



# TRAILS ELEMENT



executive summary

introduction

transportation trails

recreation trails

trail safety

amendment exemption  
of standards

costs and funding

trail implementation

appendix



Approved by  
City Council 2-20-13

The City of Las Vegas  
Trails Element of the Las Vegas 2020 Master Plan  
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# City of Las Vegas Trails Element

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# EXECUTIVE SUMMARY

Nevada State law requires that governing entities in counties with a population of over 700,000 people adopt a master plan to address a list of subjects set forth in Section 278.160 of the *Nevada Revised Statutes* (NRS). The two required plans outlined in NRS 278.160 that requires a trails component are the Transit plan and Recreation plan. The completion of this element satisfies the required trails component of these two required plans. Within this Element, design guidelines and trail alignments are identified for all trail types located within the city of Las Vegas. The information incorporated into this element is separated into four major components: Background Information, Transportation and Recreation Trails, Costs and Funding, and Implementation.

## INTRODUCTION

The introduction section describes the document's statutory requirements, its relationship to the master plan, and the existing trail and bike facility inventories within the city of Las Vegas.

## TRANSPORTATION AND RECREATION TRAILS

The transportation trails component examines pedestrian paths, multi-use trails, urban trails and bike route/paths. Design guidelines, alignments and maintenance responsibilities are given for each transportation trail type.

The recreation trails component examines equestrian and multi-use equestrian trails, location criteria, trailheads, trail identifiers and trail maintenance requirements. Design guidelines and alignments are given for each recreation trail type.

## COSTS AND FUNDING

This component identifies the costs associated with constructing trails, as well as the City's funding priorities for future trail construction. In addition, various methods that can be used by the City to obtain funding for trails and bike lanes/routes are explored in this section.

## IMPLEMENTATION

Implementation strategies for each trail are identified to guide future City policy. A table is provided that displays action items and departmental responsibilities for each strategy.

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# INTRODUCTION

This element of the *Las Vegas 2020 Master Plan* (“Master Plan”) establishes standards, guidelines, objectives, policies and priorities for the location, development and maintenance of transportation and recreation trails in Las Vegas. The city of Las Vegas (“City”) initiated this effort to establish a multi-modal transportation system for pedestrians, bicyclists and persons with other modes of non-motorized vehicular travel. Element satisfy’s various requirements outlined in the Transit Plan and Recreation Plan of NRS 278.160. It analyzes the existing trails system and delineates opportunities to extend the system in the future.

## POLICY FRAMEWORK

State law requires that governing entities in counties with a population of over 700,000 people adopt a master plan to address a list of subjects set forth in section 278.160 of the *Nevada Revised Statutes*. Although a trail plan is not one of these subjects, the creation of a trails element satisfies a portion of the recreation plan and the transit plan, which are both required subjects of NRS 278.160.

- **Recreation Plan** – Showing a comprehensive system of recreation areas, including without limitation, natural reservations, parks, parkways, trails, reserved riverbank strips, beaches, playgrounds, and other recreation areas, including, when practicable, the locations and proposed development thereof.
- **Transit Plan** – Showing a proposed multimodal system of transit lines, including mass transit, streetcar, motorcoach and trolley coach lines, paths for bicycles and pedestrians, satellite parking and related facilities.



*Pueblo Trail located in the Summerlin Master Planned Community*

The requirements delineated by NRS to adopt a recreation plan and a transit plan, as well as the fact that trails are integral parts of each, is the basis by which the *Trails Element* was established. In addition to identifying trails as a required component of the transit and recreation plans, the *Nevada Revised Statutes* address responsible parties for the required maintenance of trails. *Title 19* and *Title 13* of the *Las Vegas Municipal Code* also address maintenance. The following excerpts define whether a private party/homeowners association is responsible for the maintenance of recreation and

transportation trails or if the responsibility falls to the city of Las Vegas.

Section 278.4787 of the *Nevada Revised Statutes* and *Title 19.02* of the *Las Vegas Municipal Code* address the maintenance of recreation trails. Subsection 5 of NRS 278.4787 states:

- “If the governing body requires an owner of land to dedicate a tract of land as a trail identified in the recreation plan of the governing body adopted pursuant to paragraph (j) of subsection 1 of NRS 278.160, the governing body shall:
  - (a) Accept ownership of the tract; and
  - (b) Assume the maintenance of the tract and any other improvement located on the land.”

*Title 19.02* states:

- In *Title 19.02* of the *Las Vegas Municipal Code*, trails are defined as “public improvements.” Subsection 19.02.130 stipulates: “The sub-divider is responsible for the construction of all public improvements and for any private improvements associated with the parcel map or subdivision that may be required by the City.” Other sections of this title provide for landscaping plans along street corridors and the scheduling of improvements. Consequently, recreation trails required by the City will be constructed by a developer and dedicated to the City to be owned and maintained by the City. Another agency or group, however, may choose to assume the responsibility to own and maintain a recreation trail that otherwise would have been required by the City.

There are two titles of the *Las Vegas Municipal Code* that address the maintenance of transportation trails. *Title 13* provides for “streets, sidewalks and public places” and *Title 19.02* sets forth provisions for public improvements in subdivisions.

- Chapter 13.56 of the *Las Vegas Municipal Code* sets forth the requirements for the construction, maintenance and repair of sidewalks and “transition strips.” Transition strip and sidewalk areas combined are currently referenced in *Title 19* as amenity zones. Typically property owners abutting the public right-of-way, are responsible for the construction of public improvements adjacent to their site. *Title 13* requires adjacent property owners to maintain and repair the amenity zones adjacent to their property unless



the maintenance is already obligated to another party such as homeowner's association.

Trail paths function as and are in lieu of sidewalks and the trail landscaped corridors are synonymous with amenity zones.

- Within new developments, whether in new areas or infill areas, *Title 19.02* places the responsibility for the construction and maintenance of trails on homeowners associations or other maintenance organizations. The City may require as a condition of approval the dedication of the right-of-way for a trail and its construction by a developer whose property the trail crosses.

## 1992 GENERAL PLAN

Prior to the *Las Vegas 2020 Master Plan*, the 1992 *General Plan* satisfied NRS requirements regarding recreation and transportation trails. The 1992 *General Plan* was adopted April 1, 1992 and later updated December 7, 1994. At that time the plan included a chapter on Circulation. This chapter incorporated both the street and highways plan and transportation plan elements referenced in NRS. One of the areas of interest specifically referenced was a "multiuse trail system" stating:

A multi-use trails system (bicycle, pedestrian and equestrian trails) is another important element of a successful multimodal circulation system. Such a multi-use trail system will utilize dedicated rights-of-way or easements to connect other existing trails systems...

The 1992 *General Plan* also contained a chapter on leisure and cultural services that included recommendations for trails, including recreation trails. These recommendations pertained to equestrian trails in the northwest part of the community, stating:

Recreation trails can transform leisure and cultural facilities into a leisure and cultural "system". For example, the .4 system (sic) might enable a bicyclist or a pedestrian to go from the residential area that they live in to a local or regional park facility and then to another park facility via a secure trail. In the Northwest, horse keeping and horseback riding are very popular due to the rural character of the area and the larger lots where horses are permitted by zoning. As a result of these desires and concerns, it was proposed that the City establish a recreation trail system.

A portion of the 1992 *General Plan* was amended in 1997 to include the *Centennial Hills Sector Plan*. At that time, several agencies, interest groups and homeowners associations met with City staff to revisit trails issues. Based on these discussions, amendments to the *Centennial Hills Plan* were prepared and adopted by the City that recommended various locations for multi-use trails in addition to equestrian trails in the northwest part of the community.

## THE LAS VEGAS 2020 MASTER PLAN

The *Las Vegas 2020 Master Plan* was adopted by City Council on September 6, 2000, forming the framework for a series of elements to replace the 1992 *General Plan*. Two of those elements were the *Recreation Trails Element* and the *Transportation Trails Element*. These elements were both adopted on January 16, 2002, and updated on January 20, 2005.

The Master Plan contains numerous goals, objectives and policies pertaining directly and indirectly to trails. The *Trails Element* is intended to not only satisfy NRS requirements, but also provide a document that will assist with the future needs of the City as it continues to grow. The city of Las Vegas has considered how policies stipulated in the *Las Vegas 2020 Master Plan* direct decisions affecting trail issues. This element provides information that will aid the City's priorities and initiatives. The goals, objectives and policies that relate to the *Trails Element* are as follows:

GOAL 1: The Downtown area will emerge as the preeminent hub of business, residential, government, tourism and gaming activities in the City of Las Vegas and as a major hub of such activities in the Las Vegas valley.

OBJECTIVE 1.2: To improve the livability of the Downtown through the creation of a series of safe, attractive and interesting public open spaces and non-vehicular routes to connect these open spaces and other major Downtown activities.

POLICY 1.2.3: That all Downtown parks and open spaces be linked with non-vehicular corridors or routes. These routes may incorporate a theme, and should be readily identifiable through sidewalk treatments, signage, lighting, landscaping and other techniques. Enhanced streetscapes should be developed along selected corridors. The intent is to foster a safe, pleasant and convenient pedestrian environment. The City will promote the use of public/private partnerships to develop Downtown open space.

GOAL 3: Newly developing areas of the city will contain adequate educational facilities and recreational and open space and be linked to major employment centers by mass transit, including buses, and by trails.

OBJECTIVE 3.6: To ensure that adequate amounts of park space and trail systems are designated and developed to meet or exceed national standards and standards established in the Master Plan Parks Element.

POLICY 3.6.7: That the City encourage the development of parks that link with and take advantage of trail and pedestrian/bike traffic plans.

POLICY 3.6.8: That the City coordinate the planning, development and construction of a Valley-wide trail system with other Las Vegas valley entities.



GOAL 7: Issues of regional significance, requiring the City of Las Vegas to coordinate with other government entities and agencies within the Valley, will be addressed in a timely fashion.

OBJECTIVE 7.1: To ensure that the natural resources of the City, particularly those that directly support an enhanced quality of life for its residents, are protected.

POLICY 7.1.1: That air quality throughout the City be improved through the reduction of carbon monoxide from automobile emissions and through the reduction of dust particles.

POLICY 7.1.9: That the City coordinate the planning, development and construction of a Valley-wide trail system with other Las Vegas valley entities.

OBJECTIVE 7.2: To ensure that arroyos, washes and water courses throughout the City are integrated with urban development in a manner that protects the integrity of the watershed and minimizes erosion.

POLICY 7.2.3: That the areas along the edges of hard-lined flood control facilities and along natural drainage courses be utilized as area for public trails and walkways, with landscaping and other features which enhance the appearance of these areas.

OBJECTIVE 7.3: To ensure that public safety problems are fully and adequately identified and that long term solutions are identified and implemented by the respective local government departments and agencies vested with those responsibilities.

POLICY 7.3.5: That the City work with the Clark County Regional Transportation Commission, the Nevada Department of Transportation and local governments in the Las Vegas valley to ensure that the roadway network is planned and developed to meet the needs of the anticipated population growth in the Valley, and provides for multi-modal transportation opportunities.

## TRAIL BENEFITS

The National Park Service's Rivers, Trails, and Conservation Assistance Program (Rivers and Trails) and the Rail-to-Trails Conservancy are two major national organizations dedicated to trails. Rails-to-Trails Conservancy is an organization dedicated to enriching America's communities and countryside by creating a nationwide network of public trails from former rail lines and connecting corridors. The organization has been supporting the tremendous growth and development of rail-trails since opening its doors in 1986. Rivers and Trails serves as a community resource of the National Park Service. It provides expertise and valuable on-the-ground technical assistance from strategic consultation and partnership development to service as a liaison with other government agencies. Studies by

these organizations and others have found that a trails system benefits the community in the following ways:

- Provides an important transportation corridor
- Contributes to the conservation of natural resources
- Provides a safe means for non-vehicular travel
- Potentially increases the value of property
- Provides a community recreation resource
- Promotes health and fitness
- Contributes to the preservation of aesthetic values
- Enhances economic opportunities
- Minimizes crime
- Serves as a buffer

The phenomenal growth that occurred in Las Vegas led to a plethora of problems, including increased traffic congestion, safety issues, aesthetic concerns and air pollution. Although Las Vegas is no longer growing at such an exceptional rate, it blossomed to become one of the largest U.S. cities and these issues still persist. Trails provide an important transportation corridor for non-polluting modes of non-vehicular travel and they undeniably are an important part of the solution to relieving congestion, increasing safety, conserving natural resources and encouraging healthy activities by city of Las Vegas residents.

## LOCAL EFFORTS

Beyond the major national organizations, local efforts have taken shape focusing on trails to help alleviate the issues related to traffic congestion, safety and pollution. The city of Las Vegas has partnered with Outside Las Vegas Foundation, a private non-profit group dedicated to engaging the community with open space and trails. The partnership is dedicated to generating more community awareness and participation in local trails as the network expands. On August 3, 2011 the Las Vegas City Council approved funding for the public-private partnership to begin an Adopt-A-Trail program. The program reaches out to local businesses and residents to encourage community stewardship of the trail system. Volunteers and money raised are dedicated to light maintenance and community outreach. The light maintenance includes litter cleanup, weed control and graffiti removal.

The City participates in the Southern Nevada Regional Planning Coalition's Regional Open Space and Trails Workgroup (ROST) – a regional collaboration for the coordination, planning and sharing of information of open space and trails plans. The Workgroup, facilitated by the Outside Las Vegas Foundation, includes representatives from all local jurisdictions, the federal

partners, Regional Transportation Commission, Clark County School District, Nellis AFB, the Southern Nevada Health District and other organizations.

In addition to the partnership with city of Las Vegas, the Outside Las Vegas Foundation has partnered with the Southern Nevada Regional Planning Coalition (SNRPC) to develop a regional trail called the Vegas Valley Rim Trail. The SNRPC, which the City is a standing member, and the Outside Las Vegas Foundation will develop a 113-mile hiking and biking trail that will loop around the valley and link to the existing trail network. A trail of this size can make the entire regional trail network a viable alternative to the automobile and help alleviate traffic congestion and pollution. The project has the support of the Southern Nevada Health District and was unanimously approved by the city of Las Vegas City Council in January of 2012.



*Photo illustration of an attractive, safe pedestrian pathway and bike trail along a street*

The city of Las Vegas, along with other local agencies, has partnered with the Southern Nevada Health District to create a brand and logo called Neon to Nature for all Las Vegas valley trails. This effort included the launching of the Neon to Nature website. The website, launched in 2011, is for all Las Vegas valley residents interested in local recreational trails. The Neon to Nature website encourages physical activity by showcasing detailed trail information including maps, lengths of trails and available amenities on each trail. Visitors to the website can search for trails based on trail difficulty, terrain and location.

## **COMPLETE STREETS**

In addition to the regional partnerships, the city of Las Vegas has incorporated a Complete Streets concept to encourage trail usage. Complete Streets are streets designed and operated for safe access for all users. It is based on the idea that there is room for more than one mode of transportation on the roads of our city. Roads should be safe and accessible for pedestrians and bicyclists, as well as for motor vehicles and people using public transit. Each complete street is unique as it responds to particular communities needs. Incomplete streets are designed with just the automobile in mind, limiting safe mobility. There is not one design for complete streets that works in every instance, however, design features can include wide sidewalks with landscaped separation from the street, frequent and safe pedestrian crossing opportunities, trails and more.

Trails can connect safe streets with local neighborhoods and natural spaces. Our trails need complete streets in order

to be fully linked to destinations. Doing so will allow trails to be viewed as more than just a recreational activity. When trails are fully connected to destinations the citizens of Las Vegas will view walking/biking as a realistic alternative to the automobile to run errands or get to work.

Trail crossings are important components to trail design when it comes to creating a linked network. A well designed trail crossing improves overall safety for all users and further encourages use of the trail system. Crossings should be ADA-accessible and utilize a unique striping pattern. The unique striping pattern will alert drivers and trail users that the crossing is different than a standard crosswalk situation and that this is a multi-use intersection. Rumble strips or a swerve before the intersection are great ways to alert cyclists on the trail to slow down. Another option to reduce speed at crossings is the use of medians, both on the trail and on the intersecting roadway. Low medians on a trail can narrow the pathway as it approaches a crossing while medians on the intersecting roadway can reduce the speed of crossing automobiles and provide a refuge for trail users as they cross the street.

A well connected trail system utilizing the complete streets concept will not only improve multi-modal connectivity but will improve our citizen's health by meeting their recommended activity levels. Air quality will also improve with fewer automobiles on the streets.

The recent push for more walkable neighborhoods has given the city of Las Vegas an opportunity to focus on complete streets, and more specifically, trails. As walkable neighborhood plans are developed, a focus on trails should be incorporated. The city of Las Vegas implemented a Complete Streets policy with the adoption of the Unified Development Code on March 16, 2011. Complete Streets can be found in section 19.04 of the Unified Development Code.

## EXISTING FACILITIES AND PROGRAMS

### UNIFIED PLANNING WORK PROGRAM

The Regional Transportation Commission of Southern Nevada (RTC) is the Metropolitan Planning Organization (MPO) for Clark County. As the MPO, the RTC coordinates transportation planning activities with member agencies such as the city of Las Vegas. The Unified Planning Work Program (UPWP) identifies transportation planning activities to be undertaken in Southern Nevada. The planning process brings these local agency members together to discuss regional priorities and select projects for inclusion in UPWP.<sup>1</sup> New UPWP studies occur each year.

<sup>1</sup> Regional Transportation Commission of Southern Nevada - [http://www.rtcsonthernnevada.com/mpo/plansstudies/Docs/FY13UPWP\\_Final.pdf](http://www.rtcsonthernnevada.com/mpo/plansstudies/Docs/FY13UPWP_Final.pdf)



Completed studies from 2008 to present are available via the RTC website. The studies completed within the city of Las Vegas since 2008 and those that pertain to trails are as follows:

***Complete Streets Study*** – This study has two objectives. The first is to establish regional-wide goals for the “complete street” concept and develop criteria for assessing which streets are best suited for implementation. The second objective is to apply those goals and criteria to streets within the city of Las Vegas to identify roadway segments where complete streets could be applied, where retrofits are feasible, and to propose design recommendations, as well as cost estimates. The complete streets study was approved at the June 2012 RTC Board Meeting.

***Community Mobility Study for Central Las Vegas*** – The main goal of the study is to determine the proper alternative mode of transportation routes that can link residents to the new Bonneville Transit Center and increase the livability and economic stability of downtown Las Vegas. The study will examine the existing bicycle and pedestrian networks for connectivity to commercial and civic facilities, as well as make recommendations that enhance these networks. The completion date for the study is slated for December 2012.

***Transit Node Improvements in Southern Nevada*** – RTC Transit carries approximately 60,000 bikes on buses per year. In an effort to encourage and improve non-motorized (e.g., bicycle and pedestrian) transportation amenities/connections to RTC Transit routes, it must take into account where the critical linkages exist. This study will look at the RTC Transit system and identify the transit routes that highly attract non-motorized transportation modes. Based on this list, the study will determine the areas where these corridors link transit riders to trails, bicycle transfer points and pedestrian destinations. These areas indicate where recommendations to non-motorized and transit amenity improvements are necessary.

***Bicycle, Pedestrian and Complete Streets Planning*** – This task includes the planning activities that involve the continued efforts in the development and expansion of an interconnected bicycle and pedestrian transportation network and the key roles they play in the development of Complete Streets. This study identifies problems and possible improvements that can provide better facilities for cyclists and pedestrians. The study was approved at the June 2012 RTC Board Meeting.

***Las Vegas Downtown Pedestrian Circulation Study*** – The goal of this study was to set forth a plan to provide facilities that encourage people to walk in downtown Las Vegas. The study includes data used to identify current and future pedestrian routes and evaluate existing facility conditions. The study was completed June 2008.

