

# Bicycle Master Plan

Town of Silver City, New Mexico



Adopted August 23, 2016



**RESOLUTION NO. 2016-22**

**ADOPTION OF TOWN OF SILVER CITY BICYCLE MASTER PLAN**

**WHEREAS**, Town of Silver City and its partners recognize that increasing the use of bicycles for transportation and recreation can contribute significantly to our community's health, environment, and economy; and

**WHEREAS**, the Silver City Bicycle Master Plan will serve as the guiding document for the development of a safe and functional network of bicycle routes linking destinations in and around the Town of Silver City; and

**WHEREAS**, the Town's Comprehensive Plan of 2004 affirms this support and sets the following goal in the area of "transportation and circulation": "TC Goal #3: Enhance the bicycle-friendly atmosphere in Silver City and promote bicycle use as a healthy, viable transportation alternative."; and

**WHEREAS**, having an adopted Bicycle Master Plan will enhance the ability of the Town to receive funds through the New Mexico Department of Transportation - Transportation Alternatives and Recreational Trails Programs, as well as other funding sources for plan implementation; and

**WHEREAS**, this plan will ensure that the Town and its partners can implement a strategy for the continued development of bicycle-friendly roads and trails for active transportation and recreation, and that needs for bicycle facilities for a variety of users are addressed during road maintenance, construction, and reconstruction, and when important public investment and land use decisions are made; and

**WHEREAS**, the Town of Silver City was partially funded by a grant from the New Mexico Finance Authority to complete a Bicycle Master Plan; and

**WHEREAS**, Non-Appropriation - In accordance with the New Mexico Constitution, including Article IX, Section 11, if the performance of any of the Town's obligations under this Agreement, whether conditional or unconditional, requires the expenditure of funds, then those obligations and the Town's obligation to perform those obligations are contingent upon sufficient funds available to the Town for the performance of those obligations by the Town;

**NOW, THEREFORE, BE IT RESOLVED** by the Governing Body of the Town of Silver City:

**THAT**, the Town of Silver City Bicycle Master Plan, attached hereto as Exhibit "A" is hereby adopted, and

**THAT**, Non-Appropriation - In accordance with the New Mexico Constitution, including Article IX, Section 11, if the performance of any of the Town's obligations under this Agreement, whether conditional or unconditional, requires the expenditure of funds, then those obligations

and the Town's obligation to perform those obligations are contingent upon sufficient funds available to the Town for the performance of those obligations by the Town, and

**THAT**, Town staff is hereby authorized to do all deeds necessary in the accomplishment of the herein above.

**PASSED, APPROVED, and ADOPTED** this 23rd day of August, 2016.



**TOWN OF SILVER CITY**

Ken Ladner, Mayor

**Attest:**

Ann L. Mackie, Town Clerk



**ACKNOWLEDGEMENTS**

**TOWN OF SILVER CITY**

**Mayor:** Ken Ladner

**District 1:** Cynthia Ann Bettison      **District 3:** Jose A. Ray, Jr.

**District 2:** Lynda D. Aiman-Smith      **District 4:** Guadalupe "Lupe" Cano

Town Manager: Alex C. Brown

Assistant Town Manager: James Marshall

Office of Sustainability Director: Denise Smith

**STEERING COMMITTEE MEMBERS**

Lynda D. Aiman-Smith,  
Town Councilor, District 2

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LAB Certified Cycling Instructor

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Healthy Kids Healthy Communities

Rebecca Summer,  
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Grant County Assessor

Funding for the Town of Silver City Bicycle Master Plan was made possible from the Town of Silver City and the NM Finance Authority Local Government Planning Fund



## *Bicycle Master Plan*





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**PURPOSE AND OBJECTIVE**

The Town of Silver City and its partners recognize that increasing the use of bicycles for transportation and recreation can contribute significantly to our community’s health, environment, safety and economy. The Silver City Bicycle Master Plan will serve as the guiding document for the development of a safe and functional network of bicycle routes linking destinations in and around the Town of Silver City.

The Town’s Comprehensive Plan of 2004 affirms this support and sets the following goal in the area of “transportation and circulation”: “TC Goal #3: Enhance the bicycle-friendly atmosphere in Silver City and promote bicycle use as a healthy, viable transportation alternative.” As suggested in the Comprehensive Plan, this Bicycle Master Plan is a part of the bikeway, pedestrian and recreational trails planning.<sup>1</sup>

This plan will ensure that the Town and its partners remain committed to implementing a strategy for the continued development of bicycle-friendly roads and trails for active transportation and recreation, and that the needs for bicycle facilities for a variety of users are addressed during road maintenance, construction, and reconstruction, and for when important public investment and land use decisions are made.

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<sup>1</sup> Under Summary of Implementation Measures (p 8-21): “Master Pedestrian, Bikeway and Recreation Trails Plan. The Town should create a Master Bikeway, Pedestrian and Recreation Trails Plan that identifies new roads and improvements to existing roads necessary to incorporate facilities for pedestrians and bicyclists as well as locations throughout the Town that would best serve an interconnected trail system for recreational purposes. The first phase of this Master Plan should identify existing corridors that have the highest potential to be successful pedestrian-oriented environments as well as those corridors that have the highest potential to be successful bike routes and identify specific implementation measures to undertake required improvements. In addition, the Town should identify paths for future recreational corridors to be enjoyed by pedestrians, bikers, and equestrians. Ultimately, a Master Pedestrian, Bikeway and Recreation Trails Plan can complement efforts to revitalize areas of the Town.”



### BACKGROUND:

#### PLANNING TO DATE

The Silver City Bicycle Master Plan draws from professional guidelines, past planning efforts, and opportunities for public input toward the improvement of conditions for people on bicycles in Silver City. Professional guidance in the field of planning and design for bicycles in the transportation system, and on the development of bicycle master plans in particular, includes:

- American Association of State Highway and Transportation Officials (AASHTO), *Guide for the Development of Bicycle Facilities* (2012 and 1999 Editions)
- League of American Bicyclists, *Blueprint for a Bicycle-Friendly Community*
- National Association of City Transportation Officials (NACTO), *Urban Bikeway Design Guide* (<http://nacto.org>)
- National Center for Bicycling and Walking, *Creating a Road Map for Producing and Implementing a Bicycle Master Plan* (2009).

A variety of plans developed by the Town of Silver City (TOSC) and its partners inform, contribute to, and form the foundation of, this Bicycle Master Plan:

- *Town of Silver City Comprehensive Plan*, March 2004
- *Town of Silver City, Bicycle Routes Plan* (Draft, Sept. 18, 2013)
- *Proposed Bicyclist Routes Master Plan*, Bicycle Advocacy Group of Silver City (BAG), (Draft, March 5, 2013)
- *Silver City Greenways and Big Ditch Master Plan*, adopted by Town Council in 2013
- *Trails and Open Spaces Plan*, adopted by Town Council, February 26, 2002
- *Silver City Metropolitan Redevelopment Area Plan/Downtown Action Plan*, adopted February 12, 2013
- *Town of Silver City Land Use and Zoning Code*, Dec. 14, 2010
- *Southwest Regional Transportation Plan*, 2015.

The bicycling public showed great enthusiasm and a high level of participation in these bicycle-related planning efforts in Silver City. In particular, a variety of local partners including public health partners, bicycle advocacy groups, and individual cyclists have been among the most deeply involved in the development of trail and road planning relating to bicycles. Other significant contributors and partners include Town staff and elected officials, SWNM Council of



Governments, Silver Consolidated Schools, New Mexico Department of Health, New Mexico DOT and Western New Mexico University.

## BICYCLE MASTER PLAN PROCESS

This Bicycle Master Plan was developed through the Town of Silver City. A consulting team initiated work on the Plan through a meeting with Town staff and partners in February 2016.

A Steering Committee created by the Town of Silver City met at the Office of Sustainability on three occasions and two public meetings were held to solicit input and present findings and recommendations, before presentation of the plan for adoption by Town Council in August 2016.

