# CHAPTER 4. FUTURE TRAIL SYSTEM RECOMMENDATIONS

This chapter provides recommendations for the Town of Mammoth Lakes that will enhance the in-town network of multi-use paths, trails and bikeways and improve access to trails and backcountry experiences beyond the Town's urban growth boundary. Many of the recommendations are derived from existing plans and studies including:

- Mammoth Lakes Trail System Plan (1991)
- General Bikeway Plan (1995-2008)
- Physical Development and Mobility Study (2006)

Some of the recommendations from the above plans were either modified or not brought forward due to feasibility issues or because there were opportunities for superior projects. Additional recommendations were derived through a needs analysis (Chapter 3), the identification of gaps in the existing system, and the consultant's experience with best practices in trails planning and non-motorized transportation. The future trail system recommendations will fall under the following categories:

- 1. General Recommendations
- 2. Major Activity Centers and Recreation Nodes
- 3. Paved Multi-Use Paths
- 4. Crossing Improvements
- 5. On-Street Bikeways
- 6. Interface between Soft-Surface Trails and Paved Facilities
- 7. Pedestrian Facilities
- 8. Bicycle Parking
- 9. Soft-Surface Trails (also see Attachment A)
- 10. Education, Encouragement and Enforcement Programs
- 11. Accessibility
- 12. Long Term Vision

The recommendations in this plan do not address opportunities that may arise within new developments and Neighborhood District Plans. TOML should aggressively pursue additional opportunities for the further development of multi-use paths, bikeway, trails and trail access easements as they arise. The maintenance chapter will include all operations and maintenance-related recommendations.

A number of the recommendations in this Chapter make reference to standards for naming conventions, design, and management and maintenance of facilities within the MLTS. All such developed standards shall reside in the MLTS Standards Manual, and projects identified in this TSMP implemented in accordance with them.

## 4.1. General Recommendations

## **Recommendation G1: Consistent Naming Conventions**

In order to ensure that the trails network is navigable and user-friendly, it is imperative that the naming conventions used are consistent, concise and descriptive. This applies especially to the naming of nodes, pathways and trails. The names of nodes should be brief while providing a first-time user with an idea of the geographic features or experiences that can be accessed from that node. Names with descriptors such as "Lake George", "Mill City", "Earthquake Fault", or "Mammoth Creek" accomplish this, while "Sawmill Cutoff Winter Road Closure" and "Barrow Pit/ Kerry Meadow Access at Sherwin Creek Road" do not. Also, the terms "path" and "trail" should NOT be used interchangeably. The term "path" should be used to describe only paved off-street facilities that can be classified as Class I Bike Paths/Multi-Use Paths. Facilities constructed with decomposed granite may also be called "paths". "Trail" may be used generally to describe all paved and unpaved facilities as part of a single system (i.e. "trail system" or "trails master plan"). When used specifically, the "trail" should only describe unpaved facilities using natural or soft-surface materials. "Trail" may also be used to describe wooden boardwalk facilities through environmentally-sensitive areas.

On-street bikeway facilities should be identified using their descriptive terms rather than their technical classifications used in the California Highway Design Manual (i.e. Class I, II, & III). This means using only the terms "bike lanes" and "bike routes", rather than "Class I' and "Class II" facilities. The use of classifications is problematic for many reasons. First of all, the technical bikeway classifications are non-descriptive and provide no clue as to what that facility looks like on the ground. The standard signage for these facilities say "bike lane" and "bike route", not Class I and Class II. Secondly, they infer that some classes of facility are inherently superior to others in terms of level of service to cyclists, when the true level of service can be determined only by context, not facility type. Thirdly, these classifications are only used in the State of California and will be unfamiliar to most other national and international visitors. The classifications are widely misunderstood even in California, and should only be used internally if necessary for engineering purposes.

"Bikeways" is a general term that encompasses all types of bicycle infrastructure. The term is best used when discussing different types of facilities in plurality or at the system level.

A sidewalk should only be called a "sidewalk", unless it has been built to the standards of a Class I Bike Path facility per the California Highway Design Manual, in which case it should be called a "path" or "multi-use path". Also see Signage and Wayfinding (Chapter 5).

Table 4-1. Naming Conventions

CATEGORY / Type	DEFINITION / Suggested Naming Conventions
RECREATION NODES	GENERAL TERM USED TO DESCRIBE A GEOGRAPHIC LOCATION WHERE A TRAIL EXPERIENCE BEGINS OR ENDS, OR WHERE A JURISDICTIONAL OR EXPERIENTIAL TRANSITION OCCURS.
Portal	Facility / location name only or facility / location name (Ex. "Main Lodge")
Park	Official Name of Park; (Ex. "Mammoth Creek Park West")
Trailhead	Short Descriptor + "Trailhead"; (Ex. "Lake George Trailhead")
Access / Egress Point*	Location Descriptor such as street or neighborhood name + "Access"; (Ex. "Tamarack Street Access" or "Mammoth Knolls Access")
GIC Point**	Use GIC naming convention
BICYCLE FACILITIES	GENERAL TERM USED TO DESCRIBE ALL TYPES OF BICYCLE-RELATED INFRASTRUCTURE IMPROVEMENTS INCLUDING ON-STREET FACILITIES, OFF-STREET FACILITIES, AND BICYCLE PARKING.
BIKEWAYS	GENERAL TERM USED TO DESCRIBE LINEAR BICYCLE FACILITIES. INCLUDES MULTI-USE PATHS. DOES NOT INCLUDE BICYCLE PARKING.
Bike Path (Class I) / Multi-Use Path	Descriptor + "Path"; (Ex. "Main Path", "Shady Rest Park Path")
Bike Lanes (Class II)	Road name + "Bike Lanes"; (Ex. "Minaret Road Bike Lanes")
Bike Route (Class III)	Road name + "Bike Route"; (Ex. "Majestic Pines Drive Bike Route")
PEDESTRIAN FACILITIES	GENERAL TERM USED TO DESCRIBE INFRASTRUCTURE IMPROVEMENTS FOR PEDESTRIANS.
Promenade	Descriptor + "Promenade"
SOFT-SURFACE TRAILS	TRAILS DEVELOPED USING SURFACE MATERIALS THAT DO NOT INCLUDE CONCRETE OR ASPHALT PAVEMENT AND ARE GENERALLY "SOFT", ALTHOUGH WOOD OR ROCK ARMORING MAY BE USED IN SOME CIRCUMSTANCES.
All Types	Short Descriptor + "Trail"; (Ex. "Mammoth Creek Trail", "Sherwin Trail")

\*Some access/egress points will be intended for local use only and will not be published on public trail maps. In these cases, the access point naming will be relevant only for local signage and/or official operations and maintenance purposes.

## Recommendation G2: Updated Trail Maps

User-friendly summer and winter trail maps should be developed and updated annually, if new facilities have been added since the previous printing. The trail maps should include information on trails and bikeways, trail access, safety information, local trail resources, phone number to report hazards or maintenance issues, etc. Because of the greatly differing geographic scales of different activities and groups, it will be necessary to provide different maps to address different activities. For example, some recreational activities can take place almost entirely within the UGB or Town Boundary (day hikes, family bike rides, Nordic Skiing, etc.), while other activities cover a larger geographic area (road bicycling, OHV/OSV, backpacking, etc.). Based on issues of scale and survey responses, it appears that the most effective approach would be to produce a series of detailed maps addressing each of the major summer and winter activity categories. In addition, either less detailed consolidated maps can be created for each season; or a booklet with a series of smaller maps dedicated to each activity can be produced to provide visitors and residents with a broad overview of the various trail-related activities in each season.

<sup>\*\*</sup>The GIC database should be updated to conform to the public or internal naming conventions used for all official recreation node types including portals, parks, trailheads, and most access/egress points. Official access/egress points that will not show up on public materials may retain the original GIC point name.

## Recommendation G3: Uniform Trail Signage

All multi-use paths and soft-surface trails should have uniform signage.8 "Trail guide signs" should be used at all trail intersections or other locations where there may be confusion caused by unofficial trails or where the intended path becomes less apparent. "Assurance markers" should also be developed and placed periodically along all official trails. These markers should have unique identifiers that can be used by emergency responders to locate trail users in need of assistance. Identifiers should be easy to remember -color coding and the use of mileage—would be better than placing more complex information such as GPS coordinates. Once in place, the GPS coordinates for each unique assurance marker can be placed in a database for use by emergency services. The following section on recreation nodes will provide a recommendation for uniform nodal signage. The signage and wayfinding chapter (Ch. 5) developed by Corbin Design provides a more detailed analysis and recommended designs for most recommended signage types. Assurance markers will have to be designed separately. It should be noted that signage and wayfinding programming will be taking place in a multi-jurisdictional environment and that specific and documented buy-in by the various partners will be necessary in advance of an engaged effort for developing and implementing a system.

## Recommendation G4: Interpretive Signage

In addition to the uniform trail signage designed to provide wayfinding and trail-specific information, more customized interpretive signage should also be developed for the trail system. The first step in this process should be the identification of locations along trails within the UGB which provide the best opportunities for interpretive signage. Some examples include the bridge in Mammoth Creek Park west, and the northeast terminus of Lake Mary Path. Once the sites and general subject matter of the interpretive installations are identified, the process of designing the interpretive signage installations should begin. The design process should involve the community at large and professionals with expertise in the selected subject matter. The information provided at each interpretive installation should be based on the experiences, knowledge and interests of its expected audience.

## Recommendation G5: Trail-Oriented Development (TrOD)

Trail-oriented development is an emerging concept formulated to make trails more useful for transportation and to link them with jobs and typical economic activities. While "trail" is used here as a general term, TrOD tends to focus on development opportunities along paved multi-use paths. It is an alternative to typical auto-oriented development—and similar to pedestrian-oriented development—in that it requires that public access be provided and encouraged between paved pathways and adjacent development.

One way to encourage TrOD is to use overlay zoning or use-permit requirements along a trail corridor that requires property owners to maintain and enhance access between a multi-use path and surrounding land uses. This should include, but not be limited to, connections between the trail and any future roadways and residential developments adjacent to the path. Urban design guidelines for the "trail zone" can require new development to be physically oriented toward the path by providing—at a minimum—a secondary entrance with a

<sup>&</sup>lt;sup>8</sup> All signage within the Snowcreek Master Plan shall be in accordance with the Snowcreek Master Plan, which is not superseded by the Trail System Master Plan.

connecting footpath and bicycle parking that faces the trail. Guidelines should prohibit developments that "turn their back" to the multi-use path by placing fencing between the path and the development or by placing undesirable elements such as dumpsters on the trailside end of the property.

In the Town of Mammoth Lakes, opportunities for TrOD include the Neighborhood District Planning (NDP) process and upcoming developments. The Community Development Department should require TrOD in NDPs for parcels adjacent to existing for future MUPs. The new Civic Center should encourage non-motorized access by providing entrances with bicycle parking facing the Main Path segment at the northern end of the development. Entrances to the Mammoth Crossing development at the southeast corner of Minaret and Lake Mary Road should be oriented toward the Lake Mary Road Path and provide high quality and visible bicycle parking for summertime path users. Other opportunities are largely situated on the eastern end of Town where the Main Path traverses institutional, public and industrial areas.

## Recommendation G6: Pedestrian-Oriented Development

Improving the pedestrian environment can improve overall mobility and create a more seamless transition between the recreational experience and in-town economic activities. Pedestrian-oriented developments have buildings that are situated adjacent to the sidewalk and parking that is situated behind the building and away from the major thoroughfares. Main entrances are sidewalk adjacent and do not require pedestrians to walk through car parking areas to enter a building. Sidewalk-adjacent outdoor seating is another typical element of pedestrian-oriented development. The Village at Mammoth is an example of pedestrian-oriented development. The Minaret Village Mall is an example of auto-oriented development. The General Plan already calls for pedestrian-oriented development and a series of explanatory photos and illustrations are available in the General Plan's appendices.

## Recommendation G7: Data Management

Accurate Geographic Information Systems (GIS) and user data is key to the ongoing development and maintenance of the Mammoth Lakes trail system. Currently, several agencies and organizations including TOML, Mono County, USFS, and MLTPA create and maintain trails-related data for the region. At a minimum, the Town/County databases should be updated on a regular basis. However, the development of an integrated, cross-jurisdictional database of trails-related data should be considered to facilitate and promote the inter-jurisdictional cooperation required for the ongoing development and maintenance of the trails network. Legacy data should be developed and archived wherever possible in order to track historical trail alignments.

## Recommendation G8: Design Guidelines

The Town of Mammoth Lakes should revise Public Works Standard Plans as needed to ensure consistency with the Design Guidelines described in Chapter 6 of this Trail System Master Plan.

## Recommendation G9: Trail and Mobility Needs

The recommended trail system provides both recreational and mobility benefits. However, access to the trail system is part of a larger mobility issue and should be addressed in all

facilities should be considered by the Town Council and its Commissions for inclusion in future mobility planning efforts.

#### Recommendation G10: Future Access Easements

The Town of Mammoth Lakes should study the potential to acquire additional easements to improve recreational access to public lands. An analysis of land ownership and recreational access potential at all GIC points along the UGB would be an important first step in this process. Consistent with the Municipal Code (Subdivision Ordinance Section 17.32.160) and as supported by the finding made in the adoption of that Code section, the Town may require dedication of easements for public access for trails and other facilities identified in this TSMP or other adopted policy documents as a condition of approval associated with approval of a tentative map.

#### Recommendation G11: Trail Coordinator

The Town of Mammoth Lakes should consider the creation of a Trail Coordinator position. The Trail Coordinator's responsibilities could include oversight for the implementation of this Trail System Master Plan, ensuring that all future planning and infrastructure development efforts in the area are consistent with this Trail System Master Plan, and coordinating with relevant partner agencies and organizations.