## EXISTING RECREATIONAL FACILITIES

The City's existing recreation trails system has almost doubled in size since 2002, expanding from 11.5 miles to 18.6 miles. The recreation trails system consists of 12.6 miles of multi-use equestrian trails and 6 miles of equestrian trails. Please refer to **Map 1** for the locations of the recreation trails. The City has set a goal to complete an additional five miles of equestrian trails and three miles of multi-use equestrian trails over the next five years. An additional 23 miles of equestrian trails and 15 miles of multi-use equestrian trails are proposed to be constructed.

Trail Type	2002 Data	2012 Data
Multi-Use Equestrian Trails	10 Miles	12.6 Miles
Equestrian Trails	1.5 Miles	6 Miles

## EXISTING TRANSPORTATION FACILITIES

The City's existing transportation trails system has expanded substantially since 2002. The transportation trails system has grown from 8.5 miles to 83 miles over the past ten years. The system consists of 49 miles of multi-use non-equestrian trails, 42 miles of pedestrian paths and two miles of downtown trails. Please refer to **Map 2** for the locations of the transportation trails.

Type	2002	2012
Multi-Use Non-Equestrian Trails	8.5 miles	83.6 miles
Pedestrian Paths	None	72 miles
Downtown Trails	None	2 miles

The City has set a goal to complete an additional 10 miles of multi-use non-equestrian trails in the next five years. In total, 80 miles are proposed to be constructed. The breakdown of each is as follows:

- 70 proposed miles of multi-use trails;
- Six proposed miles of pedestrian paths; and
- Four proposed miles of downtown trails.

The Las Vegas City Council's ultimate plan is to construct and connect to a valley-wide trail network, that when completed, will interconnect the Red Rock Canyon National Conservation Area, the outlying northwest and west areas through downtown to the east Las Vegas neighborhoods.





## EXISTING BIKE FACILITIES

In 2002, an on-street bikeway system had not yet been established. The city of Las Vegas now has 119 miles of bike lanes. A bike lane has a designated area on the road marked by striping while a bike route only has signage with no clear designated area. The City has 135 miles of bike lanes and 14 miles of bike routes proposed for future development. Please refer to **Map 12** for the on-street bicycle lane and route alignments.

Type	2002	2012
Bike Lanes	N/A	119 miles
Bike Routes	N/A	2.7 miles

The city of Las Vegas off-street bikeway system consists of bike paths, which are separated from roadway traffic by barriers such as parked cars or landscaped medians. As of 2012, the city has 67 miles of existing bike paths with an additional 90 proposed to be constructed.

## EXISTING USAGE

Communities Putting Prevention to Work (CPPW) is a national initiative of the Centers for Disease Control and Prevention (CDC) to make healthy living easier by promoting policy, systems and environmental changes at the local level. As part of the CPPW funding, Southern Nevada Health District and Outside Las Vegas Foundation along with members of the Regional Open Space and Trails workgroup engaged in a multi-component project to increase access to, and use of, local trails for physical activity, recreation and active transport. The five major components of this project included conducting an inventory of all trails and amenities in southern Nevada; development of a searchable trails website called Neon to Nature; implementation of trail distance markers and way-finding signage on local trails; promotion of the available trails for activity and transport through a media campaign and comprehensive evaluation of the project.

Three rounds of data were collected on 11 trails located throughout the Las Vegas valley. The first round of data was collected in the fall of 2011, before the interventions began and serves as a baseline. The second round of data collections, which took place after the media campaign concluded in May of 2012. A third data collection in the fall of 2012 captured any potential impacts of the signage phase. Trail user counts on the 11 trails increased by 49%, from 6,707 to 9,996.

Furthermore, three of the eleven trails in the study were within the jurisdiction of the City of Las Vegas: Angel Park Trail and Cedar Drainage Trail. The third trail, Pueblo Park Trail, is



*As of 2012, the city has 67 miles of existing bike paths with an additional 90 proposed to be constructed.*

within the boundaries of the City of Las Vegas but maintained separately by the Summerlin Council. These city trails being evaluated saw peak usage of 1,379 for Angel Park Trail, 601 for Cedar Drainage Trail and 2,382 for Summerlin's Pueblo Trail. The continuation of gathering trail usage data should be made a priority in the next trails element update so that a comparison can be made with the 2012 usage data.



# TRANSPORTATION TRAILS

Transportation trails are facilities that typically have paved paths separated from the roadway for use by cyclists, pedestrians, runners and other users of non-motorized transportation. They are important assets for a community, encouraging healthy and active lifestyles, promoting non-motorized transportation over longer distances, and making the area more attractive to both residents and visitors. Bicycle lanes and bicycle routes are on-street facilities that are either marked as a dedicated bicycle lane, or are designated as a bicycle route on streets that exceed the minimum lane width as established by the Department of Public Works. The transportation trails section of this element will provide standards and guidelines for Pedestrian Paths, Multi-use Transportation Trails, and Urban Trails, Bicycle Lanes and Bicycle Routes.



*Pedestrian bridge located at Vegas Drive and Lake Mead Blvd. provide connectivity*

## TRANSPORTATION TRAILS LOCATION CRITERIA

Transportation trails are located or aligned to form a transportation system for pedestrian and non-motorized vehicular travel with linearity, continuity and accessibility being the principal factors involved. Trails are designed to be interconnected and carry traffic from one area of the community to another, in a fashion that is similar to a local street system. Some trails primarily serve local neighborhood needs and connect to parks, schools and public open spaces, while other trails systems located along arterial streets are designed to link areas of regional or cultural significance. Trail accessibility is also a key concern, and the City should continue to ensure that all citizens are located less than a mile from a trail system. When considering trail locations, the City will continue to promote accessible locations that serve the needs of the local neighborhood while ensuring connectivity to larger regional and city-wide trail systems that connect to recreation, employment, cultural centers, tourist destinations and transit.

## PEDESTRIAN PATHS

Those trail segments where adequate right-of-way does not exist to install the full width of a multi-use transportation trail because of existing development or other factors have been designated as Pedestrian Paths. The transition strip and transportation trail path are typically constructed by the developer. The recommended configuration for a Pedestrian Path is a detached five-foot concrete sidewalk with a five-foot landscaped transition strip acting as a buffer between the roadway and the pathway. Where feasible, above ground utility boxes shall not encroach onto the sidewalk or landscaping, and street furniture should be provided where appropriate. The Pedestrian Path cross-section is illustrated on **Exhibit 1** and their locations can be identified on **Map 3**. All pedestrian paths are intended to be constructed to the following standards:

- Five-foot landscaped transition strip located at the roadway back of curb
- Five-foot detached sidewalk at the back of the transition strip
- Portions of the amenity zone may be located outside the public right-of-way, on private property with appropriate public easements in place. Such portions are typically in a common lot.
- Pedestrian access easements required where sidewalk is not within the public right-of-way
- Encroachment agreements required where landscaping is within the public right-of-way
- Above ground utility boxes shall not encroach onto the sidewalk
- Street furniture should be provided where appropriate

## PEDESTRIAN PATH TRAIL MAINTENANCE

Maintenance of the pedestrian trail path is the responsibility of the adjacent property owner. This includes the amenity zone and all areas back of curb. The adjacent homeowner's association/private property owner must enter into an encroachment agreement with the City to guarantee maintenance of landscaped areas in the public right-of-way in perpetuity. Per *Title 13* of the *Las Vegas Municipal Code*, the maintenance of the sidewalk is also the responsibility of the adjacent property owner.

# MULTI-USE TRANSPORTATION TRAILS

The multi-use transportation trail cross section is illustrated on **Exhibit 2** and their locations can be identified on **Map 2**. The transition strip, transportation trail path and landscape corridor are typically constructed by the developer. All multi-use transportation trails are intended to be constructed to the following standards:

- Five-foot landscaped transition strip located at the roadway back of curb
- 10-foot transportation trail path
- Five-foot private landscape corridor located at the back of the trail path
- Transition strip to be planted with deciduous shade trees 20 feet on-center
- Street furniture should be provided where appropriate

The total width of a multi-use transportation trail is 20 feet. It is comprised of a 10-foot bi-directional shared path midway between two irrigated landscaped corridors. Variations to the location of the path within the trail may be necessary to allow for problems with drainage or physical features. A meandering path alignment within the trail also may add visual acuity and allow for a better alignment around street lights and other infrastructure. Except along bus turnout lanes, no trail path shall be located closer than two feet from the back of curb. In instances where existing trail and trail path widths and locations are not consistent with the standards located in the *Trails Element*, transition from the existing width and locations to those required herein are to be made at street intersections or at other places where there is an interruption in the trail continuity or to be made gradually such that the trail meanders.

The transition strip/landscaped corridors provide separation from street facilities and shade for users of the trail facilities. Landscaped corridors are to be planted with trees spaced 20 feet on-center on one or both sides of the path. The direction of the sun should be a factor in determining the side of the path on which trees are located. This spacing may be varied depending upon the varieties of trees used and the particular landscaping scheme. A narrow, conical type tree with short branches should be used or other trees kept trimmed where interference to trail users may result.

Lighting is an important component of a trail system for safety reasons. Where trails are located along streets,



*Signage for clearly marking trail route*

street lighting may be sufficient in most instances. To provide additional lighting, backside luminaries placed on light poles should be considered. In residential districts, backside luminaries that direct light downward should be used so excessive lighting is not projected on adjoining residents.

Where trails are not located along street corridors and where direct or ambient lighting is not present or proposed with sufficient intensity to provide adequate lighting, lighting should be supplied. However, it is important that lights be placed at ground level or on light standards that are low enough to prevent a disturbance to adjoining residential properties. As with backside luminaries on street lights, a type that directs the light downward should be used. If adjacent perimeter walls exist, the placement of lighting on the walls is a preferred alternative. Standard 15-foot trail lights should be spaced no less than 100 feet on-center. For bollard or wall pack lighting, the minimum spacing should be at most 50 feet on-center. The spacing standards may be adjusted considering other lighting conditions and shall be based on a lighting study.

## MULTI-USE TRANSPORTATION TRAIL MAINTENANCE

Maintenance of the multi-use transportation trail path is the responsibility of the adjacent property owner. This includes the amenity zone and all areas back of curb. The adjacent homeowner's association/private property owner must enter into an encroachment agreement with the City to guarantee maintenance of landscaped areas in the public right-of-way in perpetuity. Per *Title 13* of the *Las Vegas Municipal Code*, the maintenance of the sidewalk is also the responsibility of the adjacent property owner.

## URBAN TAILS

In November of 2003, the City Council approved an amendment to the city of Las Vegas Downtown Centennial Plan, which established urban trail objectives and locations within the downtown area. The eight planned urban trails that comprise the urban pathways system are intended to complement the existing bike and transit facilities within downtown as well as link together the various districts within the City's core. The eight urban trails are designated as the Boulder Plaza Trail, Art Trail, Tortoise Trail, Entertainment Trail, Scenic Byway Trail, Cultural Corridor Trail, and Pioneer trail. Their locations can be identified on **Map 4**. All urban trails are intended to be constructed to the following standards:

- Five-foot amenity zone at the back of curb
- 10-foot sidewalk at the back of sidewalk
- Connects two anchors or nodes
- Includes a way-finding system or identification system
- Distinct surface treatment and/or street tree theme

## **BOULDER PLAZA TRAIL**

The Boulder Plaza Trail, located in the 18b Arts District on Boulder Avenue between Casino Center Boulevard and First Street, was completed in 2010. While the trail is barely over 500 feet in length, it is significant as it provides a linkage with the Art Trail, Tortoise Trail, the Casino Center bus transit lines, and the recently completed Boulder Plaza.

## **ARTS TRAIL**

The Arts Trail, located on First Street from Boulder Avenue to Garces Avenue, and from Bonneville Avenue to the Fremont Street Experience (FSE), functions as a major pedestrian link between the 18b Las Vegas Arts District and the FSE. The Arts Trail creates a sense of place and identity by incorporating unique street lighting, sidewalk treatments and landscaping along the entire length of the trail. A portion of the Arts Trail from Boulder Avenue to Hoover Avenue was completed by the City in 2011. Currently, the continuation of these improvements from Hoover Avenue to Garces Avenue, and from Bonneville Avenue to Fremont Street is in the design phase and construction is expected to commence in 2013.

## **TORTOISE TRAIL**

The Tortoise Trail runs both east/west and north/south. The east/west trail proceeds west from Las Vegas Boulevard (the Scenic Byway Trail) to Grand Central Parkway, creating an east/west corridor from the Las Vegas Boulevard to Symphony Park. The north/south trail proceeds along Main Street south of Charleston Boulevard and connects the 18b Las Vegas Arts District to the FSE. The FSE, located between Main Street and Las Vegas Boulevard, serves as a major east-west pedestrian connection, linking most major downtown casinos together and providing a pleasant, themed entertainment and strolling environment. This link of the Tortoise Trail leads directly through the FSE and connects to the Entertainment Trail.

## **ENTERTAINMENT TRAIL**

The Entertainment Trail begins at Las Vegas Boulevard and proceeds east to Ninth Street, where it then proceeds south and terminates at Clark Avenue. The Entertainment Trail runs through the Fremont East Entertainment District and proceeds south, terminating at the Las Vegas Academy. This trail provides an important linkage between downtown districts on both sides of Las Vegas Boulevard.

## SCENIC BYWAY TRAIL

The Scenic Byway Trail runs along Las Vegas Boulevard from Washington Avenue to Sahara Avenue. This trail was designated as a National Scenic Byway in November of 2009 due to its scenic and historic qualities. This is the only urban trail with a zoning overlay attached to it to provide signage standards to maintain and enhance the scenic qualities in accordance with the national “scenic by way” designation. Recent activity by the City includes the installation of six historic neon signs within the medians between U.S. 95 and Fremont Street. Funding has recently been obtained for three additional signs and improvements between Fremont Street and Charleston Boulevard. The national Scenic Byway designation and the ongoing improvements will ensure that Las Vegas Boulevard will continue to provide an enjoyable, safe, clean and exciting pedestrian experience for both tourists and local residents alike.

## CULTURAL CORRIDOR TRAIL

The Cultural Corridor Trail is located within the north segment of the Scenic Byway Trail from U.S. 95 to Washington Avenue. This segment of trail bypasses many cultural and historic sites within the downtown core, such as the Old Mormon Fort, Neon Bone Yard Park, Las Vegas Natural History Museum and the Biltmore Bungalows. Engineering design for the reconstruction of Las Vegas Boulevard from U.S. 95 to Owens Avenue is currently in progress. This project will add travel lanes to better accommodate vehicular traffic and transit routes, and to widen sidewalks and add landscaping to improve the pedestrian environment in this area.



*The Cultural Corridor pedestrian bridge.*

A segment of the trail also connects the cultural centers north of U.S. 95 to the National Museum of Organized Crime and Law Enforcement (Mob Museum) on Stewart Avenue. This segment of trail proceeds from the Mob Museum north along Casino Center Drive and connects with the portions of the Cultural Corridor Trail located on both Veterans Memorial Drive and Bonanza Road.

## PIONEER TRAIL

The Pioneer Trail is a recreation trail that passes through numerous sites that show the historical progression of settlement in the Las Vegas valley. The trail, which is six miles long and typically consists of a five-foot wide sidewalk, begins at the Las Vegas Springs Preserve and ends at the Old Mormon Fort. It passes through some of the earliest settlements of African Americans, Asian Americans, Hispanic Americans, Native Americans and European Americans in the Las Vegas valley.





In 2007, trail improvements and the installation of numerous markers and banners along the trail route were completed by the city of Las Vegas. As a trail that interconnects West Las Vegas and Downtown North, the Pioneer's Trail is instrumental to providing pedestrian access to these areas. With a link to the Downtown area and to the regional trails system at Valley View Boulevard, access by both Valley residents and visitors is much improved.

## BONANZA TRAIL

The Bonanza Trail, funded by a Southern Nevada Public Lands Management Act (SNPLMA) 12.2 million dollar grant from the Bureau of Land Management, extends approximately 10 miles from Summerlin eastward to the Las Vegas Springs Preserve. The trail is intended to connect to other planned trail segments and provide access to downtown Las Vegas from the western parts of the City. There are portions of the trail that are designated as multi-use transportation trails, while other segments are designated as pedestrian paths. The locations and designation of the Bonanza Trail can be viewed on **Map 5**.

To date, the city of Las Vegas has constructed several portions of the Bonanza Trail, including pedestrian underpasses, a pedestrian bridge and over 8,000 feet of trail along the south boundary of U.S. 95, between Jones Boulevard and Valley View Boulevard. An additional project is currently in design phase that will add trail lighting between Jones and Rainbow Boulevards.

## SPECIAL AREA PLAN TRAILS

Some special or master plan communities have trail systems that are unique to that plan area, but are still complementary to the overall trail network of the city of Las Vegas. The following are brief discussions of the various Special Area Plan trails.

### SUMMERLIN TRAILS

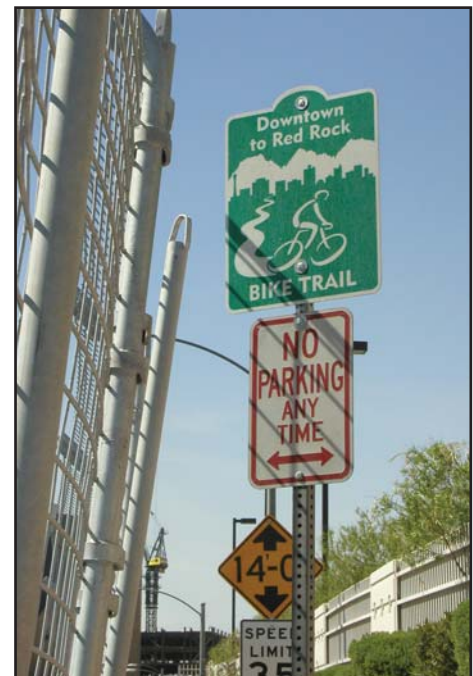
**Map 6**, Summerlin Multi-Use Trail Alignments, illustrates the location of existing and proposed multi-use trail alignments for Summerlin and **Map 7**, Summerlin Bike Trail Alignments, shows the location of bicycle routes and bicycle lanes in Summerlin. The trails proposed in Summerlin will be developed and maintained by The Howard Hughes Corporation and are not the responsibility of the City.

### TOWN CENTER TRAILS

**Map 8** shows the multi-use, off-street trails proposed in Town Center at U.S. 95 and the Beltway. The widths noted are the actual widths of the trail paths to be constructed on



*A streetlight banner marking the Pioneer Trail.*



*Signage indicating the Bonanza Trail is part of the Downtown to Red Rock Bike Trail system.*

both sides of the streets; most will have amenities such as trees and street furniture located within the trails. **Map 9** shows the on-street bike alignments in Town Center. All trails, except for the multi-use trails, are incorporated in the Town Center Development Standards as sidewalks and amenity zones.

## **LONE MOUNTAIN MASTER PLAN TRAILS**

The Lone Mountain Trails are located along both sides of the Beltway, north of Cheyenne Avenue. The trails, as illustrated on **Map 10**, are part of the “Lone Mountain Master Development Plan” adopted on February 5, 1997 and the “Lone Mountain West Master Development Plan and Design Standards” on June 14, 1999.

## **OTHER TRAILS**

### **THE LONE MOUNTAIN TRAIL**

The Lone Mountain Trail is a 6.5 mile trail located along the Buffalo Channel alignment from Summerlin Parkway north to Alexander Road between Buffalo Drive and Tenaya Way. The trail is an important recreational trail as it traverses five city parks. Two pedestrian bridges have been constructed to keep trail users safe separating them from motorized vehicles. Existing sidewalk is being utilized as part of the trail where signage will eventually be installed to provide map and directional information.

### **THE LAS VEGAS WASH TRAIL**

The Las Vegas Wash Trail is a regional trail that will eventually provide the north-south access for the eastern Las Vegas valley to the Clark County Wetlands Parks and the Lake Mead Recreational Area. The city’s three mile portion of the trail runs south along the wash from Owens Avenue to Charleston Boulevard. To date, the city has constructed approximately two miles of the trail. The remaining one mile segment including two pedestrian bridges is currently in design. The regional trail is enhanced by supporting infrastructure such as the completed Cedar Drainage Trail – a two mile spur trail intersecting the Las Vegas Wash Trail between Stewart Avenue and Bonanza Road. The Douglas A. Selby Park and Trailhead development at the Sandhill Road intersection of the wash provides important access with a bridge spanning the wash with the park and trailhead on opposite sides of the wash.

