Roadway cross sections to be considered as the basis for roadway design options within this planning or study area

VOLCANO CLIFFS Sector development plan

ORIGINAL ADOPTION MAY 2011, Amended as of July 9, 2015

Repealed - R-17-213. For the full Sector Development Plan, see: http://www.cabq.gov/planning/plans-publications/area-sector-development-plans





Exhibit 1: Volcano Mesa Plan Area

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LIST OF ACRONYMS

ABCWUA:	Albuquerque-Bernalillo County Water Utility Authority	ROW:	Right-of-Way
AMAFCA:	Albuquerque Metropolitan Area Flood Control Authority	SAD:	Special Assessment District
BRT:	Bus Rapid Transit	SDP:	Sector Development Plan
DRB:	Development Review Board	SF:	Square Feet
EPC:	Environmental Planning Commission	SOV:	Single-occupancy Vehicle
FAR:	Floor Area Ratio	VCSDP:	Volcano Cliffs Sector Development Plan
HOV:	High-occupancy Vehicle	VCLL:	Volcano Cliffs Large Lot (SU-2 Zoning)
LRV:	Light Reflective Value	VCMX:	Volcano Cliffs Mixed Use (SU-2 Zoning)
NWMEP:	Northwest Mesa Escarpment Plan	VCRR:	Volcano Cliffs Rural Residential (SU-2 Zoning)
PCD:	Private Commons Development	VCUR:	Volcano Cliffs Urban Residential (SU-2 Zoning)
PID:	Public Improvement District	VCVC:	Volcano Cliffs Village Center (SU-2 Zoning)
PNM:	Public Service Company of New Mexico (Electric Utility)	VHSDP:	Volcano Heights Sector Development Plan
PUE:	Public Utility Easement	VTSDP:	Volcano Trails Sector Development Plan
		WSSP:	West Side Strategic Plan

[Amended November 5, 2014]

transportation standards



INTENT

[Amended November 5, 2014]



The standards of this chapter are intended to create streets that are pedestrian-friendly, while also meeting the demands of motorists and emergency vehicles. The following standards provide guidance for the development of a comprehensive transportation network within the plan area. The goal is to facilitate a range of transportation options for residents—walking, biking, driving and taking the bus—by providing strategies for the development of the area's overall street network and for the design of individual streets in a manner that improves pedestrian access and safety, facilitates mass transit, and moves traffic efficiently and safely.

Standard 1: Provide an Interconnected Street Network.

- a. An interconnected network shall form a hierarchical network and shall distribute traffic among multiple routes, thereby reducing reliance (and excessive volumes) on fewer routes. An interconnected network will enhance access throughout the Volcano Mesa area by providing routes that are more direct and offer redundancy and by reducing traffic volumes on collector streets and arterials, so that fewer travel lanes and a more intimate, pedestrian supportive environment will be created.
- b. The platting of new dead-end streets and culs-de-sac is prohibited.
 - (i) The following exceptions for dead-end streets and/or culs-de-sac are allowed:
 - 1. those necessary to reach land-locked parcels and
 - 2. those that will be required in the Rural Residential zone (VCRR) due to the limited arroyo crossings.
 - (ii) Given one of the above exceptions, the following conditions shall be met:
 - 1. Stub streets or "knuckle" culs-de-sac are allowed where necessary to reach no more than 4 parcels beyond a corner or intersection.
 - 2. Mid-block "bubble" culs-de-sac without throats are allowed.
 - 3. Pedestrian/bike connections shall be provided to open space and/or road networks beyond knuckle or bubble culs-de-sac.

Exhibit 5, Volcano Mesa Road Network forms an interconnected network by adopting access points, road designations, and collector locations for the Volcano Mesa area, including the Volcano Cliffs Sector Development Plan area. The Roadway Plan establishes the area's roadway network. Certain roadways are identified by dashed lines, indicating that their specific alignment is still to be determined. While the integrity of the street network must be maintained, adjustments to internal street alignments shall be permitted in order to avoid significant rock outcroppings, archaeological, or biological resources; to respond to unanticipated engineering factors; or to respond to the needs of large-scale master plan and land consolidation efforts.

