

FINAL REPORT

# Montana Bicycle Safety Study

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## **EXECUTIVE SUMMARY**

The 2001 Montana Legislature passed House Joint Resolution 37 (HJR 37), which called for a study—in the context of bicycle safety—of the planning, design and construction of Montana highways. HJR 37 also required a review of any programs or requirements for driver education, training and licensing and cyclist safety equipment and clothing. More specifically, HJR 37 called for an investigation of: 1) the planning, design and construction criteria and processes followed by the Montana Department of Transportation (MDT) in regard to accommodating bicycle traffic on Montana’s highways and other high volume thoroughfares; and 2) the education and training programs and requirements specifically focused on bicycle and other traffic safety issues, if any, employed in: (a) elementary and secondary education, including driver education courses; and (b) the licensing of drivers. In addition, HJR 37 called for an examination of the potential cost of enhancing bicycle safety.

MDT agreed to conduct the HJR 37 study of bicycle safety. MDT contracted Robert Peccia & Associates (RPA), a Helena-based civil, transportation and environmental engineering firm to complete the study and prepare a final report of its findings. Because of the many interests involved in bicycle safety and the time frame available for the completion of the study, the Montana Bicycle Safety Study Advisory Panel was formed to assist with the project. The Advisory Panel was comprised of both rural and urban interests and included: legislators, a local bicycle and pedestrian planner, a bicycle advocate and representatives from the Montana Highway Patrol, local law enforcement, the Montana Motor Carriers Association and the Montana Office of Public Instruction—Driver Education Program.

RPA conducted a thorough review of the Montana Code Annotated (MCA) pertaining to bicycle safety as well as similar statutes from western region states. In addition, a variety of other safety programs with potential relevance to bicycle safety were investigated, including driver safety and education, road design and traffic engineering practices, local transportation planning efforts and elementary school bicycle education practices. In an effort to ensure input in this study, RPA distributed 300 questionnaires to interested individuals. The survey was consistent with the scope of HJR 37, which limited the areas of bicycle safety being reviewed.

In compliance with HJR 37, RPA and the Advisory Panel reviewed the following ideas for enhancing bicycle safety in Montana and developed their potential costs.

- *Develop additional road shoulder width wherever feasible to better accommodate bicycle travel. **Potential Cost: \$92,000 per mile of roadway for construction of additional or approximately \$184 to \$736 million depending on widths of existing shoulders, plus additional maintenance costs***
- *Development of a statewide inventory and database of rumble strips on the Montana highway system. Ensure a continual review of rumble strip policy that best accommodates both bicyclists and motorists. **Potential Cost: \$10,000***
- *Implementation of a “Share the Road” sign program on prioritized bicycle routes. **Potential Cost: \$1,000 per sign***
- *Development of a statewide bicycle traffic study to provide information to help prioritize facilities for bicycle safety design. **Potential Cost: Undetermined***
- *Amendment of Montana’s vehicular assault statute to include penalties for assault of a bicyclist or pedestrian with a vehicle. **Potential Cost: \$100 to \$5,000, depending on the complexity of the legislation***
- *Implementation of a statewide bicycle and pedestrian safety program. **Potential Cost: \$350,000 initial implementation and \$300,000 annually to maintain***
- *Inclusion of bicycle/pedestrian safety education information as part of the driver education program. **Potential Cost: \$50,000***

This final report will be provided to MDT and the Montana Legislature for consideration. All actions affecting and/or involving an agency’s jurisdiction will need to be reviewed and adopted by the affected agency or agencies before implementation can occur.

## 1.0 INTRODUCTION

Montana House Joint Resolution 37 (HJR 37), passed by the 2001 Montana Legislature, called for a study of Montana's transportation system, statutes and regulations for bicycle safety provisions. Specifically, HJR 37 required the investigation of bicycle safety considerations in the following areas:

- the planning, design and construction of Montana's highways,
- the education and training programs implemented by Montana's schools and drivers licensing programs; and
- the potential benefits of using safety equipment and clothing.

The goal of HJR 37 was to examine various methods for enhancing bicycle safety in Montana and to determine their potential costs. This Report specifically examines the current provisions for bicycle safety in Montana and the region. Section 2.0 describes the measures and estimated costs for bicycle safety enhancement that were agreed upon by the Montana Bicycle Safety Study Advisory Panel (Advisory Panel).

MDT contracted Robert Peccia & Associates (RPA), a Helena engineering firm, to complete this study. RPA reviewed Montana's transportation system—including routes through several leading communities with active bicycle programs—and examined state statutes, regulations and traffic codes to better understand current provisions for bicycle safety. Montana's transportation system design standards and practices, federal laws and programs were also reviewed. In addition, Alta Transportation Planning of Portland, Oregon—under RPA's direction—contributed valuable analyses of the bicycle safety provisions offered by other regional states, including Utah, Idaho, Colorado, Washington and Oregon. Finally, RPA collected survey information from 73 Montana school districts and 200 Montana cyclists, business owners and other citizens, who shared their opinions on a variety of bicycle safety issues and offered their ideas for enhancing bicycle safety.

RPA performed its work for this study under the direction of MDT's Bicycle and Pedestrian Coordinator and the Advisory Panel—an assembly of legislators, agency officials, law enforcement officials, association representatives and a bicycling advocate. The Advisory Panel met twice during the course of the study to review RPA's work and to provide guidance on future tasks. The Advisory Panel was comprised of the members listed on the next page.

### **Montana Bicycle Safety Study Advisory Panel**

- Representative Jeff Pattison, Montana House of Representatives, Glasgow
- Senator Pete Ekegren, Montana State Senate, Choteau
- David Huff, Driver Education Director, Montana Office of Public Instruction, Helena
- Corporal Jerry McGee, City of Helena Police Department
- Phil Smith, Bicycle Pedestrian Program Manager, City of Missoula
- Colonel Bert Obert, Chief Administrator, Montana Highway Patrol, Helena
- Bill Sawyer, Director, Adventure Cycling Association, Missoula
- Barry “Spook” Stang, Executive Director, Montana Motor Carriers Association, Helena

Attendance at the two Advisory Panel meetings included representation from MDT, including the Deputy Director and key personnel from the Engineering and Transportation Planning Divisions to offer technical support and information.

The 2002 TranPlan 21 update will include a new safety policy paper that will consider the results of this Final Report. This federally mandated transportation plan sets the policies MDT follows in managing Montana’s transportation system. TranPlan 21 already includes a “Bicycle and Pedestrian Transportation Policy Paper” that describes a number of goals and action items intended to improve bicycle and pedestrian travel in Montana.

Identifying the effects of Montana’s bicycle laws, road design standards and education system on bicycle safety required a basic understanding of the responsibilities of various state and local agencies and educational institutions. No single entity has responsibility for ensuring bicycle safety in Montana. Rather, it is the collective responsibility of the Montana Legislature, MDT, the Montana Department of Justice, the Office of Public Instruction, local law enforcement, school districts, counties, communities and citizens.

The Montana Legislature is responsible for creating laws that help ensure bicycle safety. The Legislature enacted all of Montana’s statutes and codes that pertain to traffic control and the responsibilities of motorists, bicyclists and pedestrians.

The Montana Department of Justice and local law enforcement have the responsibility to enforce Montana’s traffic statutes and codes. Law enforcement officers play an important role not only in enforcing Montana’s laws on its streets and highways, but also in helping educate motorists, bicyclists, pedestrians and children about these laws and about safe behavior. The Justice Department also administers Montana’s driver license examination.

MDT is the state agency responsible for improving and maintaining Montana's major highways and ensuring safety for highway users, including motorists, bicyclists and pedestrians. MDT includes bicycle safety in its planning, road design, traffic engineering, construction, maintenance and outreach efforts.

The Office of Public Instruction also has a responsibility to provide outreach efforts statewide. This agency supports the Driver Education Program and contributes to traffic safety programs.

County and local governments have responsibilities similar to those of MDT in their respective jurisdictions. These entities design and construct streets that are used by bicyclists and must therefore, plan for their safety. Local governments and counties also play an integral role in promoting bicycle use and safety.

Local school districts have the unique opportunity to teach children about bicycle safety. As this Report describes in Section 12.0, only a fraction of Montana school districts have the necessary resources to implement bicycle safety programs. However, some districts have experienced considerable success teaching students how to ride safely.

Of course, much of the responsibility for ensuring bicycle safety in Montana rests with Montanans. As the survey results accompanying this report demonstrated, many Montanans believe parents need to play a significant role in helping prepare children to ride safely on our streets and highways.

## **2.0 IDEAS STUDIED**

This section provides detailed explanations of the ideas discussed for enhancing bicycle safety in Montana developed, with input from, by the Montana Bicycle Safety Advisory Panel.

Prior to developing the following ideas, the Advisory Panel discussed the reasons for implementing programs designed to enhance bicycle safety. Each of the panelists agreed that safe places to ride bicycles were limited in Montana due to a variety of factors, including: narrow road shoulders, inappropriate use of rumble strips and a general lack of motorist awareness.

### **Road Shoulders**

The survey conducted for this project and a review of similar exercises completed in other states revealed that road shoulder widths are an important issue for bicycle safety. Road shoulders are, in essence, bike lanes without formal designation. Chapter 5.0 of this Report discusses MDT's design standards for road shoulders, which are based on guidance provided by the American Association of State Highway Transportation Officials (AASHTO). The AASHTO guidance suggests that paved shoulders should be included in all new

construction and reconstruction projects on roadways used by more than 1,000 vehicles per day.

Montana's highway system currently has 3,386 miles with shoulders 4 foot or greater in width and 8,001 miles with shoulders less than four feet in width. Highways in the state not included on designated Montana highway systems have 1,555 miles with shoulders 4 foot and greater in width and 56,150 miles with shoulders less than four feet in width. While providing road shoulder widths of four feet or greater throughout the Montana highway system would enhance bicycle safety and rider enjoyment, several issues make their construction difficult in some areas and impossible in others. Highway designers must give consideration to a number of factors before deciding on a particular alignment and typical section for a roadway. Among these are horizontal and vertical alignment features and limitations, right of way limitations, natural obstacles, environmentally and culturally sensitive areas and, of course, cost-effectiveness.

All of the aforementioned limiting factors change with each highway design project. However, for the purposes of this report, MDT prepared basic cost estimates for adding road shoulder width. MDT estimated additional material costs of \$11,540 per mile to widen a roadway an additional 1-foot (0.3 m) and \$7,030 per kilometer to widen a roadway an additional 1 foot (0.3 m). Calculating these costs for an additional four-foot shoulder reveals cost increases ranging from \$28,000 per kilometer or \$46,000 per mile for one side of a roadway. Therefore, adding four-foot shoulders on both sides of the roadway would cost \$56,000 per kilometer or \$92,000 per mile of roadway. In addition to the material costs of additional road shoulders, there are additional maintenance costs to consider. An additional cost of approximately \$200 per foot per mile would be included in the overall cost of additional road shoulders. These costs do not include expenses for right of way acquisition or any other potential limiting factors that could significantly increase the overall cost of road construction. Widening roadways often requires the acquisition of property for right of way, relocation of utilities, construction of roadside slopes and storm water runoff facilities and a number of other considerations. Estimated costs of providing four-foot shoulders on roadways on Montana's Highway System that currently have less than four-foot shoulders, range from \$184 million to \$736 million depending on the width of existing shoulders plus additional maintenance costs.

### **Rumble Strips**

The respondents to this project's survey identified rumble strips as a high priority. In accordance with MDT's rumble strip policy and national standards, rumble strips are placed on designated roadways to improve motorist safety. However, many bicyclists complained that rumble strips are too wide, spaced incorrectly, are too deep and render a road shoulder at least very difficult and often impossible to ride safely or comfortably. This issue is made more difficult by the

fact that rumble strips have not been applied to Montana's highway system uniformly and no record is kept of their application throughout the state.

According to a survey of MDT's District Administrators, rumble strips vary throughout the state because standards for their design and placement have changed over the years. One standard would be applied to a particular roadway in a given year while construction of a different roadway several years later would be subject to a different standard. This situation left Montana's highway system with a variety of rumble strip designs and applications. MDT adopted a uniform "Revised Rumble Strip Policy" on June 23, 2000—a policy that is now being implemented by MDT's Construction Bureau.

The new rumble strip policy includes the following applications for National Highway, Primary and Secondary routes:

- On segments of National Highway, Primary, or Secondary routes within designated city or urban limits, use engineering judgment on a case-by-case basis to determine if rumble strip installation is appropriate.
- Discontinue rumble strips across the full width of all public and private (residential and commercial) road approaches.
- Continue rumble strips along the full length, including tapers, of mailbox turnouts, scenic turnouts, historic marker turnouts, etc.
- Discontinue rumble strips on shoulders less than 6 feet (1.8 m) wide if guardrail exists or is proposed.
- Install rumble strips on an 60-foot (18.3 m) cycle pattern consisting of a 48-foot (14.7 m) rumble strip and a 12-foot (3.6 m) gap.
- Place rumble strips six inches from the fog line.
- Design rumble strips to a width no greater than 12 inches.

The new policy also allows elimination of rumble strips on the shoulders of all National Highway, Primary and Secondary routes greater than four feet in width for new construction, reconstruction and overlay projects, provided justification is documented for corridor continuity, approach density, bicycle usage and accident history. For shoulder widths less than four feet in width, the policy recommends no installation of rumble strips, unless there is little or no bicycle use and the incidence of run-off-the-road accidents is high.

Altering the width, spacing and depth of rumble strips to accommodate bicyclists and motorist safety would not increase road construction costs. However, determining what types of rumble strips already exist on Montana's road system

would require additional MDT personnel time. MDT's Data and Statistics Bureau estimated it would cost about \$10,000 to assign personnel to review rumble strips on Montana's roads.

### **Share the Road Signs**

Several other states, including Colorado, Maine, Maryland and South Carolina have experienced limited success in increasing bicycle safety by installing "Share the Road" signs on highways with little or no shoulder that require bicyclists and motor vehicle drivers to share the driving lane. "Share the Road" signs remind motorists that bicyclists frequently use a particular roadway. Colorado conducted a "Share the Road" public education campaign and survey to determine its effectiveness. According to the survey, the education campaign and installation of 50 "Share the Road" signs along 64 miles of state highways helped 21 percent of the survey's respondents understand that bicyclists have the same rights and duties as motorists and 76 percent indicated that they would be more considerate when sharing the road.

Maine implemented a similar public education program in 1997 that included a public service announcement, the addition of five pages of bicycle safety information in the Maine Driver's Manual and a bicycle safety question on the state's driver's exam. "Share the Road" signs were installed on select routes with financial assistance from the AAA motorist club and a Maine sign company.

Implementation of a "Share the Road" sign program in Montana would require a significant financial commitment to cover the cost of a public education campaign and the actual placement of signs on its highways. A public education campaign of this magnitude would cost at least \$50,000 for production and distribution of educational materials. MDT estimates that each "Share the Road" sign would cost about \$1,000 to produce and install.

Implementing a "Share the Road" signs program requires consideration of several factors in addition to installation costs. First, bicycling on Montana's highway system is typically a seasonal activity. MDT expressed concern that the effectiveness of "Share the Road" signs would be limited during off-season months because of a lack of bicycle activity. Second, MDT has reservations about assuming the liability associated with a sign program that warns motorists to watch for bicyclists and indirectly encourages bicyclists to use certain routes. Third, MDT and other state transportation agencies have discovered that bicycle traffic, deer crossing and other warning signs lose their effectiveness if they are too broadly applied. Over time, these signs fail to register with motorists.

## **Bicycle Traffic**

The Advisory Panel wanted to investigate the possibility of counting bicycle use on all future MDT traffic studies as a means for prioritizing which facilities receive new design and retrofits to enhance bicycle safety. According to MDT's Data and Statistics Bureau, bicycle and pedestrian traffic is already counted on all rural area traffic studies with continuous "manual" counters, but the information is not kept in a permanent database. Continuous "manual" counters are studies that employ personnel in the field to count traffic. MDT also records bicycle and pedestrian use on most of its turning movement counts at intersections. However, limited resources and technology prevent MDT from including bicycle and pedestrian use on the mechanical counts employed throughout the state. Bicycles do not weigh enough to trigger mechanical traffic counters. Moreover, traffic is sampled over a relatively short time period. Manual counts are often limited to peak seasons and hours of the day. Bicyclists may not be fairly represented in such counts during the late fall and winter seasons. Until a study of bicycle use in the state can be developed and implemented a cost estimate is not able to be determined.

## **Design Phase Road Projects**

Some members of the Advisory Panel noted that many existing road projects currently in the design phase might not give adequate consideration to bicycle and pedestrian accommodations. Road facilities designed with adequate bicycle and pedestrian accommodations such as wider shoulders, lanes and paths contribute directly to bicycle and pedestrian safety.

Roads are designed and constructed in several phases, including: 1) the planning stage where the location, rights of way and initial features of a road are secured and determined; 2) the design phase where the widths, alignments and other features of a road are specified; 3) the public involvement process where citizens are provided an opportunity to review and discuss a road's features; and 4) the construction phase where contracts are awarded to construction companies and administered by MDT. The Advisory Panel believed that bicycle and pedestrian accommodations should be addressed in the earliest phase yet expressed concern that some projects had progressed to the second stage without thorough consideration for these accommodations. In accordance with its "Road Design Manual" MDT reviews bicycle and pedestrian considerations for all projects. However, some projects in the design phase have been delayed for various reasons for several years and may not have received adequate consideration for bicycle and pedestrian usage. MDT officials agreed to take another look at these projects to ensure no significant bicycle and pedestrian issues were overlooked.

## **Vehicular Assault Statute**

The State of Oregon has a unique section in its vehicle code that provides penalties for vehicular assault of a bicyclist or pedestrian. Montana's code also mentions bicycles in its vehicular assault statute, but curiously exempts their riders from its directive.

“A person who negligently operates a vehicle, other than a bicycle as defined in 61-1-123, while under the influence of alcohol, a dangerous drug, any other drug or any combination of the three.....who causes bodily injury to another commits the offense of negligent vehicular assault shall be fined.....”

The Advisory Panel agreed that a statute with specific penalties for assaulting a bicyclist or pedestrian would help motorists understand the rights bicyclists and pedestrians have to use roads, shoulders and intersections. Such a statute may contribute to bicyclist and pedestrian safety by increasing motorist awareness of the consequences for negligence.

Oregon's code prohibits “reckless operation of a vehicle upon a highway in a manner that results in contact between the vehicle and a bicycle.”

### **811.060 Vehicular assault of bicyclist or pedestrian; penalty.**

(1) For the purposes of this section, "reckless" has the meaning given that term in ORS 161.085.

(2) A person commits the offense of vehicular assault of a bicyclist or pedestrian if:

(a) The person recklessly operates a vehicle upon a highway in a manner that results in contact between the person's vehicle and a bicycle operated by a person, a person operating a bicycle or a pedestrian; and

(b) The contact causes physical injury to the person operating a bicycle or the pedestrian.

(3) The offense described in this section, vehicular assault of a bicyclist or pedestrian, is a Class A misdemeanor. [2001 c.635 §5]

A committee formed by the 2001 Montana Legislature with the passage of Senate Joint Resolution 6 is currently reviewing and updating Montana's traffic regulations. The committee is evaluating language that may have the same effect as Oregon's vehicular assault code. The SJR 6 Committee is considering traffic regulation that would prohibit driving in bike lanes or pedestrian paths but stops short of applying penalties for contact between vehicles and bicyclists.

According to the Montana Legislature, cost estimates for developing either vehicular assault legislation or SJR 6 vary from as little as \$70 to \$5,000, depending on the complexity of the legislation. Simple one-page resolutions cost the least while larger bills requiring significant legislative committee staff resources cost the most.

### **Statewide Bicycle/Pedestrian Safety Education Program**

The Advisory Panel supported the concept of a statewide bicycle/pedestrian safety education program to help students understand their responsibilities when using Montana's roads. This concept would be modeled after existing programs such as D.A.R.E. or Montana State University's Montana Watercourse. For bicycle and pedestrian safety, educational materials could be tailored to fit Montana's needs and distributed throughout the state. The cost for such a program would be approximately \$300,000 per year, which would include a full time coordinator and an administrative assistant. Programs like these and others like them in neighboring states also spent \$50,000 or more developing educational materials.

### **Driver Education/Driver Exam**

The Advisory Panel considered adding bicycle safety information to Montana's driver education program to raise motorist awareness of safety issues. The Office of Public Instruction (OPI) runs the driver education program on a limited budget. According to the program's director, adding bicycle safety information beyond the general awareness information already included in the manual would require designation of significant resources, including a full-time employee and replacement of materials distributed throughout the state. OPI does not currently have the resources available to adopt these changes.

Adding a bicycle safety question on the driver's examination, however, is feasible, timely and costs nothing. The Montana Department of Justice, which administers the examination, indicated that they would consider adding such a question to the examination when they reformat it during the 2003 Montana Legislative Session.