### **THE ANGEL PARK TRAIL**

The Angel Park Trail is a three mile trail located in an urban open space as the majority of it is constructed within the 1400-acre Angel Park Detention Basin flood control facility located between Durango Drive and Rampart Boulevard at Summerlin Parkway. The trail continues west of Rampart towards Alta





Drive providing users access to a bicycle lane accessing downtown to Red Rock. A trailhead along the trail has been constructed adjacent to the Westcliff Transit Center Park and Ride opening up access to bus transit routes to the outer reaches of the Las Vegas valley. The Bonanza Trail connection to Angel Park Trail just north of Summerlin Parkway provides access to points along Summerlin Parkway and U.S. 95. Access points to Summerlin trails are available from the trail as well.

## BICYCLE TRAILS/ROUTES

One of the goals of a truly multi-modal transportation plan is to encourage more people to ride bicycles for short-distance personal, business and social trips. Encouraging bicycle trips helps relieve traffic congestion, improves air quality and encourages healthier lifestyles. To realize this increase in use, it is necessary to provide facilities that encourage bicycling activities. Bike lanes, bike routes and shared-use paths are recommended for this purpose. Existing and proposed on-street bike lanes and routes can be identified on **Map 13**.

Bike lanes are designated areas for bikes on a roadway that have been identified with striping, signing, or pavement markings. The width of the designated bike lanes should be a minimum of four feet wide from the edge of the pavement. Bike routes also utilize a shared roadway but are typically identified only with signage indicating it as a preferred route for bicycle use. Bike routes are typically designated on roadways that have a curb lane of at least 14 feet. Multi-use Trails (equestrian and non-equestrian) serve as bikeways that are physically separated from vehicular traffic by an open space or barrier within the road right-of-way or an independent right-of-way. The impact of host facilities is particularly important for casual or inexperienced cyclists not adept at riding in traffic. On-street bicycle lanes offer a designated and visible space for cyclists and can be a significant factor in route choice. Specific recommendations for bike facilities can be found in the RTC Bicycle and Pedestrian Plan of 2008.

Bicycle lanes are very desirable in improving conditions for cyclists of all abilities within a given corridor, encouraging increased bicycle use on a given roadway by providing a greater degree of comfort and perceived safety for less-skilled cyclists, providing more predictable movements by cyclists and motorists, establishing an overall channeling effect, and promoting an orderly flow of traffic.



*Downtown green bike lanes are part of the Downtown Bicycle and Pedestrian Improvement project*

## BIKE LANE IDENTIFICATION

Bicycle lane markings can mistakenly increase a cyclist's confidence that motorists will not stray into his or her path of travel. The lanes must, therefore, be clearly marked. The lanes should be designated for one-way travel with facilities provided on both sides of a roadway. Special consideration must be given to the treatment of bicycle lanes on roadways with on street parking and to the treatment of bicycle lanes at major intersections.

A bike route, through appropriate signing, may encompass any of the facility types; however, bicycle route signage is not recommended for wide curb lane treatments on major arterial streets or rural roadways with high traffic volumes and speeds. The preferred treatments are the implementation of bicycle lanes, paved shoulders, or designation of less-traveled alternative routes. If no alternatives exist, "share the road" caution signs may be used as an interim measure until bicycling conditions are improved.



## CMAQ FUNDED BICYCLE IMPROVEMENT PROJECTS

Through the RTC's Alternative Transportation Mode Master Plan Working Group – a cooperative effort with the local jurisdictions that include Clark County and the cities of Las Vegas, Henderson, and North Las Vegas – roadways were identified where installation of either bicycle lanes or bicycle routes would improve the regional bicycle network. The project will add approximately 100 centerline miles of bike paths to existing roadways totaling 200 linear miles, 1600 bike lane symbol markings, and 1500 roadway signs. In addition, the project will add approximately 60 miles of new bicycle routes and 260 new bicycle route signs. The project is anticipated for completion by the end of 2012.

The Downtown Bicycle and Pedestrian Improvement project will provide bicycle improvements, including new bicycle lanes, pavement striping, signage, and other improvements as needed to provide contiguous bicycle travel between various downtown land uses. The main goal is to improve transportation accessibility and options within downtown Las Vegas for all who live, work, and visit the area. Engineering design is being funded through local sources and construction will be supported partly through Federal Transit Administration funding. Currently, design has begun on improvements for First Street from Hoover Avenue to Bridger Avenue, Third Street from Charleston Boulevard to Fremont Street, Garces Avenue from Main Street to Sixth Street, and Bridger Avenue from Main Street to Las Vegas Boulevard.



# RECREATION TRAILS

Recreation trails discussed in this element are for the most part identified as equestrian trails, but can also include multi-use, equestrian trails. The three major equestrian trail segments included in this plan are: (1) the Bradley Road trail, a trail that generally extends along the east side of Bradley Road, from Centennial Parkway to Grand Teton Drive; (2) the Grand Teton Trail, a trail that generally extends along the north side of Grand Teton Drive, from Decatur Boulevard to the eventual proposed location of Puli Drive; and (3) the Durango Drive Trail, a trail that extends generally along the west side of Durango Drive, from Grand Teton Drive to Horse Drive, along the south side of Horse Drive to El Capitan Way, and along the west side of El Capitan Way to the eventual proposed location of Moccasin Road. Other minor trail segments interconnect these trails with Floyd Lamb Park, a proposed equestrian park east of Floyd Lamb Park, and destinations southwest of the Centennial Hills Sector. A map depicting the recreational trail network can be viewed on Map 1.

## EQUESTRIAN TRAILS

Equestrian trails have special requirements quite different from non-equestrian trails. Horses need a trail that is wide enough for a horse to turn around and a type of path that has a soft surface. When combined with a non-equestrian trails, they should be separated from pedestrians and other users for the protection of the non-equestrians as well as the equestrians. The trail width is 20 feet. A minimum 10-foot wide bi-directional equestrian path is shown located between the property line and the five-foot sidewalk. If the equestrian path is to be located on land deeded to the City, it must be created as a separate common lot through a mapping action. The sidewalk is detached from the back of curb with a five-foot landscape corridor and may be located within a common lot. The Equestrian Trail cross section is illustrated on **Exhibit 3** and their locations can be identified on **Map 2**.



*An equestrian pathway needs to be wide enough for a horse to turn around in.*

All equestrian trails are intended to be constructed to the following standards:

- Five-foot landscape corridor located at the roadway back of curb
- Five-foot sidewalk located between the landscape corridor and equestrian trail
- 10-foot equestrian trail path
- Street furniture should be provided where appropriate

- Portions of the amenity zone may be located outside the public right-of-way, on private property with appropriate public easements in place. Such portions are typically in a common lot.
- Pedestrian access easements required where sidewalk is not within the public right-of-way
- Encroachment agreements required where landscaping is within the public right-of-way

An intervening five-foot high fence between trail and sidewalk should be installed to prevent conflicts between equine and other trail users. The fence separating the path and sidewalk should consist of a rigid polyvinyl chloride (PVC) resin compound with a high level of titanium dioxide pigment throughout the fence material for long term ultraviolet light resistance. The fence, to be a minimum of five feet in height, should not be constructed to withstand the force of an unrestrained horse that could cause injury to the horse and rider but serve as a visual barrier to the horse to refrain from darting toward the sidewalk when startled. In instances where it is not feasible to install or maintain the PVC fence, an exemption request may be submitted to the Director of Planning which demonstrates the use of alternative fencing, shrubs, boulders or other measures that continues to ensure trail user safety. All deviation requests will be considered on a case by case basis.

In instances where existing trail and trail path widths and locations are not consistent with the standards located in the *Trails Element*, transition from the existing width and locations to those required herein are to be made at street intersections, at other places where there is an interruption in the trail continuity, or to be made gradually such that the trail meanders.

The trail path should consist of “chat,” crushed granite with a high clay and/or sand content, or similar surface material that will not injure the horses’ hooves. Chat, a limestone product, hardens when water is applied and, therefore, stays in place better than crushed granite. It only comes in a gray color, but costs much less than crushed granite. The latter comes in Mojave gold, palomino, and different shades of red and is the current preference of the Public Works Department.

Curbs consisting of a non-slippery material, e.g. rough concrete, should be provided to contain the surface material within the edges of the path. The path should have a cross slope, with no more than a two percent grade across the trail path directed toward the street or the direction of drainage



flow, and a longitudinal grade with no more than a three-to-one slope; provided, however, short stretches of no more than 15 feet may be at two-to-one slopes.

Maintenance of the equestrian paths is very important, as large fragments of glass or other sharp objects may cut the “frog” area of the horses’ hooves. Equestrian trails maintenance and repair is the City’s responsibility.

The northwest part of the City has a number of “ranch estates” where horses are kept. Even more prevalent are ranch estates that are located in sections of rural Clark County outside the City, either in “county islands” or in areas that abut the City’s corporate boundary on one or more sides. Equestrian trails will not be provided or maintained by the City in areas located outside the corporate limits; however, several potential equestrian routes are planned through some areas of the City to connect with planned equestrian trails located outside the City. In 2008, the City and Clark County entered into an Interlocal Agreement that requires the cooperation between the entities to maintain priority trail facilities as shown on the Northwest Rural Neighborhood Preservation Area Priority Trails Maps (**Maps 11 and 12**).

Most of these ranch estates do not have access to equestrian trails except through existing paved and unimproved roadways. Even though there is no City ordinance that prohibits equestrians from using roadways (or sidewalks), it is dangerous for equestrians to travel on roadways with vehicular traffic. Therefore, this plan designates several potential off-street equestrian trails to meet at least some of their needs.

**Exhibit 4** shows the approved Clark County Area cross section for rural or non-urban streets that include a 24-foot wide paved surface and a drainage ditch within a varied width right-of-way. These streets do not have curb and gutter nor are sidewalks and street lights provided. The wide shoulder between the paved surface and right-of-way lines is available for use by equestrians. In most cases, these roadways provide the only means of access from the ranch estates to potential equestrian trails. However, because of dust emission problems in Clark County, the shoulders will need to be provided with a dust palliative ground cover to control dust.

The question of whether streets in areas of ranch estates should be constructed to rural or urban standards within the City has been a contentious issue. The established ranch estates owners balk at the intrusion of urban development and the accompanying infrastructure of objectionable urban improvements. Street lighting, wide streets with curb and

gutter, adjoining sidewalks, and perimeter landscaping alter the rural character to which they are accustomed and prevent them from riding their horses in these areas. Conversely, occupants of new housing developments are interested in the full complement of urban services. 2011, the city of Las Vegas approved the Unified Development Code that contains a "Complete Streets" standard for construction of streets of varying width throughout the City. All public streets associated new development and/or future CIP's shall be designed to these standards.

The cost for the reconstruction of streets to meet urban standards could be passed onto the property owners who would benefit. This could be done through the establishment of a "special improvement district" (SID) approved by more than 2/3 of the property owners affected. However, if the property owners are unwilling to support the establishment of an SID or if there is no benefit to the adjacent property owners, then the entire cost must be borne by the City. The cost to do so could result in the City expending millions of dollars in the future to reconstruct streets to meet the City's Complete Street standards.

When land is annexed to the City, it is usually annexed at the request of the landowners to gain access to urban facilities, particularly sanitary sewer service. Higher density and intensity development requires infrastructure that is adequate to support such development. The City does not have the financial resources to service and maintain infrastructure of a rural design which results in comparatively higher repair and maintenance costs. For this reason, the *Trails Element* recommends that all new developments have streets that meet urban design standards.

The City, however, has no control of development in rural Clark County. The County may wish to provide streets that meet rural standards in ranch estates areas for the benefit of equestrians. The equestrians may then gain access to the major trail routes by way of these rural streets. At such time as the ranch estates and other lands are annexed into the City and developed at higher densities, the streets could then be reconstructed to meet City standards by developers at no cost to the City.

## RECREATION TRAILS MAINTENANCE

The City will require that recreation trails identified in this *Trails Element* be constructed by developers with new developments. For required recreation trails, the Equestrian Trail must be granted to the City as an Equestrian Trail





Easement to be maintained by the City. If this path is to be deeded to the City, it must be created as a separate common lot through either a Parcel Map or Final Map. The equestrian trail path is maintained by the City. City maintenance shall consist of removal of debris and surface grading once every calendar year. In addition, the ownership, maintenance and repair or replacement of the trails and trail segments will be as follows:

- Equestrian trails will be constructed by developers with new development.
- Equestrian trails may be deeded to the City as City owned land if it is created as a separate lot.
- Equestrian Trails will be maintained and repaired by the City unless there is identified another organization to maintain them.
- Amenity zones outside the right-of-way are to be defined as a common lot with a pedestrian and utility easement granted over the 10-foot trail path on the subdivision map. The amenity zone is maintained by a homeowner's association/ private property owner and they must enter into an encroachment agreement with the City to guarantee maintenance of landscaped areas in the public right-of-way.
- Portions of the amenity zone may be located outside the public right-of-way, on private property with appropriate public easements in place. Such portions are typically in a common lot.
- Pedestrian access easements required where sidewalk is not within the public right-of-way
- Encroachment agreements required where landscaping is within the public right-of-way

Maintenance of the trails system primarily involves the removal of debris, repair of trail components and surface grading on an as-needed basis. The trail paths occasionally need to be scarified to avoid excessive compaction. As of 2012, existing equestrian trail segments account for a total of 7.9 miles that are maintained by the City. The annual cost of maintenance, including debris removal, landscaping and decomposed granite maintenance is approximately \$4,500 per mile per year. The overall estimated annual maintenance cost for the city as of 2012 is \$35,550. There are currently 24.77 additional miles of equestrian trails that are planned but have not been constructed.



*Trailhead at Floyd Lamb Park at Tule Springs multi-use trail*



## MULTI-USE, EQUESTRIAN TRAILS

Multi-use, equestrian trails are the combination of multi-use transportation trails and equestrian trails. Although it is preferable to separate equestrian trails from other trails by locating equestrian trails along one side of a roadway and multi-use transportation trails along the other side, this is not always possible or as efficient. In these cases, both trails must be combined. The Multi-Use Equestrian trail cross section is illustrated on **Exhibit 4** and their locations can be identified on **Map 1**. Multi-Use Equestrian trails, which include two separate bi-directional paths, are to be constructed to the following standards:

- Five-foot transition strip located at the roadway back of curb to be planted with deciduous shade trees 20 feet on-center
- 10-foot transportation trail path
- Five-foot landscaped corridor located between the transportation trail path and equestrian trail path
- 10-foot equestrian trail path

The total width of this trail is 35 feet. One path, with a 10-foot wide hard surface, is for pedestrian and bicycle use and located five feet from the street. The other path is for equestrians and is constructed of chat or decomposed granite, a minimum of 7.5 feet wide. A barrier of irrigated landscaping separates the paths. Trees, as provided for multi-use, non-equestrian trails, are planted 20 feet on center within the irrigated landscaped area between the paths and along the street curb. Within the common lot, trail and landscape design may be flexible provided that 10 feet of trail and 10 feet of landscape are provided. At utility locations, decorative hardscape may be installed in lieu of landscaping to provide maintenance access. Other amenities include benches and trash receptacles. Other details of this trail reflect those of multi-use transportation trails and the equestrian trails. The transition strip, trail path and landscaped corridor are constructed by the developer and defined as a common lot with a pedestrian and utility easement granted over the 10-foot trail path on the subdivision map. The equestrian trail path is constructed by the developer, defined as a separate lot, and deeded to the City.

## MULTI-USE EQUESTRIAN TRAIL MAINTENANCE

The equestrian trail path must be defined as a separate lot if it is to be deeded to the City. All privately owned areas, including the multi-use transportation trail are maintained by a homeowner's association/private property owner and an



encroachment agreement must be entered into with the City to guarantee perpetual maintenance of landscaped areas in the public right-of-way. The equestrian trail path is maintained by the City. City maintenance shall consist of removal of debris and surface grading once every calendar year.

As of 2012, 12.6 miles of existing multi-use equestrian trail segments are owned and maintained by the City. The annual cost of maintenance, including debris removal, landscaping and decomposed granite maintenance is approximately \$4,500 per mile per year. The overall estimated annual maintenance cost for the city in 2012 is \$56,700. There are currently 6.8 additional miles of multi-use equestrian trail that are planned but have not been constructed.

## **RECREATION TRAILS LOCATION CRITERIA**

Recreation trails are located or aligned to form a system for travel with linearity, continuity and accessibility being the principal factors involved. Accordingly, they should be located where uninterrupted corridors are available to provide long, continuous routes for recreation trips; within an independent right-of-way; where there is sufficient space or a physical divider; and where few streets and driveways intersect with the facility.

Trail crossings of streets should occur at controlled intersections. Mid-block crossings should be avoided wherever possible, especially in high traffic corridors, as crossing a street in traffic can be very dangerous. Where such crossings do occur, a traffic control signal should be provided. Potential locations for recreation trails are identified along corridors and linear parks or greenways. Such corridors usually include ample right-of-way for the installation of trail paths in conjunction with perimeter landscaping and other amenities.

Recreation trails may be located in or next to arroyos or to drainage channels with the approval of the Clark County Regional Flood Control District (CCRFCD). Most drainage channels are dedicated as rights-of-way or drainage easements and are under the control of the city of Las Vegas. Interest has also been expressed in improving the open drainage channels as landscaped greenways within which recreation trails could be located. Greenways are very expensive to maintain, particularly following storm events, and with the Valley's steeper terrain, in comparison to the cities of Phoenix and Scottsdale, Arizona, erosion protection of the channels is necessary. Although the City presently maintains the Pueblo Greenway, it is not protected.

While greenways can be attractive landscaped features, their use for a recreation trail system must also be evaluated in comparison to the expense, safety and other problems. The City should encourage greenways with recreation trails in master planned communities and in other locations where there are well-established homeowners associations willing to maintain them and where safety problems can be minimized.

One example of the city encouraging greenways and trails in master plan communities was implemented by Resolution R-76-04, which was approved on December 1, 2004. Anticipating the Bureau of Land Management's disposal of 1700 acres in an area that is known as the Kyle Canyon Gateway, the City approved a resolution that provides guidelines to potential developers and ensures that greenway and trails systems are an intricate component in any future development agreement or master plan.

## TRAILHEADS

Areas that serve as beginning or stop-off points for trails should be provided where necessary to serve multi-use trail users. They should include, at a minimum, parking, trail information, rubbish containers and water and sanitary facilities. Since multi-use trails provide linkages to community and regional parks, parks that link to the trails should be designed to provide locations for trailheads as well. Water and sanitary facilities, parking, and other park amenities are necessary for general parks purposes and provide the necessary amenities required for trail users.

For equestrian trail users that do not have direct access to equestrian trails, it may be necessary to transport the horses to trailheads where they can be unloaded for riding. Such areas that serve as beginning or stop-off points for trails should be provided where necessary to serve trail users, and should include at a minimum parking, trail information, rubbish containers and water and sanitary facilities.

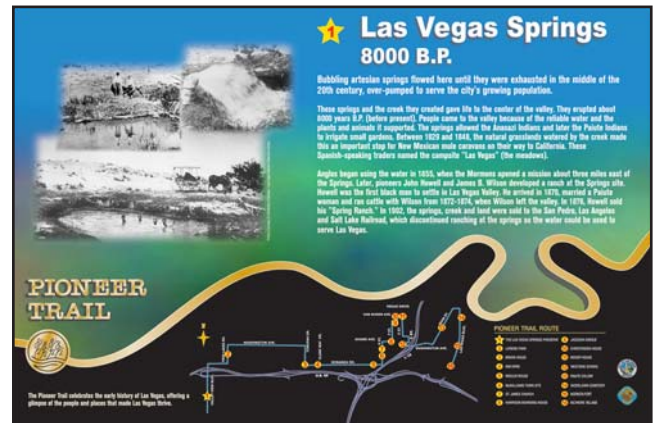
Equestrian trailheads, as shown on **Map 1**, are proposed at a future equestrian park to be located at the southeast corner of Grand Teton Drive and Bradley Road, on property located east of Floyd Lamb Park, at a site in Floyd Lamb Park, and in Lone Mountain Park which is located south of Lone Mountain Road and west of Grand Canyon Drive.