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Exhibit 5: Volcano Mesa Road Network

Transportation Standards

[Amended November 5, 2014]

Standard 2: Protect Scenic Corridors.

Scenic corridors provide an opportunity for residents and the public in general to enjoy views of Albuquerque landmarks such as the Sandias and the Volcanoes, as well as public open space lands, in everyday ways as part of their commute or while walking to the neighborhood store. As the preferred edge to open space is a public street, more scenic corridors shall be added as area roads are designed abutting arroyos or the Monument. Also, where possible, streets shall be oriented to act as scenic corridors. A scenic corridor is defined in this plan as a single-loaded street that abuts open space lands such as the Petroglyph National Monument or an arroyo. The streets that are platted as single-loaded at the time of the plan adoption are mapped in **Exhibit 5** next to "Scenic Corridors"; however, future platting actions shall aim to increase this network.

Standard 3: Orient Residential Development toward Residential Collector Streets.

Where new residential development is adjacent to a collector street, new lots and homes shall face Collector streets, except where the Planning Director or his/her designee approves exceptions related to technical reasons, such as grading and drainage requirements, or where lots facing away from Residential Collector Streets already exist in platting.

Standard 4: Design streets to accommodate Bus Rapid Transit Routes.

Roadways and streets identified as Bus Rapid Transit routes, including Paseo del Norte and Unser Boulevard, shall provide a minimum of 24 feet for dedicated bus-only lanes and roadway dividers in the rights-of-way. On these streets and roadways, beginning 500 feet before intersections identified as potential station locations, a minimum or 36 feet in the right-of-way will be dedicated for BRT lanes and station platforms. While cross sections may show BRT routes as outside, inside, or median lanes, the final location of these lanes shall be determined during the roadway design process. Additionally, BRT lanes shall be dedicated and marked for bus use only, and automobile use will be prohibited.

Standard 5: Ensure safe, comfortable pedestrian crossings.

Wide, multi-lane roads present barriers to the creation of a safe pedestrian environment. Well-designed crossings can overcome these barriers by providing protected passageways for pedestrians. The following is a list of treatments that shall be used for assisting pedestrian movement across roadways:

TRANSPORTATION STANDARDS

- a. **Pedestrian Crosswalks**. At-grade pedestrian crosswalks shall be considered at signalized and unsignalized ("right-in / right-out") intersections (except the intersection of Paseo del Norte and Unser Boulevard). Crosswalks shall also be considered where they bring activity centers within walking distance, such as between retail centers, employment nodes, and public facilities. To minimize increasing vehicle travel times, signals shall be synchronized and pedestrian activation required. In addition, pedestrian crosswalks can be divided into two phases, such that pedestrians cross travel lanes for traffic in one direction during one phase, and then cross travel lanes for traffic in the other direction during the second phase. Pedestrian refuge islands shall be provided where possible; refuge islands should be at least 5 feet in width and accompanied by bollards and/or landscaping.
- b. **Pedestrian Barriers near Crosswalks**. Fences or other barriers may be needed to prevent pedestrians from crossing in locations that are unsafe. Decorative metal fences or public art should be used within and adjacent to the Neighborhood Activity Center (i.e., Village Center).
- c. **Pedestrian Crossings at Arroyos**. When there is a pedestrian crossing at an arroyo, crossing distances shall be minimized to ensure safe, comfortable access across the arroyo. At arroyos, the length of culverts (i.e., the width of bridges) shall be minimized by eliminating both the median and landscape strips.

Standard 6: Provide traffic calming features.

To discourage fast and cut-through traffic, traffic calming shall accompany the interconnected street network called for in these standards. A measure of traffic calming shall be provided through the use of appropriately dimensioned travel and parking lanes. Excessive street width has been identified as a major contributor to higher vehicle speeds and a higher incidence of severe injuries. Additional techniques may be employed to calm traffic in support of pedestrian safety and convenience.