## Recommendation G12: Coordination with Local Non-Governmental Organizations

The Town of Mammoth Lakes should seek opportunities to form partnerships with local non-governmental organizations that may be able to assist in the planning, development and/or maintenance of the trail system.

#### **Recommendation G13: Summit Process**

Through the public comment process of this plan it became evident there were key issues that could not, and probably should not, be resolved through this document. The concept of summits is being proposed as a means of engaging the community, including users, policy-makers and advocates, in a process to address and resolve these key issues.

Key issues identified for winter summits include pedestrian-friendly snow management of trails and sidewalks, Nordic system development and programming with jurisdictional support, and snowmobile access within the UGB and beyond. Summer summit issues include soft-surface trail development, motorized access within the UGB and beyond, equestrian system trail development and hiking trail development.

The summits intend to address these issues individually. The process will explore perceived conflicts and their reality, review interface issues, identify opportunities for improved experiences and determine resolutions and/or potential policies as needed.

The structure of the summits will include public discussions that will review existing conditions and the identification of issues contained within these conditions, develop concepts for potential resolution to constraints, form consensus and/or agreements to pursue and identify action steps for implementation of resolution.

It is anticipated that the summits will be hosted by the Town with outreach and facilitation support provided by MLTPA. A final list of summits will be developed early winter 2009

with convening of summits to begin shortly thereafter. Results of summits may be incorporated as amendments to the Trail System Master Plan as necessary.

#### Recommendation G14: Action Plan

Develop a detailed action plan for the implementation of the Mammoth Lakes Trail System. The plan will be integrated and coordinated with the 5-year Capital Improvement Plan (CIP), and will include prioritization and phasing of all MLTS projects and programs, detailed cost estimates of near term projects, identification of funding sources to be pursued for each project, and a description of the roles and responsibilities of each partner in the implementation and management of the trail system.

## Recommendation G15: Trail System Management MOU

Develop a management partnership through any appropriate combination of informal and/or formal agreement(s) or other governance structure, e.g., amendment to the MLTPA MOU, clearly identifying roles and responsibilities of each of the participating agencies for the further development and management of the Mammoth Lakes Trail System. The action plan (or sections thereof) identified in Recommendation G14 may be referenced and included as an attachment to any such agreement(s).

#### Recommendation G16: Mammoth Lakes Trail System (MLTS)

Recognize and support—through technical support, funding, inter-jurisdictional cooperation, and adherence to uniform standards and conventions—the development of an integrated regional Mammoth Lakes Trail System that incorporates the components identified in this Trails System Master Plan. The components and boundaries of this system will be developed in cooperation with the USFS/INF and other relevant jurisdictional partners.

## 4.2. Major Activity Centers and Recreation Nodes

Many of the projects listed in later sections of this chapter will have a direct impact on access to the Town's activity centers and recreation nodes. This section summarizes those improvements and recommends projects that are specific to individual recreation nodes.

## 4.2.1. Activity Centers (Summer and Winter)

This chapter provides a series of recommended improvements, many of which will impact activity centers including sidewalks, multi-use paths, bikeways, bicycle parking, and others. The recommended projects have been developed with the understanding that improving non-motorized access to activity centers is necessary to promote "feet-first" mobility and to enhance the recreation experience in the Town of Mammoth Lakes. Providing access to activity centers from the larger trails network will create possibilities for in-town, short-distance recreation, and linked recreational/utilitarian trip-making. Because of their year-round importance and their location within the Town's urban growth boundary, activity centers will be evaluated for their current accessibility via walking, bicycling, transit and/or cross-country skiing. The details of each project are located in the following sections.

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## Recommendation N3: Uniform Nodal Signage

Promptly following the adoption of this plan the Town of Mammoth Lakes should work with the Forest Service and MMSA to begin providing uniform signage at all identified recreation nodes. The "Portal Identification Marker" should be used at all portals, parks and trailheads and should be placed on all approaching roadways and paved multi-use paths. These signs are large and oriented toward motorist or paved path users to alert them to the location of major nodes where automobile parking and restroom facilities are provided. The "Trail Information Kiosk" should be used at all portals, parks, trailheads, and access/egress points. However, the "Trail Information Kiosks" are designed at a scale where they can only be viewed by trail users and should be located at the points where trails begin. In some cases there will be multiple trails beginning at different locations around a single portal, park or trailhead. In these cases, "Trail Information Kiosks" should be located at the beginning of each trail.

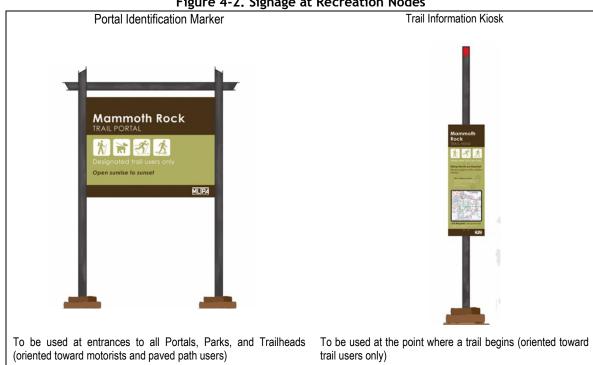


Figure 4-2. Signage at Recreation Nodes

Images provided by Corbin Design

Other types of signage such as "Trail Guide Signs" and "Assurance Markers" will be used along the trails themselves, but not necessarily at recreation nodes. Many of the recreation nodes—especially portals—have existing unique signage that will need to be maintained. Uniform nodal signage should be sited in such a way that it does not interfere with—or get lost among—existing signage. Detailed designs for all signage types can be found in Chapter 5: Signage and Wayfinding. An inventory of existing trail signage should be conducted in advance of implementation of any new system.

#### Recommendation N4: Public Transit Access to Recreation Nodes

Bus/trolley stops should be provided at or near all active summer and winter recreation nodes in order to improve mobility, alleviate congestion, and reduce demand for parking. Bus service may not be feasible at smaller access/egress points such as Tamarack Street. In addition, seasonal demand at some locations may not be justified due if the predominant activities at that location are not well-suited to public transport (i.e. major motorized or equestrian nodes). Given the limited resources for the provision of transit service, transit schedules and routes should be adjusted according to changes in demand at recreation nodes.

#### Recommendation N5: Summer Recreation Nodes

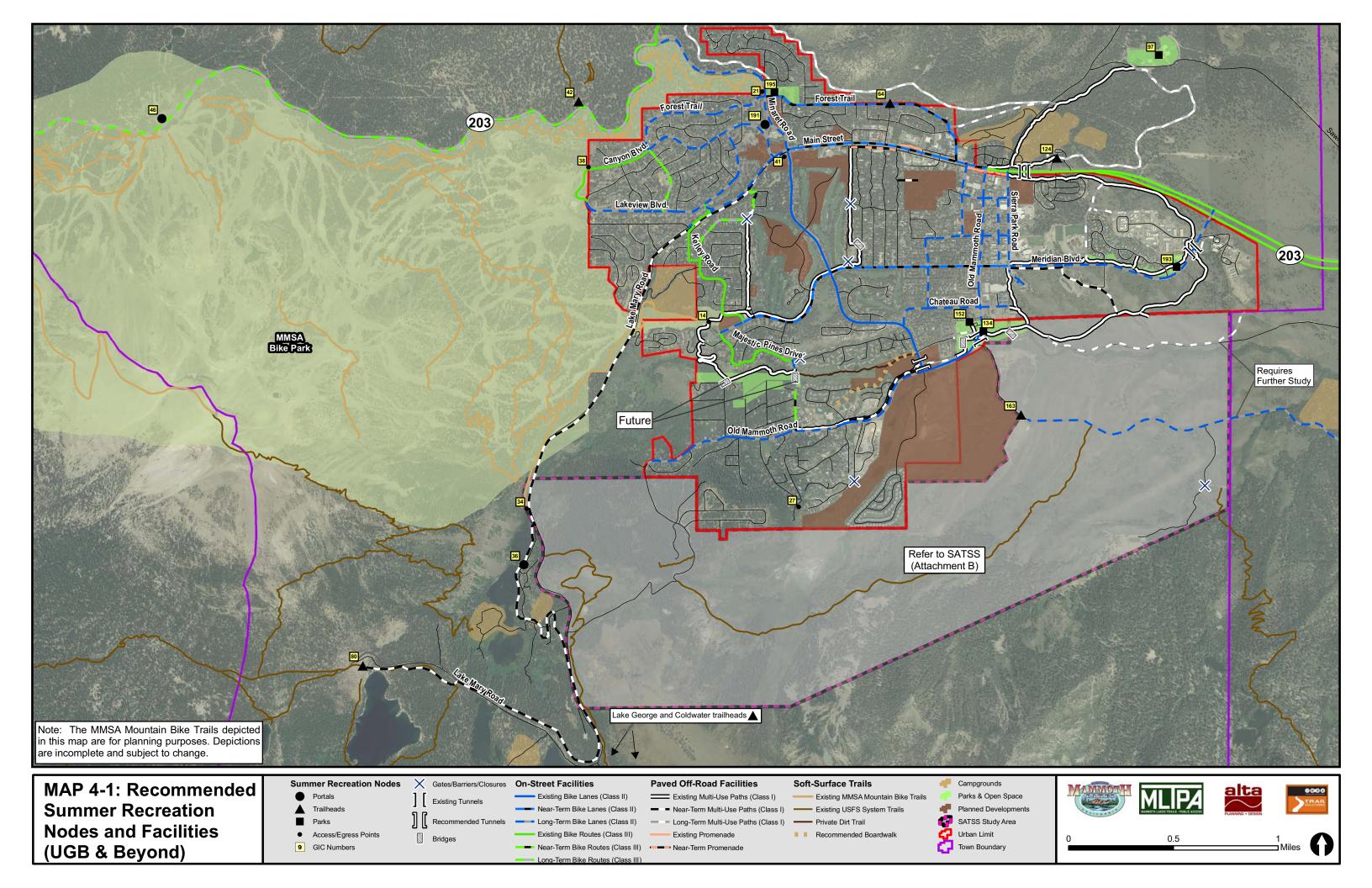
The following summer recreation nodes should be enhanced through the provision of the amenities described in **Table 4-2**. Existing amenities are marked with an 'X' and recommended future amenities are marked with an 'F'.

Table 4-2, Recommended Amenities at Summer Recreation Nodes

GIC	Name / Description	Node Type	lodging	restaurant	parking	restroom	≝	snq	trail access	signage
46	Main Lodge (MMSA)	Portal	Χ	Χ	Χ	Χ	Χ	Χ	Χ	F
191	North Village (MMSA)	Portal	Χ	Χ	Χ	Χ	Χ	Χ	Χ	F
36	Tamarack Lodge (MMSA)	Portal	Χ	Χ	Χ	Χ		Χ	Χ	F
195	Community Center	Park			Χ	Χ		F	F	F
134	Mammoth Creek Park, East	Park			Χ	Χ		Χ	Χ	F
152	Mammoth Creek Park, West	Park			Χ	Χ		Χ	Χ	F
97	Shady Rest Park	Park			Χ	Χ		F	Χ	F
193	Trails End Park	Park			Χ	Χ		F	Χ	F
88-90	Coldwater Campground	Trailhead			Χ	Χ		F	Χ	F
42	Earthquake Fault	Trailhead			Χ	Χ		F	Χ	F
80	Horseshoe Lake	Trailhead			Χ	Χ		Χ	Χ	F
86-87	Lake George	Trailhead			Χ	Χ		F	Χ	F
163	Sherwin Creek Road, USFS gravel borrow pit	Trailhead			F	F		F	Χ	F
64	Sierra Blvd at Forest Trail	Trailhead			F	F		F	Χ	F
124	Welcome Center	Trailhead			Χ	Χ		F	Χ	F
38	MMSA at Austria Hof parking lot	Access/Egress							Χ	F
14	Eagle Lodge – temp (MMSA)	Access/Egress	Χ	F	Χ	F	F	Χ	Χ	F
41	Lake Mary Bike Path NE Terminus	Access/Egress				F		F	F	F
27	Tamarack Street	Access/Egress							Χ	F
34	Twin Lakes Parking	Access/Egress			Χ			F	Χ	F
21	Uptown/Downtown	Access/Egress						Χ	Χ	F

X – Indicates an existing amenity

F - Indicates a future (recommended) amenity



CHAPTER 4. Future Trail System Recommendations

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The new master plan for Mammoth Creek Park East facility should include restrooms and enhanced trail access.

The Lake George and Coldwater Trailheads are not visible on the map.

The Trailhead at Sierra Boulevard and Forest Trail will benefit from the construction of a sidewalk on the north side of Forest Trail. The curb and gutter will help to prevent unauthorized vehicular parking on the shoulder. While limited vehicular parking may be provided, roadside parking prohibitions in conjunction with bus service will facilitate public access without attracting more automobile traffic to the neighborhood.

#### Recommendation N6: Winter Recreation Nodes

The following winter recreation nodes should be enhanced through the provision of the amenities described in Table 4-3.

