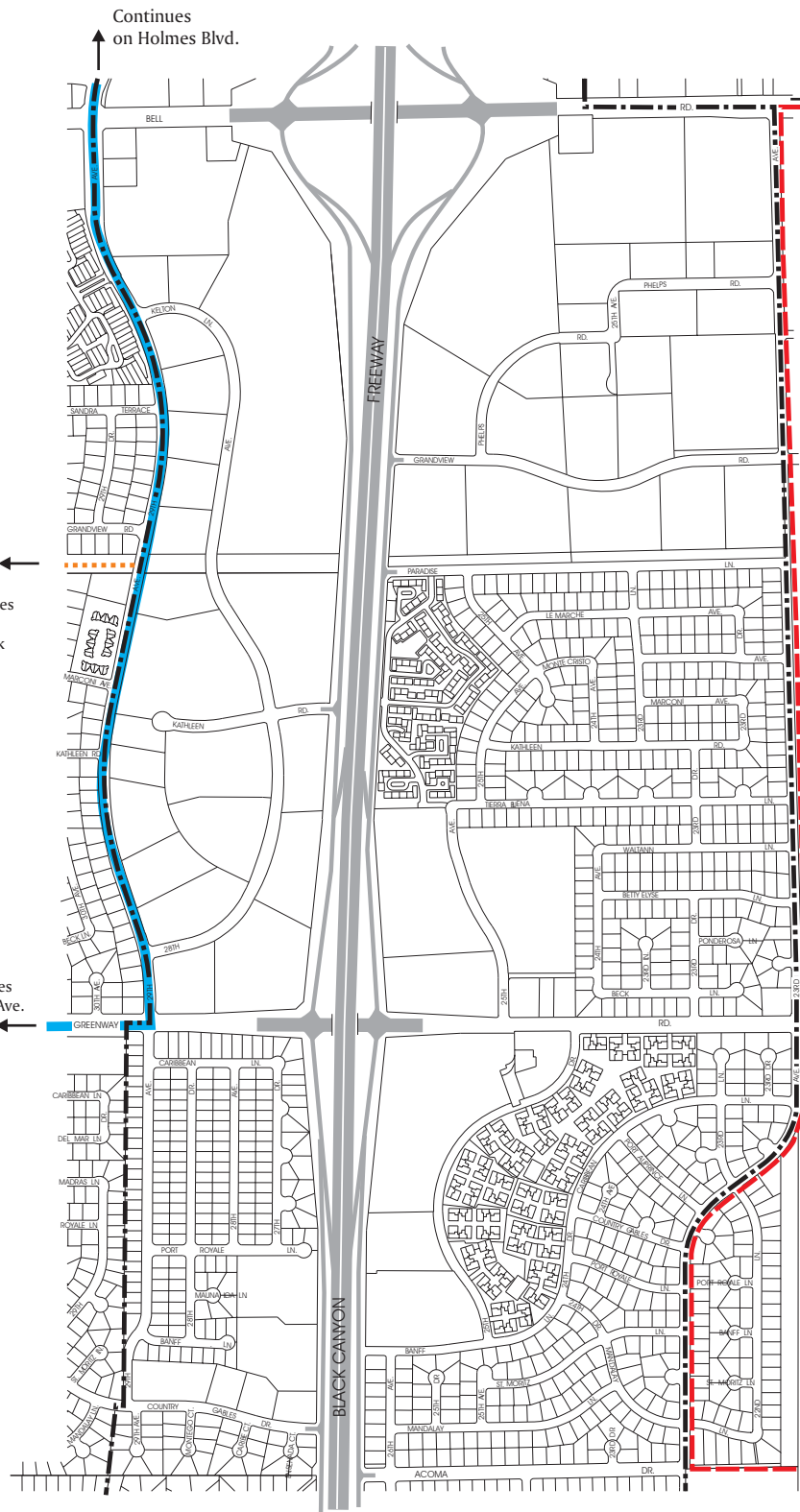
Recommend striped bicycle lanes installed by City of Phoenix Street Transportation Department bikeway program

No freeway mitigation sponsored bicycle facilities are recommended for this segment

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 4 - MAP 82 BELL RD. TO ACOMA DR.



Proposed bicycle lane to continue to 21st Ave.

- STUDY BOUNDARY
- EXISTING BICYCLE LANE
- PROPOSED BICYCLE LANE
- EXISTING RECREATIONAL TRAIL



No freeway mitigation sponsored bicycle facilities are recommended for this segment

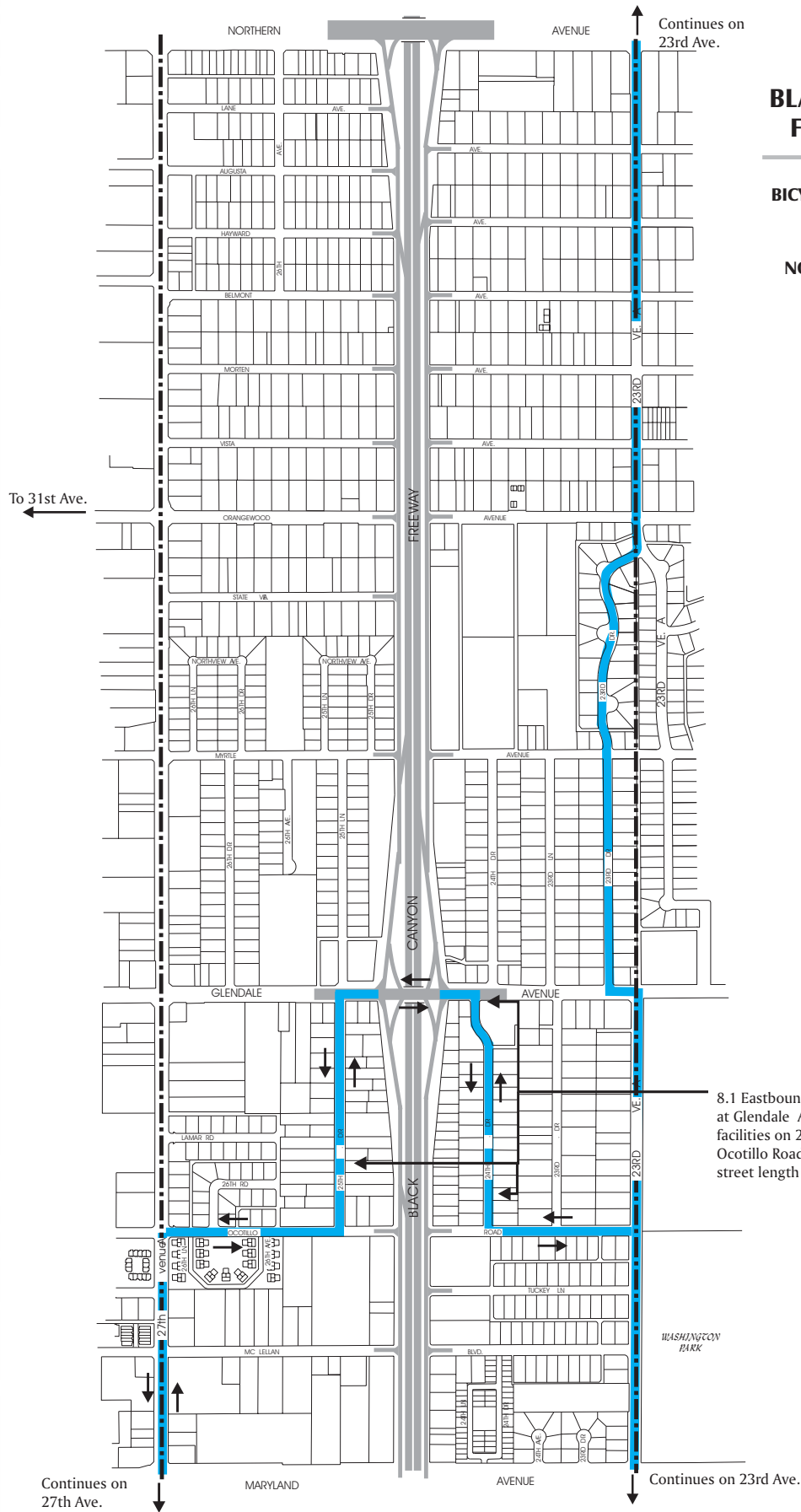
Proposed bicycle lane to connect with Cave Creek Park Municipal Golf Course

