Mad River Valley Active Transportation Plan

MRV MOVES
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CHAPTER 1: INTRODUCTION

ABOUT THIS PLAN

The Mad River Valley (MRV) is blessed with historic New England villages, a network of quiet dirt and rural roads, and a myriad of private, non-profit and government agencies working on trails that traverse some of the most beautiful landscapes in the Northeast. The six municipalities in the watershed, the Central Vermont Regional Planning Commission (CVRPC), the Mad River Valley Planning District, the Mad River Valley Recreation District, the US Forest Service, the Vermont Department of Forest, Parks and Recreation (FPR), the Vermont Agency of Transportation (VTRANS), private businesses, such as Sugarbush Resort, and non-profit organizations, such as the Mad River Path Association and the Mad River Riders, all contribute to planning for, managing and maintaining trails and active transportation systems in the MRV. This plan seeks to build upon the decades of projects these organizations have completed while establishing a watershed-wide long-range vision for the Valley that supports these organizations moving forward.

The MRV Moves Active Transportation Plan creates a collaborative framework that envisions a consistent, cohesive and connected regional system of trails, roads and sidewalks that provide a range of transportation options and recreational experiences for diverse user groups in the MRV, all while connecting users to the natural landscape and respecting the resources that make the valley so special. Through a robust planning process, this MRV Moves Plan aims to connect existing trail and transportation systems, evaluate new connection opportunities, and plan for safe facilities that will enhance bicycle and pedestrian mobility. The planning process also seeks to encourage community collaboration and partnerships while guiding a shared and multiple use vision for the Valley. Finally, the MRV Moves Plan strives to demonstrate the significant economic, recreational, and environmental benefits of a thoughtful plan for a regionally-connected active transportation system in the MRV.

The MRV Moves Active Transportation Plan was led by the Mad River Planning District and funded in partnership by the Vermont Agency of Transportation (VTrans) Strong Communities, Better Connections Program, Vermont Agency of Commerce and Community Development (ACCD), Towns of Fayston, Moretown, Warren, & Waitsfield, the Mad River Valley Rotary Club and the Mad River Valley Chamber of Commerce. The professional services of SE Group of Burlington, Vermont were retained to conduct the planning process and draft this Master Plan document. Broadreach Planning and Design and Lamoureux and Dickinson Civil Engineering acted as sub-consultants on the project for transportation planning and design support.

The SCBC Grant Program

The Strong Communities, Better Connections Program is a multiagency partnership to align state and local investments to increase transportation options, build resilience and economic vitality in Vermont’s community centers. The SCBC Program is an annual grant program administered by the Vermont Agency of Transportation (VTrans) in partnership with the Vermont Agency of Commerce and Community Development. This project was awarded in the pilot year of the SCBC program.
CHAPTER 1: INTRODUCTION

WHAT DOES ACTIVE TRANSPORTATION MEAN IN THE MRV?

Planning for active transportation means providing for safe and convenient opportunities for physically active travel. We heard through the MRV Moves public process that active transportation opportunities in the MRV are very different from those in more urban locations. Urban locations, such as Burlington, contain active transportation facilities such as multi-use paths along busy roads that are great for getting around, but don’t provide a particularly enjoyable recreation experience. The rural and scenic context of the MRV, mixed with the community’s strong recreational ethos, results in active transportation facilities that are more recreation-oriented. Many of these facilities, such as mountain bike trails and rugged footpaths, are used for transportation more frequently in the MRV than in other communities. Active transportation facilities in the MRV also provide a way to reach destinations, such as a trailhead or village, without a motor vehicle—thus furthering active transportation, advancing recreation goals, and reducing vehicle trips and demand for parking. It is with this understanding that the MRV Moves plan envisions a connected regional system of trails, sidewalks and routes that reflect the unique history, culture and character that makes the Mad River Valley such a special place.

THE BENEFITS OF WALKING AND BIKING

Economic Development

Active transportation provides several different types of economic development benefits:

- Tourism,
- Business Retention & Growth, and
- Local Shopping, Vibrant Village Centers & Livable Communities.

TOURISM

Tourists look for places with good walking and bicycling facilities. In Vermont, the number of tourists that head to the Stowe Recreation Path provides a good example; these include both day-trippers and those that use local hotels for overnight stays. The Champlain Islands Chamber of Commerce (now a part of Lake Champlain Regional Chamber of Commerce) reported that the number one topic of all phone calls they received was for places to bicycle on the Islands (Lake Champlain Regional Chamber of Commerce, 2015).

Having a reputation for having good bicycling and walking facilities helps to bring tourists into a community. The Kingdom Trails in northeast Vermont has gained a national reputation for having one of the best network of trails in the country. Numerous national magazines, including Yankee, Travel & Life and Bike Magazine, have praised Kingdom Trails, helping to spread recognition of the trails as a great destination of bicycling in the summer and cross country skiing in the winter.
Confirming findings from the Mad River Valley Economic Study and Economic Vitality Series Meetings, response to the MRV Moves Community Survey identified trails to be a critical component of recreational tourism in the MRV. 78 percent of survey respondents identifying themselves as visitors stated “the availability of recreation trails and opportunities to hike, bike, walk, ski and snowshoe” were important for their decision to visit the MRV. A full 34 percent of visitor respondents identified these opportunities as the deciding factor in their destination choice.

Tourists invariably spend money in the community that they visit, whether it is simply a gas station stop or as extensive as multi day lodging with meals, equipment rental, and souvenirs. The potential impact of tourist spending, specifically of those that engage in active transportation, is clearly evident from the community survey results. Survey visitors, including both day and overnight visitors, spent an average of $174.87 on a typical day visiting the MRV. This spending value is significant because respondents were asked to “include only the amount you would spend on a single day and for yourself only.” The value represents the average spending of one MRV trail tourist for one day.

For the MRV in particular, a well-developed active transportation system can help round out the existing tourist economy, which has traditionally focused on skiing during the winter months. In addition to providing tourist activities for spring (outside of mud season), summer, and fall, active transportation facilities and trails can be used in the winter for cross country skiing, snow shoeing, and winter/fat biking.

The intersection of active transportation, trails and tourism, including the economic impact of select trails in the MRV, is further explored in Chapter 4 as part of the “Trails Mean Business” discussion.

BUSINESS RETENTION AND GROWTH

Businesses today are looking for locations that help them attract and maintain good employees. Employees, in turn, are looking for places that have good bicycling and walking facilities, among other things. Trails and walkable, bikeable communities are what tax-paying companies and young professionals are seeking when deciding to relocate. Of those “Millennials” that we want to attract and retain: two-thirds seek walkable places and town centers, even if they prefer to live in a suburb, 26 percent do not have a driver’s license, and 45 percent report making a conscious effort to replace driving with alternative forms of transportation (Natural Resources Defense Council, 2012).

Sidewalks and other places to walk, such as trails, consistently rank as one of the top priorities with home buyers. The 2013 Community Preference Survey, conducted on behalf of the National Association of Realtors, found 80% of those polled considered having sidewalks and places to take a walk one of their top priorities when deciding where they would like to live. Also, places to walk ranked higher than “high quality public schools,” which was selected by 74% of survey respondents (National Association of Realtors, 2013). This sentiment is also echoed in surveys of second-home owners and resort properties. For example, every annual Kelsey & Norden Resort Real Estate Survey since 2009 has identified trails as the #1 amenity sought by resort real estate owners and purchasers (Kelsey & Norden Resort Real Estate Survey, 2014).

The link between good bicycling/walking opportunities and employee contentment applies to existing business that want to remain where they are, as well as to new business that are looking to start, expand, or relocate. Self-employed individuals that are not restricted to a
certain location are also attracted to communities that provide good walking and bicycling. As demonstrated in the 2014 MRV Economic Study, the percentage of employed persons working at home within the MRV is 15.3%, twice the statewide average.

A well-developed active transportation system in the MRV supports each of the top priority issues that emerged from the MRV’s 2015 Vision & Vitality work:

- Marketing,
- Economic Development, and
- Business Support

In addition the Vision and Vitality series identified transportation as the #2 barrier to economic vitality in the MRV.

**LOCAL SHOPPING, VIBRANT VILLAGE CENTERS & LIVABLE COMMUNITIES**

Making it easier for local residents to get to shopping areas by bicycling or walking encourages them to make purchases there rather than at stores located beyond convenient walking or bicycling distances.

Village centers that have high levels of walking and bicycling are typically more economically vibrant that those with low levels. Studies have shown that commercial establishments along village and town streets typically have more activity attributed to walkers and bicyclists than to motorists (Clifton, 2012). Making it easy for both residents and visitors to walk and bicycle in and around village centers makes it easier for them to come and go from the village on foot or by bicycle.

People tend to connect more with their community when they can interact and experience it. The more people that are walking and bicycling, the greater the chances of spontaneous social interactions along the street. This, in turn, strengthens the sense of belonging to the community on the part of the walkers and bicyclists. Walking and bicycling also allows people to experience their community at a slower pace, which often allows them to notice and appreciate more things (or make note of things that need attention).

Having more facilities for walking or bicycling, or travel by some means other than a motor vehicle, creates a community that provides its residents with choices as to how they want to live their daily lives. It also provides greater mobility for those that do not drive a motor vehicle, as well as attracts those that would like to have a more active lifestyle.

Greater bicycling and walking on streets also has a tendency of reducing the overall level of crime along the roadway. When there are people traveling through and looking at the street, there are fewer opportunities for individuals to engage in criminal or harmful activities unnoticed by others.
Environmental Health

Active transportation trips typically replace trips by motor vehicles, which helps reduce the overall output of CO2 into our atmosphere. Even slight reductions can add up overtime; each active transportation trip in the MRV provides benefits to our environment.

People and bicyclists also leave fewer pollutants in their wake. Motor vehicles, collectively, deposit oil, heavy metals, and other pollutants on our roads. Many of these pollutants eventually get swept into stormwater, which carries them into water courses and eventually into our lakes and ponds. Here they can either enter the water column or get bound into sediments at the bottom, only to be picked up by bottom feeders that bring them into the food chain. Walking and bicycling trips reduce the release of these harmful pollutants into the MRV environment.

Human Health

Many studies have shown a direct positive correlation between an active lifestyle and healthier lives and reduced risk of becoming ill (CDC, 2012). Other studies have shown a positive link between the availability of sidewalks and bicycling facilities and the activity levels of those living near them (CDC, 2012). Almost all hospitals and health providers encourage patients to include some form of physical activities in their daily lives to increase many aspects of their health. Walking is high on the list of recommended activities. Providing safe places to walk and bicycle helps to create a healthier community.

Obesity if one of the most significant health threats today. More than two-thirds (68.8 percent) of American adults are considered to be overweight or obese. More than one-third (35.7 percent) of American adults are considered to be obese (U.S. Department of Health and Human Services. 2016). Vermont has slightly lower rates of overweight and obese Adults at 57.7% overweight and 23.2% obese, but the issue is of critical importance in our state as well (CDC, 2012). Active lifestyles that include walking and/or bicycling help to combat obesity. Obesity exacerbates many other types of illnesses. Reducing the levels of obesity leads to overall better health.

Studies have shown that trails and community infrastructure that promote bicycling and walking contribute to healthy communities and lower healthcare costs for individuals and local governments. A 2004 cost-benefit analysis of using bike/pedestrian trails in Lincoln, Nebraska to reduce health care costs associated with inactivity found that for every $1 invested in trails for physical activity, $2.94 of public health benefits are produced (Wang et al, 2004).
Good trail design that balances recreation interests with environmental sensitivities can also help improve native habitat, water quality and other natural resources. Adding or rebuilding a trail in an environmentally distressed area can help protect or restore environmental conditions by rehabilitating and restoring stream banks, dysfunctional recreation areas or old logging roads that can be destructive to water quality, as is currently happening in the MRV at the Scrag Town Forest. New trail development also presents an opportunity to improve existing conditions that might otherwise not be dealt with. For example, some trail projects could include stormwater management features that could help mitigate impacts from adjacent unsustainable or outdated development like older roads and parking lots.

**Experiencing Nature**

Walking and bicycling allow individuals to experience the world around them more slowly and directly than if they experience it via a trip in a motor vehicle. Often the experience includes some link to nature. When using a path, walkers or bicyclists in the MRV can experience a wide range of natural environments, including forests, meadows, wetlands, and riparian areas.

It is becoming clearer that contact with nature is an important element of a healthy lifestyle. Providing active transportation facilities, especially paths through natural areas, can make it easier to connect with and experience nature.

Experiencing nature is particularly important for the youth in our communities. According to the Institute for Social Research, the average American boy or girl spends just four to seven minutes in unstructured outdoor play each day, and more than six hours each day in front of an electronic screen (National Wildlife Federation, 2016). This is startling data that has been causing a ripple effect across the country. Nearly every industry that works with young people across the nation has established initiatives to help change this statistic. From school districts and environmental education organizations to federal land managers, conservationists and the outdoor retail industry, new funding streams for outreach and programs have developed. There are several negative long term effects of kids’ “nature deficit disorder,” as coined by Richard Louv, but the two
greatest impacts are general health and well-being of America’s youth and the ability and desire for future generations to steward and value our public natural and wild areas, including our local trails and parks. Although this national phenomenon is less of an issue in rural places like the MRV, a cohesive trails and active transportation system could help get even more young people outdoors more often.

Traffic

Additional active transportation on existing roads, in the form of walking and bicycling, reduces the number of motor vehicles traveling on them. When the level of walking and bicycling increases to the point that there is a significant reduction in the number of motor vehicles, there is less congestion on the road.

The presence of walkers and bicyclists on roads also tends to reduce the average speed of the motor vehicles traveling along the same road. Slower vehicle speeds tend to reduce the number of serious or fatal crashes on the road.

Transportation Costs

It is almost always less costly to maintain a bicycle than a motor vehicle, and walking typically has few expenses associated with it. Thus, active transportation is more of a universally accessible form of transportation than travel by motor vehicle.

Bicycle and walkers also put less stress on transportation facilities than motor vehicles, so communities must spend less of their budget dollars to maintain them than for roads and other transportation facilities used by motor vehicles.

While generally costing much less, bicycle and pedestrian infrastructure projects create more jobs per federal dollar than road-only highway construction. A recent University of Massachusetts study demonstrated that “road-only” projects created 7.8 jobs per $1 million spent, while “bicycling only” and “pedestrian-only” projects provided 11.4 and 10 jobs, respectively, per million dollars of spending (University of Massachusetts, 2011).

Recreation

In addition to providing alternate means of transportation, active transportation facilities also provide recreational opportunities for a community, which are extremely important for the MRV given the community’s strong recreational ethos. While walking and bicycling are considered to be a means of active transportation, used to get to a destination without the use of a motor vehicle, the trip itself can also be the reason someone participates in active transportation. Snowshoeing, cross country skiing, kayaking, canoeing, and even horseback riding are other forms of recreational uses of active transportation facilities. In recreational pursuits, the trip is almost always more important than the destination.

Recreation, while good for a person, is also usually fun!
CHAPTER 2: UNDERSTANDING CURRENT CONDITIONS

THE MAD RIVER VALLEY DEFINED

The Mad River Valley is a unique region, even for Vermont, which is home to many beautiful valleys, resort communities and historic New England villages. World-class resort and recreation opportunities abound in the MRV, but the rural charm and small village lifestyle remain intact. Extreme skiing legend John Egan—who has called the MRV home for decades—perhaps described the uniqueness of the valley best in an exchange documented in the New York Times (Pennington, 2016):

When asked “Why live here? Why the Mad River Valley?” He [John] replied with two questions of his own: “What do you see? And what don’t you see?”

The view was quintessential Vermont: a majestic mountain range rising above a tranquil valley dotted with red barns and traced by serpentine country roads that led to largely undisturbed hamlets.

And what did I not see?

Nowhere in my view was there a major slopeside condo development, a fast-food restaurant, a national chain hotel or an interstate highway. Despite the absence of even a single traffic light in the Mad River Valley, there was no backup of cars or trucks in any direction.

It is this character and these unique qualities that define the Mad River Valley and differentiate it from other rural mountain communities in Vermont and elsewhere. These unique characteristics of the MRV are highly valued by its residents and must inform the development of any plan for the valley’s future. The following points summarize other important considerations that have influenced the recommendations and ideas contained in the MRV Moves Plan:

- A rural mountain aesthetic and lifestyle with intact, walkable village centers surrounded by historic agricultural and rural residential land interspersed with a myriad of opportunities to recreate and enjoy nature.
- A safe and quiet community where people of all ages can freely roam village streets and trails.
- An engaged community that values social interaction, history, and sense of place.
- A highly active community that participates in a wide range of recreational pursuits in all seasons of the year.
- An attractive place to live and visit with an economy that is supported by tourism, but not dominated by it. The MRV has a high proportion of workers and small business owners who work from home. For people who could live and work anywhere, the MRV is a place where people choose to live and run a business.

With specific regard to the commuting and travel behaviors in the Mad River Valley, the following points summarize relevant data that has been considered in this plan:

- According to the latest (2014) American Community Survey results from the US Census, the MRV has a relatively high proportion of residents that walk or bike to work, especially for a rural community.
  - Duxbury and Fayston had approximately two percent of the population walking to work in 2014, while Waitsfield and Warren had approximately five percent of the population walking to work and Moretown had less than one percent.
Waitsfield had approximately two percent of the population biking to work in 2014, while the other communities each had less than one percent and many of them had literally no one reporting they bicycled to work.

This is in comparison to 2.8 percent of the population who walked to work and 0.6 percent of the population who biked to work nationally.

Also according to the latest American Community Survey results, the mean travel time to work in the MRV municipalities is between 24 and 25 minutes. However, a significant proportion of the MRV population commutes less than 10 minutes to work, suggesting an opportunity to increase the proportion of the population who walks or bike to work. This is particularly true for Waitsfield, where over 30 percent of residents travel less than 10 minutes.

Private vehicle ownership and access to a vehicle is considerably higher in the MRV than in the US a whole, largely reflecting the rural nature of the community. Approximately 4.5 percent of the US as a whole does not have access to a private vehicle, while each community except Waitsfield reported less than one percent of the population did not have access to a private vehicle. Waitsfield reported 3.2 percent of the population did not have access to a private vehicle.

According to the Community Survey conducted as part of the MRV Moves Plan, the majority (64 percent) of MRV residents drive to trailheads. Most indicated they did this because the trailheads were far from their house (or there were challenging hills), they felt unsafe traveling on the roads, or because they were traveling with dogs and/or children.

Although the commuting and travel behavior data listed above indicates moderate levels of walking and bicycle use for transportation, the MRV Moves Community Survey indicated a strong desire of the survey respondents to travel by foot or by bike. The most common destinations residents wished to reach included the village centers, recreation areas, work and school. This plan considers these realities and attempts to facilitate safer, more convenient travel choices for residents and visitors alike.
KEY THEMES AND OBSERVATIONS

An important early step in creating the MRV Moves Active Transportation Plan was compiling and analyzing the existing inventory of trails and active transportation facilities in the Mad River Valley, and understanding the needs and issues of the community. The analysis of existing conditions included on-site field observation, review of trails and active transportation data and mapping, and communicating with the municipalities, agencies and organizations in the Valley to understand their resources and opportunities for building on existing facilities to improve connectivity and meet transportation goals. For information on the existing conditions see Appendix A.

With the existing trail and active transportation network well understood, the next layer of planning analysis was to understand the existing transportation network, travel patterns, destinations, and wants and needs of the community. This involved a review of relevant ongoing and previous planning work, as well as an analysis of the existing transportation system and behaviors in the region. To gauge community needs and desires, the MRV Moves Plan has been supported by an engaged and active Advisory Committee throughout the process, which has provided community input and valuable local knowledge. A project website, at www.mrvmoves.org, was created to serve as an information portal throughout the duration of the project. The website hosted a MRV Moves survey, which gauged community preferences and priorities throughout the community. The survey received over 350 responses, primarily from locals, but also from visitors and second-home owners. Finally, the planning team also engaged the community through a series of public workshops and events, detailed in Chapter 3: Listening and Learning.

Overlaid on top of these physical and social considerations of the active transportation network is another layer of analysis: consideration of the unique natural environment and the sensitive resources that make the Mad River Valley such a spectacular place and, along with that, an understanding of the natural hazard considerations associated with these important natural resources. Data from the Natural Resources Atlas of the Vermont Agency of Natural Resources and from the Tiered Ecological Priorities Map of the MRVPD were overlaid with existing and planned routes to analyze opportunities and constraints.
Floodplains and water resources, wildlife habitat and corridors and steep slopes may present both opportunities and constraints for trail and active transportation development. In general, these resources are avoided in the plan, but where needed connections must traverse steep slopes, water resources, or undisturbed wildlife habitat and corridors appropriate connection types and associated features such as habitat restoration or stormwater management features, should be applied.

The figures on pages 18-37 graphically depict the results of the current conditions analysis, including the environmental constraints in the Mad River Valley and the existing trail and active transportation maps.

The close examination of the current conditions and public engagement results relating to active transportation in the Mad River Valley revealed the following strengths of the current state of active transportation in the valley:

- Walking conditions in the village centers are generally good for casual and experienced walkers and are getting better with additional projects underway or planned, such as the Waitsfield west sidewalk project that will fill in a key gap in the sidewalk network.
- There are numerous locations within the Mad River Valley to hike or bike off road, which provide stellar recreational opportunities.
- There are several long distance walking or skiing trails running through Mad River Valley.
- There is strong support for the expansion of active transportation facilities.