Table 4-3. Amenities at Winter Recreation Nodes GIC Name / Description Node Type Canyon Lodge (MMSA) Portal Χ 14 Eagle Lodge - temp (MMSA) Χ Χ Χ Χ Χ F Portal Χ Χ Χ Χ 46 Main Lodge (MMSA) Portal Χ Χ Χ Χ Χ Χ Χ Χ Χ 36 Tamarack Lodge (MMSA) Portal Χ F F 191 X X Χ Χ Χ North Village (MMSA) Portal F F F F 195 Community Center Park Park Χ F F F 134 Mammoth Creek Park, East Park Χ Χ Mammoth Creek Park, West Park Χ Χ Χ 97 Shady Rest Park Park Χ Χ Χ F 193 Trails End Park Park Χ Χ Χ F F 42 Earthquake Fault Trailhead F F F Trailhead 44 Power Plant F Trailhead Χ 192 Shady Rest / Saw Mill Cutoff Road Χ Sherwin Creek Road, USFS gravel borrow pit Trailhead F Χ Χ F F 124 Welcome Center Trailhead Χ Χ Lake Mary Rd winter terminus Access/Egress Χ Χ F Path along Snowcreek V fence line Access/Egress F F 28 Mill City Access/Egress Χ Χ F Sierra Blvd @ Forest Trail Access/Egress F F 27 F F Tamarack Street Access/Egress GIC Point 52 Sledz, fee based Χ Χ Χ

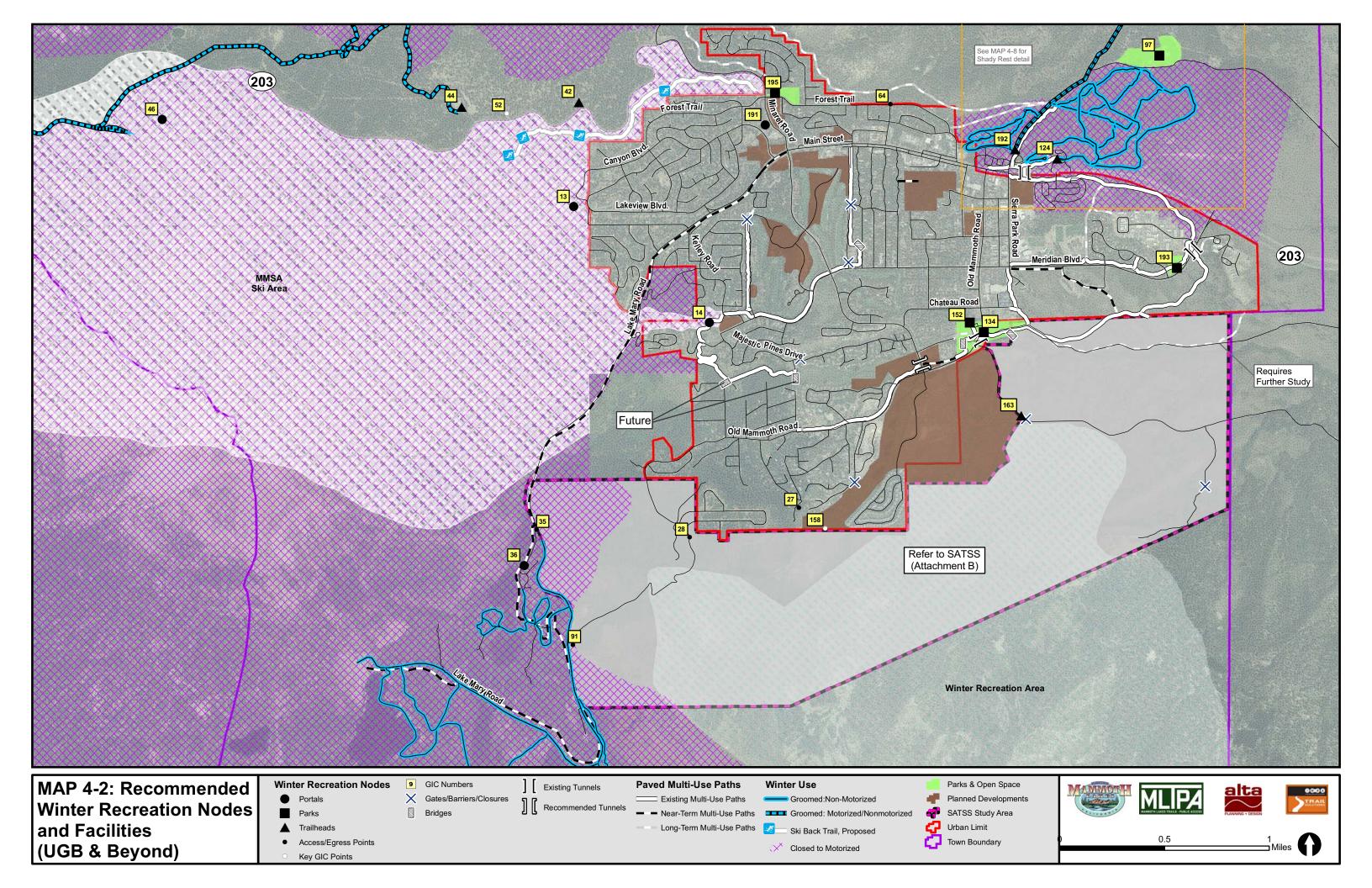
X - Indicates an existing amenity

F - Indicates a future (recommended) amenity

MMSA trail access from the **North Village Portal** is currently available via the gondola. The proposed ski back trail would provide MMSA egress (return to North Village) for winter users. Signage improvements for MMSA portals require coordination between MMSA and TOML.

A restroom facility at the **Community Center Park** currently exists, but is closed in winter. Bus service on Forest Trail could serve the community center in addition to the stop near Minaret Road and Forest Trail.

Many of the amenities recommended for the **Earthquake Fault Trailhead** currently exist, but are closed or inaccessible during winter. Snow removal and winter maintenance are required to provide winter access.



CHAPTER 4. Future Trail System Recommendations

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The amenities recommended for the **Power Plant Trailhead** will facilitate trail access and provide additional staging opportunities for snowmobilers and cross country skiers.

At **Shady Rest / Saw Mill Cutoff Road,** restrooms should be open and maintained in the winter. Additional options for modifications in the Shady Rest area can be found in the Winter Trails discussion at the end of this chapter.

Existing signage should be upgraded as part of the upgrades for the trailhead at the **Lake Mary Road winter terminus**.

The development of a year-round trailhead on **Sherwin Creek Road** requires moving the road closure south from GIC 151 to GIC 163 (the Barrow Pit/Kerry Meadow access). Restrooms and parking should be available year-round.

#### Recommendation N7: Future Nodal Designations

The Town of Mammoth Lakes should work with the Forest Service to adopt a process to assign the recommended designations of existing nodes and for designating new recreation nodes.

## Recommendation N8: Updates to the GIC Database

The GIC database should be continually updated to reflect the latest inventory and status of relevant point-based geographic data in the area. Activity centers as defined in the plan should be included and updated and new activity centers are identified by TOML and partner agencies. Destinations should be defined and added to the database for standardized use in all recreation based mapping. Whenever, a GIC point is renamed and/or becomes officially recognized as a recreation node, the GIC should be updated to reflect that change.

## 4.3. Paved Multi-Use Paths

Mammoth Lakes' unique geographic location and dramatic seasonal variations offer unique opportunities for paved multi-use paths. Winter mobility and recreational activities will require a variety of maintenance procedures tied to desired system outcomes, including winter walking, snowshoeing, and/or Nordic activities. Bicycling is one of a number of popular summertime recreational activities in Mammoth Lakes, and since the Town itself is no more than three miles across and with most in-town trip distances less than two miles, bicycling could also become a practical form of year-round mobility, although the safety and maintenance realities of winter travel on bicycles on paved multi-use paths must be considered. The following recommendations will enhance the in-town environment for recreational and transportation purposes on paved multi-use paths during all seasons. Several of the projects listed below are carried forward from the 1991 Trail System Plan and the 2008 General Bikeway Plan.

## Recommendation MUP1: Near-Term MUP Projects

Near-term projects are those which are funded, designed, and/or under construction. Continue to pursue rapid implementation of all near-term MUP bikeway projects as planned or under construction. **Table 4-4** lists near-term projects scheduled to be completed over the next two years, which will add over six miles of multi-use path.

Table 4-4	Near-term	Multi-Use	Path	<b>Projects</b>
I able T-T.	11Cai -(Ci iii	Multi-Use	ı atıı	1 1016613

Street	Start	End	Length (ft)	Length (mi)
Lake Mary Road Path <sup>1</sup>	Canyon Blvd	Horseshoe Lake	27,984	5.30
Old Mammoth Rd (Main Path 4b)	Ski Trail	Minaret Road	2,521	0.48
Waterford Bridges <sup>2</sup>	Main Path	Main Path	1,499	0.28
Sherwin / North St Bridge	Main Path	Sherwin / North Street	105	0.02
		TOTAL		6.08

<sup>1.</sup> The Lake Mary Road Path was not identified in the Trail System Plan. The General Bikeway Plan called for bike lanes on Lake Mary Road.

<sup>2.</sup> Carried forward from the 1991 Trail System Plan. Length calculation for Waterford project.



Figure 4-3. Lake Mary Path under construction

The Lake Mary Path construction included roadway widening. (Note: Uphill bike lane for road bike use will be provided on the shoulder.)

## Recommendation MUP2: Complete the Main Path Loop

Completing the Main Path "loop" should be a priority. Two of the near-term projects identified in **Table 4-4** (Old Mammoth Road 4b and the Waterford Bridges) will close key gaps in the Main Path. The final alignment of the loop varies slightly from those identified in the 1991 Trail System Plan, but the Main Path loop will be nearly complete.

The key remaining gap from the 1991 Trail System Plan will be **Main Path Segment 4a** between Mammoth Creek Park and Minaret Road which includes the tunnel under Minaret.

Another key project—though not identified in the 1991 plan—is the **Lodestar Drive Connector** between the northern terminus of the Lodestar Path and Hidden Valley Road, as it will create a connection to the Lake Mary Road Path and from the western end of the Main Path loop.

Table 4-5. Main Path Gap Closure Projects

Name	Start	End	Length (ft)	Length (mi)
Main Path (4a) <sup>1</sup>	Mammoth Creek Park	Minaret Road	921	0.17
Lodestar Extension	Majestic Pines Drive	Hidden Valley Road	441	0.08
		TOTAL	1362	0.25

Carried forward from the 1991 Trail System Plan.

Bike lanes are recommended on Main Street in the next section as an interim solution for closing that key gap in the paved path system. The installation of promenades (10' sidewalks) intended to serve both bicyclists and pedestrians will happen in a piecemeal fashion over the medium to long term, but may lead to conflicts and at-grade crossings and driveways with pedestrians, which may be resolved through an overall reconfiguration of the cross-section and improved access management, as envisioned in the Downtown Concept for Main Street.

#### Recommendation MUP3: In-Town Multi-Use Path Connectors

Multi-use path connectors can reduce the distance of trips while improving mobility and providing enjoyment for non-motorized users. The Town of Mammoth Lakes should pursue opportunities for non-motorized connectors in new development projects, especially in locations that provide shortcuts connecting residential, civic and commercial land uses. Areas where bikeways or low-volume vehicular streets end are generally advisable locations for multi-use path connectors because they will improve non-motorized connectivity without bringing additional vehicular through-traffic to an area.

Table 4-6. In-Town Multi-Use Path Connectors

Name	Start	End	Length (Feet)	Length (mi)
College Connector	Sierra Park Road	Main Path	3,769	0.71
Elementary School Connector	Meridian Boulevard	Main Path	2,275	0.43
Industrial Park Connector	Elementary School Connector	Commerce Circle	426	0.08
Mammoth Creek Park Connector	Meadow Lane	Main Path	602	0.11
Manzanita Connector	Manzanita Road	Hidden Creek Development	480	0.09
MCWD Access	Main Path	MCWD Facility	677	0.13
Additional Long-Range and Co	nceptual MUP Project	s		
Lodestar to Bear Lake Connector	Lodestar Connector	West Bear Lake Drive	1,601	0.30
Hidden Valley to Minaret Connector	Hidden Valley Road	Minaret Road	589	0.11
Center Street to Hidden Creek Connector	Center Street	Hidden Creek Connector	430	0.08
Manzanita to Tavern Connector	Manzanita	Tavern Road	1,140	0.22

Town of Mammoth Lakes Trail System Master Plan

Name	Start	End	Length (Feet)	Length (mi)
			• • •	
Manzanita Path	Main Street	Meridian Boulevard	3,044	0.58
North Village to St. Anton Connector	East of Minaret	St. Anton Circle	872	0.17
Eagle Path	Eagle Lodge	Lake Mary Road	3,964	0.75
		TOTAL	19,869	3.76

Connectors should be built to the same standard as Class I bike paths per the Caltrans Highway Design Manual (see Chapter 5). The benefit of these connectors is to provide continuity between on-and off-street bicycle facilities and to provide safe shortcuts to key locations for bicyclists and pedestrians. All multi-use path connectors within the UGB should be cleared for winter mobility, unless they connect directly to a groomed facility, in which case they may be either groomed or cleared.

TOML should also enter into easement discussions with property owners to discuss opportunities for purchasing easements to allow for the development of the following additional MUP connectors not listed in **Table 4-6** or shown on the maps.

A **Sierra Valley East-West Connector** would connect the Sierra Valley sites with Old Mammoth Road and could potentially build on the existing easement used to the Manzanita Connector listed in **Table 4-6**.

A similar connection should also be explored through the Sam's Woods site. This **Sam's Woods Connector** would link Minaret Road to Hidden Valley Road and eventually to Majestic Pines Drive and the existing Lodestar Drive and MUP segment.

A Camp High Sierra Connector would convert the existing Camp High Sierra Drive (dirt road) to a multi-use path connecting the Lake Mary Path to Majestic Pines Drive and Pinehurst Road. An alternative to this connection could be made via **Tyrol Lane**.

#### Additional Long-Range and Conceptual MUP Projects:

Development of the Draft TSMP occurred simultaneously with district planning for some areas of town, or preceded completion of other district planning efforts. Through district planning, a number of conceptual trails alignments were identified, which may be appropriate for inclusion in the TSMP. In all cases, these alignments are considered conceptual, and would be subject to further review and refinement through more detailed planning, design and community discussion to determine their feasibility and priority. A number are also dependent on further site planning in conjunction with specific development applications.