### **Equipment/Clothing**

The Advisory Panel recognized the benefits to wearing protective equipment and clothing (bicycle helmets reduce the risk of head injury in accidents by 85 percent), yet agreed they are safety considerations best covered by the broader scope of a statewide bicycle/pedestrian education program. Equipment and clothing requirements such as helmets, rearview mirrors, lights and reflective clothing were a high priority of the law enforcement officials on the Advisory Panel.

RPA investigated the possibility of implementing a protective equipment/clothing statute similar to those enacted in Oregon and Washington but discovered that both states have experienced difficulties in their implementation and enforcement. In fact, neither state has ever enforced its law since they were enacted in 1994. RPA also discovered that the City of Billings enacted a mandatory helmet ordinance in 2001 for bicycle riders under the age of 16. This ordinance has also never been enforced.

A 1997 analysis of U.S. National Highway Transportation Safety Administration data uncovered no statistically significant drop in cyclist fatalities in the eight states, which had implemented mandatory helmet laws for at least one year. In fact, mandatory helmet laws have contributed to significant drops in children cycling to school after the introduction of the helmet laws and reductions in the overall numbers of bicyclists.

Because of the difficulties associated with implementing equipment and clothing requirements, the Advisory Panel chose not to pursue further analysis of such a statute.

### **3.0 MONTANA BICYCLE LAWS**

HJR 37 required a comprehensive examination of the bicycle safety provisions found in Montana's statutes and codes. This section summarizes the references to bicycles in the Montana Code Annotated (MCA) and Uniform Vehicle Codes (UVC). The following paragraphs describe what laws motorists and bicyclists must comply with for bicyclist safety. In general, bicyclists must comply with all laws and ordinances applicable to motorists with a few exceptions (e.g. turning, riding on sidewalks, equipment standards, etc.)

#### **3.1 Bicycles as Vehicles**

The MCA and UVC determine that regulations applying to motorists also apply to bicyclists operating on highways and paths set aside for the exclusive use of bicycles. Moreover, all traffic laws in the state apply to bicyclists as well as to motorists. The UVC states further that parents may not knowingly allow their children to violate the regulations that apply to motorists and bicyclists.

#### **3.2 Bicycle Seats and Attachments**

The MCA forbids bicyclists from riding on anything other than a permanent and regular seat. The UVC further determines that bicycles may not be used to carry more persons at one time than the number for which they are designed or equipped. An exception allows adult riders to carry children in backpacks or slings.

No bicycle, coaster, sled or other such device may be attached to any vehicle on a roadway. However, bicycle trailers may be attached to bicycles if they are designed for that purpose.

### 3.3 Riding on Roadways

MCA requires bicyclists to ride as near to the right side of the roadway, including its paved shoulder, as practicable except when:

- (a) overtaking and passing another vehicle proceeding in the same direction;
- (b) preparing for a left turn at an intersection or into a private road or driveway;
- (c) when it is necessary to avoid a condition that makes it unsafe to continue along the right side of the roadway, including but not limited to a fixed or moving object, parked or moving vehicle, pedestrian, animal, surface hazard, or a lane that is too narrow for a bicycle and another vehicle to travel safely side by side within the lane; or when
- (d) riding on a one-way highway with two or more marked traffic lanes—then they may ride as close to the left side of the roadway as practicable.

These laws also direct bicyclists to ride in single file, except when:

- (a) riding on paths or parts of roadways set aside for the exclusive use of bicycles;
- (b) overtaking and passing another bicycle;
- (c) riding on a paved shoulder or in a parking lane, in which case the persons may ride two abreast; or
- (d) riding within a single lane on a laned roadway with at least two lanes in each direction, in which case the persons may ride two abreast if they do not impede the normal and reasonable movement of traffic more than they would otherwise impede traffic by riding single file.

MCA also prohibits bicyclists from carrying packages, bundles or other articles that prevent them from keeping at least one hand upon the handlebars.

### 3.4 Equipment

Every bicycle used at nighttime shall be equipped with a lamp on the front that emits a white light visible from a distance of at least 500 feet to the front. A lamp emitting a red light visible from a distance of 500 feet to the rear may be used in addition to rear-facing reflectors. The UVC differs slightly from the MCA in that it requires the taillight, if used, be visible from a distance of 1000 feet.

Nighttime riding also requires colorless front-facing reflectors, colorless or amber pedal reflectors and red rear-facing reflectors. Bicycles used at nighttime need to be equipped with either tires with reflective sidewalls or reflectors mounted on the spokes of each wheel. The UVC differs slightly in that it simply requires that a rear reflector visible to 600 feet to the rear be used on bicycles at nighttime and requires use of a side reflector at night. Additional lights and reflectors used at nighttime are also allowed.

The MCA and UVC both require brakes for every bicycle.

Fluorescent orange flags are encouraged by the MCA and UVC but the use of sirens and whistles on bicycles is prohibited.

The UVC requires retail bicycle dealers to permanently affix identifying numbers on their bicycles and allows uniformed police officers to stop bicyclists to inspect their equipment for safety.

*Changes to this section have been proposed to the 2003 Montana Legislature.*

### **3.5 Riding on Sidewalks**

The MCA and UVC mandate that bicyclists on sidewalks must yield right-of-way to pedestrians and give audible signal before passing them. However, people may not ride bicycles on sidewalks or crosswalks where bicycling is prohibited by traffic-control devices.

The City of Missoula passed an ordinance prohibiting bicycle riding on any sidewalk by persons 15 years old or more. Moreover, no bicyclists of any age are permitted to ride on sidewalks in a business district.

### **3.6 Bicycle Racing**

Bicycle racing on highways is allowed only when state or local authorities approve a racing event and reasonable safety for all race participants, spectators and other highway users has been assured.

### **3.7 Turning**

Bicyclists must signal left turns by extending their left arms and approach the turn as close as practicable to the curb or edge of the roadway. Bicyclists are also permitted to make left turns by going to the right edge of the roadway, proceeding straight through an intersection, then turning left.

### 3.8 Parking

Bicycles may be parked on roadways and sidewalks (unless otherwise prohibited by traffic control devices), provided that they do not impede traffic, pedestrian movement or movement of a parked motor vehicle.

### 3.9 Mopeds

The UVC allows mopeds to be used in any lane designated for bicycles. (Several other states are currently considering legislative proposals to allow other motorized devices such as Segways on sidewalks. This is an issue that may come before the Legislature at some point).

### SJR 6

Montana Senate Joint Resolution 6, passed by the 2001 Montana Legislature, created a committee that evaluated Montana's traffic codes, including those pertaining to bicycles. SJR 6 required the Legislature to establish an interim committee to study the existing traffic laws contained in Title 61, chapter 8, MCA to identify areas of ambiguity, compare existing traffic laws to the existing UVC and identify differences between the laws contained in the MCA and provisions of the UVC. The committee also considered a proposal to add the following new provisions, along with additional changes, to the UVC:

- Limitations on driving in a bicycle lane or pedestrian path.

No motor vehicle shall be driven or parked in a bicycle lane or pedestrian path adjacent to a travel lane, signed and delineated by a solid white line. Upon any roadway where motor vehicles are permitted, a person may drive a moped in any lane designated for the use of bicycles.

The next section provides a brief description of the traffic laws in five western states and how they compare to Montana. Detailed accounts of the bicycle-related codes from these states are located in the appendices.

## 4.0 BICYCLE LAWS IN WESTERN REGION STATES

Provisions for bicycle safety in vehicle codes in the western region are generally similar to Montana's. However, several important disparities were discovered that should be considered.

### 4.1 Background

For purposes of this analysis, the vehicle codes of six western states were examined and compared with the model language found in the Uniform Vehicle Code. The states reviewed were:

- Montana
- Idaho
- Colorado
- Washington
- Utah
- Oregon

The vehicle codes for these states are included in the appendices of this Report. Of these states, two (Washington and Oregon) have extensive histories of legislative involvement with bicycling, the development of trails and paths, and funding of facilities programs. The remaining states are all compliant with 23 USC as amended by the Intermodal Surface Transportation Act of 1994 (ISTEA) and the Transportation Enhancement Act for the 21<sup>st</sup> Century (TEA-21).

In all cases, the development of legislation regarding bicycling has taken place over a considerable period of time—indeed, the first legislative responses to bicycling on public roads predate the presence of motorized vehicles on public roads and the development of federal highways offices. During this period of development, the bicycle went from being perceived first as a new and popular means of transport, and then as a menace to animal-powered transportation. In fact, Utah still has on the books legislation (last amended in 1953) prohibiting bicyclists from “annoying persons in the street or frightening animals” (Utah 41-6-17).

During the postwar era, many codes were revised to classify bicycles as being in the same class as “toy vehicles.” Since the energy crisis of the 1970's and the growth in recreational bicycling experienced in the United States since that time, most states have reaffirmed that bicycles are considered vehicles, and bicyclists accordingly are due the rights and responsibilities of the driver of a motor vehicle. Similarly, many laws which required bicyclists to use side paths and trails when provided have subsequently been either repealed or revised to allow use of the public highway unless stringent screening criteria are met.

## 4.2 Common Elements of Western Vehicle Codes

### Definition

Most states attempt to define bicycles in terms of number, size, and layout of wheels. As new bicycle and human-powered devices have entered the market (recumbents, trikes, etc.) many of these codes have become somewhat dated.

### Operation on Streets and Roadways

This section is one of the critical definitions of how bicycles are intended to operate in traffic. It establishes that bicyclists ride with traffic and defines how far to the right side of the road bicyclists must ride to safely coexist with motorized traffic. It establishes that bicyclists may move left to pass other traffic, to prepare for a left turn, and to avoid hazards associated with the edge of the road. Of additional importance is that bicyclists can “take the lane” in circumstances where the lane is of inadequate width to allow a motor vehicle and a bicycle to ride side-by-side.

### Turning Movements and Signals

All regional codes require turning movements consistent with general vehicle practice, and clarify that such signals need be given no less than 100 feet prior to turns. They also clarify that signals need not be continuous if hands are needed to maintain control of a bicycle.

### Applicability of Traffic Laws

The fundamental element of bicycle traffic law and its enforcement, this section establishes that bicyclists have all of the rights and duties as any other vehicle driver, with exceptions specified in the code. To advocacy groups, this is the basis of the phrase “Bikes Belong,” although it is also true that education programs intended to convey the duties and responsibilities covered in this code are often very limited in scale. This is an area where motorists are now receiving more messages through popular media, and where many driver license exams have been modified to cover bicycling issues.

### Operating on Sidewalks

While bicycling on sidewalks is often a local option, this code clarifies that bicyclists allowed to operate on sidewalks must yield right of way to pedestrians.

### Attachment to (moving) vehicles

This well-known provision of the code prohibits attaching oneself to a moving vehicle while riding a bicycle. Recent amendments have clarified that bicycle trailers designed for use behind a bicycle are not in violation of this code.

### Number of Riders (per bike)

This requirement mandates that no more riders can use a bicycle than the number for which it is designed, with the exception of carrying a child in a secure backpack or sling. It should be noted here that the latter practice is actually frowned upon by many in the bicycle safety community, given the effects of such devices on bicycle control and balance.

### Bicycle Racing

The UVC allows for the conduct of sanctioned and permitted bicycle racing. The states of Washington, Oregon and Colorado have developed extensive materials and administrative codes governing bicycle road racing, and specifies approved methods of traffic control and monitoring associated with road racing.

One code provision common in other western states but not a part of Montana law is:

### Group Riding

Most codes specify that bicyclists can ride no more than two abreast on a public highway. This is of concern due to the impression of many motorists that bicyclists must always ride single file. Bicyclists cannot delay traffic more than other modes, but a provision of the vehicle code clarifying this relationship might reduce confusion and allow bicycling educators to be specific as to how the rules of the road are applied.

The value of adding this provision to Montana's vehicle code is that it provides a common base of reference to both education and enforcement efforts, and will ultimately reduce confusion over what type of bicycling behavior constitutes a legally and popularly acceptable norm.

## 5.0 MDT DESIGN STANDARDS/PRACTICES

The *Montana Road Design Manual* published by MDT provides guidance to its road designers and contractors. It includes significant references to accommodations for bicyclists. These references are paraphrased and summarized according to chapter. Some chapters do not mention bicycles specifically but rather discuss elements that are considered important to bicycle safety such as shoulder width and rumble strips.

### Chapter 3, Administrative Policies and Procedures

The format of a Preliminary Field Review (PFR) Report must include discussion of Major Design Features (design speed, horizontal/vertical alignment, typical sections, geotechnical considerations, hydraulics, bridges, traffic, pedestrian/bicycle facilities and Americans with Disabilities Act (ADA) compliance.

Impacts to pedestrian/bicycle/ADA facilities must be discussed. Where there are no existing pedestrian or bicycle facilities and if there is evidence of use, include a proposal for their accommodation must be included in the PFR. In addition, projects are reviewed by MDT's Bicycle and Pedestrian Coordinator for impact to bicycles and pedestrians.

Although it is not currently in the *Road Design Manual*, MDT intends to include consideration of pedestrian/bicycle features in Scope of Work Reports, which occur later than development process than PFR Reports. The information in the Scope of Work Report is more detailed and contains descriptions of what facilities will be provided or an explanation of why it is not practical to provide them.

### Chapter 11—Cross Section Elements

This chapter discusses travel lane width requirements—which are typically 3.6 meters (12 feet) for urban and rural facilities. Non-state highway widths can vary between 3.1 m (10 feet) and 3.6 m (12 feet). For travel lanes shared by motorists and bicyclists, the American Association of State Highway and Transportation Officials (AASHTO) recommends a minimum travel lane width of 3.6 m (12 feet) to accommodate bicyclists and prefers 4.2 m (14 feet) for improved safety. The guidelines advised by AASHTO and adopted by MDT are based on the average daily traffic (ADT) of a road. Rural arterial roadways with low traffic volumes (under 400 ADT) may have lane widths of 3.3 m (11 feet) and shoulder widths as narrow as 0.6 m (2 feet). The AASHTO guideline for rural collector highways is similar to that for rural arterials with volumes under 400 ADT. For ADT's between 400 and 1500, AASHTO recommends lane widths of 3.3 m (11 feet) and shoulder widths of 1.5 m (6 feet). However, shoulder widths

may be reduced as long as a minimum roadway width of 9 m (30 feet) is provided.

**Auxiliary lanes** are the portion of the roadway adjoining the through way for parking, speed change, turning, storage for turning, weaving or truck climbing. Bicyclists often use auxiliary lanes and may benefit from being mentioned as such in this chapter.

**Buffers** are the area or strip also known as a boulevard, between the roadway and sidewalk or paved walkways.

**Shoulder widths** vary according to functional classification, traffic volumes and urban/rural location. Bicyclists typically prefer wider shoulders whenever possible—at least 1.2 m (4 feet) wide.

**Parking Lanes** and their impacts are also discussed in this chapter. It requires the following factors to be considered in deciding to provide on-street parking.

- 1) Prior accident experience
- 2) Impacts on capacity of facility
- 3) Current or predicted demand for parking
- 4) Impacts on bicyclists and pedestrians
- 5) Accessibility for disabled individuals, etc.

**Paved walkways** are mentioned in this chapter. They are typically constructed adjacent to facilities without curb and gutter for use by pedestrians. Where walkways will be used as bicycle paths, the designer is referred to the *AASHTO Guide for the Development of Bicycle Facilities*.

It is important to note that AASHTO also recommends different treatments for paved walkways and shared use paths. Shared use paths need to be wider to accommodate both pedestrians and bicyclists.

### **Rumble strips**

This guidance discusses the benefits of rumble strips but also cautions designers to consider their impacts. Rumble strips on the shoulder can potentially prevent run-off-the-road accidents by alerting sleepy or inattentive drivers. However, other factors must be considered when using rumble strips, including:

- 1) use of the shoulder by bicyclists,
- 2) impact on paving life,
- 3) impact on maintenance operations, and
- 4) initial construction costs.

As described in Section 2.0, MDT approved the “Revised Rumble Strip Policy” on June 23, 2000.

The new rumble strip policy includes the following applications for National Highway, Primary and Secondary routes:

- On segments of National Highway, Primary, or Secondary routes within designated city or urban limits, use engineering judgment on a case-by-case basis to determine if rumble strip installation is appropriate.
- Discontinue rumble strips across the full width of all public and private (residential and commercial) road approaches.
- Continue rumble strips along the full length, including tapers, of mailbox turnouts, scenic turnouts, historic marker turnouts, etc.
- Discontinue rumble strips on shoulders less than 1.8 meters (6 feet) wide if guardrail exists or is proposed.
- Install rumble strips on an 18.3 m (60 feet) cycle pattern consisting of a 14.7 m (48 feet) rumble strip and a 3.6 m (12 feet) gap.
- Place rumble strips six inches from the fog line.
- Design rumble strips to a width no greater than 12 inches.

The new policy also allows elimination of rumble strips on the shoulders of all National Highway, Primary and Secondary routes greater than four feet in width for new construction, reconstruction and overlay projects, provided justification is documented for corridor continuity, approach density, bicycle usage and accident history. For shoulder widths less than four feet in width, the policy recommends no installation of rumble strips, unless there is little or no bicycle use and the incidence of run-off-the-road accidents is high.

The new policy also provides guidance for the dimensions and placement of rumble strips—factors not considered in the old policy. The new policy advises that rumble strips be placed six inches from the fog line and be no more than 12 inches in width.

### Chapter 15—Maintenance and Protection of Traffic Through Construction Zones

This chapter instructs designers to provide safe accommodation of pedestrians/bicyclists through the construction zone by addressing them early in project development. Situations that would normally warrant special pedestrian/bicyclist considerations may include locations where sidewalks traverse the construction zone, where a designated school route traverses the

construction zone, where significant pedestrian/bicyclist activity or evidence of such activity exists and where existing land use generates pedestrian/bicyclist activity (e.g., parks, schools, shops).

Designers are instructed to consider the following principles when addressing pedestrian/bicyclist accommodations through construction zones:

- 1) Physically separate pedestrians and vehicles from each other.
- 2) Ensure pedestrian walkways/bicycle paths are free of any obstructions and hazards (e.g., holes, debris, mud, construction equipment, stored materials).
- 3) Consider temporary lighting for all walkways that may be used at night, particularly if adjacent walkways are lighted.
- 4) Clearly delineate all hazards near or adjacent to walkways.
- 5) Where pedestrian walkways/bicycle paths cannot be provided, then direct pedestrians/bicyclists to an alternative safe location (e.g. the other side of the street).
- 6) All temporary sidewalks must meet the ADA accessibility requirements for surface, curb ramps, sidewalk cross slopes and longitudinal slopes.

## Chapter 18—Bikeways

This chapter of the *Road Design Manual* includes the most detailed information on bicycle facilities. MDT relies almost exclusively on this chapter and the guidance provided in the *AASHTO Guide for the Development of Bicycle Facilities* for detailed design criteria.

The bicycle is classified as a vehicle, according to the MCA. Therefore, bicyclists are granted all of the rights and are subject to all of the duties applicable to the driver of any other vehicle with few exceptions. All state roadways can be expected to receive bicycle traffic. In rural areas, bicycling space, for the most part, will consist of a roadway shoulder. In more urban areas, bicycling space may be in the form of a shared roadway with wide curb lanes or dedicated space such as designated bicycle lanes. Separate bicycle facilities may be considered where children and casual bicyclists would be required to become involved with high traffic volume roadways. Due to pedestrian safety, sidewalks should not be considered as bicycle facilities except for child bicyclists along low-volume residential streets. This section primarily provides information on the development of new facilities to enhance and encourage safe bicycle travel.

***Bikeway classifications*** are defined as bikeways, widened shoulders, bicycle paths and bicycle lanes. The function of a bikeway is to provide a safe and efficient transportation facility for bicyclists without impairing the movement of other modes of travel. On-street facilities include the bike lane, the widened curb lane and the widened shoulder. The only type of off-street facility is the bike path. A shared lane is not considered a facility type. Appropriately designed on-

street facilities are usually less expensive to build and maintain than off-street facilities. Well-designed off-street facilities can provide direct, non-stop connections and a safer cycling environment for a greater variety of user type.

**Facility selection** typically depends on the roadway environment. Facility selection for urban and rural areas is determined as follows.

- 1) Rural. The rural roadway presents a consistent situation of high-vehicular speed and relatively low traffic volumes to the bicyclist. Consequently, the bicycle facilities that should be considered for rural roadways will typically be limited to shared roadways and may include providing wider shoulders.
- 2) Urban. The conditions presented to bicyclists on urban roadways may have exceeding variation from site-to-site. The following sections should be utilized to determine which facility is most appropriate.