Continues on Holmes Blvd.

Recreational trail continues to Rancho Encanto Park

Continues to 31st Ave.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN






BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS

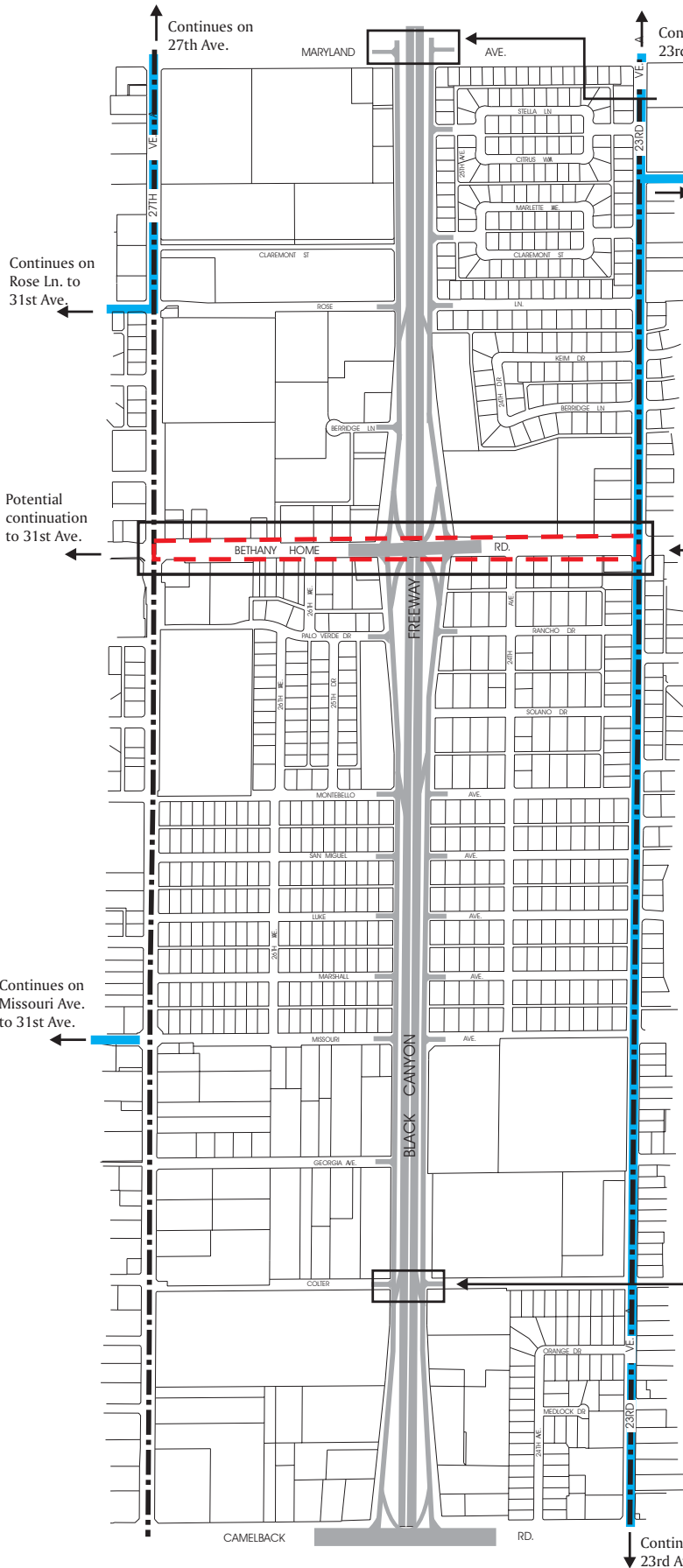
SEGMENT 8 - MAP 83

NORTHERN AVE. TO MARYLAND AVE.

-  STUDY BOUNDARY
-  EXISTING BICYCLE LANES
-  DIRECTION OF TRAVEL



8.1 Eastbound & westbound crossing at Glendale Ave. using existing facilities on 27th Ave., 25th Ave., Ocotillo Road, 24th Dr., & 23rd Ave.; street length 1200'



