

## **WESTSIDE STRATEGIC PLAN AMENDMENT**

The amendment to the West Side Strategic Plan that follows shall be inserted after page 154 of the West Side Strategic Plan, at what is currently the end of Section 3 Specific Westside Communities, to continue after Policy 3.94.

### **Exhibit list:**

1. Volcano Mesa Area
2. Relationship of the Volcano Mesa Area to the Volcanoes and Larger West Mesa Community
3. Volcano Mesa Community Sub-Areas
4. Employment Activity Centers
5. Natural and Cultural Features
6. Paths
7. Visual Sensitivity
8. Soil Series Map
9. Parks and Natural Drainages
10. Road Network Map
11. Trail Network Map

## **VOLCANO MESA AREA**

The Volcano Mesa Area (**See Exhibit 1, Volcano Mesa Community**) covers approximately 3,532 acres. The area is surrounded on three sides by more than 7,000 acres of open space under City, State and Federal jurisdictions. The shape of the open space holdings includes large tracts and long, narrow bands of escarpment. The Volcano Mesa area includes portions of the land the US Congress set aside as Petroglyph National Monument (the “Monument”) in 1990. From east to west, the Volcano Mesa area extends from the volcanic escarpment to the Major Public Open Space surrounding five dormant volcanoes (**See Exhibit 2, Relationship of the Volcano Mesa Area to the Volcanoes and Larger West Mesa Community**). From north to south, the Volcano Mesa area extends from south of the grant line and Paseo Del Norte to the Petroglyph National Monument. The Volcano Mesa area’s boundary also includes a small area of unincorporated Bernalillo County land, in the Monument’s North Geological Window. Any future actions in this area would require County review and approval. The Volcano Mesa area’s cultural, natural and built conditions were used to inform the planning process and to guide the development of policies that are sensitive and responsive to the area’s unique needs, challenges and opportunities. The Volcano Mesa area is made up of three separate planning areas, reflecting their distinct characters and planning needs: Volcano Cliffs, Volcano Heights and Volcano Trails (**See Exhibit 3, Volcano Mesa Community Sub-Areas**).

### **A. DEVELOPMENT TRENDS**

**1. Development Trends.** Single-family residential subdivisions are the pattern for new development in the Volcano Mesa area by the area’s existing RD zoning. The original single-use residential zoning prohibits integrating a mix of other uses which could make neighborhoods more walkable and convenient (e.g. neighborhood services). Under this type of zoning, it is certain that a desirable jobs / housing balance will not be achieved. Assuming a workforce need of 1.25 jobs per dwelling, a deficit of 13,000 jobs within the Plan area under the original trends is projected. Including the major Quail Ranch and Ventana West developments to the northwest, which are zoned for approximately 23,500 jobs, there is still a deficit of around 24,000 additional

jobs needed to provide an adequate job base serving the anticipated population of the plan area and vicinity. Build-out exclusively with single-family residential subdivisions would increase jobs / housing imbalances on the West Side, adding to traffic demands and increasing the burden on West Side and east-west transportation systems. Without adequate provision of employment, greater trip internalization, and more emphasis on transit-supportive land uses and road systems on the West Side, traffic congestion and demand for expanded river crossings will increase.

**Policy 3.95 Volcano Heights Major Activity Center. The Volcano Heights Town Center should be designated as a Major Activity Center. The Volcano Heights Town Center provides an opportunity to address the jobs/housing imbalance in the area and will serve the region with employment, commercial, service and retail opportunities.**

The Albuquerque Bernalillo County Comprehensive Plan designates two areas on the West Side of Albuquerque as Major Activity Centers (MAC): the Cottonwood Center and the Atrisco Business Park. Due to the way in which these two areas have developed – with low-density, auto-oriented, and single-use patterns – they are not contributing to meeting the employment and other daily needs of residents of the West Side as a Major Activity Centers should. Four areas are designated as Proposed Major Activity Centers; however, these are all west of Paseo Del Volcan.

By comparison, the east side of Albuquerque contains ten designated Major Activity Centers. According to the Mid Region Council of Governments (MRCOG), in 2008, there were 152,300 jobs provided on the east side of Albuquerque in the top seven activity centers on the east side, including Downtown, Uptown, UNM/CNM/Hospitals, Jefferson/I-25, Midtown, Sunport, and Kirtland Air Force Base. This is in stark contrast to the 14,400 jobs available in 2008 on the west side in the Intel/Cottonwood and Atrisco Business Park centers. **(See Exhibit 4, Employment Activity Centers)**

This suggests that the majority of people who live on the west side find their employment on the east side of the river, and, as an auto-oriented city, this has led to significant traffic problems today, which are predicted to continue and worsen. According to MRCOG, based on present-day land-use and zoning policies, the current trend of employment growth concentrated on the east side of the Rio Grande River will continue and will far outpace employment growth on Albuquerque's West Side. The only way to reverse this trend is to provide significant and attractive opportunities for employers to locate on the West Side.

Opportunities for designation of a Major Activity Center on the West Side are limited due to a lack of large, undeveloped tracts of land (300 acres or more, per the Comprehensive Plan) that are located at the intersection of two major roadways (also per the Comprehensive Plan). The Volcano Heights area provides a critical opportunity for the West Side to locate a mix of employment, commercial, service and residential uses to meet the needs of the wider area and decrease cross-river traffic. A MAC is described by the Comprehensive Plan as being 3 stories or higher, with a minimum Floor Area Ratio of 1.0. Therefore, to be considered a MAC, density and intensity of development is required. The opportunity presented by the Volcano Heights area should not be lost by allowing for development that follows the typical suburban pattern of single-story, single-use development, such as large retail facilities, that provide large areas of surface parking and cannot take advantage of or support quality transit service.

**Policy 3.96 New zoning should be established for the Volcano Mesa area to correct the jobs/housing imbalance that exists for the area and to support area wide transit services. Development of the Volcano Mesa Area has the potential, with new zoning, to result in approximately 12,000 additional housing units with 30,000 residents and significant non-residential building. The total growth in the Albuquerque**

market is approximately 5,500 residential units and 7,000 new jobs per year. Since Volcano Mesa is only a portion of the inventory of developable land, it is reasonable to expect build-out there to occur over several years, if not decades.

**Policy 3.97 Volcano Cliffs Neighborhood Activity Center.** The Volcano Cliffs Village Center should be designated as a Neighborhood Activity Center. The Volcano Cliffs Village Center provides an opportunity to provide daily services, convenience goods and personal services to the residential area that surrounds it. It is centrally located to the Volcano Cliffs area, is located at the junction of a minor arterial (Universe) and a collector (Rosa Parks) and is therefore well placed to serve the community. The proximity of the area to the Volcano Vista High School and the Tony Hillerman Middle School also make this a logical location.

**3.98. Implementation Strategies should consider the following for growth phasing and timing. The considerations for the various phases of growth should generally include the following:**

**Public Improvement Districts.** Public Improvement Districts (Sections 5-11-1 et seq. NMSA 1978 provide another mechanism for funding development in the Volcano Mesa area. PIDs are established to create a special property tax assessment, over the normally charged rate, to fund the development of street and parking facilities, trails, parks, open space, recreational facilities, landscaping, public building, school sites and facilities, libraries and other educational and cultural facilities, water and wastewater systems, storm drainage, and private utilities, as provided in the Statute. Current City Ordinance requires a unanimous vote of all property owners to establish a PID, the State Statutory requirement is for three-fourths affirmative votes of District property owners cast, with the number of votes based on the acreage held of each owner. Due to these requirements, PIDs are more appropriate in cases where all of the property is owned by 1-5 developers.

**Special Assessment Districts.** SADs are districts that can be set up by State Statute (Chapter 3, Article 33 NMSA 1978) and used to finance and ensure timely provision of infrastructure to a defined area. Infrastructure in an SAD is funded through an assessment that is levied on each property within the district. The benefits of using SADs as a mechanism to fund infrastructure are that the City controls infrastructure improvement and can therefore ensure that it is developed at appropriate standards, and SADs are set up to permit development in areas that have a large number of property owners, as is the case in Volcano Cliffs. Funding generated under SADs is eligible to be utilized for basic infrastructure as well as things such as streetscape enhancements and landscaping.

**PID/SAD Implementation.** In order to ensure development that is compatible with the policies of the Volcano Mesa area and the regulations in applicable Rank 3 sector development plans, PIDs and SADs are subject to the requirements and guidelines established in the Volcano Mesa plans as required by state statute and other provisions of state statute as appropriate.

**Workforce Housing.** One of the goals of the Workforce Housing Act is to create diverse communities. A number of financial and regulatory mechanisms are available in the City to assist in reaching this goal in the Volcano Mesa area. These include, but are not limited to, waivers of City impact fees for affordable housing units in Planned Village Development Zones, affordable housing in adopted Centers and Corridors, and in mixed-income projects, affordable housing tax credits, and gap financing to achieve housing affordability using Federal, State, and Local funding sources.

**Public-Private Partnership.** It is recognized that there are many challenges involved in implementing development in the Volcano Mesa area due principally to the multiple ownership of parcels in critical locations such as the proposed Major Activity Center in the Volcano Heights sub-area. Overcoming these challenges will involve close and cooperative working relationships among the City, the private sector, and others.