The following features are approved to be used in the Plan area:

a. **Curb Radii**. To reduce pedestrian crossing distances and slow traffic curb radii shall not be more than 15 feet, except where no pedestrian crossing is expected, if significant truck or bus traffic is expected, or where there are special demands for acceleration or deceleration. Where curb radii exceed 15 feet, other measures should be considered to support pedestrian safety.

Transportation Standards

- b. **Bulbouts**. Bulbouts extend curbs and create parking lanes. They are especially warranted at intersections and other pedestrian crossings in areas with high pedestrian activity or where motorists need to be alerted that they are entering a pedestrian-oriented area (e.g., "gateway" locations), and where pedestrian refuge and short crossing distances are critical (e.g., near facilities for children or senior citizens).
- c. **Offset Intersections**. Travel routes that force turns through offset intersections will slow traffic and discourage cut-through traffic. Intersections should be offset by at least 100 feet, unless the road geometry provides adequate sight lines. Offset intersections also provide special vista opportunities for parks, civic buildings, building entries, monuments, or exceptional architecture.
- d. **Roundabouts**. Roundabouts slow traffic while offering capacities for turning movements that usually exceed conventional 4-way intersections. Roundabouts can be small enough to be placed in the middle of typical intersections, or large enough to accommodate parking and handle complex intersection geometries.
- e. Articulated Crosswalks. At crosswalks, special visual and physical features can signal the presence and needs of pedestrians to motorists. Articulation can be created through the use of signage, lighting, special pavers, textured concrete, and highly reflective paint. Where traffic volumes are low and pedestrian volumes are high, crosswalks shall be placed at the same level as abutting sidewalks to make vehicles ramp up to that level and signaling that pedestrians take precedence.

Standard 7: Adopt Street Cross Sections that Ensure Safe Multimodal Design.

Appropriate street design is critical for providing direct routes to local destinations, disbursing traffic volumes, and ensuring that streets and pedestrian routes are more direct and intimate in scale. Continuous street connections may be accompanied by offset intersections and other traffic-calming features to discourage cut-through traffic on local streets.

a. Street Cross Section Diagrams. The following street cross sections and design shall be adopted with this plan. (See Exhibit 6, Volcano Cliffs Sample Cross-Section Locations and subsequent Cross Sections 1-11.) It should be noted that the right-of-way (ROW) for each cross section will encompass the stated functions, but the functions may be re-arranged within the right-of-way to meet functional requirements. In addition, each arterial cross-section in this Plan is shown with dedicated transit lanes among its many functions. The actual placement of the transit lanes within the right-of-way, the design of actual routes, and the actual placement of transit stops and centers in or on those rights-of-way is dependent on future specific design.

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Exhibit 6: Volcano Cliffs Sample Cross-Section Locations

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[Amended November 5, 2014]

TABLE 2: STREET TYPES AND CROSS SECTIONS

Cross Section	Programmed ROW	# Vehicular Lanes	Vehicular Travel Lane Widths / Transit Lane Widths	Bike Lane / Buffer*	On-Street Parking*	Pedestrian Sidewalk Width	Landscape / Tree Well	Applicable Sector Plan Area
ST 1.1: Typical Retail Collector								
Applicable Streets: • Rosa Parks • Universe Blvd. south of Rosa Parks	58 feet	2	10 feet	None	7 feet	12 feet	(Within sidewalk width)	VCSDP
ST 1.2: Typical Residential								
Applicable Streets: • Kimmick Dr.	58 feet	2	10 feet	None	7 feet	6 feet**	6 feet	VCSDP
ST 2.1: Neighborhood Street A	70 feet	2	11 feet	4 feet / 3 feet	7 feet	10 feet	(Within sidewalk width where required)	VHSDP
ST 2.2: Neighborhood Street B								
 Applicable Streets: Kimmick from Paseo to Rosa Parks Calle Nortena from Paseo to Valiente 	72 feet	2 (+ 14' median/turn bay)	10 feet	None	7 feet	6 feet	6 feet	VCSDP
ST 2.3: Neighborhood Street C Applicable Street: Urraca Rd.	64 feet	2	10 feet	None	7 feet	5 feet	5 feet	VCSDP

* Includes curb and gutter dimension where element is at the edge of the paved section of the roadway.