**BLACK CANYON/MARICOPA
FREEWAY SPECIFIC PLAN**

**BICYCLE PATHS & RECREATIONAL TRAILS
SEGMENT 9 - MAP 84
MARYLAND AVE. TO CAMELBACK RD.**

9.1 City of Phoenix & ADOT to investigate potential location for pedestrian/bicycle bridge

Continues on Citrus Way to Washington Park

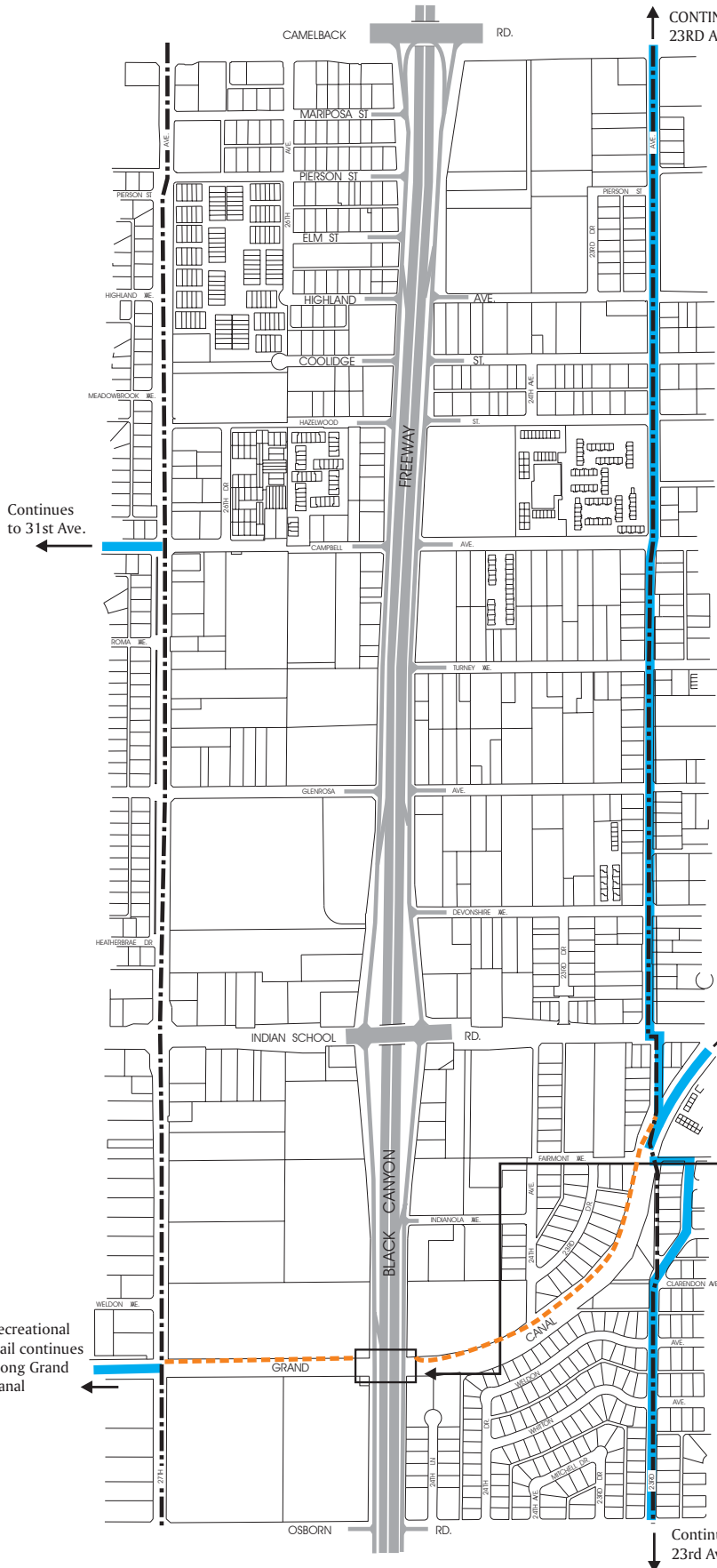
9.2 ADOT to restripe & modify outside travel lanes & islands for bicycle lanes on bridge; city of phoenix to provide east/west bicycle lane approaches

9.3 City Of Phoenix & ADOT To Investigate Potential Location For Pedestrian/ Bicycle Bridge

- STUDY BOUNDARY
- EXISTING BICYCLE LANE
- PROPOSED BICYCLE LANE






BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN



BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 10 - MAP 85
CAMELBACK RD. TO OSBORN RD.

-  STUDY BOUNDARY
-  EXISTING BICYCLE LANE
-  PROPOSED RECREATIONAL TRAIL



Continues to 31st Ave.

CONTINUES ON
23RD AVE.

Recreational trail continues along Grand Canal

10.1 City of Phoenix & ADOT to investigate potential location for pedestrian/bicycle crossing contiguous to Grand Canal; existing recreational trails could be extended to crossing structure

Recreational trail continues along Grand Canal

Continues on
23rd Ave.

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS




SEGMENT 14 - MAP 86

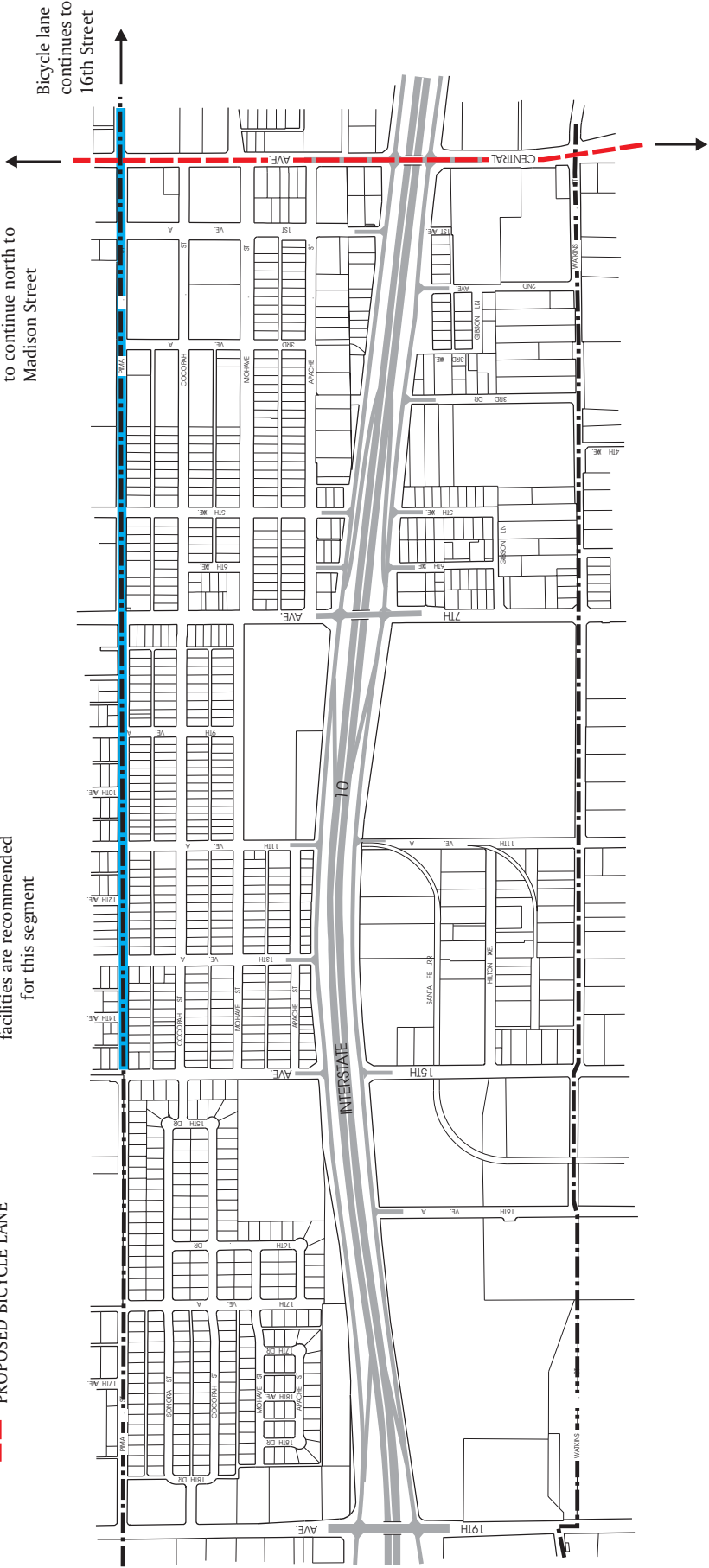
19TH AVE. TO CENTRAL AVE.