**Bicycle paths** provide the cyclist with a clear-cut route and protection from many hazardous conflicts. However, bicycle paths are typically expensive to construct. The designer should recognize that the bike path often becomes a corridor for other users (e.g., walkers, joggers).

The following guidelines may be used to justify a bicycle path:

- 1) high vehicular speed on adjacent roadway;
- 2) high vehicular traffic volume on adjacent roadway;
- 3) high percentage of trucks on the adjacent roadway;
- 4) high bicycle traffic volume;
- 5) substantial anticipated increase in vehicular and/or bicycle traffic volume;
- 6) absence of suitable alternative routes;
- 7) around schools, playgrounds, parks or other areas where children are expected;
- 8) demonstration that the facility would serve a definite purpose; and
- 9) reasonable indication that the bicycle path would be the safest and most economical method of providing a bicycle facility.

**Bicycle lanes** are usually preferred in urban conditions where the available area is more restricted. The occupation of a portion of a roadway by a bicycle lane implies a reasonable degree of safety for the cyclist. Conditions must be generally less severe than those that recommend a bicycle path. The use of a bicycle lane is normally restricted to bicycles, but exceptions may be made. Some sort of physical or symbolic barrier (a painted stripe and symbol) must be employed to delineate the bicycle lane from the roadway.

The cost of installing a bicycle lane is normally a fraction of the expense associated with bicycle paths. Other advantages of bicycle lanes are the relatively minor land requirements and ease of maintenance. They can be

installed in many areas where the construction of paths would be impractical. In practice, bicycle lanes may be the most practical means of developing bikeways.

The following guidelines may be used to justify a bicycle lane:

- 1) moderate to low vehicular speed on adjacent roadway;
- 2) moderate to low vehicular traffic volume on adjacent roadway;
- 3) moderate bicycle traffic volume;
- 4) anticipate increase in bicycle traffic volume;
- 5) insufficient land to construct bicycle paths without major disruptions on the surroundings,
- 6) demonstration that the facility would serve a definite purpose; and
- 7) indication that the bicycle lane would be the safest and only feasible method of providing a bicycle facility.

Bicycle lanes should always be one-way facilities and carry traffic in the same direction as the adjacent motor vehicle traffic. If the roadway includes a parking lane, the bicycle lanes should always be placed between the parking lane and the motor vehicle lane. The minimum bicycle lane width is 1.2 m when the lane is adjacent to the parking lane. Bicycle lanes adjacent to the curb should have a minimum width of 1.5 m.

**Widened shoulders** are the most practical and commonly used method of providing a bicycle facility on rural routes. Like bicycle lanes, widened shoulders can be provided at a much lower cost and can be maintained much more easily than bicycle paths. There is nothing to delineate the widened shoulder nor is its use restricted.

The following guidelines may be used to justify a wider shoulder:

- 1) moderate bicycle traffic volume;
- 2) anticipated increase in bicycle traffic volume;
- 3) demonstration that the facility would serve a definite purpose; and
- 4) indication that the widened shoulder would be a safe and feasible method of providing a bicycle facility.

For design criteria of bicycle facilities, MDT defers to the AASHTO publication, *Guide for the Development of Bicycle Facilities*.

- 1) Rumble Strips. The designer should evaluate bicycle usage to determine if rumble strips should be installed or if additional widening should be done in conjunction with rumble strip installation. Where additional shoulder widening is provided in conjunction with rumble strips, at least a 1.2 m wide shoulder must be provided beyond the outside edge of the rumble strip.
- 2) Drainage grates, utility covers—should be kept out of bicycle path

- 3) Railroad Crossings—Ideally, bicycle facilities should approach at-grade railroad crossing at right angles to the rails.
- 4) Intersections. Adequate signing and pavement markings should be provided to minimize conflicts.
- 5) Width. The desirable width of a bike lane or widened shoulder should vary with traffic volumes, percentage of trucks and running speeds on a route.
- 6) Geometric Design. The design of bicycle paths should address geometric issues with bicycle specific criteria. These issues are similar to the geometric issues that are addressed in the design of roads (e.g., stopping sight distance, clear zones, vertical grades, horizontal alignment).

## 6.0 MONTANA TRAFFIC ENGINEERING MANUAL

Like the *Montana Road Design Manual*, the *Montana Traffic Engineering Manual* provides guidance to MDT's road designers and contractors about controlling traffic. This manual discusses several safety features to be considered when designing roads, intersections and other facilities.

### Chapter 12—Traffic Signal Design

*Bicycle Detectors*—The two most common methods for bicycle detection include:

- 1) Pedestrian Push Button. With the push button, the bicyclist must stop and push the button for the controller to record the call. This may require the bicyclist to leave the roadway and proceed on the sidewalk to reach the detector.
- 2) Inductive Loop. The inductive loop can detect the bicycle without the bicyclist's interaction. For the greatest sensitivity of the detector, the bicyclist should be guided directly over the wire. A problem with the bicycle inductive-loop detectors is that they require a significant amount of metal to be activated. Today's bicycle designs tend to use a substantial amount of non-magnetic, man-made materials to increase their strength and reduce their weight. This has substantially reduced the metal content that can be detected.

### Chapter 19—Pavement Markings

***Bicycle Facilities***—The color and type of lines used for bicycle facilities should be the same as that for automobiles (e.g. broken yellow line for 2-way bike paths). Broken lines for bicycle paths should have a 1 to 3 ratio (e.g., 1-m line with a 3-m gap). A solid white line should be used to separate pedestrians and bicycles if they share a common facility.

The preferential lane symbol must be provided where bicycles and motor vehicles share the same facility and a separate bike lane is provided. A detail for

pavement markings for bicycle lanes at intersections is included in the Traffic Engineering Manual.

### Chapter 29—Interchanges

***Pedestrians and Bicyclists***—Make all crosswalks perpendicular to ramps to reduce the crossing distance. Use appropriate signing and pavement markings to increase the awareness of pedestrians and bicyclists.

### Chapter 31—Special Design Elements

***Bicycle and Motorcycle Storage***—Provide bicycle stalls that allow the use of locking devices. Bicycle stalls are typically 0.6 m by 1.8 m. Motorcycle stalls are 1m by 1.8m.

## **7.0 FEDERAL TRANSPORTATION LAWS AND AUTHORIZATION ACTS**

Federal laws provide both guidance and funding important to state transportation departments that wish to incorporate bicycle safety measures into their road design and traffic engineering policies. Montana has taken full advantage of an important piece of federal legislation, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), which became law on June 9, 1998 and expires in September 2003. This is the most significant funding program for non-motorized transportation and is the mechanism that funds many highway projects in Montana.

23 USC as amended by TEA-21 continues the integration of bicycling and walking into the transportation mainstream that began with its predecessor, the Intermodal Surface Transportation Efficiency Act (ISTEA), which expired in 1997. TEA-21 increases communities' ability to invest in projects that enhance the safety and practicality of non-motorized modes of travel.

TEA-21 contains changes that guarantee gas taxes are used for their intended purposes, rather than to offset spending elsewhere in the budget. The program returns over two dollars for every dollar of federal fuel tax collected in Montana. TEA-21 provides encouragement to foster the use of alternative modes of transportation such as bicycles. Funding is provided to states to improve bicycle and pedestrian safety through education, outreach and other programs.

Bicycle and pedestrian projects are eligible for funding from almost all categories of TEA-21 funding. With the exception of National Recreational Trails Fund, bicycle projects must be "principally for transportation, rather than recreation purposes".

23 USC mandates that 10 percent of each state's annual Surface Transportation Program funds be used for transportation enhancement projects [Community Transportation Enhancement Program (CTEP) in Montana]. These funds may be used for "provisions of facilities for pedestrians and bicyclists" and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)." Safety education activities for pedestrians and bicyclists are also eligible.

## **8.0 COMMUNITY TRANSPORTATION ENHANCEMENT PROGRAM (CTEP)**

CTEP projects are transportation related activities that are designed to strengthen the cultural, aesthetic, and environmental aspects of Montana's transportation system. TEA-21 provides approximately \$4.5 million annually to Montana for CTEP projects.

CTEP provides funds to local and tribal governments for selection and prioritization of local projects. Funds are distributed based on population figures provided by the U.S. Bureau of the Census.

Activities for Transportation Enhancement are implemented through the following list of CTEP activities related to bicycles:

### Eligible Pedestrian and Bicycle Facility Projects

- 1) Bicycle facility means new or improved lanes, paths, or shoulders for use by bicyclists, traffic control devices, shelters, and in some cases parking facilities at trailheads for bicyclists.
- 2) No bicycle project may be carried out under this program unless it has been determined that such a bicycle project will be principally for transportation, rather than recreation, purposes.
- 3) This category includes pedestrian and bicycle routes, pathways, walkways, etc. It includes construction of new or replacement of old sidewalks on publicly owned property or easements. They may be bicycle or pedestrian use alone or combined bicycle/pedestrian use.
  - a. All accessibility improvements on publicly owned property or easements.
  - b. Other eligible uses under this category include bicycle racks, benches for pedestrian or bicyclist use, and other bicycle or pedestrian related amenities.

### Eligible Pedestrian and Bicycle Safety and Education Projects

- 1) Local projects in this category will usually be developed under the oversight of the MDT Bicycle and Pedestrian Coordinators office.

## 9.0 TRANPLAN21 Update

While MDT follows the guidelines set forth by state and federal laws and the *Road Design* and *Traffic Engineering Manuals*, the agency is also guided by TranPlan 21, the federally mandated statewide multimodal transportation plan. TranPlan 21 includes policies that MDT follows in managing the state's transportation system.

The Bicycle and Pedestrian Policy Paper in TranPlan 21 include goals and actions to improve coordination, routes, planning, facilities and maintenance. TranPlan 21 also describes the status of bicycle and pedestrian planning and development in Montana, including its full-time bicycle and pedestrian coordinator position.

MDT's Bicycle and Pedestrian Coordinator provides outreach to the public, local governments and businesses, serves on the State Trails Committee as well as other local and state committees associated with bicycling and pedestrian issues. The Coordinator also coordinates training for engineers and planners on accommodating bicycle transportation, provides technical assistance on design standards and ensures that bicyclists and pedestrians are included in the project development process.

### TranPlan 21 Goals

The primary bicycle and pedestrian goals of TranPlan21 are to improve facilities based on existing and future use, better understand constraints to bicycle and pedestrian travel in Montana and to strive to make bicycle and pedestrian travel a continuous system.

MDT has already accomplished many components of these goals. The Bicycle and Pedestrian Coordinator maintains bicycle-related tourist information with the Montana Department of Commerce, assists with related state and local government planning efforts and acts as a clearinghouse for safety information and contacts for the public.

Other bicycle and pedestrian-related tasks of TranPlan 21 include:

- identifying and developing safe urban and rural bicycle routes;
- establishing a consistent planning approach and design guidelines for bicycle and pedestrian facilities in highway improvement projects,
- linking bicycle improvements to existing facilities, proven use and expected future use;
- using air quality improvement program funds to improve bicycle and pedestrian facilities in urban areas; and
- ensuring bicycle and pedestrian-friendly facility maintenance standards.

One of the most important functions of TranPlan 21 is its directive for MDT to train its staff on designing facilities for bicycle and pedestrian use. MDT has already sponsored six classes to train dozens of state and local design engineers and planners. MDT continues to schedule additional sessions.

## 10.0 AASHTO INFORMATION

The American Association of State Highway and Transportation Officials published a *Guide for the Development of Bicycle Facilities* in 1999 to provide guidance to states, counties and communities about bicycle facility planning and design, education programs and other important considerations. Many of the bicycle planning components found in the *Montana Road Design Manual* and *Traffic Engineering Manual* were based on this guidance.

The overriding theme behind the AASHTO design guidance is that,

“all highways, except those where legally prohibited, should be designed and constructed under the assumption that they will be used by cyclists. Therefore, bicycles should be considered in all phases of transportation planning, new roadway design, roadway reconstruction and capacity improvement and transit projects.”

AASHTO planning and design considerations include bicycle facility types (shared roadways, signed shared roadways, bicycle lanes and shared use paths), lane widths, surface quality and parking. Guidance is also provided for intersection design, sidewalks, design speed, sight distance and other factors critical to facility design. The underlying message from AASHTO in each of these elements is for road designers to include bicycle safety in their plans. A comparison of the AASHTO guidelines and the *Montana Road Design* and *Traffic Engineering Manuals* revealed many similarities, indicating Montana's compliance with AASHTO guidance.

The AASHTO guidance document also discussed education programs for bicyclists and motorists that are not widely practiced in Montana. The document described the importance of bicycle safety education for young people, including instruction in stopping and looking for traffic, helmet use, hand signals, knowledge of traffic signs and methods for crossing intersections. Adult bicyclists are provided information about traffic codes and courtesy toward other road users while motorists are instructed about the legal rights bicyclists have to use roadways, courtesy toward bicyclists and skills for sharing the road. At least one Montana community, Missoula, includes many of these lessons in its bicycle education programs. Missoula's program is discussed in greater detail in Section 11.3.

## 11.0 BICYCLE SAFETY EFFORTS IN MONTANA COMMUNITIES

Many of the bicycle safety efforts in Montana communities are derived from a comprehensive transportation planning process. 23 USC requires a “metropolitan planning process” for communities of 50,000 people or more (according to the 2000 U.S. Census) that brings together local and state officials to determine the best investments to meet metropolitan transportation needs.

The U.S. Department of Transportation (DOT), through the Metropolitan Planning Process requires these communities to provide 20-year plans for transportation improvements and to update them every three years. These plans typically examine all modes of transportation, including bicycles.

These communities are also required to provide the DOT with a Transportation Improvement Program (TIP). The TIP is a short-term document that discusses the priority projects to be carried out to improve transportation over a three-year period.

Montana has three “Metropolitan Areas” and are required to submit transportation plans to the DOT—Billings, Great Falls and Missoula. A number of other communities, including Bozeman, Butte, Helena and Kalispell, have also prepared transportation plans with financial support from MDT. The following sections discuss the status of bicycle accommodations in the transportation plans of these communities.

### 11.1 Billings

The *Billings Urban Area 2000 Transportation Plan* (Billings Transportation Plan) followed up on the goals outlined by the 1994 *Bicycle Plan for the Billings Urban Transportation Planning Area* and 1997 *Parks 2020 Plan* with a pedestrian and bicycle element. The Billings Transportation Plan included a list of eleven recommendations for improving bicycle facilities throughout the Billings area.

- 1) Increase the involvement of bicycle interests on government boards and transportation planning steering committees.
- 2) Adopt (by the city) bicycle-friendly review procedures and design standards.
- 3) Make bicycle improvements a city budget item.
- 4) Create a bicycle-pedestrian coordinator position.
- 5) Include a bicycle “check-off” on all private site development and subdivision plats as well as public infrastructure projects.
- 6) Integrate bicycle standards into street design and maintenance.
- 7) Implement cooperation between departments for the development of greenways.
- 8) Revise street design standards for new streets and retrofit existing streets to accommodate bicycles.
- 9) Improve bicycle parking.

- 10) Develop a series of multiple use corridors.
- 11) Strengthen the bicycle components of the 1990 Comprehensive Plan.

The Billings Transportation Plan concluded its bicycle and pedestrian accommodation recommendations to provide bicycle route maps, information systems and accident monitoring.

In 1994, the *Bicycle Plan for the Billings Urban Transportation Planning Area* was prepared to identify the need for bicycle facilities. At that time, there were no designated on-street facilities, although generous widths within the City of Billings could be designed to make bicycling comfortable on all but the most heavily traveled arterials.

To date, three major projects have occurred in the Billings area.

- 1) Rimrock Road was a two-phase project that allowed for a 1½-mile long, 6-foot wide bike lane. The first phase of this project included stenciling and signing for the bike lane and the second phase included striping, stenciling and signing the bike lane.
- 2) The Heights project included widening the minor arterial and striping and stenciling an extra wide bike lane. The roadway had previously been used as a four-lane road but was not wide enough for this purpose. The roadway was redesigned into a two-lane roadway with a bicycle lane to accommodate bicyclists as well as motorists.
- 3) Two bridges in the Billings area have been purchased and sized for bike lanes. However, the roads approaching these bridges are not wide enough to accommodate bike lanes. These roads will be widened and stripped for bike lanes.
- 4) Billings off-street system, the Network Trail System, is a 4½-mile long trail that runs from the Billings Heights area to the Yellowstone River. A 2½-mile long trail connects this system to the downtown area with minimal crossings. A culvert has been built underneath a main arterial for a multi-use facility.

Some short-term projects listed in the *Billings Transportation Plan* have yet to be achieved, such as Billings' plan to redesign Lewis Avenue and Division Street to 8<sup>th</sup> Street West as three-lane streets with bicycle lanes.

Other future project plans include connecting the Yellowstone River Trail with the downtown section and a 2-mile long bicycle route on the Rimrocks north of town. The Bicycle Plan also has a variety of bicycle lanes and routes that could be designed throughout Billings to accommodate bicycle travel through the city.

It is under discussion whether or not to incorporate bicycle lanes into roadways. Bike paths may be developed to provide safe connections for children traveling

between subdivisions. In the Billings area, new subdivisions are required to incorporate bike paths through or around the area. Most new subdivisions in Billings have followed this rule.

According to the *Bicycle Plan* all streets are directed to be made more bicycle-friendly. In developed areas, this means collectors and minor arterials would be used as designated routes. Designated routes would be continuous and have similar characteristics.

## 11.2 Great Falls

Planning for bicycle travel in Great Falls was initiated in 1975 with the creation of a schematic for a 20-year bikeway network of facilities. The network was incorporated into the local transportation plan and has since been periodically modified. The latest version, *Great Falls Urban Transportation Planning Process, Technical Memorandum, Bikeway Facilities*, was prepared in 1996 and is currently being updated for Great Falls' new transportation plan.

The 1996 *Bikeway Facilities Memorandum* identified eight objectives from the 1975 plan that were completed.

- 1) 4<sup>th</sup> Avenue North (bike route)
- 2) Gibson Park/Riverside Park (bike path)
- 3) 1<sup>st</sup> Avenue North Bridge (bike path)
- 4) Warden Bridge mate structure (bike path)
- 5) 6<sup>th</sup> Street Southwest (bike path)
- 6) River's Edge Trail, from Oddfellows Park to Lewis & Clark Overlook (bike path)
- 7) 9<sup>th</sup>/10<sup>th</sup> Street North Bridge (bike path)
- 8) 26<sup>th</sup> Street South (bike path)

*The Facilities Memorandum* deleted some of the 1975 Plan objectives but added 16 others, including bike paths on the North Shore access roads (which were completed in 2001), 10<sup>th</sup> Avenue North, Fox Farm Road and 11 urban bike routes and lanes.

Great Falls is currently in the process of updating the *Great Falls Urban Area 2000-2020 Transportation Plan*. The new plan will build on the significant progress made from the existing plan, published in 1999.

The new plan will discuss the additions to the River's Edge Trail, which is now a 24-mile bicycle trail. Construction of the River's Edge Trail was completed in 2001 on the south shore of the Missouri River.

Another development that will be highlighted in the new transportation plan is the agreement that opened PPL Montana's service roads along the north shore of the Missouri River for public use.

Great Falls is also in the process of updating its Comprehensive Plan. The new plan's transportation element will expand the goals and objectives of the previous version to include additional provisions for bicycles.

### 11.3 Missoula

The *Missoula Transportation Plan 1996 Update* assessed the community's transportation challenges and developed goals for their improvement. The Plan conducted bicycle counts near key routes and intersections and, in conjunction with other analyses, concluded that bicycle commuting decreased during the previous ten-year period. Other similarly sized communities in the western region realized increases in bicycle commuters during the same period. Members of the Coordinating Committee agreed that increasing bicycle use in Missoula was a priority. In fact, Missoula has employed a bicycle/pedestrian coordinator for approximately 20 years to address this priority. RPA developed the following needs and recommendation lists as part of the Plan to help the Committee and Missoula understand what needed to be done to increase the number of bicycle commuters and better provide for their safety. Judging from a recent conversation with Missoula's Bicycle Pedestrian Program Manager, most of the needs have already been met and the recommendations have been followed or are ongoing. Comments about these accomplishments are included in italics after the statements of need and recommendations.

