Mammoth Lakes
CALIFORNIA

Walk, Bike, Ride DRAFT 2.0









JUNE 2017

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PLANNING + DESIGN



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CHAPTER 1

INTRODUCTION

The Town of Mammoth Lakes, nestled along the Sierra Nevada Crest southeast of Yosemite National Park, is a year-round recreation destination. Spring through fall, residents and visitors enjoy an extensive network of hiking and bicycling trails, fishing, boating, off road activities, and more. During snow season, Mammoth Lakes offers skiing, snowboarding, snowshoeing, and snowmobiling. Many of these activities take place on federal public lands, with the town serving as a gateway to frontcountry and backcountry experiences. Mammoth Lakes, an established leader among destination resort areas, aims to make transportation within and around the community easy and accessible for all of those who live, work, and visit the area.

The only incorporated town in Mono County, Mammoth Lakes is home to approximately 8,300 year-round residents. The region's unique recreation opportunities make it a popular choice for second home owners, vacationers, and new businesses, that are attracted by the combination of Digital 395 high-capacity broadband fiber network and easy access to world class recreation opportunities. On peak days, as many as 40,000 people visit the town and the surrounding mountains.

Access to and from Mammoth Lakes can be challenging. The town is a six hour drive from San Francisco, five hours from Los Angeles, and three hours from Reno in summer. The nearby Mammoth-Yosemite Airport serves visitors from farther away with a year-round flights from Los Angeles and multiple flights from Los Angeles, San Diego and San Francisco during the peak winter and spring seasons, as well as charter and private air service. These visitors then rent cars or take taxis into town. In winter, mobility choices can be limited by icy driving conditions and snow banks lining the streets and sidewalks.

A series of workshops and stakeholder meetings held in December 2016 were a centerpiece of the Walk, Bike, Ride process. These workshops presented existing conditions and collected stakeholders input on a wide range of potential mobility choices for Mammoth Lakes. The community and stakeholders shared support for the concepts presented here and a common vision of a walkable town center. For a summary of the workshop and draft mobility vision, see the Workshop Summary Memo appendix.

The purpose of Walk, Bike, Ride: Draft 1.0 (Plan) is to provide a framework of concrete steps the Town of Mammoth Lakes and its public and private partners can take to improve mobility in the region. Currently most visitors to Mammoth Lakes arrive and move around town in private automobiles. As Mammoth Lakes grows its residential, business, and visitor populations, the region's quality of life, economic success and environmental sustainability will be at risk from this dependence on private autos. Creating additional mobility options will not only enhance the visitor, resident, and business experience in Mammoth Lakes, but will improve public health and quality of life. This Plan provides the community with choices that will shift trips away from driving and make the act of moving around the town into an extension of the great outdoor lifestyle activities that surround Mammoth Lakes. Additionally, this Plan builds on the workshop findings and proposes achievable improvements to diversify and expand mobility choices that support a world-class recreation experience in the Town of Mammoth Lakes.

Figure 1 shows a conceptual graphic of proposed connections to The Town of Mammoth Lakes.

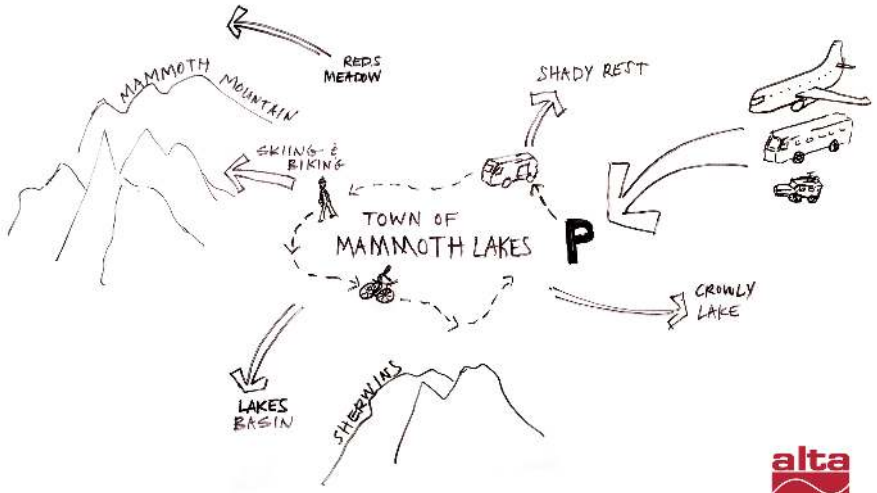


Figure 1: Mammoth Lakes mobility concept sketch

ENHANCING EXISTING MOBILITY

The Town of Mammoth Lakes lacks a defined center or downtown which results in reduced mobility choices. Main Street (State Route 203), provides the main access into town from US 395 and links to Mammoth Mountain Ski Area and Devil's Postpile National Monument. Main Street is a five lane road dominated by auto-oriented commercial uses accessed via frontage roads and fronting parking lots. Old Mammoth Road is the town's other major commercial corridor, also lined with a number of auto-oriented commercial shopping centers fronted by large parking lots. While sidewalks and designated bikeways exist along these roads, the dominance of car parking along the street frontage, large building setbacks, and general lack of a pedestrian scale means that most trips, even sometimes between adjacent shopping centers, are occurring via car. Walkability, measured by the Walk Score[1] tool, shows the current central part of Mammoth Lakes is considered "Somewhat Walkable" with Walk Score of 62. In contrast, the Village at Mammoth Lakes, a compact area of lodging and retail at the base of the ski area, is considered "Very Walkable" with a Walk Score of 85.

The lack of a town center spurred the Town to invest in the Main Street Plan. That Plan proposed a new district of walkable streets and new 'smart growth' oriented development. Many of Mammoth Lakes' peer communities, including, Telluride, Breckenridge, Jackson Hole, and Park City have created successful, walkable downtowns that are attracting new visitors and economic development.

This Plan expands from the town center to create a connected community that provides a full range of active mobility choices, including walking, bicycling, transit, and other innovations that enhance the unique experience of Mammoth Lakes. This Plan shows how the town can serve as a hub for future mobility, including walking, biking, riding, and new technologies. This vision of new mobility will provide a sustainable infrastructure for the future of Mammoth Lakes. By implementing this Plan, the community's built environment has significant potential to be a destination that integrates and compliments the surrounding natural landscape.

Existing mobility includes on-street and trail facilities for pedestrians and bicycles, as well as a fare-free transit service that includes buses, shuttles, trolleys, and a gondola. The Town's paved multi-use paths connect through town and to the recreational areas at the Mammoth Lakes Basin, Shady Rest Park, and areas south of the town center. Connections to recreational paved and soft-surface trails in the USDA Forest Service (USFS) trail system, and Gondola access to mountain facilities at the Village and Canyon Lodge extend the multi-modal network of Mammoth Lakes. ESTA and YARTS service the Mammoth Lakes area with multiple transit lines and vary seasonally (winter or summer).

The existing multi-modal mobility within Mammoth Lakes urban growth boundary is shown in **Figure 2**. This map includes pedestrian and bicycle networks, recreational connections, and locations of seasonal bus stops and transit routes. The recreation facilities within the town's planning area are shown in the **Figure 3** map. Trailhead locations are shown as well as the amenities provided at each site. Several of these locations within the planning area are proposed for transit/trail hub improvements that include information centers, bike kiosks and other amenities to enhance the experience of trail users.

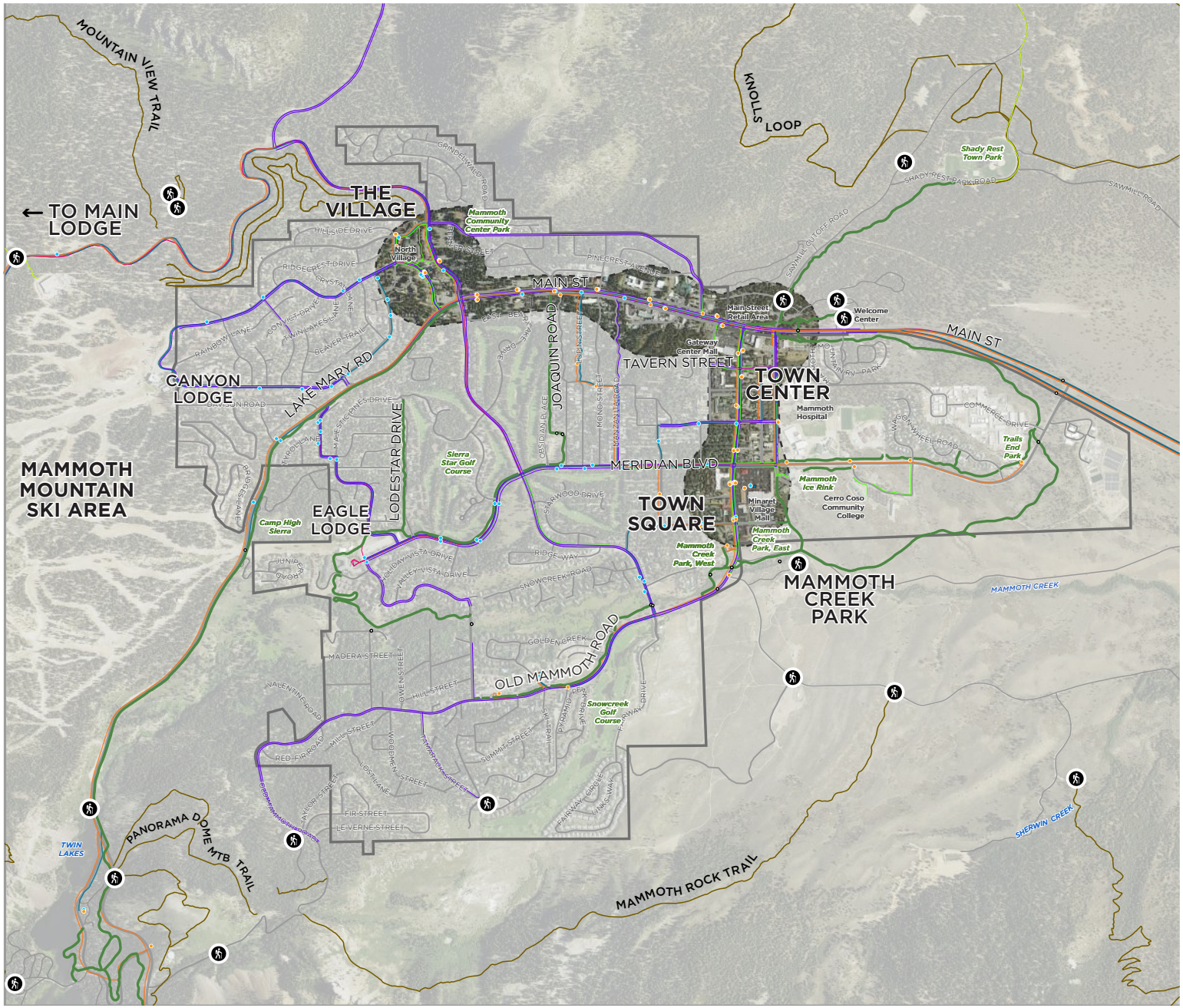


Existing multi-use path east of the town center and at the Lakes Basin

[1] *www.walkscore.com/methodology*

WALK, BIKE, RIDE MAMMOTH

EXISTING TOWN MOBILITY



LEGEND

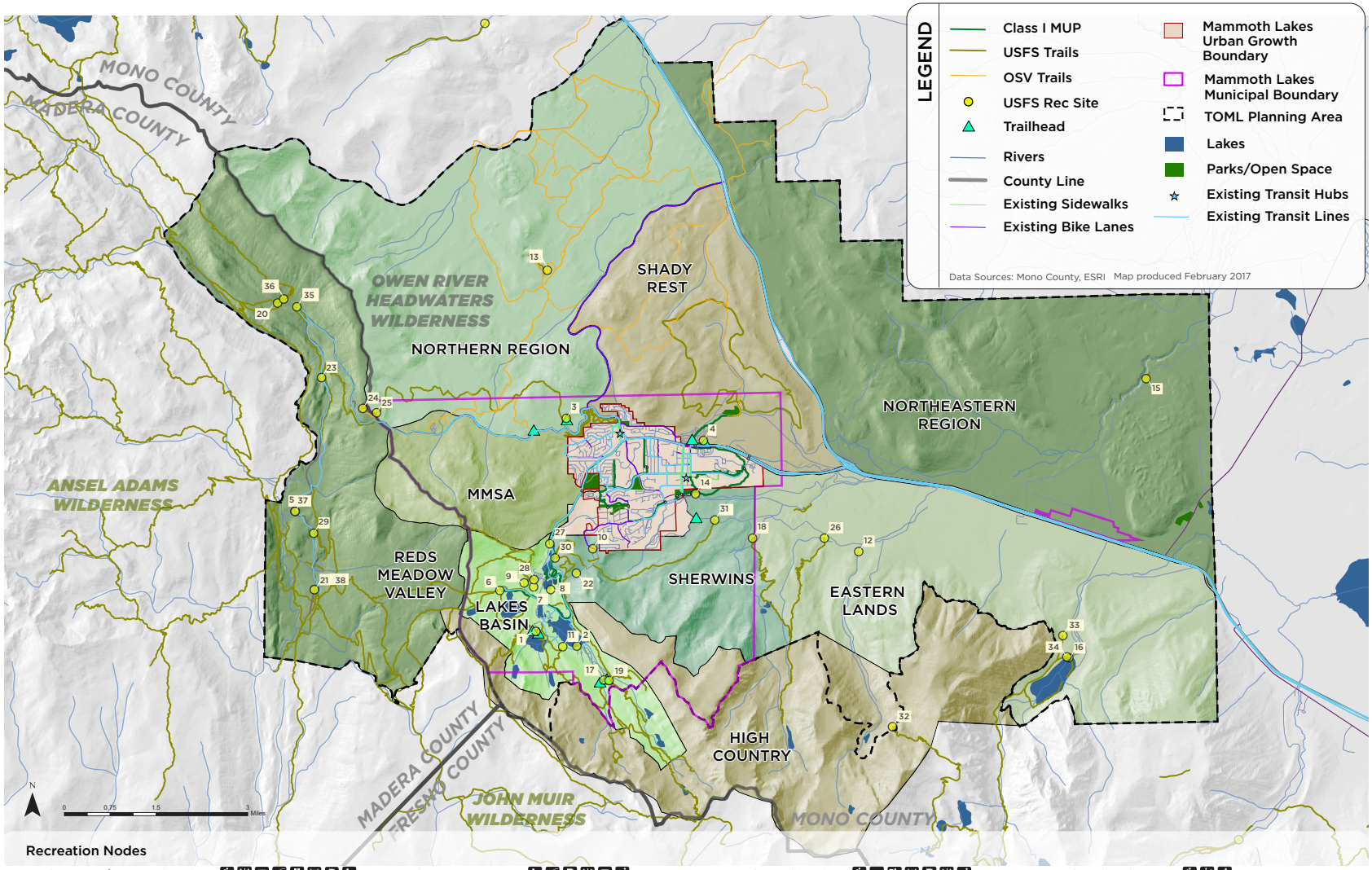
- TOML Urban Growth Boundary
- Pedestrian Priority Area (Mammoth Lakes Pedestrian Plan, 2014)
- MUP
- Siidewalks
- Pedestrian Bridge/ Tunnel
- Bike Lanes
- YARTS Route
- Transit Route (Summer)
- Transit Stop (Summer)
- Transit Route (Winter)
- Transit Stop (Winter)
- USFS Trail
- OSV Trail
- Trailhead

Data Sources: Mono County, ESRI
Map produced January 2017

Figure 2: Existing mobility network

WALK, BIKE, RIDE MAMMOTH

EXISTING REGIONAL MOBILITY



AMENITIES LEGEND

- RESTROOMS
- PICNIC
- WATER
- PARKING
- NATURE WATCHING
- TRASH
- RANGER
- PHONE
- VIEWPOINT
- SCENIC
- INTERPRATIVE SIGN
- EQUESTRIAN
- BOAT RAMP
- FISHING
- SWIMMING
- MARINA
- HIKING
- X-COUNTRY SKI
- CANOEING
- CAMPING

Recreation Nodes

1. Lake George / Deer Creek Trail
2. Lake Mary Marina
3. Earthquake Fault
4. Mammoth Welcome Center
5. Minaret Lakes Trail (to JMT/PCT)
6. Red Cones Trail
7. Twin Lakes
8. Twin Lakes Camp
9. Twin Falls Overlook
10. Mill City
11. Lake Mary
12. Sherwin Creek Camp
13. Inyo Craters
14. Hayden Cabin
15. Hot Creek
16. Convict Lake
17. TJ Lake
18. Sherwin Lakes Trail
19. Duck Pass Trail
20. Shadow Creek Trail
21. Rainbow Falls Trail
22. Mill City
23. Starkweather Lake
24. Minaret Vista
25. Mountain View Trail
26. Valentine Lake Trail
27. Twin Lakes Vista
28. Mammoth Pass Trail
29. Sotcher Lake Feeder
30 Panorama Dome
31. Mammoth Rock Trail
32. Laurel Lakes
33. Convict Creek Trail
34. Convict Lake / Loop Trail
35. Agnew Meadow
36. High Trail
37. Fern Lake Trail
38. Fish Creek Trailhead

Figure 3: Existing mobility and amenities in a regional context

CHAPTER 2

WALK, BIKE, RIDE

This Plan supports the growth of Mammoth Lakes as a year-round accessible recreation destination, with seamless connections between great destinations and high-quality mobility choices. It envisions a unique mobility system for Mammoth Lakes based on hubs at key locations: the town center, resort lodges, gateways, and trailheads. These hubs will combine information centers with long-term parking and connections to other transportation modes, encouraging visitors to park once and use active mobility and transit more often. Key elements of the proposed new mobility infrastructure include: walking and bicycling facilities within the town center, a system of front country trail loops that are already in development per the Town's adopted Trail System Master Plan, expanded gondola lines that serve as transportation facilities, enhanced transit services, and new technologies. Wayfinding and information solutions will enhance the use of these mobility choices by providing current, accessible information. The mobility system will connect these hubs to other key destinations and provide enjoyable experiences that make mobility an integral part of the Mammoth Lakes landscape. This vision is illustrated in the proposed mobility map with multi-modal connections and key locations (**Figure 4)** and the proposed regional mobility map (**Figure 5)**.



Local cross-country skier on Lakes Basin Path



Lakes Basin Path at the Twin Lakes Vista



View from the Village Gondola to Mammoth Mountain

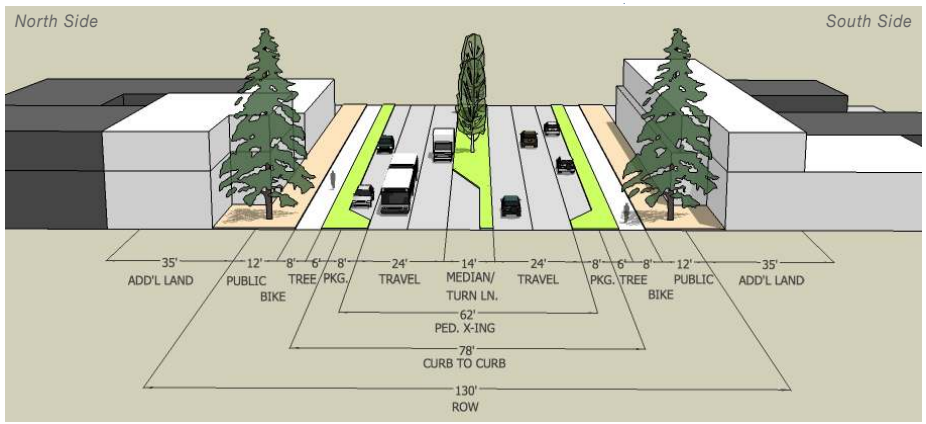
PROPOSED MOBILITY

Within the Town of Mammoth Lakes, the Plan seeks to promote multi-modal connections from the town center and major destinations, eliminating the need for a car. The goal is to extend mobility options throughout Mammoth Lakes and into the greater planning area for the town.