## TRAIL IDENTIFICATION

As discussed in the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway



Administration of the U.S. Department of Transportation, recreational and multi-use trail signs should be provided to guide users to their destinations. As such, these guide signs should be placed at decision points along a trail and at trailheads to inform users of route direction changes and to confirm that route direction has been accurately comprehended. To provide navigational information, supplemental plaques should be used to convey the distance to the desired destination and direction of travel. Supplemental plaques may also be placed above or below these signs to identify a specific route by local name. It is also important to provide information on routes and facilities via the internet. Regional trail systems such as the Neon to Nature and Valley Rim Trail cross over multiple jurisdictional boundaries and should consist of a standardized regional trail marker type that is consistent throughout the entire trail system.



*Pioneer Trail marker located at the entrance to the Las Vegas Spring Preserve*

## TRAIL SAFETY

With the growth and expansion of the trail network, maintaining the safety of all trail users is a priority. Trail safety is often cited by users as a top concern and how safe users feel directly affects whether or not they decide to use a trail. During the trail design phase, care must be taken to ensure that clear lines of sight are maintained and areas of limited visibility are minimized to reduce the possibility of nefarious activity. For off-street trails, vantage points along the trail should be included to allow users to survey their surroundings and avoid any potential safety threats. The creation of a “Trail Watch” program should be explored to encourage self-policing by trail users who can in turn report suspicious activities to authorities. For night use, it is recommended that pedestrian trail lighting be utilized and routes be clearly marked to prevent points of reduced visibility. The feasibility of emergency call boxes located along the trail should also be explored in order to provide rapid access to emergency personnel and law enforcement for those utilizing the trail.

## TRAIL MARKERS

In 2008, the Southern Nevada Regional Planning Coalition (SNRPC) Regional Open Space and Trails Workgroup (ROST) appointed a Trail Designation and Mileage Marker Subcommittee to develop recommendations for a regional trail designation and mileage marker system for consistency of information between jurisdictional boundaries along regional trails. The Subcommittee identified the need for a follow-

up subcommittee to evaluate incorporation of emergency response systems into trail markers.

Recommendations made by the Trail Marker Emergency Response Subcommittee (ER Subcommittee) included coordination with valley-wide emergency responders. Differences in the local entity emergency systems require unique recommendations depending on the system. The City of Las Vegas' jurisdiction is served by a Fire Map emergency response system. Marked trail mileage will need to be geographically related to Clark County's Geographical Information Systems Management Office (GISMO) in order to accurately and efficiently locate trail users in emergency situations. The Subcommittee also recommends that each marker's Global Positioning System (GPS) coordinate be recorded and housed at an agreed upon repository to be utilized when the city enlists a GPS emergency response system (the latest technology).

The city has obtained SNPLMA funded for its Trail Markers and Trailhead Signage project to place markers as recommended by both Trail Marker Subcommittees – the first project of its kind in the valley.

# AMENDMENT/ EXEMPTION OF STANDARDS

As a part of the *Las Vegas 2020 Master Plan*, amendments to the development standards or alignments contained in this plan may only be considered through a General Plan Amendment. For technical or physical barriers that produce an undue hardship on the entity developing the trail, justification for an exemption from standards may be submitted for review to the Director of Planning for consideration on a case-by-case basis. Any proposed exemption shall not remove/change alignments or substantially alter the intent of the trail standards outlined in this document.

## COSTS AND FUNDING

Since developers are responsible for the construction of most trails within new developments, the City should focus on constructing trail segments in existing and future developed areas that are necessary to complete major sections of the trails system. This will entail constructing some segments across undeveloped parcels and retrofitting other trail segments on developed parcels. The actual cost to the City for trails construction depends in large part on how aggressively the City wants to complete major sections of the trail system. The Department of Public Works has estimated the 2012 cost for the construction of both transportation and recreation trails meeting the trail standards in this *Trails Element*. These costs are shown on **Exhibit 6** and expressed in costs per 100 linear feet. These figures do not include such items as trail signs for information and traffic control, electrical service, drinking fountains or bike racks. For the next five years, the City has a goal to complete an additional five miles of equestrian trails, three miles of multi-use equestrian trails and 10 miles of multi-use non-equestrian trails. The estimated costs to the City for these trail improvements based on 2012 costs are 1.1, 12.8 and 36.9 million dollars, respectively.

## FUNDING PRIORITIES

The *Trails Element* includes an assessment of trail needs and demands for the community presently and for the future. Proposed trail alignments are presented on **Maps 1, 2 and 3**. Because of limited financial resources, funds for trail projects must be prioritized on a year-by-year basis as part of the capital improvements program. Funding is to be prioritized for locations where there are gaps in the trail system, locations within the Downtown Centennial Plan area, and locations where trails can be connected to the regional trail system. While maintenance is not considered a capital cost, it is

very important to ensure that a trails system is kept functional. Therefore, the prioritization of funding for trails must be carefully balanced between capital projects and maintenance in each of the following categories:

- Priorities for the acquisition of land for trails
- Priorities for new trails construction
- Priorities for the ongoing maintenance and repair of existing trails

## ACQUISITION PRIORITIES

Trails within the city traditionally have been established as a condition of development approval. In most cases, the developers of commercial and/or residential properties provide trails as an amenity of the development. This practice has generally been successful in providing many of the trails that now exist in the community. However, other alternatives for trail acquisition and construction should be investigated to acquire property and construct trails in those areas of the community that are fully developed and to connect them to the rest of the trails system.

### BIKE ROUTES

The acquisition of land for bike routes is needed only in those instances necessary to remove route “hazards” and should receive the highest priority, since bike routes have the greatest functional value, serving transportation functions. In addition, the cost for hazards removal is relatively low.

### MULTI-USE TRAILS

Multi-use trails that are intended for both pedestrians and bicyclists are a medium priority, since they generally are established as a part of development.

### GREENWAYS AND BEAUTIFICATION AREAS

Landscaped roadway perimeters, medians and roundabouts and linear green spaces are intended primarily for aesthetic purposes or as drainage ways. They can provide important areas of open space and for the construction of trails within them. Such areas are, however, generally acquired for other purposes, so there is less need to acquire them specifically for trail purposes.

### CONSTRUCTION PRIORITIES

The construction of trails should generally be prioritized in the same manner as for trail acquisition priorities, i.e. trail construction projects that have the potential for the greatest amount of usage and functionality should be the highest priority. The construction of trails that enhance the connectivity of the trail system by extending an existing trail should be a high priority.





## **REPAIR AND MAINTENANCE PRIORITIES**

The timely maintenance and repair of developed trails is a high priority. However, funding for this purpose must be carefully balanced with capital projects. For example, if the construction of a new trail provides an important link in the trail system, then repairs of the trail system may need to be deferred, pending the availability of additional funding. Enough funding should be budgeted annually, separate from capital projects, to keep the trail system in operation.

## **FUNDING SOURCES**

Where the City has an interest in completing trail sections, it can obtain funds for trails development, including acquisition and construction, from a range of sources. These revenue sources include the following:

### **GENERAL FUNDS**

Some funds are made available for recreation purposes from moneys collected by way of general fund augmentation. These funds are City revenues generated from a variety of sources that have not been used for other purposes. It should be noted that these funds

### **GENERAL OBLIGATION BONDS**

General obligation bonds require the full faith and credit of the City, which necessitates approval by the voters at a general election. The bonds are repaid by an automatic lien on an identified existing revenue source.

### **GIFTS**

Gifts of land or money designated for trails purposes are a source of funding, but such gifts are often fettered and restricted; contributions in return for the privilege of naming a trail to recognize a benefactor must follow approved City policy with respect to naming such facilities.

### **GRANTS**

The Bureau of Land Management (BLM) has funds set aside for public parks purposes and trails. The Southern Nevada Public Lands Management Act of 1998 allows for money from the sale of BLM land to be expended for "... development of parks, trails, and natural areas in Clark County, Nevada, pursuant to a cooperative agreement with a unit of local government." [Section 4(e)(3)(A)(iv)] This funding source is the most promising single source of funds available for trails construction.

The federal government has established several other programs that offer grants for trail development. The

Transportation Equity Act for the 21st Century (TEA-21) establishes several funding programs for the construction of trails listed as follows:

- National Recreation Trails (RecTrails). The Federal Highway Administration administers this funding program. Funds from RecTrails are distributed to the Nevada Trails Program, established by the Division of State Parks, for recreation trails throughout the state in both rural and urban areas.
- Land and Water Conservation Fund Program provides 50:50 matching grants to states and through states to local governments for trails acquisition and development.
- Other grant sources include RTC Assistance funding that is available from regional offices of the National Park Service and Urban Resources Partnership funds, administered locally by the Clark County Conservation District.

## **FUND RAISERS**

Fund raising is a potential source of funding that is generally used more for a specific trail development than land acquisition. Its availability, however, is limited and unreliable.

## **LAS VEGAS CONVENTION AND VISITORS AUTHORITY**

This agency provides a voluntary annual grant to the City that is used for parks and recreation opportunities. It should be noted that this is a voluntary contribution on the part of the Authority that is not a guaranteed amount.

## **PUBLIC/PRIVATE PARTNERSHIPS**

It is recommended that public/private arrangements be encouraged, provided that free access to the facility or development in question is made available to the general public.

## **REVENUE BONDS (MEDIUM OR LONG TERM)**

Revenue bonds do not require voter approval since there is identified a dedicated revenue stream to repay them. The City recently approved a medium-term bond that is backed by a two percent property tax increase. This \$25 million bond will finance recreation improvements, new construction, and completion of construction of 11 separate recreation facilities. The bond is to be repaid within a 10-year horizon.

## **SPECIAL IMPROVEMENT DISTRICTS**

With approval of more than 50 percent of the persons who benefit, a special improvement district could be established to finance the construction of trails.



## TAX INCREASES

Tax increases provide a dedicated and immediate funding source. Tax increases, however, may only be imposed by a majority vote of the electorate.

## USER'S GROUPS

Several groups have expressed interest in creating an "Adopt a Trail" program to help with the maintenance of trails. This could be done at little or no cost to the City.

## USER FEES

User fees could be assessed to persons who are expected to benefit from use of the trails. Examples include: license fees for horses, similar to dog license fees and horse trailer fees.

# TRAIL IMPLEMENTATION

The Implementation section deals with action items that will help guide future policy regarding trails and bike facilities within the city of Las Vegas. It is intended to facilitate the improvement of trail and bicycle connectivity to regional trail and bike systems, parks, recreational facilities, employment centers, transit systems and cultural centers. A table depicting all action items and departmental responsibility is depicted on **Table 1**.

- T1:** That the transportation and recreational trail design standards presented in this element are to be adhered to unless it is demonstrated by substantial evidence that there is a more suitable alternative.
- T2:** That American Association of Street and Highway Transportation Officials (AASHTO) standards be used for the design and configuration of trails where specific situations are not readily adaptable to the general standards of this plan;
- T3:** That the Manual on Uniform Traffic Control Devices (MUTCD) be used for signage and route designations where the standards of this plan do not apply to specific situations;
- T4:** That multi-use trails be located so travel to a trail does not exceed one mile;
- T5:** That the City establishes a trails system and remove hazards to on-street bicycle traffic;
- T6:** That traffic calming-diverting and traffic slowing measures for on-street bicycle routes be implemented and maintained where possible or feasible;
- T7:** That additional operating space for on-street bicycle routes be provided wherever necessary and feasible;
- T8:** That a signage program be established to systematically install signs over a period of time to designate bike, transportation and recreational trail routes;
- T9:** That existing and future parks be integrated with the transportation and recreational trails system and provide appropriate trail heads with the proper conveniences;

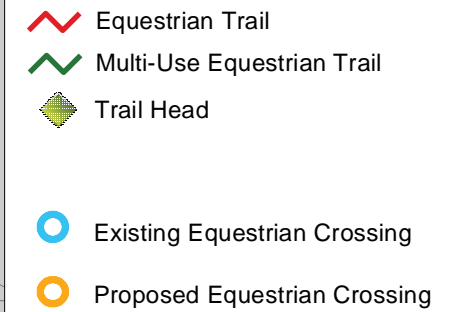
- T10:** That the City continues to coordinate the planning, development and construction of a Valley-wide trail system with other Las Vegas valley entities.
- T11:** That all downtown parks and open spaces be linked with non-vehicular corridors or routes to foster a safe, pleasant and convenient pedestrian environment.
- T12:** That educational facilities, recreational and open space and major employment centers in newly developing areas of the City be linked by trails.
- T13:** That the areas along the edges of hard-lined flood control facilities and along natural drainage courses be used, where appropriate, as areas for trails with landscaping and other features which enhance the appearance of these areas.
- T14:** That trails be developed in recognition of a desert climate by incorporating shade and wind breaks in the trail system.
- T15:** That public education in the use of transportation and recreational trails be promoted.
- T16:** That proper trail landscaping and design are utilized so that clear lines of sight are maintained to reduce criminal activity and to ensure the safety of trail users.
- T17:** That maintenance is performed as needed to clear overgrowth and other impediments to the safety of recreation and transportation trail users. The height of both the horse and rider should be taken into account when pruning trees on equestrian trails.
- T18:** That solar lighting is encouraged along trail routes to reduce electricity costs as well as provide night time safety for trail users.
- T19:** Encourage the use of way finding signage in increase the locational awareness of trail users.
- T20:** Encourage the use of warning signage at intersections for trail users and bicyclists.
- T21:** Gaps in the bike and trail network shall be identified and addressed through regional coordination and the creation and adoption of a City work plan.



Map No. 1

*City of Las Vegas*

**RECREATION  
TRAIL ALIGNMENTS**



Plotted: November 08, 2012

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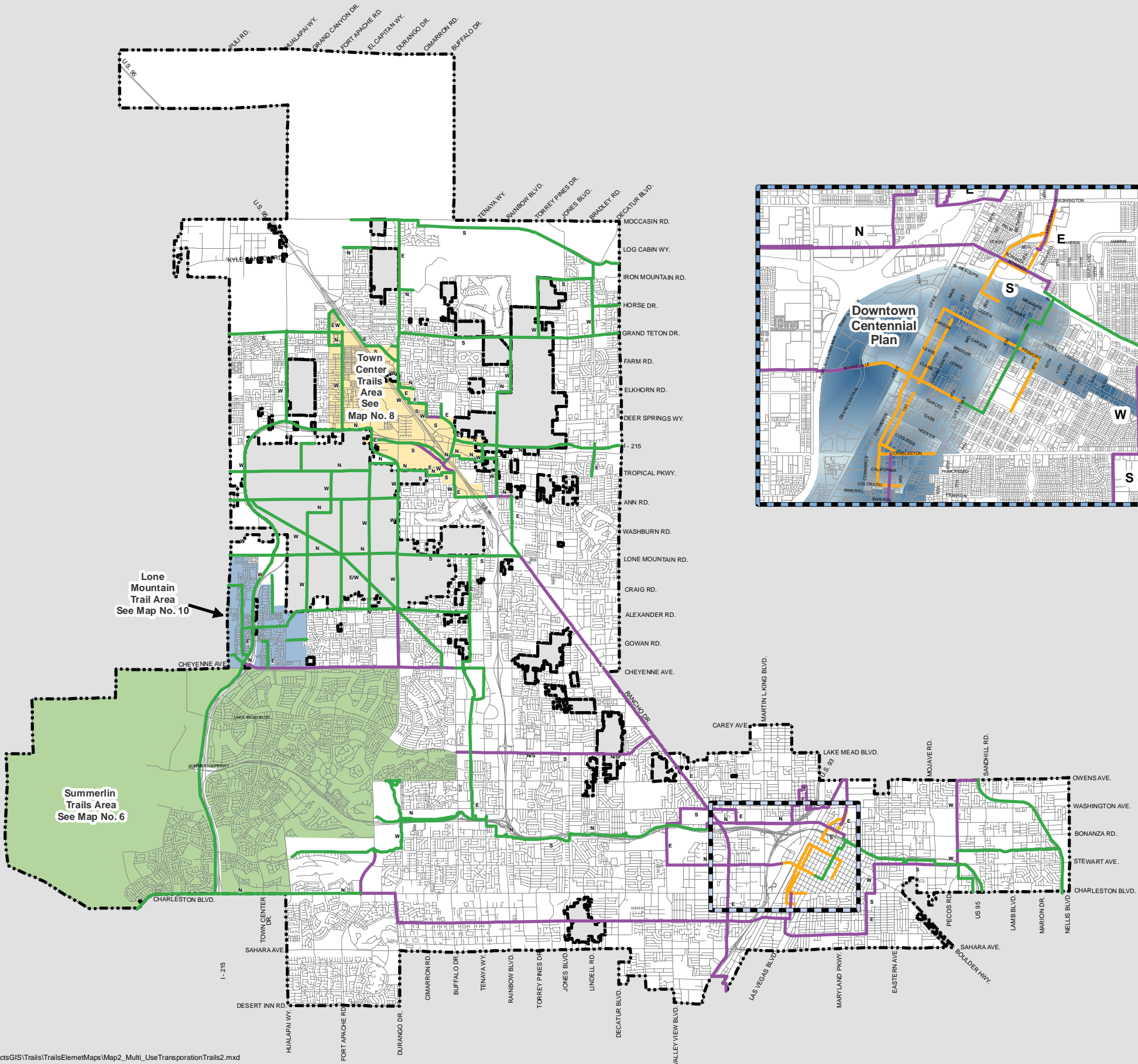
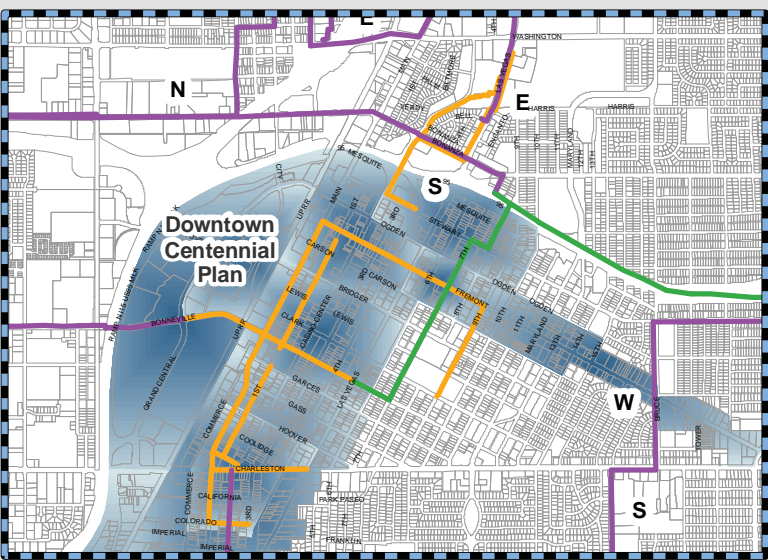


Map No. 2

City of Las Vegas

MULTI-USE  
TRANSPORTATION  
TRAILS

- Multi-use Non-Equestrian
- Downtown Trails
- Pedestrian Path



Adopted: January 16, 2002 Ordinance No. 5417

Modified: February 18, 2009 GPA-32130  
Revised: April 18, 2012 GPA-44183

This Map replaces Map No. 7 of the Centennial Hills Sector Plan.

City of Las Vegas assumes no liability regarding the current or future accuracy or modification of trail alignments depicted in surrounding jurisdictions. The jurisdictional alignments depicted on this map are for reference only and were accurate at the time this map was last updated.