#### Needs

- The arterial road network needs to be retrofitted to accommodate bicycle travel, or adjacent streets need to be designated as bicycle commuter routes. ***The road network is mostly complete.***
- Community awareness of the bicycle as an alternative to vehicle travel needs to be heightened. ***Missoula is constantly working on this with television programs, fliers and other activities.***
- New bicycle facilities need to be developed. ***A great deal of progress has been made in this area, including on an on-street bike system, off-street trails within the city and installation of 500 bike racks.***
- Overall bicycle safety needs to be improved.
- Corridor lighting is needed to improve safety for wintertime bicycle commuters.
- Adequate bicycle storage facilities at workplaces, schools and multifamily residences are needed. ***500 bike racks have been installed. The city is pushing for installation of weatherproof enclosed bicycle storage facilities at multifamily residences and other places.***
- Neighborhoods need to be protected from commuter traffic that strays from arterials in search of more efficient travel routes. ***Missoula is looking at this need for future planning.***

- Bicycle education programs need to be developed and made available to all age groups. ***A kindergarten through 5<sup>th</sup> grade education plan remains in place.***
- Bicycle-friendly design amenities need to be included in all new development. ***Missoula's Planning Office made progress with new developments by requiring bicycle and pedestrian facilities to and from new sites as well as within them. The new zoning regulations also include new bicycle planning clauses.***
- Bicycle travel needs to be promoted as healthy for the rider and the community. ***There is an ongoing promotion effort in Missoula.***
- Bicycle facilities need to be maintained. ***Maintenance of facilities is an ongoing effort.***
- More off-road bike trails are needed. ***New off-road bike trails have been constructed within the city.***
- Facilities and programs should target the 10-13 year old age group since they represent the most accident-prone portion of the bicycling population. ***This is the age group targeted by the kindergarten through 5<sup>th</sup> grade education program.***

### Recommendations

- Develop a complete bikeway system consisting of networked routes, bike lanes and paths. ***A comprehensive on-street bike system was striped and signed. This system connected 18 miles of bike lanes and routes of a continuous system. A bike/pedestrian path has been developed over the Clark Fork River at California Street along with a new bike/pedestrian bridge over the railroad tracks at Scott Street. Bike lanes are also included in the Orange Street Bridge reconstruction plans, the 39<sup>th</sup> Street/SW Higgins Avenue project, Russell Street and 3<sup>rd</sup> Street projects. Bike lanes are already included on Reserve Street.***
- Include bicycle facilities in plans for any new road improvement or development. ***This is an automatic consideration by the City of Missoula for both collectors and arterials..***
- Implement and adopt a non-motorized trail network for recreational bicycling. ***The City is working on this recommendation.***
- Discourage the use of sidewalks as bike paths. ***This practice is a violation of City code and is discouraged by law enforcement.***
- Design or redesigning arterials and collectors to accommodate bicycles. Where existing arterials cannot safely accommodate bicyclists and improvements would be cost-prohibitive, adjacent streets should be identified and marked as bicycle routes. ***Much progress has been made in this area. Stephens Street was rebuilt with bicycle accommodations in mind, as was Reserve Street. 39<sup>th</sup>/SW Higgins and the Russell/3<sup>rd</sup> Streets are in the planning process now and bicycles will be accommodated.***
- Begin a bike route-signing program. ***Signing is part of the design of the bikeway system.***
- Provide adequate facilities for bicycle parking at public buildings and retail areas. ***This recommendation was covered by the installation of bike racks and covered parking facilities.***
- Ensure that new commercial developments provide bicycle-parking facilities. ***This is now a requirement for most new developments in Missoula.***

- Continue a public relations program encouraging alternatives to automobile travel. ***This is an ongoing effort in Missoula with a group called “Missoula in Motion.” The group has already developed a series of television advertisements to promote bicycle travel and other alternatives to automobiles.***
- Demand-actuated signals should respond to the presence of bicycles. ***The City installed this equipment but found it to be unreliable and problematic.***
- Increase sight distances at bicycle crossings. ***Missoula provides bicycle crossing signs within 30 feet of its intersections.***
- Consider marking rural roads with shoulders greater than four feet as bicycle lanes. ***Missoula County has made some progress in this area but many of its roads do not have four-foot shoulders.***
- Provide adequate signing for bicyclists. ***This is a priority in Missoula and is part of every design and redesign job.***
- Continue to implement safety education programs in elementary schools. ***The kindergarten through 5<sup>th</sup> grade program is continued.***
- Work with the University to provide new student orientation on bicycle safety. ***At the University, the Associated Students of the University of Montana have an office of Transportation with a full time coordinator, funded by a fee passed by the students.***
- Update the Missoula Bike Map on a continuous basis. ***The Missoula Bicycle Map was recently updated and published.***
- Implement a comprehensive law enforcement program. ***The City continues to coordinate with law enforcement to improve safety.***
- Continue supporting the use of police officers on bikes for both regular patrol and bicycle traffic law enforcement. ***Missoula now deploys four uniformed bicycle police officers in the summer.***
- Increase awareness about the rights and responsibilities of bicyclists. ***Missoula continues efforts in this area but believes this is an ongoing responsibility.***
- Advertise the availability of bicycle racks on public transit buses. ***Bicycle racks are available on all public transit buses, the “Mountain Line,” and their availability is periodically advertised.***

Other successes in the Missoula area include rural bicycle paths and its education program.

### Rural Roads and Bicycles

A multi-use path was built between Lolo and Florence along Highway 93 South. This path will eventually extend south to Hamilton. A path is planned for Lolo along Highway 93 from Highway 12 to Ridgeway. A two mile separated path is planned for Frenchtown to connect the schools, the stadium, baseball fields and the pond. A separated trail runs along South Avenue to improve access to Target Range School and the Fort Missoula recreation lands.

### Multi-Use Paths

The Bicycle Commuter Network in Missoula developed three trails that all come together into the downtown area (the Bitterroot Branch, Milwaukee Road and Kim

Williams Trail). There are 2.8 miles of paved commuter trails, in addition to the Riverfront Trail System and park and open space trails.

### Safety Education

A comprehensive bicycle and pedestrian safety program, developed through the Bicycle-Pedestrian Office, is established in the physical education curriculum for grades K-5 in all Missoula School District #1 elementary schools. Other programs are provided to targeted groups and school classes on request. The Bicycle-Pedestrian Office periodically airs bicycle and pedestrian safety commercials on local TV. The University of Montana provides bicycle safety information during student orientation.

## **11.4 Bozeman**

Bozeman does not yet have a network to fully support and encourage bicycling. There are only a few designated bicycle routes in the area—and fewer bicycle lanes. Most of these local bicycle routes are not continuous.

The existing bicycle lanes in Bozeman include a small section of Oak Street and a small section of Manley Road. Some of the newer construction on North 19<sup>th</sup> and Main to Durston Road included construction of adjacent bicycle lanes.

Existing bicycle paths include Highland Boulevard and a small section of Kagy Boulevard.

Bicycle facility standards have been developed that will be incorporated into all future street development. A five-foot-wide bicycle lane on both sides of the road on all new arterial routes and collector streets is desirable. Bicycle lanes were deemed unnecessary on local streets due to relatively low traffic volumes and vehicle speeds.

Bozeman has a few dedicated bicycle lanes adjacent to its roads, but has limited bike paths because of maintenance concerns and safety issues related to two-way bicycle facilities at intersections. Bozeman considers separated two-way bicycle paths outside of the roadway only on one side of the road and only where there are few intersection streets along the corridor.

In the developed areas of the community, Bozeman has discovered that it is impractical to try to adapt the current road to include designated bike lanes. In these cases, the city has decided that designating the road as a bicycle route with appropriate signing is the best approach.

The following areas were recommended to be developed into recreational and commuter bicycle routes in the Bozeman area.

- South Church/Sourdough Road from Main to southern terminus
- Goldenstein Road from Sourdough to South 19<sup>th</sup>
- Nash Road from Sourdough to South 19<sup>th</sup>
- South Cottonwood from Huffine to South 19<sup>th</sup>
- Oak Street from Rouse to North 19<sup>th</sup> and beyond
- Valley Center from North 19<sup>th</sup> to Jackrabbit Lane
- South 4<sup>th</sup> Avenue from Olive to College
- Frontage Road from North 7<sup>th</sup> to Belgrade

Even with its limitations, the City of Bozeman developed a continuous “Bike Route Network” and “Bozeman Area Trail Network” throughout downtown and the surrounding areas. Bicycle routes within the City of Bozeman have been designed on streets paralleling major thoroughfares to encourage use of less congested facilities, but still meet travel desires of bicyclists. This system also provides access for bicycles to surrounding communities including Belgrade and the Gallatin Gateway area.

Issues regarding bicyclists were studied in the *Greater Bozeman Area Transportation Plan, 2001 Update*. The primary limiting factor to safe bicycle transportation was identified as a lack of bicycle facilities. There are only a few designated bicycle routes within the community and most of them are not continuous. However, the Plan noted that the Bozeman Bicycle Advisory Board was active in developing bicycle facility standards to be incorporated into all future street development. The Advisory Board recommended five-foot-wide bicycle lanes on both sides of the road on all new arterial routes and collector streets. Other measures such as designating roads as bicycle routes with appropriate signing were adopted.

The City of Bozeman is also currently working with the Downtown Bozeman Association to develop a plan to ease traffic issues. The project will include considerations for bicyclists and pedestrians.

## 11.5 Butte

Butte's provision of bicycle facilities is primarily limited to five recreational routes and trails, the Silver Bow Creek Greenway Trail, LAO Connector Trail, Clark Tailings Recreation Area, Stodden Park and the Blacktail Creek Restoration Recreational Trail.

The *Butte-Silver Bow Transportation Plan, 1996 Update* included a map of these areas and discussed the three classifications of bicycle routes it hopes to achieve in the future.

- Class I—designated on-street bicycle route in normal traffic lanes or on unmarked shoulders
- Class II—designated on-street bicycle route in separately marked lanes
- Class III—separate bicycle pathways either paralleling roadways or on separate alignments

## 11.6 Helena

The Helena area features several separated bicycle paths (such as between Helena and East Helena) but they are not continuous. The *Helena Area Transportation Plan, 1993 Update* recognized these limitations and listed several goals to address them.

- Bicycles are a legitimate means of transportation and are entitled to use all streets and roads, except where they are prohibited for safety reasons.
- Using gas tax revenues for bicycle facilities is provided for by federal law.
- All major improvements to Helena area streets and roads include providing safe and efficient pedestrian and bicycle facilities.
- All maintenance projects should improve safety and access for bicyclists.
- Develop an education program on pedestrian and bicycle safety, including presentations in schools.
- Develop and print a bicycle route and trail map.

The City of Helena constructed three bicycle trails (Henderson to Custer, the Nature Park Trail and Centennial Park to Joslyn) since 1993 and is in the process of extending the latter to Spring Meadow Lake.

Lewis & Clark County recognized the importance of planning for bicycle travel in its *Draft Comprehensive Plan*. The County plans to work with the City of Helena to increase the number of pedestrian and bicycle facilities as part of a

“Transportation Demand Management” strategy to decrease congestion and improve air quality.

There are three separated bicycle facilities in the County.

- Helena to East Helena, along the north side of U.S. Highway 12
- north of East Helena, along the west side of Valley Drive
- Jim Darcy School area, along North Montana Avenue and Lincoln Road

Lewis & Clark County also has several newly reconstructed Secondary Highways with eight foot paved shoulders to accommodate bicyclists.

- Green Meadow Drive, from Custer Avenue to Sierra Road
- York Road, from Birkland Drive to Tizer Drive
- Canyon Ferry Road from Walter Drive to York Road

Canyon Ferry Road is also scheduled for reconstruction from Prickly Pear Creek east to Spokane Creek Road. The new road will have shoulders wide enough to accommodate bicyclists.

A separate bicycle path is also being planned between North Montana Avenue and Rossiter School along Sierra Road.

The City of Helena, in conjunction with Lewis and Clark County, MDT, the Helena School District and the Helena Downtown Business District, recently initiated a Non-Motorized Transportation Plan to accommodate bicyclists and pedestrians and to ease traffic congestion. The goals of the Plan include the following:

- Identify and map existing facilities.
- Identify the needs for non-motorized transportation facilities based upon existing regional destinations and corridors that link those destinations.
- Identify non-motorized transportation corridor(s) for future preservation in public and private development.
- Create a plan for both on-street and off-street facilities that connects urban neighborhoods, downtown, local and regional attractions with a safe, efficient, attractive, well-maintained, non-motorized circulation system including project prioritization.
- Develop standard treatments for designated routes, on-street usage, trails and special use areas.
- Provide a Non-Motorized Plan that will be appended to the existing Helena Transportation Plan and its future updates.

## 11.7 Kalispell

The 1993 *Kalispell Area Transportation Plan* outlined a strategy to accomplish the three following bicycle and pedestrian projects in the city.

- 1) Bicycle path along North Main Street through Lawrence Park
- 2) Improve pedestrian trail in Woodland Park to meet Americans with Disabilities Act standards
- 3) Design and preliminary engineering for a bike path from 7<sup>th</sup> Street West to Kalispell Junior High School along Meridian Road

Kalispell completed the first two projects within the last five years and the third is currently underway.

The Kalispell Master Plan is looking to connect all of these trails into one with extensions on Highway 93 running North and South. This connection is already 75 percent complete. In keeping with the Master Plan, the connectors of these trails will all be done in phases, dependent on public need.

The *Transportation Plan* also prioritized the following 20 projects to be accomplished in Flathead County over a 20-year period.

- 1) Helena Flats Road—rebuild from MT 35 to two miles past school ***Project is currently being designed.***
- 2) Kalispell Bike Bypass ***Preliminary design is underway.***
- 3) East Evergreen—widen with bike shoulders
- 4) East Edgewood—pave two remaining miles
- 5) Foothills Road—pave remaining 2.5 miles ***Completed***
- 6) Rails to Trails—east to west route through Kalispell
- 7) Blankenship Road—pave remaining 4.5 miles
- 8) Jellison Road—pave remaining 4 miles
- 9) Holt Stage to Montford Road to MT 35—pave remaining 2 miles
- 10) Whitefish Stage Road—widen from Reserve to MT 40 ***Project is underway.***
- 11) Farm-to-Market Road—pave remaining 2.5 miles ***Completed***
- 12) Lower Valley Road—pave remaining 3 miles
- 13) Conn Road—pave remaining 2 miles
- 14) Trumble Creek Road—pave remaining 3 miles
- 15) US 93 North out of Whitefish—widen with bike shoulders
- 16) North Fork highway (486)—pave to Camas Creek entrance to Glacier National Park
- 17) Foys Canyon Road—pave ***Completed***
- 18) Braig Road—pave
- 19) Holt Stage Road east to Foothills Road—pave

- 20) Whitefish River and Swan River Trails—build ***Right-of-Way for the Whitefish Trail is being secured and construction of the Swan River Trail begins in 2002.***

## 12.0 BICYCLE SAFETY EDUCATION IN MONTANA SCHOOLS

RPA sent each school district in the Montana a questionnaire to determine if they conducted bicycle safety education programs. Out of 196 school districts in Montana, 73 responded to the survey for a response rate of 37 percent. However, the respondents represented a majority of Montana's counties. Only 17 of the 56 counties in the state did not have a school district respond to the survey. The results indicated that a majority of counties in western Montana offer some type of bicycle safety program for students while the counties in the eastern part of the state that teach bicycle safety education programs are scattered.

The results of the survey are as follows:

- The 34 school districts (47 percent) that responded to the survey offer some type of bicycle safety education program. A majority of these programs are done in the physical education programs of elementary schools. Some areas have volunteers from the local law enforcement that conduct bicycle safety programs for students.
- The cost of these programs varies up to \$1,000 per year depending on the program being implemented.
- Teachers in 22 districts have had training for bicycle safety, including teachers from school districts without a program in place.
- The major problems implementing bicycle safety education programs in schools are funding and time. There is currently no funding available for the school districts for a bicycle safety education program. Not all students have access to bicycles so providing bicycles for all students becomes a problem for many school districts as well.
- 62 percent of the school districts that did respond to the survey would like to increase the amount of bicycle safety education programs available in that district.

Several school districts that responded to the survey had ideas for enhancing bicycle safety in Montana. These ideas include the following:

- Have better funding available.
- Hold a bike rodeo.
- Have a statewide bicycle safety program implemented through physical education classes.
- Would like to see all programs be consistent.
- Have a bicycle safety program taught in the fall with hands-on classes in the spring.

- Better enforcement of laws.
- Review and implement the Missoula program through the State.
- Hold summer programs through other organizations (law enforcement, Lions Club).
- Get help through the PTA or law enforcement.
- Teach bicycle safety to younger children.
- Better-organized helmet sales.
- Contact local police departments for ideas on safety programs.
- Educate adults as well as children.
- Use driver's education to help remind middle school children of bicycle laws.
- More training for teachers.
- Have a team of instructors travel throughout the state to give bicycle safety presentations in physical education classes. The Montana Traffic Education Program accomplished this task in the 1980's and was initiated in Missoula. The Program included videotapes for kids, workbooks for teachers and videos for middle school students. The Program remains active in Missoula but is no longer applied statewide. Today, individual schools are responsible for the cost of bicycle safety education programs.

### **13.0 MONTANA BICYCLE SAFETY STUDY SURVEY**

A total of three hundred (300) questionnaires were distributed to Montanans by mail and electronic mail to identify their opinions about the current provisions for bicycle safety and to collect ideas for enhancing them. Questionnaires were distributed to Montana schools, bicycle clubs, bicycle retail shops, state, county and local officials, sheriffs and police officers, motor vehicle users and other interested Montanans. Recipients of the questionnaires were encouraged to share them with their friends and colleagues. As a result, a significant percentage of the respondents to the questionnaire were bicyclists. This factor increased the number of completed questionnaires RPA received, but also may have affected the integrity of the survey response rate. With that in mind, two hundred (200) questionnaires were returned to RPA by the May 10, 2002 deadline—for a response rate of sixty-seven (67) percent. A search of survey design literature indicated that response rates greater than thirty (30) percent are generally considered statistically significant. Eighteen questionnaires were returned to RPA unopened for lack of forwarding addresses.

It is important to keep in mind that the purpose of this survey was not to capture a snapshot of public opinion that could be applied to the population as a whole. Rather, its purpose was to collect ideas for improving bicycle safety in Montana from representative groups and individuals with interests and expertise concerning this objective within the limited scope of this study outlined by HJR 37. This survey solicited input in only selected areas related to bicycle safety.

Some of the results of this survey were compared to similar questions asked by a survey conducted in Colorado. The Colorado survey was conducted by the

Center for Research on Economic and Social Policy of the University of Colorado at Denver. It yielded a response rate of 16 percent (5,771 returned) from 35,912 questionnaires mailed to the general public in Colorado.

In addition, a national survey was examined as a comparison to this effort. The national survey identified priorities important to bicycle safety. The survey was conducted for the Institute of Transportation Engineers, which queried 578 members for a response rate of 35 percent.

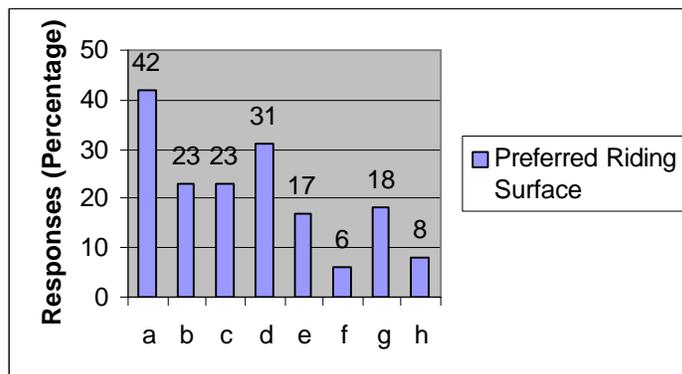
The ITE survey identified inadequate funding as the primary obstacle to bicycle safety improvements in the transportation system. Other priority issues included professional development (transportation professionals need to be made aware of the needs of the bicycle community) and public education.

## RESULTS

The following graphics and paragraphs describe the results of the most relevant questions from Montana Bicycle Safety Study Survey. A copy of the questionnaire and its results in their entirety are included in the appendices of this Report.

The survey demonstrated that nearly half of the respondents ride their bicycles every day. Smaller percentages of 8 to 11 percent ride between 2-3 times per week to only a couple times per year.

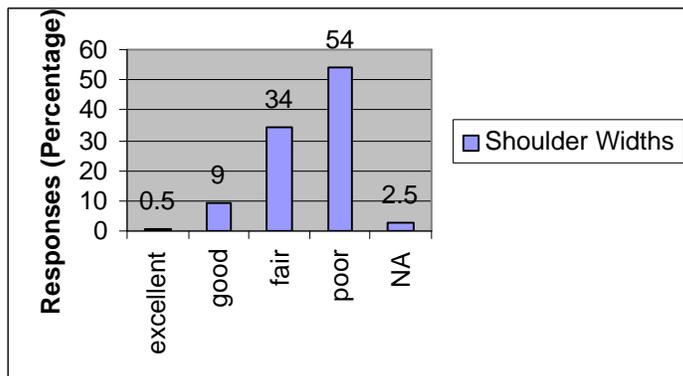
More than 40 percent of the respondents prefer riding on paved, separated, off-street bicycle paths while over 30 percent prefer road shoulders. As mentioned previously in this Report, road shoulders play an important role in bicycle travel because of their convenience for bicyclists. However, they are also one of the greatest threats to safety if they are not of sufficient width.