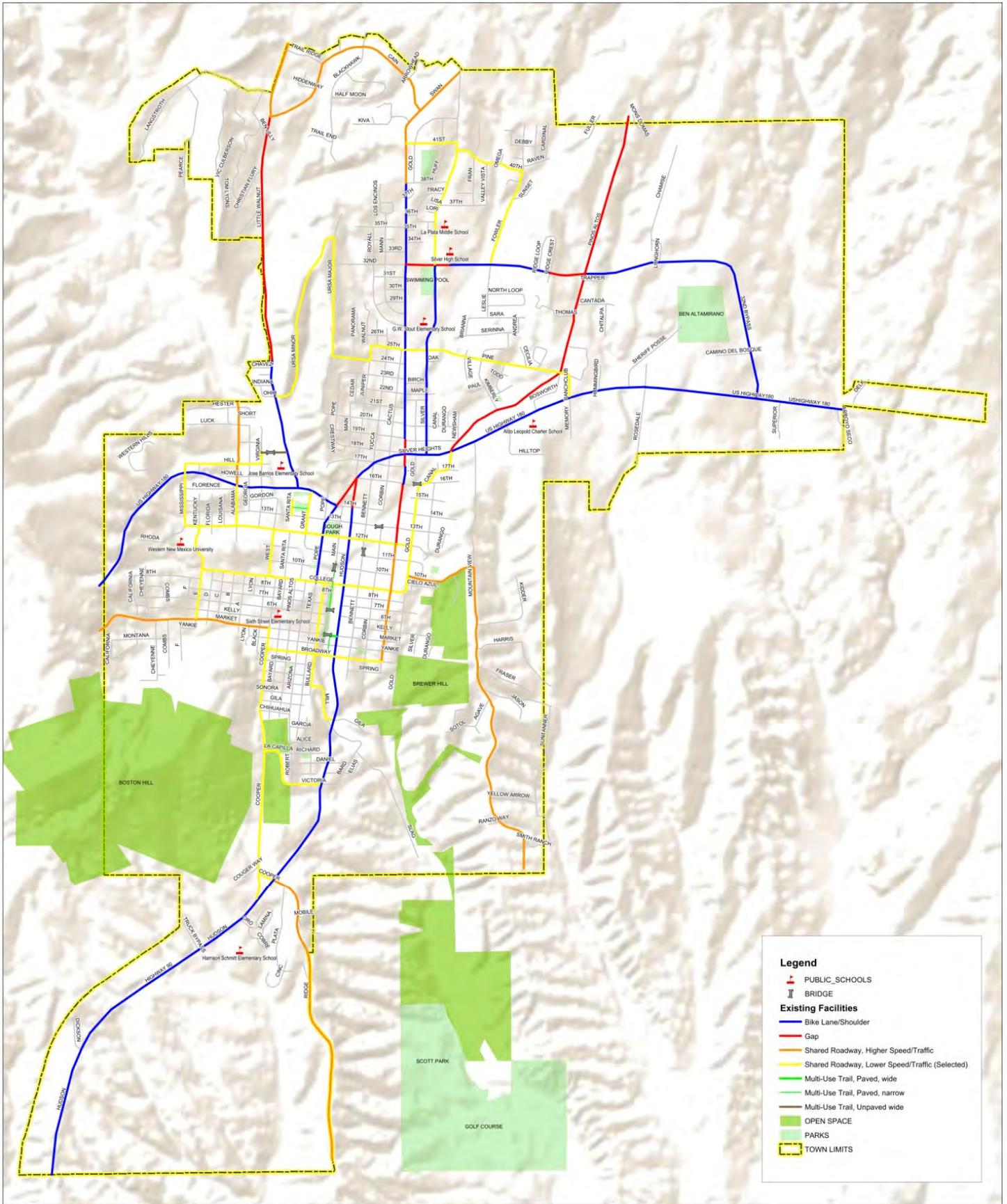


Second public meeting, June 22, 2016



## EXISTING FACILITIES

The bicycle transportation system in and around Silver City consists primarily of roads with shared lanes, roads with bike lanes or paved shoulders, off-road trails of various construction and legality, and the intersections or crossings among these roads and trails. These bike lanes, shared lanes, and trails are illustrated on the Existing Facilities Map. Other facilities that contribute to this system include signage, road striping, traffic calming measures, provisions on public transit, and bicycle parking (racks).

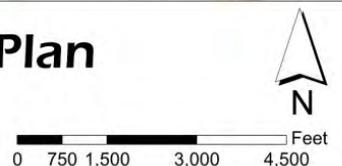


# Town of Silver City Bicycle Master Plan

## Existing Facilities Bike Lanes, Shared Lanes, and Trails

Map Date 7/16/2016  
 Data Source: Town of Silver City, Grant County, ROGIS, Greenways Plan

Mapping of Existing Facilities is approximate and is not intended to illustrate all cycling opportunities in the Town.





ON-ROAD FACILITIES

The vast majority of streets in Silver City offer lanes that are shared by motorists and cyclists. These include a wide variety of residential streets, more heavily-used urban collectors (such as Bullard St. and College Ave.), and some major “arterial” highways (such as parts of US 180). This variety of shared-lane streets provides varying levels of comfort and safety for cyclists.



Shared lanes are the most common type of on-road bicycle facility.

Some of the more significant through-routes for cyclists with shared lanes were identified in a drafted Bicycle Routes Master Plan of 2013 and appear in yellow on the Existing Facilities Map. The Town of Silver City has treated many of these routes, and particularly those with higher-speed or volume motor vehicle traffic, with signage and striping encouraging motorized and non-motorized users to “share the road.”



Bicycle lanes are on-road facilities dedicated exclusively for the use of bicycle travel. National guidelines recommend a minimum width of five feet.

For streets with higher levels of motor vehicle traffic and speed, paved shoulders or marked bicycle lanes can provide a separate area for bicycle use within the broader roadway cross section. These streets are indicated in blue on the Existing Facilities Map.

The Town of Silver City requires a minimum of four-foot wide bike lanes on streets classified as collectors or arterials.<sup>2</sup> City streets and state highways within Silver City that currently offer bicycle lanes designated through striping and signage include:

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<sup>2</sup> Town of Silver City Land Use and Zoning Code, p. 115, Table 5.2, “Required Street Dimensions” and p. 117 “Bicycle Lanes and Paths:” “As required by the Bicycle Route Master Plan or Public Works Director.”



- US 180 between Hudson (NM 90) and Rosedale (purview of NMDOT)
- Hudson (NM 90) north of Broadway (NMDOT)
- Little Walnut Creek from Jose Barrios School to north of Chavez
- Swan from 16<sup>th</sup> to 32<sup>nd</sup>
- N. Silver St., to 32<sup>nd</sup>
- Pope St., south of 13<sup>th</sup> St.

City streets and state highways within the Town of Silver City that offer multi-purpose paved shoulders that are available for use by bicyclists, and particularly where motor vehicle parking is prohibited or rarely used, include:

- US 180 west of Pope St. (w/some parking) and east of Rosedale (NMDOT has purview)
- Hudson (NM 90) south of Broadway (NMDOT)
- Pinos Altos Rd. (NM 15) north of US 180 (inconsistent and of varying quality) (NMDOT)
- Swan from 32<sup>nd</sup> to 38<sup>th</sup> (shared with infrequent parking)
- 32nd St. from east of Silver to Ridgecrest and from Pinos Altos (NM 15) to US 180.



Paved shoulders are multi-use facilities that can accommodate bicycles, pedestrians, parked cars, and many other uses.

## TRAILS

Off-road facilities for cyclists in and around Silver City include trails with varying surfaces, levels of difficulty, and levels of formality or legality. These trails have been identified and studied within the Trails and Open Spaces Plan of 2002, the Greenways and Big Ditch Plan of 2013, and for this Bicycle Master Plan. They are identified on the Existing Facilities Map in green (for paved trails) and brown (for natural-surface and other unpaved trails).



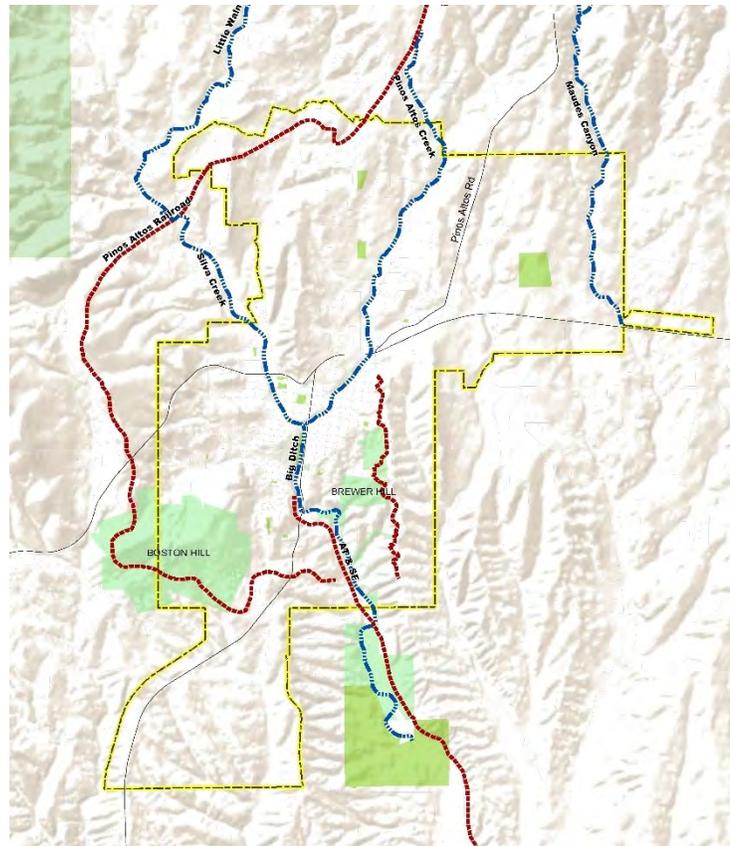
## Bicycle Master Plan

Paved trails that meet national multi-use and accessibility standards are limited to the Market St. crossing of the Big Ditch and connection to Hudson St.. Other, narrow paved trails are found elsewhere along the Big Ditch and in various city parks, as identified with the narrower green lines on the Existing Facilities Map. Many short sections of urban trail consist of footbridges over ditches that serve to connect adjoining streets and sidewalks, also identified on the Existing Facilities Map.



According to national guidelines, multi-use paths intended to accommodate two-way bicycle traffic and serve a wide variety of other users should be 10 feet wide and constructed with a durable surface, such as asphalt or concrete.

The wider variety of formal and informal trails that are available for use by bicyclists in Silver City follow distinct alignments independent of roadways. From a transportation perspective, these independent alignments offer an opportunity to complement the road system. They can provide a route that is relatively free of the conflicts with motor vehicle cross-traffic found along roads in the form of driveways and intersections. These independent alignments are typically topographical features that are associated with natural, historic, and cultural resources such as rail beds or drainages that may greatly enhance the recreational value of an existing or proposed trail. They are often shared with private or public utility easements.



SUITABLE ALIGNMENTS FOR TRAILS that are independent of roads in the Silver City area include ditches, creeks, and abandoned railroads.

The primary independent alignments that currently serve or could serve trail users in Silver City, illustrated on the



adjacent map include:

Ditches and Creeks<sup>3</sup>

- Big Ditch and San Vicente Creek
- Silva Creek
- Pinos Altos Creek
- Maude’s Canyon

Abandoned Railroads

- Atchison Topeka and Santa Fe Railroad<sup>4</sup>
- Silver City, Pinos Altos and Mogollon Railroad<sup>5</sup>
- Brewer Hill Tramway<sup>6</sup>

Trails along roads, or “side paths,” can be problematic for bicyclists. Only in exceptional cases, where there is high demand and conflicts are minimized, or can be minimized, may a side path be the most desirable accommodation. Past planning efforts have proposed and prioritized a handful of paths along roads with multiple driveways and intersections, potentially introducing greater conflicts for cyclists than those experienced by cyclists using a bike lane or a shared lane within the roadway.



Sidewalks and “side paths” present operational difficulties for cyclists. (Note the cyclist chose the sidewalk vs. the on-street bike lane)

<sup>3</sup> See “Silver City Greenways and Big Ditch Master Plan.”

<sup>4</sup> Known as the “Deming District Line,” the 12.6-mile portion of standard-gauge AT&SF rail between Silver City and Burro Mountain Junction opened in 1886 and was abandoned in 1982. For more information see, [http://www.abandonedrails.com/Deming\\_District](http://www.abandonedrails.com/Deming_District).

<sup>5</sup> This narrow-gauge railroad operated between Silver City and Pinos Altos from 1906-13. For more information see [https://en.wikipedia.org/wiki/Silver\\_City,\\_Pinos\\_Altos\\_and\\_Mogollon\\_Railroad](https://en.wikipedia.org/wiki/Silver_City,_Pinos_Altos_and_Mogollon_Railroad).