GIS maps are normally produced only to meet the needs of the City. Due to continuous development activity this map is for reference only.  
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Planning & Development Dept.  
702-229-6301

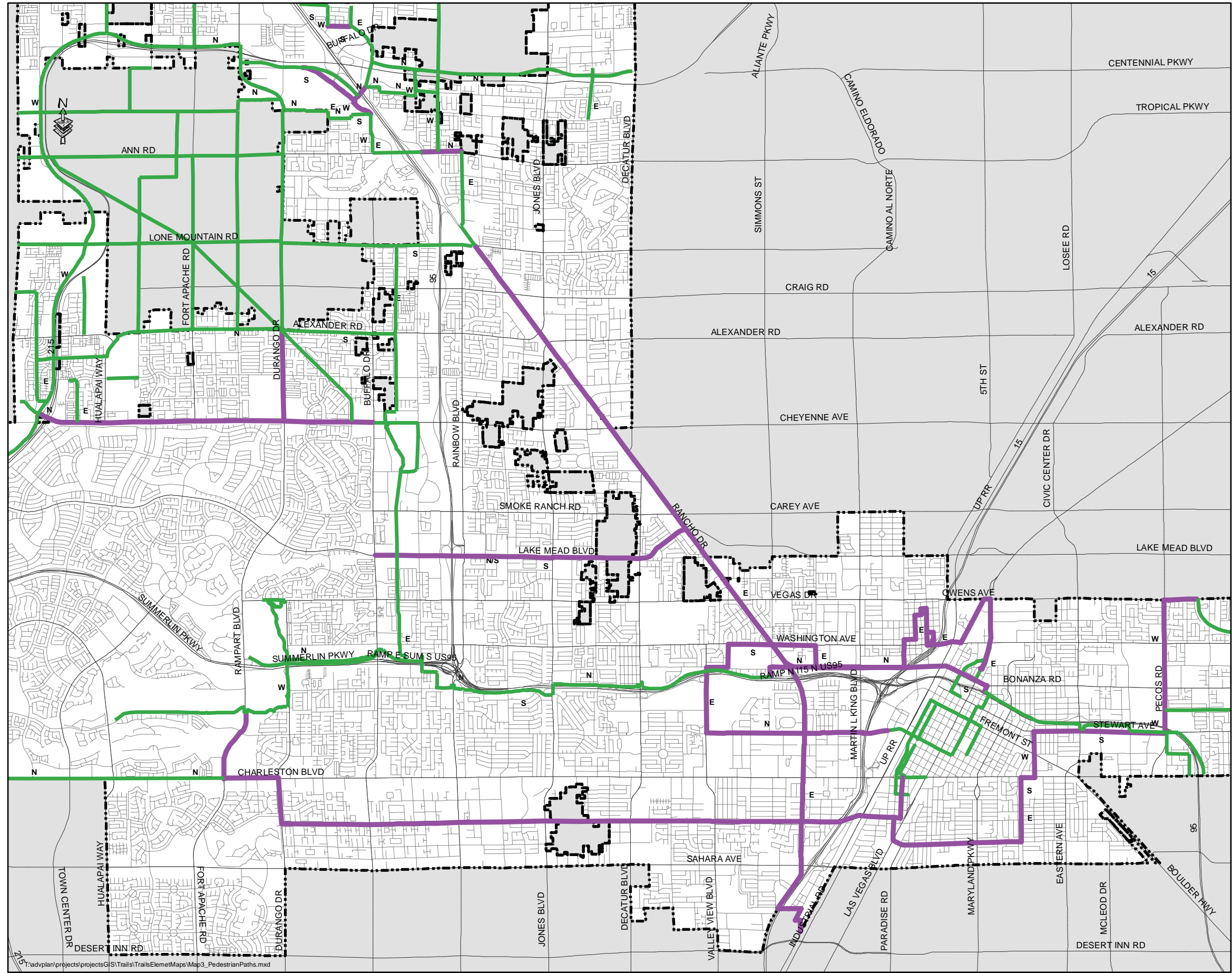
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Map No. 3

*City of Las Vegas*

**PEDESTRIAN PATHS**

~ Pedestrian Paths

~ Multi-Use Transportation Trails

Adopted: January 16, 2002 Ordinance No. 5417

Modified: February 18, 2009 GPA-32130

Revised: April 18, 2012 GPA-44183

This Map replaces Map No. 7 of the Centennial Hills Sector Plan.

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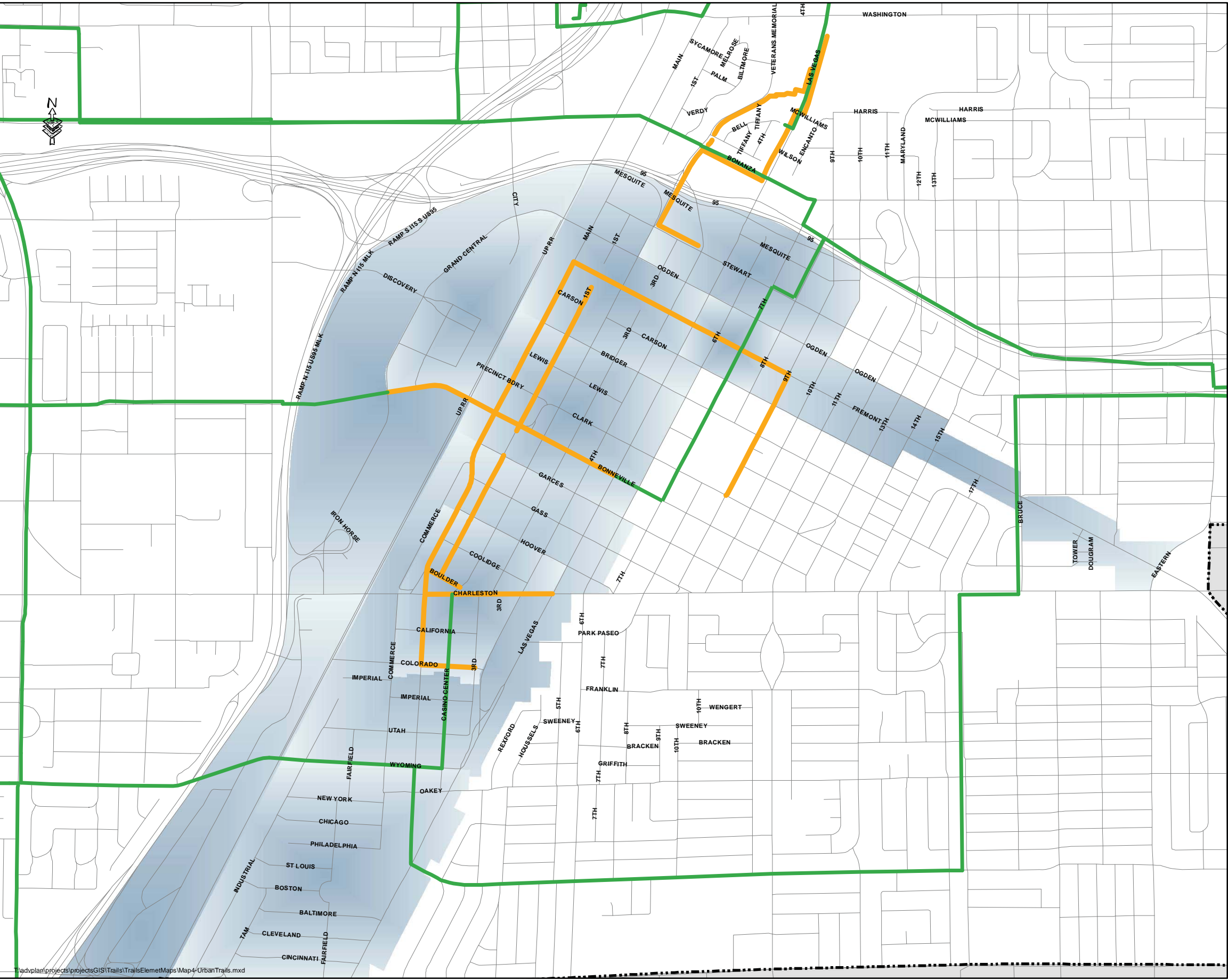
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702-229-6301



Plotted: November 08, 2012

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# Map No. 4

## City of Las Vegas

### Urban Trails

Urban Trails

Multi-Use  
Transportation  
Trails

Downtown  
Centennial  
Plan

Adopted: January 16, 2002 Ordinance No. 5417

Modified: February 18, 2009 GPA-32130  
Revised: April 18, 2012 GPA-44183

This Map replaces Map No. 7 of the Centennial Hills Sector Plan.

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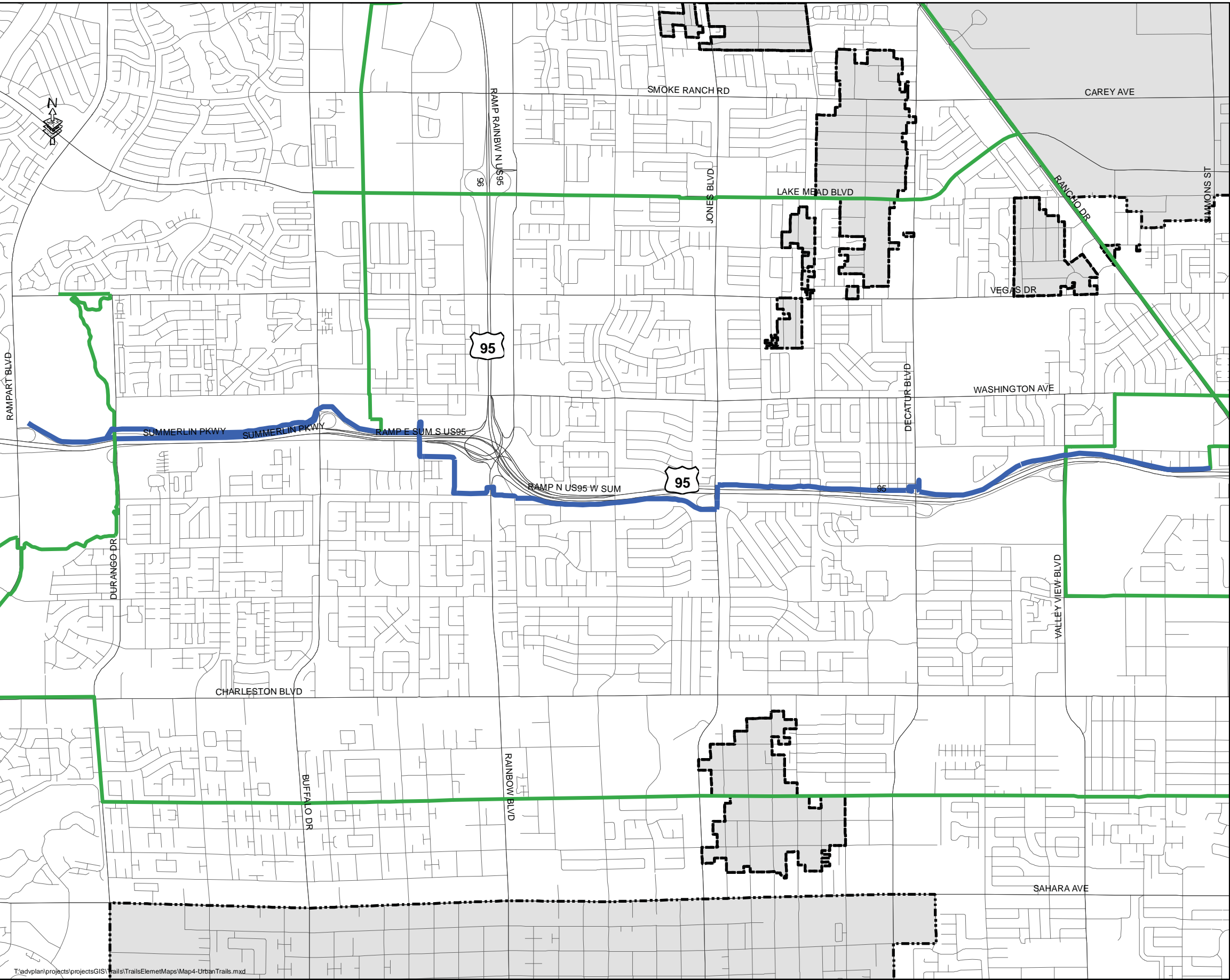
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Map No. 5

*City of Las Vegas*

**Bonanza Trail**

-  Bonanza Trail
-  Multi-Use Transportation Trails

Adopted: January 16, 2002 Ordinance No. 5417

Modified: February 18, 2009 GPA-32130  
Revised: April 18, 2012 GPA-44183

This Map replaces Map No. 7 of the Centennial Hills Sector Plan.

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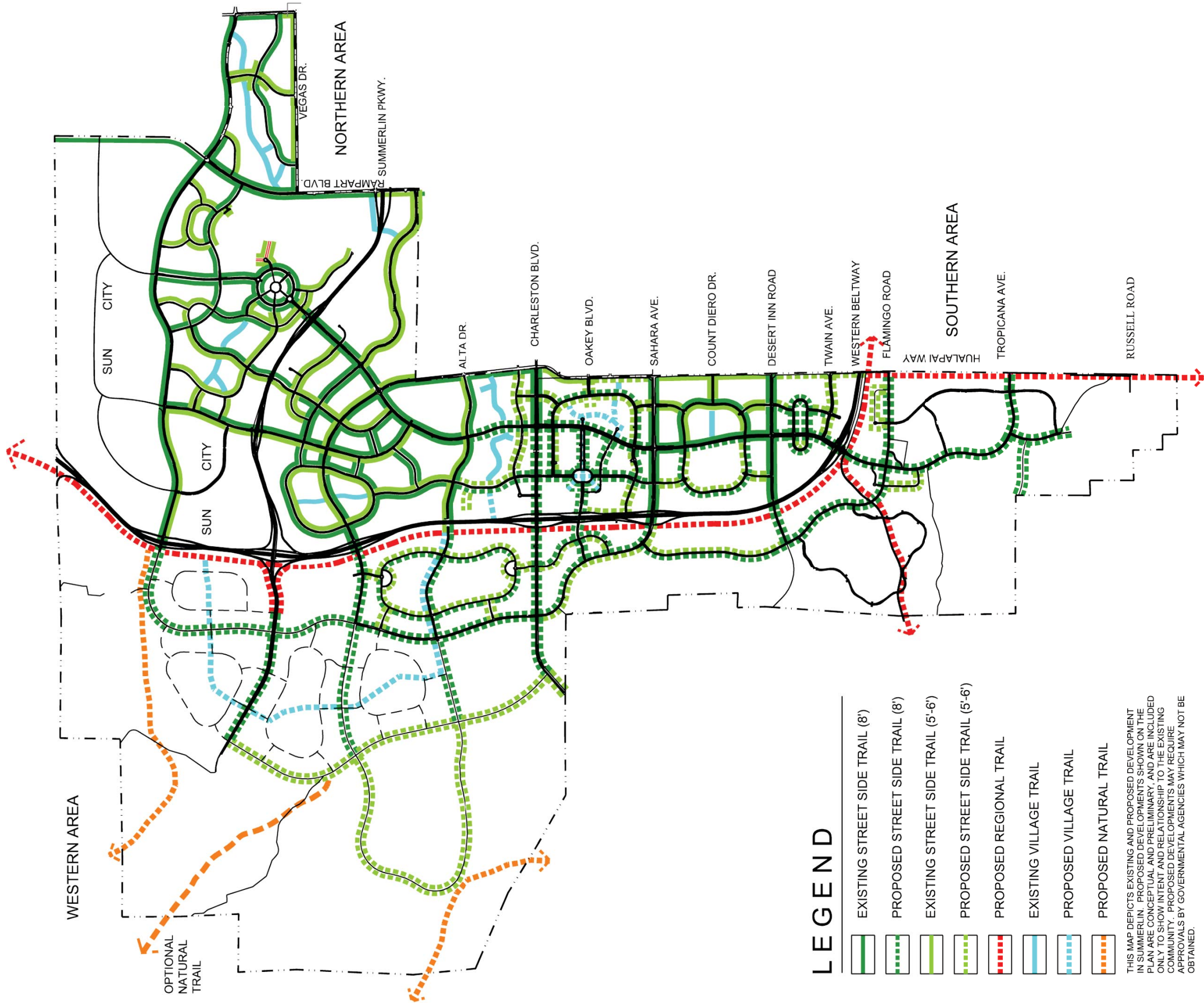
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## LEGEND

- EXISTING STREET SIDE TRAIL (8')
- PROPOSED STREET SIDE TRAIL (8')
- EXISTING STREET SIDE TRAIL (5'-6')
- PROPOSED STREET SIDE TRAIL (5'-6')
- PROPOSED REGIONAL TRAIL
- EXISTING VILLAGE TRAIL
- PROPOSED VILLAGE TRAIL
- PROPOSED NATURAL TRAIL

THIS MAP DEPICTS EXISTING AND PROPOSED DEVELOPMENT IN SUMMERLIN. PROPOSED DEVELOPMENTS SHOWN ON THE PLAN ARE CONCEPTUAL AND PRELIMINARY, AND ARE INCLUDED ONLY TO SHOW INTENT AND RELATIONSHIP TO THE EXISTING COMMUNITY. PROPOSED DEVELOPMENTS MAY REQUIRE APPROVALS BY GOVERNMENTAL AGENCIES WHICH MAY NOT BE OBTAINED.

ALL PROPOSED LAND USES AND IMPROVEMENTS ARE SUBJECT TO MODIFICATION OR ELIMINATION WITHOUT NOTICE. THE INFORMATION DEPICTED HERE SHOULD NOT BE A BASIS FOR A DECISION TO PURCHASE OR LEASE PROPERTY IN SUMMERLIN.

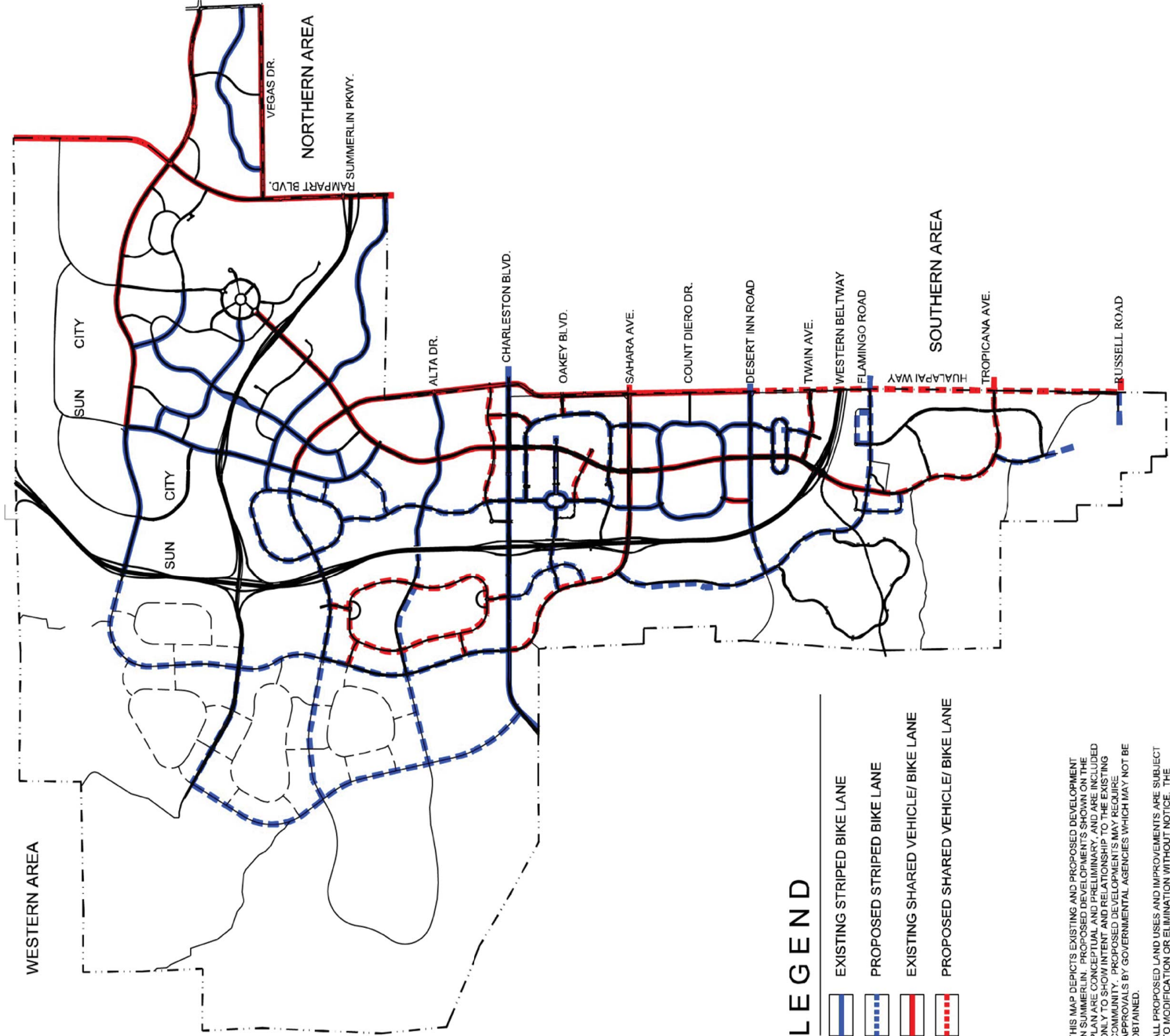


## MULTI-USE TRAIL ALIGNMENTS

### Map No.6

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# ON STREET BICYCLE TRAIL ALIGNMENTS Map No. 7

## LEGEND

- EXISTING STRIPED BIKE LANE
- PROPOSED STRIPED BIKE LANE
- EXISTING SHARED VEHICLE/ BIKE LANE
- PROPOSED SHARED VEHICLE/ BIKE LANE












THIS MAP DEPICTS EXISTING AND PROPOSED DEVELOPMENT IN SUMMERLIN. PROPOSED DEVELOPMENTS SHOWN ON THE PLAN ARE CONCEPTUAL AND PRELIMINARY, AND ARE INCLUDED ONLY TO SHOW INTENT AND RELATIONSHIP TO THE EXISTING COMMUNITY. PROPOSED DEVELOPMENTS MAY REQUIRE APPROVALS BY GOVERNMENTAL AGENCIES WHICH MAY NOT BE OBTAINED.