- a) separated (off-street), paved bicycle path
- b) street with bicycle lane
- c) separated (off-street) unpaved bicycle path
- d) paved shoulder of road
- e) mountain trails
- f) sidewalk
- g) multi-use trail
- h) paved roads

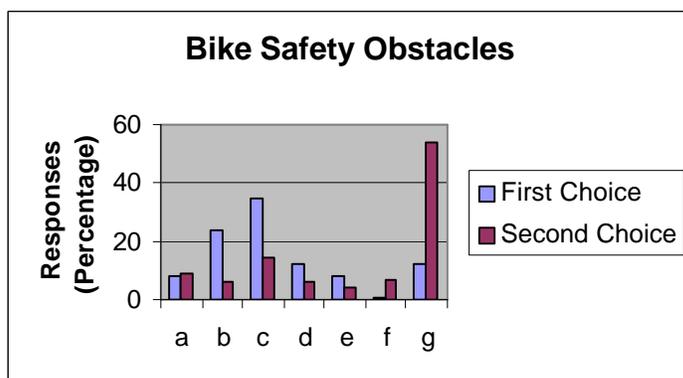
A Colorado bicycle survey yielded similar results for this question. Sixty-three percent of the 5,771 respondents to the Colorado questionnaire preferred paved off-street bike paths while 23 percent preferred streets with bike lanes adjacent to roadways.

A top priority and concern of respondents throughout the survey was road shoulder widths. Over half of the respondents strongly believed Montana’s transportation system could improve on the width of its highway and street shoulders to accommodate bicyclists. This is an important consideration given the fact that road shoulders are one of the preferred riding surfaces of bicyclists.



The Colorado survey also included a question about satisfaction with shoulder widths. Twenty-nine percent of the respondents indicated dissatisfaction with the width of road shoulders in Colorado.

Respondents were asked to prioritize what they believed to be the primary obstacles to bicycle safety in Montana. The primary problem, according to this survey, is a lack of separate bicycle facilities or bicycle paths. Nearly 60 percent of the respondents failed to mention a secondary obstacle. Over 12 percent of the respondents mentioned shoulder widths as a primary obstacle to safety in the “other” category.



- a) need for clarified/stronger state laws and traffic codes
- b) need for enhanced enforcement of laws
- c) lack of separate bicycle facilities
- d) need for better education and training
- e) bicyclist visibility
- f) need for improved signing
- g) other\_\_\_\_\_

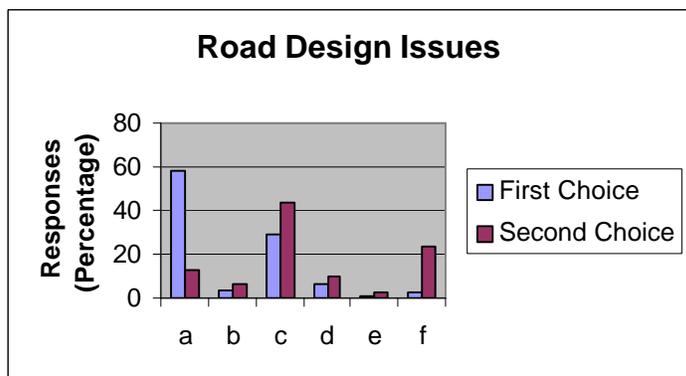
A majority of respondents believed improving bicycle facilities, including wider shoulders and better signing, would do the most to increase bicycle safety.

Bicycle safety and education was mentioned as a secondary concern by about 20 percent of the respondents.



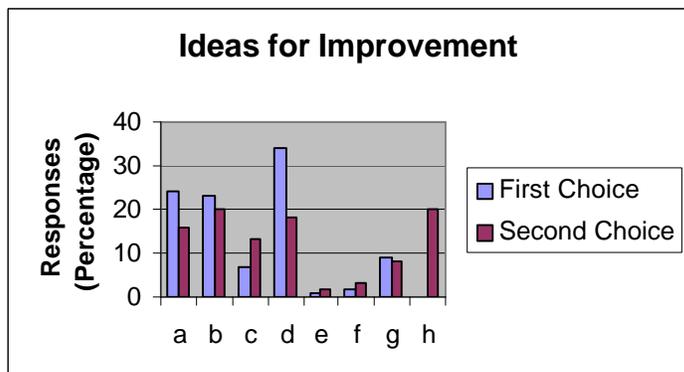
- a) enhanced enforcement of state laws/traffic codes
- b) improved visibility of bicyclists
- c) improved bicycle facilities and amenities (wider shoulders, signing)
- d) clarified/improved statutes and codes
- e) legislation
- f) enhanced bicycle safety education
- g) motor vehicle/bicycle accident data
- h) other\_\_\_\_\_

Nearly sixty percent of the respondents believed road design and construction policies do not provide enough consideration to bicycles. The most popular choice as a secondary priority was to provide wider shoulders in road design.



- a) Current road design/construction policies give little consideration to bicycle usage.
- b) visibility (blind spots)
- c) Road design often does not provide wide shoulders.
- d) road maintenance
- e) signing
- f) other\_\_\_\_\_

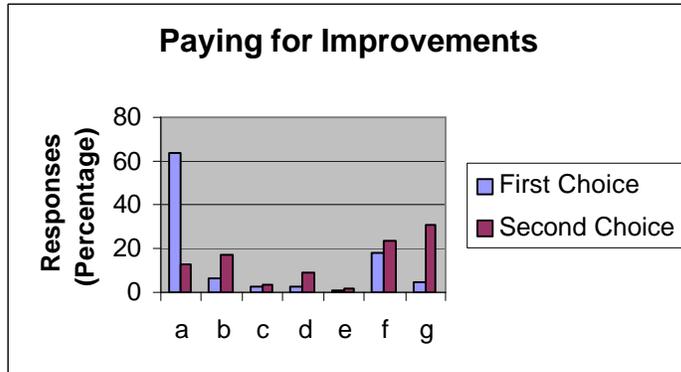
Again, the respondents listed wide shoulders as a priority. Other priorities for improving bicycle safety include construction of bicycle paths and linking lanes and paths to create a transportation system for bicycles.



- a) build more separated (off-street) bicycle paths
- b) link existing bicycle paths to create a bicycle transportation system
- c) improve maintenance on current road system
- d) construct wider road shoulders where possible
- e) seek stronger statutes/regulations
- f) seek stronger enforcement
- g) improve bicycle safety education/training
- h) other\_\_\_\_\_

A large majority (over sixty percent) believed state or federal program funds would be the best way for the Montana Legislature to pay for bicycle safety improvements in the state. A lesser number would pay for these improvements with various grant programs. When provided a blank “other” category for ideas not mentioned on the questionnaire, quite a few respondents offered “gasoline tax” as a way to pay for bicycle safety improvements.

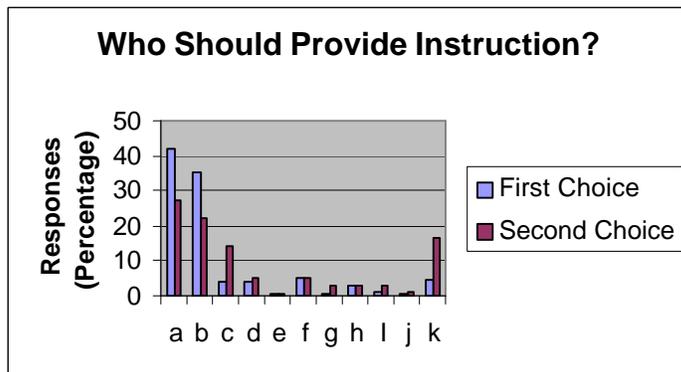
Over half of the respondents to the Colorado survey suggested that their state pay for bicycle safety projects by reallocating funds from other transportation projects while thirty-five percent would charge a bicycle license or registration fee.



- a) state or federal program funds
- b) license and registration fees
- c) user fees for trails/paths
- d) new tax earmarked for these improvements
- e) school funds
- f) grant programs
- g) gasoline tax

Respondents strongly believed that children should receive bicycle safety education at school and from their parents. This was true for both primary and secondary priority responses.

The Colorado survey yielded similar results. Nearly half (45 percent) of the respondents believed children should receive bicycle safety training at school and 31 percent maintained they should receive it from their parents.



- a) school
- b) parents
- c) parks/recreation programs
- d) community organizations/clubs
- e) pamphlets/brochures
- f) police/fire departments
- g) media
- h) bicycle shops
- i) government programs
- j) seminars
- k) other \_\_\_\_\_

## 14.0 CONCLUSION

Prior to initiating this study, the Montana Bicycle Safety Study Advisory Panel discussed the reasons for implementing programs designed to enhance bicycle safety. Each of the panelists agreed that safe places to ride bicycles were limited in Montana due to a variety of factors, including: narrow road shoulders, inappropriate use of rumble strips and a general lack of motorist awareness.

The Montana Bicycle Safety Study examined all of the relevant state statutes, codes, funding mechanisms, design and engineering manuals and other factors affecting bicycle facilities and riders. Montana's communities and schools were consulted about their successes and challenges and Montana's citizens, including a significant portion of bicyclists, were asked for their opinions about what they would do to enhance bicycle safety.

The survey administered for this study revealed interesting opinions about what the respondents would like to see in the future in terms of bicycle facilities and education programs. It is clear that bicyclists and others believe increased and improved bicycle facilities should be a priority.

However, better bicycle facilities alone will not make bicycling safer. A serious commitment must be made to develop safety education and training programs for children and adults, including both bicyclists and motorists. At the same time, a stronger commitment to enforcement of vehicle codes and other laws must be made to help motorists and bicyclists learn to share the road.

The ideas considered in Section 2.0 of this Report represent a multi-faceted approach. These are the most visible, effective and desirable ideas examined through the HJR 37 Bicycle Safety Study process. However, paying for some of them presents a challenge. State agencies cannot afford additional expenditures and respondents to the survey were unwilling to pay extra fees for new programs. Most favored paying for bicycle safety improvements with revenues from the motor fuels tax. However, MDT indicated that more than \$2 million is already leveraged from motor fuels tax revenue for bicycle and pedestrian related needs—not including funds designated for CTEP. Designating further expenditures from this source is not a likely possibility.

However, several of the ideas are achievable without designation of new funding sources. MDT is already implementing its new rumble strip policy and demonstrated its commitment to the consideration of bicycle and pedestrian accommodations in design phase projects. A legislative committee is considering changes to traffic regulations to better protect bicyclists and pedestrians and several of Montana's communities are pursuing additional bicycle facilities.

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The following bulleted statements are a summary of the ideas considered in this study, and their associated costs.

- *Development of additional road shoulder width wherever feasible to better accommodate bicycle travel. **Potential Cost: \$92,000 per mile of roadway or approximately \$184-\$736 million depending on widths of existing shoulders***
- *Development of a statewide inventory and database of rumble strips on the Montana highway system. Ensure a continual review of rumble strip policy that best accommodates both bicyclists and motorists. **Potential Cost: \$10,000***
- *Implementation of a “Share the Road” sign program on prioritized bicycle routes. **Potential Cost: \$1,000 per sign***
- *Development of a statewide bicycle traffic study to provide information to help prioritize facilities for bicycle safety design. **Potential Cost: Undetermined***
- *Amendment of Montana’s vehicular assault statute to include penalties for assault of a bicyclist or pedestrian with a vehicle. **Potential Cost: \$100 to \$5,000, depending on the complexity of the legislation***
- *Implementation of a statewide bicycle and pedestrian safety program. **Potential Cost: \$350,000 initial implementation and \$300,000 annually to maintain***
- *Inclusion of bicycle/pedestrian safety education information as part of the driver education program. **Potential Cost: \$50,000***

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# 2001 Montana Legislature

[About Bill -- Links](#)

HOUSE JOINT RESOLUTION NO. 37  
INTRODUCED BY J. PATTISON, GALLUS, CALLAHAN, CLANCY,  
KEANE, MCCANN, WAITSCHIES, MOOD



A JOINT RESOLUTION OF THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE STATE OF MONTANA REQUESTING THAT THE LEGISLATIVE COUNCIL DESIGNATE AN APPROPRIATE INTERIM COMMITTEE OR ASSIGN SUFFICIENT STAFF RESOURCES TO STUDY, IN THE CONTEXT OF PROVIDING FOR BICYCLE TRAFFIC SAFETY, THE PLANNING, DESIGN, AND CONSTRUCTION OF MONTANA HIGHWAYS AND ANY PROGRAMS OR REQUIREMENTS FOR DRIVER EDUCATION, TRAINING, OR LICENSING OR FOR CYCLIST SAFETY EQUIPMENT OR CLOTHING.

WHEREAS, there is a growing trend in the use of bicycles as a primary mode of transportation; and

WHEREAS, bicycles are increasingly a vehicle of choice for tourists, recreationists, and commuters; and

WHEREAS, the presence of bicycles on highways and other high-volume thoroughfares presents certain challenges and dangers to cyclists and other highway users alike; and

WHEREAS, the challenges and dangers may be reduced through enhanced cyclist responsibility, including certain highway use requirements that may include lights or mirrors or special safety equipment or clothing; and

WHEREAS, the challenges and dangers to cyclists and other users of highways can be mitigated through thoughtful planning, design, and construction of highways; and

WHEREAS, the challenges and dangers to all highway users may be further mitigated with new or additional driver education

and training or through certain regulation of highway traffic or highway users.

NOW, THEREFORE, BE IT RESOLVED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE STATE OF MONTANA:

That the Legislative Council be requested to designate an appropriate interim committee, pursuant to section 5-5-217, MCA, or direct sufficient staff resources to investigate:

A-1

(1) the planning, design, and construction criteria and processes followed by the Department of Transportation in regard to accommodating bicycle traffic on Montana highways and other high-volume thoroughfares; and

(2) the education and training programs and requirements specifically focused on bicycle and other traffic safety issues, if any, employed in:

(a) elementary and secondary education, including driver education courses; and

(b) the licensing of drivers.

BE IT FURTHER RESOLVED, that the investigation include an examination of the potential cost of enhancing bicycle safety through:

(1) improved planning, design, and construction or reconstruction of highways and other high-volume thoroughfares;

(2) establishing or enhancing cyclist responsibility with respect to the use of safety equipment and clothing; and

(3) enhanced education and training of highway users, including cyclists and other highway users.

BE IT FURTHER RESOLVED, that, if the study is assigned to staff, any findings or conclusions be presented to and reviewed by an appropriate committee designated by the Legislative Council.

BE IT FURTHER RESOLVED, that all aspects of the study, including presentation and review requirements, be concluded prior to September 15, 2002.

BE IT FURTHER RESOLVED, that the final results of the study, including any findings, conclusions, comments, or

recommendations of the appropriate committee, if any, be reported to the 58th Legislature.

- END -

## MONTANA CODE ANNOTATED

**60-3-303. Footpaths and bicycle trails to be established -- funding.** (1) The commission or a county or city, with funds received from the commission, may construct footpaths and bicycle trails. Footpaths and bicycle trails may be established and extended to the nearest city or town or termination point of the highway or road wherever a highway, road, or street is being constructed, reconstructed, or relocated. In addition, footpaths and bicycle trails may be established along all streets under state jurisdiction. Funds may also be expended to construct footpaths and bicycle trails along other highways, roads, and streets and in parks and recreation areas if the construction enhances traffic safety and convenience. Footpaths and bicycle trails may be constructed along all sections of the national defense interstate highway system.

(2) Footpaths and trails may not be established under subsection (1):

(a) if the cost of establishing the paths and trails is excessively disproportionate to the need or probable use; or

(b) if sparsity of population, other available ways, or other factors indicate an absence of any need for the paths and trails.

(3) The commission shall let to contract in any period of 5 consecutive fiscal years not less than an average of \$200,000 each year for footpaths and bicycle trails. The department shall establish accounting procedures to document compliance with this subsection.

**60-3-304. Duties of department of transportation.** (1) The establishment of paths and trails and the expenditure of funds as authorized by this part are for the promotion of traffic safety on the highways, roads, and streets of the state. The transportation commission shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this part.

(2) The department of transportation shall recommend construction standards for footpaths and bicycle trails. The department shall provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the commission and cities and counties. The commission and cities and counties shall restrict the use of footpaths and bicycle trails under their jurisdiction to pedestrians and nonmotorized vehicles to the maximum possible extent, except that the commission, in cooperation with local governments, may authorize the operation of snowmobiles on designated portions of bicycle trails and footpaths when snow conditions permit.

**61-8-333. Required position and method of turning at intersections -- bicycle turn procedures -- signs.** (1) The driver of a vehicle intending to turn at an intersection shall do so as follows:

(a) Right turns. Both the approach for a right turn and a right turn shall be made as close as practicable to the right-hand curb or edge of the roadway.

(b) Left turn on two-way roadways. At any intersection where traffic is permitted to move in both directions on each roadway entering the intersection, an approach for a left turn shall be made in that portion of the right half of the roadway nearest the center line thereof and by passing to the right of such center line where it enters the intersection and after entering the intersection the left turn shall be made so as to leave the intersection to the right of the center line of the roadway being entered. Whenever practicable the left turn shall be made in that portion of the intersection to the left of the center of the intersection.

(c) Left turns on other than two-way roadways. At any intersection where traffic is restricted to one direction on one or more of the roadways, the driver of a vehicle intending to turn left at any such intersection shall approach the intersection in the extreme left-hand lane lawfully available to traffic moving in the direction of travel of such vehicle and after entering the intersection the left turn shall be made so as to leave the intersection, as nearly as practicable, in the left-hand lane lawfully available to traffic moving in such direction upon the roadway being entered.

(d) A person making a turn under subsections (1)(a), (1)(b), or (1)(c) is entitled to the full use of the lane from which the turn may be legally made.

(2) (a) A person operating a bicycle who intends to turn left shall follow the course described in subsection (1) or in subsection (2)(b).

(b) A person operating a bicycle who intends to turn left shall approach the turn as close as practicable

to the right curb or edge of the roadway. After proceeding across the intersecting roadway, the person shall make the turn as close as practicable to the curb or edge of the roadway on the far right side of the intersection. After turning, the person shall yield to through traffic and shall comply with any official traffic control device or police officer regulating traffic on the highway along which he intends to proceed.

(3) Local authorities in their respective jurisdictions may cause markers, buttons, or signs to be placed within or adjacent to intersections and thereby require and direct that a different course from that specified in this section be traveled by vehicles turning at an intersection, and when markers, buttons, or signs are so placed no driver of a vehicle shall turn a vehicle at an intersection other than as directed and required by such markers, buttons, or signs.

**61-8-601. Effect of regulations.** (1) It is a misdemeanor for any person to do any act forbidden or fail to perform any act required in this part.

(2) These regulations applicable to bicycles shall apply whenever a bicycle is operated upon any highway or upon any path set aside for the exclusive use of bicycles subject to those exceptions stated herein.

**61-8-602. Traffic laws applicable to persons operating bicycles.** Every person operating a bicycle shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of any other vehicle by chapter 7, this chapter, and chapter 9 which by their very nature can have no application.

**61-8-603. Riding on Bicycles.** A person propelling a bicycle shall not ride other than upon or astride a permanent and regular seat attached thereto.

**61-8-604. Clinging to vehicles.** No person riding upon any bicycle, coaster, roller skates, sled, or toy vehicle shall attach the same or himself to any vehicle upon a roadway, but a bicycle trailer or bicycle semitrailer may be attached to a bicycle if that trailer or semitrailer has been designed for such attachment.

**61-8-605. Riding on roadways.** (1) As used in this section, "roadway" means that portion of a highway improved, designed, or ordinarily used for vehicular travel, including the paved shoulder.

(2) A person operating a bicycle upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as near to the right side of the roadway as practicable except when: (a) overtaking and passing another vehicle proceeding in the same direction; (b) preparing for a left turn at an intersection or into a private road or driveway; or (c) necessary to avoid a condition that makes it unsafe to continue along the right side of the roadway, including but not limited to a fixed or moving object, parked or moving vehicle, pedestrian, animal, surface hazard, or a lane that is too narrow for a bicycle and another vehicle to travel safely side by side within the lane.

(3) A person operating a bicycle upon a one-way highway with two or more marked traffic lanes may ride as close to the left side of the roadway as practicable.

(4) Persons riding bicycles upon a roadway shall ride in single file except when: (a) riding on paths or parts of roadways set aside for the exclusive use of bicycles; (b) overtaking and passing another bicycle; (c) riding on a paved shoulder or in a parking lane, in which case the persons may ride two abreast; or (d) riding within a single lane on a laned roadway with at least two lanes in each direction, in which case the persons may ride two abreast if they do not impede the normal and reasonable movement of traffic more than they would otherwise impede traffic by riding single file and in accordance with the provisions of this chapter.

(5) A bicycle, as defined in [61-1-123\(2\)](#), is excluded from the provisions of subsections (2) and (3).