Scale in Feet



-  STUDY BOUNDARY
 -  EXISTING BICYCLE LANE
 -  PROPOSED BICYCLE LANE
- No freeway mitigation sponsored bicycle facilities are recommended for this segment



Proposed bicycle lane to continue south to Baseline Rd.

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

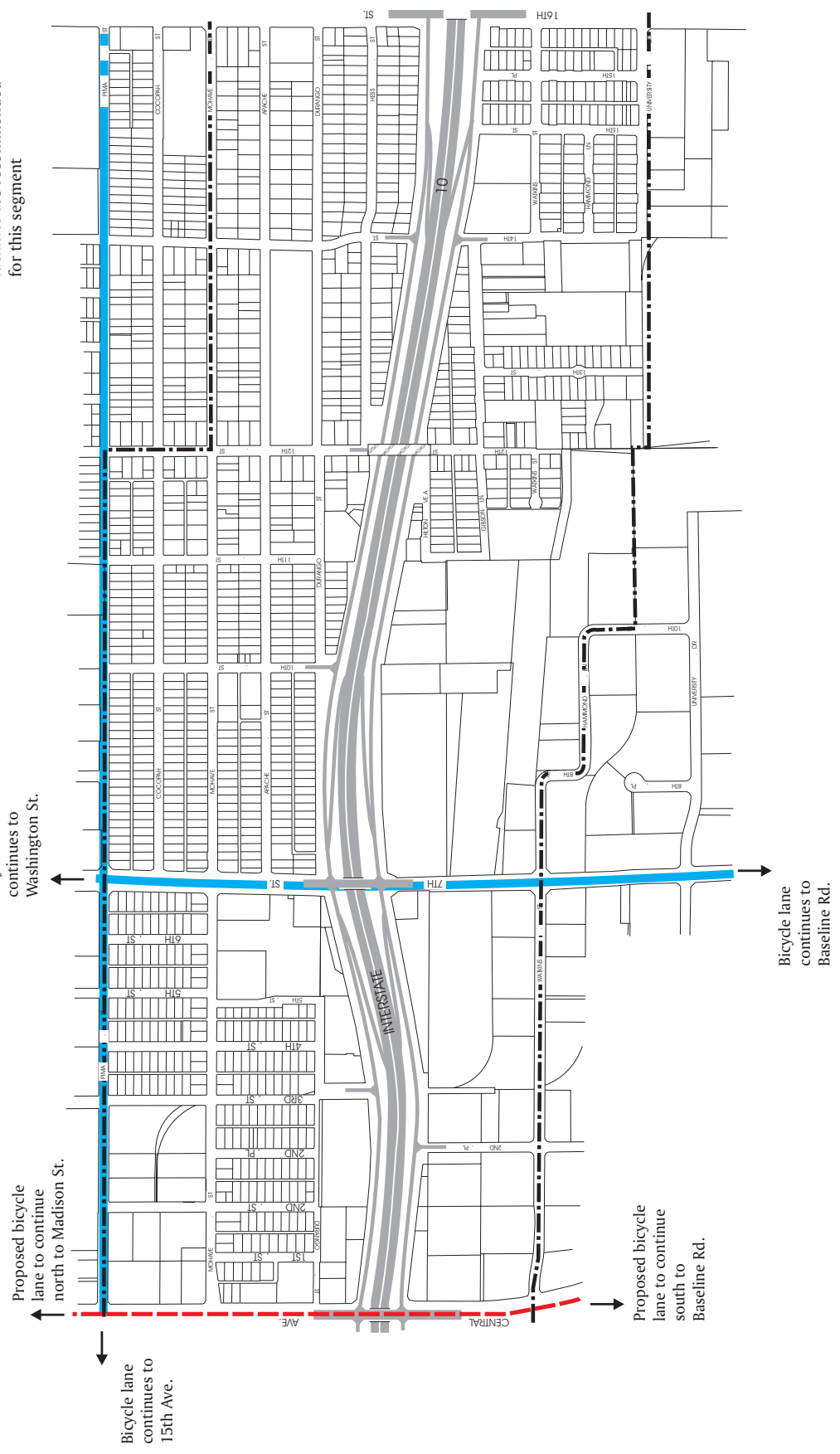
BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 15 - MAP 87
CENTRAL AVE. TO 16TH ST.

- STUDY BOUNDARY
- EXISTING BICYCLE LANE
- ▨ EXISTING PEDESTRIAN TUNNEL
- PROPOSED BICYCLE LANE



No freeway mitigation sponsored bicycle facilities are recommended for this segment



Proposed bicycle lane to continue north to Madison St.

Bicycle lane continues to 15th Ave.

Bicycle lane continues to Washington St.

Proposed bicycle lane to continue south to Baseline Rd.

Bicycle lane continues to Baseline Rd.