**Water.** The Volcano Mesa area is located adjacent to the northern boundary of the pre-2006 Albuquerque Bernalillo County Water Utility Authority service area boundary. This boundary was extended northward with the acquisition of New Mexico Utilities in 2006. As such, all water system improvements identified in the project area are focused on improving the connectivity of the two water systems and well production.

## **B. ENVIRONMENT AND OPEN SPACE**

### **1. Natural and cultural features**

Volcano Mesa is privately held land that lies between the publicly owned lands that preserve the escarpment and protect the volcanoes and geologic windows. Volcano Mesa provides a unique portal to understand the rich interplay of cultures that is New Mexico as well as providing a unique portal into New Mexico's geological past. Most Albuquerque residents recognize the Monument as an important asset and associate it with the five volcanic cones and the 17-mile escarpment containing petroglyphs. There are more than 20,000 petroglyphs dating from 700 to 3,000 years ago carved within the Monument. A 2002 National Park Service ethnographic study—"That Place People Talk About: The Petroglyph National Monument, Ethnographic Landscape Report," Anschuetz et al., 2002 (hereinafter referred to as "Anschuetz") illuminates the still active religious and cultural value these sacred places hold for many Native Americans. The Monument's legal boundaries were influenced by the financial resources available for land acquisition. For the Pueblos, however, the site encompasses the entire lava bed, the volcanoes' caves and shafts, the petroglyphs, and additional features of importance in meaning and use. The Volcanoes, Petroglyph National Monument, outcrops of basalt (especially those containing petroglyphs), the Sandia Mountains, and other locations are sacred places for many Native Americans and they still figure into their ceremonial practices.

**Petroglyphs.** Not just realistic representations of specific animals or people, the images are used to transmit thought, energy, and learning across space and time into other dimensions within a defined and bounded world.

**Shrines, Caves, Lava Tubes in Volcanoes, Recesses in the Escarpment Face, and Elsewhere.** Various other West Mesa sites function with the petroglyphs as an interlocking system of spiritual communication. The lava tubes and caves near two northernmost Volcanoes west of the Plan area contained shell beads, pendants, turquoise, hematite, selenite, mica, colored pebbles, prayer sticks, and feathers. These are places "where the world breathes" and prayers are directed. (Anschuetz, 3.24-25). Arrangements of stones, boulders with pecked and ground facets, stone piles, prominent boulders, recesses in the Escarpment, or rock spires are similarly meaningful.

**Plazas.** Plazas physically express the Pueblos' center and open the villages to the landscape.

**The Sandia Mountains.** On one edge of the bowl that forms the Pueblo World, the Sandias are the home for important shrines and the highest earth spirits, who protect the communities below and visit the West Mesa lava bed. (Anschuetz, 3.21-22)

**Arroyos.** Historically, arroyos play an important cultural role for Native American communities, connecting ceremonial sites on the mesa across the escarpment to Pueblo villages along the Rio Grande. Arroyos generally run west to east between these features (See **Exhibit 5, Natural and Cultural Features**).

**Pathways.** Trails connecting former villages along the Rio Grande ran up the valley slopes and escarpment, past the petroglyphs and shrines, to the volcanoes and mountains beyond. The trails were used for hunting, gathering, agricultural, and traditional and cultural activities. Because in Pueblo life, there is little separation of the functional from the spiritual, the paths form an interrelated flow of energy and movement along the trails that can be considered a ritual pilgrimage (Anschuetz, 3.31, 3.33-34). **Exhibit 6 Paths** illustrates many of the

paths in and around the Volcano Mesa area so the reader may visualize the petroglyph concentrations on the Escarpment paths such as along the Boca Negra and the Piedras Marcadas arroyos that lead to the volcanic cones.

**Policy 3.99 Development in the Volcano Mesa area should recognize the sensitive ecological, historical, and cultural importance of the area and future Rank 3 plans in the area should respect this in the following ways:**

- **Protect the narrow band of the Escarpment on the eastern edge of Volcano Mesa and maintain the views to and from the Escarpment;**
- **Establish design standards for developments built adjacent to the edge of open space that will be compatible visually and ecologically with the high desert landscape;**
- **Maintain where possible the travel paths along the arroyo courses from the Pueblo sites on the Rio Grande valley floor, through the Escarpment, the Monument's North and Middle Geologic Windows, and to the Volcanic cones;**
- **Protect view sheds from the North Geologic Window and the cones of the northern most Volcanoes to the Sandia Mountains and the Rio Grande;**
- **Include a plant list for the open space and conservation areas drawn from native species in the area;**
- **Establish an urban form criteria which limits heights and prescribes harmonious colors to preserve views and promotes an urban environment that fosters the active life of the community.**

These considerations are included not just because they reflect traditional values, but also because they incorporate good planning principles.

## **2. View studies**

The volcanoes rise above the volcanic escarpment on the western horizon of Albuquerque, forming a dramatic backdrop to the city on the west, as the Sandia Mountains do to the east. Views are an important part of the identity of the plan area and as a prominent natural feature framing the city, of Albuquerque itself. In recognition of the importance of views from afar, a Visual Sensitivity analysis, which depicts the Volcano Mesa area as viewed from distant points and that should serve as the basis for reflectivity and color standards in future Rank 3 sector development plans, is included as Exhibit 6 and described below. For Native Americans, spiritual contemplation often embraced views to the Volcanoes, the Sandia Mountains, and the Rio Grande, views that are appreciated by all cultures.

**A) Visual Sensitivity Analysis.** Development in the Plan area will impact views that residents see looking toward the western edge from the east side of the city. The Visual Sensitivity photo montage shows views toward the Plan area from Downtown and from Paseo del Norte just west of I-25 (See **Exhibit 7, Visual Sensitivity**). It provides visual information on the extent to which different Volcano Mesa areas will be seen and where the new development will be located on the city's western horizon. From these distant locations the top of the escarpment is visible no matter how low the buildings are. The arrows indicate the approximate ranges of the land use districts.

**B) View Shed Analysis.** A View Shed Analysis also was conducted to determine what could be seen from different locations within Volcano Cliffs and the city assuming that the area was completely developed under standard zoning. The objectives of the view study included:

- Preserving views of the Volcanic Cones from within the Volcano Mesa area and the rest of the city of Albuquerque.
- Minimizing the visual impact of Volcano Mesa development, especially along the Escarpment edge.

Protecting views from key cultural locations including from the Volcanic Cones and the Petroglyph cluster within the North Geologic Window to the Rio Grande and the Sandia Mountains; minimizing the visual impact of development in the Volcano Mesa area from these locations. Future Rank 3 sector development plans for the Volcano Mesa area should establish building height restrictions consistent with these objectives. These objectives should also be addressed through architectural standards such as building materials, reflectivity, and color.

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- **Important views from locations within the Volcano Mesa area to the Rio Grande basin, the city of Albuquerque and the Sandia Mountains should be protected with height restrictions in future Rank 3 sector development plans for the area; and**
- **Development in the Volcano Mesa area may be visible from the east side of the City of Albuquerque; therefore care should be taken in order to minimize visually intrusive development in all of the Volcano Mesa area.**
- **The analysis of the views to the Volcano Mesa area and from the Volcano Mesa area should provide the basis for regulations in future Rank 3 sector development plans for dealing with height, color, reflectivity, lighting, building materials, and landscape design. To minimize the visual impact of development, predominant colors used on structures should blend with the natural colors of the mesa.**

### **3. Geological and soil conditions**

Flows of basalt at varying depths and widths run through the Volcano Mesa area. Six lava flows have been identified that issued from volcanic fissures related to the subsidence of the Albuquerque basin approximately 190,000 years ago. The different layers of the flows can be seen in the Geologic Windows.

According to the National Park Service report, Albuquerque West Mesa Petroglyph Study, June 1987, “Soil has formed on the West Mesa as the rocks have slowly weathered. The common parent materials are basalt and fine alluvial silt and sand. Sand is common in this environment and, if not part of the parent rock, is soon added by the wind. On the mesa top, soil varies in depth from 0 on the escarpment rim and volcanic cones to more than 5 feet in broad areas of little slope.” Generally in the western portions of the Plan area at higher elevations closer to the volcanic cones, soil is thinner and basalt is closer to the surface.

Soil conditions are mapped on **Exhibit 8, Soil Series Map** using information from the Northwest Mesa Escarpment Plan (NWMEP). Information regarding geology and soils was obtained from the Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties as cited in the NWMEP.

According to the NWMEP, four types of soils overlie the basalt along the upper edge of the volcanic escarpment and mesa. The predominant type is Alameda sandy loam at 0-5% slopes. Moderately deep and well drained, runoff is medium and water erosion is slight. The second most prevalent soil type is Madurez-Wink, which is deeper, well drained and gently sloping. Wind erosion is moderate to severe. Akela-Rock outcrop at 1-9% slope occurs near the escarpment edge and in the western portion of the Volcano Mesa area. It is a cobbly sandy loam, with a shallow depth to bedrock. According to the NWMEP, the underlying basalt is exposed throughout 20% of this complex. Runoff is very rapid and water erosion moderate.