## Bicycle Master Plan

Professional bicycle planning and design guidelines warn of the operational difficulties that may be introduced by side paths.<sup>7</sup> In conflict with these guidelines, the current Town Code (see Appendix I) states that on rural collectors and rural and urban arterials a “bicycle path of 10 ft. width may be provided to satisfy the bicycle lane requirement” and that is offered as a “preferable” alternative to bike lanes along rural collector streets and urban or rural arterial streets.



As seen in “Google Street View,” Ridge Rd. could use sidewalks and bike lanes or paved shoulders, which would serve multiple functions including increasing longevity of the paved road. AASHTO emphasizes that a multi-use path along this road would introduce new conflicts between cyclists and motorists.

### STREET CROSSINGS

Safe and convenient crossings of local streets and highways can be a major challenge for bicyclists and pedestrians alike, particularly for crossings of multi-lane roads such as US 180, NM 90, Pope St., and parts of 32<sup>nd</sup> St. This challenge can be met for some users through well-marked crosswalks at signalized and non-signalized intersections, a marked mid-block crossings (such as across Hudson St., which benefits from a pedestrian median refuge), and in certain instances, grade-separated crossings including bridges and underpasses. For roads with bike lanes, routing bike lanes through intersections is also of critical importance for cyclists.



Crossing US180 on foot or on a bicycle can be a challenge, as evidenced at Pope St. in “Google Street View.”

<sup>7</sup> AASHTO (2012), pp. 5-8 – 5-11.



Crossing US 180 can be a particular challenge for all road users. There are crosswalks at most signalized intersections, and many are separated by some distance. The busy, skewed intersection with NM 90 lacks crosswalk facilities across US 180 and the intersection with Little Walnut Rd. has a crosswalk across US 180 on only one leg. The NMDOT is responsible for these limitations for pedestrians and cyclists alike. Bike lanes on Swan St., arguably Silver City’s most significant route with bike lanes, are discontinuous south of US 180 as Swan St. transitions to residential neighborhoods.

PROJECTS UNDER WAY

The recently completed Southwest Regional Transportation Plan (2013) identifies a key challenge in the region to be “increased demand for multimodal transportation including sidewalks, trails, and bicycle lanes.”<sup>8</sup> The Statewide Transportation Improvement Plan [STIP] (2016) lists several state and town projects for which planning and design of bicycle facilities are under way or will commence in the near future.<sup>9</sup> These include:

- NM 15 Reconstruction, US 180 to 32<sup>nd</sup> St. – will include new bike lanes (purview of NMDOT)
- US 180 west of 32<sup>nd</sup> St. – bike lanes will replace shoulders (purview of NMDOT)
- Silver St., US 180 to Lamb St. – will include new bike lanes
- US 180 east of 32<sup>nd</sup> St. – bike lanes likely to replace shoulders (purview of NMDOT)
- Wayfinding relating to the Continental Divide Trail and other popular trails in the area, the Silver City Arts and Cultural District is funded with a



Private development can play a big role in promoting cycling in Silver City. This former skating rink could be a future downtown hub and trailhead for a Silver City Rail Trail with direct connections to San Vicente Creek, Boston Hill, and Brewer Hill.

<sup>8</sup> Southwest Regional Transportation Plan (2013), p. 12.

<sup>9</sup> See NMDOT Statewide Transportation Improvement Plan [STIP] (2016), [http://dot.state.nm.us/content/dam/nmdot/STIP/Official\\_STIP.pdf](http://dot.state.nm.us/content/dam/nmdot/STIP/Official_STIP.pdf).



## *Bicycle Master Plan*

federal Recreational Trails Program grant.

The Town of Silver City has additional projects planned or under way that relate to improvements proposed in this Plan. These and many other projects have been listed in the Town's Infrastructure Capital Improvement Plan (ICIP):<sup>10</sup>

- "Vistas de Plata" housing project, with new road on Brewer Hill below abandoned tram line
- Waterworks Building renovation.

The Town's Public Works Division has developed a Pavement Management Plan, last updated in 2013, prioritizing maintenance of the Town's roadways into near-term activities (1-3 yrs) and longer-term maintenance. Each of these re-paving projects may present opportunities to implement road restriping proposals identified in this Plan, as referenced in the tables on prioritization and implementation of projects. The Town incorporates the principles of "Complete Streets" as is feasible given space and funding.

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<sup>10</sup> "FY2017-2021 Infrastructure Capital Improvement Plan, Project Summary."  
[http://www.townofsilvercity.org/r/town\\_of\\_silver\\_city\\_NM.php?r=67,83a7y](http://www.townofsilvercity.org/r/town_of_silver_city_NM.php?r=67,83a7y)



**RECOMMENDATIONS**

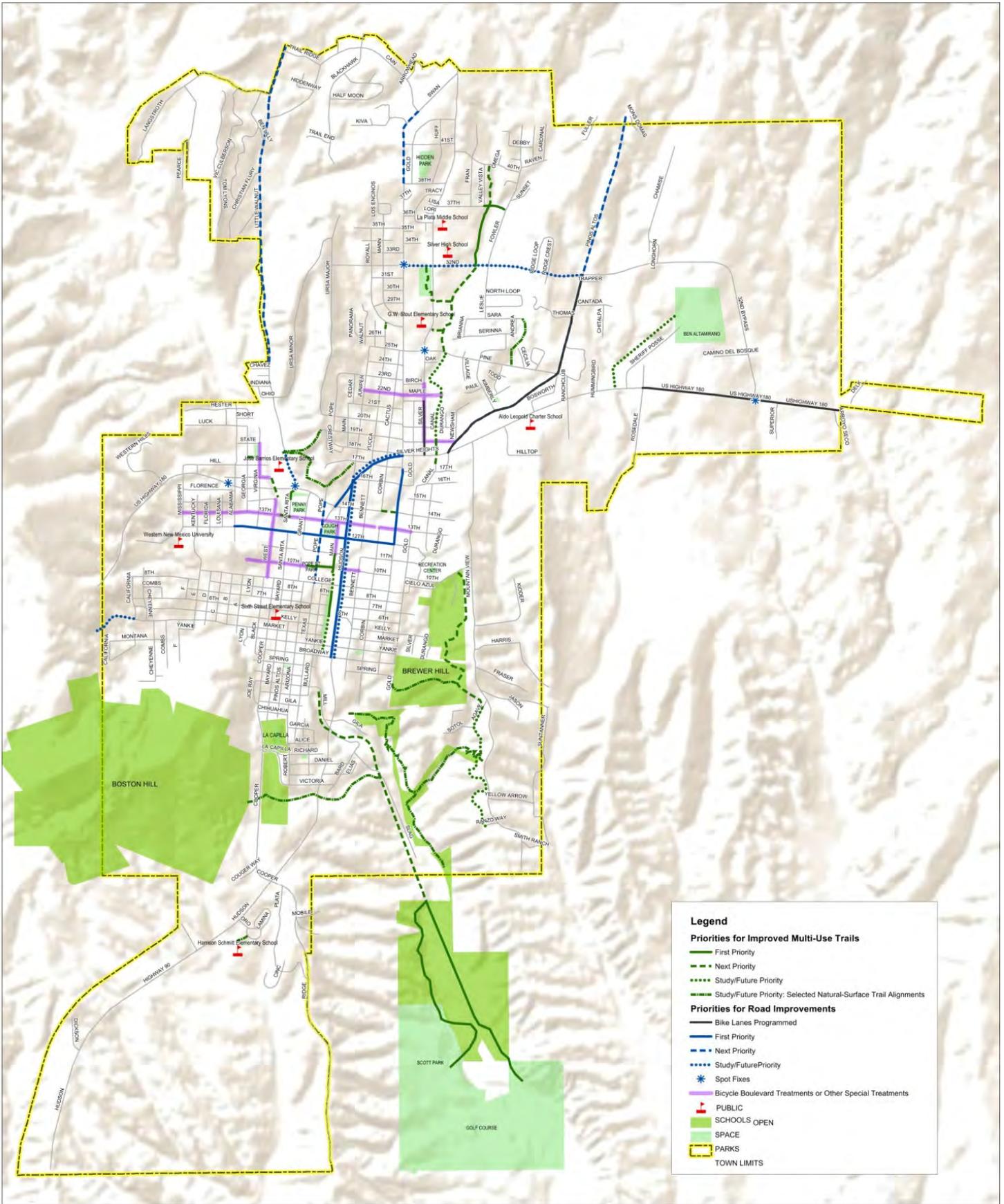
The Town of Silver City Bicycle Master Plan (BMP) follows professional planning approaches developed by AASHTO and others in the field of bicycle planning. It builds on expert observation and experience with best practices in bicycle-friendly communities across the country and incorporates local planning efforts, public input, consultation with partners, and compiled diverse bicycle-user rider experiences.

The BMP recommends the further review and consideration of a combination of road improvements and development of trails to create an integrated network of bicycle facilities that serves the transportation and recreational needs of all stakeholders utilizing transportation infrastructure. Development of wayfinding signage and maps can help integrate roads, trails, and crossings into a system of routes that various types of users can understand and put into use for their transportation and recreation needs.

Specific projects are illustrated on the map on the following page, listed with general recommendations on the pages that follow, and described with more detail within the prioritization and implementation tables toward the end of this document.



Swan St. north of 12th St., before and after proposed reconfiguration from four travel lanes to two travel lanes with a center-turn lane. This kind of "road diet" treatment has been shown to improve safety for all road users, including cyclists, pedestrians, and motorists.

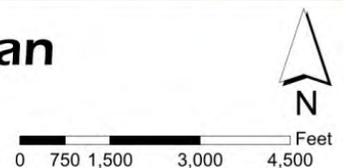


# Town of Silver City Bicycle Master Plan

## Recommendations

Map Date: 7/18/2016  
Data Source: Town of Silver City, ESRI

Multi-Use Trails shown are intended to illustrate general possible locations and do not define specific alignments.





General BMP recommendations are broken down into six areas as follow. More specific facility recommendations are weighted according to prospective demand, connectivity, and feasibility to create a set of priorities for implementation by the Town of Silver City and its partners. These priorities are phased and in some cases aligned with prospective funding sources in order to create an implementation plan with a time line and designation of responsible parties. Motorized traffic studies were not done as part of the development of this plan or the recommendations. Therefore, additional data from future studies may determine feasibility.