The review also revealed several important deficiencies in the active transportation network in the Mad River Valley:

- Bicycling in the villages is not easy for beginner or casual bicyclists. On-road cycling can be considered high-stress given the existing infrastructure and traffic volumes, and off-road cycling routes, while not technically challenging, are incomplete and not easy to follow.
- There are few non-motorized connections between the numerous off-road walking or bicycling facilities in the Mad River Valley.
- Bicycling throughout the Mad River Valley, both on- and off-road, is not easy for beginner or casual bicyclists. Terrain outside of the valley floor can be difficult for such cyclists and major routes such as Route 100, 100B, 17 and German Flats Road have traffic volumes and speeds that are not conducive to beginner or casual bicycling. Off-road cycling surfaces, such as single track mountain bike trails and mowed paths, can be difficult for beginner and casual bicyclists, as can the terrain in much of the Valley.
- Directional signage in the Valley is disjointed with limited continuity between the numerous different sign systems.
- There are few loop walks or rides for locals or visitors on- or off-road in the Mad River Valley that are suitable for beginners or causal walkers or cyclists and that do not require travel by car to get to.
• There are some older trails in the Valley which are unsustainable and do not meet current trail standards.

The online survey showed the following preferences and suggestions (further discussed in Chapter 3: Listening and Learning and Appendix B: Survey Results):

• An off road path along RT 100/Mad River/Valley Floor is the most desired new facility.

• Physical constraints, such as topography and distance, should be addressed in the plan.

• Connected and close to home opportunities are important.

• The active transportation system should be designed and built to serve all ages and all abilities to meet transportation goals, while allowing for varied trail and connection types.

• Access to nature and scenic views are extremely important considerations in the design of the active transportation system for pleasant transportation and recreational experiences.

• Dogs are an important management and use consideration for trails in the MRV.

• Trail tourism is an extremely important economic consideration for the Valley.
RELEVANT MUNICIPAL PLAN POLICIES

Each of the Municipal Plans in the MRV provide important policies and guidance for active transportation in the Valley. Relevant policies for the each of the municipalities is provided below. While each plan is unique in structure, policies have been organized around common topics, such as recreation, transportation and land use.

Waitsfield Town Plan

Transportation

- 8.F-15: Provide an interconnected network of sidewalks and other pedestrian and bicycle paths in Irasville and Waitsfield Village, including incorporation of identified road and sidewalk connections into development and subdivision plans. New development shall provide such sidewalks and paths to be connected to existing or planned facilities.

- 8.F-16: Support the creation of an integrated walking path network—through acquisition, easements or use of landowner agreements—linking Waitsfield Village and Irasville with Mad River Valley schools, and the village centers of Warren to the south and Moretown to the north, and other community centers and resources, including the Lareau Swimhole, Skatium and Harwood Union High School, as part of the transportation and recreation plan for Waitsfield and the Mad River Valley. To this end, the efforts of the Mad River Path Association are strongly endorsed.

- 8.F-17: Encourage, through the subdivision review process, the dedication of easements to permanently protect pathways and trail connections for non-motorized use.

- 8.F-18: Maintain and expand support for the continued operation of a transit system linking Waitsfield Village and Irasville with the Mad River Valley’s ski areas and regional population and employment centers. To this end, shelters and designated stops, sidewalks and park & ride facilities within village centers should be created and/or expanded.

- 8.F-25 Identify “visible” Ancient Roads prior to 2015 and decide which, if any, should be added to the Town’s inventory of roads and legal trails for the state’s Certificate of Highway Mileage.

- Task 8.G-1: Continue to coordinate transportation planning with other Mad River Valley municipalities and the Central Vermont Regional Planning Commission with priority for the following routes (in order of priority): Waitsfield/Warren, Waitsfield/Moretown, Waitsfield/ Montpelier.

Regional coordination

- 1.D-5 Continue to participate in the Mad River Valley Planning District to support regional cooperation and communication on matters of area-wide concern.

- Continue active participation in the Central Vermont Regional Planning Commission to coordinate local planning activities with those of neighboring towns and the regions, and continue to support regional organizations which most efficiently provide services and facilities to local residents and those of surrounding towns (e.g., Waterbury-Mad River Valley Solid Waste Alliance, Mad River Valley Recreation District, Waitsfield-Fayston Volunteer Fire Department, etc.).

Recreation and Facilities

- K-8 Explore opportunities for the town to acquire land for conservation, recreation and community facilities. Priority should be given to parcels which provide multiple values to the community.

- K-9 Manage undeveloped and semi-developed town owned properties, including Scrag Forest, the Lareau Swimhole, and other conservation and recreation parcels for the protection of ecological resources and sustainable use.

- 7.K-10 Support the efforts of the Mad River Path Association to create a network of walking and bicycling paths in the Mad River Valley, including extending the Mad River Greenway to link Waitsfield Village with Moretown Village to the north, and with Warren Village to the south. To this end, the town will assist the Path Association by:
  - 7.K-10.a Holding easements on segments of the path right-of-way;
  - 7.K-10.b Incorporating path easements into required open space and pedestrian connections as part of local development review processes; and

7.K-12 Continue to encourage the efforts of VAST to provide an integrated network of winter recreation trails in a manner that does not adversely impact neighboring homeowners and the natural environment, and allow VAST trail use of Class 4 roads on a case-by-case basis to avoid conflict with other users of the road and neighboring residential properties.

7.K-13 Make changes to the classification, maintenance, or use of Class 4 roads that would result in an increase of automobile use only if existing recreational uses are maintained or replaced or mitigated with comparable recreation opportunities. The upgrade and/or reclassification of Class 4 roads within the Forest Reserve District shall not be permitted to allow year-round vehicular access and land development.

7.K-24 Encourage the creation of recreation facilities that foster fitness and well-being (e.g., fitness courses) in a manner that is integrated throughout the community.

Task 7.L-5 Revise the Waitsfield Subdivision Regulations to include updated facility and infrastructure standards, including those related to stormwater runoff, wastewater disposal, impact on community services and facilities, and trails, sidewalks and pathways. [Planning Commission]

Task 7.L-6 Prepare an Official Map for the Irasville Village District depicting future public improvements, including roads, sidewalks, paths and park areas, and a town green/common. [Planning Commission]

Task 7.L-12 Develop long range management plans for undeveloped town-owned parcels, including Scrag Forest, Wu Ledges, Lareau Swimhole and adjacent land, and the Brook Road parcel. [Conservation Commission, Selectboard]

Task 7.L-13 Explore methods to obtain access to Scrag Forest from the Northfield side of the ridge. [Selectboard, Conservation Commission]

Conservation

11.L-4 Support the efforts of local, regional and statewide conservation organizations to protect open space in Waitsfield through voluntary programs (e.g., purchase or donation of development rights). Priorities for open space protection include:

11.L-4.a Productive agricultural land and working farms;

11.L-4.b Primary agricultural soils, including those not presently in production, unless such soils are located on parcels identified as appropriate areas for future development;

11.L-4.c High elevation land (above 1,500 feet) in the Northfield Mountain Range;

11.L-4.d Significant wildlife habitat and travel corridors (as defined in this chapter);

11.L-4.e Trail corridors, river accesses and areas for dispersed recreation (e.g., hunting, hiking, biking and other non-motorized activities);

11.L-4.f Riparian lands, river corridors and floodplain;

11.L-4.g Identified scenic viewsheds; and

11.L-4.h Undeveloped parcels adjacent to existing conserved lands.

Land Use

12.M-20 Adopt an Official Map to identify future road and trail improvements and important open space.


Warren Town Plan 2011

Sense of Place

Objective 3.9: To promote traditional access to undeveloped lands for public recreation.

Implementation Strategies
• Promote continued access to private lands for hunting, fishing and other forms of outdoor recreation, with due consideration given to landowner concerns such as liability, vandalism, safety and intrusion.

• Support the efforts of the Mad River Path Association, Vermont Association of Snow Travelers, Catamount Trail Association, U.S. Forest Service and other parties to create and maintain an integrated trail network throughout town.

• Protect identified trail corridors, including the Long Trail and Catamount Trail during the subdivision review process.

Getting Around

• Transportation Goal 7.C: Support regional efforts to provide and maintain systems that meet the needs of all segments of the population.

• Objective 7.3: Provide alternatives to the heavy reliance on individual automobiles.

• Implementation Strategies
  o Require provisions for bicycles on any new or improvements to Class 2 or 3 roads and bridges.
  o Coordinate and develop a path system with sidewalks where appropriate to insure an integrated pedestrian network.
  o Support Vermont Agency of Transportation’s striping and signage efforts to establish a dedicated bicycle lane on Route 100.
  o Encourage the dedication of easements to permanently protect pathways through the subdivision and site plan review process.

• Objective 7.4. Coordinate with local, regional and state entities to plan for Warren’s transportation needs in a comprehensive manner.

• Implementation Strategies
  o Continue regional transportation planning through the Mad River Valley Planning District, Mad River Valley Transportation Advisory Committee and Central Vermont Regional Planning Commission.
  o Continue to support the efforts of the Mad River Path Association.
  o Explore ways to coordinate transportation planning, road maintenance and improvements with neighboring towns.

Making Ends Meet

• Objective 9.2: To encourage economic activities that contribute to the preservation of Warren’s rural character.

• Implementation Strategies
  o Support the development of recreation and cultural facilities which contribute to the Valley’s attractiveness as a resort destination. Such encouragement can take the form of:
    * Expanding existing walking and bicycling paths and trails and ensuring that future development is designed to accommodate pedestrian connections between properties.

Land Use

• Objective 10.4: To reinforce existing villages and designated growth centers as the focus of cultural, economic and residential activities in the Town, in a manner that respects the unique character of those areas.

• Implementation Strategies
  o Maintain the Vacation Residential (VR) District to encourage the development of seasonal dwellings at moderate density in the vicinity of the ski resort. The existing VR standards should:
    * require the establishment of an inter-connected network of walking paths, recreational trails and open space.

• Objective 10.6: To reinforce historic settlement patterns, protect environmental and scenic resources, and facilitate the logical extension of services and facilities through the careful regulation of land subdivision.
• Implementation Strategies
  o Regulate land subdivision in a manner that ensures the pattern of future development does not adversely affect the Town’s natural features, rural resources and scenic character. To this end maintain and strengthen the subdivision regulations as necessary to:
    * require the designation of public access to support the creation of a Town-wide trail network and the protection of important existing trails;

2014 Fayston Town Plan

5.7 Land Use

• Goal 5.1: Guide land development in a manner which preserves important community resources, encourages a range of land uses in the appropriate locations, and maintains a reasonable balance between community-imposed limitations on land use and the rights of individual land owners.

• Objective 2: Encourage the efficient and sustainable use of land and inhibit the further fragmentation of Fayston’s rural landscape, and ensure that development does not undermine the community’s rural character and quality of life.

• Strategies
  o Development review should consider opportunities for the addition of new recreation trails that connect into the existing trail system and such trails should be encouraged within development projects.

7.13 Transportation

• Goal 7.2: Promote and support effective and efficient alternative transportation services.

• Objective 1: Encourage the development of bikeways adjacent to major valley roadways.

• Strategies
  o Maintain the use of class four town highways for walking, bicycling, and other recreational uses.
  o Add bicycle and pedestrian facilities to the local transportation network, especially Rte 17.

• Objective 2: Encourage off road trails and paths for walking and bicycling

• Strategies
  o Work with other valley towns and volunteer groups such as the Mad River Path Association, the Catamount Trail, VAST, and the Mad River Riders, to develop a network of bicycle paths and trails throughout the valley.
  o Encourage landowners to dedicate easements to permanently protect trails.

9.7 Recreation

• Goal 9.1: Maintain Fayston’s recreational opportunities for the young and old for all seasons.

• Objective 1: Plan for the growing recreational demand.

• Implementation Strategies
  o Work with the Waitsfield, Warren, the Mad River Valley Recreation District, and the Mad River Valley Planning District to determine Valley-wide needs and to jointly address recreation needs.
  o Develop a plan for meeting established needs and priorities.

• Objective 2: Maintain Existing Recreation Assets

• Implementation Strategies:
  o In cases where Class 4 roads are upgraded to Class 3, ensure that all recreational uses are maintained or that equal or better substitutes are provided.
Objective 3: Ensure that development and use of recreation trails and other assets do not interfere with wildlife habitat and corridors.

Objective 4: Expand recreational opportunities.

Implementation Strategies:

- Continue to participate in the Mad River Recreation District as a way to develop Valley-wide facilities and programs.
- Support the efforts of other towns, the Mad River Valley Recreation District, and private companies and organizations to develop and establish not-for-profit and for-profit recreation facilities and programs.
- Support efforts by the Valley’s various trail organizations to develop trails and gain easements.
- Use the subdivision process to ensure that new development is consistent with recreation plans and policies (as may be developed as a result of Goal 9.1).
- Evaluate the use of tax abatements to provide open access and/or easements.
- Encourage landowners to provide public access for recreational trails, hunting, and fishing.

10.4 Economy

- Goal 10.2: Promote a sustainable and diverse local and regional economy characterized by varied employment and entrepreneurial opportunity.
- Objective 4: Support tourism that is based on the area’s natural, recreational, cultural, and ecological assets.
- Strategies
  - Support the development of recreation and cultural facilities that contribute to the Valley’s attractiveness as a resort destination; expand the system of existing paths and trails and ensure that future development is designed to accommodate connectivity across properties.
  - Explore new types of recreational facilities that could enhance the economy of Fayston and the Valley without denigrating the valuable natural resources that are so important to residents and visitors alike.

Moretown Town Plan Draft 2016

- Recreation
  - Sustain a high quality of life for residents and attracts visitors to Moretown by:
    * Establishing and responsibly using an interconnected network of Class 4 roads, trails and paths.
- Transportation
  - Improve the sustainability, affordability and efficiency of our transportation system by:
    * Promoting safe and convenient alternatives to single occupancy vehicle trips
    * Supporting grant funded construction for pedestrian access;
- Chapter 4D. Infrastructure & Transportation
  - Policy D-1
    * Continue to maintain town roads and transportation infrastructure in a manner that is cost-effective over the long-term, improves safety for all roadways users, incorporates complete streets principles, and protects rural and scenic character.
  - Policy D-5
* Encourage land use patterns and transportation infrastructure that support alternative modes of travel including transit, carpooling, bicycling and walking.
  o Policy D-6
* Maintain town control of Class 4 roads and legal trails for sustainable recreational use.
  o Policy D-8
* Support more convenient access to transit, bicycle paths and carpooling for residents in all areas of town.
  • Chapter 4E. Community Facilities & Services
   o Policy E-9
* Maintain existing public access and recreational areas in town
  • Chapter 4G. Regional Coordination and Cooperation
   o Policy G-6
* Support the efforts of local, regional and state organizations and agencies to expand trail systems and improve road corridors to safely accommodate pedestrians and bicyclists in Moretown.
  o Policy G-7
* Participate in regional and state transportation planning programs and partnerships.

**Duxbury Town Plan, 2014**

**Transportation**

• Goal: Duxbury has a multimodal transportation system that is safe, accessible, cost effective, energy efficient, and environmentally sound.

• Strategies
  o Develop sidewalks from the intersection of Vermont 100 and U.S. 2 (in Moretown) to Main St. in Duxbury and Crossett Brook Middle School.
  o Segregate bicycle lanes from the highway as much as possible.
  o Identify a route for a bike/ped path on River Road between Winooski Street Bridge and Duxbury Main St.
  o Maintain current legal trail access throughout the town.

**Granville Town Plan, 2014**

**Transportation**

• Goals
  o Affordability: To provide regular maintenance and upgrades to Town roads (Class 2 and 3 Highways) provided that the costs do not put an undue burden on the citizens of Granville, and to ensure that future development does not unnecessarily or unreasonably impact the public investment in Town and regional transportation systems or facilities, including highways, bikeways, trails, and rail.
  o Connectivity: To support local, regional, and statewide efforts to provide public and private transportation systems that meet the needs of all population segments and not just those who use automobiles.

• Policies
  o Given the interest in and benefits from biking, hiking, snowmobiling, cross-country skiing, and similar outdoor recreational activities, the Town shall, as an alternative to complete discontinuance of a highway, give full consideration to preserving Class 4 Highways (roads) for recreational use by downgrading their status to a legal trail and thus retaining the public’s interest in them.
Environmental Constraints Map - Wetlands and Waterbodies
Legend

- Mad River Watershed
- Environmental Constraints
  - Habitat Blocks and Wildlife Corridors
- Roads
  - State Highway

Environmental Constraints Map - Wildlife and Habitat Corridors
Existing Conditions Map
Existing Conditions Map
Irasville and Waitsfield | Village Center: Existing Conditions
Moretown and Warren | Village Center: Existing Conditions
Irasville and Waitsfield I Village Center: Future Sidewalk/Crosswalk Opportunities
Moretown and Warren I Village Center: Future Sidewalk/Crosswalk Opportunities
CHAPTER 3: LISTENING AND LEARNING

PUBLIC ENGAGEMENT SUMMARY

The development of an active transportation plan for the Mad River Valley included several different levels and types of public engagement. The first level was the involvement of a diverse Advisory Committee that helped to guide the project through each task. The Advisory Committee included representatives from:

- The Town of Moretown,
- The Town of Fayston,
- The Town of Waitsfield,
- The Town of Warren,
- The Mad River Valley Planning District,
- The Mad River Riders,
- The Mad River Path Association,
- The Mad River Valley Rotary Club,
- The Mad River Valley Chamber of Commerce,
- The Mad River Valley Recreation District,
- Sugarbush Resort,
- The Vermont Agency of Transportation,
- The Vermont Agency of Commerce and Community Development,
- The Vermont Land Trust, and
- The Central Vermont Regional Planning Commission.

The Advisory Committee met six times. The focus of the meetings varied:

- **September 3, 2015**: Advisory Committee kick-off meeting to cover the scope and purpose of the project, project area, project timeline and deliverables, steps in the process & public engagement approach, advisory committee roles and responsibilities, and conduct an Advisory Committee visioning session.

- **December 9, 2015**: Advisory Committee Design Charrette where the committee reviewed community survey results and existing conditions information and participated in a group discussion and mapping exercise focused on envisioning a future active transportation system in the MRV.

- **January 28, 2016**: Advisory Committee meeting to review future opportunities alternatives and to prepare for the public workshop on February 11th.

- **April 14, 2016**: Advisory Committee meeting to recap public feedback and response to the
February 11th public meeting, review the updated Future Opportunities Maps, review the format and audit/discussion tools for the upcoming “on-the-ground” public meeting, and to discuss locations and issues to explore in the “on-the-ground” meeting.

- **May 26, 2016:** Advisory Committee meeting to review the final Current Conditions and Future Opportunities Maps and to finalize plans and marketing for the “on-the-ground” public meeting.

- **July 6, 2016:** Final Advisory Committee meeting to review final plan content and discuss implementation and next steps.

In addition to the input of the Advisory Committee, stakeholder meetings were also held with the following agencies:

- US Forest Service
- Vermont Department of Forests, Parks and Recreation
- VT Agency of Transportation
- VT Agency of Commerce & Community Development
- Central Vermont Regional Planning Commission
- Natural Resources Board District Commission
- Friends of the Mad River

There were numerous other events included in the project to allow the public to add their voice. The first were informational appearances at the Waitsfield Farmers Market on October 3, 2015 and at the Sugarbush Community Day on October 10, 2015. At both of these events, the project team presented a map showing the existing active transportation features that had been recorded thus far, and invited the public to edit, correct, or augment the information based on their knowledge of the Valley. The project team also provided information on the effort and passed out postcards inviting the public to visit the project website and participate in the online community survey.
The community survey was focused primarily on understanding the community vision related to active transportation, but also touched on several important issues pertaining to developing, maintaining, and promoting non-motorized transportation facilities in the MRV. In total, the survey received over 350 responses in the six weeks it was open in October and November 2015. Eighty-seven percent of the responses were from MRV locals, with ten percent from second homeowners and three percent from visitors to the valley. Highlights of the survey are discussed under the heading “Community Survey Summary” below, with the full survey results provided in Appendix B: Survey Results.

The Mad River Valley Planning District hosted an open house at the Waitsfield United Church of Christ & Village Meeting House on February 11, 2016 to present some of the project’s ideas and alternatives under consideration. The meeting was an opportunity for the community to provide comments on the Future Opportunity suggestions. The open house included an overview presentation, an opportunity for group discussion and comment, and facilitated stations around current conditions, environmental sensitivities, survey results, future opportunities, and trail typologies. Feedback was provided through a comment box, sticky notes on the station boards and maps, a dot exercise to gauge typology and paving preferences, and through direct facilitator discussion. Over 35 community members attended the meeting, engaging in thoughtful discussions around the plan and providing lots of great feedback and input.

An “on-the-ground” public meeting was held on June 4, 2016—National Trails Day. Approximately 25 community members attended this event. This event was co-hosted with MRVPD on behalf of the MRV Moves Plan, the Mad River Path Association and the Mad River Riders. Community members were invited to celebrate National Trails Day by joining the planning team for a hike or a bike ride to help plan for network of trails, bicycle and pedestrian facilities. The meeting allowed participants to join a project facilitator on a walk or bike through a portion of the study area so that they could understand the issues and see how the recommendations might improve active transportation throughout the valley. The meeting began with updates on on-going work from the Mad River Path Association, Mad River Riders and the MRV Moves Plan. Walking and biking audit worksheets were distributed to participants before embarking on either a walking or bike tour of the Waitsfield/Irasville area. Both the walking and biking tour groups were led by a project facilitator who stopped the group at specific locations along the way to point out features and concepts of the MRV Moves Plan. The meeting ended with an Ice Cream Social in the Waitsfield Village. A lot of fun was had by all—and we even snuck some real community feedback into the process!
COMMUNITY SURVEY SUMMARY

The MRV Moves Community Survey is an integral part of the overall public engagement process for the MRV Moves Active Transportation Plan. The community was made aware of the survey through a variety of methods, including postcards distributed around the Valley and booths at the Waitsfield Farmer’s Market and Sugarbush Community Day, but the most effective method were the gracious efforts of the Advisory Committee members and partner organizations that helped spread the word. Social media and email blasts by the Mad River Planning District, the Mad River Path Association, and others drove a lot traffic to the survey.