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

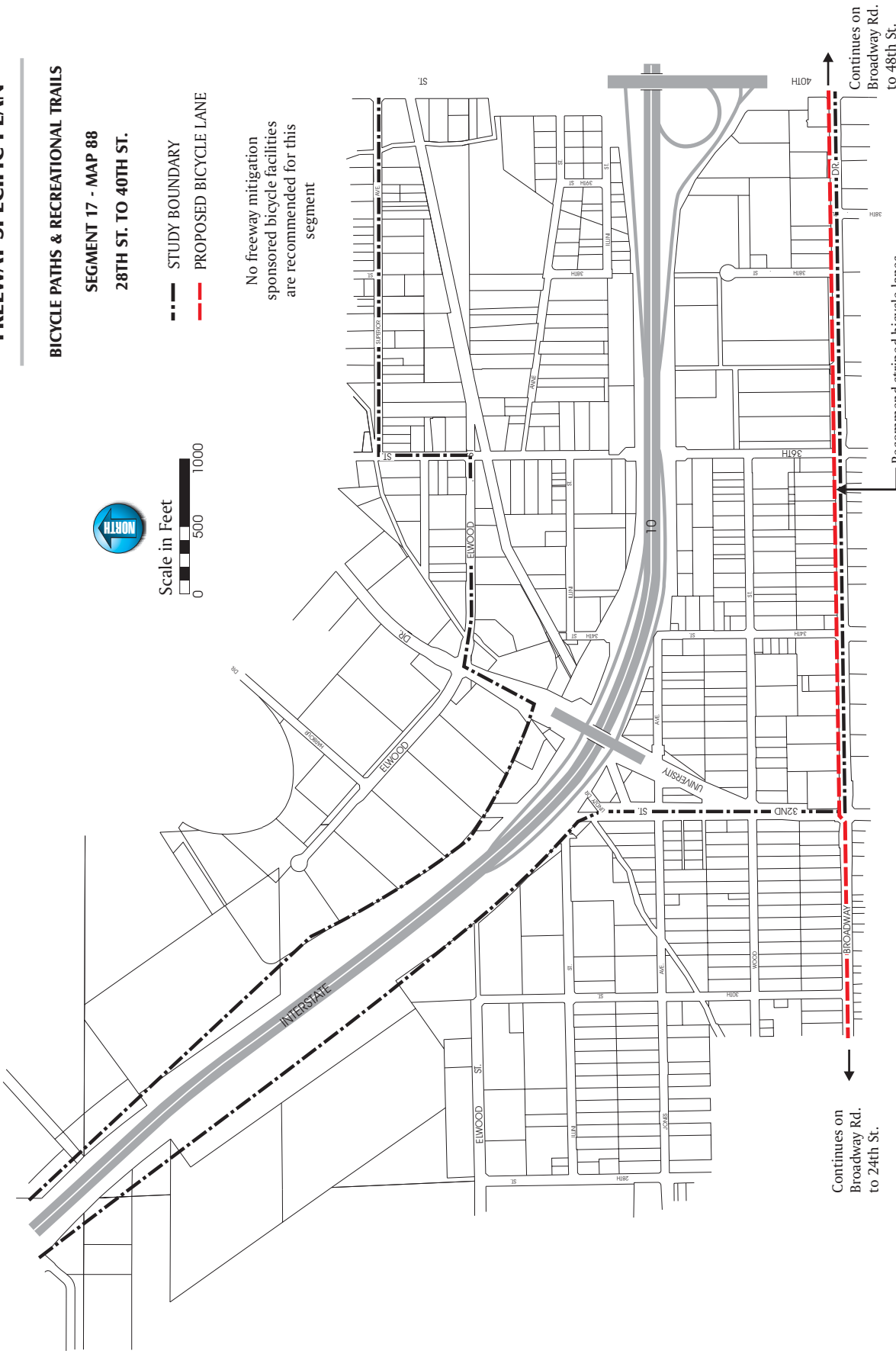
BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 17 - MAP 88
28TH ST. TO 40TH ST.



- STUDY BOUNDARY
- PROPOSED BICYCLE LANE

No freeway mitigation sponsored bicycle facilities are recommended for this segment



Continues on Broadway Rd. to 24th St.

Continues on Broadway Rd. to 48th St.

Recommend striped bicycle lanes installed by City of Phoenix Street Transportation Department Bikeway Program

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 18 - MAP 89
40TH ST. TO 48TH ST.

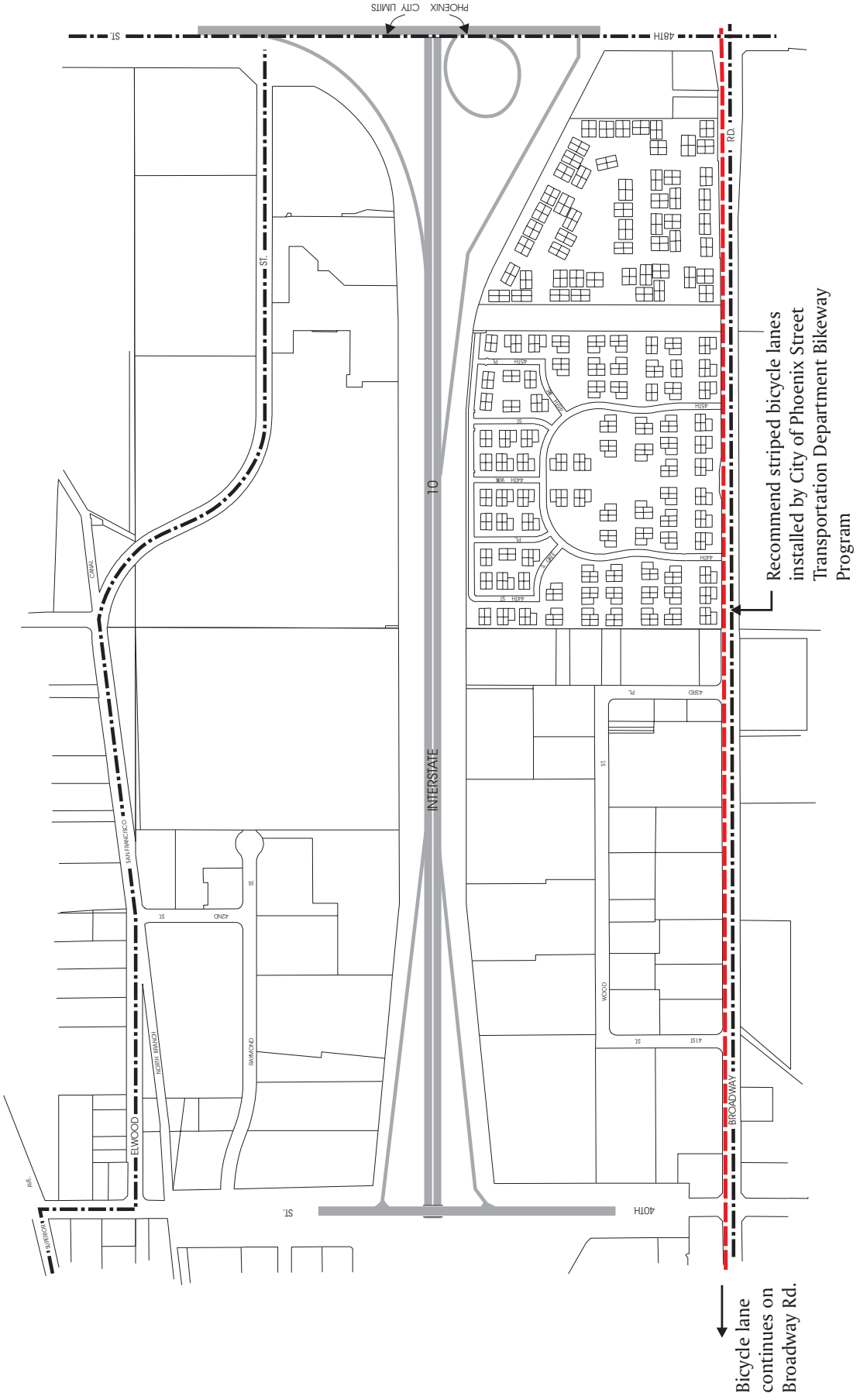


 Scale in Feet



 No freeway mitigation sponsored bicycle facilities are recommended for this segment