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**RECOMMENDATION #1:**

Routinely accommodate bicycles along major roads through bike lanes or shoulders that meet national guidelines with respect to width and surface quality. In the spirit of developing “complete streets” that accommodate users of all modes, ages, and abilities, this recommendation re-affirms the Town’s stated policy under its Comprehensive Plan, to “Consider bicycle needs on existing major roadways and during construction and rehabilitation of major roadways and approvals for new subdivisions.”<sup>11</sup>

- Require AASHTO-compliant (minimum five feet in width) bike lanes or shoulders in new construction or reconstruction of arterial roads and major collectors (Town of Silver City).
- Prefer, when possible, five-foot minimum width of bike lane or shoulder in appropriate road standards under next edition of Town Code (see Appendix I).
- Eliminate language in Town Code permitting substitution of off-road facilities for bike lanes unless further studies indicate this is only or best option. (see Appendix I).
- Require construction and maintenance practices that result in a smooth paved surface without longitudinal, vertical pavement edges within bike lanes or shoulders.<sup>12</sup>
- Re-stripe or rebuild roadways so as to “retrofit” AASHTO-compliant bike lanes or shoulders where they are not already in place, when fiscally and physically possible.

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<sup>11</sup> ToSC Comprehensive Plan (2004), p. 4-10

<sup>12</sup> See AASHTO Guide for the Development of Bicycle Facilities (2012), p, 7-3:”Pavement overlays are good opportunities to improve conditions for bicycles, if done carefully; a ridge should not be left in the area where bicyclists ride or are intended to ride (this occurs when an overlay extends part-way into a shoulder bikeway or bike lane).”



## Bicycle Master Plan

- Seek to establish new bike lanes or widen narrow bike lanes by re-allocating lane space within existing roadway cross-section, in order to achieve desirable five foot-wide bike lanes when possible.
  - Town: Stripe bike lanes on 12<sup>th</sup> St. from Pope to Alabama, per figure below; consider options east of Pope including bike lanes, “sharrows” (e.g., at intersections with Pope and NM90), and/or wayfinding signage.
  - Consider other opportunities to add bike lanes to wide Town streets, such as Broadway from Cooper to NM 90, Alabama north of US 180.



Proposal to stripe bike lanes on 12th St. between Pope St. and Alabama St.

- Re-configure travel and turning lanes to create new space for bike lanes, improve pedestrian and trail crossings, and improve safety for all road users.
  - Town of Silver City:
    - Consider Swan St. “road diet” conversion from four travel lanes to three lanes with bike lanes or shoulders, from 12<sup>th</sup> St. to 16<sup>th</sup> St. (see Figure 11 above).
    - Consider 32<sup>nd</sup> St. “road diet” conversion from four travel lanes to three lanes with bike lanes or shoulders, from NM 15 to Swan St., with crossing improvements including at Pinos Altos Creek Trail. Further study should consider traffic volume, and emergency vehicles.
    - Encourage NMDOT to consider alternatives to five-lane cross section of Little Walnut Rd. north of US 180.
    - Study Pope St. “road diet” as proposed in Downtown Action Plan, but with improved bike lanes – wider and possibly with different surface, color, and/or as separated “cycle tracks.”



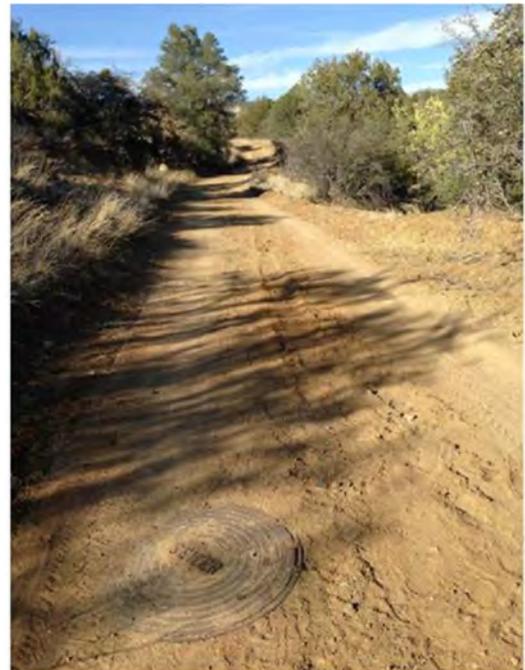
- Reduce number of lanes on Pope. between 13<sup>th</sup> and 14<sup>th</sup>, in line with Pope St. “road diet;” or reduce number of southbound lanes from two to one to improve 13<sup>th</sup> St. crossing.
- NMDOT: TOSC can work with NMDOT to study the feasibility and potential benefits of converting four-lane and five-lane state highways (NM90 and US180) into three-lane facilities (“road diet”), including significant opportunities to improve wayfinding and alternative methods to avoid crossings such as at the intersection of NM90 and US180.
- Study selectively eliminating legal parking on one or both sides of a given road to facilitate creation of bike lanes where demand may exist, for example:
  - Silver St., northbound approach to Pine St.: Eliminate one or two parking spaces to convert shared lane (marked with “sharrow”) to bike lane.
  - W. 12<sup>th</sup> St. between Pope and Grant: Bring proposed bike lanes east to Pope by eliminating a handful of on-street parking spaces where off-street parking is available.
  - W. 12<sup>th</sup> St. between Hudson and Pope: Eliminating on-street parking on south side, where off-street parking is available, could facilitate a bike lane connection to neighborhoods east of downtown, but at greater impact to parking supply.
- Study and implement as feasible and beneficial whether to re-stripe and/or reconfigure intersections to facilitate through-travel via bike lanes.
  - Town with NMDOT: Provide AASHTO-compliant bike lanes on Swan St. between 17<sup>th</sup> St. and 19<sup>th</sup> St., including through intersection with US180.
  - Town: Consider use of “sharrows” where continuation of bike lanes may not serve cyclists through more complicated intersections, e.g.
    - Southbound Pope St. at College: Consider discontinuing bike lane on approach to encourage cyclists to use appropriate turn or through lane, possibly with placement of “sharrows” in left-turn and through lanes.
    - Southbound Little Walnut St. at US180: Where bike lane is discontinued, support NMDOT placement of “sharrows” within right-turn lane, per NACTO, for cyclists traveling straight through (to crosswalk ramp) or turning left.
- Consider selected implementation of protected bike lanes (cycle tracks) per NACTO.
  - One-way cycle tracks within major street overhaul.
    - Consider within Pope St. “road diet” between College and 13<sup>th</sup>.
  - Two-way cycle track (or multi-use trail along road) where appropriate, as determined by high connectivity and limited conflicts.
    - Consider for west side of Main St. between Big Ditch and Gough Park.



**RECOMMENDATION #2:**

Continue the development of a system of multi-use trails and other non-motorized connections that complement the road system and provide convenient transportation and recreational opportunities for bicyclists, pedestrians, and other non-motorized users.

- Continue the development of multi-use trails meeting AASHTO guidelines<sup>13</sup> for bicycle use, along non-road alignments, including Silva Creek, Pinos Altos Creek, San Vicente Creek, and abandoned rail alignments, through public investment and collaboration with private developers and other landowners.
- Utilize public parks and open space to facilitate off-road alignments and connectivity to recreational resources, including recreational, natural-surface trails (to be developed via a TOSC Parks, Recreation, Trails and Open Space Plan<sup>14</sup>).
- Preserve, improve, and develop non-motorized connections that link roadways to each other, to trails, and to other specific destinations such as parks and schools.
  - Preserve and improve existing footbridges
  - Consider 13<sup>th</sup> St. multi-use trail bridge at



Utility line and maintenance road along Pinos Altos Creek east of Silver High School: A prime candidate for a multi-use trail connecting neighborhoods to schools.



AT&SF Railbed is an excellent candidate for a high-quality recreational trail connecting downtown to Scott Park

<sup>13</sup> AASHTO guidelines specify 10 ft. in width and hard, ADA-accessible surface (wheelchair-compatible), typically asphalt or concrete, in order to accommodate two-way bicycle traffic as well as a wide variety of other trail users.

<sup>14</sup> TOSC Comprehensive Plan (2004). "Parks, Recreation, Trails and Open Space Master Plan. The town should consider creation of a Parks, Recreation, Trails & Open Space Master Plan as the basis for future improvements in the town's parks, recreational facilities, trails and open space areas. The master plan would identify the departments within the town and private sector partners responsible for implementing the Plan, with clearly defined tasks and responsibilities for all parties."



Silva Creek

- Consider 14<sup>th</sup> St. multi-use trail bridge at Pinos Altos Creek
- Carefully consider selected off-road trail alignments along or parallel to busy, major arterial roadways, so long as conflicts with motorized cross-traffic can be minimized
  - North side of US 180 between Sheriff’s Posse Rd. and 32<sup>nd</sup> St. (in front of Walmart, et al.), if trail intersections can be set back to parking lot entrances, with possible connectivity to pedestrian gate at SE corner of Altamirano Fields. (Right of Way is all on NMDOT property along US 180).
- Continue the development of natural-surface trails that play a transportation function by connecting roads and trails to recreational trail networks such as Boston Hill, Brewer Hill, San Vicente Creek, and Gila National Forest destinations, including the Continental Divide Trail.

*[See more specific trail and road recommendations under Prioritization of Improvements and associated Implementation Tables beginning on page 34.]*



RECOMMENDATION #3:

Pursue roadway treatments that reduce speed and/or volume of motorized traffic and improve street crossings to benefit the safety and comfort of non-motorized traffic traveling along or across roadways while maintaining street standards and measurement of benefits gained, based upon future Traffic Studies.

- Study and as feasible implement “Bicycle boulevard” treatments to improve convenience and safety for cyclists on selected through-routes (e.g. 13<sup>th</sup> St., 10<sup>th</sup> St.), including:
  - diverters of motorized traffic
  - corner and median treatments that increase visibility and protection of bicyclists and pedestrians
  - re-assignment of priority at selected intersections with STOP signs to favor bicycle boulevard
  - distinctive wayfinding signage and pavement markings.
- Study and consideration of other measures that can serve to prioritize non-motorized uses of public street space, temporarily close selected streets to motorized through-traffic(e.g. *woonerfs*,<sup>15</sup> “Play Streets,”<sup>16</sup> special events such as “*ciclovi*as”)

**Bicycle Boulevards**

“A bicycle boulevard is a local street or series of contiguous street segments that have been modified to function as a through street for bicyclists [and pedestrians], while discouraging through automobile travel. Local access is maintained.”