In total, the survey received over 350 responses during the six weeks it was open in October and November 2015. 87 percent of the responses were from MRV locals, while 10 percent came in from second homeowners and three percent from visitors to the valley.
Major Findings

- An off road path along RT 100/Mad River/Valley Floor is the most desired new facility
- The topography and distance are the two greatest physical constraints to active transportation in the Valley
- Connected and close to home opportunities are important
- New walking and biking infrastructure should be designed and built to serve all ages and all abilities to meet transportation goals
- Access to nature, scenic views and the outdoors are extremely important for recreational opportunities
- Dogs are an important management and use consideration for trails in the MRV
- Trail tourism is an extremely important economic consideration for the valley

### WHAT ACTIVITIES DO YOU ENGAGE IN ON TRAILS IN THE MRV?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>36%</td>
</tr>
<tr>
<td>Jogging</td>
<td>50%</td>
</tr>
<tr>
<td>Hiking</td>
<td>45%</td>
</tr>
<tr>
<td>Walking Pets</td>
<td>5%</td>
</tr>
<tr>
<td>Bicycling</td>
<td>4%</td>
</tr>
<tr>
<td>Horseback</td>
<td>7%</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>8%</td>
</tr>
<tr>
<td>Skiing</td>
<td>7%</td>
</tr>
<tr>
<td>Snowshoeing</td>
<td>7%</td>
</tr>
<tr>
<td>Hunting</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>88%</td>
</tr>
</tbody>
</table>

0% 20% 40% 60% 80% 100%
MRV Trail & Active Transportation Participation

Walking and hiking dominated the activities respondents reported engaging in on trails in the MRV, with 88 percent of respondents reporting walking on trails and 75 percent reporting hiking. 45 percent of survey respondents used trails for bicycling. Winter use was also significant, with 64 percent of respondents reporting snowshoeing and 58 percent reporting skiing. Common “other” responses were birding, wildlife viewing and foraging.

The vast majority of survey respondents walk or ski in the valley. In total, 94 percent of respondents reported engaging in walking activities in the MRV. 74 percent of respondents reported walking and skiing for recreation, while 19 percent reported walking for both recreation and transportation and one percent reported walking for transportation only. In terms of bicycling, 63 percent of respondents said they ride – 41 percent for recreation, 21 percent for both recreation and transportation, and one percent for transportation only. According to the 2015 U.S. Bicycling Participation Benchmarking Report, approximately 34 percent of Americans ride a bike, indicating the value and importance of bicycling for the Mad River Valley communities (People for Bikes, 2015).
Visitors to the Mad River Valley

Visitors from 14 states, primarily in the northeast, and Quebec responded to the survey. 75% of these visitors reported staying overnight, and 89 percent of overnight visitors stay at least 2 nights; 44% stay 4 or more nights. This length of stay is higher than the state average of 2.53 nights (Agency for Commerce & Community Development, 2011).

Confirming findings from the Mad River Valley Economic Study and Economic Vitality Series Workshops, the community survey suggests trails are a critical component of recreational tourism in the Mad River Valley. 78 percent of survey respondents who are visitors reported “the availability of recreation trails and opportunities to hike, bike, walk, ski and snowshoe” were important for their decision to visit the MRV. A full 34 percent of visitors reported these opportunities as the deciding factor in their destination choice. The economic value of trails in the MRV is clearly evident from the survey results. Survey visitors reported spending an average of $174.87 on a typical day visiting the MRV. This spending value is significant because respondents were asked to “fill in the amount of money you spend in the MRV on a typical day. Please include only the amount you would spend on a single day and
Thus, this value represents the average spending of one trail tourist for one day, and is higher than average spending per trip for the average Vermont tourist, at $123.20 (Agency for Commerce & Community Development, 2011). Second homeowners are also an important component of the MRV economy. According to the survey, second home trail users spend an average of $104.07 a day while in the valley.

Visitor Spending Profile

<table>
<thead>
<tr>
<th>Lodging (Motel, hotel, inn, cabin or B&amp;B or rental)</th>
<th>Restaurants &amp; bars</th>
<th>Groceries, take-out food/drinks</th>
<th>Gas and other transportation</th>
<th>Clothing</th>
<th>Sporting goods</th>
<th>Souvenirs and other expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$70.63</td>
<td>$36.11</td>
<td>$17.50</td>
<td>$10.63</td>
<td>$20.00</td>
<td>$12.50</td>
<td>$7.50</td>
<td>$174.87</td>
</tr>
</tbody>
</table>

Second Home Owner Spending Profile

<table>
<thead>
<tr>
<th>Lodging (Motel, hotel, inn, cabin or B&amp;B or rental)</th>
<th>Restaurants &amp; bars</th>
<th>Groceries, take-out food/drinks</th>
<th>Gas and other transportation</th>
<th>Clothing</th>
<th>Sporting goods</th>
<th>Souvenirs and other expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.00</td>
<td>$36.05</td>
<td>$30.75</td>
<td>$17.56</td>
<td>$0.00</td>
<td>$1.71</td>
<td>$18.00</td>
<td>$104.07</td>
</tr>
</tbody>
</table>

Second homeowner trail use percentages were fairly similar to that of the overall survey respondents, with a large percent using the trails for walking purposes. Visitors and second homeowners were relatively equal in their favorability of walking, hiking, bicycling, skiing and snowshoeing, with each use receiving a fair amount of responses. This suggests foot, bicycle and winter use of trails are all important in a tourism context. Horseback riding and snowmobiling appear to be less important in this regard, but this could be due in part to the survey being conducted in the fall when neither of these activities are in full swing. In general, more visitors reported using trails in the MRV for a single activity, while overall trail users and second homeowners reported multiple uses of the trails.
Characterizing MRV Trail Use

Trails in the Mad River Valley get used all year long. The majority (57 percent) of survey respondents report using the trails, walks and paths in the MRV in all seasons, with summer receiving the heaviest use. Average group size for a typical day on the trail was 2.6 persons per group in all seasons.

The most common response to the question “What is your favorite trail in the MRV?” was “all of them,” “it is too hard to choose,” or a similar sentiment. Blueberry Lake, the Mad River Path, the Catamount Trail, and Wu Ledges were all on the list multiple times, as were many others. The word cloud below demonstrates why people love the trails they do in the MRV. A few important considerations are: close to home access, beauty, quiet, kids, woods, easy, fun, scenery and views, nature, flat, river, walking, running, hiking and biking.

Most survey respondents (79 percent) reported using trails in the MRV at least once a month, and just over half (51 percent) reported using trails at least once a week. Approximately 91 percent of survey respondents indicated they use trails for more than 30 minutes during a visit, and 42 percent reported using trails for more than an hour at a time, indicating relatively long trail visits in the MRV. The US Office of Disease Prevention and Health Promotion’s Physical Activity Guidelines recommend that adults do at least 150 minutes a week of moderate-intensity physical activity, or 75 minutes a week of vigorous-intensity physical activity (US Office of Disease Prevention and Health Promotion, 2008.). The frequency and length of trail use in the MRV suggest that trails are likely a significant source of physical activity for survey respondents.

The majority (55 percent) of survey respondents reported bringing a dog with them on trails in the MRV, indicating that furry friends are an important component of trail use in the valley. When asked if they clean up after their dogs while on the trail, most dog owners (65 percent) said they always do, but 35 percent indicated they did not always clean up after their dogs. This suggests there may be some opportunity for better self-management of dog waste through encouragement, education, or additional amenities.
MRV Commuting

Most survey respondents commute by car, with relatively low shares of bicycle and pedestrian commuting. 21% of respondents answered they don’t commute/not applicable, which likely reflects the relatively high number of telecommuters and retired persons in the MRV. This figure is similar to the MRV Economic Study finding of 15.3% of employed persons working at home within the MRV, twice the statewide average.

Similarly, the majority (64 percent) of survey respondents indicated they drive to trailheads in the MRV. Most indicated they did this because the trailheads were far from their house (or there were challenging hills), they felt unsafe traveling on the roads, or because they were traveling with dogs and/or children.

The primary barriers to bike or pedestrian commuting in the Mad River Valley identified in the survey are as follows:

- Hills, Hills, Hills
- Dangerous traffic/unsafe roads
- Too many “close calls” on Route 100
- Need to bring the dog
- Commuting with young children
- Destinations too far apart
- No paths near us
- Safety
- Difficult to carry gear
WHAT MODE DO YOU MOST FREQUENTLY USE TO COMMUTE TO WORK WHEN IN THE MRV?

- Car: 61%
- I don’t commute: 21%
- Foot: 1%
- Bike: 3%
- Not applicable: 14%

Photo: John Atkinson, Mad River Riders
Perceptions of Walk/Bikeability

Survey respondents generally agreed with the notion that they live in a good place for walking and biking, however, respondents only slightly agreed with the idea that they feel safe while walking along roads near their home, and respondents slightly disagreed with the idea that they feel safe from traffic while biking along roads near their home. This, along with other survey results, suggests that improving safety, making users feel more comfortable, and separating them from traffic could improve conditions for existing active transportation users and possibly encourage more walking and bicycling in the valley.

When asked “how can we best improve conditions for bicyclists and pedestrians?” respondents answered that adding a trail, bikeway, or sidewalk was by far the best method. This result is important because it demonstrates the perceived lack of adequate facilities for these critical gaps (see below for list of identified gaps). Survey respondents also identified education for motorists, bicyclists and pedestrians; improving safety; and encouragement efforts as ways in addition to infrastructure to increase walking and biking.

If respondents chose the option to add a trail, bikeway or sidewalk, they were asked a follow up question to define where this critical gap existed. An off-road path

![Pie chart showing how respondents typically get to the trailhead.](image)
either along the Route 100 corridor, along the Mad River, or connecting the villages (which all essentially amount to the same), was resoundingly the most common write-in response. Route 17, German Flats Road, Phen Basin/Big Basin, Meadow/Tremblay Road also received a lot of responses.

Below is the survey respondent list of primary critical gaps and destinations. See Appendix B: Survey Results for the full list.

- Along Route 100
- Mad River Path
- Moretown to Waitsfield
- From Warren to Waitsfield
- From Irasville to Lareau Swim Hole
- Center Fayston, Phen Basin to Big Basin
- Bridge Street
- From the Waitsfield Common to the valley floor/covered bridge
- Meadow road to Tremblay Rd, then Trembaly Rd to Loop Rd
- Route 17 (from German Flats to Route 100)
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add a trail, bikeway or sidewalk to close a critical gap</td>
<td>5</td>
</tr>
<tr>
<td>Education for motorists, bicyclists and pedestrians</td>
<td>4</td>
</tr>
<tr>
<td>Improve safety</td>
<td>4</td>
</tr>
<tr>
<td>Encouragement efforts to increase walking and biking</td>
<td>4</td>
</tr>
<tr>
<td>Add a trail, bikeway or sidewalk to directly access a destination</td>
<td>4</td>
</tr>
<tr>
<td>Install wayfinding signage</td>
<td>3</td>
</tr>
<tr>
<td>Provide better enforcement for motorists, bicyclists and pedestrians</td>
<td>3</td>
</tr>
<tr>
<td>Install bike parking (i.e., bike racks and bike storage) and/or restrooms and shower facilities</td>
<td>3</td>
</tr>
<tr>
<td>Better maintain trail, bikeway or sidewalk</td>
<td>2</td>
</tr>
<tr>
<td>Remove or manage the snow from bike paths or trails for winter use</td>
<td>1</td>
</tr>
</tbody>
</table>
CHAPTER 4: TRAILS MEAN BUSINESS

INTRODUCTION

Trails and active transportation facilities are important community amenities that help to spur economic development. From homeowners choosing to live along a trail to tourists who choose their destinations based on the availability of trails and recreation, the Mad River Valley’s active transportation system is comprised of important community facilities that attract both people and dollars. The economic effects of these assets are sometimes readily apparent (as in the case of trailside businesses), but other times more subtle, like a company deciding to move to a particular community because of such amenities. Mounting new evidence shows an almost universal positive connection between well-designed active transportation facilities and important economic development indicators.

Active transportation infrastructure has been shown to:

- Improve quality of life and support an active and outdoor recreation-oriented lifestyle
- Contribute to tourism and economic development
- Increase tax revenues
- Increase property values and make homes easier to sell
- Attract residents, businesses and a high-quality workforce

ECONOMIC IMPACT ANALYSIS

The economic benefits of just three small portions of the MRV trail system—the Blueberry Lake Trails, the Revolution Trail, and the Waitsfield Village Path—have been found to be very significant to the Washington County economy, and these represent just a fraction of the region’s trail assets. Spending associated with the Blueberry Lake trail system alone is estimated to contribute approximately $1.8 million to the Washington County economy each year, generating approximately $320,000 in federal, state, and local taxes and supporting approximately 22 jobs. Spending associated with the Revolution Trail is estimated to contribute approximately $1 million to the Washington County economy each year, generating approximately $182,000 in federal, state, and local taxes and supporting approximately 13 jobs. Even as an incomplete path, the Waitsfield Village Path is estimated to contribute approximately $640,000 to the Washington County economy each year, generating approximately $112,000 in federal, state, and local taxes and supporting approximately 8 jobs.

Given the economic impact of these three components of the MRV active transportation system, opportunities for new and expanded system development that both serves locals needs and draws in visitors should be explored to properly leverage these assets for the greatest community benefit. The economic impact of these trails is further explored below.
Why conduct an Economic Impact Analysis?

While economic impact analyses have been widely used in the fields of economic development and tourism, the tradition in trails and transportation planning has always been to provide financial reports for an agency or organization’s projects and operations. The difference between these two reporting methods is significant, and illustrates a fundamental divide between the way trails, recreation, and active transportation assets and tourism assets are being considered and developed in many communities around the country. Financial reports focus on capital and operational costs compared against the revenues generated by the organization, while economic impact analyses consider these same costs and benefits while also acknowledging the role these resources play in drawing additional visitors and tourism revenues into the broader community.

While the same holds true for all active transportation facilities, trails are a perfect example of how financial reporting fails to capture the true benefits of a resource. Trail development and maintenance can be costly, and often trail user fees are minimal. As a result, financial reports often show trails as relatively high-cost centers in communities’ annual budgets because operational costs generally exceed revenues. However, trails and opportunities to walk and bike are absolutely critical attractors for tourists and can be a powerful tool for economic development, especially in mountain communities like the Mad River Valley. While the town or managing organization often receives little or no direct revenue from trail users, the local economy benefits immensely from bringing these new visitors into the community. Trail users may not always pay to be on the trail, but they typically buy goods, gas, food, and lodging. It is this visitor spending that is tracked in an economic impact analysis.

The financial and economic implications of trail and active transportation development must be well understood in order to properly leverage these assets for the greatest community benefit. To better understand the role active transportation resources play in the economic fabric of the MRV, an economic analysis of the Blueberry Lake Trail System and the Waitsfield Village Path was conducted as part of the MRV Moves planning process. This economic analysis provides insight into implementation and phasing strategies, and can greatly increase the competitiveness of projects for grants and other funding opportunities by demonstrating the immense return on investment these projects provide.
Economic Impact Methodology

Economic impacts of the Blueberry Lake Trails, the Revolution Trail and the Waitsfield Village Path were projected using a computer-based model—IMPLAN3. IMPLAN3 is a broadly accepted model used for making projections regarding employment and economic impacts, often used for economic analyses of trails and active transportation facilities, as well as the analysis of a wide range of projects and policies beyond trails and recreation including everything from real estate developments to proposed legislation. The model demonstrates the immense value of the active transportation system as an economic engine in the Mad River Valley, by estimating the economic impact of spending associated with trail use on the Blueberry Lake Trails, the Revolution Trail and the Waitsfield Village Path in terms of changes in jobs, tax impacts, and total sales.

IMPLAN3 economic modeling requires the estimation of annual trail traffic volume and trail user spending in order to simulate the effect of these activities on the economy. While IMPLAN3 modeling utilizes the most current observed industry interdependencies calibrated to the local and regional economy of the Mad River Valley, the results of any economic model are only as accurate as the data used to describe the modeled activity (i.e., trail use). Therefore, certain estimations and assumptions related to these trails had to be made.

First, annual trail traffic volume was estimated using data collected by Traffix automated trail counters placed in the Valley from Tuesday, August 16, 2016 through Wednesday, August 31, 2016. For Blueberry Lake, an automated trail counter was placed at the primary trail entrance off of Plunkton Road near the north side of dam. For the Revolution Trail, an automated trail counter was placed in the trees just beyond the entrance to the trail from Lareau Farm. For the Waitsfield Village Path, an automated trail counter was placed along the boardwalk of the trail between Shaw’s and The Big Picture Theater & Café. Counts from these periods were used to extrapolate an estimate of annual trail traffic volume following the extrapolation methodology of the National Bicycle and Pedestrian Documentation Project (NBPD) (NBPD, 2016).

Second, an assumption of trail traffic volume by user type (Local Day User, Non-Local Day User, and Non-Local Overnight User) was necessary for this analysis because, on average, these user types spend significantly different amounts in connection with their trail visits (see discussion of spending profiles below). For Blueberry Lake, we have assumed 66 percent are Local Day Users, 11 percent are Non-Local Day Users, and 23 percent are Non-Local Overnight Users. These user type proportions reflect general users of the Green Mountain National Forest, which were calculated by the US Forest Service in 2013 and documented in the report “Estimation of National Forest Visitor Spending Averages From National Visitor Use Monitoring: Round 2” (USFS, 2013). We felt these values were a reasonable proxy in this case because the Blueberry Lake Trails are part of the GMNF and are more of a “destination facility,” particularly when coupled with the recreational opportunities available at the lake. For the Revolution Trail and the Waitsfield Village Path we have assumed 85 percent are Local Day Users, 5 percent are Non-Local Day Users, and 10 percent are Non-Local Overnight Users. These assumptions were made because at this stage in their development the Revolution Trail and the Waitsfield Village Path are more “convenience facilities” than a “destination facilities,” although both are planned to become part of a larger more destination-oriented systems (i.e. the Camel’s Hump State Forest Trails and the completed Waitsfield Village Path).
Finally, Visitor Spending Profiles must be estimated for the three primary categories of trail users: Local Day Users, Non-Local Day Users, and Non-Local Overnight Users. The estimate of Local Day User spending, at $11.32 per person per day, was calculated by taking the average of 16 recent trail studies that included a trail user spending survey, focusing on those from Vermont and the northeast. The estimate of Non-Local Day User spending was taken from the 2011 Benchmark Study of the Economic Impact of Visitor Spending on the Vermont Economy conducted on behalf of the Agency for Commerce and Community Development (ACCD) (ACCD, 2011). This estimate reflects the average spending of all Non-Local Day Visitors to the State of Vermont and is calculated at approximately $70.14 per person per trip. The estimate of Non-Local Overnight User spending is also taken from this 2011 benchmarking study, calculated at $176.98 per person per trip.

The spending profile of these user groups is presented below. Most of the spending associated with locals is on shopping/retail items, restaurants and bars, and snacks, as the most common purchases for locals are meals and other food. Visitor’s largest spending category is lodging, followed by restaurants and bars, and then gas and other transportation.

Trail user spending was also asked about in the MRV Moves Community Survey conducted as part of this project, but the sample size of the responses was not large enough to provide statistically accurate results (i.e. they may be skewed towards certain user groups or behaviors) and hence was not used for this analysis. However, the MRV Moves Survey results for visitors to the MRV were very similar to the estimate of overnight visitors from the ACCD ($174.87 vs $176.98 per person per day). The local user data, however, was higher than average at $56.89 per person per day (vs $11.32). This result is certainly in the high-end of the range of local spending found in other trail user surveys, but is still within the realm of what has been found in some other communities, and may reflect the relatively higher cost of meals, goods and services in the Valley, as well as the relatively high proportion of second home ownership in the MRV. Given these results, and relatively higher cost of the MRV as a destination when compared to the rest of Vermont, estimates for trail

<table>
<thead>
<tr>
<th>Spending Category</th>
<th>Local Day Users</th>
<th>Non-Local Day Users</th>
<th>Non-Local Overnight Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants and Bars</td>
<td>$3.17</td>
<td>$17.29</td>
<td>$40.27</td>
</tr>
<tr>
<td>Grocery and Snacks</td>
<td>$1.47</td>
<td>$3.11</td>
<td>$14.27</td>
</tr>
<tr>
<td>Shopping and Retail</td>
<td>$4.86</td>
<td>$19.30</td>
<td>$25.89</td>
</tr>
<tr>
<td>Gas and Other Transportation</td>
<td>$0.57</td>
<td>$25.96</td>
<td>$36.16</td>
</tr>
<tr>
<td>Lodging</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$51.47</td>
</tr>
<tr>
<td>Entertainment and Recreation</td>
<td>$1.24</td>
<td>$4.49</td>
<td>$8.91</td>
</tr>
<tr>
<td>Total</td>
<td>$11.32</td>
<td>$70.14</td>
<td>$176.98</td>
</tr>
</tbody>
</table>
user spending presented herein likely reflect very conservative estimates of the potential economic impact of these facilities.