**61-8-606. Carrying articles.** No person operating a bicycle shall carry any package, bundle, or article which prevents the driver from keeping at least one hand upon the handle bars.

**61-8-607. Lamps and other equipment on bicycles.** (1) Every bicycle when in use at nighttime shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front. A lamp emitting a red light visible from a distance of 500 feet to the rear may be used in addition to rear-facing reflectors required by this section.

(2) Every bicycle when in use at nighttime shall be equipped with an essentially colorless front-facing reflector, essentially colorless or amber pedal reflectors, and a red rear-facing reflector. Pedal reflectors shall be mounted on the front and back of each pedal. (3) Every bicycle when in use at nighttime shall be

equipped with either tires with retroreflective sidewalls or reflectors mounted on the spokes of each wheel. Spoke mounted reflectors shall be within 76 millimeters (3 inches) of the inside of the rim and shall be visible on each side of the wheel. The reflectors on the front wheel shall be essentially colorless or amber and the reflectors on the rear wheel shall be amber or red. (4) Reflectors required by this section shall be of a type approved by the department.

(5) Every bicycle shall be equipped with a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement.

(6) Every bicycle is encouraged to be equipped with a flag clearly visible from the rear and suspended not less than 6 feet above the roadway when the bicycle is standing upright. The flag shall be fluorescent orange in color.

**61-8-608. Bicycles on sidewalks.** (1) A person operating a bicycle upon and along a sidewalk or across a roadway upon and along a crosswalk shall yield the right-of-way to any pedestrian and shall give audible signal before overtaking and passing any pedestrian.

(2) A person may not ride a bicycle upon and along a sidewalk or across a roadway upon and along a crosswalk where the use of a bicycle is prohibited by official traffic-control devices.

(3) Except as provided in subsections (1) and (2), a person operating a vehicle by human power upon and along a sidewalk or across a roadway upon and along a crosswalk has all the rights and duties applicable to a pedestrian under the same circumstances.

**61-8-609. Bicycle racing--when lawful.** (1) Bicycle racing on a highway is prohibited except as authorized in this section.

(2) Bicycle racing on a highway is lawful when a racing event is approved by state or local authorities on any highway under their respective jurisdictions. Approval of bicycle highway racing events will be granted only under conditions that assure reasonable safety for all race participants, spectators, and other highway users and that prevent unreasonable interference with traffic flow.

(3) By agreement with the approving authority, participants in an approved bicycle highway racing event may be exempted from compliance with any traffic laws otherwise applicable if traffic control is adequate to assure the safety of all highway users.

Proposed MCA text:

**Limitations on driving in a bicycle lane or pedestrian path.** No motor vehicle shall be driven or parked in a bicycle lane or pedestrian path adjacent to a travel lane, signed and delineated by a solid white line. Upon any roadway where motor vehicles are permitted, a person may drive a moped in any lane designated for the use of bicycles.

**Limitations on driving in a bicycle lane or pedestrian path.** No motor vehicle shall be driven or parked in a bicycle lane or pedestrian path signed and delineated from the adjacent travel lane by a solid white line. Upon any roadway where motor vehicles are permitted, a person may drive a moped in any lane designated for the use of bicycles.

**61-1-123. Bicycle.** "Bicycle" means: (1) every vehicle propelled solely by human power upon which any person may ride, having two tandem wheels and a seat height of more than 25 inches from the ground when the seat is raised to its highest position, except scooter and similar devices; or

(2) every vehicle equipped with two or three wheels, foot pedals to permit muscular propulsion and an independent power source providing a maximum piston or rotor displacement may not exceed 3.05 cubic inches (50 centimeters) regardless of the number of chambers in the power source. The power source must not be capable of propelling the device, unassisted, at a speed exceeding 30 miles an hour (48.28 kilometers an hour) on a level surface. The device must be equipped with a power drive system that functions directly or automatically only and does not require clutching or shifting by the operator after the drive system is engaged.

**61-8-332. Restrictions on use of controlled-access roadway.** (1) The department of transportation may by rule and local authorities may by ordinance prohibit the use of a controlled-access highway under their respective jurisdictions by pedestrians, bicycles, or other nonmotorized traffic or by a person operating a motor-driven cycle.

(2) The department or the local authority which adopts the prohibitory regulation shall erect and maintain official signs on the controlled-access roadway on which these regulations are applicable. It is unlawful for a person to violate the restrictions stated on those signs.

**61-8-333. Required position and method of turning at intersections -- bicycle turn procedures --**

**signs.** (1) The driver of a vehicle intending to turn at an intersection shall do so as follows: (a) Right turns. Both the approach for a right turn and a right turn shall be made as close as practicable to the right-hand curb or edge of the roadway. (b) Left turn on two-way roadways. At any intersection where traffic is permitted to move in both directions on each roadway entering the intersection, an approach for a left turn shall be made in that portion of the right half of the roadway nearest the center line thereof and by passing to the right of such center line where it enters the intersection and after entering the intersection the left turn shall be made so as to leave the intersection to the right of the center line of the roadway being entered. Whenever practicable the left turn shall be made in that portion of the intersection to the left of the center of the intersection. (c) Left turns on other than two-way roadways. At any intersection where traffic is restricted to one direction on one or more of the roadways, the driver of a vehicle intending to turn left at any such intersection shall approach the intersection in the extreme left-hand lane lawfully available to traffic moving in the direction of travel of such vehicle and after entering the intersection the left turn shall be made so as to leave the intersection, as nearly as practicable, in the left-hand lane lawfully available to traffic moving in such direction upon the roadway being entered (d) A person making a turn under subsections (1) (a), (1) (b), or (1) (c) is entitled to the full use of the lane from which the turn may be legally made.

(2) (a) A person riding a bicycle who intends to turn left shall follow the course described in subsection (1) or in subsection (2) (b). (b) A person operating a bicycle who intends to turn left shall approach the turn as close as practicable to the right curb or edge of the roadway. After proceeding across the intersecting roadway, the person shall make the turn as close as practicable to the curb or edge of the roadway on the far right side of the intersection. After turning, the person shall yield to through traffic and shall comply with any official traffic-control device or police officer regulating traffic on the highway along which he intends to proceed.

(3) Local authorities in their respective jurisdictions may cause markers, buttons, or signs to be placed within or adjacent to intersections and thereby require and direct that a different course from that specified in this section be traveled by vehicles turning at an intersection other than as directed and required by such markers, buttons, or signs.

**61-8-336. Turning movements and required signals.** (1) No person shall turn a vehicle at an intersection unless the vehicle is in proper position upon the roadway as required by 61-8-333 or turn a vehicle to enter a private road or driveway or otherwise turn a vehicle from a direct course or move right or left upon a roadway unless and until such movement can be made with reasonable safety. No person shall so turn any vehicle without giving an appropriate signal in the manner hereinafter provided in the event any other traffic may be affected by such movement.

(2) A signal of intention to turn right or left, other than when passing, when required shall be given continuously during not less than the last 100 feet traveled by the vehicle before turning in any business, residence, or urban district as defined in 61-1-408 through 61-1-410.

(3) A signal of intention to turn right or left, other than when passing, when required shall be given continuously during not less than the last 300 feet traveled by the vehicle before turning in areas other than those set forth in subsection (2).

(4) A signal by hand and arm need not be given continuously by the person operating a bicycle if the hand is needed in the control or operation of the bicycle.

(5) No person shall stop or suddenly decrease the speed of a vehicle without first giving an appropriate signal in the manner provided herein to the driver of any vehicle immediately to the rear when there is opportunity to give such signal.

**61-8-338. Method of giving hand-and-arm signals.** (1) Except as provided in subsection (2), all signals herein required given by hand and arm shall be given from the left side of the vehicle in the following manner and such signals shall indicate as follows: (a) Left turn. Hand and arm extended horizontally. (b) Right turn. Hand and arm extended upward. (c) Stop or decrease speed. Hand and arm extended downward. (2) The person operating a bicycle may signal a right turn by extending the right hand and arm horizontally.

**61-8-354. Stopping, standing, or parking prohibited in specified places -- exceptions.** (1) No person shall stop, stand, or park a vehicle, except as allowed under subsection (2) or when necessary to avoid conflict with other traffic or in compliance with law or the directions of a police officer or highway patrol officer or traffic-control device, in any of the following places: (a) on a sidewalk; (b) in front of a public or private driveway; (c) within an intersection; (d) within 15 feet of a fire hydrant; (e) on a crosswalk; (f) within 20 feet of a crosswalk at an intersection; (g) within 30 feet upon the approach to any flashing beacon, stop sign, or traffic-control signal located at the side of a roadway; (h) between a safety zone and the adjacent curb or within 30 feet of points on the curb immediately opposite the ends of a safety zone, unless the local authorities indicate a different length by signs or markings; (i) within 50 feet of the nearest rail of a railroad crossing; (j) within 20 feet of the driveway entrance to any fire station and on the side of a street opposite the entrance to any fire station within 75 feet of said entrance when properly signposted; (k) alongside or opposite any street excavation or obstruction when stopping, standing, or parking would obstruct traffic; (l) on the roadway side of any vehicle stopped or parked at the edge or curb of a street; (m) upon any bridge or other elevated structure upon a highway or within a highway tunnel; (n) at any place where official signs prohibit stopping.

(2) A bicycle may be parked on a sidewalk and other such places if the parking does not impede normal and reasonable movement of pedestrians of other traffic.

(3) A public bus stop may not be established in the areas described in subsections (1)(a) through (1)(c) and (1)(e). Otherwise, this section does not prohibit the establishment of public bus stops and the regulation of their use by a local government. Such a bus stop must be established by ordinance pursuant to a traffic and engineering study. Such establishment is subject to review and approval by the department of transportation if the bus stop is to be established on a street or highway under its jurisdiction.

(4) No person shall move a vehicle not lawfully under his control into any such prohibited area or away from a curb such distance as is unlawful.

**61-8-504. Drivers to exercise due care.** Notwithstanding the foregoing provisions of this part, every driver of a vehicle shall exercise due care to avoid colliding with any pedestrian or with any person operating a bicycle upon any roadway and shall give warning by sounding the horn when necessary and shall exercise proper precaution upon observing any child or any confused or incapacitated person upon a roadway.

**61-8-606. Carrying articles.** No person operating a bicycle shall carry any package, bundle, or article which prevents the driver from keeping at least one hand upon the handle bars.

**61-12-101. Powers of local authorities to regulate traffic.** The provisions of chapter 8 and chapter 9 shall not be deemed to prevent local authorities with respect to streets and highways under their jurisdiction and within reasonable exercise of the police power from: (1) regulating the standing or parking of vehicles; (2) regulating the traffic by means of police officers or traffic-control devices; (3) regulating or prohibiting processions or assemblages on the highways; (4) designating particular highways as one-way highways and requiring that all vehicles thereon be moved in one specific direction; (5) regulating the speed of vehicles in public parks; (6) designating any highway as a through highway and requiring that all the vehicles stop before entering or crossing the same, designating any intersection as a stop intersection, and requiring all vehicles to stop at one or more entrances to such intersections; (7) restricting the use of highways as authorized in 61-10-128(2); (8) regulating the operation of bicycles and requiring the registration and licensing of same, including the requirement of a registration fee; (9) regulating or prohibiting the turning of vehicles or specified types of vehicles at intersections; (10) altering the speed limits as authorized herein; (11) regulating the driving of vehicles by any person who is an habitual user of or under the influence of any narcotic drug or who is under the influence of any other drug to a degree which renders him incapable of safely driving a vehicle within the incorporated limits of any city or town; (12) regulating or prohibiting any person who is under the influence of intoxicating liquor from driving or being in actual physical control of any vehicle within the incorporated limits of any city of town;

- (13) regulating or prohibiting the driving of vehicles by any person in a willful or wanton disregard for the safety of persons or property within the incorporated limits of any city or town;
- (14) enacting as ordinances any and all provisions of chapter 8 or chapter 9 and any and all other laws regulating traffic, pedestrians, vehicles, and operators thereof, not in conflict with state law or federal regulations and to enforce the same within their jurisdiction.

**41-2-108. Employment of minors who are fourteen and fifteen years old.** (1) Unless enrolled in and employed pursuant to a school-supervised and school-administered work experience or career exploration program pursuant to [41-2-115](#)(2), a minor 14 or 15 years of age may not be employed in any occupation during school hours.

(2) A minor 14 or 15 years of age may be employed outside school hours in:

(a) the distribution or sale of or in the collection for newspapers, magazines, periodicals, or circulars; and

(b) the following occupations in retail, food service, and gasoline service establishments:

(i) office and clerical work, including the operation of an office machine;

(ii) cashiering, selling, modeling, art work, work in an advertising department, window trimming, and comparative shopping;

(iii) price marking and tagging by hand or by machine, assembling orders, packing, and shelving;

(iv) bagging and carrying out a customer's order;

(v) errand and delivery work by foot, bicycle, or public transportation

**90-14-105. Duties and powers of state agencies.** (1) The following state agencies are responsible for developing and implementing community service opportunities consistent with the mission and functions of each agency:

(c) The departments of environmental quality, natural resources and conservation, transportation, and fish, wildlife, and parks are the agencies for community and volunteer projects in conservation and natural resource settings that are designed to support and enhance state parks, wildlife, watchable wildlife, productivity of state lands, streams and lakes, county and city parks, tribal parks, scenic beauty and access, trails and signs, visitor information centers and rest areas, fairgrounds, and any other projects related to conservation or the environment that involve teenagers, young adults, or special community service members, such as adults or senior citizens who provide special skills for a project. Other projects may include bicycle paths and pedestrian trails, landscaping and scenic enhancements, historical and cultural preservation, roadside and stream restoration and enhancement, erosion control, disability enhancement, and experimental and research projects.

**20-7-501. Definitions.** As used in this title, unless the context clearly indicates otherwise, the following definitions apply:

(1) "Teacher of traffic education" means an instructor approved by the superintendent of public instruction to teach traffic education.

(2) "Traffic education" means instruction in motor vehicle, bicycle, pedestrian, and school bus traffic laws or motorcycle laws, in the acceptance of personal responsibility on the public highways, in the causes and consequences of traffic accidents, and in the skills necessary for the safe operation of bicycles and motor vehicles or motorcycles. The instruction must be designed to improve public awareness of motor vehicle, pedestrian, and school bus safety with regard to protecting school-age children.

(3) "Traffic education account" means the state treasury account in the state special revenue fund for the deposit and disbursement of state traffic education revenue.

(4) "Traffic education course" means a course of traffic education that has been approved by the superintendent of public instruction.

**33-23-204. Definitions.** As used in this part, the following definitions apply:

(1) "Motor vehicle" means a vehicle propelled by its own power and designed primarily to transport persons or property upon the highways of the state. The term does not include a bicycle as defined in [61-1-123](#).

(2) "Motor vehicle liability policy" means a policy of automobile or motor vehicle insurance against

liability required under Title 61, chapter 6, parts 1 and 3, and all additional coverages included in or added to the policy by rider, endorsement, or otherwise, whether or not required under Title 61, including, without limitation, uninsured, underinsured, and medical payment coverages.

**45-5-205. Negligent vehicular assault -- penalty.** (1) A person who negligently operates a vehicle, other than a bicycle as defined in [61-1-123](#), while under the influence of alcohol, a dangerous drug, any other drug, or any combination of the three, as provided for in [61-8-401](#)(1), and who causes bodily injury to another commits the offense of negligent vehicular assault.

(2) Subject to subsection (3), a person convicted of the offense of negligent vehicular assault shall be fined an amount not to exceed \$1,000 or incarcerated in a county jail for a term not to exceed 1 year, or both, and shall be ordered to pay restitution as provided in [46-18-241](#).

(3) A person convicted of the offense of negligent vehicular assault who caused serious bodily injury to another shall be fined an amount not to exceed \$10,000 or incarcerated for a term not to exceed 10 years, or both, and shall be ordered to pay restitution as provided in [46-18-241](#).

(4) If a term of incarceration is imposed under subsection (2) or (3), the judge may suspend the term of incarceration upon the condition of payment of any fine imposed and of restitution. If the person does not pay the fine or restitution, the term of incarceration may be imposed.

## IDAHO VEHICLE CODE

### 49-103. DEFINITIONS -- B.

(1) "Bicycle" means every vehicle propelled exclusively by human power upon which any person may ride, having two (2) tandem wheels, and except scooters and similar devices.

### 49-714. TRAFFIC LAWS APPLY TO PERSONS ON BICYCLES AND OTHER HUMAN-POWERED VEHICLES -- DUE CARE.

(1) Every person operating a vehicle propelled by human power or riding a bicycle shall have all of the rights and all of the duties applicable to the driver of any other vehicle under the provisions of chapters 6 and 7 of this title, except as otherwise provided in this chapter and except as to those provisions which by their nature can have no application.

(2) Every operator or rider of a bicycle or human-powered vehicle shall exercise due care.

### 49-715. RIDING ON BICYCLES.

(1) A person propelling a bicycle shall not ride other than upon or astride an attached permanent and regular seat.

(2) No bicycle or human-propelled vehicle shall be used to carry more persons at one (1) time than the number for which it is designed and equipped.

(2) An adult rider may carry a child securely attached to his person in a backpack or sling or in a child carrier attached to the bicycle.

### 49-716. CLINGING TO OR FOLLOWING VEHICLES.

(1) No person riding upon any bicycle, coaster, roller skates, skateboard, sled or toy vehicle shall attach it or himself to any vehicle upon a highway.

(2) The provisions of this section shall not prohibit the attachment of a bicycle trailer or bicycle semitrailer to a bicycle if that trailer or semitrailer has been designed for that attachment.

(3) No person riding upon any bicycle or human-powered vehicle shall follow a vehicle so closely as to constitute an immediate hazard to the rider.

### 49-717. POSITION ON HIGHWAY.

(1) Any person operating a bicycle upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as close as practicable to the right-hand curb or edge of the roadway except under any of the following situations:

- (a) When overtaking and passing another bicycle or vehicle proceeding in the same direction.
  - (b) When preparing for a left turn at an intersection or into a private road or driveway.
  - (c) When reasonably necessary to avoid conditions including fixed or moving objects, parked or moving vehicles, bicycles, pedestrians, animals, surface hazards or substandard width lanes that make it unsafe to continue along the right-hand curb or edge.
- (2) Any person operating a bicycle upon a one-way roadway with two (2) or more marked traffic lanes may ride as near the left-hand curb or edge of the roadway as practicable.

49-718. RIDING TWO ABREAST.

Persons riding bicycles upon a highway shall not ride more than two (2) abreast except on paths or parts of highways set aside for the exclusive use of bicycles. Persons riding two (2) abreast shall not impede the normal and reasonable movement of traffic and, on a laned roadway, shall ride within a single lane.

49-719. CARRYING ARTICLES.

No person operating a bicycle shall carry any package, bundle or article which prevents the operator from using at least one (1) hand in the control and operation of the bicycle.

49-720. STOPPING -- TURN AND STOP SIGNALS.

(1) A person operating a bicycle or human-powered vehicle approaching a stop sign shall slow down *and, if required for safety, stop* before entering the intersection. *After slowing to a reasonable speed or stopping, the person shall yield the right-of-way to any vehicle in the intersection or approaching on another highway so closely as to constitute an immediate hazard during the time the person is moving across or within the intersection or junction of highways, except that a person after slowing to a reasonable speed and yielding the right-of-way if required, may cautiously make a turn or proceed through the intersection without stopping.*

(2) A person operating a bicycle or human-powered vehicle approaching a steady red traffic-control signal shall stop before entering the intersection, except that a person after slowing to a reasonable speed and yielding the right-of-way if required, may cautiously make a right-hand turn without stopping or may cautiously make a left-hand turn onto a one-way highway without stopping.

(3) A person riding a bicycle shall comply with the provisions of section 49-643, Idaho Code.

(4) A signal of intention to turn right or left shall be given during not less than the last one hundred (100) feet traveled by the bicycle before turning, provided that a signal by hand and arm need not be given if the hand is needed in the control or operation of the bicycle.

49-721. BICYCLES ON SIDEWALKS.

(1) A person operating a bicycle upon and along a sidewalk, or across a highway upon and along a crosswalk, shall yield the right-of-way to any pedestrian, and shall give an audible signal before overtaking and passing a pedestrian or another bicyclist.

(2) A person shall not operate a bicycle along and upon a sidewalk or across a highway upon and along a crosswalk, where the use of bicycles is prohibited by official traffic-control devices.

(3) A person operating a vehicle by human power upon and along a sidewalk, or across a highway upon and along a crosswalk, shall have all the rights and duties applicable to a pedestrian under the same circumstances.

49-722. BICYCLE RACING.

(1) Bicycle racing on the highways is prohibited except as authorized in this section.