The proposed mobility vision (**Figure 4)** closes the gaps in the multi-use paths, creates connections to additional trails in the front and backcountry that grow in difficulty as they extend out beyond the town. These loops provide users of all abilities opportunities to access town and recreation amenities. Proposed mobility hubs allow visitors to park once and then explore the town and surrounding area by walking, biking and transit. These hubs welcome and connect visitors to the greater Mammoth Lakes area and provide residents with centralized resources for transit, car share, bike share, and integrated commercial and residential uses. Proposed hub amenities include charging stations for electric vehicles, carshare locations which will allow visitors to use the Town of Mammoth Lakes as home base to explore other nearby locations, and bicycle share for use to explore the town. The hub locations, considered in the Main Street Plan, the Parking and Snow Management District Feasibility Study, and the Mobility Element, connect the town center, the village, local lodges and housing, and the mountain by way of gondola and enhanced transit. Concept images from previous planning efforts for Main Street are shown below.

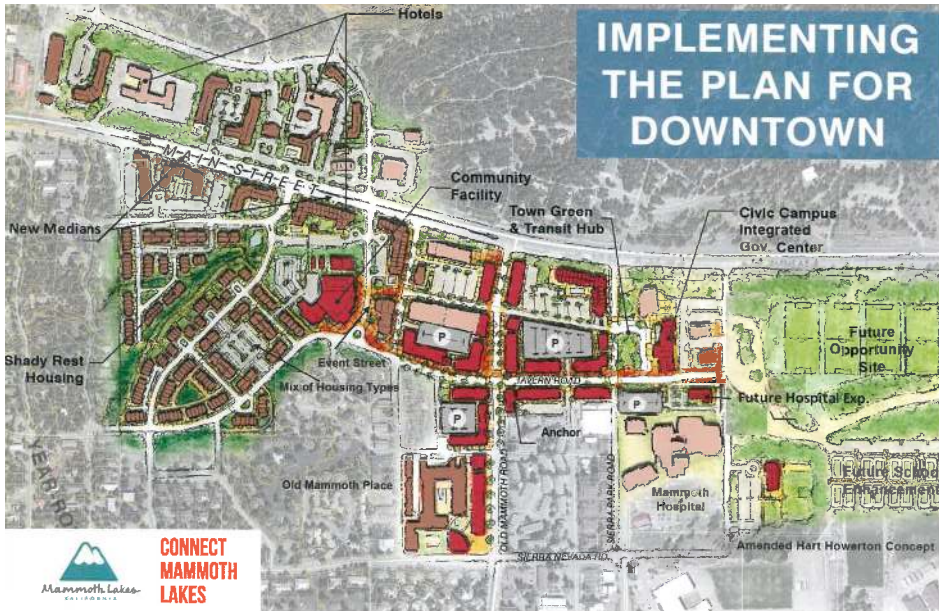
A key element of the Plan is to provide access for all seasons while creating an ideal environment not just for recreation on the mountain and in the lakes basin, but to the many other connecting front and backcountry areas. Proposed transit to trail hubs include updated trailhead amenities for transit to trail access, shown on **Figure 4** and in a regional context in **Figure 5**. These hubs promote the use of transit to limit vehicle use and congestion in heavily used areas, while facilitating hiking, biking, and exploring the diverse trails and lakes surrounding the town. Amenities at these hubs vary by need, size, and usage, but may include restrooms, transit shelters, and high-tech transit information areas, interpretative information, bike racks, bike share or rental kiosks, parking, and seating or picnic areas. Phased implemention could begin with enhanced transit service and follow with amenities. Details on all hubs and potential amenities at each location are found on **Figure 5**.

PREVIOUS PLANNING EFFORT CONCEPTS



The suggested Main Street design includes a landscaped median with turn lanes, travel lanes, on-street parking, and a detached cycle track and sidewalk adjacent to building frontages.

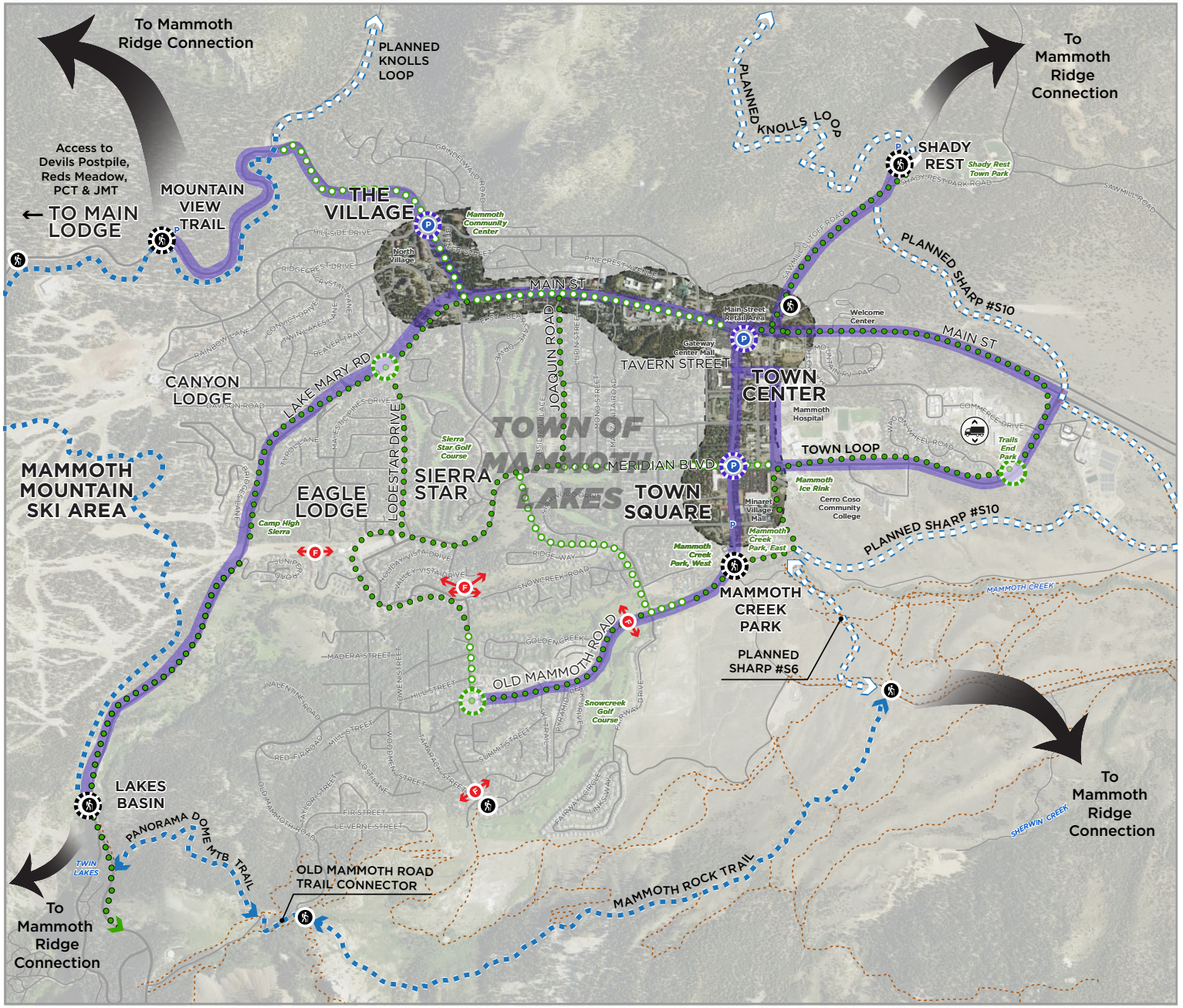
Recommended design for Main Street
(Mammoth Lakes Main Street Plan, 2014)



Vision for Main Street and downtown
(Ammended Hart Howerton Concept)

WALK, BIKE, RIDE MAMMOTH

PROPOSED MOBILITY



LEGEND

TOWN LOOP
- Existing
- Planned

HIKE/BIKE LOOP
- Existing
- Planned
- Sherwin Area Recreation Plan Trails (SHARP) TSMP 2011
- Transit Connection
- Pedestrian Priority Area (Mammoth Lakes Pedestrian Plan, 2014)
- Fire Access Point
- Mobility Hubs
- Transit to Trail Hubs
- Transit Nodes
- Parking Area
- Parking Small Lot
- Freight Transfer
- Trailhead

Data Sources: Mono County, ESRI
Map produced January 2017

Figure 4: Proposed mobility map

PROPOSED REGIONAL MOBILITY

The Plan promotes a seamless connection between the town, the frontcountry, and recreation destinations throughout the town's planning area for those staying in Mammoth Lakes. Updated amenities and the creation of mobility hubs extend the network from the town center into the Inyo National Forest and Wilderness areas surrounding the town.

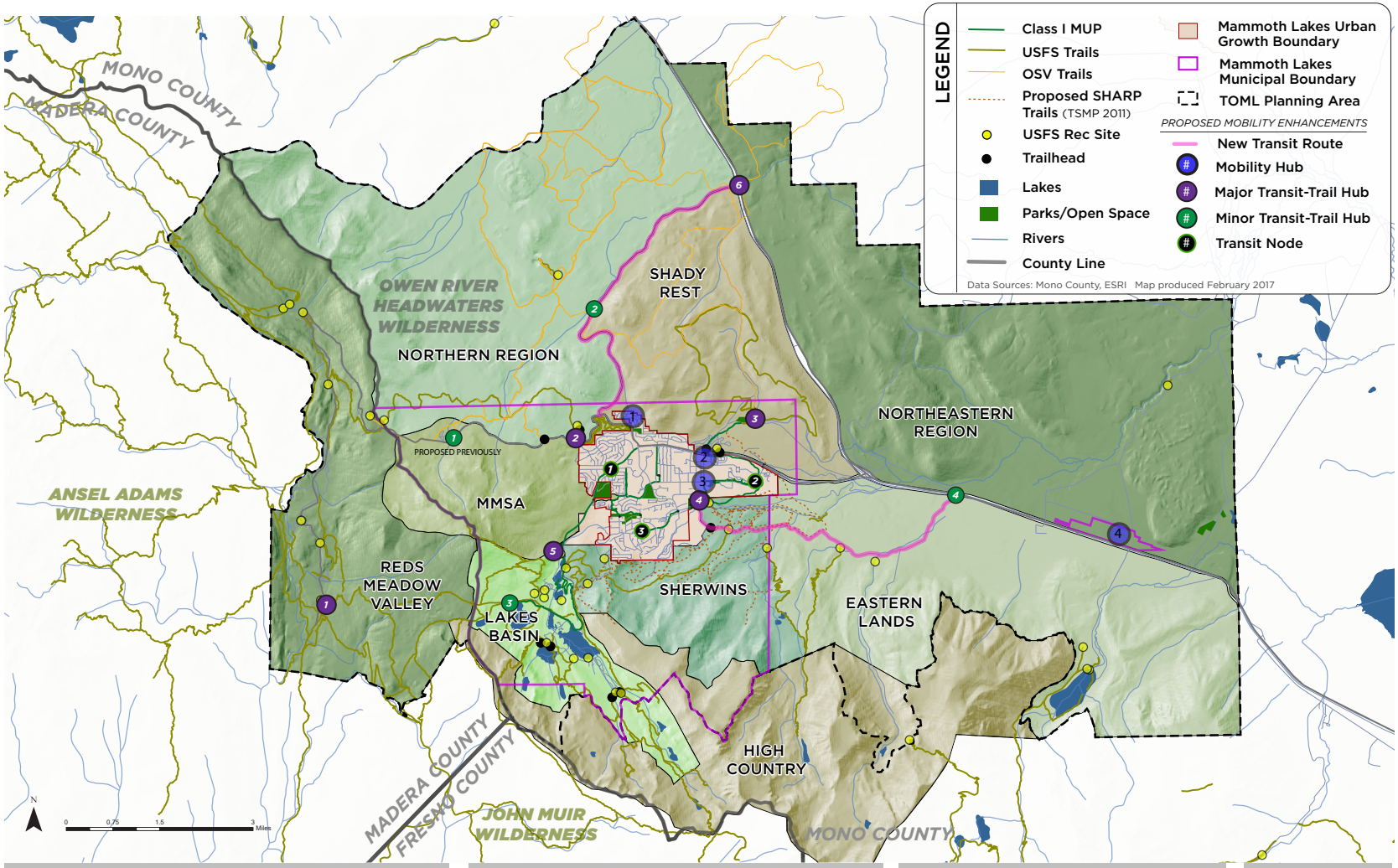
Table 1 and **Figure 5** show the proposed regional mobility network and the enhanced amenities provided at the proposed mobility hubs.

Details of recommended improvements can be found in the following chapters.

Table 1: Mobility Hub Details

Hub Code	Hub Name	Details
MH-1	Village Mobility Hub	Provides parking and multi-use development including retail and residential opportunities*
MH-2	Town Center Mobility Hub	Provides parking, car share, bike share, transit and local information. Gondola access provides access to the Village Hub. Pedestrian focused center connects to the Town Loop*
MH-3	Town Square Hub	Provides parking, transit and gondola access to lodging west of town and access to outlying recreation*
MH-4	Aiport Mobility Hub	Provides parking, transit, shuttles, rentals, and local information**
MajTT-1	Red's Meadow Hub	Transit to trail facility, enhanced trailhead**
MajTT-2	Mountain View Trail Hub	Transit to trail facility, enhanced trailhead**
MajTT-3	Shady Rest Hub	Transit to trail facility, enhanced trailhead**
MajTT-4	Mammoth Creek Park Hub	Transit to trail facility, enhanced trailhead**
MajTT-6	Lakes Basin Hub	Transit to trail facility, enhanced trailhead**
MajTT-6	Northern Gateway Hub	(PROPOSED TRANSIT) Connector transit hub**
MinTT-1	Mammoth Mountain Inn Hub	YARTS end of line enhanced transit facility.**
MinTT-2	Inyo Crater Hub	(PROPOSED TRANSIT) Transit to trail facility**
MinTT-3	Horseshoe Lake Hub	Transit to trail facility, enhanced trailhead**
MinTT-4	Sherwin Creek East Hub	(PROPOSED TRANSIT) Transit to trail facility**
TN-1	**N/A**	Sheltered mid trip facility for transit*
TN-2	**N/A**	Shelterd end of trip facility for transit*
TN-3	**N/A**	Sheltered end of trip facility for transit*

Key:
MH-#=Mobility Hub Location
MajTT-#= Major Transit-Trail Hub Location
MinTT-#= Minor Transit-Trail Hub Location
TN-#=Transit Nodes
**= WITHIN TOWN*
***=WITHIN PLANNING AREA*



AMENITIES LEGEND

- PARKING
- TRANSIT STOP
- BIKE SHARE
- CAR SHARE
- CHARGING STATION
- INFORMATION
- HOUSING
- RETAIL
- GONDOLA ACCESS
- SMART TECH
- RESTROOMS

Mobility Hub

1. VILLAGE MOBILITY HUB
2. TOWN CENTER MOBILITY HUB
3. TOWN SQUARE MOBILITY HUB
4. AIRPORT MOBILITY HUB

Major Transit-Trail Hub

1. REDS MEADOW HUB
2. MOUNTAINVIEW TRAIL HUB
3. SHADY REST HUB
4. MAMMOTH CREEK PARK HUB
5. LAKES BASIN HUB
6. NORTHERN GATEWAY HUB

Minor Transit-Trail Hub

1. MAMMOTH MOUNTAIN INN HUB
2. INYO CRATER HUB
3. HORSESHOE LAKE HUB
4. SHERWIN CREEK EAST HUB

Transit Nodes

1. 2. 3.

Figure 5: Proposed regional mobility map

MOBILITY STRATEGIES & ACTIONS

To advance the mobility vision for Mammoth Lakes, a series of specific actions are recommended for the community. These actions, described in detail on the following pages, are organized under five broad strategies:

- **Built Environment** actions address changes to infrastructure that improve or expand mobility options in the community
- **Technology** actions make use of emerging information tools to create a seamless mobility experience for residents and visitors
- **Operations** actions improve the efficiency or quality of mobility and recreation choices through maintenance or other procedure changes
- **Policy & Guideline** actions set the regulatory framework to support the new mobility vision
- **Financing & Economic Development** actions identify sustainable funding opportunities to create and maintain the transportation system

Several actions address multiple mobility strategies, as shown in **Table 2.**

Table 2: Mobility Strategy Matrix

ACTIONS	Mobility Hubs	Transit/Trail Hub Connections	Expanded Gondola System	Loop Trails	Complete Streets	Transit-Only Routes	Fire Access	Long Distance Hiking Hub	Sheltered Amenities	Bike Share	Car Share and Ride Share	Super App	Smart Technology and Digital 395	Transit Frequencies	Snow Management	Recreation Support Facilities	Active Recreation Shuttles	Mobility Partnership	E-bikes	Wayfinding Signage	Enhanced Infrastructure Financing District	Local and Regional Partnerships
Built Environment	▲	▲	▲	▲	▲	▲	▲	▲	▲							▲						
Technology								▲		▲	▲	▲	▲									
Operations		▲					▲					▲		▲	▲	▲	▲	▲				
Policies & Guidelines					▲													▲	▲	▲		
Financing & Economic Development																					▲	▲

ADVANCING MOBILITY CHOICE

In order to benchmark the progress and suggest an implementation strategy for Walk, Bike, Ride, the proposed actions have been categorized into three levels: Bronze, Silver and Gold. Each level will help the town reduce dependence on private automobiles, and can be measured in the increased amounts of usage for walking, bicycling, transit and other mobility travel modes. Reaching each level will require continued levels of resources over time, and these benchmarks will help make Mammoth Lakes a leader among four season mountain resort communities.

Bronze Level

Implementing the following strategies represents the first step in achieving a more balanced multi-modal transportation network for the residents and visitors of Mammoth Lakes. The town may not observe dramatic shifts in vehicle use once these strategies have been achieved, but they lay the foundation for a world-class transportation system.

Actions to implement at the Bronze level:

- Wayfinding signage (Municipal, Trail, and Soft Surface)
- Transit/trail hub connections
- Transit frequencies
- Loop trails
- Complete Streets
- E-Bikes policy
- Sheltered amenities
- Recreation amenities
- Snow management
- Fire access
- Super App
- Local and regional partnerships
- Mobility partnership
- Enhanced infrastructure Financing District (EIFD)

Estimated growth in New Mobility: **+4-8%**

Silver Level

The jump from Bronze to Silver represents a significant commitment of resources in the development of enhanced transit/trail connections, increasing transit frequency, providing additional transportation alternatives via car and bike sharing systems, and sharing information via a Super App.

Actions to implement at the Silver level:

- **All of the Bronze level actions**
- Transit-only routes
- Active recreation shuttles
- Bike share
- Car share/ride Share

Estimated growth in New Mobility: **+8-25%**

Gold Level

Implementing the Bronze and Silver level strategies will provide greater mobility options, but may only result in an incremental shift in vehicle use. A complete streets network and local loop trail in town combined with more frequent and expanded transit service to carry residents and visitors to their destinations will be supported at the gold level with two transformational projects: mobility hubs with centralized parking and expanding gondola service. Without a supporting network to connect people seamlessly to their destinations, these large scale investments will fail to achieve a large shift in vehicle use. These strategies combined with creating a hiking hub and offering gigabyte internet will help Mammoth Lakes achieve world-class distinction.