With reasonable estimates of annual trail traffic volume, trail use by trail user type, and spending profiles for each user type, the IMPLAN3 model can be completed and run. The model utilizes input-output modeling and industry relationship data from the US Census to estimate total economic impacts. Purchases for final use (i.e. trail user spending) drive the model. Industries that produce goods and services for trail user consumption must purchase products, raw materials, and services from other companies to create their product. These vendors must also procure goods and services. This cycle continues until all the money is leaked from the region’s economy. There are three types of effects measured within an IMPLAN3 Model: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied (i.e. the trail user spending). The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects. Total impacts reflect the total changes to the economy as the result of trail user spending (i.e. Direct effects + Indirect effects + Induced effects = Total Impacts).

In this analysis, jobs are discussed as “Full-Time-Equivalents” (FTEs). An employment position may be a year-round or seasonal job and either full-time or part-time, whereas one FTE provides sufficient work to keep one person employed full-time for one year. In seasonal industries, one FTE is likely to represent several employment positions.

For more information about the economic impact methodology, see Appendix E.
Detailed Economic Impacts

BLUEBERRY LAKE TRAILS

Based on projections from the IMPLAN3 Model, Blueberry Lake trail users currently spend approximately $1.2 million each year. This direct spending generates a total annual output of approximately $1.8 million into the Washington County economy, which includes direct, indirect and induced effects. Approximately 22 FTEs and $630,000 in labor income are generated each year in response to this trail user spending. Approximately $143,000 in federal taxes and approximately $177,000 in state and local taxes are generated each year by this economic activity. The table and graphic below summarizes the impact of Blueberry Lake trail user spending.

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment (FTEs)</th>
<th>Total Sales</th>
<th>Total Local, State and Federal Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>17.7</td>
<td>$1,200,000</td>
<td>--</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>2.1</td>
<td>$320,000</td>
<td>--</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>2.4</td>
<td>$300,000</td>
<td>--</td>
</tr>
<tr>
<td>Total Impact</td>
<td>22.2</td>
<td>$1,800,000</td>
<td>$320,000</td>
</tr>
</tbody>
</table>

The top ten industry sectors impacted by Blueberry Lake trail user spending are as follows:

1. Full-service restaurants
2. Hotels and motels, including casino hotels
3. Other amusement and recreation industries
4. Retail - General merchandise stores
5. Retail - Food and beverage stores
6. Retail - Gasoline stores
7. Real estate
8. Management of companies and enterprises
9. All other food and drinking places
10. Advertising, public relations, and related services
Blueberry Lake Trail User Spending

Total Impact

Annual Visits: 35,000
Total Sales: $1.8 Million
Total Taxes: $320,000
Total Jobs: 22

Federal, State and Local

Lodging 21%
Groceries and Snacks 8%
Transportation 21%
Shopping/ Retail 20%
Restaurants & Bars 24%
Entertainment & Recreation 6%
Based on projections from the IMPLAN3 Model, Revolution trail users currently spend approximately $670,000 each year. This direct spending generates a total annual output of approximately $1 million into the Washington County economy, which includes direct, indirect and induced effects. Approximately 13 FTEs and $370,000 in labor income are generated each year in response to this trail user spending. Approximately $83,000 in federal taxes and approximately $99,000 in state and local taxes are generated each year by this economic activity. The table and graphic below summarizes the impact of Revolution trail user spending.

The top ten industry sectors impacted by Revolution trail user spending are as follows:

1. Full-service restaurants
2. Hotels and motels, including casino hotels
3. Other amusement and recreation industries
4. Retail - General merchandise stores
5. Retail - Food and beverage stores
6. Retail - Gasoline stores
7. Real estate
8. Management of companies and enterprises
9. All other food and drinking places
10. Advertising, public relations, and related services

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment (FTEs)</th>
<th>Total Sales</th>
<th>Total Local, State and Federal Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>10.6</td>
<td>$1,230,000</td>
<td>--</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>1.2</td>
<td>$340,000</td>
<td>--</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>1.4</td>
<td>$320,000</td>
<td>--</td>
</tr>
<tr>
<td>Total Impact</td>
<td>13.2</td>
<td>$1,900,000</td>
<td>$182,000</td>
</tr>
</tbody>
</table>
Revolution Trail User Spending

Total Impact
- Annual Visits: 39,000
- Total Sales: $1 Million
- Total Taxes: $182,000
- Total Jobs: 13

Lodging: 17%
Groceries and Snacks: 9%
Transportation: 18%
Shopping/Retail: 25%
Restaurants & Bars: 25%
Entertainment & Recreation: 7%
WAITSFIELD VILLAGE PATH

Based on projections from the IMPLAN3 Model, Waitsfield Village Path trail users currently spend approximately $413,000 each year. This direct spending generates a total annual output of approximately $640,000 into the Washington County economy, which includes direct, indirect and induced effects. Approximately 8 FTEs and $227,000 in labor income are generated each year in response to this trail user spending. Approximately $51,000 in federal taxes and approximately $60,000 in state and local taxes are generated each year by this economic activity. The table below summarizes the impact of Waitsfield Village Path trail user spending.

The top ten industry sectors impacted by Waitsfield Village Path trail user spending are as follow:

1. Full-service restaurants
2. Hotels and motels, including casino hotels
3. Other amusement and recreation industries
4. Retail - General merchandise stores
5. Retail - Food and beverage stores
6. Retail - Gasoline stores
7. Real estate
8. Management of companies and enterprises
9. All other food and drinking places
10. Hospitals

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment (FTEs)</th>
<th>Total Sales</th>
<th>Total Local, State and Federal Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>6.5</td>
<td>$400,000</td>
<td>--</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>0.8</td>
<td>$110,000</td>
<td>--</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>0.9</td>
<td>$110,000</td>
<td>--</td>
</tr>
<tr>
<td>Total Impact</td>
<td>8.1</td>
<td>$640,000</td>
<td>$112,000</td>
</tr>
</tbody>
</table>
Waitsfield Village Path User Spending

**Total Impact**
- Annual Visits: 24,000
- Total Sales: $640,000
- Total Taxes: $112,000
- Total Jobs: 8

**Segments:**
- Lodging: 17%
- Groceries and Snacks: 9%
- Transportation: 18%
- Shopping/Retail: 25%
- Restaurants & Bars: 25%
- Entertainment & Recreation: 7%
CHAPTER 5: ENVISIONING THE FUTURE

INTRODUCTION

The MRV Moves Active Transportation Plan includes the following Future Opportunity Connections, Village Center Recommendations, and Education and Outreach Opportunities, which are described and graphically depicted on the future opportunity figures. These connections, recommendations and opportunities are the culmination of an analysis of existing conditions and the issues and opportunities raised by community survey respondents, stakeholders and partners, and throughout the public engagement process.

As a watershed-wide, master plan level document, the MRV Moves Active Transportation Plan provides a broad view of trail and active transportation improvements in the Valley. It does not identify any specific alignments for any of the recommended trail connections. Instead, it identifies large swaths (1,000 yards or more) where trails might be located to achieve the desired connections, or narrower swaths in village areas for sidewalks or trails. Some connections are likely to require partnerships or purchases between public, private or non-profit landowners to construct and maintain such facilities. This plan is proactive rather than reactive to available land and right of ways required to create these connections. It seeks to define what connections are necessary from a community transportation and recreational standpoint, and identifies general alignments for those connections to guide implementation.

The MRV Moves Active Transportation Plan is meant to be a reference guide that organizes active transportation improvements, trail construction and maintenance in the Mad River Valley. It is intended to be a useful tool for the MRV towns and its organizational partners to realize the overall vision of connected active transportation and recreation in the Valley. However, it is important to note that additional planning, design and partnerships may be required prior to the implementation of many of these connections. The future location of facilities will need to be determined through collaborative planning processes and partnerships.

As such, implementation will take time. The plan will not be built overnight, or even in the next decade, but the plan envisions a connected system that will utilize on-road facilities and more informal connections where necessary to complete the network in the interim. In Chapter 6: Making it Happen, strategies for implementation, specific actions plans, regional coordination and funding opportunities are further discussed.
AN ACTIVE TRANSPORTATION VISION FOR THE MRV

The MRV Moves Active Transportation Plan envisions a consistent, cohesive and connected regional system of trails, paths, roads and sidewalks that provide a range of transportation options and recreational experiences for diverse user groups in the MRV, all while connecting users to the natural landscape and respecting the resources that make the Valley so special.

Key components of the active transportation system include:

• Accessibility (all ages and abilities system, parking, signage, convenient and “close to home” opportunities)

• Diversity (surfaces, ability, user groups, activities)

• Sustainability (environmental stewardship, ecological and community resilience, long-lasting active transportation system, flood resilience, erosion control, minimal maintenance)

• Connectivity (within and between village centers, to major destinations and recreation areas, to other trails, to neighborhoods, to hotels and lodging)

• Safety (improvement of high risk zones, separation between users and motor vehicles where needed, trail and facility design standards for safety)

THE FOUR C’S

It is not enough to simply provide trails and active transportation facilities; an active transportation network must also follow the “Four C’s.”

• Active transportation networks must be Continuous: too many bike lanes or trails in the United States disappear at intersections and other stressful spots.

• Active transportation networks must Connect: a single gap in an otherwise complete route can discourage potential walkers, hikers and bicyclists.

• Active transportation must be Convenient: people won’t use active transportation to get to key destinations if they must go far out of their way.

• It is also not enough to provide a network of facilities without also considering what happens when at the end. A successful network includes sidewalks, safe intersections, and access to transit and bike parking. This design approach is sometimes called “Complete Streets”
The Future Opportunities Connections for Active Transportation in the MRV

To develop the Future Opportunities Connections and Maps, the Advisory Committee, the public and the planning team identified the following elements:

- Nodes of Interest
- Major On-Road Connections
- Minor On-Road Connections
- Major Off-Road Connections
- Minor Off-Road Connections

Each element of Future Opportunities Connections are discussed in detail in the following sections. Connection typologies are also provided in a comprehensive graphic which relates the description and relevant standards of each connection type.

Nodes of Interest

“Nodes of Interest” are both points of interest and important nodes/junctions in the community. Points of interest include primary destinations people want to access, such as village centers, schools and recreation areas. Nodes refer to critical intersections, trailheads and other parking and access points into the system. Thus, the combined “Nodes of Interest” represent points within the community that must be included in and accessible by the overall active transportation system. The Advisory Committee and planning team initially identified nodes of interest, which were further refined through the public engagement process. Primary and Secondary Nodes of Interest are identified on the Future Opportunities Map with large and small circles, respectively.

The Four Types of Bicyclists

Many communities throughout the United States—including the active transportation meccas of Portland, OR and Fort Collins, CO—have begun to classify bicyclists into four primary categories as coined by Robert Geller in his seminal analysis of bicyclists in Portland: 1) Strong and Fearless; 2) Enthused and Confident; 3) Interested but Concerned; and 4) No Way No How. Now national studies exploring the preferences of these types of riders have also been conducted, and the concepts were asked about in the MRV Moves Community Survey.

The “Strong and the Fearless” group generally comprise the smallest segment of cyclists or potential cyclists in the US, representing approximately 7% of the population (Dill and McNiel, 2016). These are the people who will ride regardless of available bicycle facilities or roadway conditions. In the Mad River Valley, these are the riders who don’t think twice about riding on Route 100 and are estimated at 23% of the Community Survey respondents.

The “Enthused and Confident” group are those who have been attracted to cycling by the significant advances in bicycle infrastructure and equipment over the few decades. They are generally comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on designated facilities, like wide shoulders, bike lanes or off-road paths. Nationally, this group represents approximately five percent of the population (Dill and McNiel, 2016). In the MRV, this group represents 40% of the Community Survey respondents.
The largest segment of the population is what has been called “Interested but Concerned” group. These riders are curious about bicycling, and would like to ride more but, they are afraid for their safety. These are people who like the idea of riding a bike or already enjoy bicycling in a more recreational setting, but do not want to ride in the presence of motor vehicles. Nationally, this group represents approximately 52% of the population and 30% of the Community Survey respondents in the MRV (Dill and McNiel, 2016).

The last category of cyclists are the “No Way, No How” group. This group is currently not interested in bicycling at all, for reasons of topography, inability, or simply a lack of interest. This group represents about 36% of the U.S. population and 7% of the Community Survey respondents in the MRV (Dill and McNiel, 2016).

“Interested by Concerned” (I-C) group has been found to be the “most likely to change their habits in the right city setting.” Of the three main riding groups (“No Way No How” excluded), the I-C type were the least likely to use their bike for reasons other than leisure/recreation, such as commuting or shopping trips. Some of the key factors that shape their preference included feeling unsafe in traffic lack of bike facilities nearby, or living too far away from key destinations (Dill and McNiel, 2016).

“A closer look at the comfort preferences of I-C riders also shows a big gap in the types of streets they feel safe traveling. When it comes to using a major city street with a striped bike lane, for instance, nearly all “Strong and Fearless” or “Enthused and Confident” riders felt “very” or “somewhat” comfortable, whereas only 32 percent of I-C felt “somewhat” comfortable and none felt “very.” But on more separated types of environments—such as protected lanes on major streets or bike boulevards—the clear majority of I-C riders feel good to go.” The same analysis applies to the Mad River Valley, suggesting the creation of off-road and separated infrastructure may encourage more of this group to bicycle more often.
Major On-Road Connections

The Future Opportunities Map identifies Major On-Road Connections with thick orange connection lines and includes Vermont State Highway Routes 100, 100B and 17. These routes are important travel corridors that connect the village centers and major destinations in the Valley for those traveling by motor vehicle and bicycle or on foot. They are currently used by road cyclists—both locals and visitors—and experience very limited pedestrian use outside the village areas. Recommendations for Major On-Road Connections primarily consist of improved shoulders and signage. Bike lanes should also be considered in locations that have the appropriate context and volumes (like village centers). Where bike lanes or shoulders are not feasible shared lane areas may be necessary, but should be minimized to the greatest extent possible.

The shoulder width of Major On-Road Connections should strive for a four-foot minimum distance between the fog line and pavement edge to safely accommodate bicycle and pedestrian use, with six-foot wide shoulders being preferred for all functions. While eight-foot wide shoulders are often considered ideal, they would most likely be too wide for the rural nature of the Valley and could induce higher speeds on the part of motorists because of the vision of a wide open roadway they would provide. Where even three-foot wide shoulders are not feasible given the available right of way or on-the-ground conditions (such as a river or ravine limiting available space), “shared lane” conditions where bicycles and pedestrian share the main travel lane with motor vehicles may be necessary, but is not ideal.

As noted by Federal Highway Administration (FHWA), “shoulders provide a number of important functions [beyond improved bicycle and pedestrian accommodation]. Safety and efficient traffic operations can be adversely affected if any of the following functions are compromised:

- Shoulders provide space for emergency storage of disabled vehicles.
- Shoulders provide space for enforcement activities. Shoulder widths of approximately 8 feet or greater are normally required for this function.
• Shoulders provide space for maintenance activities. Shoulder widths of approximately 8 feet or greater are normally required for this function. In northern regions, shoulders also provide space for storing snow that has been cleared from the travel lanes.

• Shoulders provide an area for drivers to maneuver to avoid crashes. This is particularly important on high-speed, high-volume highways or at locations where there is limited stopping sight distance. Shoulder widths of approximately 8 feet or greater are normally required for this function.

• Shoulders improve bicycle accommodation. For most highways, cyclists are legally allowed to ride on the travel lanes. A paved or partially paved shoulder offers cyclists an alternative to ride with some separation from vehicular traffic. This type of shoulder can also reduce risky passing maneuvers by drivers.

• Shoulders increase safety by providing a stable, clear recovery area for drivers who have left the travel lane. If a driver inadvertently leaves the lane or is attempting to avoid a crash or an object in the lane ahead, a firm, stable shoulder greatly increases the chance of safe recovery.

• Shoulders improve stopping sight distance at horizontal curves by providing an offset to objects such as barrier and bridge piers.

• On highways with curb and enclosed drainage systems, shoulders store and carry water during storms, preventing water from spreading onto the travel lanes.

• On high-speed roadways, shoulders improve capacity by increasing driver comfort (FHWA, 2016).

Both improved shoulders and shared lane connections should be identified with Bike and Pedestrian Route Signage and included on public bicycle and pedestrian maps. A bicycle and pedestrian wayfinding system consisting of comprehensive signing and/or pavement markings to guide users to their destinations along the route should be developed for the Valley. Signs should be placed at decision points along the routes – typically
at the intersections of two or more routes and at other key locations leading to and along the routes. Shared pavement marking symbols (Shared Lane Markings (SLMs), or sharrows) might also be included along the routes, if desired.

Although different than route signage, “Share-the-Road” or “Bike May Use Full Lane” warning signs might also be appropriate for higher volume roadways, although Bike May Use Full Lane signs are preferred because the legal direction of the sign is clear, whereas Share-the-Road signage may be interpreted differently by motor vehicle and active transportation users. For example, a bicyclist may interpret a Share-the-Road sign to mean they may use the full lane (as Vermont State Statute allows in situations where cyclists do not feel safe using the shoulder or no shoulder is present), while a motor vehicle operator may interpret the same sign to mean cyclists shouldn’t use the full lane and must stay in the shoulder.

All the roads identified as part of Major On-Road Connections are state highways; improvements to these routes will need to be coordinated and in most cases implemented through VTrans. While VTrans has been an integral partner in the MRV Moves planning process and has been informed of community priorities for these routes, it will be important for Valley municipalities and partner organizations to ensure these objectives are brought to the project manager’s attention as a part of the project definition process when work on Routes 100, 100b and 17 are being considered.

It was expressed throughout the MRV Moves planning process that traffic volume and speed on these State Highways makes walking and biking feel too difficult or unsafe for many users, particularly outside village centers. Major On-Road Connections may never be accessible to the 40% of MRV bicycle riders who are “Interested but Concerned” due to safety concerns, traffic volumes and speeds—even with bike lanes, wider shoulders, improved signage and increased education. Still, it is important to provide the best experience and safety possible for all modes on this network as these routes provide the most direct transportation link between village centers and primary destinations in the Valley, and often provide the “first and last mile” connections even when off-road connections are preferred. The paved road cycling opportunity these routes provide are also an important recreational ex-
perience in the Valley for many locals and tourists. Recognizing that the full network of Off-Road Connections may take years or decades to fully complete, On-Road sections will help to complete the network in the interim. As such, it is important that these be as safe and comfortable as possible.

**Minor On-Road Connections**

The Future Opportunities Map identifies Minor On-Road Connections with thin orange connection lines. They include paved and unpaved Town highways and roads. These roads are generally rural in character and can serve as alternatives to busier State Highways for biking and walking loops.

In general, these Minor-On Road Connections will need the least physical improvements relative to the other identified connections, as traffic volumes and speeds are typically lower than on State Highways. First and foremost, these roads should be included and considered as part of the overall active transportation system. That way municipalities can take advantage of roadwork opportunities that improve connections with increased shoulder widths. A four-foot minimum shoulder width is preferred for paved roads.

As with the Major On-Road Connections, the Minor On-Road Connections should also be identified with Bike and Pedestrian Route Signage and included in the comprehensive bicycle and pedestrian wayfinding system. “Share-the-Road” or “Bike May Use Full Lane” warning signs might also be appropriate for higher volume roadways. The “Bike May Use Full Lane” signs are once again preferred, because the meaning of the sign is clearer than the “share the Road” signage. New signs are likely to be the most common physical improvement for the Minor On-Road Connections, especially in the short term.

The Minor On-Road Connections should also be included on public trail, walking and biking maps and promoted for suggested walking and bicycle loops and routes. These roads have high scenic values and provide access to the Valley’s treasured natural environment and rural characteristics. As a result, these connections represent a significant tourism opportunity and appeal that can be leveraged for greater benefit to the community if actively promoted and marketed (Mad River Valley Chamber of Commerce, Sugarbush, lodging partners, etc). On-Road bicycle tourists (as opposed to trail tourists considered in Chapter 4) have typically been found to spend at least as much as trail users discussed in Chapter 4, so the potential economic impact for these connections is also high. There is also an opportunity to leverage this network of Minor On-Road Connections for rural running races and bicycle events. The success of the Mad Marathon, and anecdotal knowledge of existing bicycling events that use these connections, such as the Vermont Grand Fondo, suggests there is significant economic potential in such activities.
Trail Typologies: Major On-Road Connections, Minor On-Road Connections

**Bike Lane**
Bike lanes are a portion of the roadway designated for preferential use by bicyclists.
- One-way facilities striped on streets that carry bicycle traffic in the same direction as motor vehicles
- Most appropriate for urban centers
- 4ft minimum width between fog line and pavement edge
- Require proper roadway placement through intersections to minimize conflicts with motor vehicles
- Bike lane design should follow the VTrans Bike Lane Standards (see Appendix XX) at a minimum, and may include more innovative NACTO treatments such as protected bike lanes, bike boxes, colored pavements and innovative intersection designs

**Paved Shoulder**
Paved shoulders are used on rural roads to extend roadway maintenance life, provide space for temporary storage of disabled vehicles, and improve bicyclist accommodation.
- May use Share-the-Road warning signs
- Should not use longitudinal rumble strips; may use bicycle-tolerable rumble strips (with periodic gaps)
- 4ft min. width between fog line and pavement edge
- Paved shoulders may also be used to accommodate pedestrian use in rural and less developed areas

**Shared Lane**
All streets and roadways, unless specifically prohibited by law, shall permit use by both bicycles and motor vehicles.
- No designation is needed for bicycle use unless street is a key corridor in bicycle system
- May be identified by Bike Route signing and/or use of shared pavement marking symbols (sharrows)
- Most cyclists will prefer to ride on lower-volume streets and corridors with traffic calming measures
- Higher-speed roadways may use Share-the-Road warning signs in addition to Bike Route wayfinding signs

**Sidewalk**
Sidewalks are separated from the motor vehicle travelway by a landscape planting strip or buffer zone.
- Sidewalks that are 8’-10’ wide are typically considered sidepaths (multi-use paths parallel to and within street rights-of-way) and may be used by cyclists and other non-motorized users in addition to pedestrians

**Signed Route**
Signed routes are found along paved or unpaved roadways most often on lower-volume roads.
- A bicycle and walking wayfinding system consists of comprehensive signing and/or pavement markings to guide users to their destinations along the route
- Signs are typically placed at decision points along the routes – typically at the intersections of two or more routes and at other key locations leading to and along the routes
Major Off-Road Connections

The thick light purple connection lines on the Future Opportunities Map represent the Major Off-Road Connections. The most significant Major Off-Road Network generally follows the Rt 100/Mad River/Valley Floor corridor. It connects with other Major Off-Road Connections near German Flats Road, Route 17, and Route 100B, along with some spurs providing access to important destinations. The specific location of the connections is not yet known—they may fall closer to the river, closer to the highways and roads, or located away from these elements—but the network seeks to take advantage of the flatter terrain in the Valley floor to connect the communities, village centers, and important destinations in the Valley with an Off-Road Path (Connection).