- AASHTO (2012), p. 4-33



“Bike boulevard” in Berkeley CA utilizes diverters excluding motorized through-traffic, an effect that is also created by Silver City’s many pedestrian bridges that link calm streets.

<sup>15</sup> See Silver City Greenways and Big Ditch Master Plan (2013), p. 28.

<sup>16</sup> New Mexico Uniform Traffic Ordinance, 2010 Compilation, p. V-5 (N.M. Municipal League, 2010): 12-5-12 PLAY STREETS. A. The administrator has authority to declare any street or part of a street a temporary play street and to place appropriate signs or devices in the street to indicate and help protect the street. B. Whenever authorized signs are erected to indicate a play street, no person shall drive on the street except drivers of vehicles whose residences are within the closed area. Such drivers shall exercise the greatest care in driving on the play street.



- Study and implement as feasible traffic-calming measures to reduce speed of motorized traffic along or across roadways and to improve visibility and protection of non-motorized traffic at intersections and other roadway crossings, e.g.

- reduction of travel lane width
- reduction of corner curb radius



A trail through Pope St. Park could be the key to a "bike boulevard" and trail linking WNMU to the Big Ditch. A critical component of such a route would be a safe crossing of Pope St. via a built median "refuge" within a marked crosswalk.

- creation of curb extensions in lieu of parking at intersections and for midblock crossings, to decrease crossing distance and improve visibility

- built medians and median refuges for crossings
- speed humps, chicanes (alternating curb extensions), speed feedback signs, etc.



Median treatment for Silver Ave. "bicycle boulevard" in Albuquerque allows through-movement across a busy six-lane road while eliminating turning conflicts. This strategy could apply to four-lane crossings at Pope St. and NM90 for bike boulevards in Silver City.

- Improved road crossings through high-visibility crosswalk striping, advance stop lines for multi-lane roads, curb extensions, and median refuges. Continue to consider major intersection solutions for high-traffic areas that can improve conditions for all users.

- When meeting with NMDOT, encourage Gateway treatment for major arterial roadways approaching and arriving at the Town of Silver City, for example, eastbound US180 at Alabama - encourage associated crossing improvements such as built medians, signage, pedestrian-activated warning lights, and speed feedback signs.



## *Bicycle Master Plan*

Many neighborhood traffic calming and street closure elements could benefit from community involvement mechanisms as envisioned in the TOSC Comprehensive Plan of 2004.<sup>17</sup>

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### RECOMMENDATION #4:

Provide guidance to bicyclists and other non-motorized users along optimal routes to common destinations, particularly those where motor vehicle traffic volume and speed are minimized.

- Provide bicycle wayfinding signage
  - along bicycle boulevards and similar treatments incorporating off-road connections (see map of recommendations and wayfinding map)
  - along alternatives to less desirable routes
    - Alternative to US 180 between Silver Heights and Hudson (NM 90): Consider routing E-W route (e.g., as State Bike Route 18) connecting US180 bike lanes, via 14<sup>th</sup> St., to US 180 at Corbin or Durango (pending improvements such as a 14<sup>th</sup> St. Bike-Pedestrian bridge)
    - ☒ Alternative to Hudson (NM 90) downtown: Although bike lanes are present and needed for local access on Hudson St., wayfinding signage (and other guidance for long-range bicycle routes) could direct cyclists to use Pope St. and Bullard St. (under the purview of the NMDOT)
  - in conjunction with other long-range routes (per Recommendation 5)
    - to enhance or replace current, generic “Bike Route” signage. For example, eliminate “Bike Route – End” sign on northbound Swan north of 32<sup>nd</sup>; replace with wayfinding and/or consider “Bike Lane – End”
- Provide Maps – electronic and hard copy
  - Coordinate with RTP-funded efforts by Silver City Arts & Cultural District

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<sup>17</sup> P. 4-17: “Neighborhood Traffic Management Program. The town should develop a Neighborhood Traffic Management Program (NTMP) that is administered by town staff but focuses on actively involving residents in identifying and addressing traffic issues in their neighborhood. The NTMP should include a survey of residents to determine reasons for vehicle trips, providing the basis for mixed-use zoning within neighborhood centers that would make possible pedestrian/bicycle alternatives to the automobile. Each participating neighborhood should receive a NTMP handbook that outlines research and methods required to address local transportation issues, such as the type of traffic data that should be collected; examples of traffic calming measures; prioritization methodology; and, funding mechanisms. The town should ensure that involved citizens are provided with tools and processes that enable them to evaluate the benefits and trade-offs of proposed solutions.

## *Bicycle Master Plan*



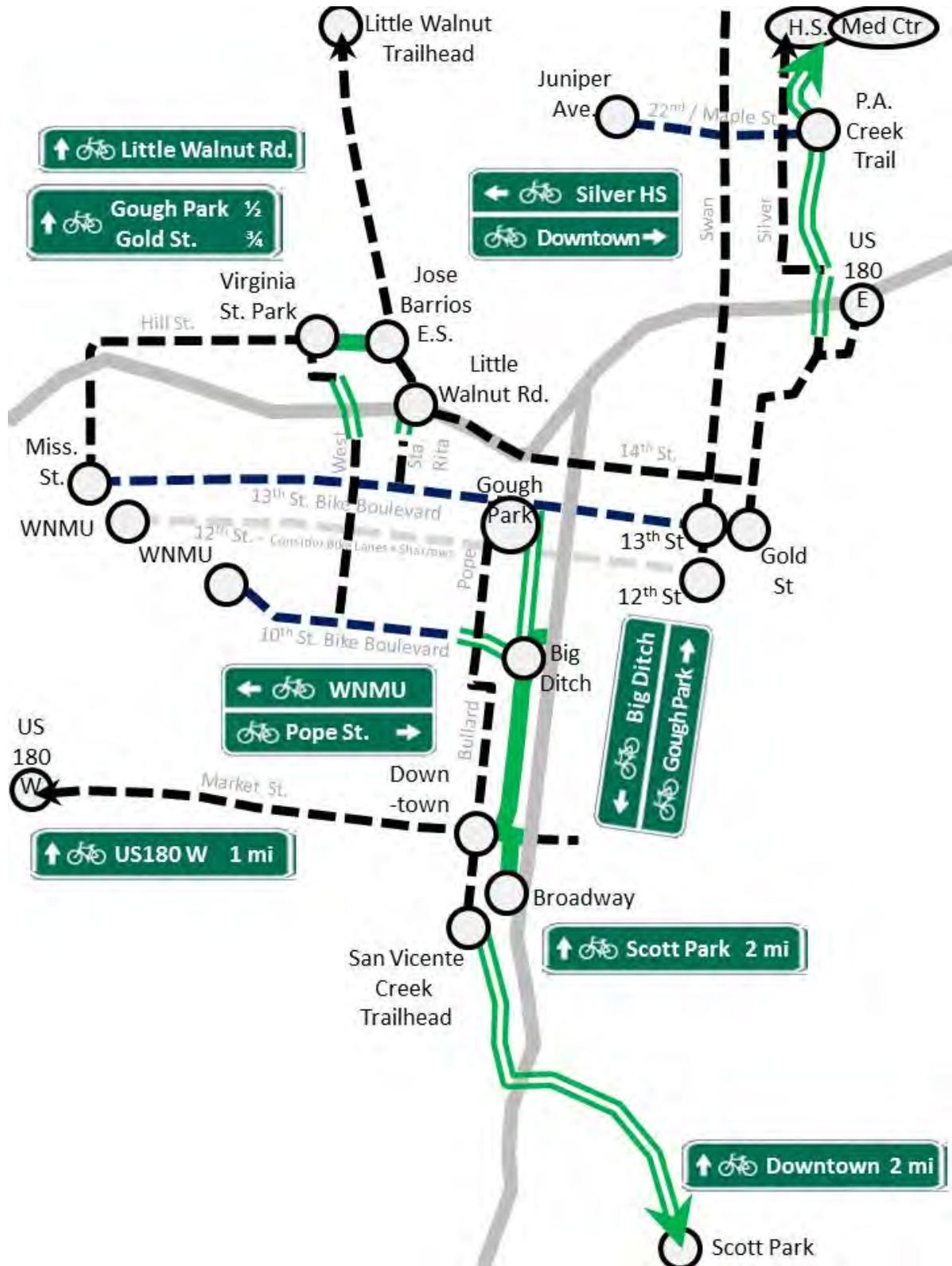
- Per Comprehensive Plan (2004) Policy TC3.5: “Bicycle Route Map. Modify, maintain and improve a bicycle route map and make it available to the public at major public places, including the Silver City Library, City Hall, Chamber of Commerce, post offices, and other public places.”

Wayfinding signage and maps will help promote the bicycle network to the general public, provide useful guidance to bicyclists, and visually indicate to motorists that they should use caution where the roadway is shared.

Wayfinding signage can be implemented in phases that reflect the development of optimal routes over time. The illustration below highlights proposed routes and destinations for bicycle wayfinding in Silver City, as well as examples of wayfinding signage following the latest national standards in the Manual of Uniform Traffic Control Devices (MUTCD).



# Bicycle Master Plan



Prospective routes and destinations for bicycle wayfinding signage along roads and trails in Silver City.