These conceptual alignments key to, and are shown on Map 4-9 through 4-12.8

#### MUP 3-7: Lodestar Drive to Bear Lake Connector

Rationale: Pedestrian connection to be developed in conjunction with Lodestar/Sierra Star Master Plan. Included in Mobility Diagram and South Districts Neighborhood District Plan.

<sup>&</sup>lt;sup>8</sup> These maps were developed in conjunction with the Trails System Master Plan Environmental Impact report, to show the complete scope of potential future trails projects that could be developed in the future.

This is a conceptual alignment only with precise alignment to be determined with development of Lodestar Master Plan.

#### MUP 3-8: Hidden Valley to Minaret Road Connector

Rationale: Improved pedestrian connectivity between Hidden Valley residential neighborhood and Minaret Road pedestrian and bike facilities. Included in Mobility Diagram as conceptual connection, and in North Village Neighborhood District Planning Study. This is a conceptual alignment only, with precise alignment to be determined with development of properties in the southwest part of the NVSP Area.

#### MUP 3-9 and 3-10: Shady Rest Tract Connectors

Rationale: Provide formalized pedestrian connections through Shady Rest Tract to connect future residential development and existing Sierra Valley Sites to Downtown District and to Main Street, via existing connector from Manzanita Road. Included in Downtown Concept for Main Street. This is a conceptual alignment only, with precise alignment to be determined with development of Shady Rest Master Plan.

#### MUP 3-11: Manzanita Road MUP

Rationale: Improve pedestrian safety along Manzanita by providing a separate ped/bike facility along one side of the street. Included in Mobility Diagram. (Note: This concept may be revised or eliminated pending outcome of Sierra Valley NDP)

#### MUP 3-12: North Village to St. Anton Connector

Rationale: Create a formal pedestrian/bike connection via Town-owned parcel to connect Community Center Park/Forest Trail to Knolls neighborhood at St. Anton Circle. Included in Mobility Diagram and North Village Neighborhood District Planning Study. (Note: an existing informal path exists through this property, but additional right-of-way would be needed to construct a full width Multi-Use Path in this location).

#### MUP 3-13: Eagle Path

Rationale: Create summer only pedestrian/bike connection from Eagle Lodge to Lake Mary Road. Included in Mobility Diagram and 1991 TSMP.

#### Recommendation MUP4: Multi-Use Paths Outside the UGB

The Town, with its partners should implement the following multi-use paths outside the UGB. The following projects were identified in the 1991 Trail System Plan as "Future/Alternative" paths..

Table 4-7. Multi-Use Path Extensions Outside the UGB

Name	Start	End	Length (Feet)	Length (mi)
Shady Rest Park Path Extension	N Terminus of Shady Rest Path	Welcome Center	6,769	1.28
Forest Trail to Shady Rest Connector	Forest Trail	Shady Rest Park Path	2,792	0.53
Knolls Path (south route)	Community Center Park	Shady Rest Path at Sawmill Cutoff Road	14,098	2.67

Name	Start	End	Length (Feet)	Length (mi)
Mammoth Creek Path	Main Path	Eastern Terminus of Mammoth Creek Road*	5,596	1.06
Additional Long-Range and Concept	ual MUP Projects			
Sherwin/Snowcreek Connector	Old Mammoth Road	Snowcreek VIII Access/Egress Point	3,964	0.75
		TOTAL	33,219	6.29

The **Shady Park Path Extension** follows an alignment that more closely resembles the original alignment from the 1991 Trail System Plan. The modified route would travel from the current terminus of the paved path and follow the tree line, traveling just north of the proposed staging area at GIC 67, and then turning west to connect back to the Welcome Center for a complete loop. In addition, this new trail would form the proposed modified OSV closure boundary in winter and provide a key loop for the Shady Rest Nordic system.

The Forest Trail to Shady Rest Campground Connector was also identified in the 1991 Trail System Plan. It will improve trail access to Shady Rest for the residents living north of Main Street and provide access for a future Knolls/Overlook Trail.

A Knolls Path (south route) has been recommended between the Shady Rest Path at Sawmill Cutoff Road and the Community Center Park. The alignment runs just outside the UGB to the north of Forest Trail and around the Knolls neighborhood before connecting into the Community Center parking lot. Identifying the alignment with the most suitable grades will be an important element in the design of this project.

A Mammoth Creek Path could be constructed on or adjacent to Mammoth Creek Road. Either of these alignments has the potential to extend the reach of the recreational network and provide an alternative to Highway 203 for long distance road rides and a potential commuter route for Crowley residents. This project would require coordination with the Forest Service and take into consideration environmental issues and the potential impacts to existing users of these unpaved roadways.

## MUP 4-5: Snowcreek Public Access Route (Old Mammoth Road to Snowcreek Access/Egress)

Rationale: Per Snowcreek Master Plan, publicly accessible pedestrian/bike connection to be available to connect Old Mammoth Road to access/egress point at south boundary of Snowcreek property. Included in Snowcreek 8 Master Plan. Conceptual alignment only; precise location to be determined with development of Snowcreek 8 project, as dictated by the Snowcreek Master Plan.

This conceptual alignment is also shown in Maps 4-9 through 4-12

## Recommendation MUP5: Lighting on Multi-Use Paths

Lighting should be considered for segments of multi-use paths that are not currently illuminated by adjacent street lighting. Due to the cost of installing and maintaining lighting, segments should be prioritized based on their potential demand for nighttime use. For example, a path segment connecting the library and student housing may be considered for

lighting to accommodate students traveling between these facilities after sunset. Other segments that show demand for nighttime use should also be considered.

## 4.4. Crossing Improvements

The following section provides roadway crossing recommendations intended to ensure the safety of MUP users and enhance access to the trail system as a whole. Recommendations X1 and X3 focus on the design of crossings along existing and future MUPs. Recommendation X2 focuses on providing crossing improvements which will enhance access to the trail system from residential areas and activity centers.

## Recommendation X1: Design of At-Grade MUP Crossings

The basic design elements of at-grade crossings should be uniform wherever possible. Particular locations may require additional safety measures and/or unique treatments based on context (see Design Guidelines in Chapter 6). At-grade MUP crossings should be limited to crossings of local or collector streets.

## Recommendation X2: Specific Intersection and Mid-Block Crossing Improvements

Conduct an engineering analysis of all pedestrian crossings and identify where improvements are most needed. **Table 4-8** lists locations that are important for existing and future in-town trail access. The engineering analysis should consider the full range of recreational users likely to be active at the specific intersection or mid-block crossing. These locations are important for providing access between trails, recreation nodes, residential areas and activity centers. Raised medians along major roadways could be considered to create refuges for crossing pedestrians and recreation users and to reduce the amount of roadway surface requiring snow removal during winter months. See the Design Guidelines (Chapter 6) for examples of crossing treatments.

## Recommendation X3: Grade-Separated MUP Crossings

Grade-separated MUP crossings should be used for all MUP crossings of arterial streets. Tunnels are the preferred form of grade-separation and the design currently used by the Town of Mammoth Lakes should be used for all future crossings with proper width and height for grooming equipment. Retrofit should be considered for existing tunnels that do not allow for snow grooming. See Design Guidelines (Chapter 6) for a more detailed discussion of tunnel design. The only new tunnel recommended in this plan would be located under Minaret Road just north of Old Mammoth Road. In cases where this type of crossing is technically infeasible or cost-prohibitive, signalized at-grade crossings may be considered.

Table 4-8. Intersection and Crossing Improvements

	Table 4-6, intersection and crossing improvements				
Street	Location	Description			
Minaret Road	Forest Trail	Existing unsignalized intersection. Proposed by TOML as roundabout. Connects future bike lanes on Forest Trail and Minaret Road and provides access to the North Village area.			
Minaret Road	North Village (Mid Block) <sup>1</sup>	Existing mid-block crossing with flashing beacons. Needs lighting improvements to illuminate pedestrians in the crosswalk. Potentially convert to HAWK signal. <sup>1</sup>			
Lake Mary Road	Davison Road	No existing crossing. Provides access to Lake Mary Path from high and low-density residential areas.			
Lake Mary Road	Lakeview Road	No existing crossing. Provides access to Lake Mary Path from future bike route/lanes on Lakeview Boulevard.			
Lake Mary Road	Canyon Boulevard	Existing signalized intersection. Provides access to Lake Mary Path from future bike lanes on Canyon.			
Lake Mary Road	Bridges Lane	No existing crossing. Provides access to Lake Mary Path from a residential and resort area.			
Lake Mary Road	Lee Road	No existing crossing. Provides access to Lake Mary Path from a high and low-density residential area.			
Main Street	Minaret Road	Existing signalized crossing. Terminus of Lake Mary Path. High pedestrian volumes expected with new development. Bicycle signal head should be considered to allow for diagonal crossing.			
Main Street	Mountain Boulevard / Callahan Way	No existing crossing. Connects Mammoth View and Mammoth Heights to Main Path on Callahan Way.			
Main Street	Sierra Boulevard / Mono Street	No existing crossing. Provides pedestrian access from high-density Sierra Valley district to proposed Recreation Node on Forest Trail.			
Main Street	Forest Trail	No existing crossing. Connects Forest Trail bike lanes with Main Street bike lanes. Full traffic signal may be required, especially with new roadway construction in Hidden Creek.			
Main Street (Hwy 203)	Sierra Park Road	No existing crossing. Connects future Sierra Park bike lanes and school zone with Shady Rest. Will be especially important in winter after storm events when tunnel has not been cleared/groomed.			
Meridian Boulevard	Minaret Road	Proposed by TOML as roundabout. Connects existing/future bike lanes on Minaret and Meridian.			
Meridian Boulevard	Sierra Park Road	Existing 4-way stop with crosswalks and School Zone.			
Meridian Boulevard	College Parkway	No existing crossing. Provides connection between college and schools.			
Meridian Boulevard	Wagon Wheel Road	No existing crossing. Provides connection between college, residential area and Meridian Path.			
Old Mammoth Road	Chateau Road	No existing crossing. Provides access to schools.			
Old Mammoth Road	Minaret Road	Existing unsignalized intersection. Proposed by TOML as road roundabout. Connects existing/future bike lanes on Minaret and Old Mammoth Road.			
Old Mammoth Road	Ski Trail	No existing crossing. Connects residential area on south side of Old Mammoth Road to Main Path and Athletic Club.			
Old Mammoth Road	Waterford Ave	No existing crossing. Connects residential area on south side of Old Mammoth Road to Main Path and Eagle Lodge via Waterford.			

#### Notes

<sup>1 –</sup> This existing mid-block crossing already has standard overhead signalization, but because of traffic volumes and distractions for motorists and pedestrians it was identified by Mono County Emergency Services as an area of concern. (See Ch. 3 Needs Analysis section 3.7).

## 4.5. On-Street Bikeways

The following on-street bikeway projects originated from one of the following sources: the 2008 General Bikeway Plan, the Town's GIS database, or discussions with Town officials.

#### Recommendation B1: Near-Term Bike Lanes

Continue to pursue the implementation of the following near-term bike lane projects within the next two years.

Table 4-9. Near-term Bike Lanes

Name	Start	End	Length (Feet)	Length (mi)
Main Street (Hwy 203) 1	Minaret Road	Old Mammoth Road	5,106	0.97
Forest Trail	Minaret Road	Main Street	5,851	1.11
Meridian Boulevard <sup>1</sup>	N Majestic Pines Drive	Sierra Park Road	7,516	1.42
		TOTAL	18,473	3.5

<sup>1.</sup> Carried forward from the General Bikeway Plan.

#### Recommendation B2: Bike Lanes on Major Streets (Arterials)

Implementation includes painting, stenciling, and striping. Implement bike lanes on the following major streets. The most challenging bike lanes project will be Old Mammoth Road between Main Street and Mammoth Creek Park, which would require the removal of a center turn lane or widening to accommodate bike lanes. Bike lanes on major streets are necessary to provide separation from high-speed, high-volume motor vehicle traffic, and to provide access to major commercial areas. The North Old Mammoth Road District Study recommends road widening for future bike lanes on Old Mammoth Road.

Table 4-10. Bike Lanes on Major Streets

	· · · · · · · · · · · · · · · · · · ·					
Name	Start	End	Length (Feet)	Length (mi)		
Minaret Road	Mammoth Scenic Loop	Mammoth Knolls Dr	3,096	0.59		
Minaret Road	Mammoth Knolls Dr	Main St	2,058	0.39		
Lake Mary Road	Davison Rd	Minaret Rd	2,713	0.51		
Meridian Blvd.	S Majestic Pines Drive	N Majestic Pines Drive	649	0.12		
Meridian Blvd.	Sierra Park Rd	Highway 203	6,936	1.31		
Old Mammoth Road	Red Fir Road	Minaret Road	7,419	1.41		
Old Mammoth Road	Main Street	Mammoth Creek Park	4,396	0.83		
		TOTAL	27,267	5.16		

#### Recommendation B3: Bike Lanes on Collector Streets

Implement bike lanes on all collector streets. Collector streets generally have moderate traffic volumes and provide continuous routing between residential and commercial or civic land uses. Bike lanes on collector streets can provide a more comfortable alternative to using bike lanes along higher volume arterial roadways and can also serve schools and higher-density residential areas. Collector street bike lanes conform to the TOML roadway cross sections for collector streets. Bike lanes are generally not needed or advised on local streets. If any of

these projects require roadways widths that are unwarranted or unsuitable for existing traffic volumes or surrounding land uses, they should be alternatively considered for designation as bike routes (Class III).