The Major Off-Road Connections are physically separated from motor vehicle traffic and provide accessible outdoor recreation and transportation opportunities for almost all user groups, including adult bicyclists, child bicyclists, horseback riders, walkers, joggers/runners, wheelchair users, hand cyclists, baby strollers, dog walkers, snowshoers, and cross country skiers. This connection type was the number one request for new active transportation facilities throughout the MRV Moves planning process. It also represents the greatest opportunity to encourage increased active transportation participation in the Valley by helping to convert the “Interested but Concerned” cyclists to more regular riders.

The vision for the Major-Off Road Network is similar to that of the Mad River Path in that it seeks to connect the Valley towns with an off-road trail. The existing Mad River Path segments serve as building blocks for a complete Major Off-Road network as depicted on the Future Opportunities Map.

The Major Off-Road Connections are proposed as multi-use paths that could initially take the form of a mowed path (as much of the Mad River Path is now), but the network is intended to eventually work up to either an “Unpaved Graded Path” (crushed gravel, such as Staymat, as seen in a typical rail trail) or a “Paved Path,” like the Burlington Bike Path. The Unpaved Graded Path and the Paved Path typologies meet the transportation and accessibility goals of the project—and equally importantly the goals of VTrans and other potential funding sources—while mowed paths generally do not.
This does not mean that mowed paths should not be pursued in the Valley. Mowed paths provide important recreational opportunities and can establish initial trail use that can be capitalized on to eventually upgrade to a graded path. Paths that remained mowed, however, may not be suitable for inclusion in the Major Off-Road Path network and other solutions will need to be explored.

With respect to the width of the Major Off-Road Network, the recommendation for both an “Unpaved Graded Path” and a “Paved Path” is a 10-foot-wide path, with a minimum of 8-foot-wide if usage is anticipated to be limited. This is based on the Federal Highway Administration’s requirements for shared-use paths, and will also likely be stipulated if implemented with State or Federal funds.

At the first public workshop participants were asked about paving preferences for this network. While a few people said “all paved” and others preferred “no paving,” there was considerable consensus that there should be paving of the Major Off-Road Network in some locations and crushed gravel in others.

This Plan and the Future Opportunities Map do not specifically identify which areas of the Major Off-Road network should be Unpaved Graded Path or Paved Path, but it is expected most of the system will be unpaved, with limited areas of paving based on expected user types and anticipated trail volume, topography, and nature of the underlying soil. Surface type should be a case-by-case decision, as portions of the network are designed and constructed. Paved sections would likely be most common in high usage areas, such as Village Centers.

Whether paved or unpaved, the design and surface of the Major Off-Road Path system should take into consideration the rural character and context of the MRV. In paved sections, a “soft-surface shoulder” for jogging, walking and equestrian use should be considered where space is available.

The Major Off-Road Network will likely take time to implement and the opportunity to use On-Road or Minor Off-Road segments to complete the connections in the interim should be considered.
Minor Off-Road Connections

The Future Opportunities Map shows Minor Off-Road Connections with thin dark purple connection lines. These connections are envisioned as rugged, natural surface trails and are generally located in more remote areas and appropriate for more varied terrain. They also include the widest variety of potential trail types, including hiking trails and footpaths, mountain biking trails, equestrian trails, double track mountain bike trails and Class 4 roads, and accessible hand-cycle trails.

In general, natural surface trails are characterized as narrow mountain trails designed as sustainable, rolling contour trails that have minimal impact on natural systems. Trail treads should include benching, outsloping, grade reversals, armoring, switchbacks, and other techniques to minimize erosion and wear by trail users. They are frequently smooth and flowing, with features like banked turns, rolling terrain, and consistent and predictable surfaces. They tend to wind around obstacles such as trees, large rocks and bushes. If intended for mountain biking, they may also exhibit technical sections with features such as roots, logs and rocks, or created technical features such as elevated bridges, jumps, teeter-totters, and drop-offs.

The specific trail type for each Minor Off-Road connection is not detailed in this plan, and should be decided on a case-by-case basis depending on the suitability of the terrain, other connecting infrastructure, and the goals of the landowner and the partner completing the project. While no trail type is preferred, connections that allow multiple uses should be encouraged.

This plan does not seek to identify all new natural surface trails in the Valley. Rather, it identifies those that provide an important connection or mobility function. This is particularly important in a community like the Mad River Valley where recreational walking, hiking, cycling, snowshoeing and cross-country skiing rates are more than double that of the national averages. When connectivity is increased on these traditionally more “recreation-oriented” facilities, users are empowered to use active transportation to reach their ultimate recreation destinations rather than driving to a trailhead or recreation area. Additionally, given the high rates of recreational activity in the MRV, more rugged facilities such as these may be more feasible as a transportation option for more residents and visitors as they are already skilled and accustomed to the experiences. Many users of these facilities in the Valley expressed interest in being able to hike or mountain bike to work, town or school if the connections were made available.

While this plan focuses on connectivity-oriented natural surface trails, more traditional internal networks constructed on available public and private lands—like Blueberry Lake—should still be pursued throughout the Valley. As evidenced in Chapter 4—Trails Mean Business, these sorts of facilities provide an extremely important recreational opportunity for the MRV, and play an immense role in economic development and tourism in the community.
Natural Surface Trails
In general, natural surface trails are characterized as:
- Narrow mountain trails designed as sustainable, rolling contour trails that have minimal impact on natural systems
- Trail treads should include benching, outsloping, grade reversals, armoring, switchbacks, and other techniques to minimize erosion and wear by trail users
- Frequently smooth and flowing, with features like bermed turns, rolling terrain, and consistent and predictable surfaces
- Tend to send around obstacles such as trees, large rocks and bushes
- If intended for singletrack mountain biking, may also exhibit technical sections with features such as roots, logs and rocks, or man-made technical features such as elevated bridges, jumps, teeter-totters, and drop-offs

Rugged Accessible Trails:
Regional facilities are longer distance, multi-jurisdictional paths that may be used for a variety of These wide accessible trails provide rugged trail opportunities to a wider range of users, including handcycle and mobility assisting users, and are also user-friendly for beginner level mountain biking and family style hiking. Most handcycles are built in a tricycle configuration and are powered by the riders’ arms versus legs; therefore, the recreationalists need newly adapted trail systems.
- Handcycle
- Beginner Mountain
- Hiking

Mowed Path
A mowed path is a soft surface trail that is light on the land and can accommodate a limited number of users. These paths typically serve as a recreation-oriented facilities and are generally suitable for providing access to natural areas and some rural connections.

Unpaved Graded Path
Multi-use or shared use paths are physically separated from motor vehicle traffic. They have a graded gravel fines treadway and provide accessible outdoor recreation and transportation opportunities for many user groups.
- wheelchairs
- baby strollers
- dog walking
- cross country skiing

Paved Path
Regional facilities are longer distance, multi-jurisdictional paths that may be used for a variety of recreation and non-motorized transportation needs. Similar to the list above.
- river and stream corridors
- roads
- railroad grades
- utility corridors
- irrigation canals

Mountain Biking
Trail Width 10’-16’ narrow trail tread for singletrack experience
Corridor Width 3’ - 8’
Average Grade <10% grade desired for sustainable trails

Hiking
Trail Width 12’-35’
Corridor Width 4’ - 5’
Average Grade <10% grade desired for sustainable trails

Equestrian
Trail Width 24’ - 30’
Corridor Width 6’ - 12’
Average Grade <10% grade desired for sustainable trails

Rugged Accessible Trail
Trail Width 36’ - 40’
Corridor Width 6’ - 12’
Average Grade
- 10% - 15%
- 15% - 20% for 200’ Max
- 20% - 25% for 50’ Max
- 25% - 30% for 200’ Max
- 30% - 35% for 100’ Max

Signs are typically placed at decision points along the routes – typically at the intersections of two or more routes and at other key locations leading to and along the routes.
A bicycle and walking wayfinding system consists of comprehensive signing and/or pavement markings to guide users to their destinations along the route.

Most cyclists will prefer to ride on lower volume streets and corridors with traffic calming measures. May be identified by Bike Route signing and/or use of shared pavement marking symbols
No designation is needed for bicycle use unless street is a key corridor in bicycle system
May use Share-the-Road warning signs
May use bicycle-tolerable rumble strips (with periodic longitudinal rumble strips)

Paved shoulders may also be used to accommodate pedestrian use in rural and less developed areas
Gaps should not use longitudinal rumble strips, may use bicycle-tolerable rumble strips (with periodic placement of Edwardian treatment"

Sidewalks that are 8’-10’ wide are typically considered sidepath (multi-use paths parallel to and within street rights-of-way) and may be used by cyclists and other non-motorized users in addition to pedestrians

Sidewalks are separated from the motor vehicle travelway by a landscape planting strip or buffer zone.

Bike lanes are a portion of the roadway designated for preferential use by bicyclists
Bike lane design should follow the VTrans Bike Lane Standards (see Appendix XX) as a minimum,
Require proper roadway placement through intersections to minimize conflicts with motor vehicles
4ft minimum width between fog line and pavement edge

Equestrian facilities may also accommodate non-motorized facilities

40% - 50% for 200’ Max
50% - 60% for 100’ Max
60% - 70% for 200’ Max

Frequently smooth and flowing, with features like gravel fines treadway and provide accessible outdoor recreation and transportation opportunities for many user groups.

- wheelchairs
- baby strollers
- dog walking
- cross country skiing

Local facilities connect local destinations such as:
- schools
- shopping
- employment

Most appropriate and for village centers

Terrain Suitability
- Average Grade
- 0% - 3%
- 3% - 6%
- 6% - 12%
- 12% - 20%
- 20% - 30%
- 30% - 40%
- 40% - 50%
- 50% - 60%
- 60% - 70%
- 70% - 80%
- 80% - 90%
- 90% - 100%

Corridor Width
- 36” - 60” for single use
- 48” - 60” for multi-use
- 60” - 120” for large scale multi-use

Tread Width
- 5’ - 8’ for hiking
- 12” - 48” narrow trail tread for singletrack experience
- 10% - 12% for 10’ Max
- 8.33% - 10% for 30’ Max
- 5% - 8.33% for 200’ Max

Trail treads should include benching, outsloping, grade reversals, armoring, switchbacks, and other techniques to minimize erosion and wear by trail users

- hiking
- mountain biking
- equestrian
VILLAGE CENTERS

Many of the Future Opportunity Connections discussed above will extend and connect through the Village Centers, but these critical locations should also receive additional improvements, such as streetscape enhancements and bicycle and pedestrian accommodations. All facilities should be visible and oriented toward the public realm—not tucked away—to seamlessly integrate with local businesses, civic buildings and spaces, and private residences in order to encourage vibrancy and economic vitality in Village Centers.

Streetscape Improvements

Streetscapes, the elements and design of the right-of-way on either side of the roadway pavement, are an important component of the public realm due to their significant effect on how people perceive and interact with their community. Safe and inviting streetscapes can calm vehicle speeds, encourage more people to use active transportation options, improve public health, stimulate local economic activity, and attract residents and visitors to a community.

The success of such projects is evident in recent examples in Vermont, from Bristol to St. Albans. For example, The City of Saint Albans recently underwent an extensive streetscape improvement project of their Main Street that, along with tax incentives and other public investments, has allowed the City to garner over $40 million in private investment since the beginning of the revitalization effort (ACCD, 2016).

Streetscape improvements that may be considered in the Village Centers include changes to roadway cross sections (narrow lanes, bike lanes), traffic management, pedestrian safety measures (curb extensions, refuge islands), ADA improvements to sidewalks and business entrances, sidewalk quality and materials, landscaping, street furniture (utility poles, benches, garbage cans, etc.), plazas, parks, and building facades. Improvement of signage, wayfinding, and community branding should also be considered as well.

Complete Streets

Complete Streets is a philosophy and approach to planning, design, construction and maintenance of transportation networks that consider users of all types and
abilities, including pedestrians, bicyclists and transit riders with all of their varied mobility requirements. The Complete Streets approach to planning and engineering has arisen after many decades where automobiles were the primary, and sometimes only, mode of transportation considered in the design process. In the past 10+ years, there has been a steady shift toward a more comprehensive view of users that should be considered in the planning and design of transportation networks.

In Vermont, a state-wide complete streets policy was implemented by Act 34 of the 2011 Legislature: An act relating to a transportation policy that considers all users. The following is from the bill’s text (Act 34, Section 1):

The purpose of this bill is to ensure that the needs of all users of Vermont’s transportation system—including motorists, bicyclists, public transportation users, and pedestrians of all ages and abilities—are considered in all state and municipally managed transportation projects and project phases, including planning, development, construction, and maintenance, except in the case of projects or project components involving unpaved highways. These “complete streets” principles shall be integral to the transportation policy of Vermont.

All levels of government are subject to the provisions of the act, and the following outlines the specific requirements for municipalities that should be considered in the MRV:

19 V.S.A. § 309d. POLICY FOR MUNICIPALLY MANAGED TRANSPORTATION

Except in the case of projects or project components involving unpaved highways, for all transportation projects and project phases managed by a municipality, including planning, development, construction, or maintenance, it is the policy of this state for municipalities to consider “complete streets” principles, which are principles of safety and accommodation of all transportation system users, regardless of age, ability, or modal preference.

If, after the consideration required under this section, a project does not incorporate complete streets principles, the municipality managing the project shall make a written determination, supported by documentation and available for public inspection at the office of the municipal clerk and at the agency of transportation, that one or more of the following circumstances exist:

1. Use of the transportation facility by pedestrians, bicyclists, or other users is prohibited by law.

2. The cost of incorporating complete streets principles is disproportionate to the need or probable use as determined by factors such as land use, current and projected user volumes, population density, crash data, historic and natural resource constraints, and maintenance requirements. The municipality shall consult local and regional plans, as appropriate, in assessing these and any other relevant factors.

3. Incorporating complete streets principles is outside the scope of a project because of its very nature. The written determination required by subsection (a) of this section shall be final and shall not be subject to appeal or further review (VTrans, 2012).
Outside of the Village Centers, Complete Streets features are generally those described above for Major and Minor On-Road Connections—improved shoulders, bike lanes, shared lanes (where absolutely necessary), signage, wayfinding, etc. However, Complete Street improvements in the Village Centers are likely to include a much wider range of features.

There is no singular design prescription for Complete Streets; each one is unique & responds to its community context. However, Complete Streets improvements in the Village Centers may include: sidewalks, bike lanes, frequent & safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more. It should be noted that application of Complete Streets in a rural area such as the MRV will look quite different from a complete street in an urban area like Burlington. Designs for these features should follow VTrans’ Pedestrian and Bicycle Facility Planning and Design Manual at a minimum (see Appendix C). Complete Street designs should reflect the rural character of the Valley’s communities, while still being intended to balance safety and convenience for all road users. Complete Street improvements in the Village Centers should be integrated with streetscape improvements, as there is considerable overlap between the two.

VTrans provides a Complete Streets Guide for Vermont Communities, which should be used as a resource for these improvements. It is available here: http://healthvermont.gov/family/fit/documents/Complete_streets_guide_for_VT_communities.pdf

Specific locations of recommend sidewalks and crosswalks are identified on the Village Center Figures.
BIKE LANES

Bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signage. A bike lane is typically located adjacent to motor vehicle travel lanes and flow in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or parking lane. This facility type may be located on the left side when installed on one-way streets, or may be buffered if space permits.

Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions. Bike lanes also facilitate predictable behavior and movements between bicyclists and motorists. Bicyclists may leave the bike lane to pass other bicyclists, make left turns, avoid obstacles or debris, and avoid other conflicts with other users of the street.

As identified in VTrans’ Pedestrian and Bicycle Facility Planning and Design Manual, a Bike lane should be marked with a 150 mm (6 in.) wide retroreflectorized white stripe and symbol of cyclist with directional arrow in lane. Object markings may also be necessary to delineate presence of potentially hazardous objects and obstructions. The minimum facility dimension considered by VTrans to be critical to user safety and functional use of a bike lane is width greater than or equal to 1.2 m (4 ft) for a designated bike lane. It is acknowledged that conditions may be encountered that necessitate the use of a less than minimum dimension. When the minimum dimension cannot be provided, it will need to be approved through the VTrans Design Exception Process.

21 Good Reasons to Mark Bike Lanes:

1. Bike lanes support and encourage bicycling as a means of transportation.
2. Bike lanes remind drivers that bicyclists are roadway users, too.
3. Bike lanes help define road space for bikes and for cars, promoting a more orderly flow of traffic.
4. Bike lanes allow bicyclists to move at their own pace.
5. Bike lanes remove slower-moving bikes from vehicular traffic lanes, reducing delay for drivers.
6. Bike lanes are a visual reminder to drivers to look for bicyclists when turning or opening car doors.
7. Bike lanes enforce the concept that bicyclists are roadway users and should behave like other vehicle operators.
8. Bike lanes encourage bicyclists to obey general traffic rules when roadways are marked to include them.
9. Bike lanes provide an added buffer for pedestrians between sidewalks and thru traffic. This is important when young children are walking, biking, or playing on curbside sidewalks.
10. Bike lanes provide an area for people in wheelchairs to travel where there are no sidewalks, or sidewalks are in need of repair.
11. Bike lanes provide a place for wheelchair users to turn on and off curb cut ramps away from moving traffic.
12. Bike lanes provide emergency vehicles room to maneuver around stopped traffic, decreasing response time.
13. Bike lanes encourage bicyclists to ride in the correct direction - with the flow of traffic.
14. Bike lanes increase the comfort level for bicyclists in traffic.
15. Bike lanes have a “traffic calming” effect - roads that appear narrow result in slower vehicular speeds.
16. Bike lanes increase sight distance for drivers entering the roadway from driveways or side streets.
17. Bike lanes increase the turning radius for large vehicles.
18. Bike lanes make crossing pedestrians more visible to drivers.
19. Bike lanes increase clear space between parked cars and moving vehicles.
20. Bike lanes help stop global warming by providing a real, healthy option to help reduce greenhouse gas emissions.
21. Each bike on the road means one less car.
Active Transportation Tourism and Bicycle & Pedestrian Friendly Communities

Many kinds of active transportation tourists currently visit the Mad River Valley, and there is potential to increase this important market within the community. Proximity to the Long Trail provides opportunities to engage long-distance hikers who may be traveling through the Valley. Touring bicyclists (people traveling long distances by bike) are also on the rise throughout the United States and the scenic routes available in the Valley are attractive to this growing segment. Vermont Bicycling and Walking Vacations—one of the premiere “active travel” companies in the US—frequently uses roads in the MRV for their Vermont excursions.

In addition, many of the more traditional tourists currently visiting the Valley use trails and active transportation networks during their stay. This is evidenced by the MRV Moves Community Survey findings, which demonstrated that 78 percent of visitor respondents reporting “the availability of recreation trails and opportunities to hike, bike, walk, ski and snowshoe” as being important in their decision to visit the MRV. A full 34 percent of visitors reported these opportunities as the deciding factor in their destination choice.

Given the economic development potential of active transportation tourism, it is important to ensure the system is conducive and welcoming to walkers, hikers and bicyclists. For about a century, we have designed or redesigned our communities and transportation systems around the automobile. This orientation is so ingrained that it can be challenging to recognize the obstacles it presents to people who travel by other means or have disabilities.
Business owners can ask themselves What if a significant number of my guests or shoppers were to start arriving by foot or bicycle instead of by car? Would they feel like valued customers? Would they leave eager to tell others about their experience?

Services that have a bicycle or pedestrian-friendly orientation are important to active transportation tourists. Whether the owner of a B&B or a hardware store, staff at a welcome center or a museum, or selectboard or planning commission member, each community member should consider these steps to make sure you are capitalizing on the potential of active transportation tourists:

• **Shift your perspective.** To grasp the needs of traveling bicyclists or pedestrians, there is no substitute for being a hiker or bicyclist. Walk and bike from the trails into your community; go where visitors are likely to go – restaurants, lodging, shops, historic sites, etc. Can you find them readily? Do you feel safe? What barriers do you encounter?