The Kokan-Rock outcrop association characterizes the face of the volcanic escarpment and the area within and surrounding the Northern Geologic Window. Basalt boulders cover 40% of the escarpment face. Runoff is

rapid. Shallow depth to bedrock, steep slopes, small stones, and inability to maintain cut slopes in the outcrop severely limits use of the complex for excavations and dwellings.

Much of the lower leg of the plan area running along the top of the escarpment consists of Latene sandy loam at 1-5% slopes. This soil type is comparatively deep and well drained. Engineers describe conditions of approximately two feet of soil in this area that needs little fill.

### **Policy 3.101 Development and Engineering Considerations**

**Retention of the natural landscape is a key goal of the Volcano Mesa area and of previously adopted City policies. To the largest extent possible the natural landscape should be retained. Importing large amounts of fill is discouraged because this type of treatment masks the natural terrain and geological conditions that make the area unique, desirable, and of value to residents and the larger community.**

#### **Surface water**

According to the NWMEP, “Mesa top soils impose certain constraints on development. Vertical joints along the rim of the escarpment are planes of weakness, and as the soft sediments below the basalt are weakened by water passing down the joints, blocks of rock detach and roll down the slope. This instability would be increased by indiscriminate use of explosives and by utility line trenches channeling surface water into the joints. Care should be taken in the use of explosives and in trenching for utility lines to avoid channeling surface water into the joints. Back from the rim where the soil is deep enough to bury utility lines without disturbing bedrock, development would have less impact and would be less costly. An additional problem is low soil density and therefore low bearing strength. To correct this problem, the soil should be pre-compacted before constructing streets and building foundations.”

#### **Depth of soil/ depth to basalt**

The depth of soil is variable, ranging from areas where the basalt is exposed, areas with intermittent rock, and areas that have several feet of soil. The first layer of basalt—up to five feet in depth—is fractured and porous and can normally be excavated with earth moving equipment. The deeper layer of solid rock requires blasting or trenching.

**Policy 3.102 More detailed engineering analysis of soil conditions should precede detailed plans (subdivision plats, Special Assessment Districts, Private Infrastructure Districts, master plans for activity centers, etc.). General soil testing, including depth to bedrock, should provide information useful to contractors and city engineers concerned with the expense of installing utilities.**

## **4. Treatment of natural and cultural features**

The Monument and affiliated City Major Public Open Space create a major natural ecosystem for Albuquerque. At the heart of the ecosystem are the Boca Negra / Mariposa arroyos, making up a 21 square-mile watershed. Arroyos have played an important cultural role for prehistoric communities, connecting ceremonial sites on the volcanic mesa through the Escarpment to former Pueblo villages along the Rio Grande. **Exhibit 9, Parks and Natural Drainages** shows the natural arroyos and drainage systems traversing the area. The watershed is generally bounded by the Calabacillas Arroyo basin on the north and the San Antonio arroyo basin on the south. The developed watershed channel extends to a small area below the escarpment and into the Mariposa Detention Basin.

The AMAFCA master plan for arroyos and stormwater drainage provides for a regional detention basin at Unser and Universe, but does not detail all stormwater facilities. While some of the area’s stormwater runoff will need to flow to engineered pipes and channels, some parts of the different Boca Negra arroyos courses can

continue to act as natural drainage facilities. The arroyos may function as stormwater facilities so long as the preserved swath is wide enough to carry 100-year flows. In addition, AMAFCA requires management and maintenance of the arroyos so that no alterations reduce the flow capacity the arroyos have been planned to carry.

While key geologic and cultural features have been set aside as national park and Major Public Open Space, urbanization around these wilderness areas will dramatically change them. Urbanization that disconnects or destroys the interconnected network of arroyos and rivers reduces the viability of plant and animal species. Preserving the arroyos not only maintains the richest habitat, but also the very features that ecologically link the largest expanses of open space to each other. To the east, the ecosystem link to the Rio Grande is largely cut off by Taylor Ranch. However, to the west, the opportunity still remains to link the ecosystem to the Rio Puerco wilderness.

The Major Public Open Space that exists within and adjacent to the Volcano Mesa area does not have a fully developed formal trail system that links open space into a consolidated network. Under current conditions, drainage channels are not being used to their potential as walking and biking trails that could link the natural open areas.

**Policy 3.103 Protection of archeological and cultural resources should be ensured, and the natural drainage function of the arroyos should be maintained to manage stormwater, interconnect the ecology of Petroglyph National Monument, maintain the cultural resource of ancient pathways, and provide recreational trails. The Volcano Mesa area contains several sites of archeological significance, many of which (but not all) have been designated as Major Public Open Space. These Petroglyph and settlement sites tend to be concentrated within the Northern Geologic Window, in the large tract owned by the State of New Mexico, along arroyo corridors, on some rock outcroppings, and within the Monument.**

Importantly, many Petroglyph sites can only be fully understood and appreciated if visual connections are maintained to the volcanoes, Sandia Mountains and Rio Grande. Portions of the State Land parcel between the Northern Geologic Window and the Volcano Vista High School site are of interest for open space acquisition because of their archeological and ecological significance. Here, a reach of the North Fork of the Boca Negra Arroyo includes numerous stands of juniper that make a rich bird habitat. The Boca Negra Wash Folsom site tells the story of Ice Age Native Americans living 12,000 years ago. To the north of the Folsom site, there is a dry playa that contains a rich record of environmental change.

In addition, rock outcrops—volcanic knolls or hillocks—occur randomly throughout the Plan area. The exposed basalt retains both water and heat and, therefore is host to a rich habitat. From an archeological point of view, these knolls were frequently used as viewpoints, resting areas, and places for various field activities occurring away from the primary Pueblo residential areas.

**Policy 3.104 Adequate setbacks from petroglyphs and archeological sites should be maintained. Development, trails, and recreation areas should be set back at least 50 feet from prehistoric petroglyphs or other sites with high archeological value, unless part of an approved interpretive exhibit.**

**Policy 3.105 View Corridors should be preserved. To the extent possible, streets and linear open spaces should extend from archeological sites of major cultural importance toward the Sandia Mountains to the east and the two northern-most volcanoes to the west.**

**Policy 3.106 Development of interpretive features should include the following:**



**a. A National Park Service representative for the Petroglyph National Monument and the City Open Space Division for other open space and park locations should determine the appropriate design and development standards for interpretive signage and exhibits where major trails are near prominent archeological features.**

**b. Trails & interpretive features should not come within 50 feet of these sensitive features, unless designed under the guidance of a qualified archeologist.**

**Policy 3.107 Ensure conservation of significant rock outcrops. All rock outcroppings containing petroglyphs should be conserved. Major rock outcroppings should be conserved. Site treatment should include preservation, avoidance, testing, or documentation of surface and/or subsurface remains, as provided below. Major rock outcroppings are defined thus:**

- i. Generally a major rock outcropping shall be a portion of bedrock or other stratum protruding at least 6 feet high on its steepest side as measured from the base of the adjacent 10% slope line and in excess of 500 square feet in surface area.**
- ii. The four key criteria are: a 1:20 or less height to width ratio, exposed basalt or rock, native trees and/or native shrubs, and if it is an archaeological site.**
- iii. These criteria should be field verified and mapped to determine those features which meet the definition of an outcropping for preservation purposes.**

**Policy 3.108 Adjustments to site and lot layouts and building pads are encouraged in order to preserve rock outcroppings, and clusters of major rock outcroppings should be placed within publicly accessible open space. All subdivision, site plans, and master plans including those developed for Public Infrastructure Districts and Special Assessment Districts should be designed to conserve these outcroppings to the extent practicable and submittals for development approval should contain a description of the actions taken to carry out this requirement.**

**Policy 3.109 An archeological survey by a qualified archeologist should be provided as follows.:**

**a. All subdivision, site plans, building permits, and master plans including those developed for Public Infrastructure Districts and Special Assessment Districts, should include a survey by a qualified archeologist to identify such rock outcrops and any petroglyphs that may be located on them and other archeological sites. A survey report should be provided including recommendations on preservation and mitigation. The surveys should be required at the earliest possible level of approval. The review function shall be carried out by the City Archaeologist as specified in the Archaeological Sites Ordinance, § 14-16-3-20 ROA 1994.**

**b. For private utility and public projects, an archeological survey report should be submitted prior to approval of Rank 3 corridor plans or facility designs. The review function shall be carried out by the City Archaeologist as specified in the Archaeological Sites Ordinance, § 14-16-3-20 ROA 1994. Once a survey is accepted it should be utilized to meet this requirement for subsequent approvals of the tract.**

**c. All archeological surveys should follow a general archaeological research design that treats the Volcano Mesa Community as a whole and not as disparate sites within the area. The Volcano Mesa Community should then be treated as an integral part of the larger west mesa, including the Petroglyph National Monument, its volcanoes and escarpment faces. The area is an archaeological landscape, and data should be collected before it is lost to development. Special attention should be given to watersheds, watercourses, and adjacent lands that form cultural and spiritual linkages for past and present Native belief systems. Individual properties will not be required to survey any larger area than what they own or**

**propose to develop. Thresholds for archaeological survey on individual properties will follow the criteria established in the Archaeological Sites Ordinance, § 14-16-3-20 ROA 1994.**

### **C. TRANSPORTATION AND TRANSIT**

**Planned Roadway Improvements.** Phasing of roadway improvements, based on the inclusion of roadways in approved plans and programmed funding, provides a critical context in the Volcano Mesa area for the phasing and timing of development and needed implementation mechanisms. It will be necessary to identify sources of right-of-way, street, and streetscape funding/dedications /contributions-in-aid to implement the roadway network identified in Exhibit 9.