Table 4-11. Bike Lanes on Collector Streets

Name	Start	End	Length (Feet)	Length (mi)
Forest Trail	Minaret Road	Hillside Drive	5,599	1.06
Canyon Blvd.	Lake Mary Road	Hillside Drive	5,624	1.07
Lakeview Blvd.	Rainbow Lane	Canyon Blvd	2,635	0.50
Majestic Pines Drive	Silver Tip Lane	Lodestar Drive	1,903	0.36
Chateau Road	Minaret Road	End	2,991	0.57
Sierra Nevada Road	Azimuth Drive	Sierra Park Road	764	0.14
Laurel Mountain Road	Main Street	Sierra Nevada Road	1,826	0.35
Tavern Road	Laurel Mountain Road	Sierra Park Road	1,183	0.22
Sierra Manor Road	Tavern Road	Meridian Blvd	1,716	0.32
Sierra Park Road	Main Street	End	3,190	0.60
		TOTAL	27,431	5.19

#### Recommendation B4: Bike Routes

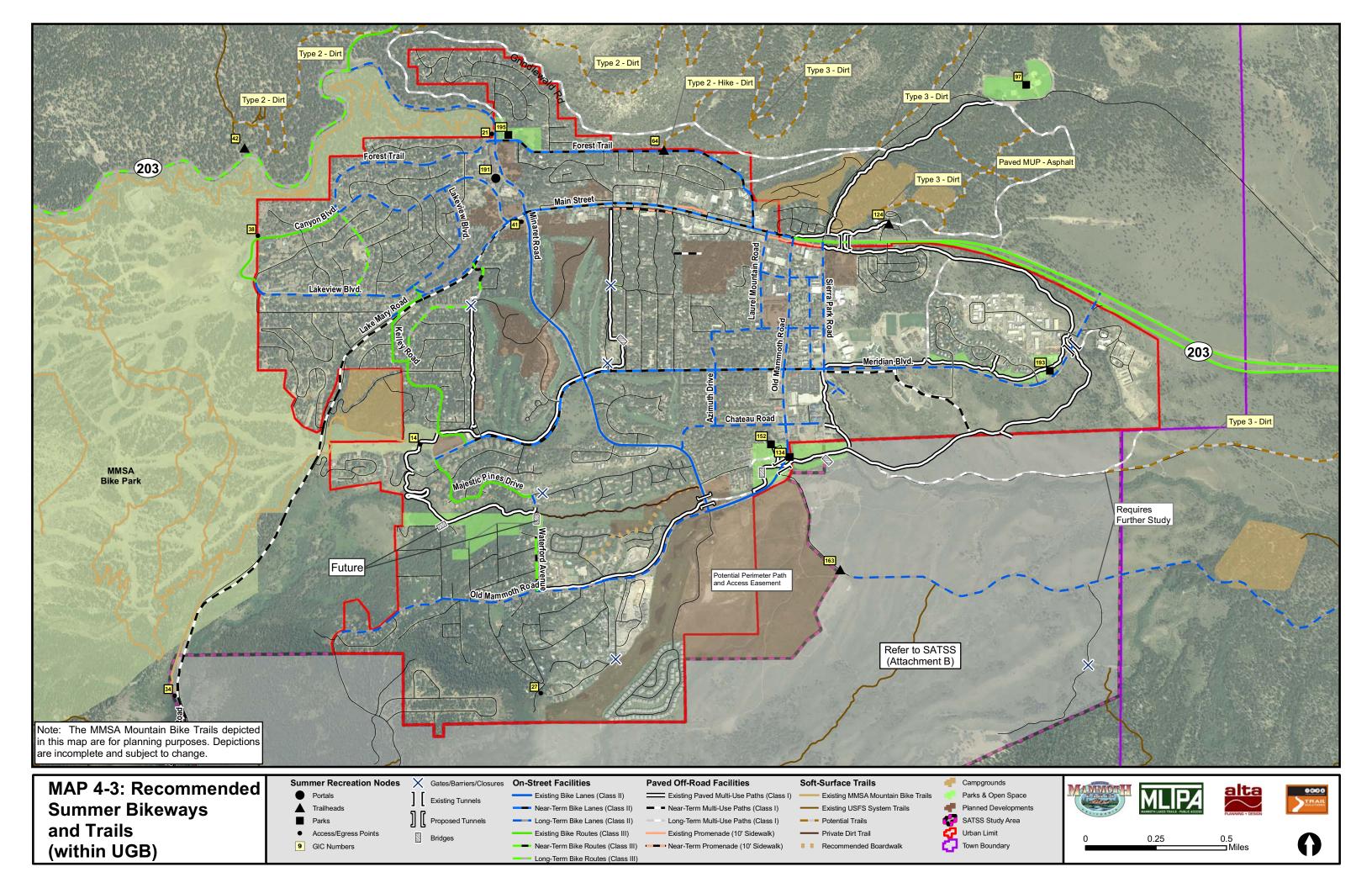
Implement the following bike routes on local streets. The Forest Trail local segment is needed to connect the recommended bike lane facilities on Canyon Boulevard and Lakeview Boulevard. The Majestic Pines segment provides a connection between the Majestic Pines bike route and the Lodestar Path. It also provides access to the future multi-use path adjacent to Bear Lake Drive. TOML should also work with Caltrans to improve existing bike routes and add new bike routes on rural roadways leading into Town such as Highway 203 and Mammoth Scenic Loop. Bike routes on these roadways require wide shoulders to allow separation between cyclists and faster moving motorists. Shoulders are most important on uphill segments where the speed differential between cyclists and motorists is greatest.

Table 4-12. Bike Routes on Local Streets

Name	Start	End	Length (Feet)	Length (mi)
Forest Trail	Hillside Drive	Lakeview Blvd	3,115	0.59
Majestic Pines Drive	Silver Tip Lane	Lodestar Drive	1,903	0.36
North Waterford Ave*	Majestic Pines Drive	Old Mammoth Road	1,268	0.24
		TOTAL	6,286	1.19

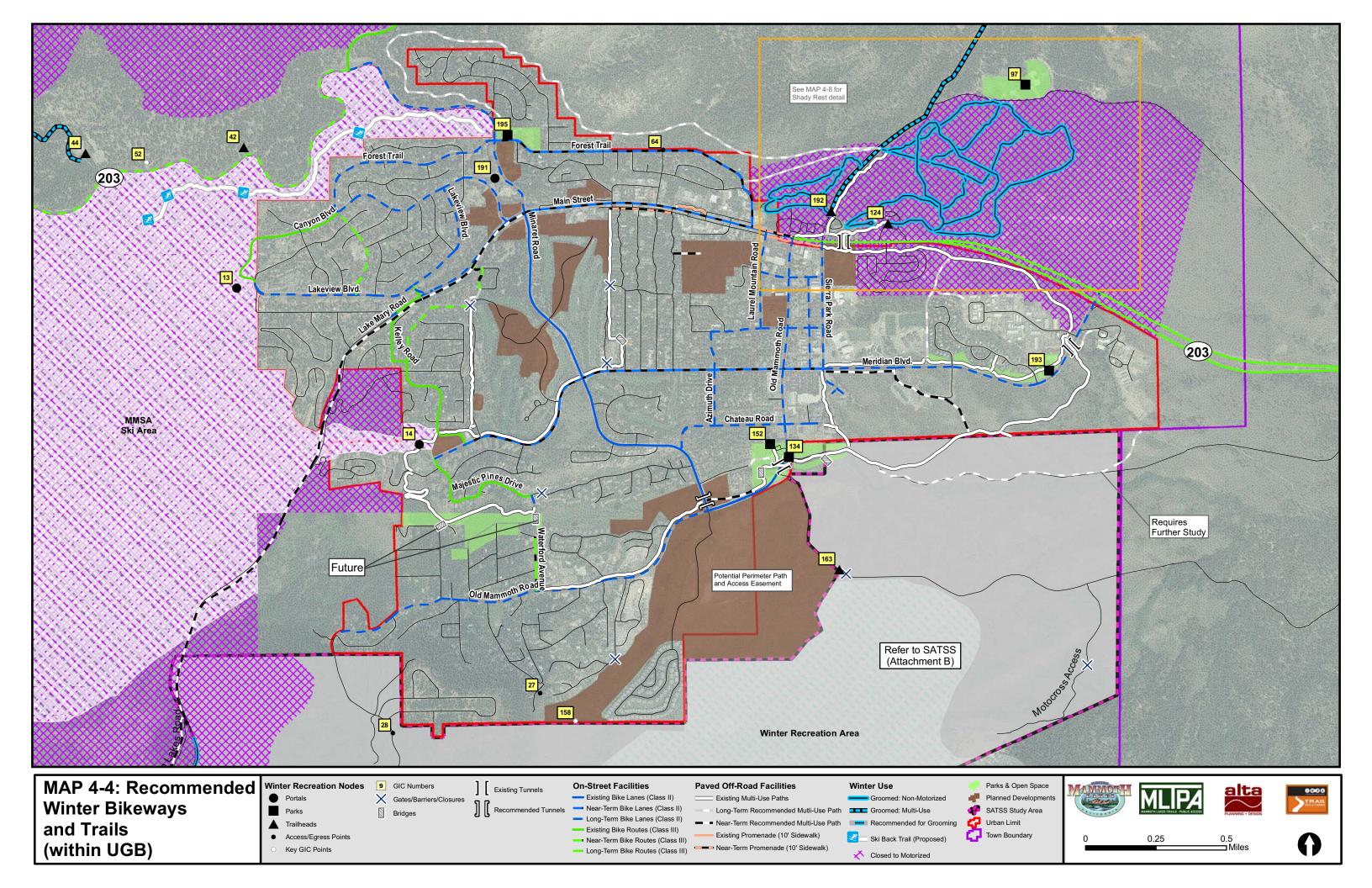
<sup>\*</sup>A portion of the Waterford Ave project will be non-motorized bridges over Mammoth Creek.

Maps 4-3 and 4-4 show existing, near-term and future multi-use path and on-street bikeway projects.



CHAPTER 4. Future Trail System Recommendations

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CHAPTER 4. Future Trail System Recommendations

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## 4.6. Interface between Soft-Surface Trails and Paved Facilities

#### Recommendation INT1: General Interface Considerations

The areas where soft-surface trails and backcountry areas interface with paved facilities and the urbanized areas of Town should be addressed with great care. Efforts should be made to enhance existing interfaces and develop additional ones as the trail system expands. The recommendations below specifically address interface issues involving MMSA mountain bike trails. Other key interface areas that should be evaluated are the connections between Town and both ends of the Mammoth Rock Trail, the interface between the Lake Mary Road Bike Path and Mammoth Rock Trail, and access/egress issues at Shady Rest and the Hidden Lake/Sherwins area. This effort should also include an analysis of all GIC points on the Urban Growth Boundary (UGB) to identify opportunities for easements and their inclusion in the system of nodes as described in other parts of the Trails Master Plan. Additionally, partnerships between TOML, USFS and MMSA should be developed to address safety issues at interface areas through a combination of rerouting, signage, education, alternative facilities and other methods, as necessary. Trail routing and signage should make it clear where and how trail users are expected to safely transition between soft-surface trails and paved trail facilities or roadways. Appropriate warning signage should be added as necessary to alert other trail and roadway users.

## Recommendation INT2: North Village

Access between Uptown/Downtown and the North Village should be enhanced through coordination with USFS and MMSA. Several options exist to address this issue. The ski back trail and bridge may provide an opportunity for mountain bikers to enter the North Village without using surface streets. The development of an access/egress point at uptown/downtown (GIC 21) with signage and a gathering area will allow groups of mountain bikers to gather safely before entering the roadway. Mountain bikers should be directed to enter the street network at Forest Trail rather than Minaret through rerouting and the use of signage. Hiker access between the North Village and the Main Lodge via the Uptown Trail has been suggested. This could be achieved either through minimal signing allowing bi-directional hiking and uphill MTB use only, or through the development of a wider tread soft-surface trail (Type 3 – Shared Non-Motorized). The viability of either of these options would require a full evaluation by MMSA/USFS.

## Recommendation INT3: Canyon Lodge

Several options exist to improve safety and the overall experience for mountain bikers who descend in the vicinity of Canyon Lodge and Austria Hof via the Shotgun trail or other facilities. The provision of summertime lift service from Canyon Lodge will allow mountain bikers to proceed back up the mountain without descending to the North Village via Canyon Boulevard. Providing bus service to and from Canyon Lodge will allow mountain bikers who have finished for the day to return to their homes, lodging or vehicle via bus instead of using Canyon Boulevard. Rerouting trail access in a way that reduces conflict and improves safety should also be considered. The provision of an on-street bicycle facility on Canyon Boulevard that provides uphill cyclists with a bike lane and encourages downhill cyclists to

ride on the street (rather than the sidewalk) is another option (see Design Guidelines). Each of these options has the potential to improve conditions independently, but the greatest benefits will be achieved if they are all implemented together.

## Recommendation INT4: Eagle Lodge

At Eagle Lodge the primary interface issues can be addressed by providing adequate signage and wayfinding to indicate the connection between the Juniper Trail and the Main Path. Summer bus and/or lift service could also improve access to and from this location while enhancing the overall experience.

## 4.7. Pedestrian Facilities

Pedestrian mobility is the most basic requirement in any transportation network. Every trip, regardless of the primary mode of transportation, begins and ends with a pedestrian trip. Projects that improve pedestrian mobility will increase access to recreation facilities and enhance the overall experience of the Town's residents and visitors. The projects recommended in this section are intended to improve pedestrian safety and make walking and public transportation an attractive alternative to driving for in-town trips. Sidewalks and pedestrian issues have been discussed in this plan because of overwhelming public comment on this issue and the fact that pedestrian mobility is inseparable from recreational activity in the Town of Mammoth Lakes. However, these issues of urban mobility will ultimately be covered in a Mobility Plan to be undertaken by the Mobility Commission and the Department of Public Works. The following narrative provides recommendations for pedestrian improvements that should be considered in these future mobility planning efforts.