• **Welcome bicyclists and pedestrians.** Offer the services and facilities they need. Start with some simple signs: “Welcome to Our Community” on the trails and gateways. Include “Bicyclists Welcome” signs at businesses, attractions, parks, etc.

• **Give them information.** Active transportation tourists crave information! Especially about where they are or soon will be and where they can find what they need. When active transportation tourists are asked what improvements they would like to see, “more signs telling us where we are and how far it is to the next town” is always at or near the top of the list.
  ◦ On the welcome sign or gateway sign to your community, include “Information ¼ mile,” as appropriate.
  ◦ Make sure there are street name signs at all road crossings.
  ◦ Post “you are here” maps in key locations around your community.
• **Help them find you.** Trial-and-error doesn’t work well for bicyclists, or worse yet hikers, who might have just traveled 30 or 40 miles. Use a map and/or signs to show the way from the trail into your community. If you are not close to the trail, work with other businesses and community leaders to develop a “gateway” on the trail with a directory of businesses and their locations.

• **Provide safe access.** Be sure that the roads and trails active transportation tourists will use to get into your community or to your business are bicycle-friendly through implementation of the Future Opportunity Connections identified herein.

• **Give bicyclists parking, too!** Once bicyclists find you, then what? Bicycles need protection from theft and, if possible, weather. Provide convenient and secure bicycle parking facilities in the form of well-designed bike racks or bicycle lockers for longer stays. Keep them in good condition and the area around them clean. They should be in a lighted area if they will be used after dark and, ideally, covered for shelter from rain.

• **Don’t hide the amenities.** Make water and public restrooms easy to find. If not clearly visible from the trail or gateway, provide directions. If public facilities aren’t available, will businesses open theirs? Rest and shelter are important to active transportation tourists, too; chairs, benches and covered porches or pavilions in parks are great. Compile a list of places where showers might be available (e.g., health clubs, a welcome or visitor center, nearby state parks, etc.).
Local Control of State Highways in Village Centers

One of the community-identified challenges raised through the MRV Moves process was the complexity of implementing bicycle and pedestrian accommodations on VT Rt. 100/Main Street in the Village Centers of Waitsfield and Irasville. In consultation with the MRV Moves primary grantors, VTrans and ACCD, the agencies recommended that the community consider reclassification of the State Highways to Class 1 Town Highways in order to provide more local flexibility for streetscape design, complete streets features, traffic calming measures, placement of crosswalks, and simplify implementation of improvements and maintenance activities within Village Centers.

VTrans indicated that their recently released publication, Class 1 Town Highways: Costs and Issues for Vermont Communities Considering Reclassification of State Highways, and cost estimation spreadsheet concluded that municipal ownership of Class 1 Town Highways are generally a net positive for the host communities, but the specific outcome will depend on the specific infrastructure present and local conditions.

In order to explore this issue locally, the cost analysis spreadsheet provided by VTrans was completed for Waitsfield using the VTrans supplied average assumptions for costs. The analysis considered a scenario in which the Town of Waitsfield would take over approximately 1.77 centerline miles through Waitsfield Village. The section of road analyzed begins just north of Waitsfield Elementary School and ends just south of Fiddlers Green (the bridge to the south of Fiddlers Green would remain under the jurisdiction of the State). The analysis found a neutral to slightly net-positive benefit to the Town if it were to take over the highway.

These materials and analysis are found in Appendix D and have been passed along to the Town of Waitsfield to continue to explore this issue. There is a need to further refine the average cost assumptions from VTrans to reflect actual costs for road maintenance and ownership. It will also be important for the community to consider the aspect of existing capacity for these tasks. Even with locally calibrated cost assumptions, the VTrans worksheet assumes incremental cost increases based on road mileage. It assumes existing labor and materials costs would be applied to the new miles, but assumes that the number of employees and equipment needed would stay the same. It attributes costs according to average cost per mile times the number of miles that would be acquired. It does not take into account excess or deficient capacity to deliver maintenance or construction services, and it assumes that average costs will remain stable in the future. Based on initial conversations with the Town, it appears that an additional employee(s) would likely be needed to complete maintenance tasks (particularly snow removal), and this should also be taken into account.

The reclassification of this section of road and others in the Valley should be further explored and discussed among the municipal officials in the various towns. Information from VTrans as well as local knowledge and consideration of costs and capacities should be included in the discussions. Is should be noted that even though many VTrans analyses demonstrate a net fiscal benefit to municipalities, local control of a state highway in a Village Center may be desirable even where there is a cost to municipality for doing so. There are certainly quality of life, economic development and mobility benefits to obtaining local control over these important community corridors—as described throughout this plan—but these benefits should be weighed against the potential costs to the communities.
Moretown and Warren | Village Center: Future Opportunities

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EDUCATION AND OUTREACH OPPORTUNITIES

In addition to physical improvements and promotional activities, like mapping and events, there is an opportunity in the Mad River Valley to increase active transportation participation and outcomes through outreach and education.

An education campaign can help inform and reinforce the skills needed to be safe motorists, pedestrians and bicyclists. The Pedestrian and Bicycle Information Center provides a series of fact sheets that include guidance on how to best reach and educate motorists, pedestrians, bicyclists and decision makers of different ages. These include:

- Pedestrian Education Guides
  - Educating Child Pedestrians
  - Educating College-aged Pedestrians
  - Educating Alcohol Consumers
  - Educating Adult Pedestrians
  - Educating Older Pedestrians
  - Educating Drivers
  - Educating Commuters and Employees
  - Educating Transportation Officials and Decision Makers

- Bicyclist Education Guides
  - Educating Children Ages 1 to 5
  - Educating Children Ages 5 to 8
  - Educating Children Ages 9 to 12
  - Educating Children Ages 13 to 17
  - Educating Adults
  - Educating Seniors
  - Educating Drivers

The guides are available here: http://www.pedbikeinfo.org/programs/education.cfm
In the MRV Moves planning process the issue of dog use on trails was also raised by a number of participants. There are also opportunities to improve outcomes in this arena through education and outreach. Many communities have had success in this realm by ensuring that whenever restrictions like “no dogs” or “dogs must be on a leash” are in place, there is signage explaining why the restriction is necessary. For example, if the landowner on whose land the trail is located has requested there be no off-leash dogs, tell trail users that and that we will lose access to the trail if the stipulation is not enforced. Another example might be where there are sensitive wildlife concerns requiring dogs be excluded from a certain area—state that on a sign near the entrance to the area, explaining the species that are being protected and why the restriction is necessary. After telling trail users what the restriction is, and why it is in place, it is also helpful to inform them where else they can go with their dogs that do not have such restrictions in place.

Finally, some communities have also found success in hosting “Doggie Clean Up Days,” which tends to raise awareness for the issue of cleaning up after your pets and help to bring community members together over this issue. The Stowe Land Trust partnered with the North Country Animal League for the First Annual Stowe Doodie Day on May 2, 2015 – a town-wide, family and dog friendly event that’ll infuse some fun into poop-scooping, and get our town beautiful for the spring season.

There are a few communities that put together good resources for education and outreach around dog use. These include the Washington Trails Association (www.wta.org/hiking-info/basics/hiking-with-dogs) and the City of Boulder, CO (https://bouldercolorado.gov/osmp/dogs-on-osmp).
CHAPTER 6: MAKING IT HAPPEN

INTRODUCTION

Implementation is where the rubber meets the road or trail! This chapter weaves together all the previous work and inputs generated through the MRV Moves planning process into an implementation and action plan, including guidance on the pieces necessary to “Make it Happen.” This includes guidance on recommended policy, easements, signage and wayfinding, regional coordination, the implementation process, permitting and approvals, and funding opportunities.

Implementation Process

To the right is the typical process for implementing physical improvements described in Chapter 5. Many projects will likely have some variation, especially those implemented within the typical operations of a singular entity and/or solely with volunteers.

Development Process:

1. Partners communicate at least yearly to discuss project priorities, joint funding applications, planning for grant matches, easement/land ownership clarification, ROW acquisition, stakeholder planning, reconnaissance, compliance, etc.
2. Projects are selected based on priority criteria + ability to be funded/constructed. All necessary planning partners convene to discuss project scope + next steps.
3. Partners determine whether project needs feasibility/scoping study or other studies prior to design. Funding is found for part or all of design + construction. Project moves forward into further study or design contract.
4. Project ideas/amenities/materials/alignment are vetted by the public during feasibility/design phase.
5. Once project design has been approved, funding must be found for construction/implementation if not already secured.
6. Funding secured, project gets built!
POLICIES TOWARD IMPLEMENTATION

In addition to physical improvements, the actions, policies and regulations of communities and organizations can also influence the number of individuals in the MRV embracing active transportation. The following section contains two parts. The first presents ideas on how the Towns and Organizations in the Valley might be able to better align their policies, regulations and actions with the vision and goals of this plan. The second section presents policies related to specific issues that pertain to each of the towns and organizations in the Valley.

Towns

TOWN PLANS

Each of the Towns within the MRV has developed a Town Plan that provides overall guidance on how the Town will conduct itself and move into the future. Each of the town plans currently support expansion of bicycling and walking facilities, especially for recreational purposes, within the boundaries of their jurisdiction. As each town plan is updated, it would be beneficial to acknowledge the importance of walking and bicycling for transportation purposes, as well as for a healthy life for town residents. Town plans could also adopt the MRV Moves maps as part of the Town Plan process. The town plans should also endorse:

- Full sidewalk coverage in village areas, as shown on the figures in the MRV Moves Plan,
- The development of off-road paths along Routes 100, 100B and 17 and other locations,
- The establishment of minimum road standards for the designated minor on-road connections, and
- Cooperative action with the other towns in the MRV on pursuing implementation of recommendations in the MRV Moves Plan.

ZONING & SUBDIVISION REGULATIONS

Zoning regulations control how land can be used within each town. Most regulations contain limits on how much pervious surface, or coverage, each lot can have. For these regulations, the definition of impervious surfaces typically includes gravel, crushed stone, boardwalks and even compacted wood chips. If paths are not exempt from the maximum coverage when they are freely available for public use with no intent for profit, then the regulations may discourage the creation of such path segments by individual landowners (either through easements or less formal arrangements). By granting an easement for a path across their property, landowners are reducing their overall development potential. By making public paths exempt from inclusion in maximum lot coverage, towns can eliminate one more impediment to the eventual creation of a network of public walking and bicycling paths in the Valley.
The development review process can also serve to encourage friendly donations of easements in accordance with the overall vision of the MRV Moves Plan. The Town of Waitsfield’s Development Review Board, and Zoning Board before it, has a history of conditioning public access on defined trails through the subdivision process. These are rarely a mandate, usually an agreement between the landowner and the review body. They could be further formalized as easement donations. Such public access requires a very clear link in its ability to mitigate the potential impacts of the proposed land use change or subdivision.

**PROJECT IMPLEMENTATION**

Towns will likely have opportunities to participate, and in some cases lead, implementation of all connection types (Major On-Road, Minor On-Road, Major Off-Road, and Minor Off-Road), but the town’s play a particularly important role with Minor-On Road Connections envisioned in the plan, as these resources are solely within their jurisdiction. Opportunities to improve these connections and install signage and wayfinding along these routes should be incorporated into each town’s highway and road programs.

**Organizations**

Local organizations, such as the Mad River Riders and the Mad River Path Association, are actively engaged in increasing active transportation facilities throughout the Valley. These organizations have been active partners in the MRV Moves Plan process, have embraced its vision and goals, and are official partners. Other organizations, such as the Vermont Land Trust, the Mad River Chamber of Commerce, or the Friends of the Mad River, may not ultimately build trails or active transportation connections, but still represent significant local partners that can aid in the implementation of the plan in other ways. The towns can greatly expand their ability to implement the plan by partnering or otherwise continuing their support of these organizations. In addition to adding the intent to work cooperatively in town plans, the communities can also provide economic support for their actions, coordinate their own work on physical improvements with those of the partners, provide opportunities to participate in town events, and generally encourage their work.

Potential partner organizations, and the roles they might play, are identified below. However, this list of potential project partners should not be seen is finite or exhaustive. There may be opportunities for many other local partners to be involved in the process and these potential relationships should be explored and cultivated throughout implementation.

**MAD RIVER VALLEY PLANNING DISTRICT**

**Management & Coordination**

The MRVPD is in an excellent position to help coordinate work among the towns in the Valley and the various organizations pursuing implementation of the vision and goals of MRV Moves Plan, especially when the
activities cross town boundaries. They can continue to help facilitate communication between them, as well as between the towns themselves. They might serve as general managers of cross-boundary projects, such as they did for the development of the MRV Moves Plan. Their ability to work with each of the groups and to manage multiple players or funding sources makes them ideal for this work, even if they might not be the overall director of the ongoing implementation vision and goals of the entire MRV Moves Plan. One caveat is that MRVPD’s jurisdiction only covers the three towns located completely within the Mad River Valley Watershed: Fayston, Warren and Waitsfield. The portions of other communities included in this plan, Moretown, Duxbury & Granville, are not covered by MRVPD. We applaud MRVPD for exploring the entire watershed for the MRV Moves Project, beyond its own boundary and encourage such watershed-wide thinking in future steps.

Technical Support
MRVPD staff has expertise in transportation planning, grant writing and funding, and community planning. Their skills and knowledge are available to its member town officials and employees, as well as to the other organizations in the Valley, or consultants implementing recommendations in the MRV Moves Plan. They should continue to provide this expertise to each group to aid them in moving ahead with implementation work.

Funding Priorities
There might be times in the future when the MRVPD is in a position to assist the towns in making grant applications or in reviewing different projects for potential town funding. It might also have funds that it is able to distribute to the towns as grants. As possible, some portion of the reviewing criteria should include the ability of a project to advance the vision and goals of the MRV Moves Plan. Those that have the ability to help realize the vision of the plan should be prioritized.

MAD RIVER VALLEY RECREATION DISTRICT
Recreation & Transportation Overlap
While the MRVRD’s charge and focus is solely that of recreation, it is reasonable to acknowledge the inherent recreational aspect of any Valley active transportation project. This wider viewpoint of active transportation projects is critical for MRVRD’s involvement in the potential management of the ongoing work required to implement the MRV Moves Plan’s vision and goals. The transportation value of projects and plans will need to be acknowledged and given equity with recreational values. This perspective will need to be fully incorporated into the review of funding requests from the various towns and organizations for future projects. Potential projects associated with active transportation that might have more of a transportation focus than a recreational focus should not be penalized. Within the entire scope of potential funding requests, adding an evaluation criterion of how projects work to advance
the vision and goals of the MRV Moves Plan could help to get implementation underway.

**Coordination**
The MRVRD is in a good position to help coordinate MRV Moves Plan implementation among the towns in the Valley and the various organizations pursuing implementation of the Plan’s vision and goals. This is an especially important role when the activities cross town boundaries. The MRVRD can take a more active role in facilitating communication between or among towns, as well as between the towns and outside organizations. Their over-arching organizational structure can help them stay focused on the larger vision of the entire plan, while still assisting with smaller implementation projects. As with MRVPD, it’s worth mentioning that the MRVRD’s jurisdiction only covers the three towns located completely within the Mad River Valley Watershed: Fayston, Warren and Waitsfield.

**MAD RIVER PATH ASSOCIATION**
The MRPA is another group that has been doing important work in the Valley for many years to create facilities that encourage active transportation, as well as active recreation. The MRV Moves Plan supports their vision of a system of continuous public pathways from Warren to Moretown, both along the valley floor as well as of side connections to other areas within the Valley. The MRV Moves Plan provides a larger context for this important work. It is recommended that MRPA should:

- Strive over time to upgrade all the sections of path that they maintain along the Mad River to
at least gravel based surface that is a minimum of four feet wide, eight feet preferred to meet the accessibility goals of the MRV Moves Plan,

• Use the economic benefit information of trails and trail use contained in Chapter 4 of this Plan to persuade landowners to support MRPA’s work with donations of financial support and land easements.

• As opportunities arise, the MRPA should coordinate its work to create interconnections between their facilities and those of other organizations in order to realize a complete and integrated system.

VERMONT LAND TRUST

VLT is an integral player in land conservation and easement acquisition in the MRV. To contribute to implementation, the VLT should consider the goals of the MRV Moves Plan in its acquisition decisions and easement holdings, and continue to serve as a resource for municipalities, organizations and landowners in the Valley for land conservation and management.

GREEN MOUNTAIN NATIONAL FOREST

While recognizing that the GMNF is a part of a federal system and regulated by a federal agency, the staff plays an important role in coordinating work with local governments and organizations. They already have a good working relationship with the Town of Warren and MRR, which should be continued and expanded. They should also consider additional working relationships with the MRPA to help in developing walking trails within the National Forest. The staff might initiate an amendment to its overall Land and Resource Management Plan to incorporate the relevance of the MRV Moves Plan. Having the plan officially recognized by the GMNF will allow it to guide future planning, improvements and management in those portions of the forest that fall within the Valley.

CAMELS HUMP STATE FOREST

Similarly to the GMNF, Camels Hump State Forest and FPR staff have an opportunity to collaborate and coordinate trail work with local governments and organizations in the Valley. The staff might consider incorporating the connections envisioned in the MRV Moves Plan with their ongoing management for the area. Having the plan officially recognized by FPR will allow it to guide future planning, improvements and management in the state forest.

VERMONT AGENCY OF TRANSPORTATION

As the manager of the primary public roads in the Valley, VTrans is a significant partner in the future implementation of the Plan. As such, VTrans should work to upgrade Routes 100, 100B and 17 to full compliance with State Roadway Standards in the Valley. (This upgrade would create the shoulders recommended in Chapter 5 of the Plan where they currently don’t ex-
ist.) They should also be open to the use of the Route 100 right-of-way for the addition of a shared use path where appropriate.

VERMONT AGENCY OF COMMERCE AND COMMUNITY DEVELOPMENT

ACCD encompasses three major state departments and many programs that work on economic development, housing, community development, historic preservation, tourism and marketing, and geographic information systems. ACCD is excellent at encouraging and facilitating collaboration across state Agencies, businesses of all sizes, communities, educators, non-profits, students, recreational venues and many others. As the agency has pointed out, “We at ACCD “set the table” for opportunity,” and this is an apt description for their potential role in the MRV Moves Plan. ACCD could serve a resource for funding, technical support, and resources for many areas of plan implementation, but most importantly those that intersect with village vibrancy, tourism and economic development. This might include streetscape projects in the village centers, implementation of signage and wayfinding, or public trail mapping and promotion of active transportation resources to tourists.

GREEN MOUNTAIN TRANSIT

As a partner in the implementation of the MRV Moves Plan, GMT can assist in its implementation by:

- Providing year-round bus service to each of the village areas, and
- Locating future bus stops in locations that are designated for inclusion in the sidewalk or path network.

CENTRAL VERMONT REGIONAL PLANNING COMMISSION

CVRPC is a regional agency made up of member towns facilitating cooperation within and between local governments to address regional issues. They currently work with area non-profits, other regional organizations, state and federal agencies, and the general public to implement a variety of projects and programs tailored to local and regional needs. It is important for the CVRPC to continue its supportive role in implementation of the MRV Moves Plan. CVRPC should continue to facilitate effective communication between its member towns and VTrans to implement the plan, and provide technical services and support for MRV Moves projects.

MAD RIVER CHAMBER OF COMMERCE

The Mad River Chamber of Commerce is a membership organization dedicated to improving the economic vitality of Valley businesses through cooperative efforts that benefit its members and greater business community. This includes serving as an information resource for residents and travelers. The Chamber can contribute to the implementation of the MRV Moves Plan through the promotion and marketing of active transportation opportunities in the Valley to residents and visitors, and disseminating information about the network through their website, their partners, and other materials and publications.

MAD RIVER VALLEY ROTARY CLUB

The Mad River Valley Rotary Club is a chapter of Rotary International, which aspires to make a difference in the Mad River Valley with commitment to community service, building friendships, and developing leaders. Through fundraisers, raffles and community events, the Rotary supports over 39 local organizations, which
provide a broad range of services, from assistance for those in need, to arts and culture. The Rotary can help facilitate implementation of the MRV Moves Plan by raising awareness for active transportation issues in the community, by fundraising for important community projects that are part of the Plan, and by continuing to support partner organizations.

**FRIENDS OF THE MAD RIVER**

The Friends of the Mad River (FMR) is a private, non-profit organization committed to protecting, improving and enhancing the ecological, recreational, and community values of the Mad River and its watershed. As Valley residents have articulated that they care deeply about the watershed and natural environment that makes it such a special place, there is an opportunity for FMR to be a partner in the implementation of the plan representing the ecological and recreational interests of the community as it relates to the Mad River. FMR can work with trail building groups, towns and other partners to ensure that we’re doing the best we can as a Valley to encourage active transportation while also carefully and thoughtfully stewarding the resources these systems rely on. FMR could also play a role in working with the other partners in considering/developing trail building, restoration, and maintenance standards that protect the MRV’s valued environmental resources.

**SUGARBUSH, LODGING AND TOURISM PARTNERS**

Sugarbush, lodging and tourism partners are local businesses with an interest in both recreation and tourism, and can be strong allies in the implementation of the MRV Moves Plan. Support can range from the construction of connectivity-oriented projects on their private lands, to promotion and marketing for recreation and active transportation in the MRV.