-  STUDY BOUNDARY
-  PROPOSED BICYCLE LANE







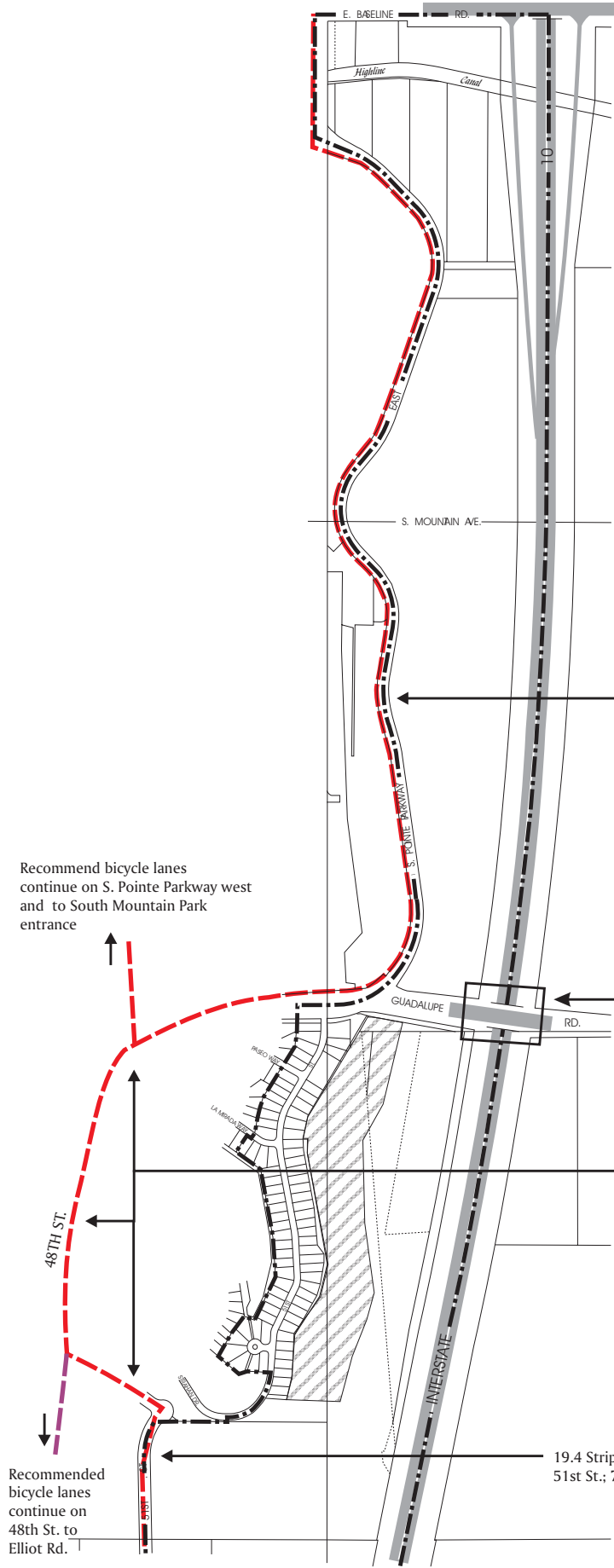
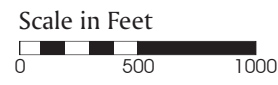
Bicycle lane continues on Broadway Rd.

Recommend striped bicycle lanes installed by City of Phoenix Street Transportation Department Bikeway Program

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS SEGMENT 19 - MAP 90 BASELINE RD. TO ELLIOT RD.

-  STUDY BOUNDARY
-  GOLF COURSE
-  EXISTING RECREATIONAL TRAIL
-  PROPOSED BICYCLE LANE



19.1 Striped bicycle lane on S. Pointe Parkway east, from Baseline Rd. to Guadalupe Rd. to 48th St.; 5280' Long

Recommend bicycle lanes continue on S. Pointe Parkway west and to South Mountain Park entrance

19.2 Future Guadalupe Rd. bridge reconstruction by ADOT to incorporate bicycle lanes

19.3 Continuity of striped bicycle lanes on Guadalupe Rd., S. Pointe Parkway west, 48th St. and Piedmont Rd. to be provided by City of Phoenix Street Transportation Department

Recommended bicycle lanes continue on 48th St. to Elliot Rd.

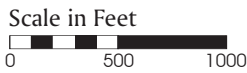
19.4 Striped bicycle lane on 51st St.; 700' long