**Regional Impacts.** Increasing regional traffic demands have occurred against a backdrop of rapid suburban growth and increasing travel. In 1970, per capita vehicle-miles traveled were 12.4 miles per day (per Albuquerque Metropolitan Planning Area); by 2000, per capita vehicle miles had increased to 20.9 miles per day—an increase of 69%. As seen in other metropolitan areas, much of this increase in car travel is attributable to spreading low-density growth, where destinations are spread farther out and walking to destinations is increasingly difficult.

Transportation impacts from Volcano Cliffs development have raised concern among public decision-makers, government agencies, and citizens. The West Side arterial network is strained, with points of frequent congestion on Coors Boulevard, the only continuous north-south arterial currently built west of the Rio Grande. Congestion has increased on many river crossings, most notably on Montañito. Many workers on the West Side must commute to job centers east of the river.

City and regional transportation planners are looking to the planned extensions of Unser and Paseo del Norte to alleviate congestion on the West Side, although arterial connections will remain constrained at the Rio Grande and across the Monument escarpment. Near the Plan area, Albuquerque, Rio Rancho and Bernalillo County have approved many projects that are moving forward. Low density, single-family residences dominate nearly all of this new growth. Little employment growth has been planned, further contributing to an imbalance of jobs and housing on the West Side, and even greater pressures on the road system.

#### **Policy 3.110 The access points to Paseo Del Norte and Unser, shown in Exhibit 10, Road Network Map should be adopted.**

MRCOG defines Unser and Paseo Del Norte as “limited access roadways” designed to carry high volumes of regional traffic. To maintain travel speeds, intersection spacing is restricted. However, a key component of the Roadway plan (**See Exhibit 10**) is the proposed access locations along Unser Blvd. and Paseo Del Norte within the Volcano Mesa area. While both roads are currently designated Limited Access Arterials, whose main function is to move traffic quickly and efficiently, these arterials must now provide access to and from adjacent neighborhoods as well as the Volcano Heights sub-area in order to support the level of employment, commercial, and residential uses envisioned for the Volcano Heights Major Activity Center. The proposed access points, both full and right-in/ right-out, provide essential connections into and within the Volcano Mesa area and form the basis of the area’s internal network. In addition, the proposed access points facilitate access to transit and the proposed Transit Center located in the Volcano Heights sub-area. Proposed access points are shown on the Roadway plan, these access locations are generally located to provide optimal connections to, from, and within the Volcano Mesa area and the Volcano Cliffs sub-area.

**Transit.** Coors Boulevard is designated as the main west side corridor for High Capacity Transit on the MRCOG Long Range High Capacity Transit System Map. The Albuquerque-Bernalillo County Centers and Corridors Plan shows Unser as an Express Corridor appropriate for limited stop service from Rio Bravo to McMahon north of the Plan area. This regional plan designates Unser as a major north-south route, ultimately

connecting I-40 to Rio Rancho on the north. City and regional transportation authorities are considering expanding the network of Bus Rapid Transit (BRT) and/or Rapid Bus routes.

**Policy 3.111 Transit service that is efficient, accessible and reliable should be developed for the Volcano Mesa area. Fast, frequent, and reliable transit plays a vital role in reducing both Vehicle Miles Traveled (VMT) and regional traffic congestion, but it cannot achieve these goals without a parallel effort to develop a land-use pattern that supports transit. The Volcano Mesa area’s emphasis on walkability and the range of densities and built forms proposed will ultimately make more frequent transit service viable. Transit systems should be deployed in the area in a manner commensurate with the intensity of development. As full development is achieved, the Bus Rapid Transit (BRT) system proposed for the area, using dedicated bus lanes and emerging technologies, can make transit competitive with the car. Transit, and especially BRT, can eventually serve as the conveyance of choice between communities and employment centers in the Volcano Mesa area and on the West Side in general, and also to and from central Albuquerque and the I-25 corridor.**

The following are recommendations for transit development within the Plan area.

**a. Transit Network.** Transit stops and/or stations should be located to maximize the number of residents and workers who can walk less than one-quarter mile to a stop or station. On these routes, crossings of a limited-access arterial or arroyo will need special design treatment to ensure safe and easy pedestrian crossings. Transit stops or stations should be placed near the center of the Volcano Cliff Village Center, and the Major Activity Center, and adjacent to where retail conveniences, schools and public amenities are planned. At the same time reasonably direct routes and acceptable system-wide travel speeds should be maintained.

**b. Long Range High Capacity Transit Plan.** Unser Boulevard should be designated as suitable for High Capacity Transit, and linked within the Volcano Mesa area with an extension of BRT on Paseo del Norte extending west of Coors. Transit improvements may be phased and interim routing may be different from the ultimate routes in some locations. The Long Range High Capacity Transit Plan should be amended to be consistent with adopted recommendations.

**c. High Occupancy Vehicle (HOV) Lanes & Bus Rapid Transit (BRT).** Travel lanes dedicated solely to buses and other high occupancy vehicles reduce travel time for those who car pool or use transit. Paseo del Norte and Unser should be designed to accommodate travel lanes for BRT/HOV lanes. A BRT and future light rail station should be maintained near the center of the Major Activity Center to enhance its pedestrian and locational advantages. Lanes solely for the use of BRT should connect HOV lanes along Paseo del Norte and Unser with the center of the Major Activity Center (**see Exhibit 10, Road Network Map, for possible BRT alignments**).

**d. Transit-Oriented Development.** To attain high transit ridership, transit-supportive uses should predominate within a third of a mile (1,760 feet) of transit stops. Consideration should be given to transit system policies, which emphasize more frequent service along high-density corridors.

**e. Convenience and Access.** Pedestrian routes to transit stops should be reasonably direct (along streets and/or off-street paths); circuitous routes should be avoided. Transit stops should be placed near retail conveniences and community amenities.

**f. Transit Centers.** Transfer between BRT routes should occur at a “transit center” near the center of the Major Activity Center; this transit center may also serve local buses (**see Exhibit 10, Road Network Map, for possible BRT alignments**). Transfer between BRT and local bus should be facilitated by a transit center near

where Rainbow, Universe, and Unser converge; a more detailed master plan for this area should consider how this “transit center” might be accomplished.

**g. Park & Ride.** “Park & Ride” locations should be sought in the Volcano Mesa area and their design should consider how future parking could be introduced. If BRT on Unser extends beyond the northern edge of the Volcano Mesa area, land should be reserved for the creation of a “Park & Ride” lot as a way of intercepting traffic flowing from Rio Rancho and other points to the north. Parking structures can provide greater security for parked vehicles and are desirable at these locations.

**h. Transit Stop & Station Design.** The approach to transit stops / stations should offer direct pedestrian routes, and be tree-lined and barrier free. Transit stops and/or stations should be designed as prominent focal points, offering well lit shelters that provide shelter and shade and are within or adjacent to plazas or other civic features. Shelter may be incorporated within the architecture of adjacent buildings, or through the use of arcades or durable awnings. Transit route and system maps should be displayed at all stops / stations. Bicycle storage racks should be located at major transit stops.

**Policy 3.112 Establish and adopt a bicycle network that supports a safe, accessible and efficient alternative to the car.**

The Long Range Bikeway System map for the Albuquerque urban area shows bike trails along Unser, Paseo Del Norte and Rainbow Blvd. Bicycling and walking/hiking should be encouraged through an expanded network of open space trails and supportive street features, like bike lanes and landscaping (**see Exhibit 11, Volcano Mesa Bike & Trail Network**). These facilities will make biking, hiking and walking safer and more enjoyable, whether it is for commuting, errands, or leisure. Multi-use trail locations and design will help avoid human activity on ecologically and archeologically sensitive lands.

- a.** Separate bicycle trails combined with walking are proposed along the Escarpment edge, along the southern edge of Paseo del Norte, along the former alignment of Rainbow, and along planned open space on the western edges of the Volcano Mesa area.
- b.** A bike lane is proposed along Universe. A bike lane that will provide a good alternative bicycle commuter route is proposed along Universe. This lane also connects with Unser above the Escarpment.
- c.** Class 3 bike routes signed for bicycles but without a separate bike lane are recommended for Collector streets such as Rosa Parks, and Woodmont.
- d.** A bike lane has been constructed on the ROW of Unser through the Escarpment. In addition to continuing on-street bike lanes on Unser to connect to existing bike lanes on Unser north of Paradise Blvd., a separate bike trail should be constructed for use by recreational cyclists as well as pedestrians.