Actions to implement at the Gold level:

- **All of the Silver level actions**
- Mobility hubs
- Expanded gondola system
- Long distance hiking hub
- Smart technology and digital 395

Estimated shift in New Mobility: **+25-50%**

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CHAPTER 3

ACTION STRATEGY

The implementation of these recommended actions will take a collective effort by the Town of Mammoth Lakes, the neighboring US Forest Service, local businesses and community groups, regional transportation partners, and others.

Some of the actions can be implemented immediately, while others may require further study or funding before moving forward on a short-, medium-, or long-term timeline. Immediate steps the Town can take to begin implementing the mobility vision include:

- Adopt NACTO and Small Town and Rural Design Guide
- Form a governing board for an EIFD
- Identify grant programs or other funding sources to advance recommendations

Tables 3 describes the short term (1-5 years) , medium term (5-10 years), and long term (10+ years) actions that the Town and its partners can begin with to advnace the actions identified in the Walk, Bike, Ride Plan.

Table 3: Mobility Actions Implementation Strategy

Action	Lead	Partners	Action Steps
SHORT TERM ACTIONS (1-5 YEARS)			
Mobility Partnership	Town	Trails Coordinator, Mono County, MMSA, Mammoth Lakes Tourism, Mammoth Lakes Fire Department, USFS, NPS, MLTS	Formalize a protocol for a Mobility Working Group and identify a Mobility Leader to direct and ensure implementation of these recommended actions.
Loop Trails	Town	USFS	Identify MUP segments with available space to expand the pathway for multiple users: bikes, e-bikes, runners, hikers, and pedestrians. Secure funding for construction of planned segments and proposed gaps. Coordinate with USFS to establish a maintenance agreement and address other considerations for trails that pass through federal land. Discuss fee waivers with MMSA to allow free access for bikes (i.e. no pedal pass).
Mobility Hubs	Town	MMSA, Developers, Business Owners	Develop a plan for unknown/future mobility needs. Explore existing parking limitations and determine if allowing private parking on public property is viable. Identify potential development partners. Consider and select available parcels (city owned, surface parking). Confirm other uses or elements the site will include based on recommendations and partnership opportunities.
Transit/Trail Hub Connections and Active Recreation Shuttles	Town	Trails Coordinator, ESTA, YARTS, USFS, BLM, ESTA	Develop data set that formalizes trail connections. Inventory and prioritize amenity locations where shelter is needed. Coordinate transit with master planning efforts on federal lands (MMSA). Coordinate with YARTS, Mono County, ESTA, and Shuttle Services regarding additional/upgraded service to these locations. Discuss guiding service amenities (e.g. shuttles for guided groups to trailheads on as-needed basis.)
Recreation Support Facilities	Town	MMSA, USFS, Community groups	Complete inventory, currently underway, of Federal amenities as well as Town amenities to includes photos of existing conditions.
Sheltered Amenities and Transit Frequencies	Town	ESTA	ESTA should conduct ridership counts on a stop-by-stop basis. This will allow better data for future transit decisions and direction on where enhanced transit stops should be accommodated. Data protocols should be updated - ESTA should use electronic counting systems for ridership.
Local and Regional Partnerships	Town	Mono County, MMSA, Mammoth Lakes Tourism, Mammoth Lakes Fire Department, USFS, NPS, June Lake, Bridgeport, Bishop, Lee Vining, Caltrans	Review current multi-agency groups and incorporate recreation into existing groups. Town staff to consider roles and responsibilities as part of existing and future MOUs.
Enhanced Infrastructure Financing District (EIFD)	Town	Business Owners	Identify infrastructure improvements that could be included in an EIFD. These could include: parking, broadband, mobility/transit/trail hubs. Then narrow that list to focus on improvements that will provide a substantial benefit to property owners with community support.
Fire Access	Town	Mammoth Lakes Fire Department, Home owners	Develop policy that states that the Town will review and incorporate fire district connectivity in projects as they are processed through the Town.
Smart Technology/Digital 395	Town	June Lake, Bridgeport, Bishop, Lee Vining	Incorporate this project into the Broadband task force scope of work. Town staff to create maps to show where fiber should go with the Town and in the Planning Area, focusing on areas where people are gathering and connecting to the many recreational opportunities This can employ mapping similar to Race Communications maps for Crowley Lake.

Action	Lead	Partners	Notes
Super App	Town	Tech Developers, Mammoth Lakes Tourism, Community Groups	Integrate into the analysis being conducted by Momenta. There is an opportunity to use existing apps that help get people outside (e.g. Totago). Identify a single point of contact for information from the Town.
Wayfinding Signage	Town		Develop one system/program that incorporates all signage from soft surface to hard surface. Update existing signage and provide signage that reflects 21st century technology/values.
E-bikes	Town	Mono County, USFS	Draft language for e-bike community and Main Street business owners to review. Integrate into Wayfinding signage program updates.
MID TERM ACTIONS (5-10 YEARS)			
Snow Management	Town	Business Owners, School District, Neighborhood groups	Present information to Town Council and LTC. Include information from Main Street improvements (sidewalks) and tools for managing snow in this area. Consider forming a Business Improvement District to deal with snow differently in the retail areas. Snow management should consider enforcement.
Expanded Gondola System	Town	MMSA	Conduct a flyover easement analysis should be conducted to determine the feasibility of gondola locations.
Long Distance Hiking Hub	Town	Trails Coordinator, USFS	Trails coordinator to work with the PCT association and develop program to make recommendations on where hubs could be located.
Bike Share Pilot	Town	USFS, Private Sponsor	Test bike share in the pedestrian zone from the Pedestrian Master Plan.
Long Distance Hiking Hub	Town	Trails Coordinator, USFS	Trails coordinator to work with the PCT association and develop program to make recommendations on where hubs could be located.
Bike Share Pilot	Town	USFS, Private Sponsor	Test bike share in the pedestrian zone from the Pedestrian Master Plan.
LONG TERM ACTIONS (10+ YEARS)			
Complete Streets	Town		Identify appropriate streets for redesign, in addition to Main Street, such as Meridian Boulevard, Old Mammmoth Road, Tavern Road, Laurel Mountain Road, Sierra Nevada Road, and Sierra Manor Road.
Transit-Only Routes	Town	ESTA, MMSA	Identify additional routes that may benefit from transit-only designations, such as the Lakes Basin area. Form a partnership with recreation areas, park services, and transit providers to fund and support shuttle services and consider redistribution of parking.
Bike Share	Town	USFS, Private Sponsor	Evaluate feasibility and best model for a bike share program. Consider finding a sponsor or partners to share costs of launching and operating a system.
Car Share and Ride Share	Private Sector	Town	Evaluate feasibility of a car share and ride share programs.

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CHAPTER 4

BUILT ENVIRONMENT ACTIONS

MOBILITY HUBS

One of the main challenges identified during the mobility workshop sessions is a lack of defined community hubs that can provide long-term or overnight parking in Mammoth Lakes. Additional parking near Main Street was the second most popular improvement requested in the community survey. Vehicles cannot be parked on town roads during winter due to snow removal and storage needs. At the same time, parking is just one of many mobility tools; as a destination resort community, it is important for Mammoth Lakes to create great community places that serve multiple purposes, not just to create parking lots.

Creating centralized mobility nodes with access to other transportation choices can reduce driving both within the town and to regional destinations. Visitors will be able to park when they arrive in town and then take transit, walk, bicycle, or ride a gondola to their destinations and recreation activities. This will support economic development, reduce congestion during peak travel times in town, and will contribute to a more sustainable transportation system by reducing emissions from private vehicles. In the community survey conducted for this plan, 88 percent of respondents supported this "park once" model. Covered parking can be combined with other uses in mobility structures for maximum efficiency, including ground-floor retail, rooftop recreation areas, bicycle parking, and transit stations.

Recommendation

This Plan recommends creating centralized mobility structures at the village, the town center, the town square, and the airport. As recommended in the Parking and Snow Management District Feasibility Study, each structure could include 180-330 parking spaces in 2-4 levels depending on available space and anticipated demand. The village hub will expand on the existing hotel and condo development in this area with a direct connection to the mountain, incorporating ground floor retail, housing, car share, and bike share, and transit connections. The town center hub will be an important information center for visitors entering town with recommended gondola connections. The town square hub is situated in the heart of the civic area. These three hubs serve the pedestrianized zone recommended in the Mammoth Lakes Pedestrian Master Plan (2014). The airport hub, outside of town, will provide mobility choices and information for those entering Mammoth Lakes by air.

To begin this effort, the Town can:

- Identify potential development partners
- Consider and select available parcels (city owned, surface parking)
- Confirm other uses or elements the site will include based on recommendations and partnership opportunities

Figure 6 shows hub locations and **Figures 7-9** show site plans and photo-visualizations for two mobility hubs in Mammoth Lakes.

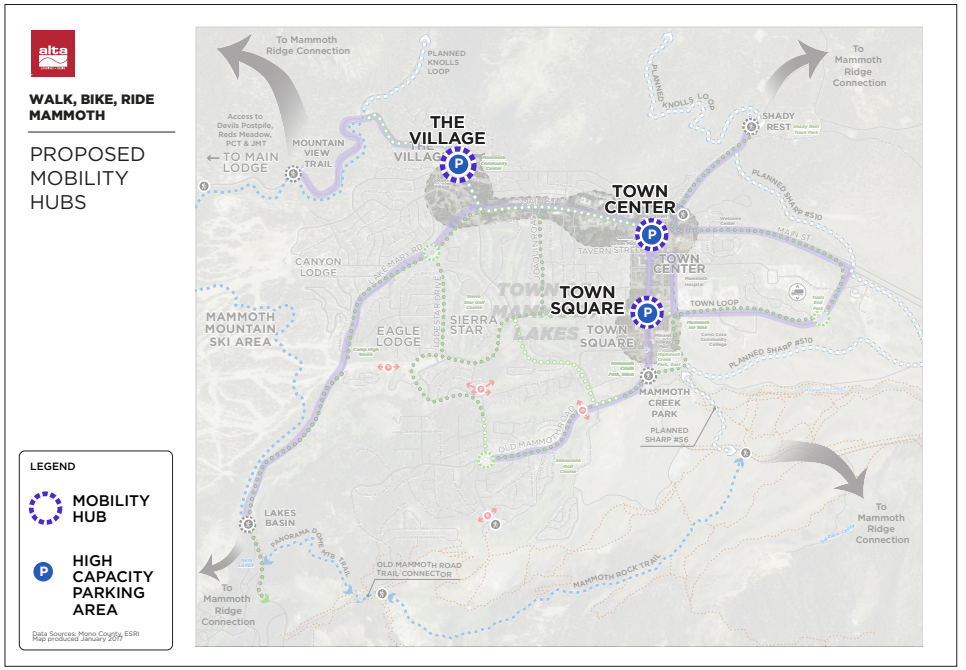


Figure 6: Mobility hub locations

MOBILITY HUBS

Recommended elements include:

PEDESTRIAN FRIENDLY STREETSCAPE
Expanded sidewalk, consider special paving, incorporate street trees, and lighting.

GATEWAY ELEMENTS
Special signage and art elements to mark these locations.

INFORMATION & WELCOME CENTER
Sheltered space that provides real-time information for transit, rentals, recreation amenities, and trail conditions, as well as, internet access, seating, restrooms, and cafe.

TRANSIT CONNECTIONS
Covered bus drop-off areas to accommodate commuter bus, shuttle and trolley vehicles (3-4 spaces).

BIKE SHARE & BIKE PARKING
One bike share facility with space for 15-20 bikes (400-800 SF) and additional space for parking (12 SF per bike).

PARKING GARAGE
Recommended 2-4 levels with 180-330 parking spaces, as described on page 11.

ELECTRIC CAR CHARGING
Space for 5-10 vehicles with charging stations.

CAR SHARE
Space for 5-10 vehicles to park (900-1800 SF) and a kiosk for service (250SF).

TAXI/RIDE SHARE ZONES
Space for taxi service and "Kiss & Ride" pick up and drop off (5 vehicles = 115 FT in length).

GONDOLA STATION
The hub structure incorporates access to an expanded gondola system.

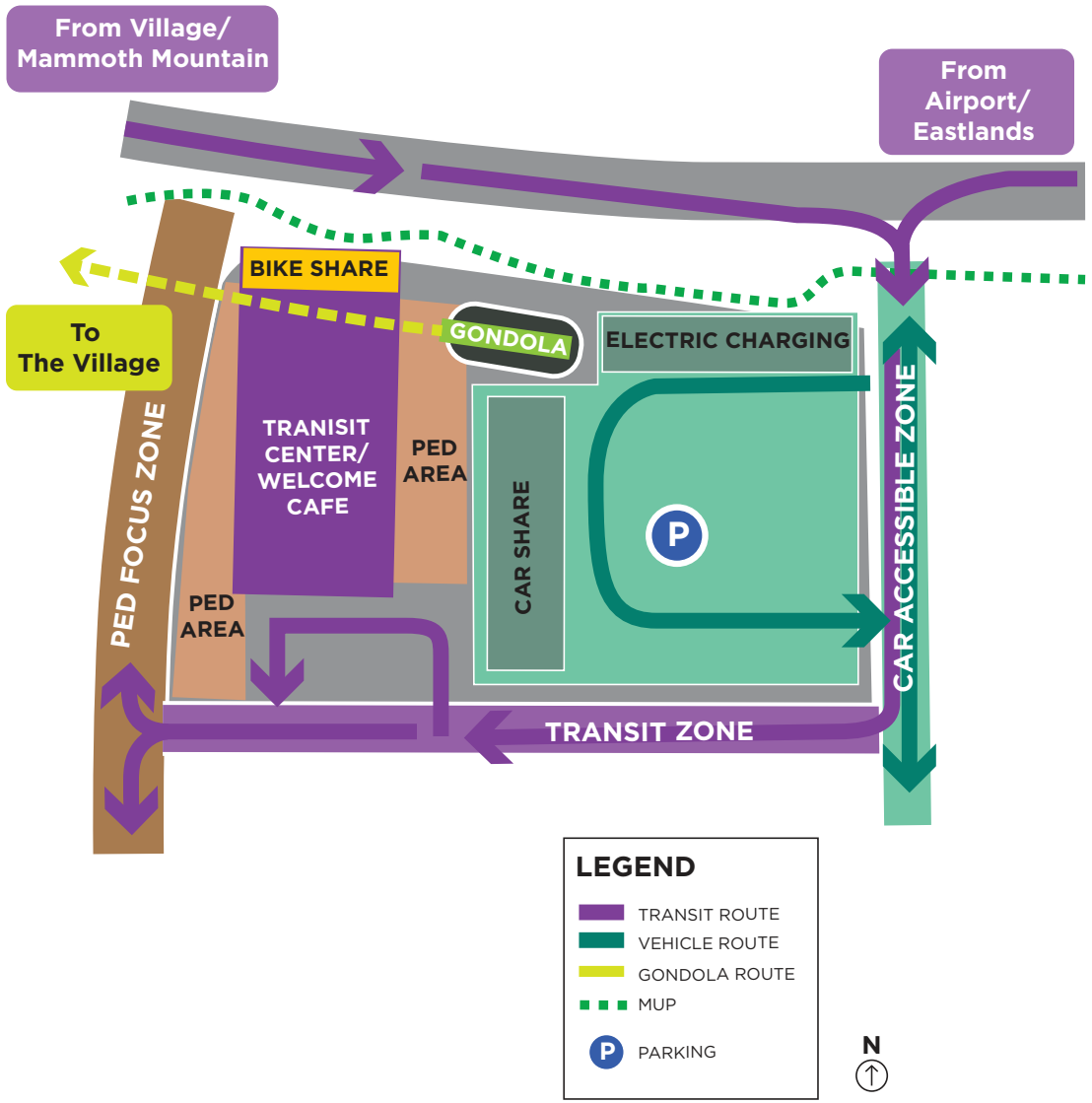


Figure 7: The town center mobility hub conceptual site plan

Future location at eastern edge of town, providing a mobility hub with amenities for transit, parking, bicycle share, electric vehicle charging and connections by way of the Green Loop.



Figure 8: Conceptual visualization of future Town center mobility hub and connections

The town center mobility hub will act as a welcome center for those entering Mammoth Lakes from the east and airport. Street reconfiguration will provide a pedestrian focused environment, promoting the Town of Mammoth Lakes Pedestrian Master Plan's "Feet First" goal. Amenities include a transit center, cafe, parking facility, care and bike share hubs, gondola access and rest area for pedestrians.

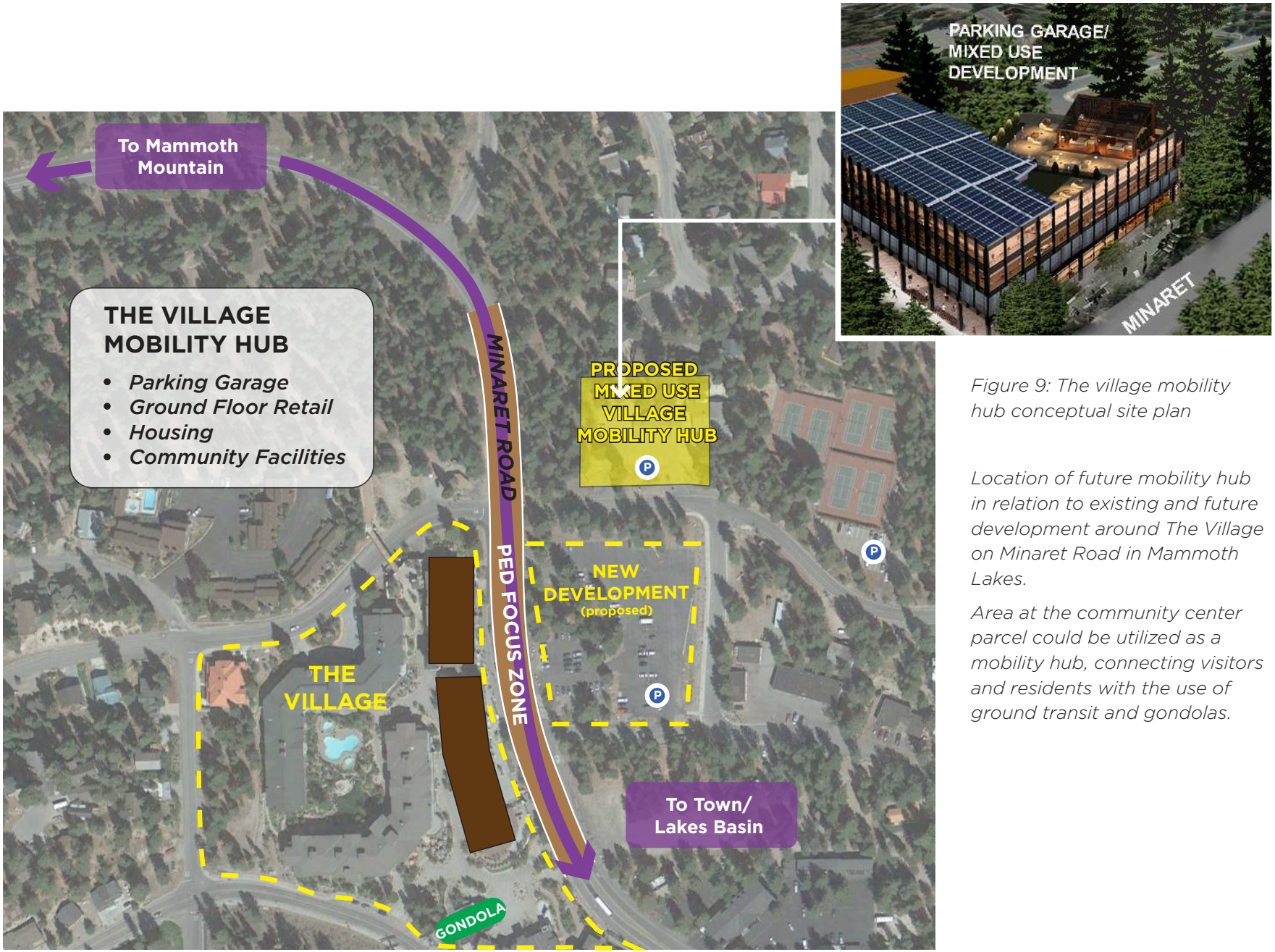


Figure 9: The village mobility hub conceptual site plan

Location of future mobility hub in relation to existing and future development around The Village on Minaret Road in Mammoth Lakes.