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MAP No. 8  
*City of Las Vegas*  
 Town Center  
 Multi-Use  
 Trail Alignments

-  TOWN CENTER PARKWAY TRAIL (14' 6")
-  PRIMARY ARTERIAL TRAIL (7' 6")
-  TOWN CENTER LOOP TRAIL (9')
-  TOWN CENTER ARTERIAL TRAIL (8')
-  TOWN CENTER COLLECTOR TRAIL (12')
-  FRONTAGE ROAD TRIAL (9')
-  BELTWAY TRAIL
-  MULTI-USE TRAIL
-  PEDESTRIAN PATH
-  TOWN CENTER
-  CITY OF LAS VEGAS

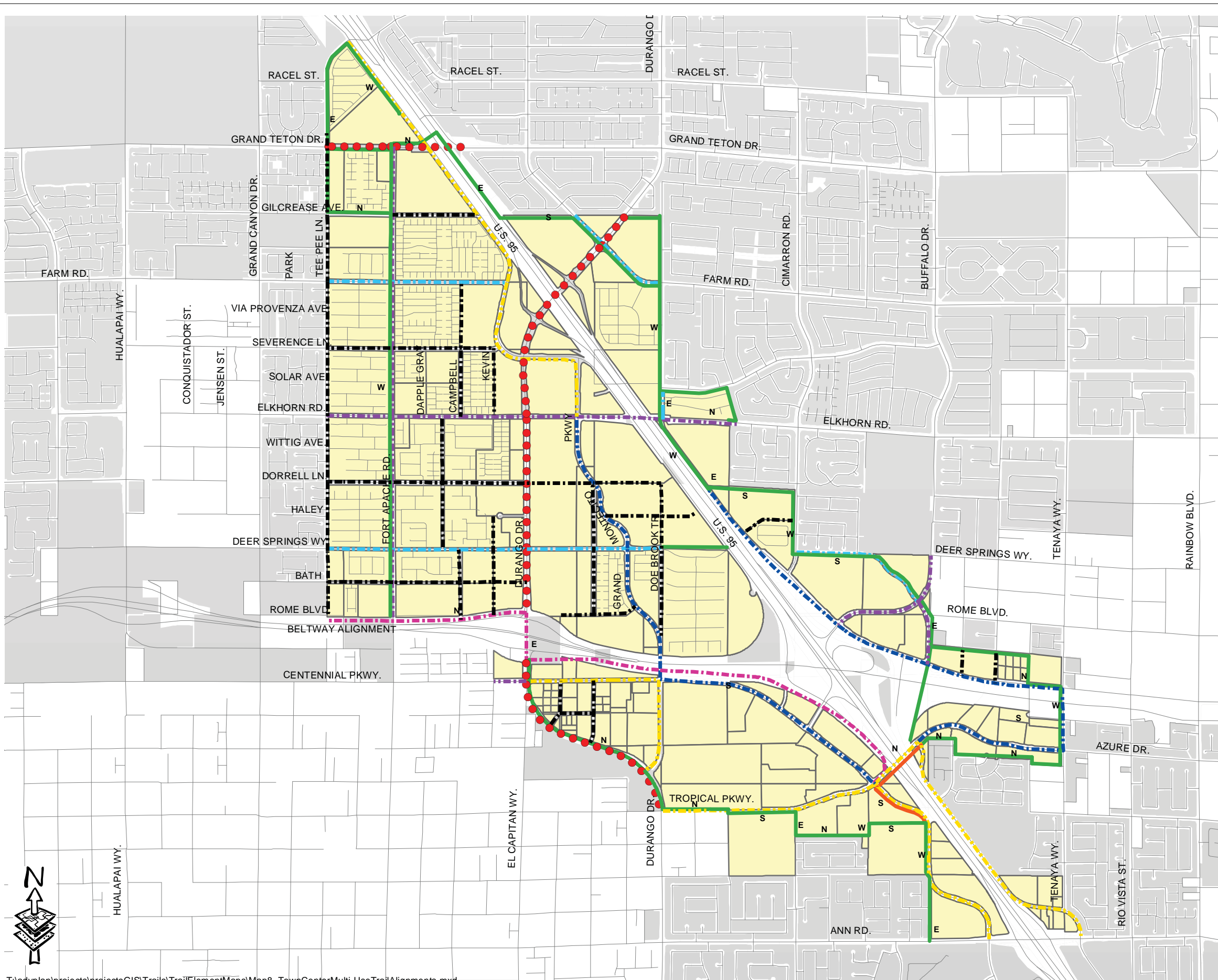
Adopted: January 16, 2002  
 Ordinance No. 5417

Revised: September 07, 2005 GPA-7322  
 Revised: June 07, 2006 GPA-12273

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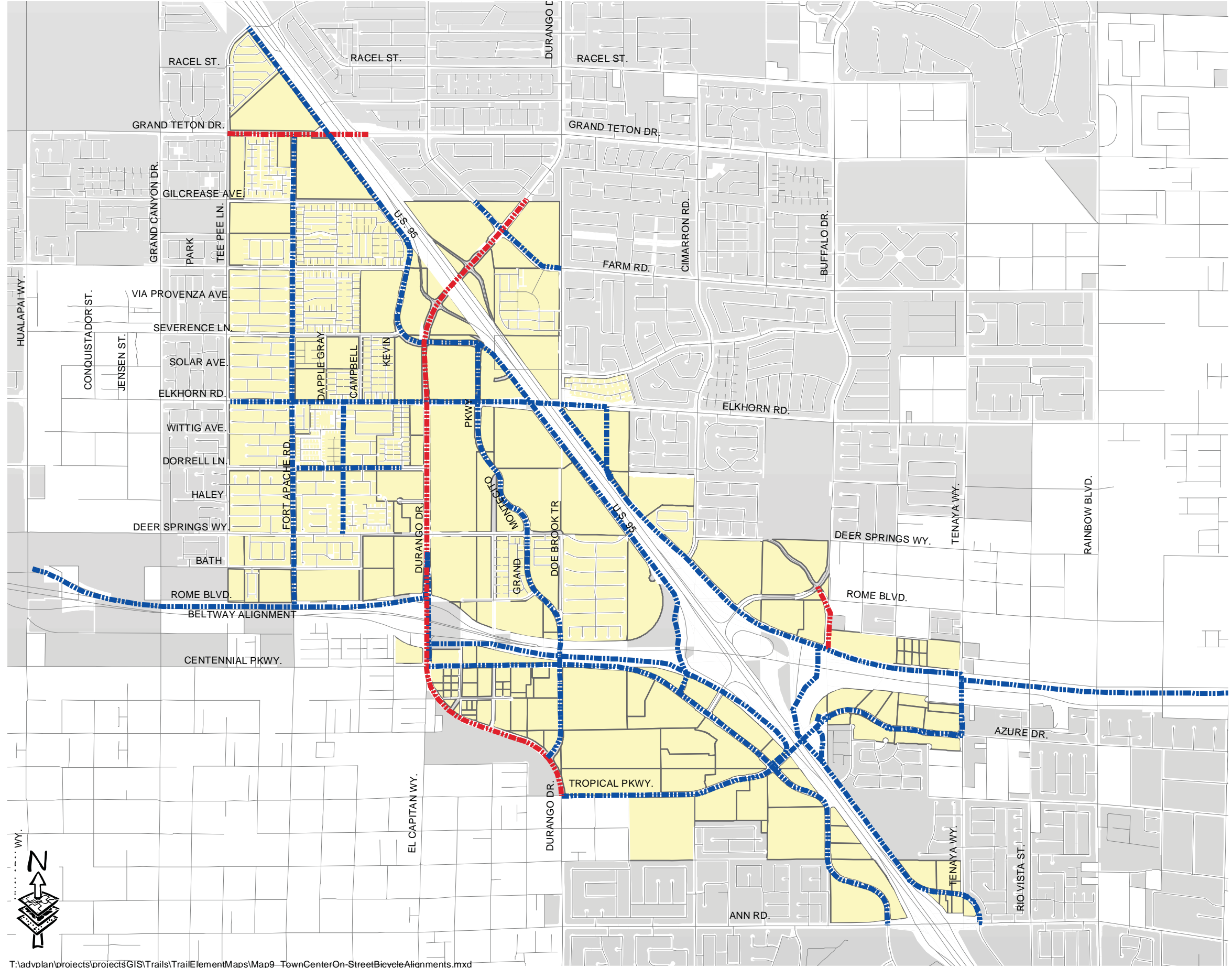
Printed: November 08, 2012



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

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MAP No. 9  
*City of Las Vegas*

**TOWN CENTER  
ON-STREET BICYCLE  
TRAIL ALIGNMENTS**

-  Bike Routes
-  Bike Lanes
-  Town Center
-  City of Las Vegas

Adopted: January 16, 2002  
Ordinance No. 5417

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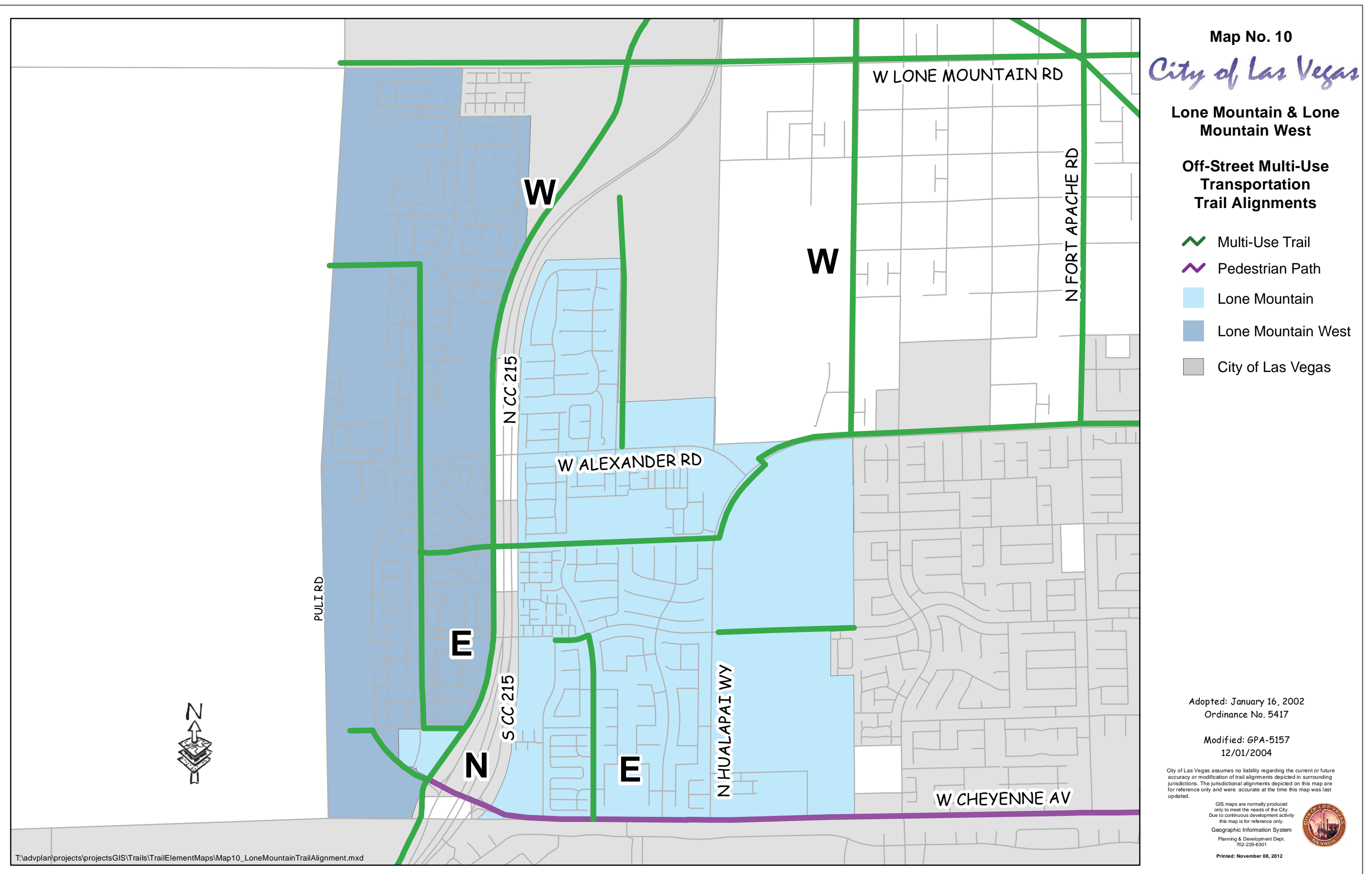
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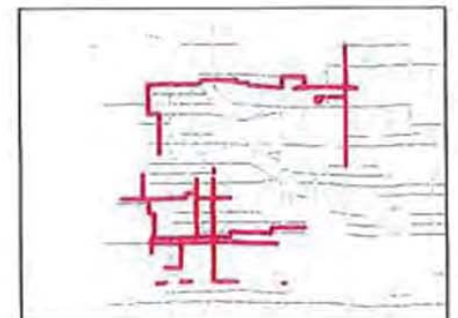


MAP No. 11

# Comprehensive Planning Northwest RNP Area Priority Trails

## EXHIBIT B

- Priority Trails
- Incorporated Cities



Map Created On: October 22, 2008

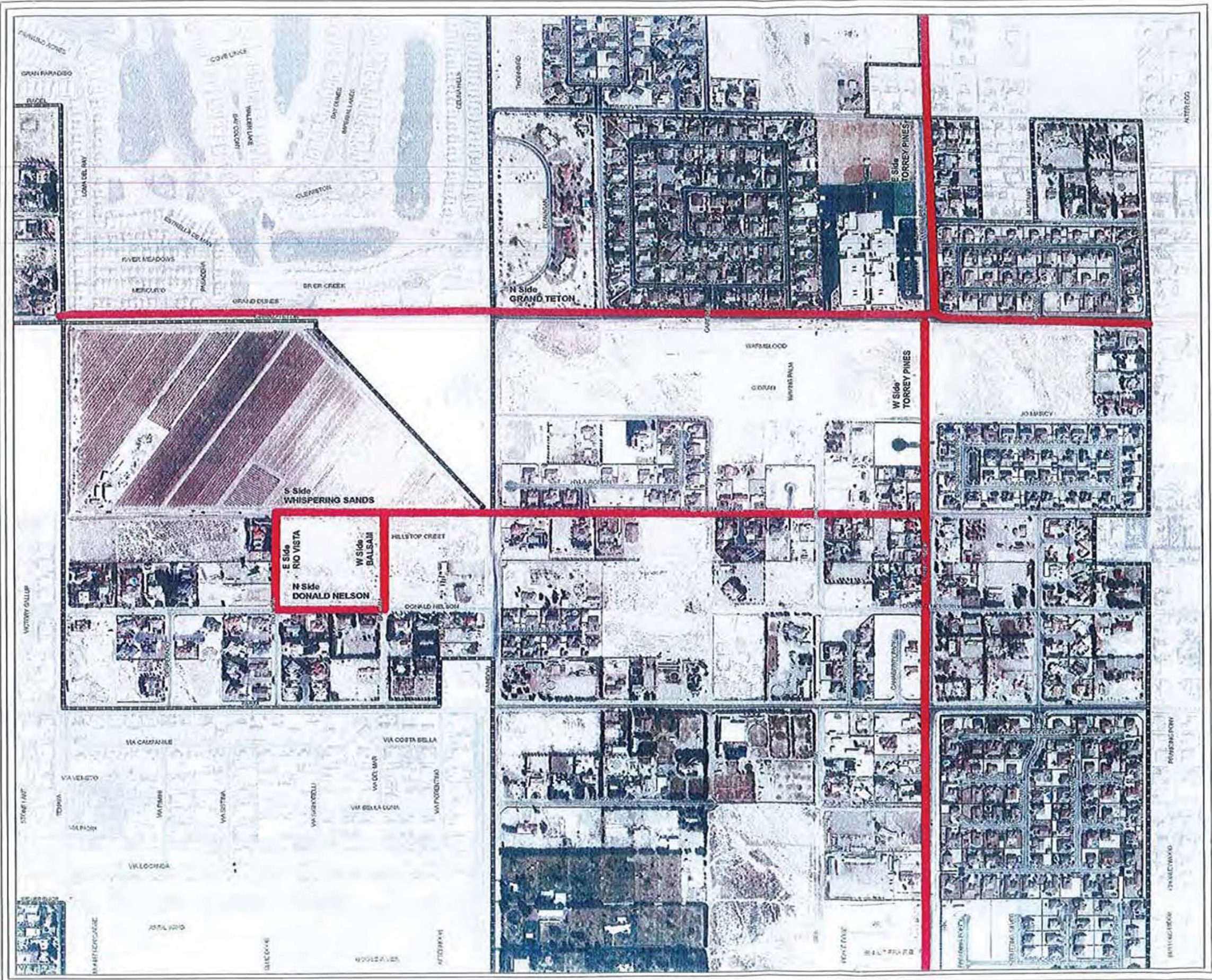
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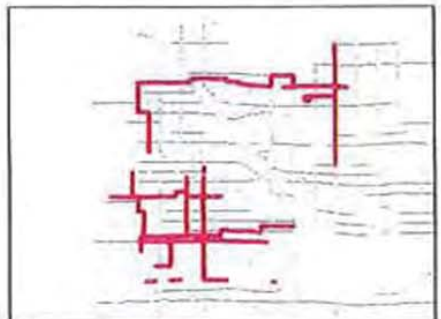