**Policy 3.113 Expand and adopt the multi-use trail network within Major Public Open Space and Public Utility Easement Areas.**

An exceptional trail system can be established by joining together the arroyo corridors, paths along the Monument, major utility easements, and open space into a continuous network. Trail locations and designs should be designed to help avoid human activity on ecologically and archeologically-sensitive lands. Bicycling and hiking can be encouraged through a network of open space trails and supportive street features, like bike lanes and landscaping. These facilities will make biking and hiking safer and more enjoyable, whether it is for commuting, errands, or leisure. Trail locations and design should be designed to help avoid human activity on

ecologically- and archeologically-sensitive lands. As such the trail network shown in **Exhibit 11 Trail Network Map** should be adopted.

**Policy 3.114 Ensure appropriate trail design.**

**a. Access.** Access to trails should be reasonably direct and well-signed. Break-away or removable bollards shall prevent access to trails by motorized vehicles, while allowing maintenance and emergency vehicles.

**b. Design.** Trails should be at least 9 feet wide to accommodate pedestrians, bicyclists, and maintenance and emergency vehicles. Trail design should be coordinated with the Trail Design division of the City Parks and Recreation Department.

**c. Lighting.** Where appropriate bollard lighting should be used adjacent to the Monument and arroyo corridors. In no case shall height of light fixtures exceed 14 feet along trails.

**d. Interpretive Features.** Interpretive signs and overlooks should be provided to increase public awareness of unique cultural and geographic features.

**e. Stormwater Management.** Runoff from trails should be managed to avoid erosion. Trails should utilize permeable materials that meet ADA standards.

**f. Shade Trees.** Native, drought-tolerant shade trees should be planted along trails in a continuous way, but views of the volcanoes, the Rio Grande from the Monument, and the Sandia Mountains should not be obstructed, nor should sensitive habitats be negatively affected.

**ADOPTED CITY PLANS AND POLICIES GUIDING DEVELOPMENT WITHIN THE PLAN AREA.**

The following land use plans and policies govern development in the Plan area:

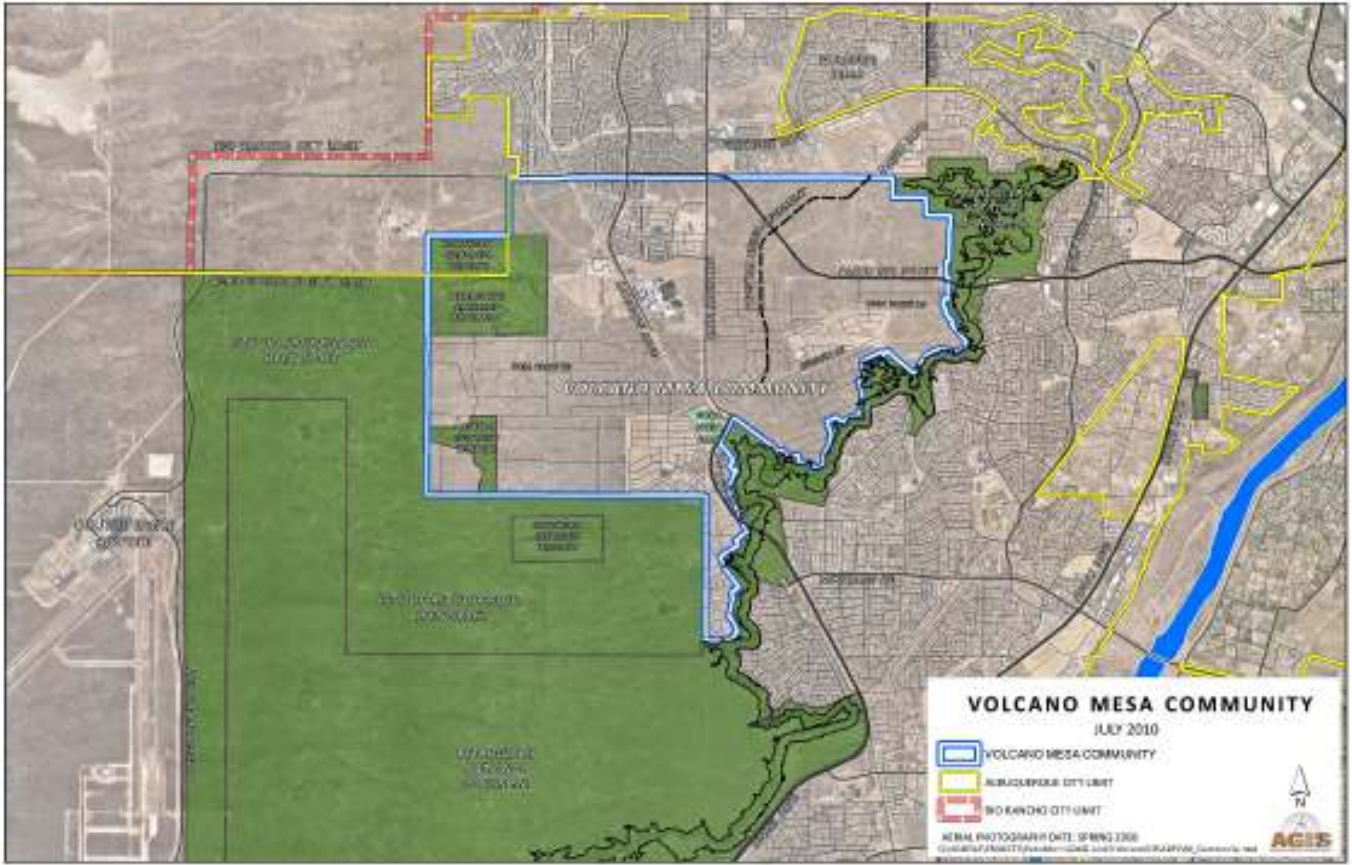
- Rank 1:** Albuquerque-Bernalillo County Comprehensive Plan (CP)
- Rank 2:** West Side Strategic Plan (WSSP), Facility Plan for Arroyos (FPA), Facility Plan for Electric Service Transmission and Subtransmission Facilities (FPESTSF) , Major Public Open Space Facility Plan (MPOSFP), and Trails & Bikeways Facility Plan (T&BFP)
- Rank 3:** Northwest Mesa Escarpment Plan (NWMEP)
- Other:** Albuquerque Planned Growth Strategy (PGS)

**Applicable policies can be summarized as follows:**

- New development may occur where vacant land is contiguous to existing or programmed urban facilities (CP)
- Service extensions for areas with multiple ownership and premature platting only when there is reassembly or sector plans provided (CP)
- Open space lands and water shall be acquired or regulated as appropriate to serve one or more of the following purposes: conservation of natural resources and environmental features; opportunities for outdoor education and recreation; shaping of the urban form; conservation of archeological resources; provision of trail corridors (CP)
- Criteria for designation of a new neighborhood activity center that includes transit service potential, fiscal impact, capacity of public services, market potential, potential for shaping the built environment. (CP, WSSP)
- Drainage and flood control are the most important functions of the City’s arroyos. Other uses within or adjacent to them should not interfere with these functions. (FPA, 16)

- Arroyos, whether in a natural or altered state, shall be used for purposes in addition to drainage whenever practicable, and whenever the utility of such multiple use is determined to outweigh the foreseeable risk of harm or injury from such use. (FPA, 16)
- The City shall encourage the development of parks adjacent to the drainage channels of designated Urban Recreational Arroyos (such as the Boca Negra), and along segments of arroyos connecting significant activity areas. The design of public amenities shall be planned and programmed as part of the arroyo corridor planning process. (FPA, 52)
- Standards for the location and design of transmission and subtransmission facilities should be followed in order to mitigate potential adverse siting impacts of transmission and subtransmission facilities, especially on areas having significant historic and cultural value. (FPESTSF, 4-8)
- Public access trails and easements are recommended as an integral part of private development adjacent to Major Public Open Space. (MPOSFP, 28)
- The location of access points, parking and trail heads will be coordinated with the sidewalk system, existing and proposed trails identified in the Bikeways and Trails Facility Plan, and on adjacent Federal lands. (MPOSFP, 29)
- Facility development adjacent to the escarpment shall be consistent with the requirements of the Northwest Mesa Escarpment Plan or its successor. (MPOSFP, 49)
- Proposed primary and secondary trails within the Volcano Mesa area will provide opportunities and critical linkages for the off-street trails system to support both commuter and recreational cyclists. (T&BFP, 21-22)
- Design controls to protect the escarpment, archeological and other resources through controls on height, runoff, color and materials (NWMEP)
- Preservation of views to and from the volcanic escarpment through setback, height and building massing limits (WSSP, NWMEP)
- In the Volcano Cliffs area, the City shall encourage assembly of lots of multiple owners, cluster of housing to provide more open space and efficient provision of utilities, use of xeriscape landscaping and other water conservation techniques to be encouraged through provision of master plan infrastructure prior to normal extension of infrastructure. (WSSP)
- Orderly, efficient (from the standpoint of urban infrastructure), and environmentally sensitive development of the Volcano Cliffs through planning approvals and infrastructure extension determinations (WSSP)