Area at the community center parcel could be utilized as a mobility hub, connecting visitors and residents with the use of ground transit and gondolas.

TRANSIT/TRAIL HUB CONNECTIONS

Promoting transit use to reach trailheads and other recreation destinations will reduce driving, reduce the need for parking at trailheads, allow more visitors to enjoy their destinations sustainably, and support through-hiking by eliminating the need to return to retrieve a vehicle. The Plan recommends upgrading key trailheads that connect the town and recreation destinations to include information centers, public restrooms, bike share kiosks, and sheltered seating areas.

During the mobility workshop, community members expressed a desire for improved transit and/or trailhead amenities to access the Sherwins, Lake George, Shady Rest, and other locations. Trailhead amenities mentioned during the workshop included restrooms, shade structures, as well as transit and trail information.

The Plan identifies ten locations for transit/trial hubs, six of which are considered major hubs and four minor hubs. The major hubs include locations where transit routes connect from town to the Blue and Black Loop Trails, the transit end of line at Reds Meadow/Devils Postpile, and a proposal to extend transit to a new hub at 395 above Shady Rest. The minor hubs connect to trails beyond the town in the Mammoth Lakes Planning Area at Mammoth Mountain Inn, Inyo Crater, Horseshoe Lake and Sherwin Creek Drive.

The Hub at the Lakes Basin, defined as a major transit/trail hub, was illustrated as part of the mobility workshop and shown here in **Figures 10 and 11**. The Horseshoe Lake Hub, one of the proposed minor transit/trail hubs, is also illustrated on page 20 in **Figure 12**.

Recommendation

This Plan recommends the Town improve transit connections to the ten recommended trailheads.

To begin this effort, the Town can:

- Coordinate with the USFS, other agencies, and Mammoth Lakes Recreation to determine available space and determine amenities to be provided
- Coordinate with YARTS, Mono County, ESTA, and Shuttle Services regarding additional/upgraded service to these locations

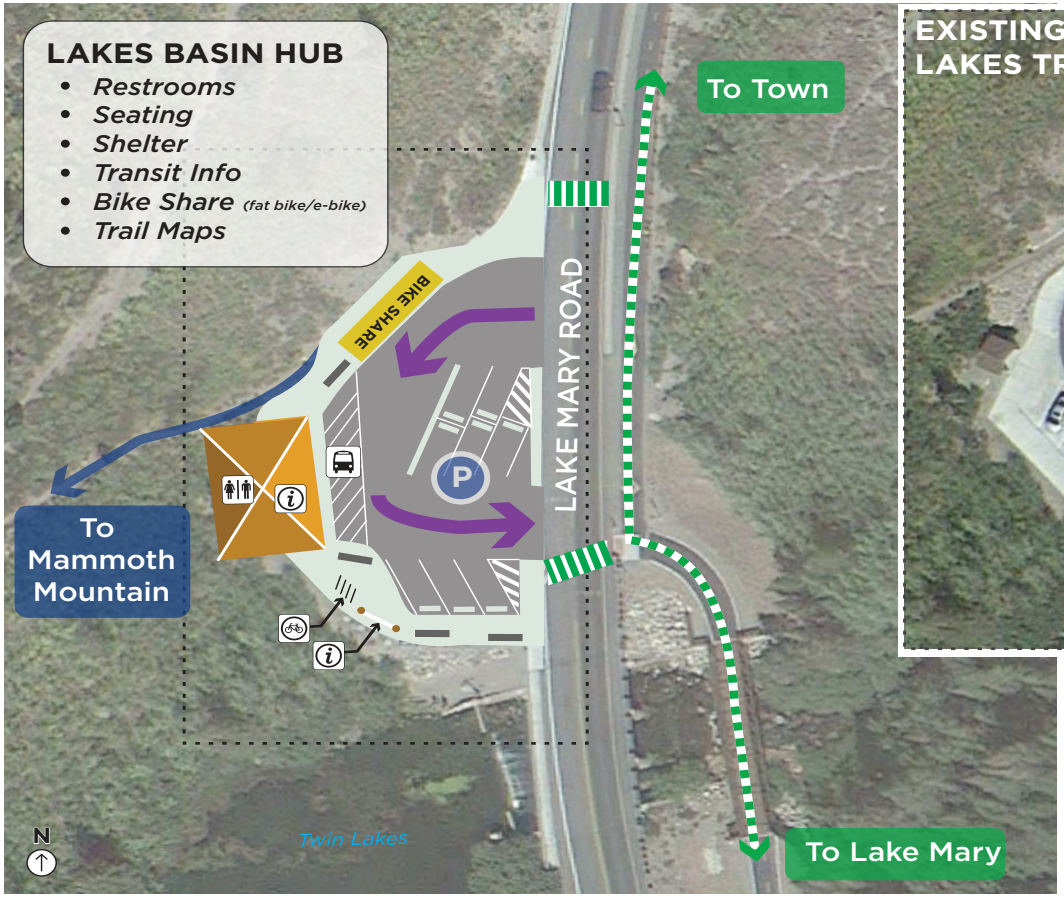


Figure 10: Conceptual plan of proposed Lakes Basin enhanced trailhead

Location of future transit to trail hub location at the Twin Lakes trailhead at the northern edge of the Lakes Basin.



Figure 11: Conceptual visualization of Lakes Basin enhanced trailhead at Twin Lakes

The proposed transit to trail hub amenity upgrades include transit information and shelters, restrooms, interpretative and wayfinding information, bicycle share hubs, and bicycle racks. Amenities will vary dependent on level of use and access of the trailheads.



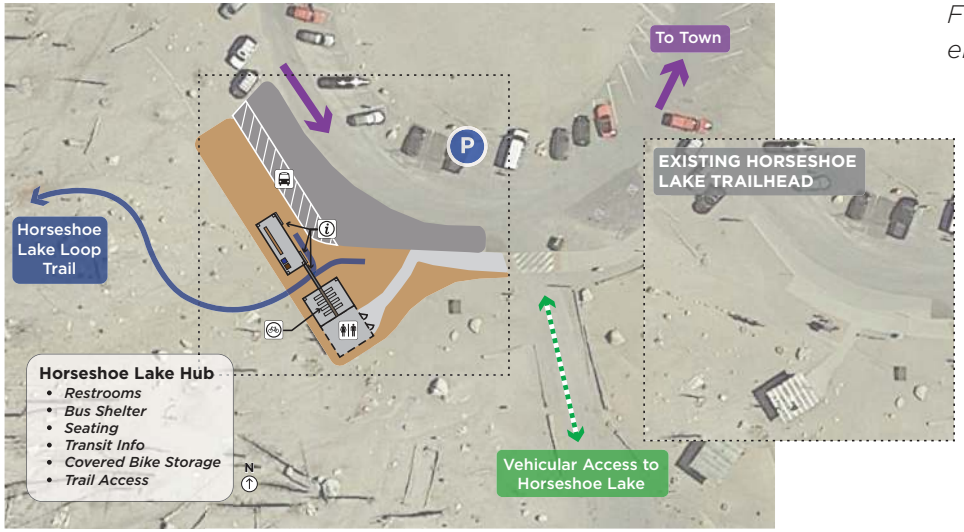


Figure 12: Conceptual plan and visualization of proposed Horseshoe Lake enhanced trailhead



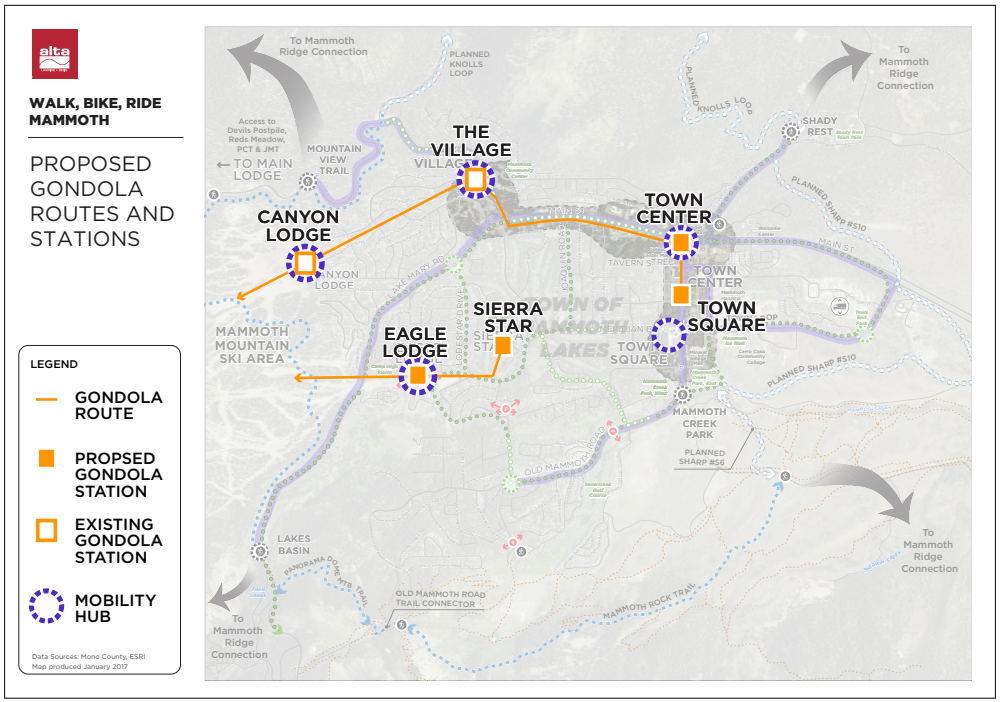


EXPANDED GONDOLA SYSTEM

While gondolas and ski lifts are a key part of Mammoth Lakes, their use for transportation is a relatively new concept in the community. Many European mountain towns, along with a few American communities, use their gondola lines as a transportation option. For example, Telluride, Colorado has gondolas that link from town to mountain, reducing parking demand for winter visitors, and providing access to mountain biking and other activities during the summer recreation season.

The new gondola line from the village to Canyon Lodge has been successful in reducing driving to Mammoth Mountain Ski Area (MMSA) and providing direct access to ski lifts from hotels, condos, and residences near the village. Expanding the gondola transportation system to include stops at other town hubs could provide an additional mobility option both within the town and for access to the mountain recreation area (See **Figure 13** for locations). This will expand the experience of being 'on the mountain' to properties throughout the community and capitalize on the town's proximity to Mammoth Mountain.

A project of this scale and cost will require an innovative public-private partnership – but it can provide unique benefits. The existing village lift can carry approximately 3,200 people per hour–the equivalent of building a new road. Gondolas also present an advantage during snow season because they can operate in storm conditions without waiting for snow removal. While the emphasis of this concept is to seamlessly connect the town center to MMSA, a new gondola line from the Main Lodge to Reds Meadow could similarly reduce driving to access Devils Postpile and other recreation destinations in the valley.



Recommendation

This Plan recommends expanding the gondola system to include stops throughout the town and creating a new gondola line to Reds Meadow.

To begin this effort, the Town and its partners can:

- Review the proposed gondola routes and stations
- Conduct flyover easement analysis to assess feasibility of proposed routes and stations
- Coordinate with existing planned redevelopment projects at the gondola stop locations
- Consider funding sources and partners

Figure 13: Gondola stations and routes

The map of potential gondola routes and stations, and connections to existing gondolas are shown on the map. These locations will provide another form of transportation from town to the mountain as well as other lodging and commercial locations.

LOOP TRAILS

A series of three concentric trail loops will define the town as the center of activity connecting the community, frontcountry and backcountry experiences. These trails will achieve the vision of Mammoth Lakes as a place where 'every home is a trailhead.' The all-season trails provide unique mobility and recreation opportunities for all ability and interest levels with branding that echoes ski area trail markets. In town, a Green Loop Trail of multi-use walking and bicycling paths (MUPs) in combination with cycle tracks and soft surface trails, will expand the existing town loop by closing gaps to improve access and provide a family-friendly mobility loop. A Blue Loop just outside the edges of town will offer front country mountain biking, cross-country skiing and hiking opportunities. Finally, a Black Loop along the ridge line around the town's perimeter would support multi-day hiking excursions into the backcountry. Strategically located spurs will provide access between the loop trails and to other front country destinations like The Sherwins and Mammoth Rock. **Figure 14** shows the Main Street Plan concept with cycle tracks and pedestrian promenades (Green Loop). **Figure 15** shows the proposed loop trails, including projects that are already under development through the adopted Trail System Master Plan.

Recommendation

This Plan recommends the Town complete these loop trails.

To begin this effort, the Town can:

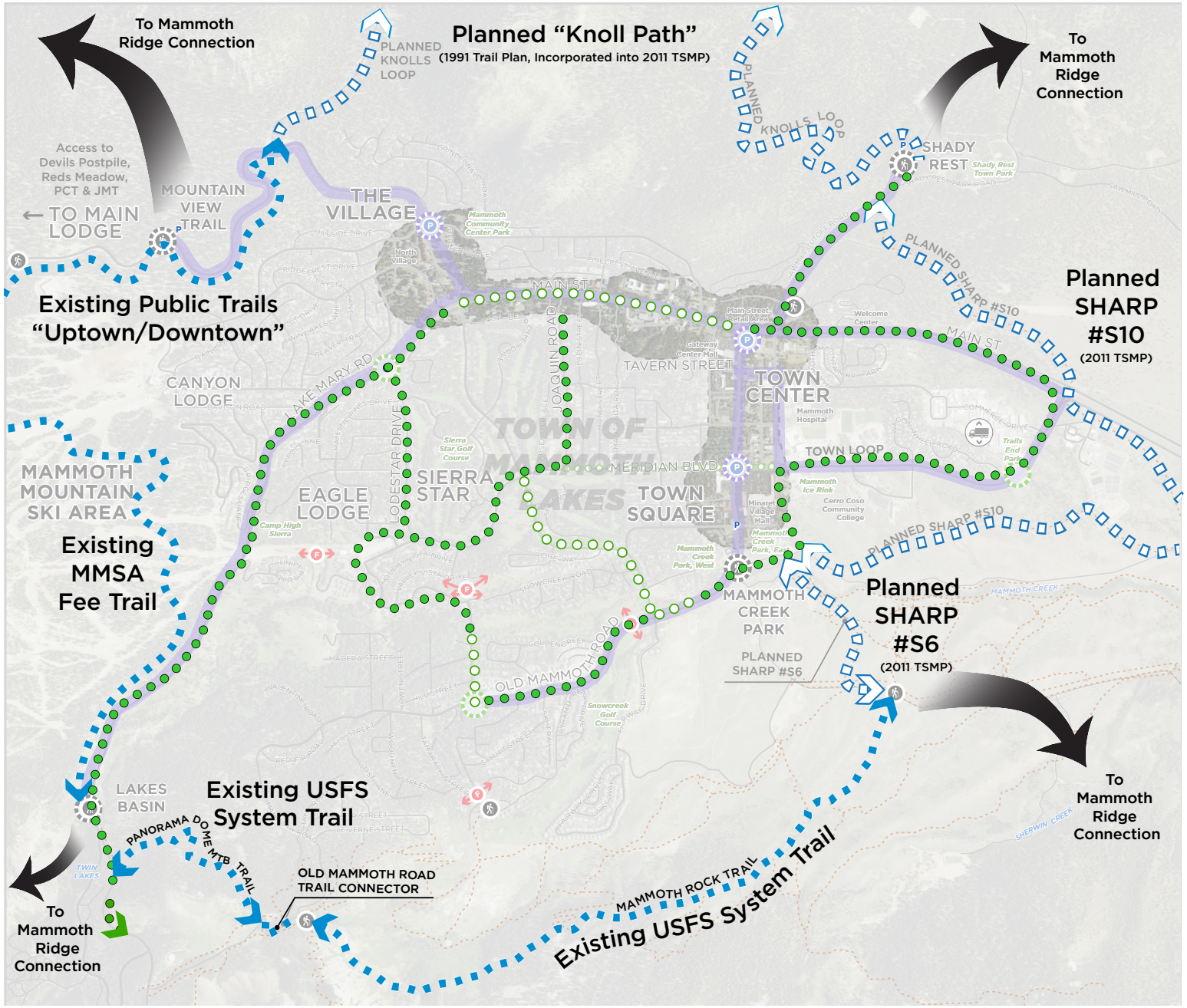
- Identify MUP segments with available space to expand the pathway for multiple users: bikes, e-bikes, runners, hikers, and pedestrians
- Secure funding for construction of planned segments and proposed gaps
- Coordinate with USFS to establish a maintenance agreement and address other considerations for trails that pass through federal land



Figure 14: Conceptual visualization of recommended design from the Main Street Plan.

WALK, BIKE, RIDE MAMMOTH

LOOP TRAILS



LEGEND

TOWN LOOP

- Existing
- Planned

HIKE/BIKE LOOP

- Existing
- Planned

Data Sources: Mono County, ESRI
Map produced January 2017

Figure 15: Proposed loop trails

COMPLETE STREETS

Complete Streets describes a comprehensive, integrated transportation network that allows for safe and convenient travel along and across corridors for all modes of transportation. Complete Streets support diverse mobility choices, including people walking, bicycling, people with disabilities, people driving, movement of freight and commercial goods, public transportation, emergency services, seniors, youth, and families. In addition, Complete Streets create inviting community spaces that support economic development and public gatherings.

This equal support for all modes of transportation is a key element to the mobility vision for Mammoth Lakes, which shifts away from the current automobile-dominated system and creates choices for people to easily and comfortably walk, bike, ride transit, ski, or take a gondola to their destinations. In practice, this means reevaluating the current configuration of roads in the town and identifying opportunities to reallocate space and create bike lanes, trails, or other multi-modal facilities.

In December 2016, the Town of Mammoth Lakes adopted its first Complete Streets policy, recognizing walking, bicycling, and other modes of transportation as integral to the future of the community. Without comprehensive street design guidance, however, implementation of this Complete Streets policy may be inconsistent across the community.