MAP No. 12

# Comprehensive Planning Northwest RNP Area Priority Trails EXHIBIT C

- Priority Trails
- Incorporated Cities



Map Created On: October 22, 2008

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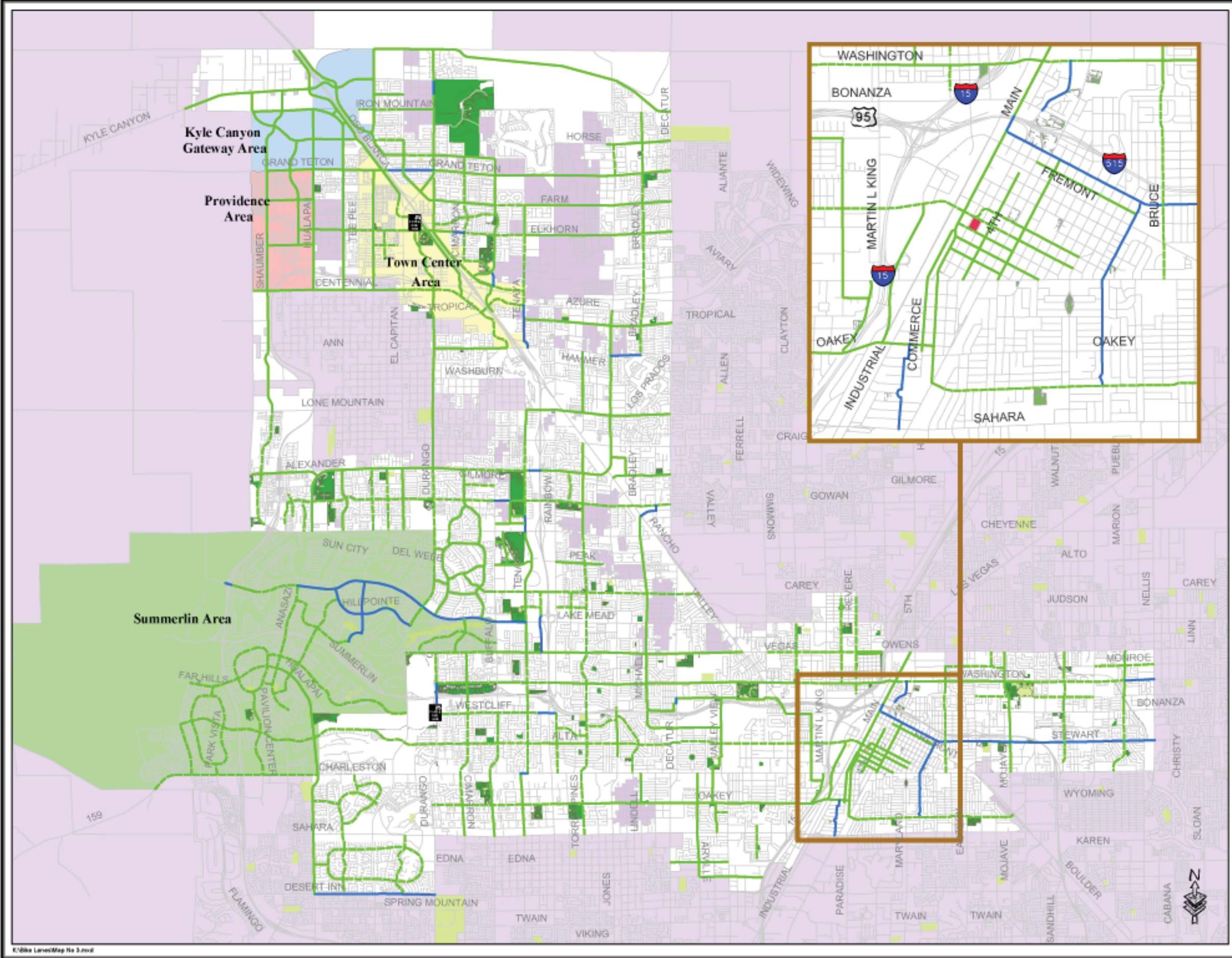
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City of Las Vegas

ON-STREET BICYCLE  
ALIGNMENTS

- EXISTING LANE
- PROPOSED LANE
- ROUTE, PROPOSED



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GIS maps are normally produced only to meet the needs of the City. Due to continuous development activity this map is for reference only.

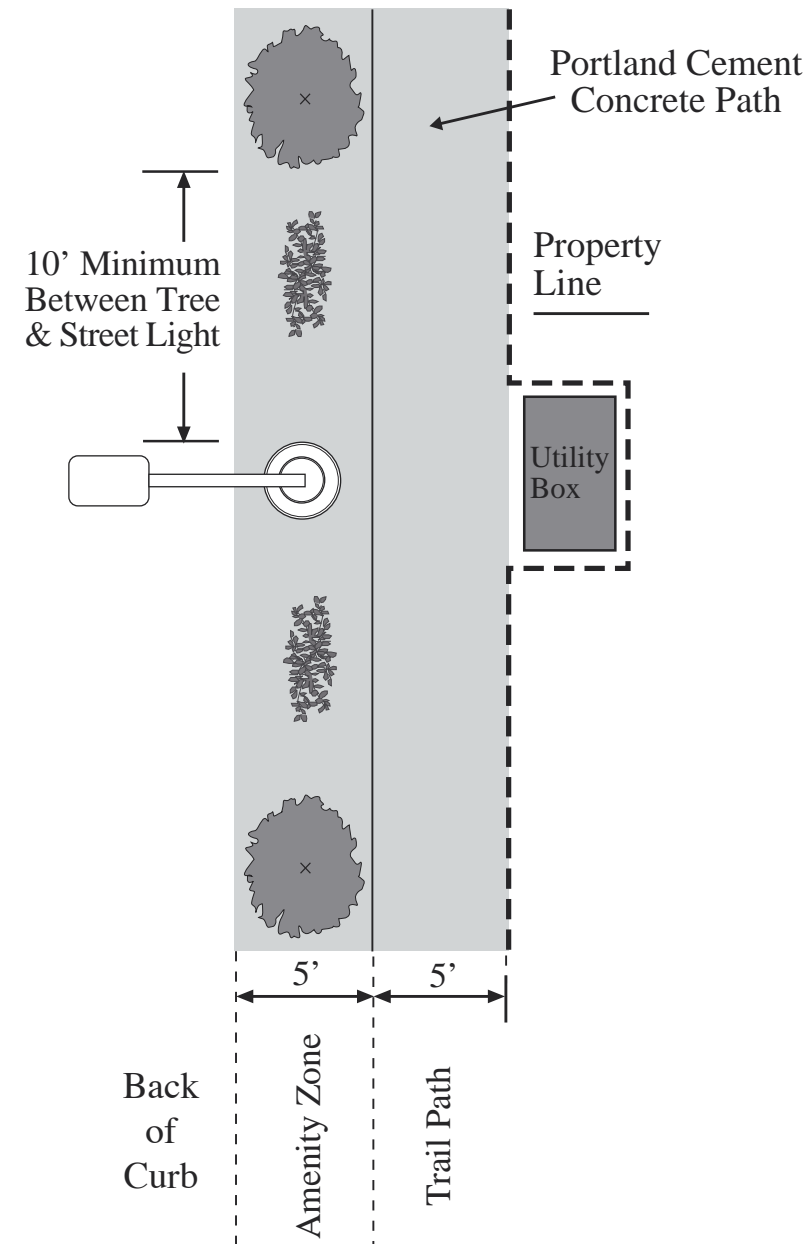
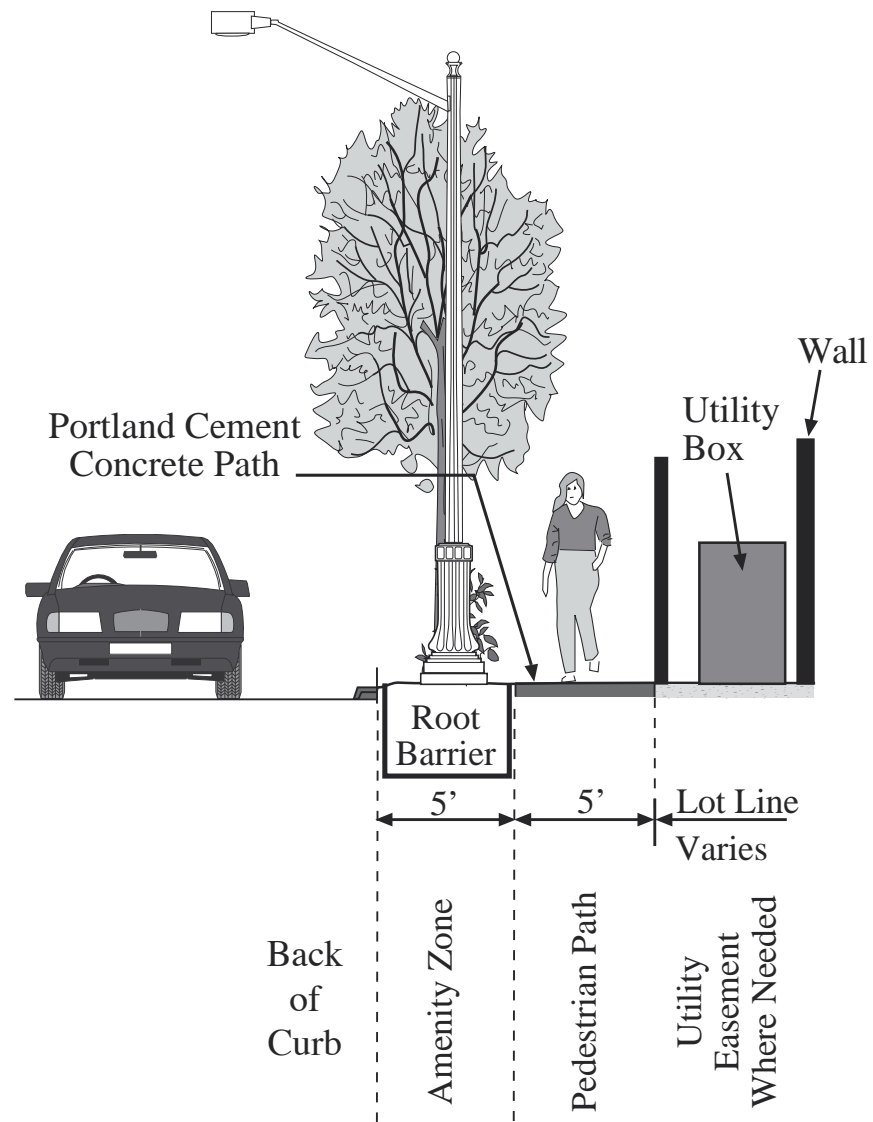
City of Las Vegas  
Department of Public Works  
Geographic Information System  
Public Works Dept.  
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# Exhibit 1 Pedestrian Path

Approved by City Council  
February 20, 2013



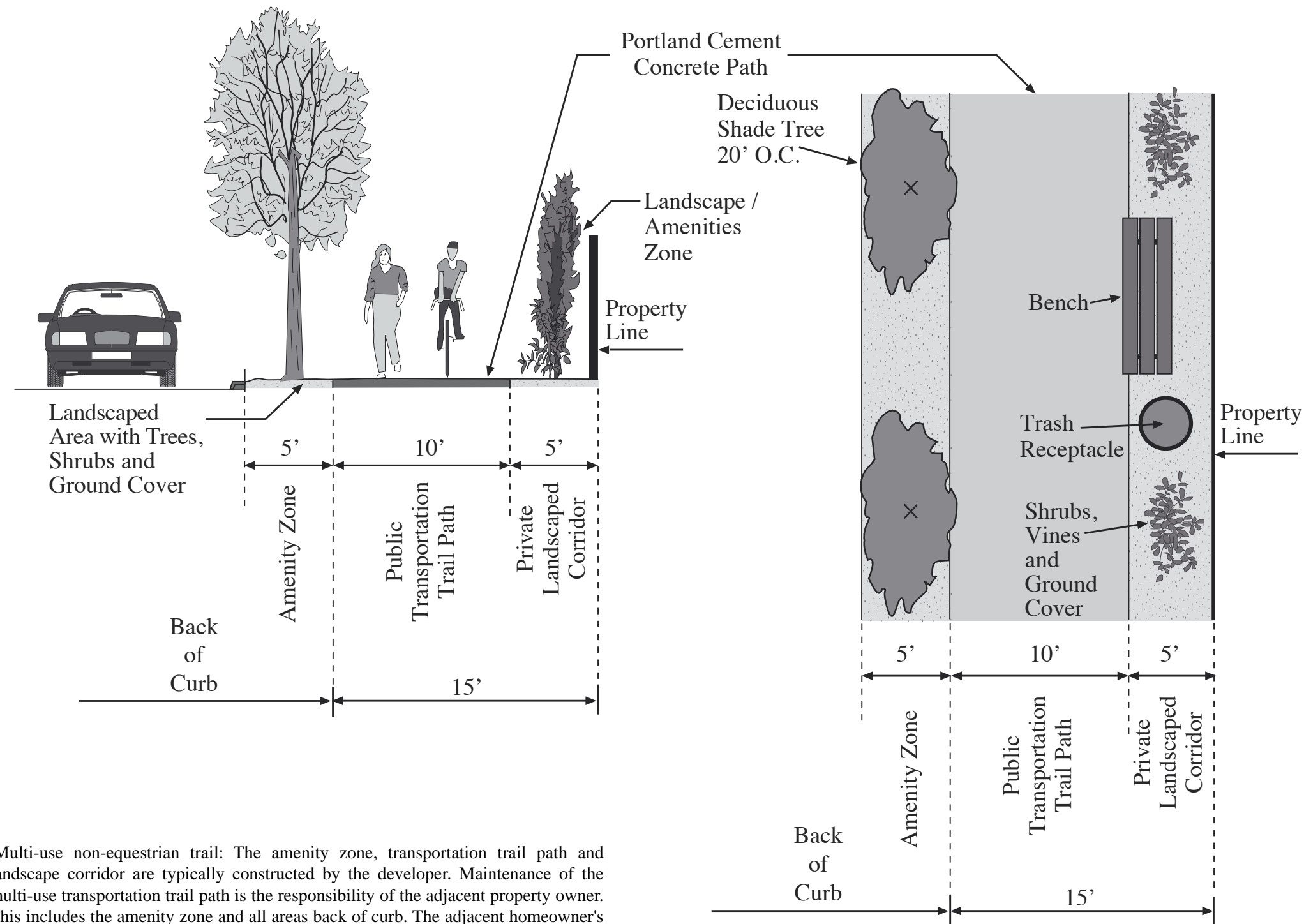
**Notes:** Pedestrian Path: The amenity zone and transportation trail path are typically constructed by the developer. Maintenance of the pedestrian trail path is the responsibility of the adjacent property owner. This includes the amenity zone and all areas back of curb. The adjacent homeowner's association/private property owner must enter into an encroachment agreement with the City to guarantee maintenance of landscaped areas in the public right-of-way in perpetuity. Per Title 13 of the Las Vegas Municipal Code, the maintenance of the sidewalk is also the responsibility of the adjacent property owner.

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## Exhibit 2 Multi-Use Transportation Trail

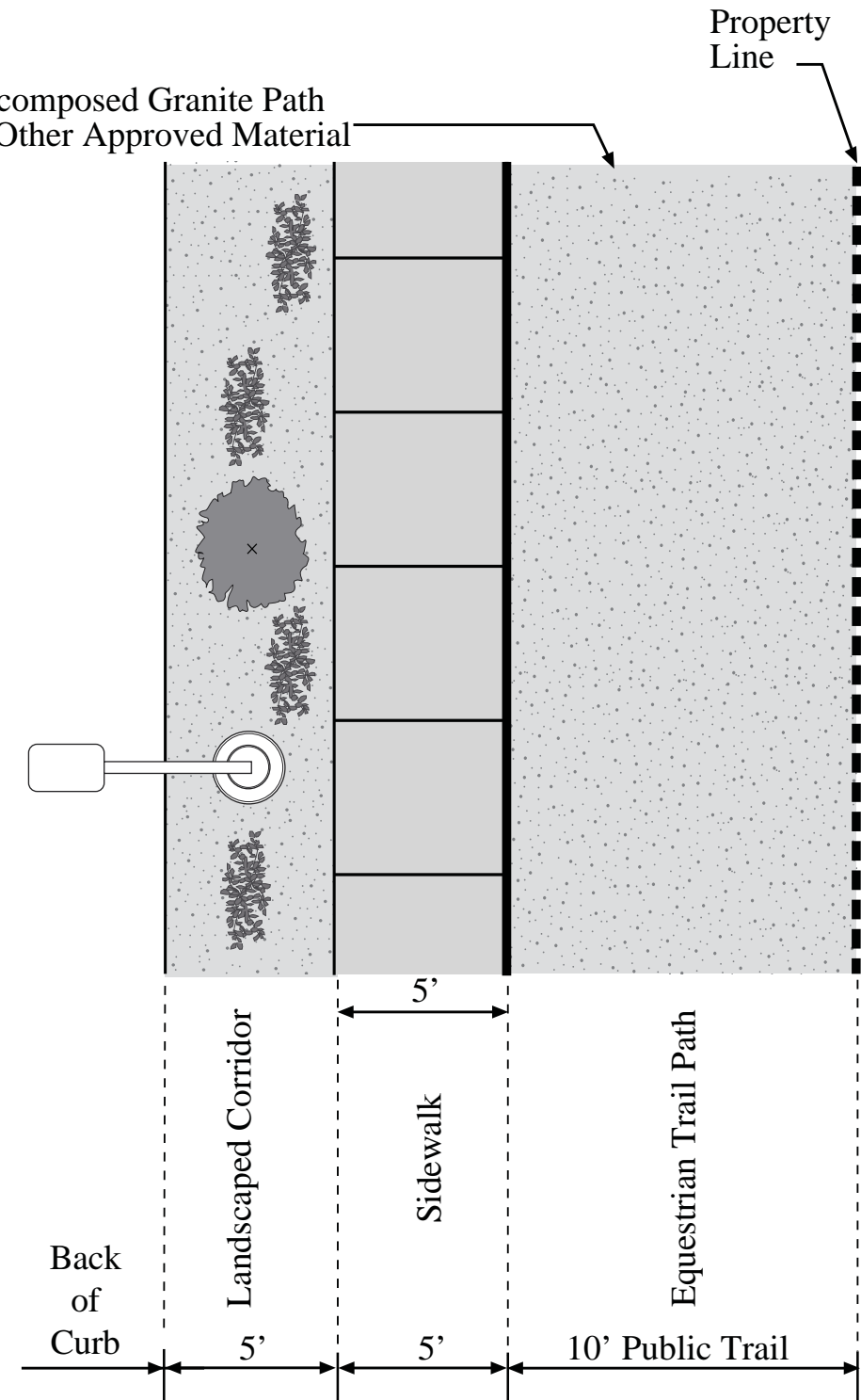
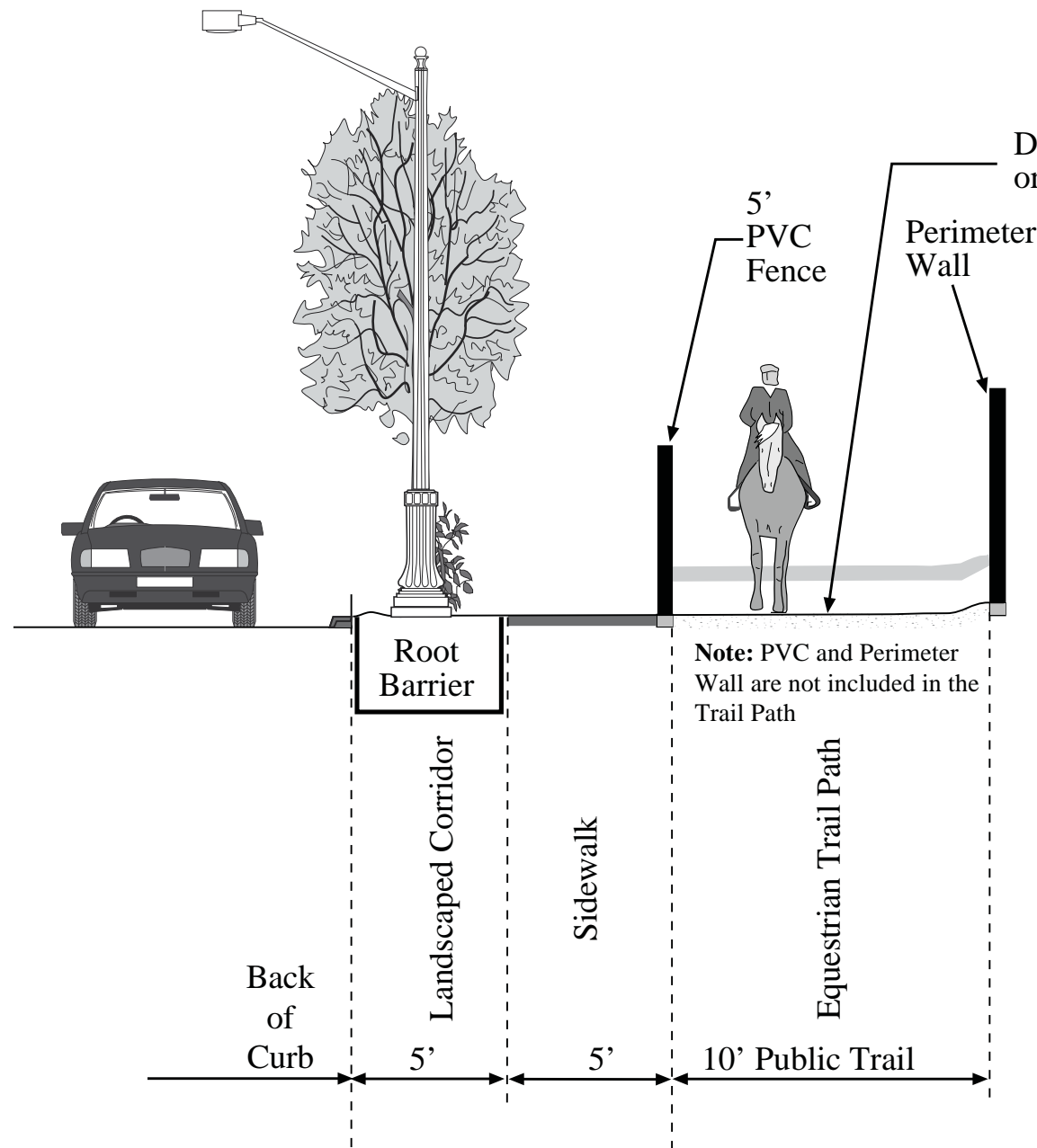
Approved by City Council  
February 20, 2013



**Notes:** Multi-use non-equestrian trail: The amenity zone, transportation trail path and landscape corridor are typically constructed by the developer. Maintenance of the multi-use transportation trail path is the responsibility of the adjacent property owner. This includes the amenity zone and all areas back of curb. The adjacent homeowner's association/private property owner must enter into an encroachment agreement with the City to guarantee maintenance of landscaped areas in the public right-of-way in perpetuity. Per Title 13 of the Las Vegas Municipal Code, the maintenance of the sidewalk is also the responsibility of the adjacent property owner.