**ISSUES FOR IMPLEMENTATION**

**Interconnections**

The implementation of the MRV Moves Plan requires the creation of interconnections among the numerous existing active transportation facilities as one of its primary objectives. While there can always be ongoing expansion and improvement of the existing, often disconnected trail destinations, it is important for the Valley to be creating a connected network that allows walking, bicycling or other means of generally non-motorized movement as a means of accessing the facilities and moving between them. Without the interconnections between the MRV’s facilities, village centers and potential users, the vision of creating an active transportation network in the Valley will remain unrealized.

Developing interconnections among the various destinations and users requires coordination between the various entities participating in the Plan. This allows for the elements of one project to compliment, or to readily lead into or connect with another. Continued, ongoing, cooperation between the towns, the not-for-profit organizations and the various other government-
tal entities is essential (see regional coordination, below). The most efficient and effective way to make this a reality is to have one organization identified to “lead” the coordinated effort. For the plan to succeed and the vision to be achieved, each town and governmental organization will need to actively participate. The cooperation of the not-for-profits would greatly improve the ability and length of time needed to begin seeing progress towards the vision’s realization.

**Easements**

The existing active transportation facilities identified in Chapter 2 of the MRV Moves Plan are either:

- Owned outright by a one of the participants,
- Held as an easement by one or another of the participants in the plan, or
- Operated under an informal agreement, without an actual easement.

As the network becomes more robust and there are more interconnections between facilities, it may be beneficial for just one or two of the organizations to hold all of the easements for the system. Coordinated easements would create an easier system for tracking, organizing, maintaining, updating, managing and releasing, if necessary, the easements for the Valley’s active transportation network. Actual management and maintenance of the facilities could remain as it is now, or it could also be shifted to a more centralized system for some, or the entire network, if desired by the partners.

The process of creating a centralized system of holding easements would take a while to instigate. Initially, it could be used for new easements that are obtained as part of the ongoing implementation of the vision. Over time, existing easements could be renegotiated to be transferred to the central system. There may always be existing easements that can’t be transferred for some reason. These could remain as they are, but information about them could be added to the central system.

As with many other elements of the MRV Moves Plan, a policy of maintaining a unified easement will require cooperation and coordination between the various plan partners.

This policy would keep facilities that are owned out-
right by one of the participants, such as trails in the Green Mountain National Forest, or town or state roads, under their current ownership.

**Designation of the Active Transportation System**

As MRV Moves projects are implemented they should be officially designated as part of the Active Transportation System in the MRV. Official designation simply means those connections are included in the unified bicycle and pedestrian wayfinding system and are promoted on public trail and active transportation maps. In some cases, like much of the Minor-On Road Network, official designation and implementation of signage and wayfinding are all that is needed to implement the connection.

**SIGNAGE AND WAYFINDING**

Each entity in the Valley that develops or manages paths, trails or other active transportation facilities has its own individual signage system. None of them resemble the others and consequently, are not coordinated and do not present an image of a unified active transportation network. One of the future implementation projects for the MRV Moves Plan should be the creation of a single unified bicycle and pedestrian wayfinding system consisting of comprehensive signing and/or pavement markings. Such a system will help to foster the image that the Valley is a single, well-connected, rich active transportation network with many different types of facilities and opportunities, rather than a conglomeration of individual, isolated destinations. The unified system should ideally meet the requirements of Green Mountain National Forest signs, and the requirements of placement within State right-of-ways, while still projecting a unique image of the MRV as a whole. The signs should also have some way to easily identify each of the various players that created or maintain the facilities being signed.

The system must be developed with the input of all of the players that are involved with active transportation policies or facilities in the Valley. Each should endorse the unified signage/wayfinding system to ensure that will implement its use. It will most likely not be financially feasible to replace existing signs that are in good condition, but over time, the unified sign system can become the predominant active transportation wayfinding sign in the Valley.

**MAPPING**

New public trail and active transportation maps should be developed for the Valley every few years as new facilities come online. In addition to a unified regional maps, each partner organization (MMRs, MRPA, Towns, etc.) should coordinate individual mapping efforts to improve consistency across partners while maintaining each organizations individual identities. These maps should identify suggested walking and bicycle loops and routes in the Valley and be consistent with the signage and wayfinding system to the greatest
extent possible. Public mapping should be integrated with the signage and wayfinding system to coordinate graphic presentation and branding (colors, logos, markers, etc.).

The Mad River Chamber of Commerce and the lodging and tourism partners should also work together to promote and market the active transportation opportunities in the Valley to residents and visitors, disseminating maps and information about the network through their website, their partners, and other materials and publications.

**Regulatory and Environmental Compliance**

With the overall network considered in this plan involving national, state, municipal and private lands, there is no single party responsible for permitting or regulating the development of trails and active transportation facilities in the MRV. Likewise, there are many different permitting processes that may be required depending on the individual circumstances for any active transportation connection. To further complicate the issue, some partners to this process have more capacity to navigate permitting processes than others. The net result is a challenging environment for development such infrastructure.

Historically, there has been some inconsistency in what is necessary for permitting for trails and active transportation facilities in the MRV. For example, there is some uncertainty about what might constitute a permit requirement for Act 250 with regard to trail development, particularly across regions in the state. Permits are not necessarily limited to Act 250 either, as wetland, VTrans or other permits may be required for some connections. In the past, some trail development has required permits while some has not, and in the absence of some changes in policy, this condition is likely to continue into the future.

While uncertainly and inconsistency has been present in the past, the underlying basis for permitting—that important community and environmental resources should be protected in the development of active transportation infrastructure—is a shared value for the communities and residents in the MRV, as well as the regulatory agencies and other stakeholders and partners. This shared value should be built upon in a convening of the partners and regulatory agencies to discuss environmental concerns and to consider development of trail construction and maintenance standards for the Mad River Valley that best protect recreation, the environment, public safety, and public health. In this way, potential issues are well understood by all parties, and solutions to best address any issues are agreed upon.

Permitting will likely continue to happen on a project by project basis, but can be done around a shared list of environmental concerns and appropriate solutions and best practices designed to increase consistency in process. This plan envisions varying techniques or in-
Infrastructure (i.e. connection typologies) with varying degrees of intensity of development and associated impacts. The specific location of envisioned connections are flexible and the forms they might take are equally flexible. As a result, the plan provides opportunities to adapt, adjust and respond to regulatory issues as they come up, while maintaining the overall strategy and goals for connectivity.

With regard to permitting, it is also important to note the watershed-wide, broad nature of this planning document. This plan does not identify any specific alignments for any of the recommended trail connections. Instead, it identifies large swaths (1,000 yards or more) where trails might be located to achieve the desired connections, or narrower swaths in village areas for sidewalks or trails. Number of miles, disturbance areas and connection locations are not specific though this plan—it is not a design document. Additionally, the plan does not envision all trails or active transportation connections that may be developed in the MRV, or by any one of the partners. Rather, it identifies the direction that trail development should take, similar to a zoning map for land development.

Regional Coordination

The Mad River Valley Planning District has lead the MRV Moves planning effort with the support of the following partner organizations and governments: The Towns of Fayston, Moretown, Warren, and Waitsfield, the Central Vermont Regional Planning Commission, VTrans, ACCD, the Mad River Valley Recreation District, the Mad River Path Association, the Mad River Riders, Vermont Land Trust and Sugarbush Resort. In addition, the Towns of Duxbury and Granville, US Forest Service, Vermont Department of Forests, Parks and Recreation, Catamount Trail Association, Vermont Bike and Pedestrian Coalition, and the Vermont Department of Tourism & Marketing further supported this effort. Implementation of the Future Opportunity Connections, Village Center Recommendations, and Education and Outreach Opportunities identified in Chapter 5 may be completed by any of the project partners, and many may require the partnership of two or more organizations.

Understanding that each entity has their own specific goals, it is also important to recognize that projects which leverage the resources and support of multiple partners are the most likely to be successful. While each partner should take the lead on projects that most align with their goals and needs, opportunities to work together as a coalition of organizations on implementation should always be pursued. Grants should always be applied for on behalf of as many partners as is reasonable. Outreach to staff, volunteers and members of each partner should be engaged on each MRV Moves project that is brought to implementation. Even projects that do not require substantial commitments from all partners will benefit from letters of support and positive community promotion from the other organizations.

An organizational capacity analysis of the partners has identified the need to expand capacity in the Valley to facilitate implementation of the MRV Moves Plan to help “shepherd” the various partners to work together through implementation. Case studies of how other communities have addressed similar regional trails and active transportation plans are provided to demonstrate three potential scenarios for how regional coordination could be completed. These are 1) Memorandum of Understanding; 2) Governmental or Quasi-Governmental Responsibility; and 3) Non-Profit Responsibility.
MEMORANDUM OF UNDERSTANDING

The first scenario would maintain the existing structures and organizations of the Valley, but would utilize a Memorandum of Understanding (MOU) between the partners that outlines how they would work together and requires an annual or bi-annual convening of the partners to discuss progress and on-going work. This convening of partners could occur as an annual MRV Moves Walk-Bike Summit, or possibly as part of the existing Annual Town Leadership Meeting hosted by MRVPD each November.

The MOU scenario is attractive because it could begin immediately without much change from the current status quo in the Valley. It does not require significant new capacity to be created within a single organization, but rather that a small amount of new responsibility be taken on by each organization in order to initiate MRV Moves projects individually, and to work together to ensure others are supported in doing the same. While perhaps easiest to implement, the drawback with the MOU scenario is that it does not create a single entity to hold the responsibility for facilitating implementation, and therefore may not be the most sustainable or efficient method.

One example of where this strategy has worked well for active transportation implementation is Southern California, where the San Bernardino Association of Governments (SANBAG) and the Southern California Association of Governments (SCAG) adopted a historic MOU with San Bernardino County, the San Bernardino Department of Public Health, Omnitrans, the Safe Routes to School National Partnership, the American Lung Association, MoveIE and the Inland Empire Bicycle Alliance. The MOU commits the organizations and agencies to working together on projects related to the implementation of the 2012 Regional Transportation Plan and Sustainable Communities Strategy.

The San Bernardino MOU that has transformed San Bernardino County into a more walkable and bikeable place, improved the public health outcomes of its residents, and helped increase the number of children walking and bicycling to school. The MOU incorporates items recommended in the San Bernardino Active Transportation Vision, the 2012 Regional Transportation Plan and the Sustainable Communities Strategy.

GOVERNMENTAL OR QUASI-GOVERNMENTAL RESPONSIBILITY

The Governmental or Quasi-Governmental Responsibility scenario would also maintain existing structures and organizations in the Valley, but would expand capacity in a regional government entity—likely the Mad River Valley Planning District or the Mad River Valley Recreation District—to help facilitate plan implementation across the partners.
The benefit of this scenario is that one organization would be responsible for working with all other partners to move forward with implementation of MRV Moves projects. Both the Planning District and the Recreation District have strong relationships with the Towns through their governance structures, and may be able to marshal more options for funding and financing, such as bonding and special-rate government loans. They also have close ties with the non-profits and state agencies in the Valley. The challenge with this scenario is that neither district currently has the organizational capacity to take on such a role in addition to the other work they are currently performing. Additional funding or support—likely through additional contributions from each Town—would be necessary to take on this role. In addition, the jurisdiction of both districts only covers the three towns located completely within the Mad River Valley Watershed: Fayston, Warren and Waitsfield. Their jurisdiction, and financial support, does not include/consist all of the municipalities that have land within the Mad River Valley watershed.

The regional recreation district is common model in the western United States and has been very effective at implementing regional active transportation networks in rural and mountain communities. One example of this is the Estes Valley Recreation and Parks District (EVRPD), which is a quasi-municipal corporation and a political subdivision of the State of Colorado that sits amidst some of the most scenic backdrops in the nation—Rocky Mountain National Park. The District was formed in 1955 for the purpose of supplying recreational facilities within its boundaries, encompassing approximately 320 square miles in southwestern Larimer County and northern Boulder County. The EVRPD has worked with a number local, state and federal partners to plan for a cohesive and connected regional system of trails in the Estes Valley through a process very similar to that of MRV Moves. They are charged with bringing together all the partners working on trails and active transportation in their valley and to facilitate integration of other regional trails planning efforts to ensure efficient connectivity and reduce duplication of effort. The EVRPD has been very effective at connecting up over 500 miles of trails, sidewalks and improved shoulders throughout the Estes Valley over the past three decades that they have had a Master Trails and Connectivity Plan.

**NON-PROFIT RESPONSIBILITY**

The Non-Profit Responsibility scenario would be similar to the Governmental or Quasi-Governmental Responsibility scenario, but the responsible organization would be a non-profit. Either a new non-profit would need to be created, or capacity (and the mission) of an existing organization—likely the Mad River Path Association or the Mad River Riders—would need to be significantly expanded to undertake this role.

Again, the benefit of this scenario is that one organization would be responsible for working with all other partners to move forward with implementation of
MRV Moves projects. A non-profit entity may have more flexibility in its operations and have greater access to private financing and fundraising. A non-profit may also be less susceptible to changes in political leadership within the member towns, which may be a benefit in the long-term.

Local Motion’s early work in Chittenden County is a good example of how a non-profit entity can help facilitate and encourage multi-modal connectivity within a region. Local Motion was founded in 1999 with a singular (and improbable) goal: to get people on bikes across the mouth of the Winooski River, where the Burlington Bike Path then came to an end. Since its early successes, the organization has grown to become Vermont’s statewide advocate for active transportation, vibrant communities, and safe streets. Along the way, Local Motion was able to bring together a broad coalition of organizations, governments and individuals to create better walking and biking connections in Chittenden County, including the Winooski River Bridge, the Island Line Trail and numerous bike lane projects in the region.

**FUNDING OPPORTUNITIES**

**Grant Funding Sources**

**FEDERAL AND STATE GRANTS AND PROGRAMS**

**Land and Water Conservation Fund State and Local Assistance Program**

The Land and Water Conservation Fund (LWCF) state assistance program provides matching grants to help states and local communities protect parks and recreation resources. LWCF funding has benefited nearly every county in America, supporting over 41,000 projects. From building hiking and biking trails, to improving community parks, playgrounds and ballfields, this 50:50 matching program is the primary federal investment tool to ensure that families have easy access to public, open spaces. [http://www.grants.gov/web/grants/search-grants.html](http://www.grants.gov/web/grants/search-grants.html)

**USDA Rural Development Loan and Grant Assistance**

USDA Rural Development (RD) forges partnerships with rural communities, funding projects that bring housing, community facilities (including trails and active transportation facilities), business guarantees, utilities and other services to rural America. Rural Development works with State, local and Indian tribal governments, as well as private and nonprofit organizations and user-owned cooperatives. This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area. [http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program](http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program)
National Park Service Rivers, Trails, and Conservation Assistance Program

The National Park Service Rivers, Trails, and Conservation Assistance (RTC) program supports community-led natural resource conservation and outdoor recreation projects across the nation. Their national network of conservation and recreation planning professionals partners with community groups, nonprofits, tribes, and state and local governments to design trails and parks, conserve and improve access to rivers, protect special places, and create recreation opportunities. https://www.nps.gov/orgs/rtca/index.htm

Federal Lands Access Program (FLAP)

The Federal Lands Access Program (FLAP) provides grants to applicants, which may be state, county, tribal, or city government that owns or maintains the transportation facility. Project must be located on, adjacent to, or provide direct access to federal lands, such as the Green Mountain National Forest. http://flh.fhwa.dot.gov/programs/flap/

Surface Transportation Plan

The State Surface Transportation Program (STP) is the main program of Federal Funds, managed by VTrans, for transportation improvements in the state. STP projects are typically planned and designed at the state level.

Surface Transportation Signage Plan

The State Surface Transportation Signage Program (STPG) is a program of Federal Funds, managed by VTrans, for updating and improving transportation signage in the state.

FHWA Recreational Trails Program

The Recreational Trails Program (RTP) provides funds to communities to support a wide variety of trail activities and related facilities, as well as environmental education and safety programs. The program is administered by the Vermont Department of Forests, Parks and Recreation in the Agency of Natural Resources. http://www.fhwa.dot.gov/environment/recreational_trails/index.cfm

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) is a competitive grant program administered by VTrans that provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, and infrastructure projects for improving non-driver access to public transportation and enhanced mobility. These funds will cover a maximum of 80 percent of the project with the remaining portions most likely coming from the project-sponsoring organization. The maximum size of a grant under this program is currently $300,000.

VTrans Bicycle and Pedestrian Program

The Vermont Bicycle and Pedestrian Program (BPP) provides federal funds managed by VTrans, to cover specific bicycle and pedestrian improvement projects.
and are provided via a competitive grant program. In 2015, VTrans had approximately $4 million available for these grants, with no specific limit as to how much each grant could be.

Highway Safety Grants
Federal Highway Safety Grants (HSG) are managed by VTrans. They are available to support countermeasure projects to create safer roads for all users. Improvements must be part of the Highway Safety Plan and could include roadway or intersection projects.

http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=23:1.0.2.13.1&id-no=23

Vermont Community Development Program (CDBG)*
Accessibility Modification Grants – Federal grants to bring existing municipal buildings and non-school libraries into compliance with the Americans with Disabilities Act (ADA).

Implementation Grants – Federal grants for economic development, housing, public facilities, and public services that will benefit low/moderate income individuals, eliminate slums or blight, or address an urgent need.

Planning Grants – Federal grants for community development planning, downtown planning studies, and project development to benefit people with low to moderate incomes and/or eliminate “slums and blight.” Range: $30,000 - $1,000,000

Eligibility: Municipalities and/or municipalities on behalf of organizations and private owners Deadline: Open application with funding decisions made throughout the year

Contact: Josh Hanford, (802) 595-1385 josh.hanford@vermont.gov
Website: http://acd.vermont.gov/strong_communities/opportunities/funding/vcdp

STATE GRANTS AND PROGRAMS

Vermont Community and Urban Forestry Council Grants (Caring for Canopies Grants)
These Caring for Canopies Grants (CCG) are awarded to municipalities to aid in taking the necessary actions to developing and sustaining a community-wide tree program, including tree plantings, inventories, maintenance, and planning. The grants range in size from $500 to $5,000 and require a 50 percent match. Website: http://fpr.vermont.gov/forest/community_forests/community_canopy_grants

Municipal Mitigation Grant Program
The VTrans Municipal Mitigation Grant Program (MMPG) supports municipal gravel or paved road stormwater mitigation projects. The grants will help municipalities comply with the state road general permit, currently under development by DEC, and required as part of Act 64. Part of the improvements
made to roadway as part of this program might also be able to provide slightly wider roads at the same time, or might help fund consistent street sweeping.

**Municipal Planning Grant Program**
The Municipal Planning Grants (MPG) are Vermont State grants for a wide range of municipal planning projects including municipal land use plans, zoning and subdivision bylaws, designated downtown, village and neighborhood planning. The range of the grants is from 2,500 to $20,000. Municipalities with adopted plans confirmed by their regional planning commission are eligible for these grants.

**Regional Economic Development Grant Program**
The Vermont Regional Development Grant Program (REDG) is a program that provides matching state grants to stimulate the creation and development or retention of economic development of individual or regional Vermont communities. The grants range from $1,000 to $25,000 and are available to Vermont municipalities and non-profit organizations. [http://bgs.vermont.gov/formsandpublications](http://bgs.vermont.gov/formsandpublications)

**Recreational Facilities Grants Program**
The Recreational Facilities Grants (RFG) program provides matching state grants for capital costs associated with the development and creation of community recreational opportunities. [http://bgs.vermont.gov/home](http://bgs.vermont.gov/home)

**Transportation Planning Initiative**
VTrans administers the Transportation Planning Initiative (TPI), which distributes funding to regional planning commissions to undertake transportation planning work in their regions.

**Class 2 Town Highway and Structures Grants**
A VTrans administered program (THC2 SG) to provide funding to Vermont communities to improve Class 2 Town Highways.

**Cultural Facilities Grant Program**
The Cultural Facilities Grants (CFG) are matching state grants to improve community facilities used to provide cultural activities to the public to enhance or expand the capacity of an existing building to provide cultural programming. Grants can be from $1,000 to $30,000 and are given to municipalities and non-profit organizations.


**ANR Ecosystem Restoration Grant Program**
State Ecosystem Restoration Grants (ERG) for the design and construction projects that target nonpoint sources of pollution that cause or contribute to the state’s surface waters. Grants can be up to a maximum of $250,000, with a variable local match. These grants are available to municipalities, regional organizations, non-profits associations, citizen groups, and state agencies.