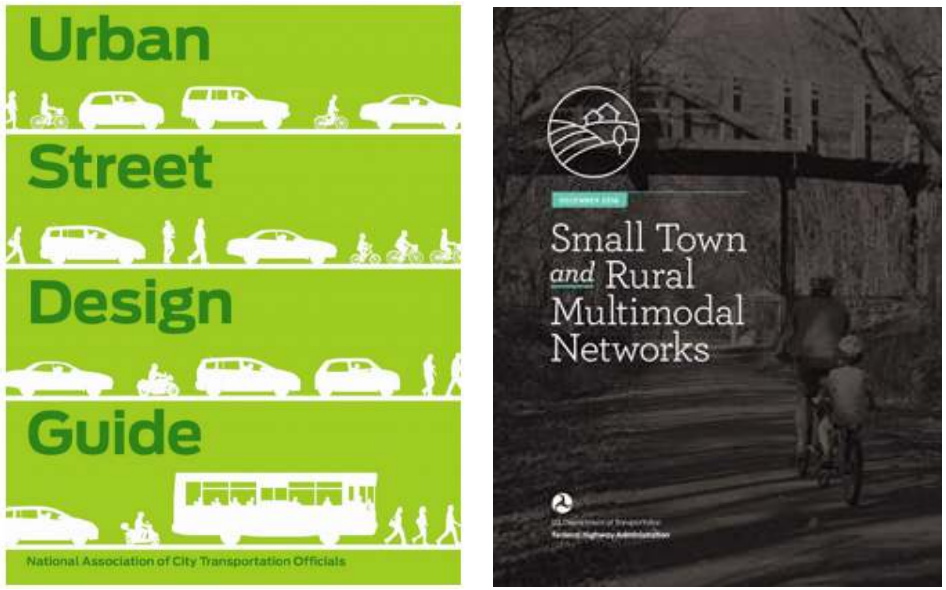
Adopting a set of street design guidelines will ensure Mammoth Lakes follows current best practices in street design as well as bicycle and pedestrian facility design, making the community safer and more comfortable for people using all modes of transportation. The National Association of City Transportation Officials (NACTO) has published an Urban Street Design Guide, an Urban Bikeway Design Guide, and a Transit Street Design Guide that have been adopted by state and local agencies across the country.

The Small Town and Rural Design Guide, released by the Federal Highway Administration (FHWA) in 2017, will also be a useful resource for Mammoth Lakes. It includes guidance on multimodal transportation facilities appropriate to rural street, highway, and community contexts. The guide also addresses physical and visual separation of active transportation facilities from motor vehicle traffic based on the prevailing speed and volume of vehicles present.

Recommendation

This Plan recommends the Town adopt the NACTO Urban Street Design Guide and begin implementing these practices for the Town Center and pedestrian focused zone identified in the Pedestrian Master Plan.

The Town should identify appropriate streets for redesign, in addition to Main Street, such as Meridian Boulevard, Old Mammmoth Road, Tavern Road, Laurel Mountain Road, Sierra Nevada Road, and Sierra Manor Road.

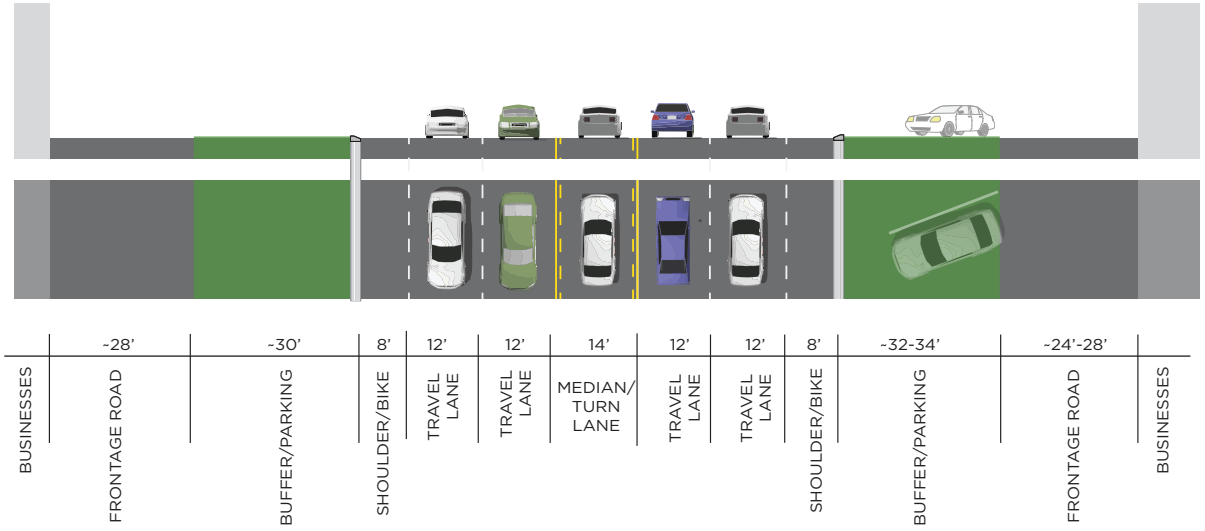


NACTO Urban Street Design Guide and Small Town and Rural Design Guide

http://nacto.org/publications/design-guides/ / http://ruraldesignguide.com

MAIN STREET AT LAUREL MOUNTAIN ROAD

Existing



Proposed

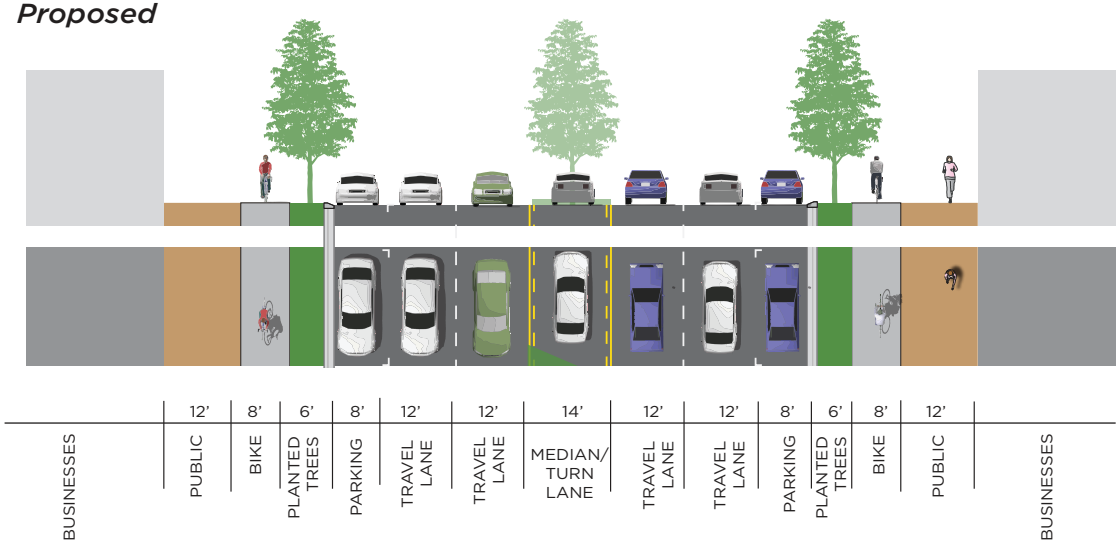


Figure 16: Cross-sections of Main Street at Laurel Mountain Road and at constrained landscape area west of Center Street

TRANSIT-ONLY ROUTES

During peak season at Devils Postpile National Monument, the access road is closed to private vehicles while the Reds Meadow Shuttle Bus is operating (7:00 a.m. to 7:00 p.m.). Visitors can park at a remote location and then ride the shuttle to the monument. This program can accommodate more than twice as many visitors each day than access to private vehicles would provide.

By designating the road a transit-only route, parking demand near the monument itself is mitigated. Instead, the large parking area at Mammoth Mountain ski area is used—a complementary arrangement- as peak season for the monument falls during summer months when the ski area is quieter. This concept can be expanded to additional destinations to provide similar benefits and protect the area's resources.

Recommendation

This Plan recommends the Town establish additional transit-only routes.

To begin this effort, the Town can:

- Identify additional routes that may benefit from transit-only designations, such as the Lakes Basin area
- Form a partnership with recreation areas, park services, and transit providers to fund and support shuttle services
- Redistribute parking supply
- Work collaboratively with jurisdictional partners to develop a Federal Lands Access Program application for reconstruction of Reds Meadow Road.



Reds Meadow Shuttle provided by ESTA helps limit parking lot congestion at Devils Postpile National Monument and Reds Meadow Resort.

https://www.nps.gov/depo/planyourvisit/reds-meadow-and-devils-postpile-shuttle-information.htm

FIRE ACCESS

The southwestern part of Mammoth Lakes includes several neighborhoods that are each accessible by only one roadway, creating challenges for fire access in a major wildfire event. During an emergency, people evacuating these neighborhoods would conflict with the fire department's ability to send trucks and other equipment into the area.

Providing street connections or emergency access easements at key locations would improve safety in the community at a relatively low cost by allowing evacuations and ingress for fire equipment simultaneously. This will also allow the fire department to move vehicles between these disconnected neighborhoods more quickly.

These access improvements can also provide for walking, and possibly biking, depending on the easement surfaces, routes and access through the southwestern neighborhoods, better connecting these communities.

Recommendation

This Plan recommends emergency vehicle access be created at two locations:

- Between Juniper Road and Juniper Springs Drive
- Between Majestic Pines Drive and Snowcreek Road

To begin this effort, the Town can:

- Coordinate with Mammoth Lakes Fire Protection District to confirm locations of new access points
- Contact adjacent property owners
- Determine whether access at each location will be an easement for emergency use only, open to people bicycling and walking only, or a new public roadway connection

LONG DISTANCE HIKING HUB

Mammoth Lakes is a popular access location for through-hikers on the John Muir Trail, Pacific Crest Trail, and other backcountry routes. Hikers often visit the town to retrieve packages they have sent to the post office, stock up on supplies, rest for a day or more, or take side trips to other regional destinations before continuing on their journey.

Red's Meadow Resort Store currently serves hikers with a cafe, showers for a fee, and several nearby campsites. In addition, the resort will pick up and store re-supply packages for a fee. To promote Mammoth Lakes as a destination for hikers, the Town could create a centralized hub for people to store belongings, wash clothes, and access other services, supporting the local economy by drawing more visitors to the town. Potential amenities include secure lockers, showers, laundry services, an internet café, transit information, and regional recreation information.

Recommendation

This Plan recommends the Town establish a hub of services targeted at through-hikers of regional trails.

To begin this effort, the Town can:

- Reach out to federal agencies and the hiking community to determine needs
- Evaluate feasible locations for a hub, including combining this project with another mobility hub recommended in this Plan

SHELTERED AMENITIES

While winters often bring numerous rain and snow events to the town and mountain, Mammoth Lakes receives an average of 275 sunny days each year. Residents and visitors alike come to the area to enjoy the great outdoors, and must therefore also contend with either cold, wet weather or strong sun at the high elevation. Providing sheltered amenities will offer residents and visitors protection from sun, rain, and snow at transit stops, bike share kiosks, and along paths at benches or rest areas.

Recommendation

This Plan recommends the Town provide shelter at transit stops, public benches, and bike share kiosks wherever feasible.

To begin this effort, the Town can:

- Inventory and prioritize amenity locations where shelter is needed
- Create or select a shelter design that supports the town character and provides protection from sun, snow, and rain
- Coordinate this effort with shade tree plantings where appropriate



Heavy snowfall can make travel through the Town of Mammoth Lakes and local areas difficult and special pedestrian amenities are required to create an ideal pedestrian environment.

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CHAPTER 5

TECHNOLOGY ACTIONS

BIKE SHARE

Bike share programs consist of a network of kiosks or 'smart' bikes across a city or region where users can check out a bike and return it to another location. Most systems are priced to incentivize short trips, with riders returning the bicycle after each leg of travel rather than securing a single bike for a day or more. Successful systems allow people to connect places they live, work, and spend leisure time. Having a well-connected system of bicycle paths, lanes, or low volume streets is also key to attracting riders.

In Mammoth Lakes, a bike share system presents an opportunity to offer a variety of bikes to suit the diverse recreation options in the area. Mountain bikes, "fat bikes" with winter snow tires, trailers or cargo bikes for families and shoppers, and e-bikes for longer trips can all be made available for sharing. The Town can evaluate pricing structures or programs that operate like traditional bike rentals, allowing users to check out a bicycle for several hours or a full day. This can be done in collaboration with existing bike rental operators. In addition, visitors may enjoy biking one-way to or from various destinations in and around the town. A bike share model that incorporates point-to-point travel in short rentals should be considered for specific destination routes, such as downhill to the Lakes Basin Area, and include shuttles to bring bikes and riders back uphill.

Bike share programs can increase ridership in a community, but require a significant capital investment to launch and maintain. Few systems have been able to sustain operating costs with user fees, and most have a corporate sponsor that brands the bikes and kiosks with their logo.

Recommendation

This Plan recommends the Town evaluate feasibility and best model for a bike share program.

To begin this effort, the Town can:

- Evaluate bike share programs to determine the best model to meet Mammoth Lakes' needs
- Consider finding a sponsor or partners to share costs of launching and operating a system
- Identify locations with demand for bike share kiosks or bike parking

CAR SHARE AND RIDE SHARE

Car shares are popular in communities across North America as an alternative to personal car ownership. Similar to bike share programs, individuals or households can join a car share service and reserve a vehicle for a short-term rental. Most rentals are a few hours up to a full day. As part of a multimodal mobility system, car share programs can support households that do not own a car or choose to abandon their second car by filling in gaps when transit, bicycling, walking, or other modes do not meet the household's transportation needs. In Mammoth Lakes, a car share program might support day trips to regional recreation destinations, occasional shopping excursions to Reno or Bishop, or transportation from town to the airport. Car share programs can also reduce the need for a household to own multiple vehicles for different purposes, as they can rent a truck when they need to move something, an SUV if they would like to take an overnight camping trip, and a hybrid if they are driving in town.

Aspen, Colorado has a small car share program with about a dozen vehicles used by community members, local employees, and visitors. The program includes hybrid vehicles in addition to a few pickup trucks and larger vehicles, all parked near bus stops in the community. Many local businesses have joined the service in lieu of purchasing fleet vehicles, and employees use rented cars when they make a trip to a work site or need an unplanned ride home.

Typically, successful car share programs are found in communities with relatively high density housing (25-30 units per acre), mixed land uses, good transit systems, and low vehicle ownership. There are generally two models for programs: one that has vehicles available for pickup and return at fixed locations, and one that allows users to find or leave a vehicle at any location. A regional partnership to implement a car share program on a broader scale may meet the needs of more travelers and residents. If one-way rentals are permitted, however, 24-hour staff may be required to monitor demand and redistribute vehicles as needed.

While ride sharing services (including Uber, Lyft and others) are not currently available in Mammoth Lakes, it is possible that these services

will soon become available. These services can be seen as a compliment to existing taxi and transit services, primarily because they create a more user-friendly user interface. In addition, the rapid advances in automated and connected vehicles will be an important technology for the community to address. It is possible that this kind of service could reduce the demand for parking and private vehicles in Mammoth Lakes. Another possibility is providing a freight transfer point at a gateway in Mammoth Lakes where deliveries can be transferred to either automated surface vehicles or even drones to reach their final destination. This could reduce the number of heavy trucks on local roads.

While these technologies are still under development, it is important that Mammoth Lakes act to shape the community first and determine how these technologies help implement the vision so that this doesn't happen the other way around. Mammoth Lakes can become a test site for these technologies and support the 'Rec Tech' startup movement in the community. By defining this Plan around connecting people with the natural landscape and creating an active mobility experience, Mammoth Lakes can then choose how the next generation of technology will serve that purpose.

Recommendation

This Plan recommends the Town evaluate feasibility of a car share and ride share programs.

To begin this effort, the Town can:

- Identify a pricing structure that accommodates both short-term rentals and longer day-trips or overnight trips
- Identify locations in the town or region where car share and ride share service vehicles can be located
- Consider possibilities for implementation on a regional scale, including locations and potential partners.

SUPER APP

With many new mobility options available to residents and visitors, providing real-time updated information is key to creating a seamless experience. Creating a community smartphone app will make this information easily accessible from any location, and could support custom trip planning or store mobility preferences for a user.

Mobility content for the app can include transit routes and schedules, gondola or lift routes and schedules, bicycle and pedestrian facilities, bike and car share availability, parking availability, on-demand ride services like Lyft or Uber, and electric vehicle charging stations. Other features can tie in weather conditions, recreation opportunities, rental equipment availability, or ski area conditions. The app can also connect travelers to others with a shared destination in the event a flight to Mammoth-Yosemite Regional Airport is canceled or delayed.

Many successful community apps incorporate some elements of this proposed Super App, like SFPark in San Francisco, California. The app uses in-ground sensors to identify available parking spaces in pilot areas of the city, allows users to reserve a space, and can provide directions to an available spot. Google Maps now provides comprehensive transit directions, including specific walking directions to a stop or station, route and schedule information, and any transfer or wait times. The app could draw on existing apps, such as ESTA real-time bus information on the Swiftly app and the Mammoth Mountain Ski Area app that provides updates and information about mountain conditions, events, and deals.

This app will likely be developed by a third-party, with input and ongoing support from the town, transit agencies, and other mobility stakeholders.

Recommendation

This Plan recommends the Town develop and maintain a mobility app.

To begin this effort, the Town can:

- Evaluate feasibility of sensors or other methods to track real-time availability of parking and rentals
- Form a working group of mobility and recreation stakeholders to provide input on app content, such as transit operators, MMSA, Mammoth Lakes Tourism Board, and the "Rec Tech" group
- Select a developer to create the app

SMART TECHNOLOGIES AND DIGITAL 395

Smart technologies rely on real-time information that helps operators and users assess their best routing, time their travel, connect with other travelers on the same route, or identify the closest available parking space or rental car. These technologies can be used to identify precise locations of transit along their routes, conditions for trails, and heavy traffic or accidents to avoid. Innovations in data collection, analysis and information distribution provide benefits to the community in terms of mobility safety and efficiency. Mammoth Lakes has a unique opportunity to position itself as a smart city with interconnected mobility and information systems as it implements the vision in this Plan.

Although the systems and technologies to create truly smart cities may not yet exist, the possibilities for integrating and automating mobility are endless. In Mammoth Lakes, a smart city experience in the near future might include a transit service that reserves a seat on the next bus leaving Mammoth-Yosemite Airport after your flight lands, even if your flight is delayed. Based on your arrival time in Mammoth Lakes, your smart phone pulls up restaurants that will be open and serving dinner, and are walking distance from your hotel. An app checks weather and ski conditions for all three days you will be in town, determines the third day will be too stormy for skiing, and asks you to confirm purchase of a lift ticket for two days. That ticket also gives you access to multiple transit modes in town, allowing you to seamlessly travel between shopping, restaurants, your hotel, and the mountain. Each time you take a trip by bus, shuttle, gondola, or bike share, one trip is deducted from your pass and your remaining balance is shown. For your remaining day in town, the app suggests hiking trails and other recreation activities and shows you information on rentals for fat bikes, snowmobiles, sleds, and other gear.

High-speed internet has the potential to enhance mobility in Mammoth Lakes by creating a connected, attractive community for technology companies and pioneers. Improved internet capacity along the Highway 395 corridor between Barstow, CA and Carson City, NV will position the Eastern Sierra region as a place for "rec/tech" communities to locate or convene to take advantage of recreation opportunities as they innovate and advance their technology organizations. The Digital 395 effort supports this improved connectivity, and is working to install a 583-mile network "spine" of fiber optic along the corridor. This will provide communities with access to high-capacity fiber to build out their own local networks, further enhancing implementation of recommendations like the Super App by ensuring information can be accessed throughout the entire town and region.

Recommendation

This Plan recommends the Town explore options to improve internet speed and quality in the region.