(2) Bicycle racing on a highway shall not be unlawful when a racing event has been approved by the department or local law enforcement authorities on any highway under their respective jurisdictions. Approval of bicycle highway racing events shall be granted only under conditions which assure reasonable safety for all race participants,

spectators and other highway users, and which prevent unreasonable interference with traffic flow which would seriously inconvenience other highway users.

(3) By agreement with the approving authority, participants in an approved bicycle highway racing event may be exempt from compliance with any traffic laws otherwise applicable, provided that traffic control is adequate to assure the safety of all highway users.

#### 49-723. LIGHT AND REFLECTOR REQUIRED AT NIGHT.

Every bicycle in use at the times described in section 49-903, Idaho Code, shall be operated with a light emitting device visible from a distance of at least five hundred (500) feet to the front, attached to the bicycle or the rider, and with a reflector *clearly visible from the rear of the bicycle*.

#### 49-724. ADDITIONAL LIGHTS AUTHORIZED.

A bicycle or its rider may be equipped with lights or reflectors in addition to those required in section 49-723, Idaho Code.

#### 49-810. METHOD OF GIVING HAND AND ARM SIGNALS.

All signals required to be given by hand and arm shall be given from the left side of the vehicle in the following manner, and the signals shall indicate the following:

- (1) Left turn. Hand and arm extended horizontally.
- (2) Right turn. Hand and arm extended upward. A person operating a bicycle may give a right turn signal by extending the right hand and arm horizontally and to the right side of the bicycle.
- (3) Stop or decrease speed. Hand and arm extended downward.

### CHAPTER 42

#### STATE PARKS

##### 67-4234. DUTIES OF COORDINATOR.

(1) The coordinator shall advise the board on the development of the system. Trails within the system shall be designated as one (1) or more of the following: hiking, horseback riding, **bicycling**, snow traveling, or other nonmotorized travel.

(2) The coordinator, in advising the board, shall be guided by the following principles:

- (a) emphasis shall be placed on routes located on public lands, but not to the exclusion of private lands;
- (b) effort shall be made to maximize the accessibility of trails to potential users;
- (c) there shall be utilization of public meetings to secure citizen advice; and
- (d) effort shall be made to develop trails which will harmonize with other state goals, such as education and historical preservation.

(3) The coordinator shall advise the board on necessary legislation to further the development of the system.

#### COUNTY COMMISSIONERS AND HIGHWAY OFFICERS

40-616. SIDEWALKS OR SIDE PATHS. Commissioners and boards of commissioners of any highway district are empowered to set apart on and along any public highway outside the boundaries of incorporated cities a strip of land not exceeding eight (8) feet in width for a sidewalk or sidepath and make an order designating the width of the path and cause the line separating the path from the highway proper to be located and

marked with stakes, posts, grade or other marker. After the sidewalks and paths have been set apart and the line separating them from the highway has been located and marked, the use shall be restricted to pedestrians and riders of bicycles propelled solely by the power of the rider.

## UTAH VEHICLE CODE

### 41-6-1 Definitions.

As used in this chapter:

- (1) "Alley" means a street or highway intended to provide access to the rear or side of lots or buildings in urban districts and not intended for through vehicular traffic.
- (2) "All-terrain type I vehicle" is used as defined in Section [41-22-2](#).
- (3) "Authorized emergency vehicle" means fire department vehicles, police vehicles, ambulances, and other publicly or privately owned vehicles as designated by the commissioner of the Department of Public Safety.
- (4) "**Bicycle**" means every device propelled by human power upon which any person may ride, having two tandem wheels, except scooters and similar devices.

(10) "Electric assisted **bicycle**" means a moped with an electric motor with a power output of not more than 1,000 watts, which is not capable of propelling the device at a speed of more than 20 miles per hour on level ground, and which is not capable of increasing the speed of the device when human power is used to propel the device at more than 20 miles per hour.

(20) "Moped" means a motor-driven cycle having both pedals to permit propulsion by human power, and a motor which produces not more than two brake horsepower and which is not capable of propelling the cycle at a speed in excess of 30 miles per hour on level ground. If an internal combustion engine is used, the displacement may not exceed 50 cubic centimeters and the moped shall have a power drive system that functions directly or automatically without clutching or shifting by the operator after the drive system is engaged. A moped includes an electric assisted **bicycle** and a motor assisted scooter.

(24) "Motor-driven cycle" means every motorcycle and motor scooter, moped, electric assisted **bicycle**, motor assisted scooter, and every motorized **bicycle** having an engine with less than 150 cubic centimeters displacement or having a motor which produces not more than five horsepower.

- (39) "Roadway" means that portion of highway improved, designed, or ordinarily used for vehicular travel, exclusive of the sidewalk, berm, or shoulder, even though any of them are used by persons riding **bicycles** or other human-powered vehicles. If a highway includes two or more separate roadways, roadway refers to any roadway separately but not to all roadways collectively.

### [41-6-87](#). Operation of **bicycle** or moped on and use of roadway -- Duties, prohibitions.

- (1) A person operating a **bicycle** or a moped upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as near as practicable to the right-hand edge of the roadway except when:
  - (a) overtaking and passing another **bicycle** or vehicle proceeding in the same direction;
  - (b) preparing to make a left turn at an intersection or into a private road or driveway;
  - (c) traveling straight through an intersection that has a right-turn only lane that is in conflict with the straight through movement; or
  - (d) reasonably necessary to avoid conditions that make it unsafe to continue along the right-hand edge of the roadway including fixed or moving objects, parked or moving vehicles, **bicycles**, pedestrians, animals, surface hazards, or a lane that is too narrow for a **bicycle** and a vehicle to travel safely side by side within the lane.
- (2) A person operating a **bicycle** or moped on a highway shall operate in the designated direction of traffic.
- (3) Persons riding **bicycles** or mopeds upon a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of **bicycles**. Persons riding two abreast may not impede the normal and reasonable movement of traffic and shall ride within a single lane.
- (4) If a usable path for **bicycles** has been provided adjacent to a roadway, **bicycle** riders may be directed

by official traffic-control devices to use the path and not the roadway.

**41-6-89. Bicycle -- Prohibited equipment -- Brakes required.**

- (1) A **bicycle** may not be equipped with, and a person may not use upon a **bicycle**, any siren or *whistle*.
- (2) Every **bicycle** shall be equipped with a brake or brakes which enable its driver to stop the **bicycle** within 25 feet from a speed of 10 miles per hour on dry, level, clean pavement.

**41-6-87.9. Bicycle racing -- When approved -- Prohibitions -- Exceptions -- Authorized exemptions from traffic laws.**

- (1) **Bicycle** racing on highways is prohibited under Section [41-6-51](#), except as authorized in this section.
- (2) **Bicycle** racing on a highway is permitted when a racing event is approved by state or local authorities on any highway under their respective jurisdictions. Approval of **bicycle** highway racing events may be granted only under conditions which assure reasonable safety for all race participants, spectators, and other highway users, and which prevent unreasonable interference with traffic flow which would seriously inconvenience other highway users.
- (3) By agreement with the approving authority, participants in an approved **bicycle** highway racing event may be exempted from compliance with any traffic laws otherwise applicable, if traffic control is adequate to assure the safety of all highway users.

**41-6-90. Bicycles -- Lamps and reflective material required.**

- (1) Every **bicycle** in use at the times described in Section [41-6-118](#) shall be equipped with a:
  - (a) lamp of a type approved by the department which is on the front emitting a white light visible from a distance of at least 500 feet to the front; and
  - (b) (i) red reflector of a type approved by the department which is visible for 500 feet to the rear when directly in front of lawful lower beams of head lamps on a motor vehicle; or
  - (ii) red taillight designed for use on a **bicycle** and emitting flashing or nonflashing light visible from a distance of 500 feet to the rear.
- (2) Every **bicycle** when in use at the times described in Section [41-6-118](#) shall be equipped with reflective material of sufficient size and reflectivity to be visible from both sides for 500 feet when directly in front of lawful lower beams of head lamps on a motor vehicle, or in lieu of reflective material, with a lighted lamp visible from both sides from a distance of at least 500 feet.
- (3) A **bicycle** or its rider may be equipped with lights or reflectors in addition to those required by Subsections (1) and (2).

**41-6-84. Bicycle and device propelled by human power and moped riders subject to chapter -- Exception.**

- (1) Except as provided under Subsection (2) or as otherwise specified under this article, a person operating a **bicycle** or any vehicle or device propelled by human power or a moped has all the rights and is subject to the provisions of this chapter applicable to the operator of any other vehicle.
- (2) A person operating a nonmotorized **bicycle** or any vehicle or device propelled by human power *is not subject to the penalties related to operator licenses under alcohol and drug-related traffic offenses*.

**41-6-87.4. Bicycles -- Parking on sidewalk, roadway -- Prohibitions.**

- (1) A person may park a **bicycle** on a sidewalk unless prohibited or restricted by an official traffic-control device.
- (2) A **bicycle** parked on a sidewalk may not impede the normal and reasonable movement of pedestrian or other traffic.
- (3) A **bicycle** may be parked on the roadway at any angle to the curb or edge of the roadway at any location where parking is allowed.
- (4) A **bicycle** may be parked on the roadway abreast of another **bicycle** or **bicycles** near the side of the roadway at any location where parking is allowed.
- (5) A **bicycle** may not be parked on a roadway in a manner as to obstruct the movement of a legally parked motor vehicle.

(6) In all other respects, **bicycles** parked anywhere on a highway shall conform with the provisions of Article 14 of this chapter, regarding the parking of vehicles.

**41-6-87.8. Bicycle and moped inspections -- At request of officer.**

A peace officer may at any time upon reasonable cause to believe that a **bicycle** or moped is unsafe or not equipped as required by law, or that its equipment is not in proper adjustment or repair, require the person riding the **bicycle** or moped to stop and submit the **bicycle** or moped to an inspection and a test as appropriate.

**41-6-87.3. Bicycles and human powered vehicle or device to yield right-of-way to pedestrians on sidewalks, paths, or trails -- Uses prohibited -- Negligent collision prohibited -- Speed restrictions -- Rights and duties same as pedestrians.**

- (1) A person operating a **bicycle** or any vehicle or device propelled by human power shall yield the right-of-way to any pedestrian and shall give audible signal before overtaking and passing a pedestrian.
- (2) A person may not operate a **bicycle** or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a roadway in a crosswalk, where prohibited by official traffic-control devices or ordinance.
- (3) A person may not operate a **bicycle** or any vehicle or device propelled by human power in a negligent manner so as to collide with any pedestrian or other person operating a **bicycle** or any vehicle or device propelled by human power.
- (4) A person operating a **bicycle** or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a driveway, or across a roadway on a crosswalk may not operate at a speed greater than is reasonable and prudent under the existing conditions, giving regard to the actual and potential hazards then existing.
- (5) Except as provided under Subsections (1) and (4), a person operating a **bicycle** or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a roadway on a crosswalk, has all the rights and duties applicable to a pedestrian under the same circumstances.

**41-6-87.5. Bicycles and mopeds -- Turns -- Designated lanes.**

- (1) A person riding a **bicycle** or moped and intending to turn left shall comply with Section [41-6-66](#) or Subsection (2).
- (2) *A person riding a **bicycle** or moped intending to turn left shall approach the turn as close as practicable to the right curb or edge of the roadway. After proceeding across the intersecting roadway, to the far corner of the curb or intersection of the roadway edges, the bicyclist or moped operator shall stop, as far out of the way of traffic as practical. After stopping he shall yield to any traffic proceeding in either direction along the roadway he had been using. After yielding and complying with any official traffic-control device or peace officer regulating traffic, he may proceed in the new direction.*
- (3) Notwithstanding Subsections (1) and (2), the Department of Transportation and local authorities in their respective jurisdictions may cause official traffic-control devices to be placed and require and direct that a specific course be traveled by turning **bicycles** and mopeds. When the devices are placed, a person may not turn a **bicycle** other than as directed by the devices.

**41-6-86. Persons on bicycles, mopeds, skates, and sleds not to attach to moving vehicles -- Exception.**

- (1) A person riding a **bicycle**, moped, coaster, skate board, roller skates, sled, or toy vehicle may not attach it or himself to any moving vehicle upon a highway.
- (2) This section does not prohibit attaching a trailer or semitrailer to a **bicycle** or moped if that trailer or semitrailer has been designed for attachment.

**41-6-88. Bicycles and mopeds -- Carrying bundle -- One hand on handlebars.**

A person operating a **bicycle** or moped may not carry any package, bundle, or article which prevents the use of both hands in the control and operation of the **bicycle** or moped. A person operating a **bicycle** or moped shall keep at least one hand on the handlebars at all times.

**41-6-87.7. Bicycles and mopeds -- Turn signals -- Exceptions.**

- (1) Except as provided in this section, a person riding a **bicycle** or moped shall comply with Section [41-6-69](#).
- (2) A person is not required to signal by hand and arm continuously if the hand is needed in the control or operation of the **bicycle** or moped.
- (3) A person operating a **bicycle** or moped and who is stopped in a lane designated for turning traffic only is not required to signal prior to making the turning movement.

**41-6-71. Signals -- How made -- Exceptions for right hand signals.**

- (1) Except as provided in Subsection (2), a person operating a vehicle shall give the required hand and arm signals from the left side of the vehicle as follows:
  - (a) Left turn: hand and arm extended horizontally;
  - (b) Right turn: hand and arm extended upward; and
  - (c) Stop or decrease speed: hand and arm extended downward.
- (2) A person operating a **bicycle** or device propelled by human power may give the required hand and arm signals for a right turn by extending the right hand and arm horizontally to the right.

**41-6-106.10. Sidewalk -- Driving prohibited -- Exception.**

Except for a **bicycle** or device propelled by human power, a person may not operate a vehicle upon a sidewalk or sidewalk area except upon a driveway.

**63-11a-101. Definitions.**

As used in this chapter:

- (1) "Council" means the Recreational Trails Advisory Council.
- (2) "Division" means the Division of Parks and Recreation.
- (3) "Recreational trail" or "trail" means a multi-use path used for muscle-powered activities, including **bicycling**, cross-country skiing, walking, jogging, horseback riding, and other compatible uses.

**41-6-85. Carrying more persons than design permits prohibited -- Exception.**

A **bicycle** or moped may not be used to carry more persons at one time than the number for which it is designed or equipped, except that an adult rider may carry a child securely attached to his person in a back pack or sling.

**10-8-69. Annoying pastimes in streets.**

They may prohibit or regulate the rolling of hoops, playing of ball, flying of kites, riding of **bicycles** or tricycles, or any other amusements or practices *having a tendency to annoy persons passing in the streets or on sidewalks, or to frighten teams of horses, or to interfere with traffic.*

OHMYGOODNESS.....( This is a very old provision last modified in 1953)

**41-6-141.5. Sale of unapproved lighting and other equipment prohibited.**

(a) A person shall not sell or offer for sale any lamp, reflector, hydraulic brake fluid, seat belt, safety glass, emergency disablement warning device, studded tire, motorcycle helmet, eye protection device for motorists, or red rear **bicycle** reflector unless and until it has been approved by the department.

(b) A person shall not sell or offer for sale any item of equipment for which a standard has been adopted under Section [41-6-142](#) unless and until it has been approved by the department.

**41-6-17. Regulatory powers of local authorities -- Traffic-control device affecting state highway -- Necessity of erecting traffic-control devices.**

(1) The provisions of this chapter do not prevent local authorities, with respect to highways under their jurisdiction and within the reasonable exercise of police power, from:

(a) regulating or prohibiting stopping, standing, or parking;

(b) regulating traffic by means of peace officers or official traffic-control devices;

(c) regulating or prohibiting processions or assemblages on the highways;

(d) designating particular highways or roadways for use by traffic moving in one direction under

Section [41-6-60](#);

(e) establishing speed limits for vehicles in public parks, which supersede Section [41-6-48](#) regarding speed limits;

(f) designating any highway as a through highway or designating any intersection or junction of roadways as a stop or yield intersection or junction;

(g) restricting the use of highways under Section [72-7-408](#);

(h) regulating the operation of **bicycles** and requiring the registration and inspection of them, including requiring a registration fee; (etc...)

## OREGON VEHICLE CODE

**801.150 "Bicycle."** "Bicycle" means a vehicle that:

- (1) Is designed to be operated on the ground on wheels;
- (2) Has a seat or saddle for use of the rider;
- (3) Is designed to travel with not more than three wheels in contact with the ground;
- (4) Is propelled exclusively by human power; and
- (5) Has every wheel more than 14 inches in diameter or two tandem wheels either of which is more than 14 inches in diameter. [1983 c.338 §22]

**801.155 "Bicycle lane."** "Bicycle lane" means that part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles except as otherwise specifically provided by law. [1983 c.338 §23]

**801.160 "Bicycle path."** "Bicycle path" means a public way, not part of a highway, that is designated by official signs or markings for use by persons riding bicycles except as otherwise specifically provided by law. [1983 c.338 §24]

**801.258 "Electric assisted bicycle."** "Electric assisted bicycle" means a vehicle that:

- (1) Is designed to be operated on the ground on wheels;
- (2) Has a seat or saddle for use of the rider;
- (3) Is designed to travel with not more than three wheels in contact with the ground;
- (4) Has both fully operative pedals for human propulsion and an electric motor; and
- (5) Is equipped with an electric motor that:
  - (a) Has a power output of not more than 1,000 watts; and
  - (b) Is incapable of propelling the vehicle at a speed of greater than 20 miles per hour on level ground. [1997 c.400 §2; 1999 c.59 §233]

**801.345 "Moped."** "Moped" means a vehicle, including any bicycle equipped with a power source, other than an electric assisted bicycle as defined in ORS

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801.258 or a motor assisted scooter as defined in ORS 801.348, that complies with all of the following:

- (1) It is designed to be operated on the ground upon wheels.
- (2) It has a seat or saddle for use of the rider.
- (3) It is designed to travel with not more than three wheels in contact with the ground.
- (4) It is equipped with an independent power source that:
  - (a) Is capable of propelling the vehicle, unassisted, at a speed of not more than 30 miles per hour on a level road surface; and
  - (b) If the power source is a combustion engine, has a piston or rotor displacement of 35.01 to 50 cubic centimeters regardless of the number of chambers in the power source.
- (5) It is equipped with a power drive system that functions directly or automatically only and does not require clutching or shifting by the operator after the system is engaged. [1983 c.338 §59; 1985 c.16 §19; 1997 c.400 §5; 2001 c.749 §25]

**801.348 "Motor assisted scooter."** "Motor assisted scooter" means a vehicle that:

- (1) Is designed to be operated on the ground with not more than three wheels;
- (2) Has handlebars and a foot support or seat for the operator's use;
- (3) Can be propelled by motor or human propulsion; and
- (4) Is equipped with a power source that is incapable of propelling the vehicle at a speed of greater than 24 miles per hour on level ground and:
  - (a) If the power source is a combustion engine, has a piston or rotor displacement of 35 cubic centimeters or less regardless of the number of chambers in the power source; or

(b) If the power source is electric, has a power output of not more than 1,000 watts. [2001 c.749 §2]

## BICYCLES

**814.400 Application of vehicle laws to bicycles.** (1) Every person riding a bicycle upon a public way is subject to the provisions applicable to and has the same rights and duties as the driver of any other vehicle concerning operating on highways, vehicle equipment and abandoned vehicles, except:

(a) Those provisions which by their very nature can have no application.

(b) When otherwise specifically provided under the vehicle code.

(2) Subject to the provisions of subsection (1) of this section:

(a) A bicycle is a vehicle for purposes of the vehicle code; and

(b) When the term "vehicle" is used the term shall be deemed to be applicable to bicycles.

(3) The provisions of the vehicle code relating to the operation of bicycles do not relieve a bicyclist or motorist from the duty to exercise due care. [1983 c.338 §697; 1985 c.16 §335]

**814.405 Status of electric assisted bicycle.** An electric assisted bicycle shall be considered a bicycle, rather than a motor vehicle, for purposes of the Oregon Vehicle Code, except when otherwise specifically provided by statute. [1997 c.400 §4]

**814.410 Unsafe operation of bicycle on sidewalk; penalty.** (1) A person commits the offense of unsafe operation of a bicycle on a sidewalk if the person does any of the following:

(a) Operates the bicycle so as to suddenly leave a curb or other place of safety and move into the path of a vehicle that is so close as to constitute an immediate hazard.

(b) Operates a bicycle upon a sidewalk and does not give an audible warning before overtaking and passing a pedestrian and does not yield the right of way to all pedestrians on the sidewalk.

(c) Operates a bicycle on a sidewalk in a careless manner that endangers or would be likely to endanger any person or property.

(d) Operates the bicycle at a speed greater than an ordinary walk when approaching or entering a crosswalk, approaching or crossing a driveway or crossing a curb cut or pedestrian ramp and a motor vehicle is approaching the crosswalk, driveway, curb cut or pedestrian ramp. This paragraph does not require reduced speeds for bicycles either:

(A) At places on sidewalks or other pedestrian ways other than places where the path for pedestrians or bicycle traffic approaches or crosses that for motor vehicle traffic; or

(B) When motor vehicles are not present.