## Recommendation P1: Sidewalk to Major Roadway Ratio

The Town of Mammoth Lakes should achieve a minimum Sidewalk to Major Roadway Ratio of 1.6 to 1 over the next five years. This minimum ratio can be achieved by including sidewalks on both sides of all arterial streets and at least on one side of all collector streets. Where feasible and desirable, this ratio can be increased by adding sidewalks to both sides of important collector streets such as those serving schools or major activity centers. The construction of mid-block sidewalks where no roads currently exist will allow the Town of Mammoth Lakes to improve this ratio further and will greatly enhance the pedestrian experience and encourage "feet first" mobility. This recommendation is supported by the ones that follow.

## Recommendation P2: Sidewalks along Major Roads

Construct sidewalks on all primary and secondary major roads or arterials where they do not already exist. Existing multi-use paths (MUPs) directly adjacent to roadways, may substitute for a sidewalk facility on that side of the road. A sidewalk or MUP should be located on both sides of all major roadways within the UGB except in areas there are significant physical constraints and low-levels of pedestrian activity. This will add approximately 5.6 miles of sidewalk.

## Recommendation P3: Sidewalks along Collector or Local Streets

Collector streets should have a sidewalk on at least one side whenever possible. Sidewalks may or may not be feasible or desirable on local streets as they may require tree removal or roadway widening that would significantly impact the character of the roadway.

#### Recommendation P4: Mid-Block Pedestrian Connectors

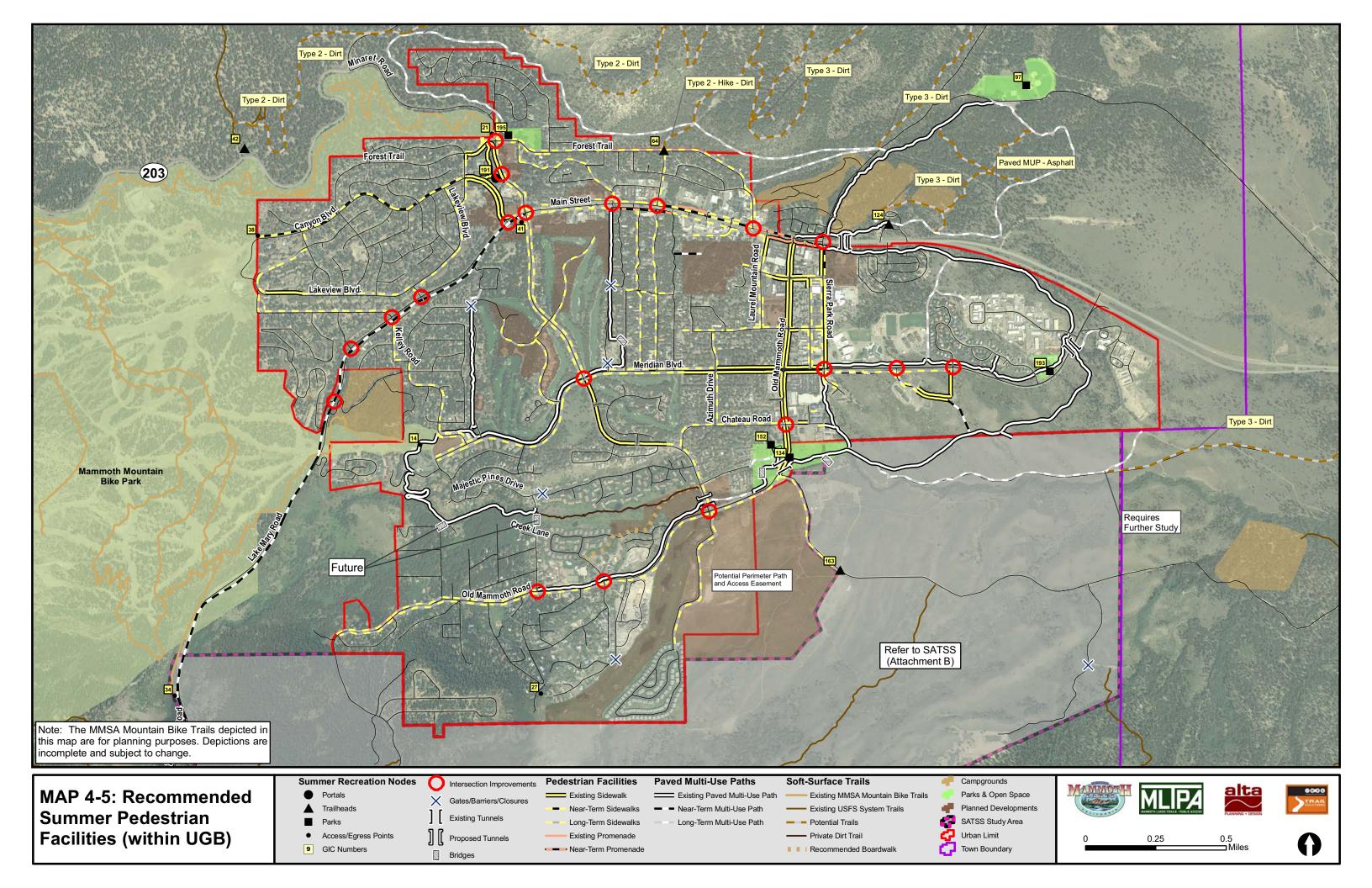
Mid-block pedestrian connectors should be considered in areas where pedestrian activity is high and where key destinations are located. These connectors are not roadway crossings, but pedestrian-only shortcuts that exist where vehicular roadways do not. In areas where existing streets end, pedestrian connectors that allow pedestrians to continue through to a nearby roadway or commercial area are highly desirable. These facilities can improve pedestrian mobility in general and shorten the distance between one's home and recreational trail facilities. These should be established as opportunities arise though new developments and the NDP process.

#### Sidewalk Maintenance Discussion

Sidewalk construction is a significant investment in both mobility and public safety. Mobility is required year-round and the safety benefits of sidewalks are even more important during wintertime when roadway and weather conditions present additional hazards and when the Town's population is highest. These mobility and safety concerns suggest the need for all existing and future sidewalks (including mid-block connectors) to be cleared within a maximum of 24 hours from end of snowfall. This should be achieved through the use of geothermal heating, assessment districts, and/or the assignment of responsibility for sidewalk snow removal to adjacent property owners through the adoption of an ordinance. For a more detailed maintenance discussion and recommendations, please see Operations and Maintenance (Chapter 7).

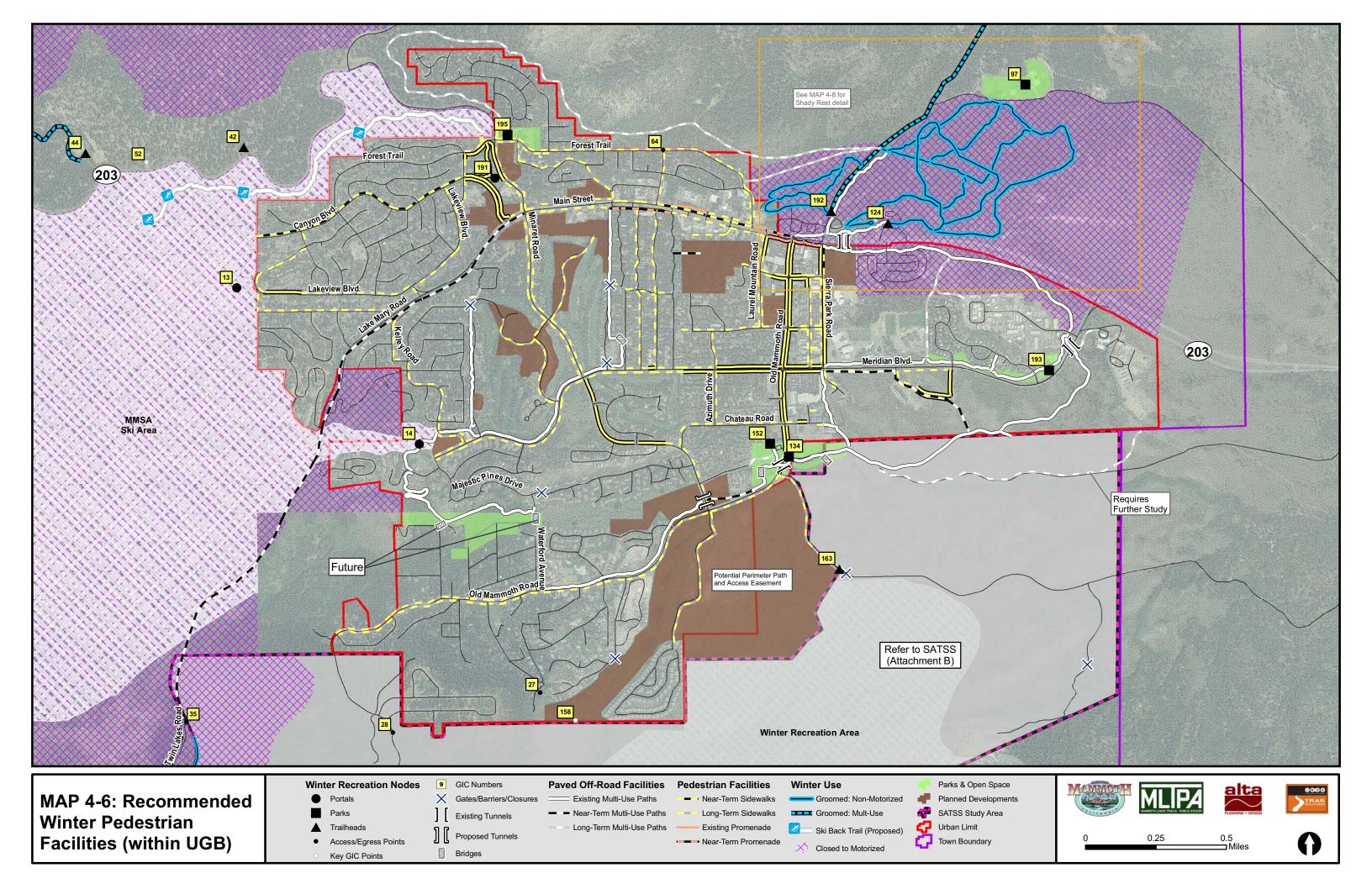
Maps 4-5 and 4-6 shows all existing, near-term and recommended sidewalks in the Town of Mammoth Lakes. Map 4-5 show pedestrian facilities and crossing improvements in the context of the summer trail system, and Map 4-6 shows pedestrian facilities and crossing improvements in the context of the winter trail system. The proposed sidewalk network is recommended to be available year-round. These recommendations are generally consistent with the 1997/2003 Sidewalk Master Plan. This Trail System Master Plan is also recommending a sidewalk on the south side of Old Mammoth Road, west of Sherwin Creek Road. This segment is necessary because of upcoming development in the area that will generate additional pedestrian activity and the lack of safe crossing options for residents on the south side of Old Mammoth Road. This recommendation is also based on public input about poor walking conditions in that area.

CHAPTER 4. Future Trail System Recommendations	
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CHAPTER 4. Future Trail System Recommendations

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# 4.8. Bicycle Parking

Safe, convenient bicycle parking is needed to promote bicycling for transportation and to make it easier for recreational cyclists to patronize local businesses before, during or after a recreational bike ride. Consistency of design is important to ensure that bike racks are universally functional (i.e. accepting all common types of locking devices and supporting all common types of bicycles).

# Recommendation BP1: Bicycle Parking Requirements

Currently there are several different types of bicycle parking facilities used in Town, and the types of racks used on private property often differ from the types of racks used at public facilities. Private businesses may or may not provide bicycle parking, and the bicycle parking that is provided is often of less-than-optimal design. The Town should develop bicycle parking requirements based on local land uses and square footage that require bicycle parking at all new development and redevelopment sites. The bicycle parking requirement should be enforced through the design review process based on clear guidelines for the design, quantity and location of bicycle facilities. The Design Guidelines section provides sample requirements for bicycle parking based on land uses and square footage.

# Recommendation BP2: Bicycle Parking Designed by Local Artists

Cities around the country have hosted competitions or contracted with local artists to design bicycle racks that are also public art. The Town should implement a similar program with local artists. In order to ensure the functionality of the racks, artists should be required to follow the design guidance for bicycle parking provided in section 6.4. To see examples from a similar program, visit www.ldmd.org/streetscape/bikeracks.aspx.

# Recommendation BP3: Subsidized Bicycle Parking Program

In order to encourage property owners to install quality bicycle parking at existing businesses or replace inadequate bicycle parking, the Town should implement a subsidized bicycle parking program under which the Town purchases bicycle racks in bulk and provides them to businesses at lower rate than if the business purchased them on their own in smaller quantities. An additional subsidy (other than the financing of the original purchase) should be considered in order to encourage widespread installation of bicycle racks on private property. The distribution process should be simple so that the time cost of acquisition does not outweigh the discount achieved through bulk purchase. This program will help to improve the quality and uniformity of bicycle parking facilities throughout the Town of Mammoth Lakes.

# 4.9. Soft-Surface Trails

Trails Solutions has produced a report (Town of Mammoth Lakes Soft-Surface Trails Concept) with potential options for soft-surface trails. This report will be included as a reference to this document. The report mostly provides options for soft-surface trail facilities located outside the UGB on land administered by the U.S. Forest Service. Many of these options are shown in the maps in this chapter. **Map 4-7** shows potential summer trail alignment options outside the UGB and **Map 4-8** shows potential winter alignment options in the Shady Rest area.

#### Recommendation SS1: Snowcreek Meadow Trail

The Town should evaluate the potential to use its 40-foot drainage easement to install a six-foot-wide low-impact boardwalk through the Snowcreek Meadow. This project will reduce opportunities for trail braiding and the associated damage to vegetation. It will also provide accessibility for users of wheelchairs.