To begin this action, the Town can:

- Partner with regional communities to support the Digital 395 project
- Implement "Last-Mile" high capacity fiber infrastructure
- Identify and reach out to mobility and recreation partners to integrate on a smart city effort



Figure 17: There are currently apps for visitors to Mammoth Lakes as well as for transit tracking (Swiftly). A super app would provide all information in one place.

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OPERATIONS ACTIONS

TRANSIT FREQUENCIES

Feedback provided by community members during the mobility workshop noted transit schedules are currently structured to facilitate visitor travel during summer season. Particularly for regional routes between Bishop, Mammoth Lakes, and June Lake, morning and evening bus times do not meet the needs of commuters working 40-hour weeks. Although services are increased during winter, conditions slow travel times making transit an unreliable choice for commuters both within the town and regionally.

Service limitations can result from funding constraints and slower service from challenging icy road conditions during snow season. Specially outfitted winter transit vehicles, such as snow coaches or snowmobile shuttles are equipped to travel safely in snow and icy weather, and will allow for year-round regional transit service. Yellowstone National Park offers snow coach service during snow season between Mammoth Hot Springs and Old Faithful Snow Lodge, as shown in **Figure 19**. A snowmobile shuttle was used in Sochi during the Winter Olympics to transfer visitors from the mountain to the Inn and is shown in **Figure 20.**

Recommendation

This Plan recommends YARTS and ESTA adjust transit service frequencies and vehicles to meet needs of both residents and visitors.

To begin this effort, the Town can:

- Coordinate with YARTS and ESTA to evaluate funding needs and develop a strategy
- Prioritize routes for improved frequency and consider potential for consolidation to allow greater frequency



Yellowstone snow coach

http://www.washingtontimes.com/news/2016/jan/31/yellowstone-snow-coach-company-testing-tires-over-/



Sochi snowmobile shuttle

http://krisfreeman.net/2014/02/winter-wonder-land/

SNOW MANAGEMENT

Snow removal from paths was the top-rated choice by survey respondents when asked what would encourage them to walk or bicycle more (66%). As described in the Town's Parking and Snow Management District Feasibility Study, Mammoth Lakes will benefit from a centralized system that ensures roadway snow management and coordinated property snow management with off-site locations.

Snow is currently plowed to the sides of streets to allow for movement of cars, although visibility becomes limited as snow piles up. Mammoth Lakes' main roadways are designed storage areas, but like many other communities, snow tends to encroach on edges where pedestrian zones and transit stops are located. The trails, MUPs and other locations also need plowing in limited space. Options for snow grooming or plowing on trails and multi-use paths include small utility vehicles such as tractors, ATVs, snowmobiles, and "skid steers" equipped with snow plows, snow brushes (for removing light snow), snow blowers (for relocating heavy snow), and de-icing applicators. A pickup truck mounted plow blade typically used on smaller roadways and parking lots can also be used on multi-use paths. The Town uses a trackless plow that is 4' wide for the multi-use paths.

Mammoth Lakes is surrounded by unique landscapes and natural lakes/waterways. Salt is highly corrosive and salt laden stormwater runoff can damage waterways and ecosystems. Another option is sand applied in conjunction with salt, but it can result in poor traction for bicyclists and similar environmental concerns. Some communities now use beet juice as an additive with a reduced quantity of salt to help the materials adhere to the roadway and reduce environmental impacts.[1] There are other alternatives for de-icing with greater costs, such as heated paths using geothermal underground pipes and solar panel paths being tested in the Netherlands.

Other communities are experimenting with innovative snow management for new bikeway designs. Salt Lake City, UT designed their protected bikeways to accommodate snowplows. Protective, flexible bollards are located far enough from the curb to allow a small truck mounted snowplow to clear the bikeway. Traffic calming treatments such as medians and bulb-outs are designed with tapered front ends and vertical delineators at obstacles to help prevent snow plow blade collisions along these facilities.

Denver's Public Works Department plows the roadway with the goal of clearing on street bike lanes first. Depending on the severity and length of storm, the lanes can accumulate snow pack and bicyclists are directed to share the lane. Protected bike lanes require a smaller plow and are cleared as possible. The Parks and Recreation Department maintains the off-street trails and plows those within 12 hours of a storm with 1 inch of accumulation or greater.[2]

In addition to public services, other communities are looking to their residents to help out. In Ann Arbor, Michigan, a group of neighbors organized and crowd funded to purchase a SnowBuddy to clear residential sidewalks, run by residents themselves.[3] Communities across Canada participate in the "Snow Angels" program, where volunteers clear sidewalks for seniors or others with disabilities. Mammoth Lakes could consider opportunities for community groups, business districts or others to participate with the Town on similar snow management in critical areas to support walking and biking in winter weather.

While snow removal is the primary strategy in snow management, strategic decisions may also be made to allow snow to accumulate on certain streets or paths. These "winter streets" can function similarly to open streets programs that close roads to cars and allow free movement for people walking and bicycling. Winter streets in Mammoth Lakes could

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1. http://time.com/5761/salt-shortage-triggers-beet-juice-cheese-brine-alternatives/

2. http://www.denversnowplan.com/bicycling-winter

3. http://www.citylab.com/cityfixer/2015/02/a-community-approach-to-clearing-snow-from-sidewalks/385173/?utm_source=SFTwitter

be opened to the community for skiing, sledding, and other community events, and could serve as snow storage for other roads by mounding snow into sledding hills or other features. Lillehammer, Norway provided a great example of this type of 'snow street' in their town center when they hosted the Winter Olympic Games.

Recommendation

This Plan recommends the Town prioritize the bicycle and pedestrian network for snow management in the pedestrianized zone from the Pedestrian Master Plan, the proposed Green Loop, and the trail links to the major trailhead hubs. Outside of the town center, trails can be groomed for winter trail uses. The Town should also make every effort to ensure cleared walkways and paths remain free of ice to minimize the risk of slipping. Salt, sand, or de-icing solution will be used only if special circumstances arise, due to their adverse environmental impacts.

To begin this effort, the Town can:

- Assess gaps in the current snow clearing service, relative costs and put forth a plan for meeting the recommendation
- Reach out to potential partners, youth in schools, businesses, neighborhood groups and others

RECREATION SUPPORT FACILITIES

In order to encourage more families to get out of their cars and ride transit, bicycle, or use other shared mobility options, recreation destinations need access to restrooms, water, seating, and shade. Existing amenities and those proposed at enhanced trailheads will require regular maintenance to provide a welcoming experience for users. Restrooms and other buildings must be cleaned and serviced, while information kiosks and bike share require regular inspection and collection of bikes for necessary repairs

Recommendation

This Plan recommends the Town develop an asset management plan for recreation amenities within the Town's planning area.

To begin this effort, the Town can:

- Update existing inventories with any new amenities and the proposed amenities
- Combine town and planning area amenities and determine frequency of serving, considering seasonality, weekday/weekend, and visitor/users
- Identify partners for maintaining town trailhead facilitie

ACTIVE RECREATION SHUTTLES

The Town of Mammoth Lakes is surrounded by hiking, mountain biking, and backcountry skiing opportunities that require gear and may begin in one destination, but end at another. To get people out of their cars, active recreation shuttles with room for passengers and equipment could increase residents and visitors ability to access and enjoy these destinations.

Hiking opportunities range in length and difficulty from easy walks along groomed trails to multi-day wilderness experiences on the John Muir Trail or Pacific Crest Trail. While some of these trailheads are accessible by bicycle, transit, or other mobility options, many currently require hikers to drive to the trailhead and park a car. This creates challenges when parking supply does not meet demand for a particular hike or trailhead, and adds a layer of complexity for through-hikers who begin at one trailhead and end their hike at another.

Hiking shuttles can address these challenges by offering flexible transportation to support access to trailheads. One existing program in Great Smoky Mountains National Park provides totally customized service – they will pick you up or drop you off at a trailhead, the airport, a hotel, or other destination; move your car from your entrance trailhead to your exit trailhead; meet you at an agreed-upon place and time with supplies to continue your trip; store your luggage for a day or more; or any other transportation need a hiker might have. Their drivers are wilderness guides as well, and offer knowledge about the park and various hikes. Alternatively, the Appalachian Mountain Club offers fixed-route shuttle service to a series of trailheads, wilderness huts, and access points along the Appalachian Trail.

Backcountry ski and mountain biking shuttles are used to get visitors to backcountry trailheads and back to town, while reducing parking and traffic congestion to these destinations with narrow roads and minimal parking, if any.

Recommendation

This Plan recommends the town work with YARTS, ESTA, and other potential partners to establish a hiking shuttle program serving frontcountry and backcountry destinations.

To begin this effort, the Town can:

- Identify trailheads or access points that would benefit from shuttle service
- Reach out to hiking, mountain biking, and backcountry skiing groups to gauge interest in and suggestions for a shuttle service
- Determine whether fixed-route or on-demand service meets local needs



Catamount backcountry skiers

https://www.meetup.com/CatamountBackcountrySkiers/events/225209404/

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CHAPTER 7

POLICY AND GUIDELINES ACTIONS

MOBILITY PARTNERSHIP

To guide the implementation of all recommended actions in this Plan, the Town will require a strong partnership of public, private, and nonprofit organizations and individuals. The participants and stakeholders interviewed during the mobility workshop are an ideal starting point to create a core group and provide leadership as the Walk, Bike, Ride vision takes shape.

Recommendation

This Plan recommends the Town form a Mobility Working Group and identify a Mobility Leader to direct and ensure implementation of these recommended actions.

E-BIKES

E-bikes are bicycles equipped with electric motors that can either provide additional power to the user pedaling or move the bike without human assistance. Bicycle style e-bikes can be broken into two types: powered bike (engine can generate thrust without the user pedaling) and electric-assist bicycles (engine will only generate additional thrust when someone is pedaling). e-bikes of both styles are equipped with rechargeable batteries. e-bikes come in a wide variety of specifications, prices, and types (road, mountain, folding, etc.)

In California, E-bikes have been divided into three classes: CVC 312.5

1. Class 1 electric bicycles: A low-speed pedal-assisted electric e-bike. These bikes are equipped with a motor that provides assistance only when the rider is pedaling and ceases to provide assistance when the bicycle reaches 20 MPH.
2. Class 2 electric bicycle: A low-speed throttle-assisted electric bicycle. These bikes are equipped with a motor that may be used exclusively to propel the bicycle and that is not capable of providing assistance when the bicycle reaches 20 MPH.
3. Class 3 electric bicycle: A speed pedal-assisted electric bicycle. These are equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the bicycle reaches 28 MPH and is equipped with a speedometer.

As opposed to traditional bikes, e-bikes offer many benefits to less skilled riders. Because of the motor providing additional power, biking through hilly terrain not only becomes easier, but also makes doing so a possibility for those who otherwise struggled or could not navigate grades, opening up possibilities for rider of all levels and abilities. Studies have also shown that people are willing to bike longer distances on e-bikes as they are exerting less physical energy to travel greater distances.

While the bikes are sold with a stated range, users have reported great variability. Range is dependent on a number of factors such as bike weight, rider weight, and motor specifications. E-bikes can weigh as little as 19 pounds to well over 50 pounds.

There are concerns about the speeds that e-bikes travel at compared to traditional bikes and other differences in rider behavior. Reports have shown that the speeds traveled by e-bikes are similar to those of traditional bicycles and that rider behavior did not substantially change. As with all batteries, there is also concern about battery safety and fires. Batteries have and will continue to improve, minimizing this concern. Given the variability in range, the placement of bike charging facilities throughout a city (similar to car electric charging station) could entice further e-bike ridership.

The policy framework around e-bikes is an emerging topic that provides guidance at the national and state level, but provides flexibility for local decisions to set where e-bikes are allowed. In addition, transit agencies often have their own policy on both bikes and (potentially) e-bikes and may have different rules due to concerns about batteries and weight.

State Policy

While the California Vehicle Code provides guidance on where e-bikes are and are not allowed on on-road facilities, some latitude is given to municipalities on their use on trails. Determining where e-bike are and are not allowed is an important question.

In California e-bikes are regulated differently than traditional bicycles. Per California Vehicle Code Section 21207.5:

1. Class 3 Electric Bicycles shall not be operated on a bicycle path or trail, bikeway, bicycle lane, (more names for essentially the same thing), UNLESS it is adjacent to a roadway or the local authority permits them by ordinance
2. The local authority or governing body of a path or trail MAY prohibit the use of Class 1 and 2 e-bikes by ordinance

Regarding State Parks, the California Code of Regulations 4360 states that, "Unless designated by the Department, all trails are open to pedestrians and closed to all other uses. All allowable trail uses will continue as they are designated at the date of adoption of these regulations unless and until a change is made by order of the District Superintendent. The Department may establish speed limits for designated trail use for units or portions thereof. If established, these speed limits will be posted."

US Forest Service Policy

The US Forest Service's Travel Management Rule (TMR) defines e-bikes as a motor vehicles as they have a motor, are self-propelled and do not fall under one of the exceptions. (TMR section 212.1, 80 Fed. Reg. 4503). E-bikes are allowed on: roads open to all vehicles, rrails open to all vehicles, trails open to vehicles 50" or less, motorcycles only, and some special designation trails. The key difference is that e-bikes are very limited on where they can be ridden within Bureau of Land Management (BLM) lands.

Other Park Policies In The Mammoth Lakes Region

In Devils Postpile (US National Park Service), bicyclists are allowed to bike ride into and out of the park using the main road or may take the shuttle bus. Bikes are loaded and unloaded at the Adventure Center, Red's Meadow Resort, and any other Red's Meadow Shuttle stop. Cyclists riding in and out of the valley are exempt from the transportation fee. Mountain bikes are not permitted in Devils Postpile except on the Starkweather Trail only permitted after the shuttle buses have stopped running for the season, which is generally the Wednesday after Labor Day.

In Inyo National Forest (US Forest Service), mountain biking is available on select trails (https://www.fs.usda.gov/activity/inyo/recreation/bicycling/?recid=20228&actid=24). Bicyclists are allowed to bike ride on the roads, but may face less than ideal conditions

Other Ski And Recreation Destination Policies

1. Boulder permits e-bikes on select multi-use paths and must observe the 15 mph speed limit
2. Park City allows Class I and II e-bikes (some basic classes as CA) on selected trails. Class III bikes are only allowed on select roadways.
3. Lake Tahoe Basin Management Unit (US Forestry) considers e-bikes motorized vehicles and only allows them on motorized trails.

Education And Awareness

Because many of the trails are in sensitive environmental areas, certain rules and policies are in place to help preserve the environment and the trail itself. However, many cyclists may not understand that there are rule/policy differences between traditional and electric bicycles. This education campaign is made more complex given the high volume of visitors. Clear, easy to understand, and simple policies will produce the best compliance. Where deemed necessary, a breakdown of the various classes of e-bikes should can also be displayed to help riders understand which class their bike falls under. Most of the cities above have their bike policies listed on the city website, visitor information websites, and other similar information sites.

There are a number of ways to disseminate information about e-bike policy and allowance throughout the town and region. The towns can work with local bike shops to ensure that their workers are up to date on the area's bike policies and have them post signage to help inform riders. Information can also be posted at all major park, forest, and wilderness area entrances and on shuttle services.

With Mammoth Lakes' diverse trail system, e-bikes are allowed on a trail-by-trail basis, and therefore signage should be present at each trail head to be alert riders to that trail's specific rules.

Signage should be simple and clear, to allow it to be read quickly.



E-bike Signage

What the sign needs to say is dependent on the policy it is helping to manage. As seen with these Park City icons, they can be simple and still get the message across. Sometimes more information may need to be conveyed, but the same design principles can be followed.

People for Bikes has produced some good materials about e-bikes and the policy/regulatory environment around them. They have state-specific guides, pictures, images, research, and all kinds of useful information that could be used to help develop and tailor a policy and/or marketing/education campaign to one's specific needs (http://www.peopleforbikes.org/pages/e-bikes).

Recommendation

This Plan recommends the Town adopt a policy that follows the State direction that allows e-bikes on multi-use paths and paved roads within the Town's jurisdiction, with a map to show additional appropriate paths where e-bikes are allowed. We also recommend including speed limits on any paths without a current defined limit in the policy. Access on federal public lands must be as permitted by the appropriate agency.

To begin this effort, the Town can:

- Draft and Adopt a Mammoth Lakes E-bikes Policy in coordination with the USFS and NPS
- Modify the trails signage program to incorporate e-bike signage in trail guide signs and kiosks
- Develop an e-bike map to show routes, speed limits, resources
- Work with local bike shops to ensure that their workers are up to date on the area's bike policies and have them post signage to help inform riders
- Post policy and information about what is allowed at:
  - All major park, forest, wilderness area entrances
  - Transit service, especially those with bicycle racks
- Post whether e-bikes are allowed at all trail entrances
- Evaluate locations for charging stations and steps to implement

WAYFINDING SIGNAGE

The Mammoth Lakes Trails System Master Plan (Trails Plan) adopted in 2011 includes extensive design guidelines and implementation plan for a wayfinding program in the community. A consistent look for all signs provides intuitive legibility for visitors across the town as well as the frontcountry recreation areas. The wayfinding signs that have been installed to date are well-received by the community.

Beyond the initial scope of the Trails Plan, the wayfinding guidelines should be used to develop interpretive signage at enhanced trailheads, and branding should be extended to informational signs within the Town. This consistent, unified wayfinding system will provide residents and visitors with a seamless network of information about destinations, recreation amenities, and wilderness areas.

Signs will be updated to reflect the recommended actions in this Plan, as implementation occurs. This will include information about where e-bikes are permitted, directions to mobility hubs or other transportation modes, information about the new loop trails, and others as appropriate.

Recommendation

This Plan recommends the Town complete implementation of the Trails Plan wayfinding program, and expand it to include informational and wayfinding signs throughout the town and surrounding recreation destinations. In addition, the Plan recommends that outdated legacy signage is removed and replaced with the new system.