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TABLE 2: STREET TYPES AND CROSS SECTIONS (Cont'd)

[Amended November 5, 2014]

Cross Section	Programmed ROW	# Vehicular Lanes	Vehicular Travel Lane Widths / Transit Lane Widths	Bike Lane / Buffer*	On-Street Parking*	Pedestrian Sidewalk Width	Landscape / Tree Well	Applicable Sector Plan Area
ST 3: Universe Blvd. Applicable Street: Universe Blvd.	77 feet	2 (+ 16' median/ center turn bay)	11 feet	5 feet	None	7 feet	5 feet	VCSDP VHSDP
ST 4: Connector Street	84 feet	2 (+ 12' median/turn bay)	10 feet	4 feet / 3 feet	7 feet	12 feet	(optional within sidewalk width)	VHSDP
 ST 5: Suburban Boulevard Applicable Streets: Unser Boulevard at Escarpment Rainbow Boulevard 	128 feet	4	11 feet	7 feet	None	10 feet	10 feet	VCSDP
ST 6: Paseo del Norte at Escarpment	135 feet	4 (+2 transit lanes)	11 / 12 feet	9 feet	None	(See cross section)	None	VCSDP VHSDP

* Includes curb and gutter dimension where element is at the edge of the paved section of the roadway.

TRANSPORTATION STANDARDS

[Amended November 5, 2014]

TABLE 2: STREET TYPES AND CROSS SECTIONS (Cont'd)

Cross Section	Programmed ROW	# Vehicular Lanes	Vehicular Travel Lane Widths / Transit Lane Widths	Bike Lane / Buffer*	On-Street Parking*	Pedestrian Sidewalk Width	Landscape / Tree Well	Applicable Sector Plan Area
 ST 7.1: Urban Boulevard A Applicable Streets: Paseo del Norte from Calle Nortena to Kimmick Unser Boulevard from southern boundary of Volcano Cliffs to Escarpment Unser Boulevard from Kimmick to Woodmont 	156 feet	4 (+ 50' median)	11 feet	6 feet	None	10 feet	10 feet	VCSDP
 ST 7.2: Urban Boulevard B Applicable Streets: Unser Boulevard from Escarpment to Kimmick 	156 feet	4 (+36' median)	12 feet	8 feet	None	None	None	VCSDP
 ST 7.3: Urban Boulevard C Applicable Streets: Unser Boulevard from Woodmont to northernmost right-in/right-out in Volcano Heights 	156 feet	4 (+2 slip lanes)	11 / 12 feet	4 feet / 2 feet	None	(See cross section)	(See cross section)	VHSDP
ST 7.4: Urban Boulevard D Applicable Street: Paseo del Norte from Kimmick to western boundary of Volcano Trails	156 feet	6 (+2 transit lanes)	11 / 12 feet	6 feet / 2 feet	None	10 feet	(Within sidewalk width)	VHSDP VTSDP

* Includes curb and gutter dimension where element is at the edge of the paved section of the roadway.