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**Notes:** Equestrian Trail: The City will require that recreation trails identified in this Trails Element be constructed by developers with new developments. For required recreation trails, the Equestrian Trail must be granted to the City as an Equestrian Trail Easement to be maintained by the City. If this path is to be deeded to the City, it must be created as a separate common lot through either a Parcel Map or Final Map. The equestrian trail path is maintained by the City. City maintenance shall consist of removal of debris and surface grading once every calendar year.

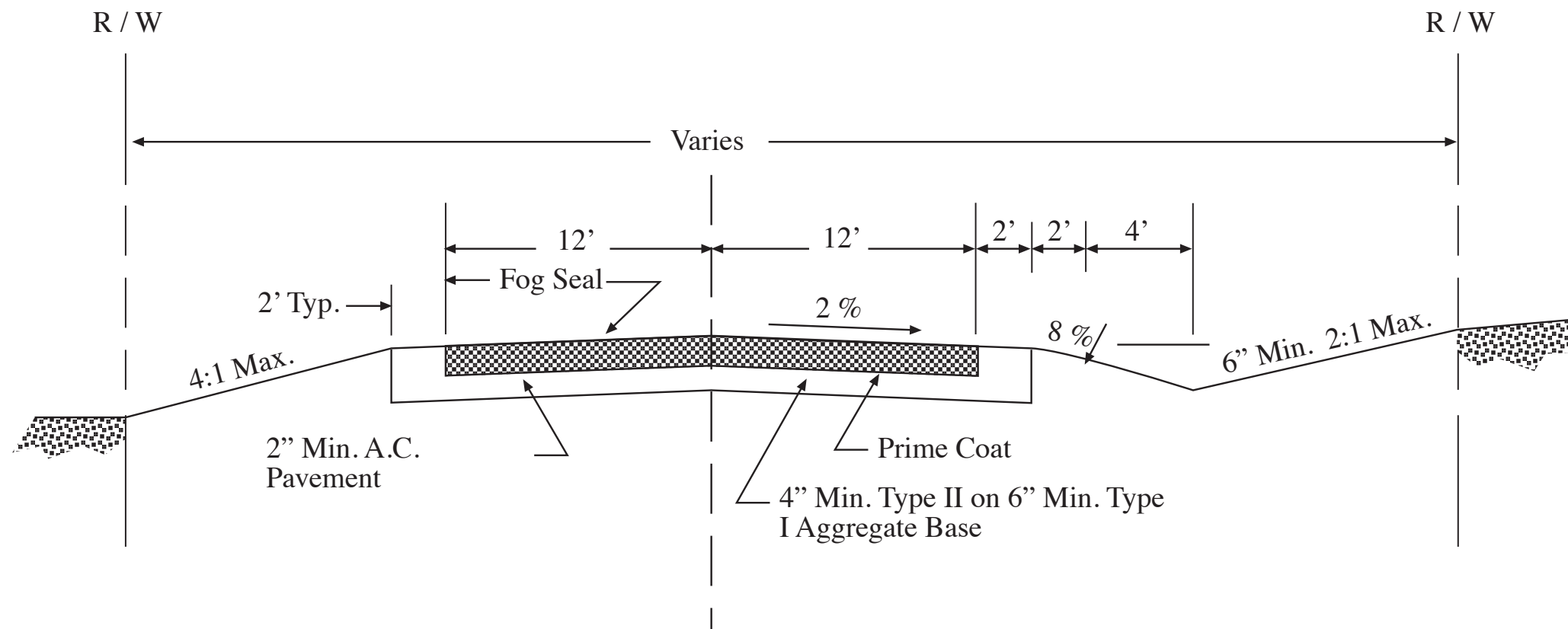
## Exhibit 3 Equestrian Trail

Approved by City Council  
February 20, 2013

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# Exhibit 4 Clark County Area Rural Cross-Section Street

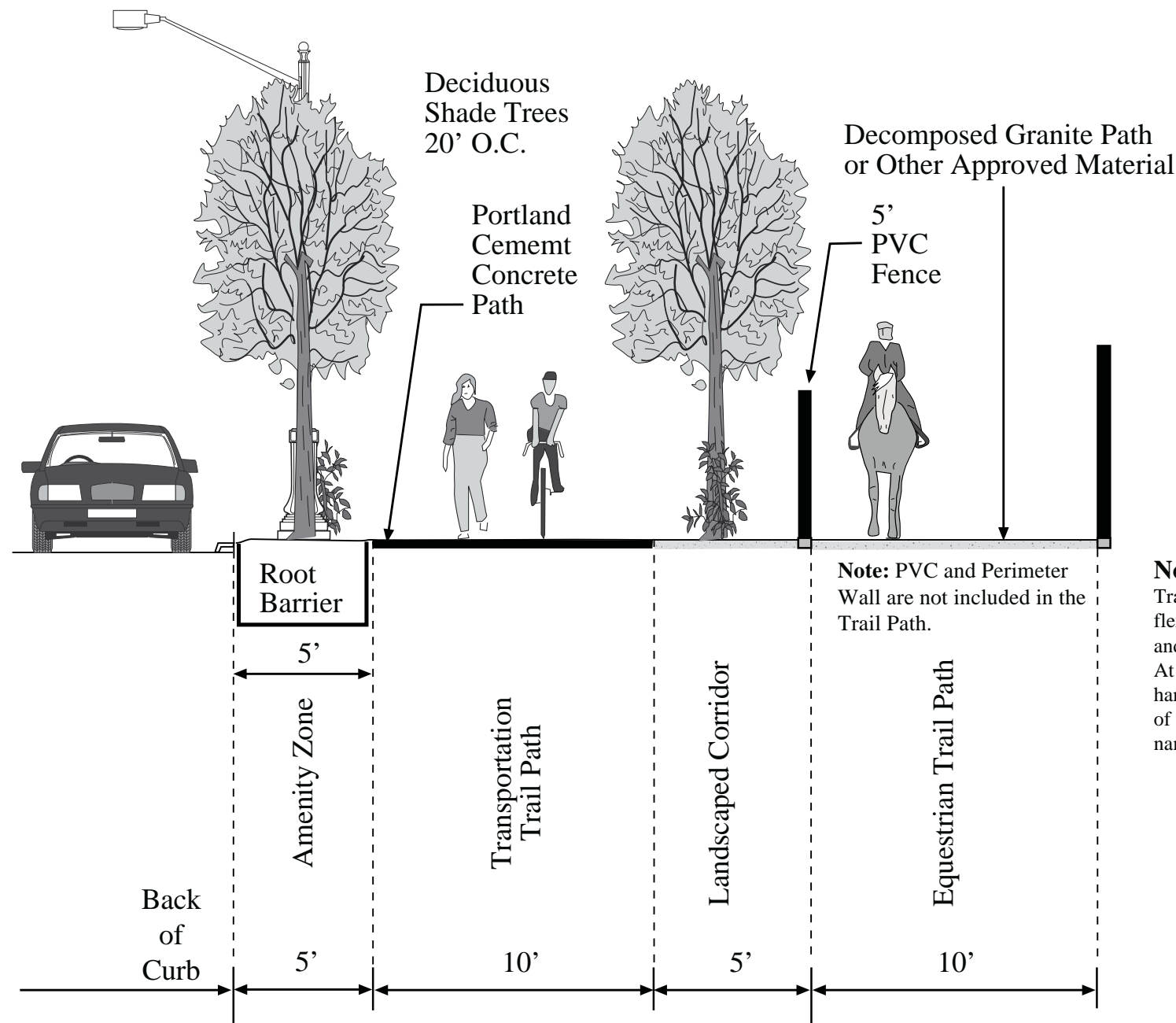
Approved by City Council  
February 20, 2013



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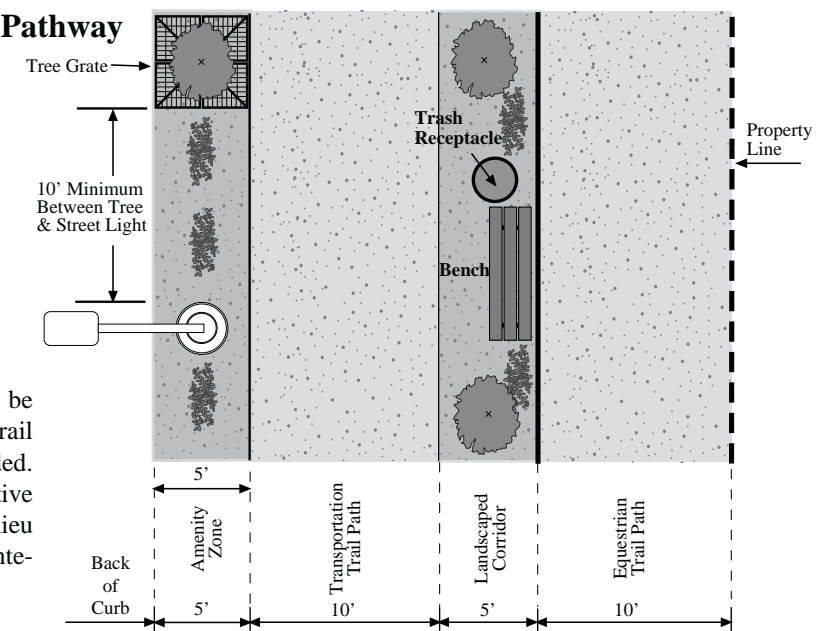
## Exhibit 5 Multi-Use Equestrian Trail

Approved by City Council  
February 20, 2013



**Notes:** Multi-use Equestrian Trail - The City will require that recreation trails identified in this Trails Element be constructed by developers with new developments. The equestrian trail path must be defined as a separate lot if it is to be deeded to the City. All privately owned areas, including the multi-use transportation trail are maintained by a homeowner's association/private property owner and an encroachment agreement must be entered into with the City to guarantee perpetual maintenance of landscaped areas in the public right-of-way. The equestrian trail path is maintained by the City. City maintenance shall consist of removal of debris and surface grading once every calendar year.

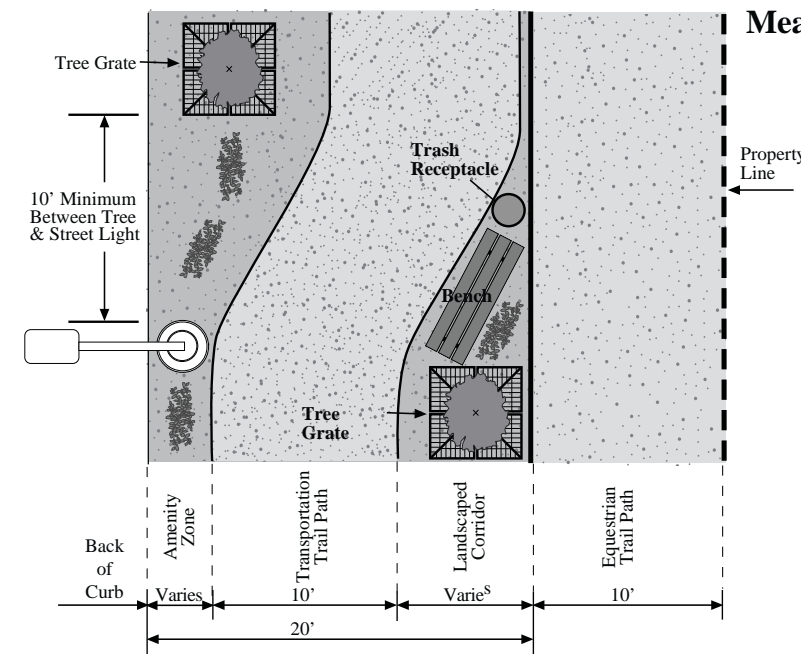
### Standard Pathway



### Note:

Trail and landscape design may be flexible provided that 10' of trail and 10' of landscape are provided. At utility locations decorative hardscape may be installed in lieu of landscaping to provide maintenance access.

### Meandering Pathway



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## Exhibit 6: Recreation and Multi-Use Trail Costs

Item	Cost	Per Unit	Multi-Use Non-Equestrian Cost/100 ft. (20 ft. width)
Planting Areas with Irrigation	\$ 5.00	sq. ft.	\$ 2,500.00
24-in. Box Trees	\$ 225.00	ea	\$ 1,125.00
15 gal. Shrubs	\$ 95.00	ea	\$ 950.00
5 gal. Shrubs	\$ 24.00	ea	\$ 240.00
Pre-emergent Herbicide	\$ 0.05	sq. ft.	\$ 25.00
Decomposed Granite	\$ 0.80	sq. ft.	\$ 400.00
Aggregate Base – 8" depth	\$ 55.00	cu. yd.	\$ 676.50
Portland Cement Concrete – 6" depth	\$ 60.00	sq. yd.	\$ 6,660.00
Trash Receptacle	\$ 500.00	ea	\$ 500.00
Bench	\$ 1,500.00	ea	\$ 1,500.00
Lighting, Pole & Fixture*	\$ 4,200.00	ea	\$ 4,200.00
<b>Subtotal</b>			<b>\$ 18,776.50</b>
Mobilization	Subtotal x 4%		\$ 751.06
Contingency	Subtotal x 15%		\$ 2,816.48
<b>Total**</b>			<b>\$ 22,000</b>

\* This cost includes lighting conduit and would be reduced in those instances where backside luminaries are mounted on existing street lightpoles.

\*\* Total costs rounded to nearest \$1,000.

**Table 1: Implementation Table**

Master Plan Policy	Implementation Action	Liaison Department(s)	Priority
3.6	<b>Action T1:</b> That the transportation and recreational trail design standards presented in this element are to be adhered to unless it is demonstrated by substantial evidence that there is a more suitable alternative.	Department of Planning/Public Works	High
3.6	<b>Action T2:</b> That American Association of Street and Highway Transportation Officials (AASHTO) standards be used for the design and configuration of trails where specific situations are not readily adaptable to the general standards of this plan	Department of Planning/Public Works	Medium
3.6	<b>Action T3:</b> That the Manual on Uniform Traffic Control Devices (MUTCD) be used for signage and route designations where the standards of this plan do not apply to specific situations	Department of Planning/Public Works.	Medium
3.6	<b>Action T4:</b> That multi-use trails be located so travel to a trail does not exceed one mile	Department of Planning/Public Works	High
3.6	<b>Action T5:</b> That the City establishes a trails system and remove hazards to on-street bicycle traffic	Public Works	High
3.1.1	<b>Action T6:</b> That traffic calming-diverting and traffic slowing measures for on-street bicycle routes be implemented and maintained where possible or feasible	Public Works	Medium
3.6	<b>Action T7:</b> That additional operating space for on-street bicycle routes be provided wherever necessary and feasible	Public Works	High
7.1.9	<b>Action T8:</b> That a signage program be established to systematically install signs over a period of time to designate bike, transportation and recreational trail routes	Department of Planning/Public Works	High
3.6.7	<b>Action T9:</b> That existing and future parks be integrated with the transportation and recreational trails system and provide appropriate trail heads with the proper conveniences	Department of Planning/Public Works	High
3.6.8	<b>Action T10:</b> That the City continues to coordinate the planning, development and construction of a Valley-wide trail system with other Las Vegas Valley entities	Department of Planning/Public Works	High



**Table 1: Implementation Table, continued**

Master Plan Policy	Implementation Action	Liaison Department(s)	Priority
1.2.1	<b>Action T11:</b> That all downtown parks and open spaces be linked with non-vehicular corridors or routes to foster a safe, pleasant and convenient pedestrian environment	Department of Planning/Public Works	High
3.1.5	<b>Action T12:</b> That educational facilities, recreational and open space and major employment centers in newly developing areas of the City be linked by trails	Department of Planning/Public Works	High
7.2.3	<b>Action T13:</b> That the areas along the edges of hard-lined flood control facilities and along natural drainage courses be used, where appropriate, as areas for trails with landscaping and other features which enhance the appearance of these areas.	Department of Planning/Public Works	Medium
7.1.9	<b>Action T14:</b> That trails be developed in recognition of a desert climate by incorporating shade and wind breaks in the trail system.	Department of Planning/Public Works	Medium
3.6.8	<b>Action T15:</b> That public education in the use of transportation and recreational trails be promoted	Department of Planning	High
7.3	<b>Action T16:</b> That proper trail landscaping and design are utilized so that clear lines of sight are maintained to reduce criminal activity and to ensure the safety of trail users	Department of Planning	High
7.3	<b>Action T17:</b> That maintenance is performed as needed to clear overgrowth and other impediments to the safety of recreation and transportation trail users. The height of both the horse and rider should be taken into account when pruning trees on equestrian trails	Field Operations	High
7.3	<b>Action T18:</b> That solar lighting is encouraged along trail routes to reduce electricity costs as well as provide night time safety for trail users	Department of Planning/Public Works	Medium
7.3	<b>Action T19:</b> Encourage the use of way finding signage in increase the locational awareness of trail users.	Department of Planning/Public Works	High
7.3	<b>Action T20:</b> Encourage the use of warning signage at intersections for trail users and bicyclists.	Department of Planning/Public Works	High
3.6.8	<b>Action T21:</b> Gaps in the bike and trail network shall be identified and addressed through regional coordination and the creation and adoption of a City work plan.	Department of Planning/Public Works	High

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