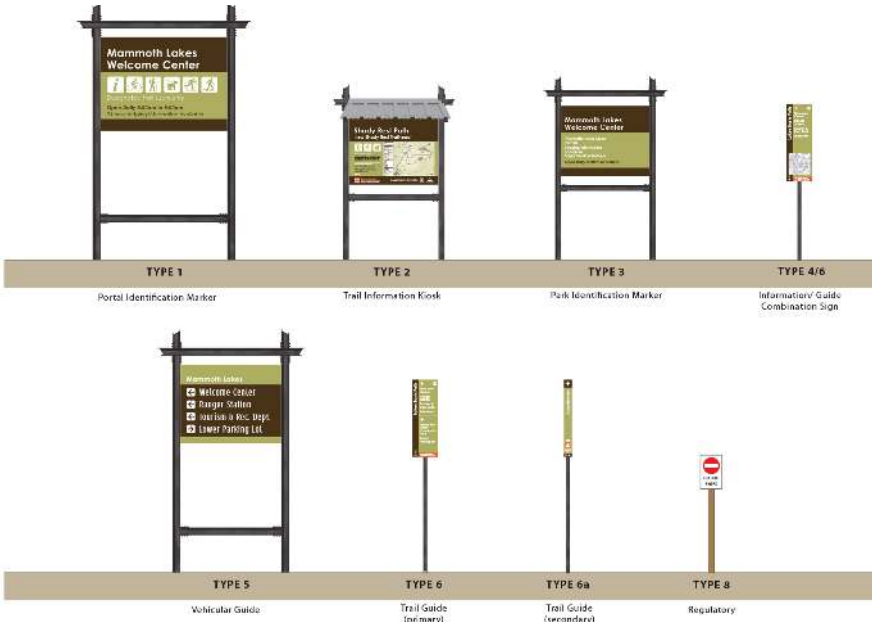


Figure 17: Mammoth Lakes Trails System Signage and Wayfinding Program

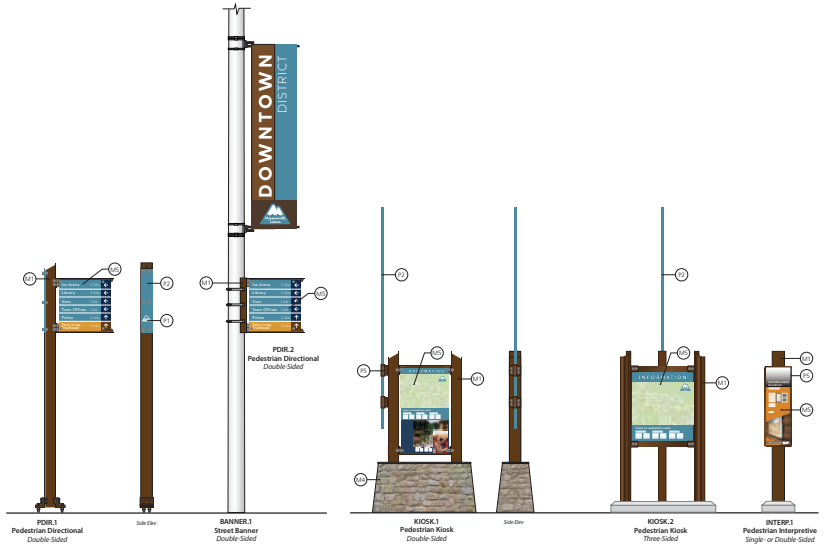


Figure 18: Mammoth Lakes Municipal Signage and Wayfinding Program

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CHAPTER 8

FINANCING ACTIONS

ENHANCED INFRASTRUCTURE FINANCING DISTRICT (EIFD)

An Enhanced Infrastructure Finance District (EIFD) is a separate government entity formed by a city or county within a defined area, which finances infrastructure projects with community-wide benefits. Projects are funded through tax increment revenue generated through property taxes by increased property values and new development. EIFDs were signed into law, SB628 on January 1, 2015 by Governor Jerry Brown. Voter approval is not required to form an EIFD, but is required to bond.

EIFDs can be used to finance traditional public works projects such as: roads, highways and bridges, parking facilities, transit stations, sewage and water facilities, flood control and drainage projects, solid waste disposal, parks and libraries, and child care facilities. They can also be used for the purchase, construction, expansion, improvement, and/or seismic retrofitting of a property, and other items, including: brownfield restoration, environmental mitigation, military base reuse projects, affordable housing, private industrial buildings, transit-oriented development projects, and projects carrying out sustainable community strategies. (http://cceda.com/wp-content/uploads/EIFD-Resource-Guide-Feb-20161.pdf)

How Has It Been Used

The City of West Sacramento and the City of Sacramento worked together to construct the Broadway Bridge, which connects the two cities. The new Sacramento River crossing will accommodate motor vehicles, transit, bicycles, and pedestrians. The bridge is part of a 2009 Bridge District Specific Plan, covering a 188-acre former industrial and rail yard site. The plan also includes 4,000 housing units and 5,000,000 square feet of commercial and retail space by 2035. (http://www.planetizen.com/node/88347/new-financing-tool-california-enhanced-infrastructure-finance-districts)

“The Santa Clara Valley Transportation Authority (VTA) and Bay Area Rapid Transit (BART) are working to create an EIFD as part of the funding strategy for Phase II of the BART to Silicon Valley Extension plan. Phase II will build the four stations and five-mile tunnel through downtown San Jose that completes the 16-mile extension to San Jose. With a $4.7 billion cost and only $2.1 billion in identified funding, the EIFD is central to the Phase II funding strategy. Creating a Community Facilities District and forming an EIFD will begin in 2017.” (http://www.planetizen.com/node/88347/new-financing-tool-california-enhanced-infrastructure-finance-districts)

The City of Los Angeles created an EIFD for the LA River Revitalization project. The LA River Master Plan integrates three key objectives: river revitalization, neighborhood improvement, and community opportunities as a whole. An estimated $40,000,000 in EIFD funding will be used for Initial projects such as the Elysian Park Bridge, Broadway Arterial Green Street, East End of LA State Historic Park and Cornfields of Chinatown Regional Gateway. (http://cceda.com/wp-content/uploads/EIFD-Resource-Guide-Feb-20161.pdf)

Opportunity In Mammoth Lakes

The EIFD can be used for public improvements and infrastructure, but not operations or maintenance. The Mammoth Lakes Parking and Snow Management District Feasibility Study identified Infrastructure Finance Districts as a financing tool for centralized parking, transit stop upgrades, streetscape, and public realm improvements.

Recommendation

This Plan recommends implementing an EIFD to help fund the physical mobility improvements recommended in the action plan.

To begin this effort, the Town can:

- Prioritize the physical actions from this plan and determine boundaries
- Work with the stakeholders on these projects to approve the EIFD plan, boundaries and projects.

LOCAL AND REGIONAL PARTNERSHIPS

In addition to providing leadership throughout the implementation process of this Plan, partnerships present an opportunity to leverage resources to implement these recommended actions. For example, improved transit services may be supported by a partnership between the regional communities that will benefit from these services. Potential partners include:

- Transit: YARTS, ESTA, Mono County, MMSA
- Gondola: MMSA, Major Resorts
- Maintenance: Community Groups, Business Owners
- Trailheads and Amenities: Hiking groups, biking groups, tour organizations, California Conservation Corps

Recommendation

This Plan recommends the Town form a partnership with local and regional stakeholders to identify or create funding sources and other resources for improvements.

CHAPTER 9

IMPLEMENTATION

The implementation of these recommended actions will take a collective effort by the Town of Mammoth Lakes, the neighboring US Forest Service, local businesses and community groups, regional transportation partners, and others.

The Bronze, Silver, Gold benchmarks presented in the plan can be implemented in complimentary phases as resources become available.

Tables 4, 5 and 6 summarize agency leads and partners for each of the recommended actions based on the Bronze, Silver and Gold level grouping, along with a high-level cost estimates. For some actions, no significant additional cost will be required—such as adopting street design guidance, or forming action plan implementation teams.

Estimated costs are based on a review of peer communities, industry standards, and knowledge of best practices. Costs are presented on an order-of-magnitude scale from $ to $$$$$, intended to provide the Town with an indication of which actions are low-cost and likely to be implemented quickly, and which will require significant investment and additional funding. Where possible, a range of estimated costs from peer projects is provided.

In general, dollar sign symbols correspond to the following general ranges of cost estimates:

- $ - Staff time only, or project cost up to about $100,000
- $$ - About $100,000 to about $1 million
- $$$ - About $1 million to about $10 million
- $$$$ - About $11 million to about $50 million
- $$$$$ - Project is likely to require investment beyond $50 million

Estimates do not include costs to acquire property, right-of-way, or easements for projects, where this may be needed.

Table 4: Mobility Actions to Achieve Bronze Level (Estimated growth in New Mobility 4-8%)

Action	Lead	Partners	Cost Estimate	Notes
Wayfinding Signage	Town		$$	Based on current costs information from the trails wayfinding signage program implementation.
Transit/Trail Hub Connections	Town	Trails Coordinator, ESTA, YARTS, USFS, BLM	$$	Assuming restrooms and small information centers are constructed at the six major and four minor trailheads, this action is estimated to cost $540,000 - $860,000.
Transit Frequencies	ESTA	Town, YARTS	$$	Primary costs associated with this action are expected to be limited to staff time to evaluate existing transit schedules and identify adjustments to better support commuters as well as recreational riders. If one or more additional transit vehicles must be purchased to add service routes, costs up to about $500,000 might be incurred.
Loop Trails	Town	USFS	$$$	For the Green Loop Trail, the additional 2–2.5 miles of path needed will cost an estimated $2.2 million - $3.2 million. The Blue Loop Trail, which includes approximately 18 miles of groomed mountain biking and hiking trail, will cost an estimated $4.5 million - $6.3 million. The Black Loop Trail is intended for wilderness hiking, and will require minimal improvements. It is estimated to cost $1.8 million - $2.4 million. Overall, the three loop trails are estimated to cost $8.5 million - $11.9 million.
Complete Streets	Town		$	Staff time to adopt policy. (Street design/construction not included)
E-bikes	Town	Mono County, USFS	$	Staff time to craft and adopt policy, development of a map for distribution and costs to post speed limits.
Sheltered Amenities	Town	ESTA	$	Assuming sheltered amenities can be implemented over time, costs should be relatively low. Each sheltered bench or bus stop is estimated to cost $15,000 - $25,000.
Recreation Support Facilities	Town	MMSA, USFS, Community groups	$	Staff time for maintenance
Snow Management	Town	Business Owners, School District, Neighborhood groups	$$	Based on cost estimates for snow removal in the District Feasibility Study, this action is estimated to cost approximately $1 million. annually.
Fire Access	Town	Mammoth Lakes Fire Department, Home owners	$	To create two short segments of unpaved, graded fire access easements would likely cost between $33,000 and $157,000 depending on the widths and alignments chosen.
Super App	Town	Tech Developers, Mammoth Lakes Tourism, Community Groups	$$$	Depending on features and the level of integration, costs will vary. An app that shows information about available rentals and then links to an external site to process a transaction will likely be lower cost than an app which offers in-app transactions to book reservations and tickets. Development costs could be between $45,000 and $160,000.
Local and Regional Partnerships	Town	Mono County, MMSA, Mammoth Lakes Tourism, Mammoth Lakes Fire Department, USFS, National Parks Service, Caltrans, June Lake, Bridgeport, Bishop, Lee Vining	$	Staff time only.
Mobility Partnership	Town	Mono County, MMSA, Mammoth Lakes Tourism, Mammoth Lakes Fire Department, USFS, NPS	$	Staff time only.
Enhanced Infrastructure Financing District (EIFD)	Town	Business Owners	$	Staff time only to establish district.

Table 5: Mobility Actions to achieve Silver Level (Estimated growth in New Mobility 8-25%)

Action	Lead	Partners	Cost Estimate	Notes
All Mobility Actions to Achieve Bronze Level				
Transit-Only Routes	Town	ESTA, MMSA	$$	If establishing these routes requires only signage or minimal features to notify drivers that the road is closed to private vehicles, cost for this action may be as low as $10,000 - $20,000. If additional transit vehicles must be purchased and new routes established, this action may cost up to $500,000. May require additional parking.
Active Recreation Shuttles	Town	ESTA, YARTS, Private Sponsor	$$	If one or more additional transit vehicles must be purchased to add service routes, costs up to about $500,000 might be incurred.
Bike Share	Town	USFS, Private Sponsor	$$	Assuming Mammoth Lakes implements a bike share system with 8 – 10 kiosks and a variety of bicycle options, a bike share system is likely to cost approximately $400,000 - $500,000 to implement. Operations are likely to be around $200,000 annually.
Car Share and Ride Share	Private Sector	Town	$$	Based on estimated costs to launch a car-sharing program in Washington, D.C., this action is likely to cost around $200,000 depending on the program model and on the number of vehicles procured.
Super App	Town	Tech Developers, Mammoth Lakes Tourism, Community Groups	$$$	Depending on the number of features and the level of integration into the app, costs may vary significantly. For example, an app that shows information about available bike or car rentals and then links to an external site to process a transaction will likely be lower cost than an app which offers in-app transactions to book reservations and tickets. Development of this program will likely cost between $45,000 and $160,000.

Table 6: Mobility Actions to achieve Gold Level (Estimated growth in New Mobility 25-50%)

Action	Lead	Partners	Cost Estimate	Notes
All Mobility Actions to Achieve Bronze Level				
All Mobility Actions to Achieve Silver Level				
Mobility Hubs	Town	MMSA, Developers, Business Owners	$$$$	The Mammoth District Feasibility Study estimates multi-level parking costs at $26,000-$30,000 per stall. For the recommended 180-330 parking spaces, this suggests a total cost around $4.7 million–$9.9 million per structure for parking. For three mobility structures in Mammoth Lakes, the total estimated cost is likely between $20 million and $50 million.
Expanded Gondola System	Town	MMSA	$$$$	The Telluride gondola system, which has two stations and spans 3 miles, cost approximately $16 million to construct. The recommended gondola system for Mammoth Lakes will add 4 gondola stations and approximately 3 miles of gondola line, comparable to the Telluride system. The expanded gondola system in Mammoth Lakes is estimated to cost between $18 million and $24 million to construct, and between $4 million and $4.5 million annually to operate (more than double current ESTA and MMSA services operations).
Long Distance Hiking Hub	Town	Trails Coordinator, USFS	$$$	Based on similar full-service, multi-use mobility stations or hubs, a long-distance hiking hub is likely to cost about $1.5 million.
Smart Technology/Digital 395	Town	June Lake, Bridgeport, Bishop, Lee Vining	$$$$$	Digital 395 budget is $109 million.

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APPENDIX

CASE STUDIES

GONDOLA IN TELLURIDE, CO

Telluride opened a transportation gondola—the first of its kind in the US—in 1996. The gondola, which runs between Mountain Village and Telluride, runs from late November to early April and late May to mid-October each year. During off-season when fewer visitors are in the area, bus service is provided between Mountain Village and Telluride.

To date, the gondola has transported more than 26 million riders, an annual average of 2.25 million. This replaces the equivalent of eighteen 50-passenger buses to move 900 people per hour. On roads, the distance between the gondola stops is eight miles, while the gondola route is just 3 miles long. The line includes wheelchair-accessible cabins, and some accommodate pets as well.

Operations are managed by a coalition of organizations that benefit from or are impacted by the gondola, including Telluride Ski & Golf Company (Telski), Telluride Mountain Village Resort Company, Mountain Village Metropolitan Services (a nonprofit), Telluride Gondola Transit Company (TGTC, a nonprofit), Mountain Village Metropolitan District, the Town of Mountain Village, and San Miguel County in Colorado. TGTC takes primary responsibility for daily operations, while partners agree to provide funding or other in-kind support.

Funding comes from a number of sources. Approximately $3.5 million annually is allocated out of Telluride Mountain Village Owners Association (TMVOA) Real Estate Transfer Assessment revenues. One percent of gross revenue from ski lift tickets also funds the line. No fee is charged to ride the gondola. TMVOA also purchases renewable energy credits from the San Miguel Power Association.

In addition to the gondola, Telluride has a “chondola”—a higher speed chair lift that provides service between Mountain Village Center and the Meadows neighborhood.



Source: http://www.tellurideskiresort.com/the-mountain/gondola/

This case study was selected to demonstrate successful use of a gondola for transportation purposes. Telluride also bears many similarities to Mammoth Lakes: both are compact mountain resort towns with ski areas and other recreation destinations located within a few miles of the town center. In addition, this case study illustrates a successful partnership of diverse stakeholders who collaborated to implement and sustain operations of the gondola system.

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https://tmvoa.org/gondola/

https://townofmountainvillage.com/getting-around/gondola-chondola/

LAKE TAHOE/TRUCKEE

The Truckee North Tahoe Transportation Management Association (TNT/TMA) runs programs and fosters public-private partnerships to address transportation challenges in the Truckee-North Tahoe Resort area. The TNT/TMA has a 13-member board of directors that include public agencies such as Truckee and the Nevada County Transportation Commission as well as private entities such as local ski resorts. It is funded through ski resort subsidies, federal grants, trade memberships, and business associations such as chambers of commerce and tourism agencies.

Their current programs include ride share and van pool services, a coordinated ski shuttle program, improved transit service frequency, airport shuttles, and a park and ride. They also advocate for bike trails, water shuttles, bus shelter improvements, event shuttles, and other improvements that "keep traffic moving."

This case study was selected to demonstrate a successful partnership between public agencies, private companies, and nonprofit groups to support expanded mobility options in a popular recreation destination. Like Mammoth Lakes, the Tahoe/Truckee area is a year-round recreation destination and popular second-home location for skiing, boating, hiking, and more.





Source: North Tahoe Business Association

http://chamber.truckee.com/list/member/truckee-north-tahoe-transportation-management-association-tnt-tma-truckee-2428

http://www.laketahoetransit.com/

COLUMBIA GORGE EXPRESS, COLUMBIA RIVER GORGE NATIONAL SCENIC AREA (OREGON)

In 2016, a pilot project was introduced by the Oregon Department of Transportation that provided a shuttle bus from Portland to Multnomah Falls, an extremely popular tourist destination in the Columbia River Gorge. Over 18 weekends between May and September, which included 54 days and 3 federal holidays, the Columbia Gorge Express provided approximately 30,000 trips to and from Multnomah Falls. On average, 94 people boarded the shuttle in Portland each day of operation and an average of 235 people boarded at Rooster Rock (the only stop on the shuttle route lot between Portland and Multnomah Falls, which is a state park with a large parking lot). The shuttle has 12 daily departures from Portland to Multnomah Falls.

This case study was selected to illustrate the potential to reduce driving between the Town of Mammoth Lakes and the Devils Postpile National Monument. Even with limited operation, this shuttle sees high ridership.

http://columbiagorgeexpress.com/



Source: Columbia Gorge Express

NATIONAL PARKS SYSTEM CONGESTION MANAGEMENT TOOLKIT

Parks can typically expect a shift in visitor use patterns of about 5-15% of visitors by using the solutions noted in this Toolkit, including Public Transportation. (Their definition of "public transportation": Often referred to as a shuttle or bus service, public transportation solutions include putting multiple carloads of people on a van, bus, tram, or other higher capacity vehicle to get them to a destination or destinations. Public transportation solutions can often reduce the number of vehicles on a roadway or parking area, but can be costly to operate and maintain and can have unintended consequences which could simply move crowding and reduced visitor experience downstream).

This case study was recommended both as a potential resource for Mammoth Lakes to consider as it moves toward implementation of this action plan, and as research that shows a significant decrease in driving of personal vehicles after implementation of transit and other congestion management programs.

https://www.nps.gov/transportation/pdfs/NPS-CMS_Toolkit.pdf



Source: National Park Service

LEWIS AND CLARK SHUTTLE

In the summer of 2004, ridership on the park shuttle routes represented approximately 11% of park visitation, high for a voluntary system in a rural area.

This case study was selected to demonstrate that unlike typical transit systems in rural areas with dispersed population centers, shuttles serving recreation destinations can achieve high ridership among visitors.

https://ntl.bts.gov/lib/42000/42500/42568/DOT-VNTSC-NPS-06-05.pdf

ZION NATIONAL PARK

In the 1990's, annual visitation to Zion National Park reached more than 2.4 million and more than 5,000 vehicles drove on Scenic Drive daily. A mandatory shuttle system was launched and has been operating since 2000. With the exception of employees, only the park's shuttle bus is allowed to north of the Zion Canyon Visitor Center during the peak summer season.

Throughout its fifteen years of service, the shuttle system has continuously seen increased ridership. There were 4,031,441 multiple passenger boardings in 2014 on the whole system, which was an increase of 10% from 2013. The average number of riders per bus, per hour of service for the year was 82.5, which was the highest annual number recorded since the inception of the system. The busiest day of service in 2014 recorded 41,723 passenger boardings, with an average of 120 riders per bus, per hour of service for the day. Operation of the shuttle significantly reduces the number of private vehicles that would be in the canyon without it.

This case study was selected to demonstrate the efficacy of a dedicate shuttle in replacing private vehicle access to recreation destinations. It was chosen partly because it has trip data from both before and after the shuttle was implemented, and because its shuttle is mandatory—like the one proposed in this Action Plan for Devils Postpile.



