

EXECUTIVE SUMMARY

Bicycling and walking are environmentally friendly, healthy, low-cost methods of transportation. The 2012 *Bicycling and Walking: Transportation Choices for New Hampshire's Lakes Region* plan is a comprehensive update to the 2006 *Lakes Region Bicycle and Pedestrian Plan*. It was developed to provide the communities in the Lakes Region with additional information about existing biking and walking infrastructure, and to reinforce local revitalization efforts that desire to make their communities safer and more enjoyable places to live and visit.

The planning process for this report included public participation, development of a new vision statement, a detailed review of existing conditions of the built environment, recommendations, and a design supplement that provides conceptual solutions and strategies.

The 2012 Vision Statement:

A purposefully connected network of trails, sidewalks, road shoulders, and markings promoting safe and enjoyable bicycle and pedestrian mobility. Design and maintenance of livable, complete streets that support transportation, recreation, health, and economic interests throughout the Lakes Region.

Implementation of transportation improvements such as road reconstruction, bike paths, sidewalks, etc. often takes many years, from a project's purpose and need to final construction. The long view is important. The region already has a well-developed transportation plan and process for motorized travel. Frequently, roadway funding and facility decisions are made with little consideration of the needs of bicycling and pedestrians. This plan is an attempt to recognize bicycling and walking as serious transportation modes, and to encourage our communities, and the state, to integrate them into future improvements of the transportation network.

Chapter 1 outlines some of the important reasons to support walking and bicycling opportunities in the Lakes Region:

- ❖ At least ten pedestrians have been killed in collisions with motor vehicles in the Lakes Region between January 2001 and December 2011
- ❖ Most public meeting attendees report that Lakes Region communities do not offer enough safe walking and bicycling opportunities for children, families, and adults.
- ❖ The median age of the Lakes Region is estimated to be 45.3 – eight years older than the US median age and four years older than New Hampshire. Active transportation can support health and mobility, allowing people to age in place and participate in the local economy for as long as possible.
- ❖ Rates of adult and child obesity and type-2 diabetes are continuing to climb in the Lakes Region. More than 25 percent of adults are obese as are nearly 30 percent of 10-17 year olds. About eight percent of adults have diabetes (95% of cases are type-2, which is preventable through healthy body weight and a physically active lifestyle).

- ❖ Based on extrapolation of statistics from the Center for Disease Control and Prevention, an estimated 7,900 people in the Lakes Region have type-2 diabetes and associated annual medical expenses of \$72 million, which largely represents leakage from the regional economy.
- ❖ October 2011 gasoline prices were 143 percent higher than January 2002 prices. Motorized transportation has become increasingly expensive in a time of severe individual and family financial constraints due to the weak economy.

Chapter 2 describes the development of the vision statement and the goals supporting the vision.

Chapter 3 presents public input obtained at five public meetings that were held throughout the Lakes Region in the fall of 2011. The meetings were facilitated to allow people to express needs and concerns related to bicycling and walking, and to present their ideas for solutions. Input was summarized into topical statements of need/concern. This input and the results of the public survey, to which 245 people responded, are included.

The leading reasons (related to the built environment) that respondents report not walking more are:

- ❖ Live too far from destinations
- ❖ Poor sidewalk connectivity
- ❖ Not enough trails/off-street paths
- ❖ Concerns about personal safety in traffic

The leading reasons that respondents report not bicycling more are:

- ❖ Road shoulders are too narrow
- ❖ Concerns about personal safety in traffic
- ❖ Lack of on-street bike lanes

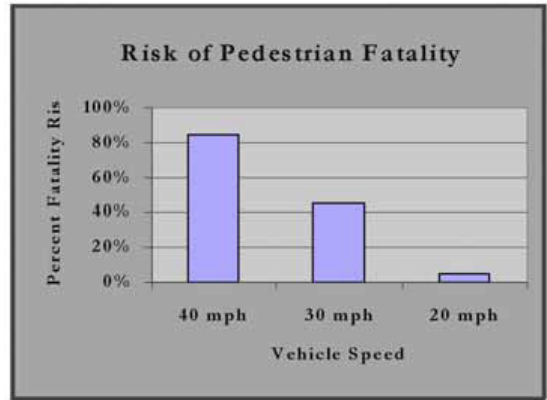
Chapter 4 discusses a brief history of bicycling and pedestrian planning in the Lakes Region.

Chapter 5 examines the existing conditions of the built environment in the Lakes Region as they affect pedestrian and bicycle safety and accessibility, and includes discussion of the potential for improvements to be made. Parking, intersections, crosswalk, trails, sidewalks, travel lanes, shoulder width, pavement conditions, and maps are all discussed. Research on pedestrian and bicycle safety and road design is also presented.