**BLACK CANYON/MARICOPA
FREEWAY SPACIFIC PLAN**

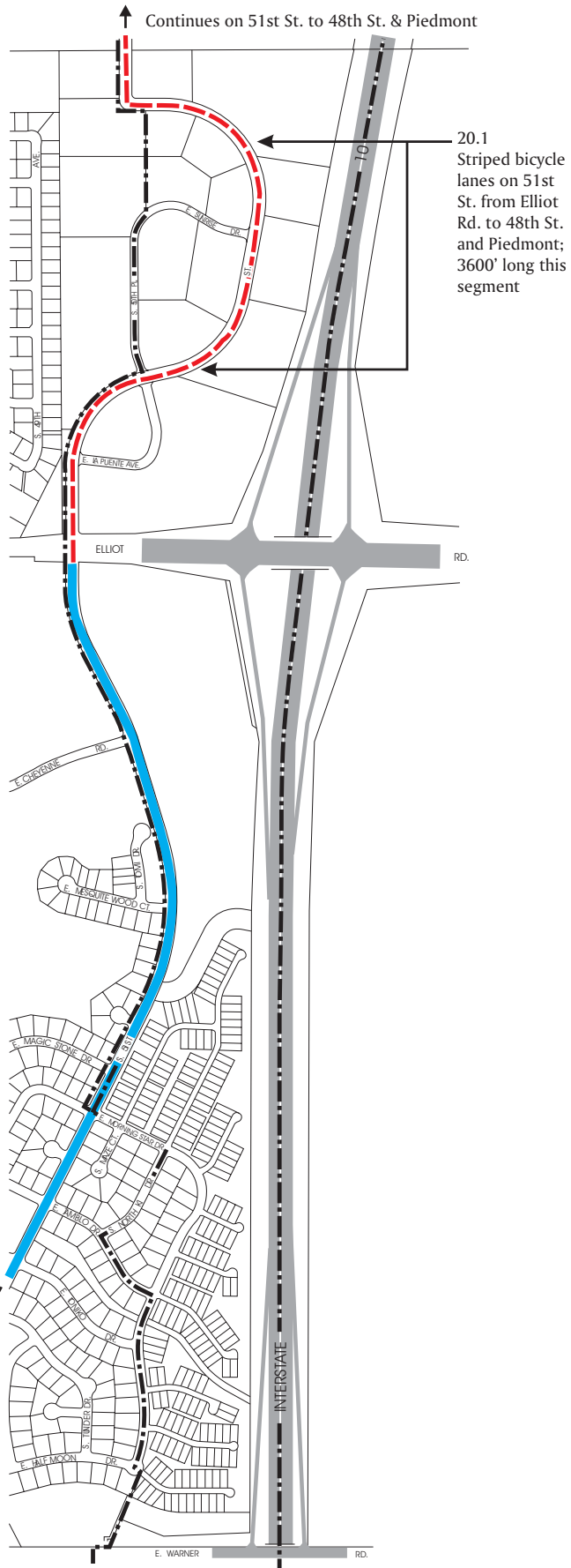
BICYCLE PATHS & RECREATIONAL TRAILS

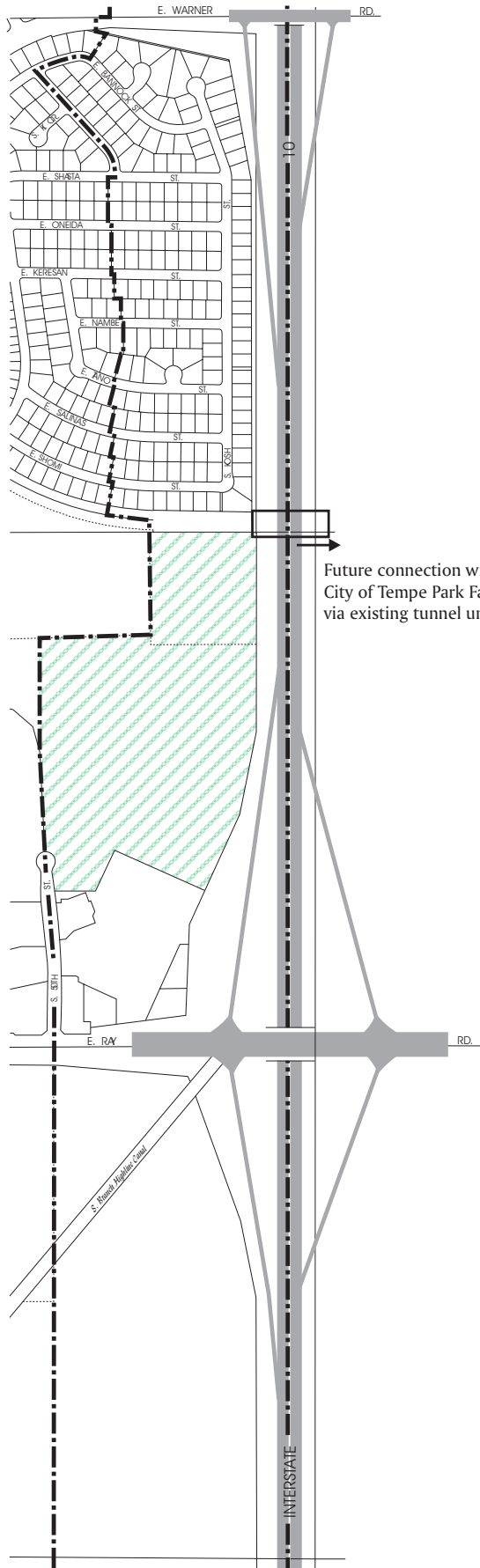
**SEGMENT 20 - MAP 91
ELLIOT RD. TO WARNER RD.**

- STUDY BOUNDARY
- EXISTING BICYCLE LANE
- - - PROPOSED BICYCLE LANE



Bike lanes on 51st St. continue to Warner Rd.





BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 21 - MAP 92

WARNER RD. TO RAY RD.

--- STUDY BOUNDARY

 CITY PARK



Scale in Feet



Future connection with
City of Tempe Park Facility
via existing tunnel under freeway

BLACK CANYON / MARICOPA FREEWAY SPECIFIC PLAN

BLACK CANYON/MARICOPA FREEWAY SPECIFIC PLAN

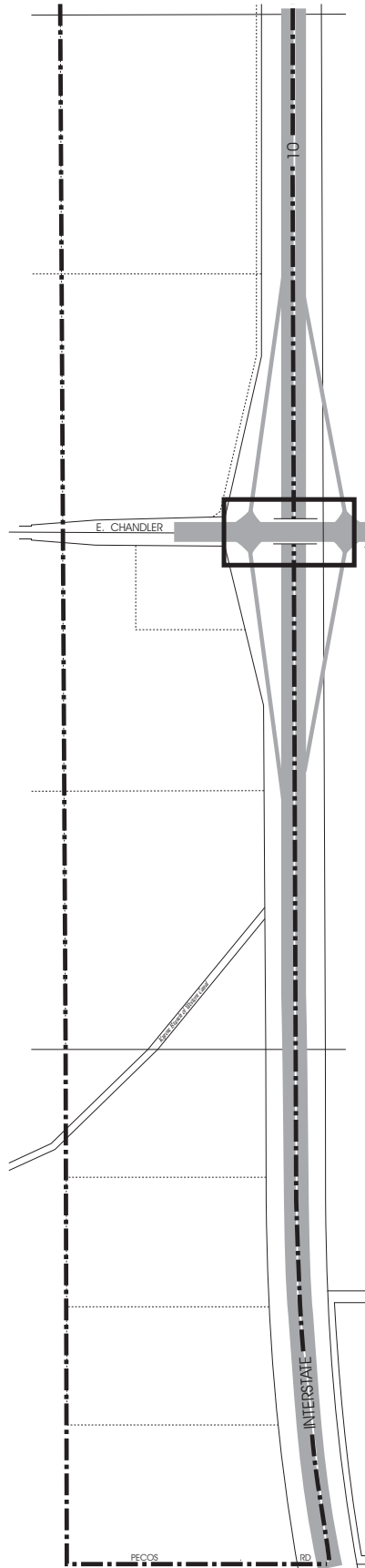
BICYCLE PATHS & RECREATIONAL TRAILS

SEGMENT 22 - MAP 93
RAY RD. TO PECOS RD.

--- STUDY BOUNDARY



Scale in Feet
0 500 1000



22.1 Future Chandler Blvd.
bridge reconstruction by
ADOT to incorporate bicycle
lanes

IMPLEMENTATION



In addition to adoption of mitigation policies, a benefit of the Freeway Mitigation program is the provision of funding for projects to implement adopted plans. Adoption of the plan document will establish direction for city agencies in their activities near the Black Canyon/Maricopa Freeway as well as their coordination with ADOT projects along the freeway. By approving this plan, the City Council has also set their policy for mitigation features desired when reviewing future freeway designs proposed by ADOT for construction or reconstruction.

The mitigation measures for the Black Canyon/Maricopa Freeway corridor are a combination of policies, guidelines, development standards, land use modifications, and improvement projects. The improvement projects requiring city expenditures will be funded by the "Freeway Mitigation, Neighborhood Stabilization and Slum and Blight Elimination" bond. This bond was approved by Phoenix voters in April 1988. The development standards for the entire city were approved by City Council with a previous mitigation plan, the Outer Loop Freeway Specific Plan. These standards will also apply to future residential development along the Black Canyon/Maricopa Freeway.

The table on the next page, entitled "Mitigation Budget" describes the expected project costs by each of the 22 freeway segments and by mitigation elements. The different elements in the plan correspond to the category of improvements in the table, and segment maps in each plan element designate the specific improvements. It must be noted that project costs in each segment and by category of improvement are estimates only. Funds may shift from segment to segment and between categories of improvement to ensure that all projects are completed satisfactorily. However, the total budget approved for this freeway will not be exceeded.