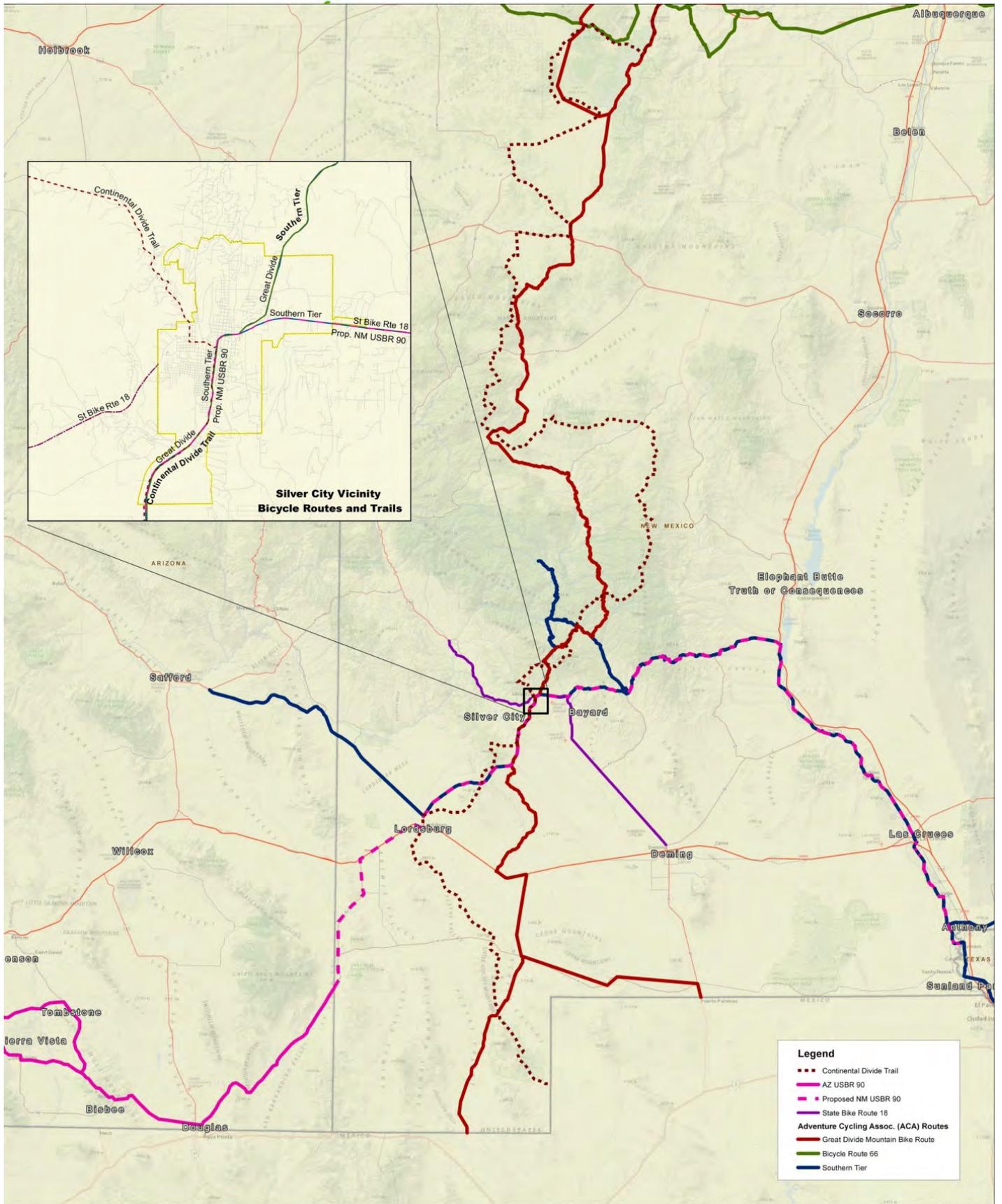
**RECOMMENDATION #5:**

Encourage and otherwise facilitate the use of bicycles to come to, stay in, and travel within Silver City. This recommendation embraces the proven economic development value of bicycle use as demonstrated through world-class racing events, such as Silver City’s Tour of the Gila, popular bicycle-themed festivals such as Santa Fe’s annual “Bike and Brew” event, development of popular long-range bicycle touring routes that pass through Silver City by the Adventure Cycling Association, and the general demand for on-road and off-road cycling opportunities for visitors to and residents of Silver City.

- Support efforts by Adventure Cycling Association (ACA) and partners to bring long-range cyclists through Silver City (see National/Regional Trails and Bike Route Map, on following page)
  - Provide wayfinding signage for existing ACA routes (Southern Tier, Great Divide)
  - Support recommendation for US Bike Route 90 to pass through Silver City
- Participate in and promote other County-wide and state-wide trail and on-road bikeway planning
  - Help to develop a safe and desirable route for the proposed Copper Trail / Sendero del Cobre connecting communities along US 180
  - Improve connectivity to Continental Divide Trail via
    - Little Walnut Creek / Little Walnut Rd., working with Grant County
    - Pinos Altos Railbed and Forest Service road, connecting Boston Hill trails to Bear Mountain Trailhead of CDT (per TOSP, 2002)
  - Improve connectivity to Great Divide Mountain Bike Route via NM 15 or otherwise.
- Provide services for cyclists
  - Explore use of Waterworks Building or other community facility for camping, showering, etc.
  - Provide/promote public bike repair stations with air pump and tools, e.g. at WNMU, Bike Works.
  - Study and implement as feasible bike parking facilities at appropriate locations within the Town of Silver City
  - Consider bike share options, starting with a service for WNMU students.



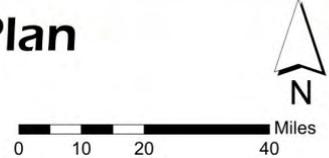
U.S. Bike Route 90 has been planned in Arizona but is still under development in New Mexico.



Map Date: 7/16/2016  
 Data Source: ESRI, Adventure Cycling Association, RGS, Town of Silver City, Grant County

# Town of Silver City Bicycle Master Plan

## National/Regional Trails and Bike Routes





RECOMMENDATION #6:

Support education and encouragement for cyclists, motorists, and other road and trail users.

The Town of Silver City's Comprehensive Plan established the following policy in this area:

*TC 3.4 Bicycle Safety. Educate the public on bicycle safety and encourage bicycle use through sponsoring of special events, including bicycle safety clinics, bicycle rodeos, seminars on bicycle law for law enforcement officers, and bicycle races.*

This Bicycle Master Plan focuses on the development of road and trail facilities but stresses the importance of complementary education, encouragement, and enforcement activities. Education should target bicyclists, prospective bicyclists, and motorists to promote safe and cordial interaction on Silver City's roadways. Education can improve tolerance and acceptance of bicycle in the transportation system among Town staff, elected officials, law enforcement, motorists, and the general public. Community events that create opportunities for education and positive interaction, such as "Pedalista," are to be encouraged and supported.



School-based bicycle safety education at Aldo Leopold Charter School.

Key partners for the Town of Silver City in this effort include:

- Western New Mexico University, especially regarding orientation and education of new students
- Silver Consolidated Schools, which could implement school-based training of Silver City's youth
- Silver City Police Department may work with County and State law enforcement, which can play an important role in education of motorists and bicyclists as well as provide positive role modeling in



A flyer for the "Pedalista," part of Silver City's rich history of celebrating and encouraging bicycling.



## *Bicycle Master Plan*

the form of bicycle-mounted police

- Bicycle shops and advocacy organizations, including Bike Works, which can educate and mobilize Silver City’s bicycling community as well as the general public, and serve as a technical resource for other partners and the general public
- League of American Bicyclists (LAB)-certified Cycling Instructors (LCIs), including those organized under the auspices of the New Mexico Bicyclist Educators.<sup>18</sup>

“Safe Routes to School” (SRTS) is an interdisciplinary, community-based approach to increasing walking and bicycling to school through education, encouragement, enforcement, and engineering. Although there is no longer a state program at NMDOT, SRTS planning and implementation, including local coordination and education, continue to be eligible activities for federal funding under the Transportation Alternatives Program (TAP). Technical assistance is available from the National Center for Safe Routes to School.<sup>19</sup>

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<sup>18</sup> See <http://www.nmbikeed.org> and [www.velocruces.org](http://www.velocruces.org)

<sup>19</sup> See [www.saferoutesinfo.org](http://www.saferoutesinfo.org)



FUNDING SOURCES

The costs of proposed bicycle facilities are not insignificant. For example, multi-use trails meeting AASHTO specifications may cost as much as \$800,000 per mile. On the other hand, some recommendations, such as striping of bicycle lanes, may be more far less costly if they are integrated into ongoing activities, such as scheduled repaving and restriping of streets.

A variety of federal, state, local government, and private sources of funding are available to help the Town of Silver City finance and implement the recommendations in this Bicycle Master Plan.<sup>20</sup>

FEDERAL SOURCES OF FUNDING

Bicycle and pedestrian facilities and programs qualify for support from many federal programs including community development, housing, environment, and the National Park Service. Bicycle facilities are eligible activities for almost every category of federal transportation funding.

Two of the most significant sources of federal funding for bicycle and other non-motorized transportation projects are the Transportation Alternatives Program (TAP) and the Recreational Trails Program (RTP)<sup>21</sup> under the Federal Highway Administration (FHWA).

TAP and RTP are offered to NM communities through NMDOT within a two-year funding



The Brewer Hill Tramway, a historic narrow-gauge rail alignment, may qualify for improvements in conjunction with the Town's "Vistas de Plata" housing project off of 10th St. (in background).

<sup>20</sup> For a more extensive list of prospective funding sources for bicycle and pedestrian projects in New Mexico, with links for more information, see [http://www.sfct.org/wp-content/uploads/2014/10/Funding-Sources-for-Walking-and-Bicycling-in-NM Oct-2014.pdf](http://www.sfct.org/wp-content/uploads/2014/10/Funding-Sources-for-Walking-and-Bicycling-in-NM-Oct-2014.pdf).

<sup>21</sup> Detailed information on TAP and RTP opportunities in New Mexico is available through NMDOT at [http://dot.state.nm.us/content/dam/nmdot/planning/FFY18-19 TAP-RTP Guide.pdf](http://dot.state.nm.us/content/dam/nmdot/planning/FFY18-19-TAP-RTP-Guide.pdf)



## *Bicycle Master Plan*

cycle. Both programs require a local minimum match of 14.56% of total project costs.

- The Transportation Alternatives Program (TAP) is a federal reimbursement program administered in New Mexico by NMDOT that provides funding to local and tribal governments for pedestrian and bicycle facilities, safe-routes-to-school projects, infrastructure improvements that provide better access to transit, environmental mitigation, and other infrastructure improvements to the transportation system. Trails and other facilities funded through TAP are expected to meet accessibility guidelines under the Americans with Disabilities Act (ADA).
- The Recreational Trails Program (RTP) is a federal reimbursement program administered by NMDOT that provides funding to local and tribal governments to develop and maintain recreational trails and trail-related facilities for non-motorized and motorized trail uses, including hiking, bicycling, in-line skating, horseback riding, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, and four-wheel driving. RTP projects may include recreational, natural-surface trails that do not necessarily meet specific accessibility guidelines under ADA.
- The Federal Lands Access Program (FLAP) is administered directly by FHWA to improve transportation facilities that provide access to, are adjacent to, or are located within federal lands. FLAP funding is intended to supplement State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. A local minimum match of 14.56% is required. More information on FLAP is available at <https://flh.fhwa.dot.gov/programs/flap/>.
- Highway Safety Improvement Program (HSIP) is intended to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach that focuses on performance. Approximately \$22 million is available to the NMDOT per federal fiscal year. Eligible entities include NMDOT Districts and tribal and local governments. Application information is distributed by NMDOT through the SWRTPO.