## 4.9.1. Summer and Winter Trails outside the UGB

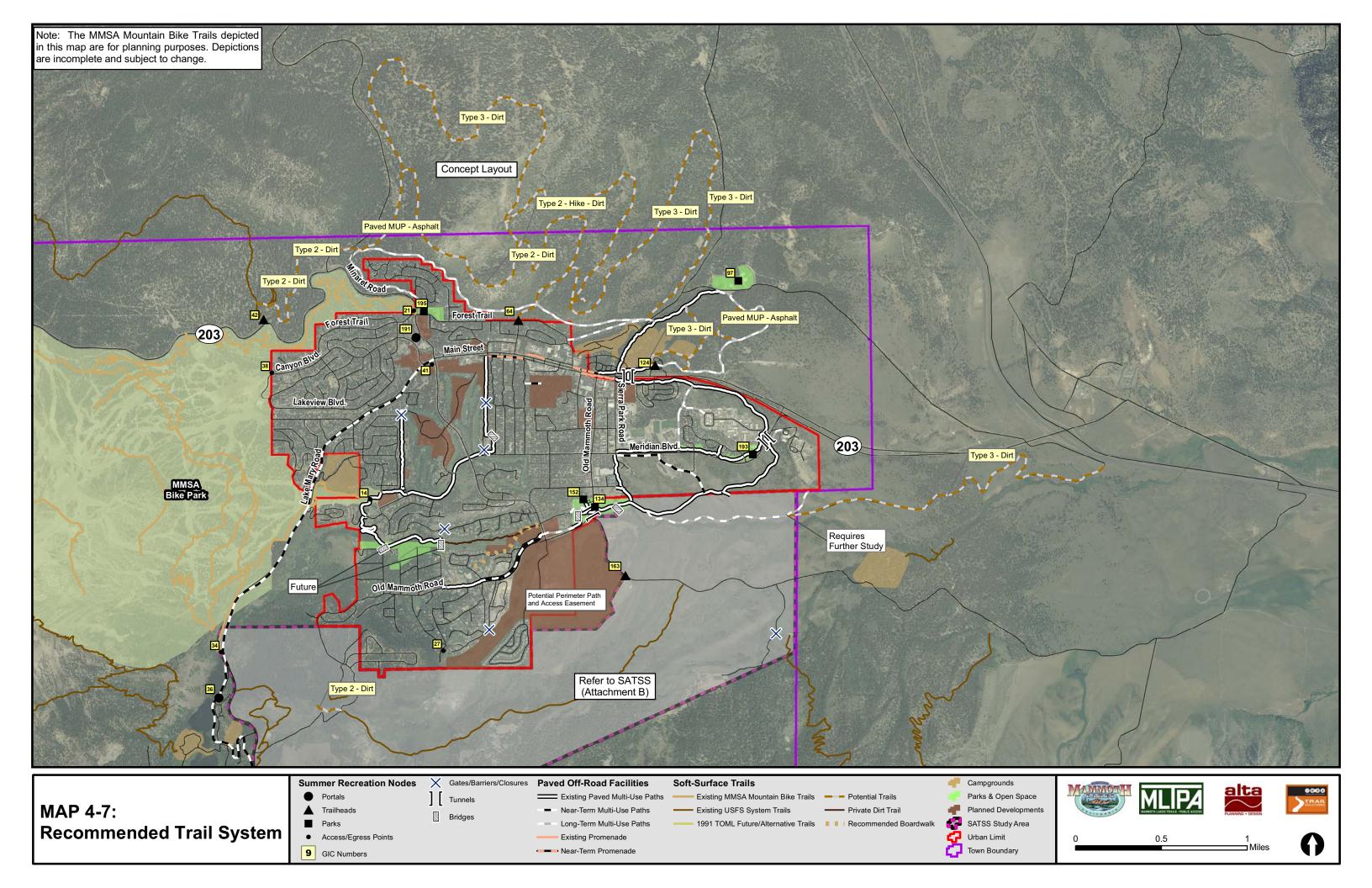
Recommendations for new summer and winter trails were based on public input and an analysis of the 1991 Trail System Plan's "Future/Alternative" trails as well as a sustainability analysis of the existing formal and informal trails around Mammoth Lakes. **Map 4-7** provides an overview of all paved and unpaved pathways and trails that will form the recommended trail system for Mammoth Lakes. **Map 4-8** provides recommendations for improving the winter trails experience in the Shady Rest area.

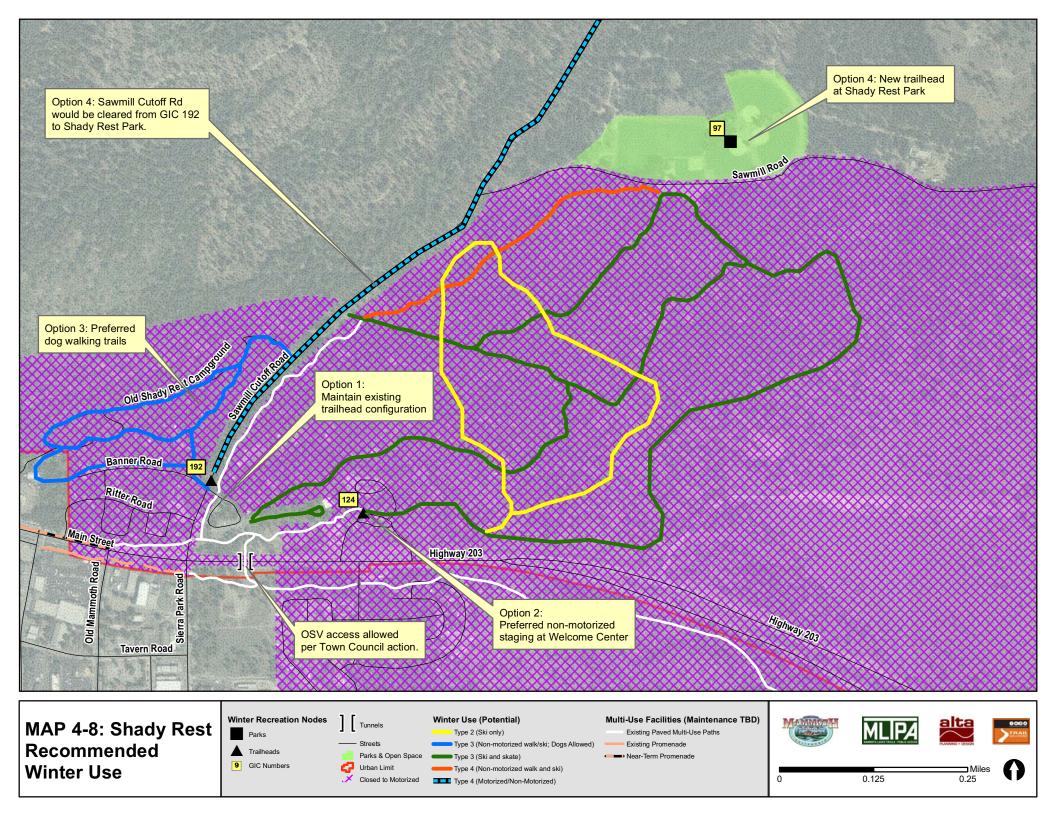
#### Recommendation SS2: Summer Soft-Surface Trails outside the UGB

Implement the soft-surface trails outside the UGB shown in **Map 4-7**. Many of these trails are carried forward from the 1991 Trail System Plan and are described in more detail in Attachment A. Others have been modified slightly to provide a more desirable or environmentally-sound conceptual alignment. All soft-surface trail alignments are conceptual and subject to change based on feasibility. Also, consider implementation of trail options described in the Sherwin Area Trails Special Study, included as Attachment B to this report.

# Recommendation SS3: Shady Rest Winter Trails

Consider the options shown in **Map 4-8** to help mitigate congestion and user conflict at Shady Rest. Option 1 is to maintain the status quo. Option 2 includes creating a preferred non-motorized trailhead at the Welcome Center. Motorized users would continue to stage from the existing parking lot at the winter terminus of Sawmill Cutoff Road. Option 3 involves converting the non-motorized trails to the west of Sawmill Cutoff Road to preferred dog walking trails. Option 4 is a longer term option that includes clearing Sawmill Cutoff Road and the paved parking area at Shady Rest Park to allow for motorized staging at the north end of the lot and non-motorized staging at the south end of the lot. The trail alignments and staging area options in **Map 4-8** are conceptual and subject to further review by the community, the Town of Mammoth Lakes and the Forest Service.





# 4.10. Education, Encouragement and Enforcement Programs

### Recommendation E1: Publish a Trail Guide for Mammoth Lakes

An 'early win' for Mammoth Lakes would be to provide literature, web sources and trail maps for public use. Opportunities for the web-based articulation of the Mammoth Lakes Trail System are numerous and quickly evolving. A strategic effort to integrate resources such as GIS data, web-based mapping platforms such as Google Earth, the VisitMammoth web site, user group sites maintained by members of Mammoth Trails, the MLTPA GIC data set, and user data being generated by existing out of area user group sites will need to be undertaken. This effort will ensure that the web-based definition of trails and recreation amenities in Mammoth Lakes is available to the Mammoth Lakes community. This effort will add to the quality of analoge deliverables as well. A trail guide would provide information on access points, existing trails, rental equipment locations, and other information for residents and visitors. The data being collected and managed could be provided in electronic format online, or could be published and made available in hard copy form as well.

# Recommendation E2: Annual Events / Coordinated Activity Calendar

There are numerous opportunities for Mammoth Lakes to promote special events, tours and club functions related to the trail system through a paper and web-based event calendar. This can include ongoing local events such as the Century Bike Ride, guided hiking tours, Marathon/Triathlon events and trail clean-up days as part of the National Trails Day celebration. These types of events can provide public awareness, visibility for sponsors and fundraising opportunities for the trail system.

#### Recommendation E3: Safe Routes to School

Work with elementary, middle and high school students to develop Safe Routes to School infrastructure and programs. Opportunities exist to connect the trail system so that more children, faculty and staff will have the opportunity to get to school with a smaller carbon footprint and increase physical activity and outdoor recreation. Infrastructure and education/encouragement program funding is available through both the federal and state Safe Routes to School sources.

# Recommendation E4: Trails-Related Education Programs

The Town of Mammoth Lakes should work with the Forest Service, the Wilderness Society, the Valentine Reserve, local non-profit organizations, schools, other organizations and individuals to develop trail-related educational programs for children and adults. The programs should include organized tours and activities led by docents. Programs should also make full use of popular technological advances in order to attract the attention of children. Tours could be made available over the internet through the posting of tour descriptions and printable maps as well as audio narrations available for download to personal audio devices. The Town could also work with the school district to develop supervised educational programs where children can engage in GPS-based "treasure hunts", also known as

"geocaching". Active Living Research and the No Child Left Inside Coalition may also serve as important resources in the development of these programs.

# Recommendation E5: Trips for Kids

Work with local businesses, organizations to encourage the development of programs to provide moral and material support to children so that they may confidently participate in any of the numerous summer and winter activities commonly practiced in and around the Town of Mammoth Lakes. One potential model is the Trips for Kids program. Trips for Kids provides the materials, moral support and inspiration that an individual or group needs to help disadvantaged kids discover the joy of mountain biking. Operating in the United States and Canada, they open the world of cycling to at risk youth through mountain bike rides and Earn-a-Bike programs. The more than forty Trips for Kids chapters combine lessons in personal responsibility, achievement and environmental awareness through the development of practical skills and the simple act of having fun on a bike. Additional information is available at the organization's website, www.tripsforkids.org.

#### Recommendation E6: Establish a Trail Patrol

Mammoth Lakes can establish a volunteer-based trail patrol through MLTPA, the Mammoth Snowmobile Association, Mammoth Nordic, or other local organizations to supplement official law enforcement and maintenance efforts. IMBA provides training for both law enforcement officers and volunteers to use mountain bikes for these activities. Patrol services can range from general public assistance to trained backcountry search and rescue operations. Mammoth Lakes could also reactivate the existing "Adopt-a-Trail" program for paved paths and Nordic trails for litter control and limited light maintenance purposes.

## Recommendation E7: NGO's / Mammoth Trails

Support the development of an ongoing, organized, "local knowledge" based resource group(s), with expert technical knowledge on a variety of recreation activities, event coordination/promotion, and the long term stewardship commitment to inform all aspects of the Mammoth Lakes Trail system. An emerging Non-Governmental Organization (NGO) known as Mammoth Trails is a confederation of "... structured, sports and recreation-based organizations willing to share resources and engage collaboratively...", formally established by charter in April of 2008, and represents this kind of engagement effort. The mission of this unique and regularly convening collection of local user groups, agencies and enterprises is to inspire and create exceptional recreation experiences. Mammoth Trails can serve as a key resource for local user knowledge for the Mammoth Lakes trail system.

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<sup>&</sup>lt;sup>9</sup> A search on geocaching.com using the 93546 zip code turned up 462 "geocaches", which generally consist of a container and log book in a wilderness locations that can be found using GPS coordinates (5/2/08). This indicates that there is a base of local "geocaching" expertise in the Mammoth Lakes area.

# 4.11. Accessibility

An accessibility assessment of the Mammoth Lakes Trail system should be undertaken in anticipation of and during implementation of this trails plan. While initial efforts were undertaken by Beneficial Designs as part of the CAMP trails planning effort, a fully engaged and robust effort should be anticipated as the TSMP, once adopted, begins implementation.

# Recommendation A1: Multi-Use Paths and Trails Assessment

Perform a full assessment of all access routes, multi-use paths and trails using the Universal Trail Assessment Process (UTAP) to identify potential accessibility improvements.

#### Recommendation A2: Pedestrian Assessment

Perform a full assessment of all pedestrian routes and elements in the town using the Sidewalk Assessment Process to identify potential accessibility improvements.