Source: National Park Service

http://www.utahgatewaycommunity.org/success-stories/item/81-zion-national-park-town-of-springdale-shuttle-system

https://www.nps.gov/stateoftheparks/zion/visitorexperience/shuttle.cfm)

YARTS AT YOSEMITE NATIONAL PARK

In 2016, ridership was up across all routes of YARTS. From July 2015 to July 2016, ridership was up 39.7% over the same time frame the previous year, while park visitation was up 23.4%. Increased ridership is attributed to additional buses on one of the main YARTS routes, plus overall increasing visitation to Yosemite National Park.

This case study was selected to demonstrate willingness of local residents and visitors to use transit for recreation purposes. YARTS provides service to and from Yosemite from Mammoth Lakes, and is a key partner in several transit-related actions in this Plan.



Source: Visit California

http://www.uniondemocrat.com/localnews/4593824-151/ridership-on-bus-to-yosemite-increases?referrer=fpblob

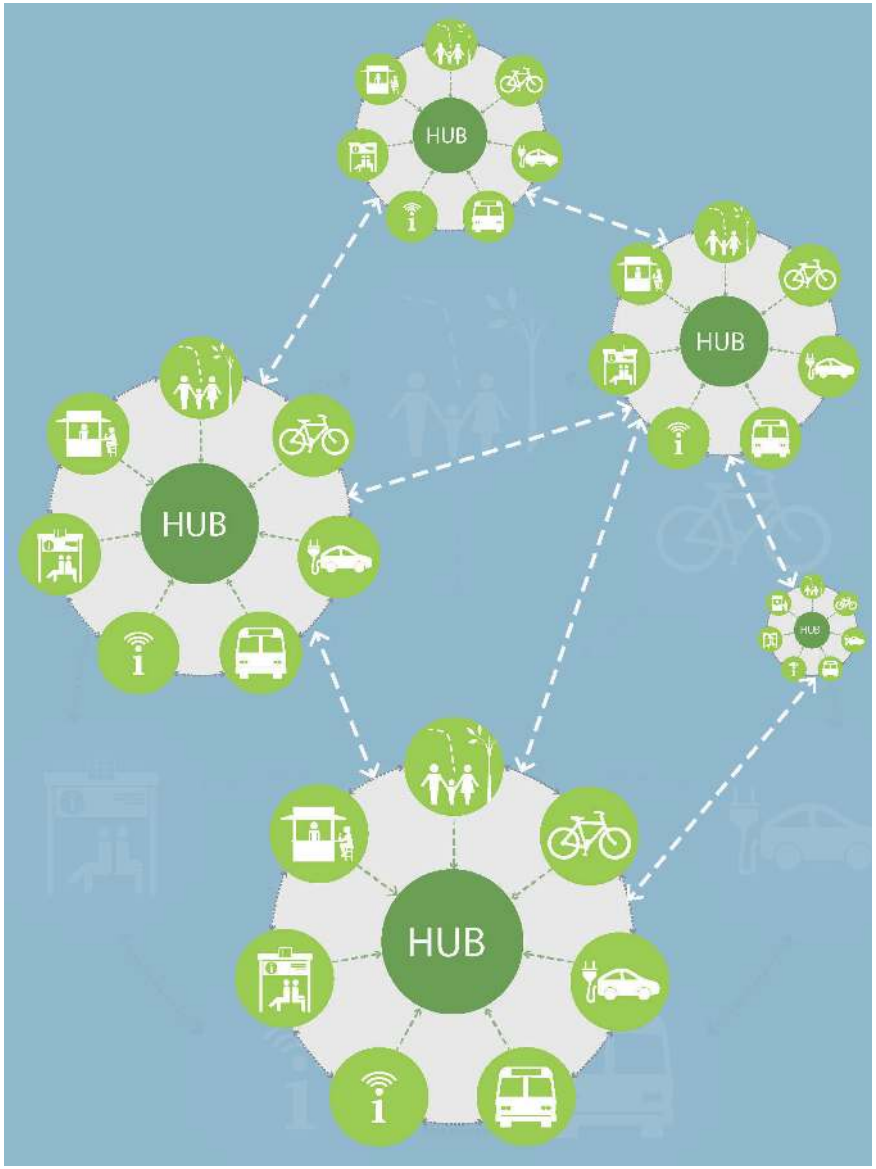
SMART MOBILITY HUBS

While there are not yet any built examples of multi-modal smart mobility hubs, several communities have taken steps towards implementation with extensive planning and conceptual design processes. Mammoth Lakes has an opportunity to position itself as a pioneer in this field. This case study will cover two exemplary planning efforts, from Los Angeles and Amsterdam.

Los Angeles

Los Angeles' plan describes mobility hubs as integrated service centers around new and existing transit stations. It includes some built-environment strategies like improved sidewalks, street trees, pedestrian-scaled lighting, and wayfinding systems, along with new mobility options like bike share, ride share, and car share systems. The plan also suggests increasing transit and shuttle frequencies, and expanding regional connections. In addition, hubs might include electric vehicle charging stations, free wi-fi, real-time transit information, retail, and mobility ambassador or help desk services.

Three types of mobility hubs are defined in the plan, to meet the needs of different areas of the diverse Los Angeles community. Neighborhood Mobility Hubs found in lower-density or residential neighborhoods would offer a smaller suite of essential transportation services, focusing on transit access, bike share, and secure bicycle parking. central mobility hubs are found in dense urban contexts, and might cover multiple buildings or blocks. In addition to the neighborhood amenities, they offer car share, real-time bus information, restrooms, cafes, bicycle repair services, and more. Regional mobility hubs are located either at city centers or at connection points between regional transportation services. They include long-term secure bicycle parking and coordinated information about multiple transportation options and connections. Safety at all scales is a priority, as personal security concerns are often a major factor in people choosing to drive a personal vehicle rather than walk, bicycle, or take transit.



Mobility Hubs: A Reader's Guide, City of Los Angeles

Amsterdam

The Smart Mobility Action Program from Amsterdam marries technological innovations with transportation choices to improve the experience for everyone in the city, regardless of how they travel. The report discusses autonomous vehicles, smart phones, improved data, and the ubiquity of sensors on vehicles and devices as opportunities to embrace a new way of thinking about mobility.

The city has already begun to experiment with smart mobility programs, including a mobility portal that collects a person's origin and destination information and returns a trip plan that is optimized based on historic congestion data and available transportation options, and allows you to purchase your bus ticket, parking space, or train fare in advance. Some transit providers have collaborated to sell a Mobilitymixx ticket that allows pay-as-you-go travel across all routes and lines, while taxi companies are experimenting with a program that reduces fares for riders willing to share a cab with someone else traveling in the same direction.

Amsterdam's plan stops just short of recommending a specific vision or course of action for the mobility sector, recognizing that rapidly evolving technologies and expectations of travelers are impossible to predict. Instead, it encourages partnership and collaboration between the city, transportation providers, and technology companies to solve problems and apply new ideas to mobility. Specific actions or programs it lists as in-progress or completed include:

- Real-time information about parking availability in peripheral structures
- A competition seeking innovative mobility solutions
- An app that connects owners to their bicycles if it is stolen, or removed from a bicycle depot by enforcement officers
- A beacon network that will allow app developers to transmit location-specific information, and will eventually support better real-time information on the location of transit vehicles
- Adding wi-fi transmitters and real-time mobility information to street lights
- An app for tour coach drivers showing information on congestion, road closures, and available parking near popular destinations
- Optimized routes for waste collection vehicles, prioritizing containers that are approaching capacity and avoiding school areas during arrival and dismissal times

These case studies were selected because they represent the forefront of innovation in creating mobility hubs that combine transportation information and access with cutting edge technologies.

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https://amsterdamsmartcity.com/projects/actieprogramma-smart-mobility-2016-2018

http://www.urbandesignla.com/resources/docs/MobilityHubsReadersGuide/lo/MobilityHubsReadersGuide.pdf

REAL-TIME INFORMATION

As transit operators seek to provide their existing and potential customers with more on-demand, real-time information, many of these agencies have started to publish real-time transit vehicle arrival information as one strategy to improve both customer service and the customer experience of using their systems. The implementation of a real-time arrival prediction system produces many benefits for the riding public including improved satisfaction with the system, increased rider convenience, and greater visibility of transit throughout the community. Studies have shown that many customers perceive waiting times to be shorter when real-time information is provided, even if actual wait times remain unchanged. The data generated to make these arrival predictions can also have many uses for the transit operator including generating data that can be used to better optimize their service when performing route and/or system modifications.

To generate arrival data, these systems require both hardware and software components. On the software side, many agencies chose to contract out these services to vendors who specialize in transit information prediction systems. These vendors have programs that use vehicle location data, past trip history, traffic conditions, and other factors to generate arrival predictions. The location data can either be pulled from an existing CAD/AVL (computer-aided dispatch/automated vehicle location) system or from purpose-installed GPS devices. Additionally, a data connection will be required to transmit this data from the bus if an existing connection is not present. Choosing the appropriate data connection is critical to providing up-to-date and accurate information. Given the very mountainous and variable terrain around the Mammoth Lakes area, a connection type (data radio, cellular, etc.) needs to be selected that has maximum coverage over all route areas.



Mammoth Lakes could install electronic variable message signs similar to the example shown here in Acadia National Park.

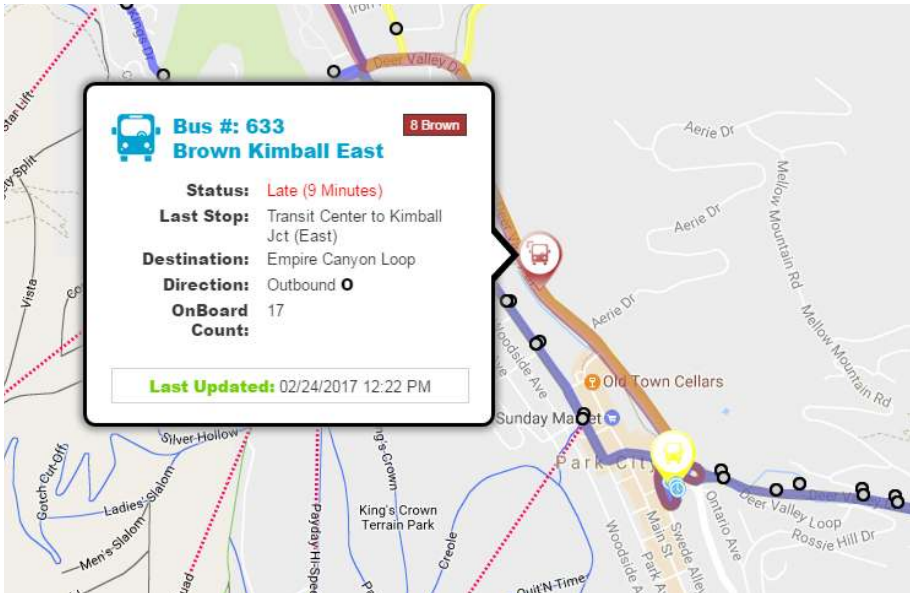
Agencies can distribute this information in a number of ways including: online (desktop, mobile, and ADA compatible websites), mobile applications, electronic variable message signs, and third party transit and trip planning applications like Google Maps.

ESTA currently provides real-time transit information through the Swiftly App. This information could be integrated into message signs at major transit stops.

One peer community that has implemented a real-time arrival system is Jackson Hole in Wyoming. Very similar to Mammoth Lakes, Jackson Hole is anchored by ski-resorts and other related activities with a high concentration of visitors. Jackson Hole is served by the Southern Teton Area Rapid Transit System (START). The START system has 8 routes (including two town shuttles) that serve the Town of Jackson, Teton Village, and Star Valley. Throughout the system there are roughly 100 bus stops. START's arrival prediction service is operated by Route Match Software. START provides real time arrival information for all of its routes both online and on mobile devices through the RouteShout application.

Another peer city that has implemented a real-time bus arrival system is Park City, Utah. Park City is another ski-resort town that thrives on tourism and visitors having fun in the snow. The Park City Transit System operated 13 routes and well over 100 stops throughout the area. Park City Transit

implemented “myStop” that provides arrival predictions, vehicle location, and an estimate of the number of riders on board the vehicle. Park City’s arrival prediction system is powered by Avail Tech. This information is available both online on their website (reachable via link and QR code), available via SMS text messages, automated phone call-in system, and through the myStop mobile application.



Park City’s “myStop”

There are many vendor options available when implementing both hardware and software aspects of required for a fully functional arrival predictions and distribution system. In addition to the two vendors mentioned above, other leading vendors in the industry include NextBus and Syncromatics.

These case studies were selected to demonstrate different ways real-time transit information is collected and shared in peer communities. A variety of vendors are available to help Mammoth Lakes develop its own unique system.

RESOURCES

SNOW MAINTENANCE

Best practices

- Plowing Snow on Multimodal Streets https://docs.google.com/r?a=v&pid=forums&srcid=MDY4OTM2NzI3OTUxNDc5ODEwNDcBMDI0MjE5MDA5OTM4MTA3MDgyNDcBRElRRTRqb3dXeUVKATAuMQFhbHRhcGxhbm5pbmcuY29tAXYy
- Winnipeg Bikeway Maintenance Memo https://docs.google.com/r?a=v&pid=forums&srcid=MDY4OTM2NzI3OTUxNDc5ODEwNDcBMDYwMTMyMDk0MzkxODM2MDY2MDABWE5Ba0FNemM0S1VKATAuMQFhbHRhcGxhbm5pbmcuY29tAXYy
- Winter Bike Lane Maintenance: A Review of National and International Best Practices: http://www.altaplanning.com/wp-content/uploads/winter-bike-riding-white-paper-alta.pdf

Ordinances

- Check out the reference on page 9 of this 158 page, recent (2013) guide from the FHWA on sidewalks. It refers to FHWA guidance on the Code of Federal Regulations and the need for agencies to clear snow from walkways.

  http://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/
- Urbana: http://urbanaillinois.us/sites/default/files/attachments/ord-no-2011-11-134.pdf
- Boston gives property owners 3 hours after a storm to clear the sidewalk in front of their property. After that, the city assesses stiff fines. Property owners are also responsible for clearing fire hydrants and wheelchair ramps adjacent to their properties. http://www.cityofboston.gov/snow/removal/snowremoval.asp

Community programs

- Lawrence, KS has a “Safe Winters Walkway” volunteer program that connects volunteers with seniors who aren’t able to clear their sidewalks after a snowstorm.

E-BIKES

State Policies

Riding Policies: CA Vehicle Code 21207.5

1. (a) Notwithstanding Sections 21207 and 23127 of this code, or any other law, a motorized bicycle or class 3 electric bicycle shall not be operated on a bicycle path or trail, bikeway, bicycle lane established pursuant to Section 21207, equestrian trail, or hiking or recreational trail, unless it is within or adjacent to a roadway or unless the local authority or the governing body of a public agency having jurisdiction over the path or trail permits, by ordinance, that operation.

2. (b) The local authority or governing body of a public agency having jurisdiction over a bicycle path or trail, equestrian trail, or hiking or recreational trail, may prohibit, by ordinance, the operation of a class 1 or class 2 electric bicycle on that path or trail.

E-Bike Classes: CA Vehicle Code 312.5

1. (a) An “electric bicycle” is a bicycle equipped with fully operable pedals and an electric motor of less than 750 watts.

2. (1) A “class 1 electric bicycle,” or “low-speed pedal-assisted electric bicycle,” is a bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.

3. (2) A “class 2 electric bicycle,” or “low-speed throttle-assisted electric bicycle,” is a bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.(3) A “class 3 electric bicycle,” or “speed pedal-assisted electric bicycle,” is a bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour, and equipped with a speedometer.

4. (b) A person riding an electric bicycle, as defined in this section, is subject to Article 4 (commencing with Section 21200) of Chapter 1 of Division 11.

5. (c) On and after January 1, 2017, manufacturers and distributors of electric bicycles shall apply a label that is permanently affixed, in a prominent location, to each electric bicycle. The label shall contain the classification number, top assisted speed, and motor wattage of the electric bicycle, and shall be printed in Arial font in at least 9-point type

State Parks: CCR § 4360. Trail Use.

Unless designated by the Department, all trails are open to pedestrians and closed to all other uses. All allowable trail uses will continue as they are designated at the date of adoption of these regulations unless and until a change is made by order of the District Superintendent. The Department may establish speed limits for designated trail use for units or portions thereof. If established, these speed limits will be posted.

(a) Trails in Reserves and Preserves as defined in PRC Sections 5019.65, 5019.71 and 5019.74 may be designated for bicycle or equestrian use when the District Superintendent has determined that such use is important for public access to the area or to make important connections to other trails and where it has been determined that impacts to the resources for which the area was established will not be significant as defined in Public Resources Code Section 21068 and Section 15382, California Code of Regulations Title 14.

Note: Authority cited: Section 5003, Public Resources Code. Reference: Section 5008, 5019.65, 5019.71, 5019.74, 5024, 5024.5 and 21068, Public Resources Code.

Federal Policies

15 U.S. Code 2085 – Low Speed Electric Bicycles

1. (a) Construction: Notwithstanding any other provision of law, low-speed electric bicycles are consumer products within the meaning of section 2052(a)(1) [1] of this title and shall be subject to the Commission regulations published at section 1500.18(a)(12) and part 1512 of title 16, Code of Federal Regulations.

2. (b) Definition: For the purpose of this section, the term "low-speed electric bicycle" means a two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 mph.

3. (c) Promulgation of requirements: To further protect the safety of consumers who ride low-speed electric bicycles, the Commission may promulgate new or amended requirements applicable to such vehicles as necessary and appropriate.

4. (d) Preemption: This section shall supersede any State law or requirement with respect to low-speed electric bicycles to the extent that such State law or requirement is more stringent than the Federal law or requirements referred to in subsection (a).

Inyo National Forest (US Forest Service) https://www.fs.usda.gov/activity/inyo/recreation/bicycling

Devils Postpile (US Park Service) https://www.nps.gov/depo/planyourvisit/outdooractivities.htm

EIFD

- Overview and examples http://www.planetizen.com/node/88347/new-financing-tool-california-enhanced-infrastructure-finance-districts
- Resource Guide: http://cceda.com/wp-content/uploads/EIFD-Resource-Guide-Feb-20161.pdf
- http://www.eifdistricts.com/
- http://cityminded.org/enhanced-infrastructure-financing-districts-eifd-12330
- http://www.planningreport.com/2015/06/03/new-tool-urban-economic-development-eifds-demystified
- http://www.ci.mammoth-lakes.ca.us/DocumentCenter/View/4924
- http://www.cacities.org/CMSPages/GetFile.aspx?nodeguid=d8e42eca-7647-4f12-98d4-e93383abc48c&lang=en-US
- http://www.cacities.org/CMSPages/GetFile.aspx?nodeguid=d8e42eca-7647-4f12-98d4-e93383abc48c&lang=en-US

LOCAL AND REGIONAL PARTNERSHIPS

In addition to providing leadership throughout the implementation process of this Plan, partnerships present an opportunity to leverage resources to implement these recommended actions. For example, improved transit services may be supported by a partnership between the regional communities that will benefit from these services. Potential partners include:

- Transit: YARTS, ESTA, Mono County, MMSA
- Gondola: MMSA, Major Resorts
- Maintenance: Community Groups, Business Owners
- Trailheads and Amenities: Hiking groups, biking groups, tour organizations, California Conservation Corps

Recommendation

This Plan recommends the Town form a partnership with local and regional stakeholders to identify or create funding sources and other resources for improvements.