State of New Mexico sources of funding for elements of the Silver City BMP may include:

- Special fuel tax / state legislature designated funds / Capital outlays
- NM Mainstreet
- Energy, Minerals, and Natural Resources Dept.
- NMDOT maintenance budget (for highway pavement and striping improvements)

Local government funding sources for elements of the BMP may include:



- general fund
- gross receipts tax revenues
- special bond issues
- road maintenance funds
- Tax increment finance (TIF) District.

Private support to implement elements of the Silver City BMP may include:

- Developer Incentives / requirements
- Development impact fees
- Conservation easement with public trail access
- Volunteer labor for natural-surface trails
- Private funding sources such as
  - American Hiking Society
  - Burlington Northern Santa Fe (BNSF) Foundation
  - International Mountain Biking Association (IMBA)
  - National Rails-to-Trails Conservancy
  - People for Bikes



## PRIORITIZATION OF IMPROVEMENTS

Proposed road and trail improvements are prioritized for implementation in the following tables according to prospective demand based on land use; connectivity with other bicycle facilities, existing or planned; and feasibility based on ownership of right-of-way, suitability of topography for multi-use trails, and other planning considerations, such as conflicts with traffic or parking, level of agency support, and level of community support. These inter-related priorities can be sequenced into phases in order to serve more users' needs over time.

Proposed trail improvements relate primarily to opportunities to improve bicycle and pedestrian transportation through AASHTO and ADA-compliant facilities. These recommendations are not intended to encompass the broader spectrum of recreational trail opportunities through natural-surface trails.

SILVER CITY BICYCLE MASTER PLAN: IMPLEMENTATION PLAN FOR ROAD IMPROVEMENTS

This plan reinforces and adds to recommendations from the Silver City Greenways and Big Ditch Master Plan (2013); Trails and Open Spaces Plan (2002); Town of Silver City Comprehensive Plan (2004)

FIRST-PRIORITY RECOMMENDATIONS (PRIMARILY RESTRIPIING AND MINOR CONSTRUCTION): NEXT 1-3 YEARS

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
Swan St.	12th	16th	0.25	TOSC	Convert from Four Lanes to Three Lanes with Bike Lanes or shoulders (Road Diet)	See Figure 11; Scheduled for chip seal in Pavement Management Plan
12th St.	Alabama	Pope and beyond	0.40	TOSC	Stripe with Bike Lanes; eliminate 4-5 parking spaces on n. side, w. of Pope; transition to shared lane (sharrow) in travel lane for approaches to Pope; consider bike lanes on both sides at expense of parking on one side between Hudson and Pope; in lieu of bike lane consider sharrows w-bnd between Pope and Main; provide wayfinding as bicycle route to Swan and Gold	See Figure 12; Scheduled for chip seal in Pavement Management Plan
Hudson (NM90)	US180	Broadway	0.80	NMDOT	Widen bike lanes to min. four feet in next restriping (narrow travel lanes and/or center turn lane)	Town to discuss with NMDOT
US180	Hudson	Swan	0.27	NMDOT	Widen bike lanes to min. four feet in next restriping (narrow travel lanes and/or center turn lane)	Town to discuss with NMDOT



Alignment	From	To	Distance	Agency	Proposed Improvement	Note
US180	Mississippi	Alabama	-	TOSC / NMDOT	Consider gateway treatment / speed feedback / traffic calming	Town to initiate, discuss with NMDOT
Little Walnut	J.B.E.S.	US180	-	TOSC / NMDOT	Sharrows in right-turn lane per NACTO for straight (to ramp) and left-turning cyclists (if no lane reduction)	Town to discuss with NMDOT
US180	Little Walnut	-		NMDOT	Restripe high-visibility crosswalk and consider improved ramp to accommodate cyclists	In conjunction with trail along skate park



#### NEXT-PRIORITY RECOMMENDATIONS (PRIMARILY CONSTRUCTION): NEXT 1-5 YEARS

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
Little Walnut	N. of Chavez	Town Limits & beyond	1.4+	TOSC/ Grant County	Add Shoulders, particularly first 1.0 mile to Cain Dr. but also to Town limits and beyond, in conjunction with Grant County	Town has completed design to 80%; Acquire right of way then consider for FLAP; see ICIP 2021-005
Swan	38th	Cain	0.34	TOSC	Add shoulders, or one northbound shoulder; consider converting shoulders south of 38th St. to bike lanes; long-term objective should be to add shoulders or bike lanes north of Cain	See ICIP 2019-002
Pinos Altos (NM15)	32nd St.	Town Limits & beyond	0.75+	NMDOT	Add Shoulders; Town to discuss with NMDOT via SWRTPO	Consider for FLAP; See ICIP 2020-007



Alignment	From	To	Distance	Agency	Proposed Improvement	Note
Pope St.	Silver Heights Blvd.	College	0.37	TOSC / NMDOT	Improve bike lanes within proposed lane reduction (road diet); consider "cycle tracks;" build median refuges for crossings at 13th St. and Pope St. Park (Silva Ditch); include Silver Heights south of US180	See Downtown Master Plan (2004)

RECOMMENDATIONS FOR STUDY / FUTURE PRIORITY

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
32nd St.	Silver	Pinos Altos (NM15)	0.70	TOSC	Consider/Study converting from Four Lanes to Three Lanes with Bike Lanes or shoulders (Road Diet); provide built median for Pinos Altos Trail crossing	Pending study; See ICIP 2020-010
32nd St.	Swan	E. of Silver	0.19	TOSC	Consider for Lane Reduction (and add bike lanes)	Pending study
US180	14th	Swan	0.40	TOSC / NMDOT	Consider for Lane Reduction (and add/widen bike lanes)	Town to discuss with NMDOT
US180	Little Walnut	Swan		TOSC / NMDOT	Study and implement opportunities to improve pedestrian and bicycle crossings, e.g. establish east-leg crosswalk with median refuge at Little Walnut Rd., establish crosswalks at skewed intersection with Juniper/Hudson (continue to consider roundabout for this purpose), establish AASHTO-compliant bike lanes on Swan St. approaches to US180 (17th St. to 19th St.)	Town to discuss with NMDOT
Little Walnut	Water works	US180	0.25	TOSC / NMDOT	Consider for Lane Reduction (and add bike lane in front of J.B.E.S.)	Town to discuss with NMDOT

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
Market St.	California	Town Limits / US180	0.20+	TOSC / Grant County	Consider adding westbound shoulder, for use by uphill cyclists and pedestrians	County segment to US180 is additional 0.33 mile
Other TOSC roads	-	-	-	TOSC	Improve other roadways where bicyclists share lane with medium- or high-speed traffic: Consider adding shoulders or bike lanes on Pine St., Cain Dr., Ridge Rd., Swan n. of Cain, Swan s. of 12th St., Mountain View Rd.	As opportunities arise



#### BICYCLE BOULEVARD TREATMENTS (OR OTHER SPECIAL TREATMENT): IMPLEMENT AS ASSOCIATED IMPROVEMENTS ARE MADE

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
10th St.	WNMU	Pope St.	0.38	TOSC	Bike Boulevard Wayfinding and Treatments, e.g. protected median at Pope	Pending Pope St. Park connector trail
10th St.	Hudson (NM90)	Swan	0.21	TOSC / NMDOT	Bike Boulevard Wayfinding and Treatments, e.g. protected median at Hudson (NM90)	Pending PA trail improvement to Hudson
13th St.	Mississippi	Gold	1.0	TOSC / NMDOT	Bike Boulevard Wayfinding and Treatments, e.g. protected medians, turn restrictions for crossings at Pope and Hudson	Pending 13th st. bridge, Pope St. road diet
22nd & Maple St.	Juniper	Pinos Altos Creek Trail	0.30	TOSC	Bike Boulevard Wayfinding and Treatments; 4 way STOP at Silver already in place	Pending PA Trail development

Alignment	From	To	Distance	Agency	Proposed Improvement	Note
Silver St. & 19th St.	Birch	Pinos Altos Rd. (NM15)	0.40	TOSC	Bike Boulevard Wayfinding and Treatments	Pending PA Trail development, inc. US180 underpass
West	College	Gordon	0.36	TOSC	Bike Boulevard Wayfinding and Treatments	Pending Silva Creek Trail / US180 underpass
Virginia St.	Howell	State	0.18	TOSC	Bike Boulevard Wayfinding and Treatments; Including Howell dead-end to Silva Creek	Pending Silva Creek Trail / US180 underpass
Main St.	11th	13th	0.15	TOSC	Consider Two-way Cycle Track between sidewalk and parking on w. side of Main St.	Pending development of trail along Main St. from Big Ditch to 11th

## SILVER CITY BICYCLE MASTER PLAN: IMPLEMENTATION PLAN FOR TRAIL IMPROVEMENTS

## MULTI-USE TRAILS TO AASHTO STANDARDS\*: FIRST PRIORITY

Alignment	From	To	Distance	Agency	Proposed Improvement
Pinos Altos Creek	32nd	37th/Valle Vista	0.3	School District	Per Greenways Plan (2013), ICIP 2019-009; Consider for TAP/RTP
Pinos Altos Creek Connector	37th/Valle Vista	Fowler	0.1	School District; TOSC; Grant County	Per Greenways Plan (2013), ICIP 2019-009; Consider for TAP/RTP

Alignment	From	To	Distance	Agency	Proposed Improvement
Silva Creek	Pope	Big Ditch	0.07	Private; see 10th St. bike blvd. treatments re improved crossings at Pope and Hudson	Per Greenways Plan (2013), ICIP 2019-009
Silva Creek (Pope St. Park)	10th St.	Pope	0.03	TOSC - Connector trail within Pope St. Park	Per Greenways Plan (2013), ICIP 2019-009
Silva Crk. Crossing: Bridge at 13th St.	13th St. - W	13th St./ Sta. Rita	0.015	TOSC; see 13th St. bike blvd. treatments re improved crossings at Pope and Hudson	Per Greenways Plan (2013), ICIP 2019-009
AT&SF Rail Line	San V. Creek Crossing	Fairway Dr.	0.9	TOSC, two private lots (may be worked around or through); bridge over San V. Creek will be needed this phase or next	Per Greenways Plan (2013), ICIP 2019-012; Consider for TAP/RTP
San Vicente Creek	Historic Rail Crossing	Scott Park	1.1	TOSC; consider construction alternatives if AT&SF trail is developed	Per Greenways Plan (2013), ICIP 2019-012; Consider for TAP/RTP
Skate Park Connector	Penny Park / Santa Rita St.	US180	0.04	TOSC - Move skate park fence east to create 8-10 ft. wide trail; 200 ft. length includes connection to Penny Park trail	Coordinate with NMDOT for improvements to US180 crosswalk
Main St.	Big Ditch	11th St.	0.07	TOSC - Convert a corridor from police parking to trail, tie in to Big Ditch Trail, improve P.A. trail connection to Hudson (NM90)	Per Greenways Plan (2013) ICIP 2019-04; Consider for TAP/RTP
Big Ditch	Silva Creek or 8th St.	6th St.	0.14	TOSC - Improve soft-surface trail and alley alignments to urban trail; measurement is College to 6th	Per Greenways Plan (2013) ICIP 2019-04; Consider for TAP/RTP

\*AASHTO Standards for Multi-Use Trails = ten feet wide and wheelchair-accessible (typically paved with asphalt or concrete).