Overall, there are very few examples of best practices in traffic calming street designs in the Lakes Region, though there are some good examples of pedestrian oriented enhancements to local streets, and some exceptional off-street multi-use trail resources throughout the region.

Moderate to high speed rural roads, with fair to poor pavement conditions and minimal shoulder widths, dominate the region. A map of shoulder widths on major roads in the Lakes Region was developed with this plan to provide a visual portrayal. This map is enclosed at the back of this plan. A map of pavement conditions created by the New Hampshire Department of Transportation (NHDOT) also shows pavement conditions in the Lakes Region (p. 35).

Research has shown that vehicle speed is the leading factor in collision rates and pedestrian fatalities. Small reductions in speed yield exponential reductions in crash fatality rates as shown in the adjacent figure. Infrastructure improvements that slow vehicle speeds through design while adding space for pedestrians and bicycles can improve safety and accessibility for all.



Research has also shown that narrower lane widths can accommodate motor vehicle traffic as safely, and in some cases, more safely, than wider lane widths that are so common in the Lakes Region. That research is presented in Chapter 5 along with examples of successful lane allocation modifications that have been supported by NHDOT in recent years. LRPC research also found that on-street parking stalls have been located within 20 feet of crosswalks at intersections in many Lakes Region communities. This practice is hazardous to pedestrians and violates state law that requires on-street parking to be at least 20 feet from crosswalks at intersections.

Site-specific recommendations and conceptual design improvements for 15 locations in the Lakes Region are presented in a supplementary document to this plan titled, *Bicycling and Walking: Design Supplement*, in order to graphically represent the potential for bicycle and pedestrian accessibility and safety improvements that exists throughout the region. The conceptual improvements presented address many of the elements of the built environment that are discussed in Chapter 5. The *Design Supplement* was created to provide informative examples that may be useful in considering how other locations with safety and accessibility challenges may be improved.



Existing Condition



Proposed Solution

Conceptual rendering of a lane width modification along NH Route 113 in Holderness. Existing 11½ - 12 foot lane is shown above. Proposed improvement with 10½ - 11 foot lanes using existing pavement is shown below, with added ‘Share the Road’ signage.

Chapter 6 presents research on the economic benefits of walking and bicycling. Recent research on the effects of pedestrian and bicycle infrastructure projects on employment indicates that such projects create 25 percent more jobs per \$1 million in costs than road infrastructure projects, a result of a higher proportion of labor to material costs. It also showed that road projects that include pedestrian or bicycle facilities created 13 percent more jobs per dollar than road projects alone (see table below). A VTrans (Vermont’s transportation agency) study showed that current walking and biking activity is associated with between \$34 and \$84 million in annual costs avoided by replacing driving with active transportation. It concludes that an increase in walking and biking will have a net positive impact on the state’s economy.

Jobs created within state per \$1 million by infrastructure project type¹

Project Type	Number of projects	Direct jobs per \$1 million	Indirect jobs per \$1 million	Induced jobs per \$1 million	Total jobs per \$1 million
Total, all projects	58	4.69	2.12	2.15	8.96
Bicycle infrastructure only	4	6.00	2.40	3.01	11.41
Off-street multi-use trails	9	5.09	2.21	2.27	9.57
On-street bicycle and pedestrian facilities (without road construction)	2	4.20	2.20	2.02	8.42
Pedestrian infrastructure only	10	5.18	2.33	2.40	9.91
Road infrastructure with bicycle and pedestrian facilities	13	4.32	2.21	2.00	8.53
Road infrastructure with pedestrian facilities	9	4.58	1.82	2.01	8.42
Road infrastructure only (no bike or pedestrian facilities)	11	4.06	1.86	1.83	7.75

In fall of 2011, the Belknap County Economic Development Council conducted a study, *Economic Impact Analysis of the WOW Trail*, of the potential economic impacts that the completion of the WOW Trail and its future linkage with the Northern Rail Trail could have for the region. The study determined that completion of all phases of the WOW Trail would create 74 temporary jobs over all phases of construction, including Phase I, which is complete. BCEDC estimated that the WOW Trail, as proposed, would generate \$1.79 million annually in new visitor spending in Belknap County, which would create 31 new permanent jobs paying \$780,000 in annual earnings.

Chapter 7 proposed recommendations that will help LRPC support future bicycling and walking, ultimately through improvements to the built environment that create more complete streets to safely accommodate pedestrians and bicycles.

¹ Heidi Garrett-Peltier “Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts,” Political Economy Research Institute, University of Massachusetts, Amherst, June 2011