In November 1998, freeway mitigation staff applied for a Transportation Equity Act for the 21st Century (TEA-21) grant to assist in the mitigation funding estimates for the Elevated Maricopa Freeway Enhancement Project and the 12th Street pedestrian tunnel reconstruction. Freeway mitigation funds amounting to \$400,000 were used as a fifty-percent match for an additional \$400,000 of grant funding. It is anticipated that grant approval will be in the first quarter of 1999.

Aside from these specific projects, are the policies and guidelines that are recommended as part of this document. These are important, and need to be followed by city staff to ensure successful implementation of this plan.

**Black Canyon/Maricopa Freeway Specific Plan
Mitigation Budget**

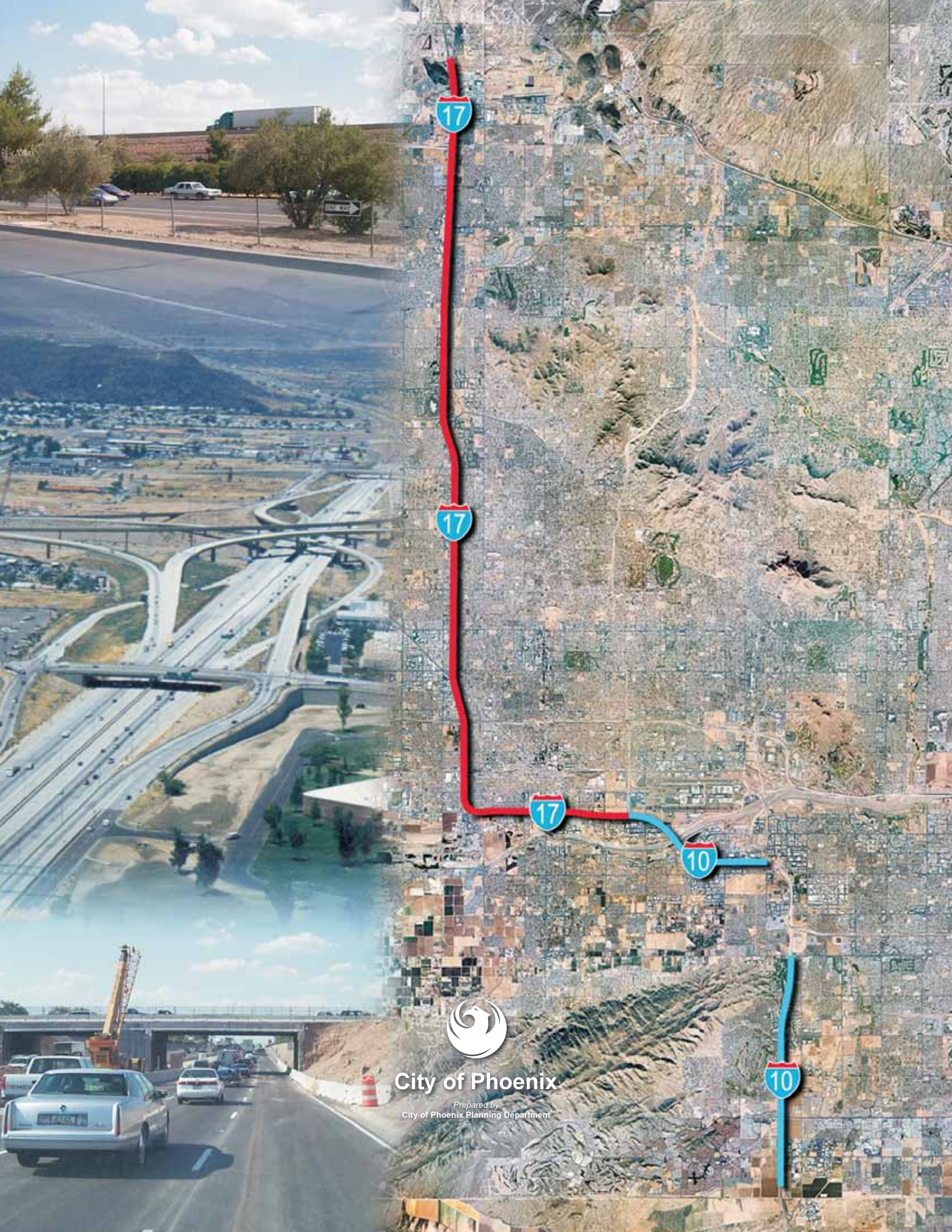
Segments	Elements						Total Cost per Segment
	Noise Mitigation	Cut-Through Traffic Mitigation	Landscape Enhancements	Elevated Maricopa Freeway Enhancement	12th St. Pedestrian Tunnel Reconstruction	Bicycle Paths and Recreational Trails*	
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	\$0	\$0	\$0	\$0	\$0	\$10,500	\$10,500
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$23,300	\$6,000	\$0	\$0	\$0	\$29,300
5	\$0	\$9,900	\$56,001	\$0	\$0	\$0	\$65,901
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	\$36,000	\$23,300	\$27,300	\$0	\$0	\$0	\$86,600
8	\$0	\$66,600	\$38,500	\$0	\$0	\$12,000	\$117,100
9	\$0	\$59,800	\$49,500	\$0	\$0	\$18,000	\$127,300
10	\$0	\$87,700	\$0	\$0	\$0	\$15,000	\$102,700
11	\$0	\$20,000	\$22,800	\$0	\$0	\$0	\$42,800
12	\$162,450	\$170,304	\$75,000	\$0	\$0	\$0	\$407,754
13	\$93,000	\$275,512	\$10,000	\$0	\$0	\$0	\$378,512
14	\$120,000	\$226,502	\$56,100	\$313,128	\$0	\$0	\$715,730
15	\$123,600	\$144,302	\$247,200	\$186,881	\$251,151	\$0	\$953,134
16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19	\$0	\$0	\$0	\$0	\$0	\$7,793	\$7,793
20	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21	\$135,723	\$0	\$0	\$0	\$0	\$0	\$135,723
22	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Cost per Element	\$670,773	\$1,107,220	\$588,401	\$500,009	\$251,151	\$63,293	\$3,180,847
							Total Cost of All Mitigation

*** Notes:**

1. In Segment 2, proposed bicycle crossings of the freeway at Rose Garden Lane and Yorkshire Drive/Utopia Road are freestanding bridges, span dimensions of 10 feet wide by 260 feet long, approximately \$750,000 each (approach ramps included), or about \$60-\$75/sq. Ft. No approach ramps needed since span is between on/off ramps.

Funding for these freeway crossings would come from a separate source or a future bond.

2. Funding for Bicycle Paths and Recreational Trails in Segments 8, 9, and 10 would be used to stripe bicycle lanes or construct a recreational trail to potential crossing points of the I-17 Freeway. See Bicycle Paths and Recreational Trails Element for details.



City of Phoenix

Prepared by
City of Phoenix Planning Department