MULTI-USE TRAILS TO AASHTO STANDARDS\*: NEXT PRIORITY

Alignment	From	To	Distance	Right of Way	Note
AT&SF Rail Line	Mill Rd.	San V. Creek Crossing	1.2	Multiple Private, including AT&SF; may be integrated with parts of San Vicente Trail	Per Greenways Plan (2013), ICIP 2019-012
San Vicente Creek	San Vicente St.	Historic Rail Crossing	See note→	TOSC and multiple private; integrate built trail with AT&SF concept; preserve/develop natural-surface trails elsewhere	Per Greenways Plan (2013), ICIP 2019-012
Pinos Altos Creek	Pine	32nd	0.45	Multiple Private with County and School District	Per Greenways Plan (2013), ICIP 2019-009
Pinos Altos Creek: 32nd St. Crossing	32nd	32nd	-	TOSC; median refuge, warning lights or HAWK signal (if no lane reduction on 32nd St.)	
Pinos Altos Creek Connector	P.A. Creek Trail	G.W. Stout E.S.	0.05	School District; use/improve school crossing at Silver St.	Per Greenways Plan (2013), ICIP 2019-009
Pinos Altos Creek Connector	P.A. Creek Trail	City Pool & Tennis Courts	0.27	Grant County e. of Silver St. (0.09 mile); TOSC w. of Silver St.; continue north to tennis court parking lot; improve Silver St. crossing	Per Greenways Plan (2013), ICIP 2019-009
Pinos Altos Creek / US180 underpass	17th/Canal	19th	0.11	Study/implement US180 underpass with NMDOT; Multiple private landowners with some TOSC corridor; 135 / 590 ft. = concrete culvert floor	Per Greenways Plan (2013), ICIP 2019-009
Silva Creek / US180 underpass	Gordon / West	Howell	0.10	Study/implement US180 underpass with NMDOT; Private and NMDOT ROW for US180 underpass; 125 / 550 ft. = concrete culvert floor	Per Greenways Plan (2013), ICIP 2019-009
Pinos Altos	Corbin	Swan	0.07	TOSC	ICIP 2019-009



Alignment	From	To	Distance	Right of Way	Note
Creek: Bridge at 14th St.					
Brewer Hill Tramway	Mountain View / 10th	Agave St.	-	TOSC; Protect alignment and consider building to higher standard, tying into Mountain View Rd.	Per Trails and Open Space Plan(2002); protect/develop in conjunction with TOSC housing project

\*AASHTO Standards for Multi-Use Trails = ten feet wide and wheelchair-accessible (typically paved with asphalt or concrete).

#### MULTI-USE TRAILS: CONSIDER FOR STUDY / FUTURE PRIORITY

Alignment	From	To	Distance	Right of Way	Note
Pinos Altos Creek	19th	Pine	0.47	Multiple private with TOSC street corridor	Per Greenways Plan (2013), ICIP 2019-009
Big Ditch	6th St.	Broadway	0.19	Multiple private	Per Greenways Plan (2013), ICIP 2019-04
Connection to Altamirano Fields	Sheriff's Posse Rd. / US180	Ballfields	0.5	Private and TOSC; Require with development; start along ditch w. of S.P. Rd.; also consider tie-in to ball fields via proposed US180 side path	
Brewer Hill Tramway	Agave St.	south	-	TOSC, some private on south side - Protect alignment and consider building to higher standard, tie into Mountain View Rd.	Per Trails and Open Space Plan (2002)



NATURAL-SURFACE TRAILS WITH TRANSPORTATION SIGNIFICANCE: STUDY, PRESERVE, FORMALIZE AND/OR IMPROVE

Alignment	From	To	Distance	Agency	Proposed Improvement
Brewer Hill Connectors	Brewer Hill Tramway	Broadway/Gold; San Vicente Creek	-	TOSC; Tie in recreational trails toward San Vicente Creek and downtown (Broadway/Gold)	Per Trails and Open Space Plan (2002)
Silver City, PA & Mogollon RR	Boston Hill / Cooper St. Trailhead	AT&SF Rail Trail / San Vicente Creek	-	Private with TOSC (La Capilla); preserve/develop soft-surface trail connection with public/bicycle access	
Old Waterworks (N)	Jose Barrios Bridge Trail	19th/20th	-	TOSC: Starski Hill	
Old Waterworks (S)	Jose Barrios Bridge Trail	17th near US180	-	TOSC: Waterworks and old hospital property	
Jose Barrios Bridge Trail - Extend West	Virginia	Georgia	-	TOSC: Virginia St. Park and alley	
Walking Route to GW Stout from SW	Yucca	Mann	-	Private	
Harrison Schmitt Connectors	Lamina Loop / Cobre Ct.	Harrison Schmitt E.S.	-	Private / School District	



Alignment	From	To	Distance	Agency	Proposed Improvement
Miscellaneous	Sara Ct.	Pine St.	-	Private	

### COLLABORATE WITH PARTNERS BEYOND TOWN LIMITS

Alignment	From	To	Distance	Agency	Proposed Improvement
AT&SF Rail Line ("Deming Line")	Fairway Dr.	Burro Mtn. Junction & beyond	-	May relate to Copper Trail concept	Grant County
Copper Trail	Silver City	Hurley	-	County initiative to link mining district communities	Grant County
Little Walnut Creek	Silver City	GNF Trailhead	-	Possible CDT tie-in	Grant County
Silver City, Pinos Altos & Mogollon RR (narrow gauge)	Boston Hill	Pinos Altos	-	Research where recreational trail segments may be feasible, possible CDT tie-in	Grant County





## IMPLEMENTATION

Successful implementation of the Bicycle Master Plan will require ongoing cooperation within and among Town departments, other public agencies, and bicycle stakeholders. One of the most critical steps in implementing the recommendations of the Silver City Bike Master Plan will be to institutionalize bicycle considerations into Town policies and processes. This involves changing bicycling and walking from being perceived as alternative activities to being treated as a mainstream function.

The Silver City Bike Master Plan is a long-range plan to create a safe and functional interconnected multi-modal system. The implementation of the plan will occur as quickly as possible through a wide range of implementation strategies and efforts. The Town of Silver City will not be solely responsible in implementing the plan, but will collaborate as a partner with a number of organizations, volunteers and neighborhoods in the acquisition, funding, construction, and maintenance of the bike system and improvements.

This will involve building relationships with other public agencies and private bicycle advocacy groups and organizations that can help strengthen implementation efforts. Not only does assistance from other parties increase numbers behind an effort, but help from organizations can typically cut costs and more efficiently implement components of this plan. In fact, many action items rely on the agreement and participation of other Town, County, State and external organizations and agencies.

**Project Development:** Town of Silver City will need to dedicate staff or consultant time to developing projects, including researching and pursuing needed right-of-way and environmental clearances, pursuing funding, managing funding and other resources, and overseeing the application of resources into trail and road design and construction. Resources must also be available to coordinate Town development review and to work with private and public partners to ensure that proposed bicycle improvements are considered within other developments. The Grant County Assessor's Office may be a critically important partner in the research and resolution of Right-of-Way issues for trail and road projects.

**Maintenance:** On-road facilities are the responsibility of the Public Works Dept. For off-road facilities, the Town of Silver City will need to assign maintenance staff and appropriate resources into the maintenance of trails that are developed under this Bicycle Master Plan.

**Monitoring and Evaluation:** The Town of Silver City's Office of Sustainability can maintain the linkage to the local advocacy community, including the Bicycle Advocacy Group. These groups can play an important role in keeping the Town of Silver City on track in the implementation of the BMP.

## Suggested changes to language in Land Use and Zoning Code

## Town of Silver City Land Use and Zoning Code (2010)

### ***Bicycle Lanes and Paths***

- 1) Bicycle lanes or paths are not required on local streets. On collector and arterial streets, bicycle lanes are as required by the Bicycle Route Master Plan or Public Works Director.
- 2) Where bicycle lanes are required, they shall generally be located on both sides of the street. Minimum bicycle lane width within a roadway is 4 feet, and does not include gutter.
- 3) On rural collector streets and urban or rural arterial streets, one off-street bicycle path of 10 feet width may be provided to satisfy the bicycle lane requirement. Off-street bicycle paths are preferable along primary arterials.

## Complete Streets: Suggested Revision to Land Use and Zoning Code

### ***Bicycle Lanes and Paths***

- 1) Bicycle lanes or paths are not required on local streets. On collector and arterial streets, bicycle lanes are required.
- 2) Where bicycle lanes are required, they shall generally be located on both sides of the street. Minimum bicycle lane width within a roadway is 5 feet, and does not include gutter.
- 3) On rural collector streets and urban or rural arterial streets, one off-street bicycle path of 10 feet width may be provided to satisfy the bicycle lane requirement. Off-street bicycle paths are preferable along primary arterials. [Note: See AASHTO (2012), pp. 5-8 & 5-9 on "Sidepaths" and Federal Highway Administration (2015) Separated Bike Lane Planning and Design Guide.]