**Exhibit 1, Volcano Mesa Community**

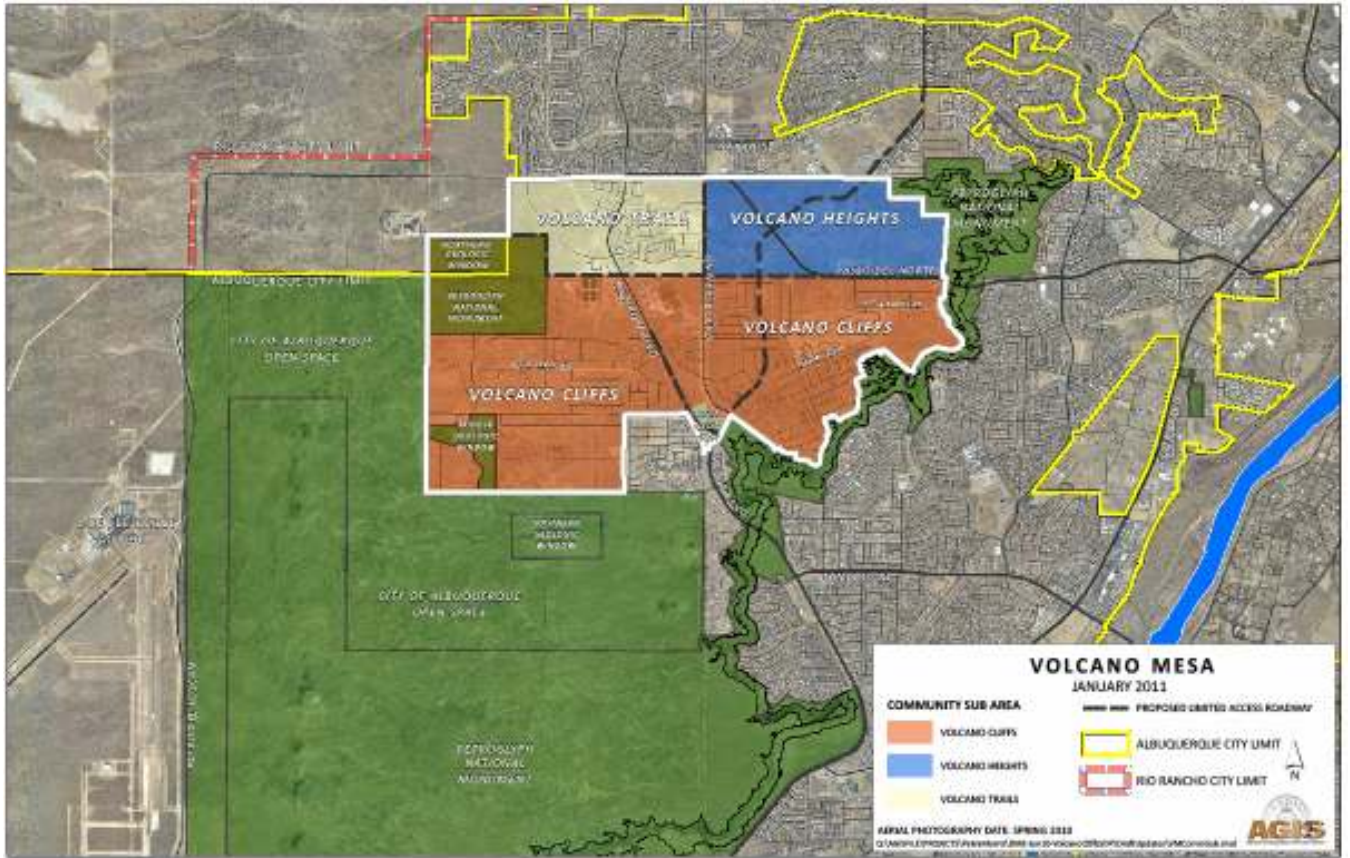


**Exhibit 2, Relationship of the Volcano Mesa Area to the Volcanoes and Larger West Mesa Community**

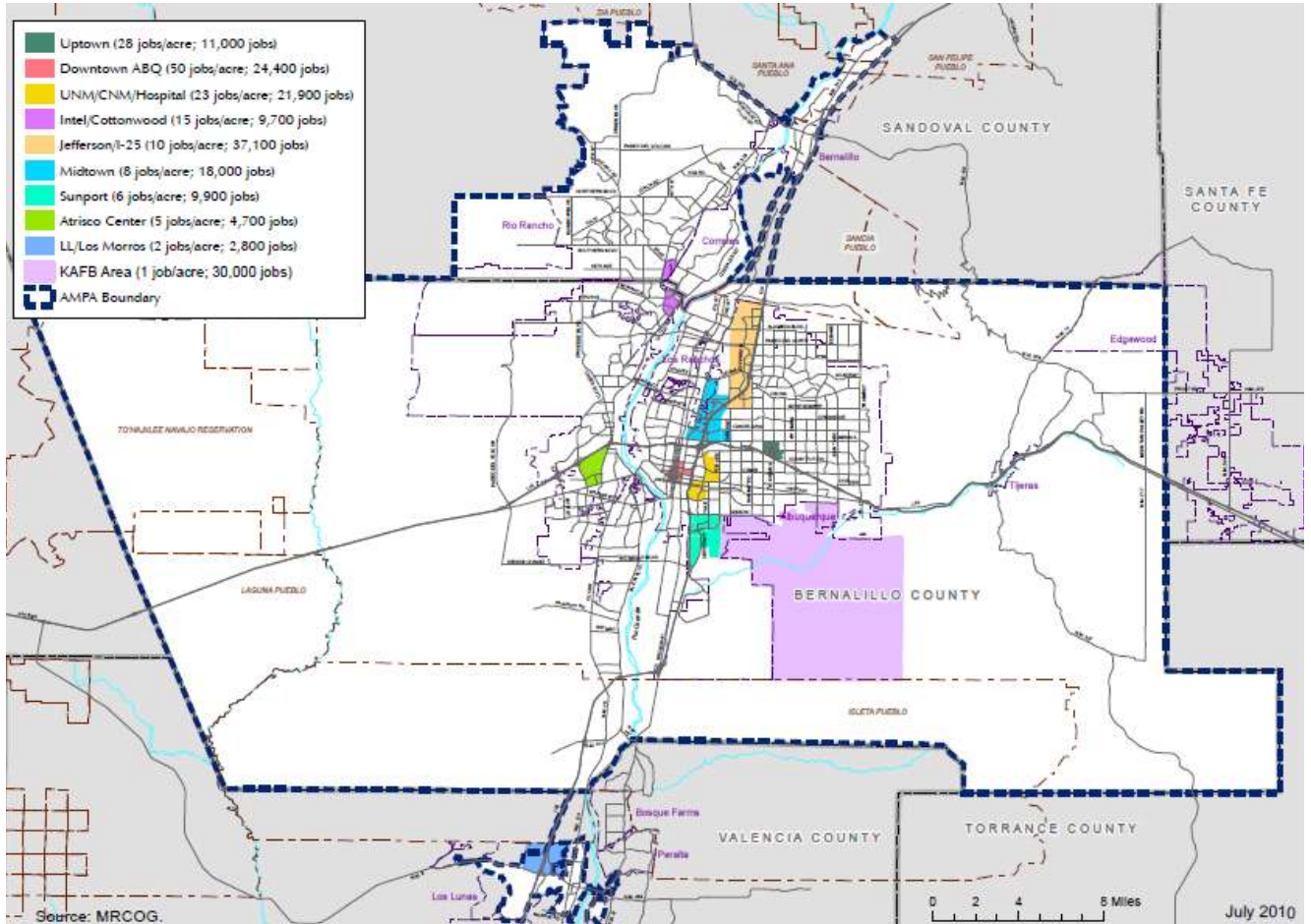




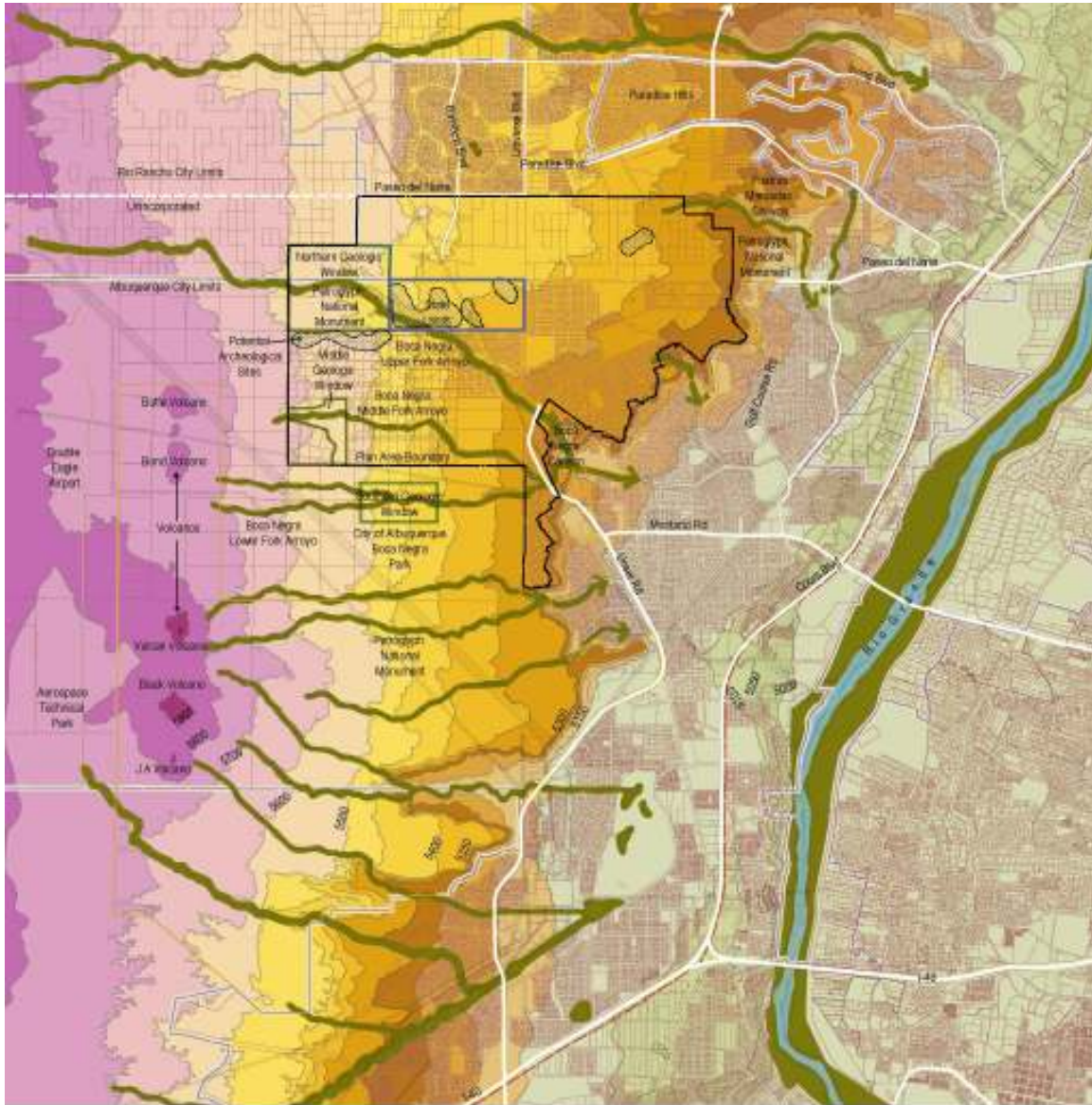
### Exhibit 3, Volcano Mesa Community Sub Areas



**Exhibit 