[www.watershedmanagement.vt.gov/grants.htm](http://www.watershedmanagement.vt.gov/grants.htm)

**ACCD/VTrans Downtown Transportation Fund**
State grants for municipalities to finance transportation-related capital improvements in support of economic development, within or serving a Designated Downtown, including construction or alteration of roads and highways, parking facilities, pedestrian and streetscape improvement, rail or bus facilities or equipment, and underground relocation of electric utility, cable and telecommunications lines.
http://accd.vermont.gov/strong_communities/opportunities/funding/downtown_transportation_fund

**ACCD State Historic Preservation Grants**
State 50:50 matching grants for the repair and restoration of historic buildings listed or eligible for listing in the National Register of Historic Places in Vermont.

http://accd.vermont.gov/strong_communities/preservation/grants/historic_preservation

**ACCD Downtown and Village Center Tax Credits**
State income tax credits for projects that enhance historic commercial buildings. http://accd.vermont.gov/strong_communities/opportunities/funding/downtown_village_tax_credit

**NATIONAL ORGANIZATIONS**

**People For Bikes Community Fund**
The People For Bikes Community Grant Program (PBCG) provides funding for important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives. http://www.peopleforbikes.org/pages/community-grants

**Bell Built Grants**
Bell Helmets offers a $100,000 technical assistance grant (BHG) to fund a gravity mountain bike trail built by IMBA Trail Solutions. One grant is available for a gravity trail for black diamond/double black diamond level riding. The trail will feature a 300 foot minimum drop and include steep sections, jumps, rollers, and berms. It will be 100% optimized for mountain bikes and advanced riders. It may feature alternate lines to encourage rider progression. https://www.imba.com/grants/bell-built

**Trails Connecting People with Nature: A program of the Sierra Club’s Nearby Nature Initiative**
In collaboration with Sierra Club Outdoors, Sierra Club’s Nearby Nature Initiative (NNI) broadens the conservation movement by protecting and establishing close-to-home natural spaces to ensure that access to the outdoors is increasingly equitable and available to all communities. Sierra Club Outdoors connects people to nature for the benefit of both, hosting over 265,000 people per year in the outdoors and inspiring millions more. The Sierra Club’s Trails program aims to create, restore, and maintain trails in urban areas with limited access to nature and in more remote areas on public lands, like the Green Mountain National Forest. The Sierra Club Foundation will award one-year Trails project grants ranging from $5,000 to $20,000 towards trail creation or maintenance project proposals that engage new leaders and provide opportunities for communities to connect with nature. https://content.sierraclub.org/ourwildamerica/sites/content.sierraclub.org.ourwildamerica/files/RFP_7-15_fill-outable.pdf
Robert Wood Johnson Foundation Grants
The Robert Wood Johnson Foundation (RWJF) provides funds for demonstration projects that provide information and demonstrations on creating more healthy communities. They have in the past used this funding to assist in the creation of community walking and bicycling facilities.

STATE ORGANIZATIONS

Vermont Community Foundation
A variety of grants are available to support projects to improve environmental sustainability, cultural heritage, social justice, historic preservation, and vitality of Vermont communities. http://www.vermontcf.org/Nonprofits/AvailableGrants.aspx

VHCB Local Conservation Projects

Lintilhac Foundation
Grants available for the purpose of land use and environmental equity, especially for recreational access to lands and integrative land use planning. http://lintilhacfoundation.org/guidelines.html

Vermont Arts Council Animating Infrastructure Grant
The Animating Infrastructure Grant funds projects that integrate public art into existing or proposed infrastructure improvements. Infrastructure improvements could include buildings, recreational paths, parks, bridges, small-scale renewable energy projects, and water treatment facilities. http://www.vermontarts council.org/grants-and-services/organizations/animating-infrastructure

Vermont Arts Council Cultural Facilities Grant
The Cultural Facilities Grant funds projects that work to enhance, create, or expand the capacity of an existing building to provide cultural activities for the public. http://www.vermontarts council.org/grants-and-services/organizations/cultural-facilities

Ben & Jerry’s Foundation
Funds community programs in Vermont, including social service organizations, cultural, recreational, or arts programs, and community celebrations. http://benandjerryssf oundation.org/vermont-community-action-teams.html

Green Mountain Coffee Roasters

NON-GRAnt FUNDING SOURCES

User Fees
While some trail systems in Vermont do charge trail user fees, such as the Kingdom Trails or the Catamount Outdoor Family Center, it is not expected that the connections envisioned in the MRV Moves plan would be associated with trail user fees. While there may be some potential for trail development in the Valley that could warrant user fees and revenue generation, not all expenses, particularly site improvement costs, can be provided for though user fees. Trails that might be appropriate for user fees would be purpose-built mountain biking trails that receive a high level of maintenance and design to the point they are offering a greater value than is provided on other free trails.
However, given the high level of quality non-fee trails in the Valley, this potential is relatively small unless lift service, shuttling or some other value-added service is also provided. One example of this might be downhill mountain biking at Sugarbush Resort.

**Development Impact Fees**
A development Impact fee (DIF) is an assessment on development used to pay for its proportionate share of the impacts to public facilities. Some communities assign a standard dollar figure to the public sites, some use a park, trails and open space development impact fee, some give the developer an opportunity to arrive at a fee value based on projected impact, while others allow for the dedication of parkland, or fee-in-lieu, in place of the impact fee. A full spectrum of leisure services which contain costs for recreation centers, trails and open space, in addition to parks, has been included in some communities’ development impact fees. Some of these development impact fees could be contributed to a MRV Moves Project Fund, which could be an additional funding source for MRV Moves projects.

**Bond Issues**
Bond (B) issues by the Towns may provide important opportunities to leverage other funds, such as required match amounts for federal or state grant programs, and regional bonds may be needed for larger scale projects.

**State Infrastructure Bank Loans**
The State Infrastructure Bank (SIB) program, operated by the Vermont Economic Development Authority in conjunction with the Vermont Agency of Transportation and the Federal Highway Administration, is available to assist in the construction or reconstruction of highways, roads and bridges, as well as certain facilities related to rail transit. Projects eligible under Title 23 or Title 49 of the United States Code of Regulations, such as construction or reconstruction of highways, roads and bridges, and pedestrian facilities. Loans rates are typically 1% fixed for loans to municipal-type borrowers. Loan term may not exceed 30 years with repayment commencing no later than five years after completion of project. Required borrower equity contribution to project is 10-20%.

**Local Funds**
Local Funds (LF) are sources of funding that are provided by local governments through local budgets or funds other than bonds.

**Private Donors & Fund Raising**
Funds can be provided by private donors or through special fund raising efforts (PDFR), which can supplement or substitute for local funds.

**IMPLEMENTATION AND ACTION PLAN**
<table>
<thead>
<tr>
<th>Strategy or Action</th>
<th>Timing (On-going, Short, medium, and long-term)</th>
<th>Partners Involved</th>
<th>Planning required</th>
<th>Relative Cost (High, Medium, Low)</th>
<th>Funding Opportunities</th>
<th>Support Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Major On-Road Connections</strong></td>
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</tr>
<tr>
<td>1.1 Advocate for a four foot minimum between the fog line and pavement edge on areas of the Major On-Road Network with all processes with VTrans when work on Routes 100, 100b and 17 is being completed.</td>
<td>On-going</td>
<td>MRVPD, CVRPC, Municipalities, VTrans</td>
<td>Integration of Complete Streets principles in all planning, development, construction, and maintenance for Highways that make up Major On-Road Network</td>
<td>Medium</td>
<td>BRP, HSG, MMPG, REDG, STP</td>
<td></td>
</tr>
<tr>
<td>1.2 Organize quarterly meetings with VTrans District Staff to share community priorities, explore opportunities for collaboration, review progress and success.</td>
<td>Short-Term</td>
<td>MRVPD, CVRPC, Municipalities, VTrans</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>SCBC Program Staff</td>
</tr>
<tr>
<td>1.3 Ensure MRV Moves objectives are brought to the project manager’s attention as a part of the project definition process when work on Routes 100, 100b and 17 is being completed.</td>
<td>On-going</td>
<td>MRVPD, CVRPC, Municipalities, VTrans</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>SCBC Program Staff</td>
</tr>
<tr>
<td>1.4 Partner with VTrans to plan and implement Bike and Pedestrian Route Signage and Pavement Markings for the Major On-Road Network.</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, Municipalities, VTrans</td>
<td>Bicycle and Pedestrian Wayfinding System Development</td>
<td>Low</td>
<td>BRP, LF, MPG, PDFR, REDG, STPG, THC2RP, TPI</td>
<td>SCBC Program Staff, VTrans Bicycle and Pedestrian Coordinator</td>
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<tr>
<td><strong>2. Minor On-Road Connections</strong></td>
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<tr>
<td>2.1 Strive for a four foot minimum between the fog line and pavement edge on paved areas of the Minor On-Road Network.</td>
<td>On-going</td>
<td>MRVPD, CVRPC, Municipalities</td>
<td>Integration of Complete Streets principles in all planning, development, construction, and maintenance for Highways that make up Minor On-Road Network</td>
<td>Medium</td>
<td>BRP, HSG, MMPG, THC2RP</td>
<td></td>
</tr>
<tr>
<td>2.2 Implement Bike and Pedestrian Route Signage and Pavement Markings for the Major On-Road Network (see action 6.2).</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, Municipalities, VTrans</td>
<td>Bicycle and Pedestrian Wayfinding System Development</td>
<td>Low</td>
<td>BRP, LF, MPG, PDFR, REDG, STPG, THC2RP, TPI</td>
<td>SCBC Program Staff, VTrans Bicycle and Pedestrian Coordinator</td>
</tr>
<tr>
<td>2.3 Convene the entities active in tourism promotion in the Valley to work together to promote and market on-road cycling and the access to the high scenic values, treasured natural environment and rural characteristics of the MRV it provides (see action 6.3).</td>
<td>Short-Term</td>
<td>MRVPD, MRV Chamber of Commerce, Sugarbush</td>
<td>Active Transportation Tourism Marketing Plan</td>
<td>Low</td>
<td>CDBG, LF, MPG, PDFR, REDG</td>
<td></td>
</tr>
<tr>
<td>2.4 Explore opportunities to use the Minor On-Road network for increased rural running races, bicycle events and tours (see action 6.1).</td>
<td>Short-Term</td>
<td>MRVPD, MRV Chamber of Commerce, Sugarbush, MRPA, MRRs</td>
<td>Event Planning, Active Transportation Tourism Marketing Plan</td>
<td>Low</td>
<td>MPD, REDG, RFG</td>
<td></td>
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<tr>
<td><strong>3. Major Off-Road Connections</strong></td>
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<tr>
<td>3.1 Work to implement Major Off-Road Connections. Strive to have at least one segment in development and one segment under construction each year.</td>
<td>On-going</td>
<td>All</td>
<td>Major Off-Road Path Land Access Needs, Design Plans</td>
<td>High</td>
<td>B, BPP, CFGDF, EGR, LF, LWCF, MPG, NNI, PBCF, RD, REDG, RFG, RTC, RWJF, TAP, TPI, SIB</td>
<td></td>
</tr>
<tr>
<td>3.2 Produce project review template to streamline development and permitting process of Major Off-Road Connections.</td>
<td>Short-Term</td>
<td>MRVPD, CVRPC, Municipalities</td>
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<tr>
<td>3.3 Organize annual meetings with partners to explore Major Off-Road network progress, annual priorities, opportunities for collaboration, and to review progress and success.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Low</td>
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<tr>
<td>3.4 Produce Major Off-Road Path Land Access Needs to identify land access needs and priorities to work towards completing the Major Off-Road Network.</td>
<td>Short-Term</td>
<td>MRVPD, VLT, MRPA, MRRs, VTrans</td>
<td>Major Off-Road Path Land Access Needs</td>
<td>Low</td>
<td>MPD, REDG, RTC, TPI</td>
<td></td>
</tr>
<tr>
<td>3.5 Work with VTrans to identify areas of Route 100, Route 100B and Route 17 that might have availability within the right-of-way for the addition of the Major Off-Road Connections where appropriate.</td>
<td>Short-Term</td>
<td>MRVPD, VLT, MRPA, MRRs, VTrans</td>
<td>Major Off-Road Path Land Access Needs</td>
<td>Low</td>
<td>BPP, LF, MPG, RTC, TAP</td>
<td></td>
</tr>
<tr>
<td>3.6 Identify easement needs and priorities for the Major Off-Road network.</td>
<td>Short-Term</td>
<td>MRVPD, VLT, MRPA, MRRs, VTrans</td>
<td>Major Off-Road Path Land Access Needs</td>
<td>Low</td>
<td>MPD, REDG, RTC, TPI</td>
<td></td>
</tr>
<tr>
<td>3.7 Establish a funding pool for easement or land acquisition for the Major Off-Road network.</td>
<td>Medium-Term</td>
<td>All</td>
<td></td>
<td>High</td>
<td>B, LF, LWCF, PDFR</td>
<td></td>
</tr>
<tr>
<td>3.8 Create maintenance needs assessment for Major Off-Road Connections.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy or Action</td>
<td>Timing (On-going, Short, medium, and long-term)</td>
<td>Partners Involved</td>
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<td>Support Resources</td>
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<tr>
<td>3.9 Establish a funding pool for maintenance of the Major Off-Road network, building upon available grant sources.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Medium</td>
<td>BRP, HSDG, LF, MPG, PDR, REDG, STPG, THC2RP, TPI</td>
<td></td>
</tr>
<tr>
<td>3.10 Annually review funding opportunities to pursue for Major Off-Road Connection projects.</td>
<td>On-going</td>
<td>All</td>
<td></td>
<td>Low</td>
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</tr>
<tr>
<td>3.11 Implement Bike and Pedestrian Route Signage and Pavement Markings for the Major Off-Road Network (see action 6.3).</td>
<td>Medium-Term</td>
<td>MRVDP, CVRPC, Municipalities, VTrans</td>
<td>Bicycle and Pedestrian Wayfinding System Development</td>
<td>Low</td>
<td>BRP, HSDG, LF, MPG, PDFR, REDG, STPG, THC2RP, TPI</td>
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<tr>
<td>4. Minor Off-Road Connections</td>
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<tr>
<td>4.1 Work to implement Minor Off-Road Connections. Strive to have at least one segment in development and one segment under construction each year.</td>
<td>On-going</td>
<td>All</td>
<td>Minor Off-Road Path Land Access Needs, Design Plans</td>
<td>Medium</td>
<td>B, BRG, BPP, CFFG, DIF, EGR, FLAP, LF, LWCF, MPG, NIN, PBCF, RD, REDG, RFG, BTC, RTP, RWJF, TAP, TPI</td>
<td></td>
</tr>
<tr>
<td>4.2 Produce project review template to streamline development and permitting process of Minor Off-Road Connections.</td>
<td>Short-Term</td>
<td>MRVDP, CVRPC, Municipalities</td>
<td></td>
<td>Low</td>
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</tr>
<tr>
<td>4.3 Organize annual meetings with partners to explore Major Off-Road network progress, annual priorities, opportunities for collaboration, and to review progress and success.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Low</td>
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</tr>
<tr>
<td>4.4 Produce Minor Off-Road Path Land Access Needs plan to identify land access and easement needs and priorities to work towards completing the Major Off-Road Network.</td>
<td>Short-Term</td>
<td>MRVDP, VLT, MRPA, MRRs, VTrans</td>
<td>Minor Off-Road Path Land Access Needs</td>
<td>Low</td>
<td>LWCF, MPG, REDG, RTC, TPI</td>
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</tr>
<tr>
<td>4.5 Establish a funding pool for easement or land acquisition for the Major Off-Road network.</td>
<td>Medium-Term</td>
<td>All</td>
<td></td>
<td>High</td>
<td>B, LF, LWCF, PDFR</td>
<td></td>
</tr>
<tr>
<td>4.6 Create maintenance needs assessment for Minor Off-Road Connections.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Medium</td>
<td></td>
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</tr>
<tr>
<td>4.7 Establish a funding pool for maintenance of the Minor Off-Road network, building upon available grant sources.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Medium</td>
<td></td>
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</tr>
<tr>
<td>4.8 Annually review funding opportunities to pursue for Minor Off-Road Connection projects.</td>
<td>On-going</td>
<td>All</td>
<td></td>
<td>Low</td>
<td></td>
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</tr>
<tr>
<td>4.9 Implement Bike and Pedestrian Route Signage and Pavement Markings for the Minor Off-Road Network (see action 6.3).</td>
<td>Medium-Term</td>
<td>MRVDP, CVRPC, Municipalities, VTrans</td>
<td>Bicycle and Pedestrian Wayfinding System Development</td>
<td>Low</td>
<td>BRP, HSDG, LF, MPG, PDFR, REDG, STPG, THC2RP, TPI</td>
<td></td>
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<tr>
<td>5. Village Centers</td>
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<tr>
<td>5.1 Work to plan and implement streetscape and complete streets projects in the Village Centers. Strive to have at least one segment in development and one segment under construction each year.</td>
<td>On-going</td>
<td>All</td>
<td>Streetscape improvement plans, design plans</td>
<td>High</td>
<td>B, BPP, CCG, CDBG, CFG, DIF, EGR, FLAP, LF, LWCF, MPG, NIN, PBCF, RD, REDG, RFG, BTC, RTP, RWJF, SIB, TAP</td>
<td>Complete Streets Guide for Vermont Communities</td>
</tr>
<tr>
<td>5.2 Annually discuss village center improvements at the Town Leadership Meeting</td>
<td>On-going</td>
<td>MRVDP, MRVRD, Municipalities</td>
<td></td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3 Organize annual meetings within each Town to explore village center improvement progress, annual priorities, opportunities for collaboration, and to review progress and success.</td>
<td>Short-Term</td>
<td>MRVDP, CVRPC, Municipalities</td>
<td></td>
<td>Low</td>
<td></td>
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</tr>
<tr>
<td>5.4 Explore and discuss Route 100 and 100B reclassification in Waitsfield, Moretown, and Warren with the select boards and Town administration in the various towns.</td>
<td>Short-Term</td>
<td>MRVDP, CVRPC, Municipalities, VTrans</td>
<td></td>
<td>Low</td>
<td></td>
<td>VTrans White Paper on Costs and Issues for VT Communities Considering Reclassification of State Highways</td>
</tr>
<tr>
<td>5.5 Introduce consideration of a municipal complete streets policy in each Town to dovetail with the state-wide complete streets policy.</td>
<td>Short-Term</td>
<td>MRVDP, CVRPC, Municipalities, VTrans</td>
<td></td>
<td>Low</td>
<td></td>
<td>Complete Streets Guide for Vermont Communities</td>
</tr>
<tr>
<td>Strategy or Action</td>
<td>Timing (On-going, Short, medium, and long-term)</td>
<td>Partners Involved</td>
<td>Planning required</td>
<td>Relative Cost (High, Medium, Low)</td>
<td>Funding Opportunities</td>
<td>Support Resources</td>
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<tr>
<td>5.6 Implement Active Transportation Tourism and Bicycle and Pedestrian Friendly Communities projects (see action 6.1).</td>
<td>Medium-Term</td>
<td>MRVPD, MRV Chamber of Commerce, Sugarbush, Local Businesses</td>
<td>Active Transportation Tourism Marketing Plan</td>
<td>Low</td>
<td>CDBG, LF, MPG, PDRF, REDG</td>
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<tr>
<td>6. Education, Outreach, Promotion</td>
<td></td>
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<tr>
<td>6.1 Complete a Active Transportation Tourism Marketing Plan.</td>
<td>Short-Term</td>
<td>MRVPD, MRV Chamber of Commerce, Sugarbush, Local Businesses</td>
<td></td>
<td>Low</td>
<td>CDBG, LF, MPG, PDRF, REDG</td>
<td></td>
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<tr>
<td>6.2 Design a bicycle and pedestrian wayfinding system consisting of comprehensive signing and/or pavement markings to guide users to their destinations along the route should be developed for the Valley.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Low</td>
<td>BPP, HSDG, LF, MPG, PDRF, REDG, STPG, THC2RP, TPI</td>
<td>NACTO Urban Bikeway Design Guide</td>
</tr>
<tr>
<td>6.3 Develop, disseminate and promote updated public trail, walking and biking maps for suggested walking and bicycle loops and routes in the Valley.</td>
<td>Short-Term</td>
<td>All</td>
<td></td>
<td>Low</td>
<td>BPP, LF, MPG, BCP, PDRF, RD, REDG, RFG, RFD, TAD, TPI</td>
<td>Map Adventures</td>
</tr>
<tr>
<td>6.4 Conduct Active Transportation Education Campaigns for pedestrians, bicyclists and motorists.</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, MRVRD, MRPA, MRRs</td>
<td></td>
<td>Low</td>
<td>LF, PBCF, PDRF, RWJF</td>
<td>Local Motion</td>
</tr>
<tr>
<td>6.5 Disseminate and present economic impact results to key decision makers in municipal, state and federal governments to bolster support for active transportation and recreation improvements in the Valley.</td>
<td>Short-Term</td>
<td>MRVPD, MRVRD, MRPA, MRRs, VLT</td>
<td></td>
<td>Low</td>
<td>LF, PBCF, PDRF, RWJF</td>
<td>MRV Moves Plan</td>
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<tr>
<td>7. Administrative Actions</td>
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<tr>
<td>7.1 Work with the USFS to have the MRV Moves plan officially recognized by the GMNF to guide future trails planning, improvements and management in those portions of the forest that fall within the Valley.</td>
<td>Short-Term</td>
<td>MRVPD, USFS</td>
<td></td>
<td>Low</td>
<td>FLAP, PBCF, RTC</td>
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<td>7.2 Update Zoning and Subdivision regulations to make public paths exempt from inclusion in maximum lot coverage.</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, Municipalities</td>
<td></td>
<td>Low</td>
<td>LF, MPG</td>
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</tr>
<tr>
<td>7.3 As each town plan is updated, seek acknowledgement of the importance of walking and bicycling for transportation purposes, as well as for a healthy life for town residents.</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, Municipalities</td>
<td></td>
<td>Low</td>
<td>LF, MPG</td>
<td></td>
</tr>
<tr>
<td>7.4 As each town plan is updated, seek adoption of the MRV Moves Map into each town plan.</td>
<td>Medium-Term</td>
<td>MRVPD, CVRPC, Municipalities</td>
<td></td>
<td>Low</td>
<td></td>
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<tr>
<td>7.5 Convene partners (particularly trail builders and natural resource managers) to to discuss environmental concerns and to consider development of trail construction and maintenance standards for the Mad River Valley that best protect recreation, the environment, public safety, and public health.</td>
<td>Short-Term</td>
<td>All</td>
<td>None</td>
<td>Low</td>
<td>Agency of Natural Resources, Natural Resources Board, Friends of the Mad River</td>
<td></td>
</tr>
</tbody>
</table>