# Recommendation A3: Signage and Information

Include grade and other accessibility information on trailhead signage and user maps. Error! Reference source not found. provides an example.

# Recommendation A4: Pathway Surface Materials

Accessibility concerns should factor into the selection of surface materials for all multi-use paths and pedestrian facilities. If surface materials other than concrete or asphalt are used, TOML should ensure that these surfaces are stabilized in order to maintain a smooth, firm surface. For example, decomposed granite should be stabilized wherever used.

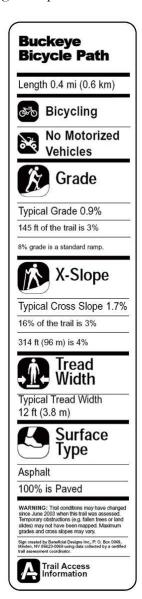


Figure 4-4: Sample Trail Access Information Sign

# 4.12. Long-Term Vision

The creation of the proposed system of trails and recreation nodes will be a major accomplishment for the Town of Mammoth Lakes. The proposed system provides is a visionary project that will add to this unique community which will require an extensive multi-partnered and multi-jurisdictional effort. Developing strong connections between the Town of Mammoth Lakes and surrounding federal lands is the most significant priority of the trail system in the short term. At the same time, there have been new visions expressed during the planning process that include longer-term ideas that will require additional study, public outreach and interagency collaboration. This section describes two longer-term projects: the Mammoth Creek Path and Sherwin Creek Road bike lanes, that will require additional study before they can be formally adopted for implementation.

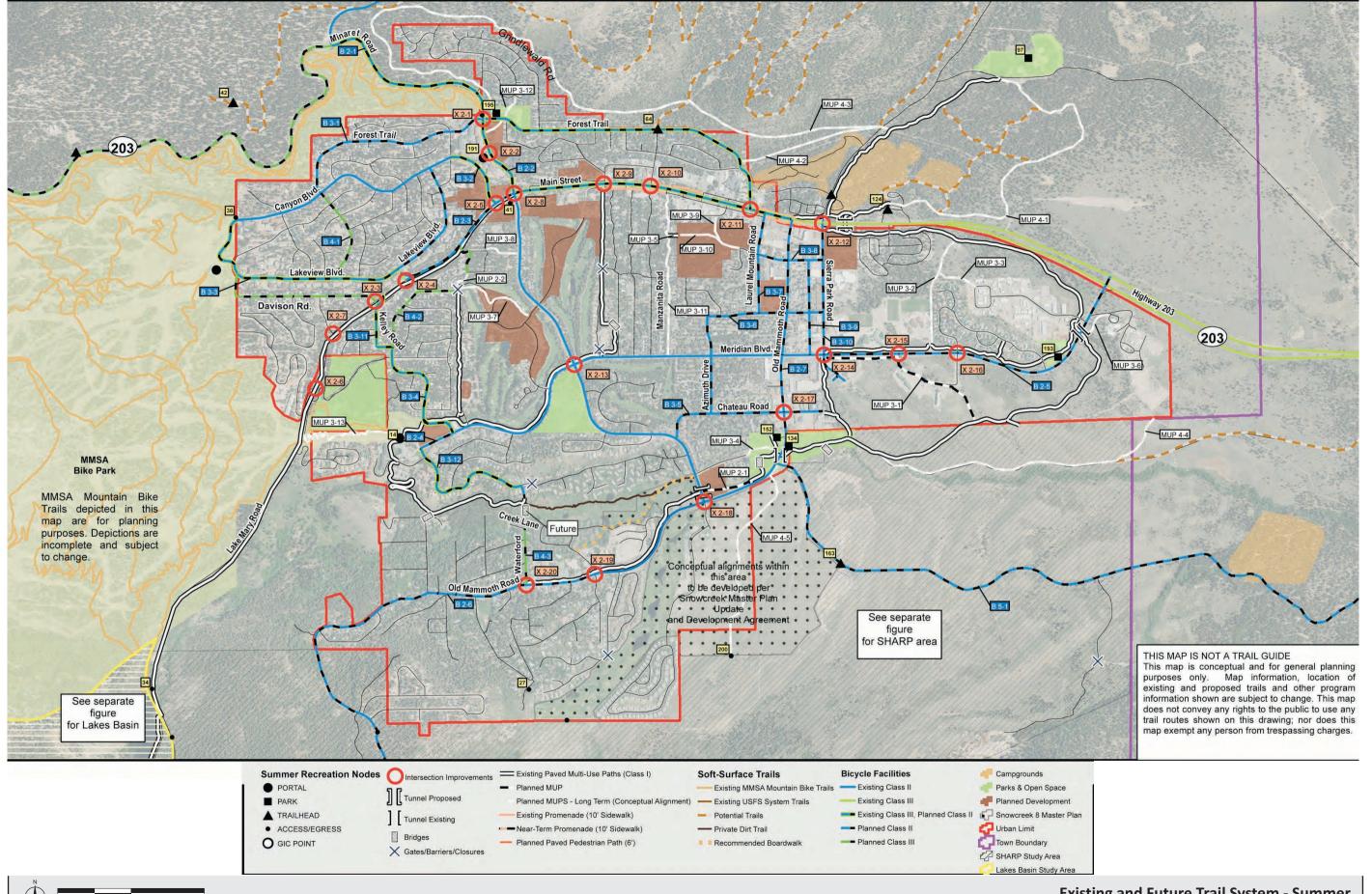
## 4.12.1. Sherwin Creek Road Bike Lanes

Paving Sherwin Creek Road would provide an opportunity to provide a more scenic alternative to Highway 203 for road bicycling and potentially for long-distance commuting from out-of-town locations such as Crowley Lake. Road bicyclists expressed a desire for such a route during the CAMP: Summer process, stating that it had potential recreational and commuter benefits. Further study in partnership with the Forest Service would be required to determine the feasibility of this project. Impacts to OHV/OSV users in the area would have to be addressed as well as consistency with other potential recreational infrastructure options in the area (see Attachment B).

# 4.12.2. Mammoth Creek Path

A paved multi-use path using the Mammoth Creek Road right-of-way could be developed to expand the network of paved MUPs. Mammoth Creek Road could also be maintained as a dirt/gravel trail for use by mountain bikers and/or equestrians.

CHAPTER 4. Future Trail System Recommendations
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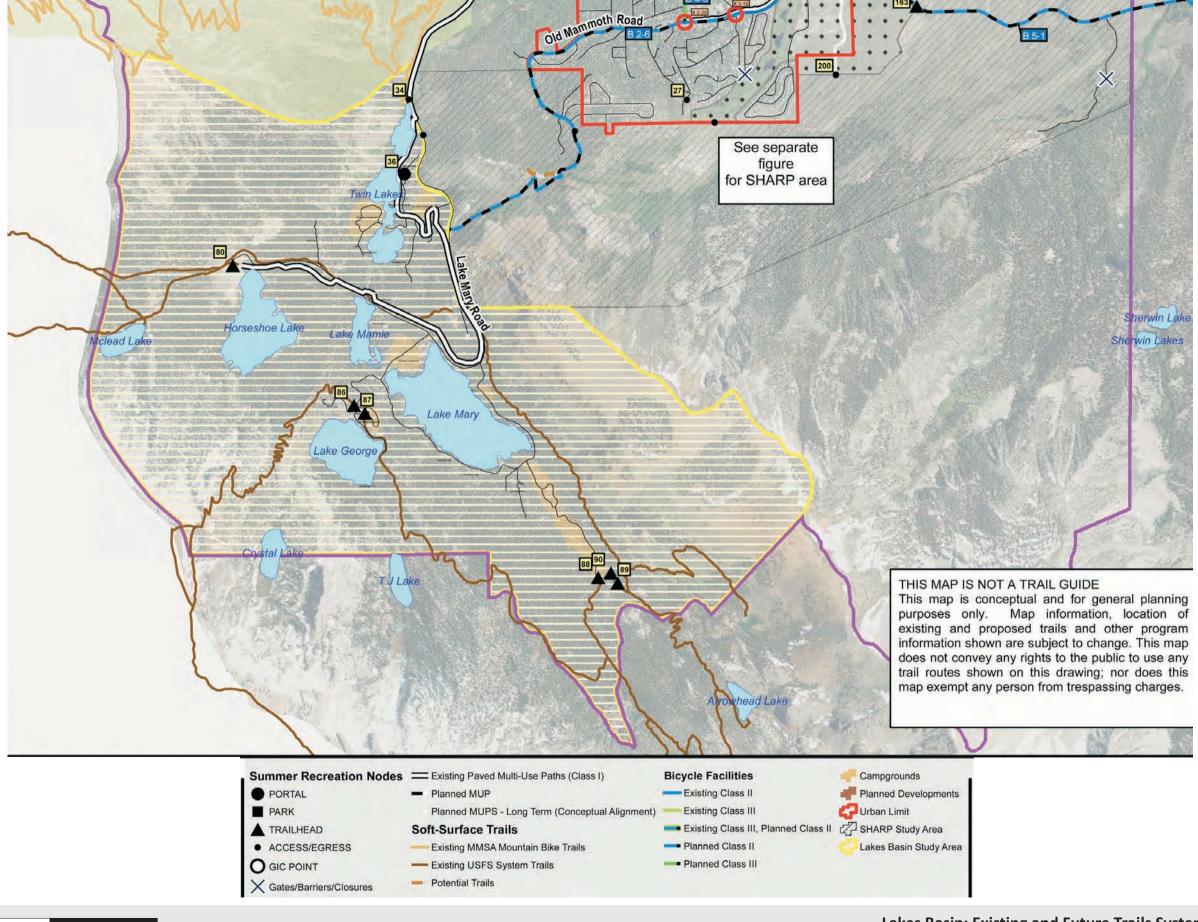




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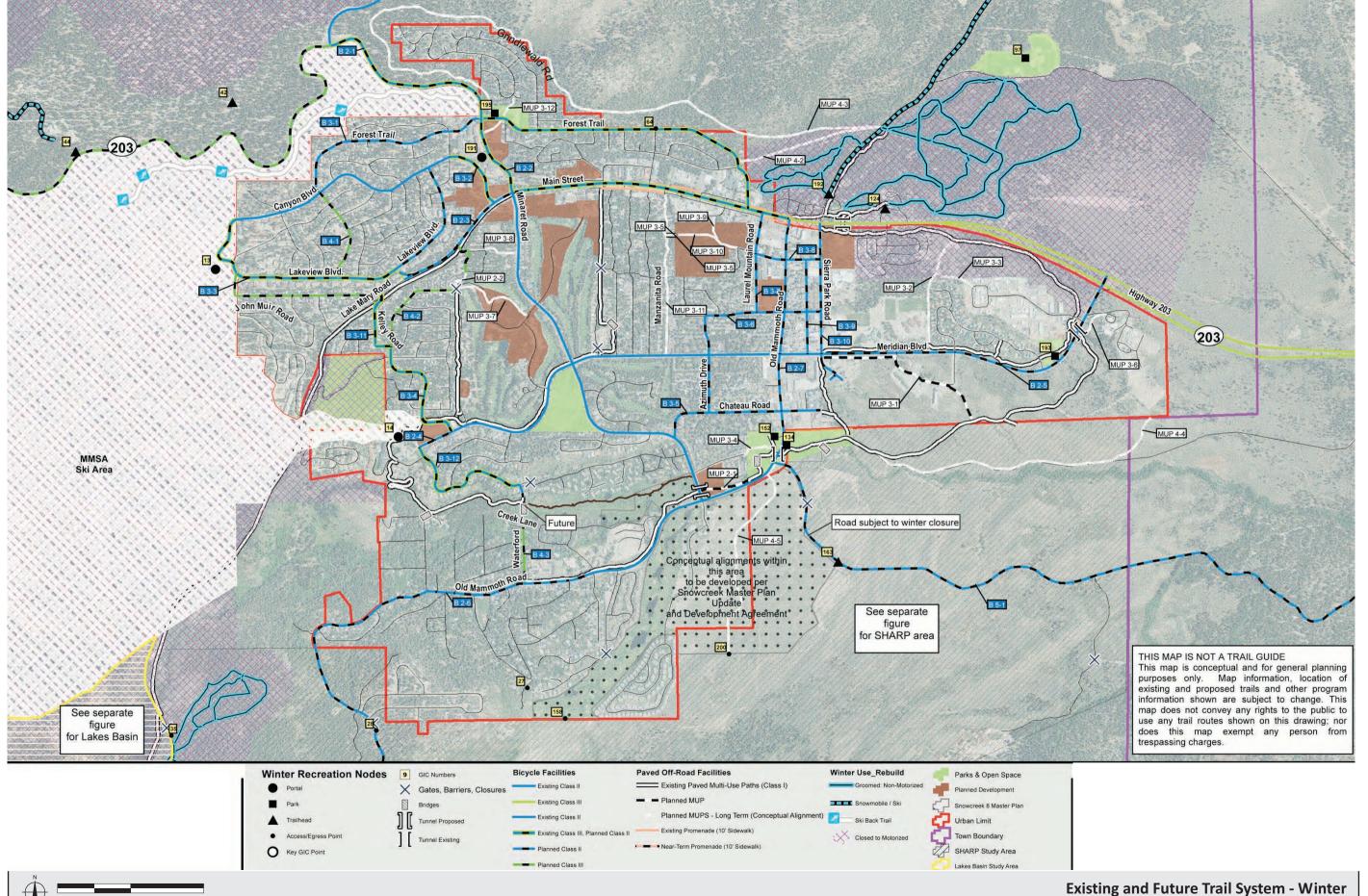
**Existing and Future Trail System - Summer** 

FIGURE





Lakes Basin: Existing and Future Trails System - Summer





.5 Miles

FIGURE