4, Employment Activity Centers (Source: MRCOG)**



## Exhibit 5, Natural and Cultural Features



### LEGEND

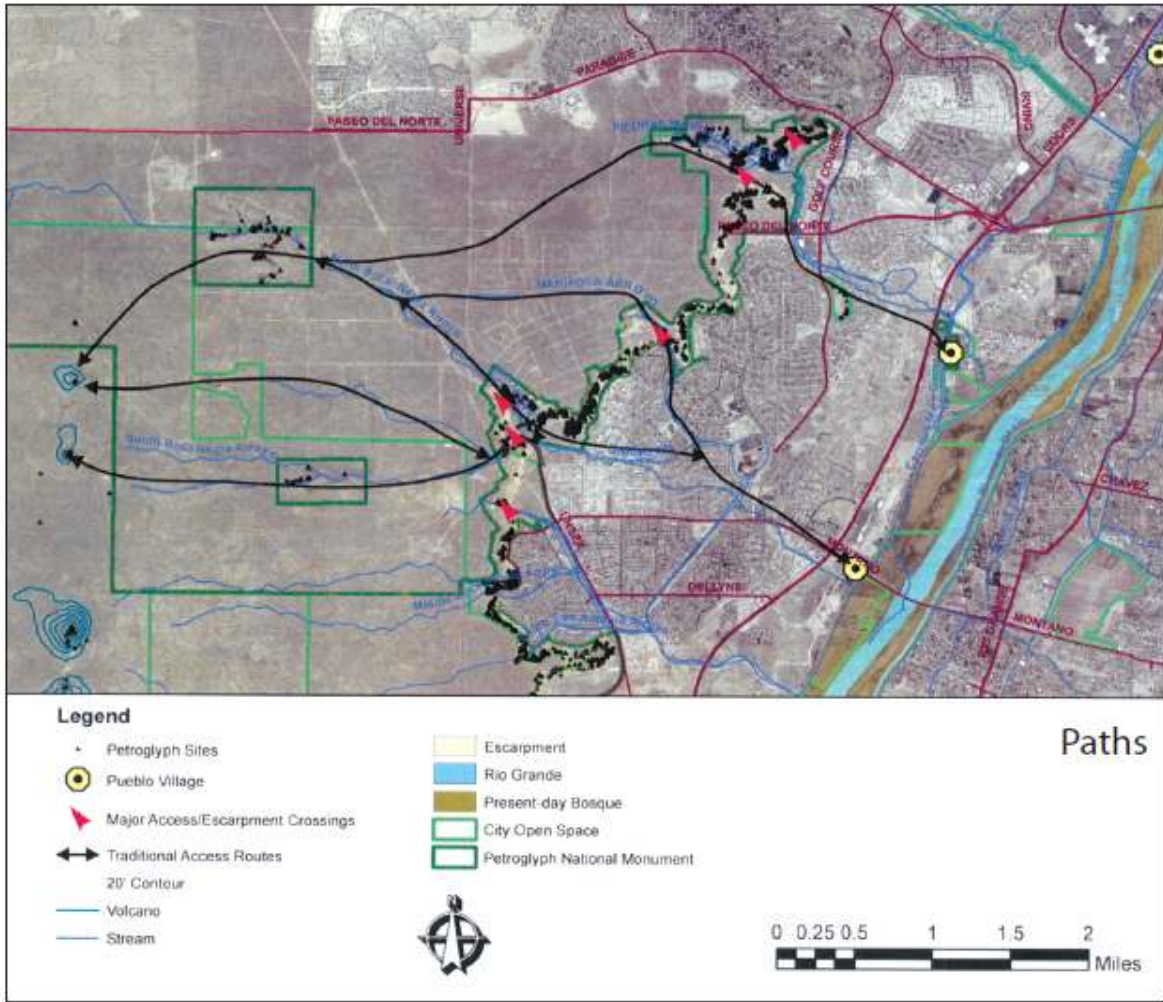
- City Limits
- Plan Area Boundary
- Petryglyph National Monument
- Drainage
- Utilities
- Archeological Sites  
(hatching represent NPS data, additional study needed)
- Slopes over 8%