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 TABLE 2: STREET TYPES AND CROSS SECTIONS (Cont'd)

[Amended November 5, 2014]

Cross Section	Programmed ROW	# Vehicular Lanes	Vehicular Travel Lane Widths / Transit Lane Widths	Bike Lane / Buffer*	On-Street Parking*	Pedestrian Sidewalk Width	Landscape / Tree Well	Applicable Sector Plan Area
ST 8: Transit Boulevard	120 feet	2 (+2 transit lanes)	10 / 12 feet	4 feet / 3 feet	7 feet	12 feet	6 feet	VHSDP
ST 9: Town Center	96 feet	2	11 feet	4 feet / 3 feet	18 feet (reverse- angle)	12 feet	(Within sidewalk width)	VHSDP
ST 10.1: Park Edge – Single-loaded	76 feet	2 (+12' median/turn bay)	11 feet	6.5 feet / 2.5 feet	7 feet (one side only)	10 feet	(Within sidewalk width)	VHSDP
ST 10.2: Park Edge – Double- loaded	70 feet	2	11 feet	4 feet / 3 feet	7 feet	10 feet	(Within sidewalk width)	VHSDP
ST 11: Local Street	52 feet	2	9 feet	None	6 feet	6 feet**	5 feet	VCSDP

* Includes curb and gutter dimension where element is at the edge of the paved section of the roadway.

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[Amended November 5, 2014]

ST 1.1: Retail Collector



Street Type 1.1: Typical Retail Collector (2 Lanes) Where urban uses like retail, apartment or townhouses are anticipated, parking lanes should also be provided.

* Note: c/g stands for "curb and gutter"



Collectors have two 10-foot travel lanes and parking lanes as shown in Cross Sections 1.1. Collectors are key to creating an outdoor room effect in the interior of pedestrian-oriented centers.

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Street Type 2.2: Neighborhood Street B

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Street Type 7.1: Urban Boulevard A

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Street Type 7.2: Urban Boulevard B

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Street Type 7.3: Urban Boulevard C (*slip lanes both sides*)

C/G = Curb and Gutter

** Note:

Multi-use trail to be southeast of Unser Blvd. between Woodmont and Transit Blvd. and northwest of Unser Blvd. between Transit Blvd. and the northern edge of the Plan area.

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*** Note: Sidewalk dimension may be adjusted to accommodate trail and/or trail buffer.



*** Note: Median becomes Turn Bay or equivalent in 'B' Street segments.

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[Note: Cross Section 9 is not used within the Volcano Cliffs Plan area]



TRANSPORTATION STANDARDS

[Note: Cross Section 10 is not used within the Volcano Cliffs Plan area]



TRANSPORTATION STANDARDS



TRANSPORTATION STANDARDS



Street Type 11: Local Street

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b. **Bicycle Facilities**. Bicycle facilities, including on-street bicycle lanes and multi-use trails, should be designed and developed to meet safety considerations as provided in the Institute for Transportation Engineers (ITE) or American Association of State Highway Transportation Officials (AASHTO) standards.

- c. **On-Street Parking.** On-street parking buffers pedestrians from vehicular traffic and supports sidewalk and abutting activity.
 - i. Where abutting uses have a commercial, industrial, cultural, or educational component, and where residential uses exceed a density of 5 dwellings per gross acre, parking shall be provided on both sides of the local street (except where elimination of a parking lane can help avoid the disturbance of significant natural or archaeological resources). In this case, on-street parking is intended to serve local uses, buffer pedestrians from moving traffic, and lower vehicular travel speeds to calm traffic.
 - ii. Where abutting uses are residential with a density of 2-5 dwellings per gross acre, parking shall be provided on only one side of the local street. Removing unneeded parking and reducing the overall ROW of the road is intended to lower vehicular speeds to calm traffic. In this case, the cross section shown as Street Type 11 shall be adjusted to remove parking on one side, retain curb and gutter, and increase the tree strip width to 6.5 feet in order to result in a total ROW width of 50 feet.
 - iii. Where density is less than 2 dwellings per gross acre, no on-street parking is required. Removing unneeded parking and reducing the overall ROW of the road is intended to lower vehicular speeds to calm traffic. In this case, the cross section shown as Street Type 11 shall be adjusted to remove parking on both sides, while retaining curb and gutter on both sides, to result in a total ROW width of 45 feet.
- c. **Sidewalk Locations**. The location of sidewalks shall reflect the desired character and density of the surrounding land uses. In high- and medium-density neighborhoods (i.e., SU-2/VCVC, SU-2/VCMX, SU-2/VCUR, and SU-2/VCLL zones), sidewalks are essential to creating a vibrant, pedestrian lifestyle. In lower-density settings (i.e., the SU-2/VCRR zone), the use of sidewalks may be excessive, and connections may be more appropriately provided via trails and gravel shoulders.
 - i. Where average densities meet or exceed 4 units per gross acre, sidewalks shall accompany both sides of all streets.
 - ii. Where average densities are less than 4 units per acre, trails and gravel shoulders may be used in lieu of street sidewalks.