## Natural and Cultural Features

December 1, 2005



# Exhibit 6, Paths



# Exhibit 7, Visual Sensitivity

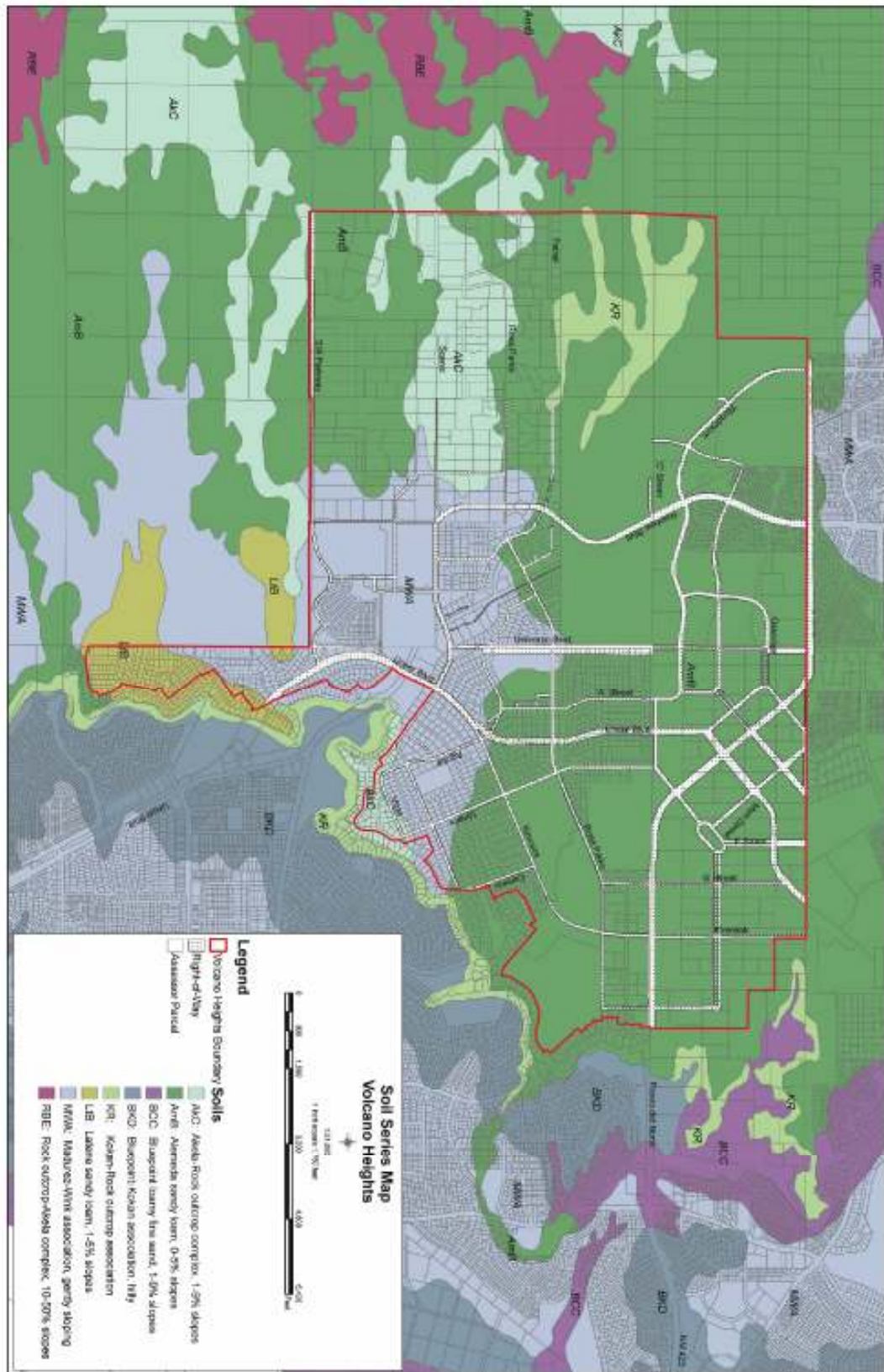
## Visual Sensitivity

December 1, 2005

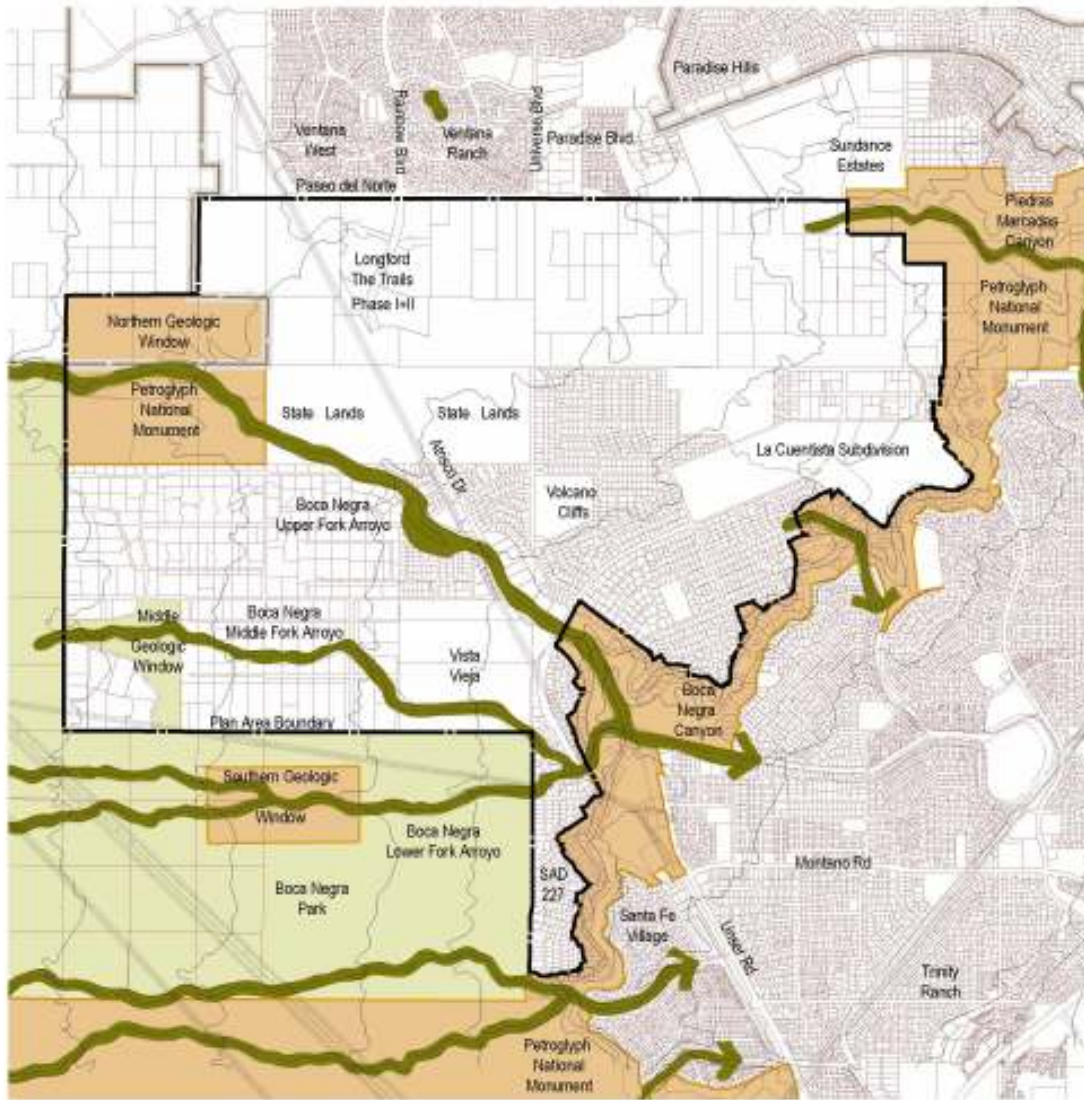



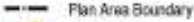
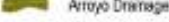
 Theecker Urban Design and Planning

Exhibit 8, Soil Series Map



# Exhibit 9, Parks and Natural Drainages



- LEGEND**
-  City Limits
  -  Plan Area Boundary
  -  Arroyo Drainage
  -  City Owned Open Space
  -  Petroglyph National Monument

## Parks and Natural Drainages

August 3, 2006



Exhibit 10, Road Network Map

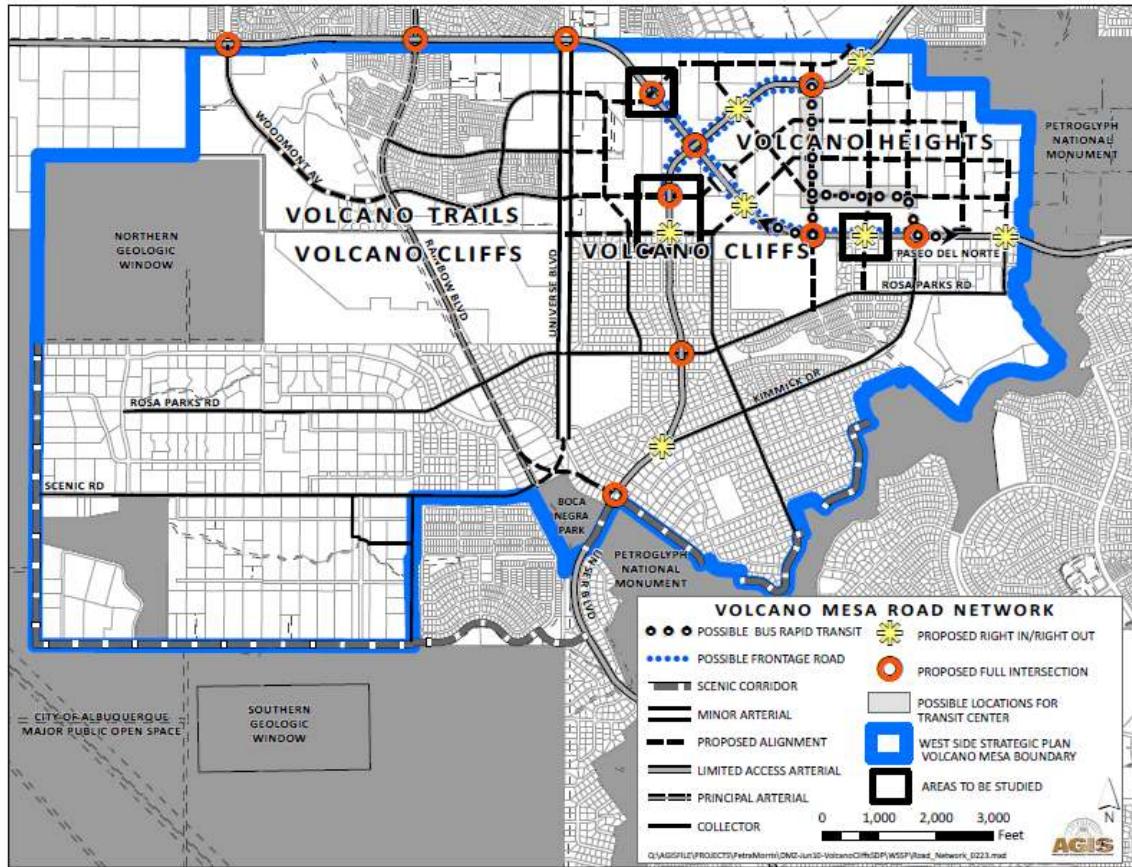




Exhibit 11, Volcano Mesa Bike & Trail Network