[Amended November 5, 2014]

Transportation Standards

- d. **Alleys**. Alleys provide access to garages and service areas placed behind buildings, thereby avoiding negative visual and transportation impacts of garages doors, parking structures and service areas that face streets.
 - i. Alleys are encouraged in the Village Center, Mixed Use, and Urban Residential areas. Alleys shall be used wherever street-facing buildings are desired but curb cuts are problematic and where buildings front onto open space with no intervening street.
- e. **Street Landscaping**. Street trees and landscaping improve pedestrian comfort and contribute to the image and identity of Volcano Cliffs.
 - i. **Street Trees**. Street trees shall be placed between the curb and the sidewalk; within grated treewells in commercial and mixed-use areas; and within landscaped strips or rock-covered tree wells in other areas.
 - ii. **Plant Palette**. All plant material for designated Scenic Corridors and other streets shall be appropriate for the environmental conditions of the area and shall include low-water use and xeric plants.
 - iii. Additional Requirements. See Section II-General Design Standards C.2 & C.9 for street landscaping requirements and Chapter 5 General Regulation C for Plant Lists.
- f. **Street Lighting**. Street Lighting is an important pedestrian amenity that contributes to a feeling of safety and security and can also serve to express the unique character or identity of a particular area. The use of street lighting shall minimize light pollution and shall comply with the New Mexico Night Sky Ordinance.
 - i. Light standards shall not exceed a height of 20 feet on arterial and collector streets and 16 feet on local streets and alleys.
 - ii. On designated Scenic Corridors and in other locations abutting arroyos, Major Public Open Space, or the Petroglyph National Monument, only light bollards shall be used, except where a light pole is critical for safety. Lights shall utilize metal fixtures with a durable, low-luster finish. Fixtures shall provide "cut-off" angles, and light fixtures shall be positioned to avoid glare into residential units.

$Transportation \ Standards$

- g. Above-Grade Impediments. Utility boxes, light standards, news racks, postal boxes, street furniture, and other potential impediments to pedestrian movement shall be placed so as to maintain continuous and uninterrupted pedestrian routes.
- h. **Street Signage and Wayfinding**. Unified street signage and wayfinding signage is an important mechanism for creating community identity and for providing directional assistance.

Standard 8: Ensure Sustainable Rainwater Design.

Street features can improve rainwater quality and permit rainwater infiltration. Typically, curbs and gutters collect and concentrate pollutants and direct them into pipes that carry pollutants to arroyos, rivers, and other waterways. Sustainable design features allow rainwater to be filtered or percolate into the ground and can reduce the demand for and cost of conventional pipes.

- a. Swales. Swales are encouraged to handle rainwater. Swales are appropriate in residential areas.
- b. **Permeable Paving**. Permeable concrete or unit pavers may be used for driveways and parking areas. Permeable pavers should not be used in locations of high use. Porous concrete can be laid above subsurface rainwater storage and infiltration areas to meet discharge needs and becomes cost-effective in urban settings.
- c. **Commercial Rainwater Design**. Commercial areas shall incorporate sustainable rainwater management practices (see **Chapter 4 II-General Standard C.8** and **Chapter 5 General Regulation E**).

[Amended November 5, 2014]