(e) Operates an electric assisted bicycle on a sidewalk.

(2) Except as otherwise specifically provided by law, a bicyclist on a sidewalk or in a crosswalk has the same rights and duties as a pedestrian on a sidewalk or in a crosswalk.

(3) The offense described in this section, unsafe operation of a bicycle on a sidewalk, is a Class D traffic violation. [1983 c.338 §699; 1985 c.16 §337; 1997 c.400 §7]

**814.420 Failure to use bicycle lane or path; exceptions; penalty.** (1) Except as provided in subsection (2) of this section, a person commits the offense of failure to use a bicycle lane or path if the person operates a bicycle on any portion of a roadway that is not a bicycle lane or bicycle path when a bicycle lane or bicycle path is adjacent to or near the roadway.

(2) A person is not required to comply with this section unless the state or local authority with jurisdiction over the roadway finds, after public hearing, that the bicycle lane or bicycle path is suitable for safe bicycle use at reasonable rates of speed.

(3) The offense described in this section, failure to use a bicycle lane or path, is a Class D traffic violation. [1983 c.338 §700; 1985 c.16 §338]

**814.430 Improper use of lanes; exceptions; penalty.** (1) A person commits the offense of improper use of lanes by a bicycle if the person is operating a bicycle on a roadway at less than the normal speed of traffic using the roadway at that time and place under the existing conditions and the person does not ride as close as practicable to the right curb or edge of the roadway.

(2) A person is not in violation of the offense under this section if the person is not operating a bicycle as close as practicable to the right curb or edge of the roadway under any of the following circumstances:

(a) When overtaking and passing another bicycle or vehicle that is proceeding in the same direction.

(b) When preparing to execute a left turn.

(c) When reasonably necessary to avoid hazardous conditions including, but not limited to, fixed or moving objects, parked or moving vehicles, bicycles, pedestrians, animals, surface hazards or other conditions that make continued operation along the right curb or edge unsafe or to avoid unsafe operation in a lane on the roadway that is too narrow for a bicycle and vehicle to travel safely side by side. Nothing in this paragraph excuses the operator of a bicycle from the requirements under ORS 811.425 or from the penalties for failure to comply with those requirements.

(d) When operating within a city as near as practicable to the left curb or edge of a roadway that is designated to allow traffic to move in only one direction along the roadway. A bicycle that is operated under this paragraph is subject to the same requirements and exceptions when operating along the left curb or edge as are applicable when a bicycle is operating along the right curb or edge of the roadway.

(e) When operating a bicycle alongside not more than one other bicycle as long as the bicycles are both being operated within a single lane and in a manner that does not impede the normal and reasonable movement of traffic.

(f) When operating on a bicycle lane or bicycle path.

(3) The offense described in this section, improper use of lanes by a bicycle, is a Class D traffic violation. [1983 c.338 §701; 1985 c.16 §339]

**814.440 Failure to signal turn; exceptions; penalty.** (1) A person commits the offense of failure to signal for a bicycle turn if the person does any of the following:

(a) Stops a bicycle the person is operating without giving the appropriate hand and arm signal continuously for at least 100 feet before executing the stop.

(b) Executes a turn on a bicycle the person is operating without giving the appropriate hand and arm signal for the turn for at least 100 feet before executing the turn.

(c) Executes a turn on a bicycle the person is operating after having been stopped without giving, while stopped, the appropriate hand and arm signal for the turn.

(2) A person is not in violation of the offense under this section if the person is operating a bicycle and does not give the appropriate signal continuously for a stop or turn because circumstances require that both hands be used to safely control or operate the bicycle.

(3) The appropriate hand and arm signals for indicating turns and stops under this section are those provided for other vehicles under ORS 811.395 and 811.400.

(4) The offense described under this section, failure to signal for a bicycle turn, is a Class D traffic violation. [1983 c.338 §703; 1985 c.16 §341]

**814.450 Unlawful load on bicycle; penalty.** (1) A person commits the offense of having an unlawful load on a bicycle if the person is operating a bicycle and the person carries a package, bundle or article which prevents the person from keeping at least one hand upon the handlebar and having full control at all times.

(2) The offense described in this section, unlawful load on a bicycle, is a Class D traffic violation. [1983 c.338 §704]

**814.460 Unlawful passengers on bicycle; penalty.** (1) A person commits the offense of unlawful passengers on a bicycle if the person operates a bicycle and carries more persons on the bicycle than the number for which it is designed or safely equipped.

(2) The offense described in this section, unlawful passengers on a bicycle, is a Class D traffic violation. [1983 c.338 §705]

**814.470 Failure to use bicycle seat; penalty.** (1) A person commits the offense of failure to use a bicycle seat if the person is operating a bicycle and the person rides other than upon or astride a permanent and regular seat attached to the bicycle.

(2) The offense described in this section, failure to use bicycle seat, is a Class D traffic violation. [1983 c.338 §706]

**814.480 Nonmotorized vehicle clinging to another vehicle; penalty.** (1) A person commits the offense of nonmotorized vehicle clinging to another vehicle if the person is riding upon or operating a bicycle, coaster, roller skates, sled or toy vehicle and the person clings to another vehicle upon a roadway or attaches that which the person is riding or operating to any other vehicle upon a roadway.

(2) The offense described in this section, nonmotorized vehicle clinging to another vehicle, is a Class D traffic violation. [1983 c.338 §707]

**814.484 Meaning of "bicycle" and "operating or riding on a highway." (1)**

For purposes of ORS 814.485, 814.486, 815.052 and 815.281, "bicycle" has the meaning given in ORS 801.150 except that:

(a) It also includes vehicles that meet the criteria specified in ORS 801.150 (1) to (4) but that have wheels less than 14 inches in diameter.

(b) It does not include tricycles designed to be ridden by children.

(2) For purposes of the offenses defined in ORS 814.485, 814.486 and 815.281 (2), a person shall not be considered to be operating or riding on a bicycle on a highway or on premises open to the public if the person is operating or riding on a three-wheeled nonmotorized vehicle on a beach while it is closed to motor vehicle traffic. [1993 c.408 §§3a,3b]

**814.485 Failure to wear protective headgear; penalty.** (1) A person commits the offense of failure of a bicycle operator or rider to wear protective headgear if the person is under 16 years of age, operates or rides on a bicycle on a highway or on premises open to the public and is not wearing protective headgear of a type approved under ORS 815.052.

(2) Exemptions from this section are as provided in ORS 814.487.

(3) The offense described in this section, failure of a bicycle operator or rider to wear protective headgear, is a traffic violation punishable by a maximum fine of \$25. [1993 c.408 §2; 1995 c.581 §1]

**814.486 Endangering bicycle operator or passenger; penalty.** (1) A person commits the offense of endangering a bicycle operator or passenger if:

(a) The person is operating a bicycle on a highway or on premises open to the public and the person carries another person on the bicycle who is under 16 years of age and is not wearing protective headgear of a type approved under ORS 815.052; or

(b) The person is the parent, legal guardian or person with legal responsibility for the safety and welfare of a child under 16 years of age and the child operates or rides on a bicycle on a highway or on premises open to the public without wearing protective headgear of a type approved under ORS 815.052.

(2) Exemptions from this section are as provided in ORS 814.487.

(3) The offense described in this section, endangering a bicycle operator or passenger, is a traffic violation punishable by a maximum fine of \$25. [1993 c.408 §3; 1995 c.581 §2]

**814.487 Exemptions from protective headgear requirements.** A person is exempt from the requirements under ORS 814.485 and 814.486 to wear protective headgear, if wearing the headgear would violate a religious belief or practice of the person. [1995 c.581 §4]

**814.488 Citations; exemption from requirement to pay fine.** (1) If a child in violation of ORS 814.485 is 11 years of age or younger, any citation issued shall be issued to the parent, legal guardian or person with legal responsibility for the safety and welfare of the child for violation of ORS 814.486, rather than to the child for violation of ORS 814.485.

(2) If a child in violation of ORS 814.485 is at least 12 years of age and is under 16 years of age, a citation may be issued to the child for violation of ORS 814.485 or to the parent, legal guardian or person with legal responsibility for the safety and welfare of the child for violation of ORS 814.486, but not to both.

(3) The first time a person is convicted of an offense described in ORS 814.485 or 814.486, the person shall not be required to pay a fine if the person proves to the satisfaction of the court that the person has protective headgear of a type approved under ORS 815.052. [1993 c.408 §§3c,7]

**814.489 Use of evidence of lack of protective headgear on bicyclist.**

Evidence of violation of ORS 814.485 or 814.486 and evidence of lack of protective headgear shall not be admissible, applicable or effective to reduce the amount of damages or to constitute a defense to an action for damages brought by or on behalf of an injured bicyclist or bicycle passenger or the survivors of a deceased bicyclist or passenger if the bicyclist or passenger was injured or killed as a result in whole or in part of the fault of another. [1993 c.408 §8]

**811.050 Failure to yield to rider on bicycle lane; penalty.** (1) A person commits the offense of failure of a motor vehicle operator to yield to a rider on a bicycle lane if the person is operating a motor vehicle and the person does not yield the right of way to a person operating a bicycle, electric assisted bicycle, moped, motor assisted scooter or motorized wheelchair upon a bicycle lane.

(2) This section does not require a person operating a moped to yield the right of way to a bicycle or a motor assisted scooter if the moped is operated on a bicycle lane in the manner permitted under ORS 811.440.

(3) The offense described in this section, failure of a motor vehicle operator to yield to a rider on a bicycle lane, is a Class B traffic violation. [1983 c.338 §698; 1985 c.16 §336; 1991 c.417 §4; 1997 c.400 §8; 2001 c.749 §23]

**811.055 Failure to yield to bicyclist on sidewalk; penalty.** (1) The driver of a motor vehicle commits the offense of failure to yield the right of way to a bicyclist

on a sidewalk if the driver does not yield the right of way to any bicyclist on a sidewalk.

(2) The driver of a motor vehicle is not in violation of this section when a bicyclist is operating in violation of ORS 814.410. Nothing in this subsection relieves the driver of a motor vehicle from the duty to exercise due care.

(3) The offense described in this section, failure to yield the right of way to a bicyclist on a sidewalk, is a Class B traffic violation. [1983 c.338 §702; 1985 c.16 §340; 1995 c.383 §44]

**811.060 Vehicular assault of bicyclist or pedestrian; penalty.** (1) For the purposes of this section, "recklessly" has the meaning given that term in ORS 161.085.

(2) A person commits the offense of vehicular assault of a bicyclist or pedestrian if:

(a) The person recklessly operates a vehicle upon a highway in a manner that results in contact between the person's vehicle and a bicycle operated by a person, a person operating a bicycle or a pedestrian; and

(b) The contact causes physical injury to the person operating a bicycle or the pedestrian.

(3) The offense described in this section, vehicular assault of a bicyclist or pedestrian, is a Class A misdemeanor. [2001 c.635 §5]

**811.435 Operation of motor vehicle on bicycle trail; exemptions; penalty.** (1) A person commits the offense of operation of a motor vehicle on a bicycle trail if the person operates a motor vehicle upon a bicycle lane or a bicycle path.

(2) Exemptions to this section are provided under ORS 811.440.

(3) This section is not applicable to mopeds. ORS 811.440 and 814.210 control the operation and use of mopeds on bicycle lanes and paths.

(4) The offense described in this section, operation of a motor vehicle on a bicycle trail, is a Class B traffic violation. [1983 c.338 §643]

**811.440 When motor vehicles may operate on bicycle lane.** This section provides exemptions from the prohibitions under ORS 811.435 and 814.210 against operating motor vehicles on bicycle lanes and paths. The following vehicles are not subject to ORS 811.435 and 814.210 under the circumstances described:

(1) A person may operate a moped on a bicycle lane that is immediately adjacent to the roadway only while the moped is being exclusively powered by human power.

(2) A person may operate a motor vehicle upon a bicycle lane when:

(a) Making a turn;

(b) Entering or leaving an alley, private road or driveway; or

(c) Required in the course of official duty.

(3) An implement of husbandry may momentarily cross into a bicycle lane to permit other vehicles to overtake and pass the implement of husbandry.

(4) A person may operate a motorized wheelchair on a bicycle lane or path.

(5) A person may operate a motor assisted scooter on a bicycle lane or path. [1983 c.338 §645; 1991 c.417 §1; 2001 c.749 §24]

**811.550 Places where stopping, standing and parking prohibited.** This section establishes places where stopping, standing and parking a vehicle are prohibited for purposes of the penalties under ORS 811.555. Except as provided under an exemption in ORS 811.560, a person is in violation of ORS 811.555 if a person parks, stops or leaves standing a vehicle in any of the following places:

(23) On a bicycle lane. Exemptions under ORS 811.560 are applicable to this subsection.

(24) On a bicycle path. Exemptions under ORS 811.560 are applicable to this subsection. [1983 c.338 §669; 1985 c.21 §1; 1985 c.334 §1; 1989 c.433 §2; 1997 c.249 §234; 2001 c.522 §9]

Chapter 389 Oregon Laws 2001

AN ACT

SB 696

Relating to the use of State Highway Fund moneys in recreation areas; amending ORS 366.514; and declaring an emergency.

**Be It Enacted by the People of the State of Oregon:**

**SECTION 1.** ORS 366.514 is amended to read:

366.514. (1) Out of the funds received by the Department of Transportation or by any county or city from the State Highway Fund reasonable amounts shall be expended as necessary to provide footpaths and bicycle trails, including curb cuts or ramps as part of the project. Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. Funds received from the State Highway Fund may also be expended to maintain footpaths and trails and to provide footpaths and trails along other highways, roads and streets [*and in parks and recreation areas*].

(2) Footpaths and trails are not required to be established under subsection (1) of this section:

(a) Where the establishment of such paths and trails would be contrary to public safety;

(b) If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or

(c) Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

(3) The amount expended by the department or by a city or county as required or permitted by this section shall never in any one fiscal year be less than one percent of the total amount of the funds received from the highway fund. However:

(a) This subsection does not apply to a city in any year in which the one percent equals \$250 or less, or to a county in any year in which the one percent equals \$1,500 or less.

(b) A city or county in lieu of expending the funds each year may credit the funds to a financial reserve fund in accordance with ORS 294.525, to be held for not more than 10 years, and to be expended for the purposes required or permitted by this section.

(c) For purposes of computing amounts expended during a fiscal year under this subsection, the department, a city or county may record the money as expended:

(A) On the date actual construction of the facility is commenced if the facility is constructed by the city, county or department itself; or

(B) On the date a contract for the construction of the facilities is entered with a private contractor or with any other governmental body.

(4) For the purposes of this chapter, the establishment of paths, trails and curb cuts or ramps and the expenditure of funds as authorized by this section are for highway, road and street purposes. The department shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this section. The department shall recommend construction standards for footpaths and bicycle trails. Curb cuts or ramps shall comply with the requirements of ORS 447.310 and rules adopted under ORS 447.231. The department shall, in the manner prescribed for marking highways under ORS 810.200, provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the department and cities and counties. The department and cities and counties may restrict the use of footpaths and bicycle trails under their respective jurisdictions to pedestrians and nonmotorized vehicles, except that motorized wheelchairs shall be allowed to use footpaths and bicycle trails.

(5) As used in this section, "bicycle trail" means a publicly owned and maintained lane or way designated and signed for use as a bicycle route.

**SECTION 2. This 2001 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2001 Act takes effect July 1, 2001.**

Approved by the Governor June 15, 2001

Filed in the office of Secretary of State June 15, 2001

Effective date July 1, 2001

**366.112 Bicycle lane and path advisory committee; members, terms, duties and powers; meetings.** (1) There is created in the Department of Transportation an advisory committee to be appointed by the Governor to advise the department regarding the regulation of bicycle traffic and the establishment of bicycle lanes and paths. The committee shall consist of eight members including an employee of a unit of local government employed in land use planning, a representative of a recognized environmental group, a person engaged in the business of selling or repairing bicycles, a member designated by the Oregon Recreation Trails Advisory Council, and at least one member under the age of 21 at the time of appointment. Members of the advisory committee shall be entitled to compensation and expenses as provided by ORS 292.495.

(2) The members shall be appointed to serve for terms of four years each. A vacancy on the committee shall be filled by appointment by the Governor for the unexpired term.

(3) The committee shall meet regularly four times a year, at times and places fixed by the chairperson of the committee. The committee may meet at other times upon notice by the chairperson or three members of the committee. The department shall provide office space and personnel to assist the committee as requested by the chairperson, within the limits of available funds. The committee shall adopt rules to govern its proceedings and may select officers it considers necessary. [1973 c.716 §1; 1993 c.741 §35]

**366.460 Construction of sidewalks within highway right of way.** The Department of Transportation may construct and maintain within the right of way of any state highway or section thereof sidewalks, footpaths, bicycle paths or trails for horseback riding or to facilitate the driving of livestock. Before the construction of any of such facilities the department must find and declare that the construction thereof is necessary in the public interest and will contribute to the safety of pedestrians, the motoring public or persons using the highway. Such facilities shall be constructed to permit reasonable ingress and egress to abutting property lawfully entitled to such rights.

**366.514 Use of highway fund for footpaths and bicycle trails.** (1) Out of the funds received by the Department of Transportation or by any county or city from the State Highway Fund reasonable amounts shall be expended as necessary to provide footpaths and bicycle trails, including curb cuts or ramps as part of the project. Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. Funds received from the State Highway Fund may also be expended to maintain footpaths and trails and to provide footpaths and trails along other highways, roads and streets.

(2) Footpaths and trails are not required to be established under subsection (1) of this section:

(a) Where the establishment of such paths and trails would be contrary to public safety;

(b) If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or

(c) Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

(3) The amount expended by the department or by a city or county as required or permitted by this section shall never in any one fiscal year be less than one percent of the total amount of the funds received from the highway fund. However:

(a) This subsection does not apply to a city in any year in which the one percent equals \$250 or less, or to a county in any year in which the one percent equals \$1,500 or less.

(b) A city or county in lieu of expending the funds each year may credit the funds to a financial reserve fund in accordance with ORS 294.525, to be held for not more than 10 years, and to be expended for the purposes required or permitted by this section.

(c) For purposes of computing amounts expended during a fiscal year under this subsection, the department, a city or county may record the money as expended:

(A) On the date actual construction of the facility is commenced if the facility is constructed by the city, county or department itself; or

(B) On the date a contract for the construction of the facilities is entered with a private contractor or with any other governmental body.

(4) For the purposes of this chapter, the establishment of paths, trails and curb cuts or ramps and the expenditure of funds as authorized by this section are for highway, road and street purposes. The department shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this section. The department shall recommend construction standards for footpaths and bicycle trails. Curb cuts or ramps shall comply with the requirements of ORS 447.310 and rules adopted under ORS 447.231. The department shall, in the manner prescribed for marking highways under ORS 810.200, provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the department and cities and counties. The department and cities and counties may restrict the use of footpaths and bicycle trails under their respective jurisdictions to pedestrians and nonmotorized vehicles, except that motorized wheelchairs shall be allowed to use footpaths and bicycle trails.

(5) As used in this section, "bicycle trail" means a publicly owned and maintained lane or way designated and signed for use as a bicycle route. [1971 c.376 §2; 1979 c.825 §1; 1983 c.19 §1; 1983 c.338 §919; 1991 c.417 §7; 1993 c.503 §12; 1997 c.308 §36; 2001 c.389 §1]

**366.515** [Amended by 1971 c.376 §3; 1973 c.249 §39; repealed by 1975 c.436 §7]

The Montana Department of Transportation (MDT) hired Robert Peccia & Associates ([www.rpa-hln.com](http://www.rpa-hln.com)) to conduct a study of bicycle safety in Montana. Public input is a significant component of the study. Please take a few minutes to reply to the following questions to make your concerns known.

Please return the survey to me at the address below by **Friday, May 10, 2002**. A self-addressed, stamped envelope has been included for your convenience. Thank you for taking the time to help MDT with this important study. Please feel free to share this questionnaire with others.

Mark Lambrecht  
Robert Peccia & Associates  
825 Custer Avenue  
Helena, MT 59604  
(406) 447-5000  
[markl@rpa-hln.com](mailto:markl@rpa-hln.com)

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- A How often do you ride your bicycle?
- 21** a) a couple times a year  
**23** b) a couple of times per month  
**21** c) once a week  
**79** d) every day  
**20** e) 3-4 times per week  
**15** e) other \_\_\_\_\_
- B For what purposes do you use your bicycle?
- 63** a) primary means of transportation  
**102** b) to/from work or school  
**101** c) recreation (within city limits)  
**92** d) recreation (highways/touring)  
**58** e) mountain trails  
**12** f) competition/training  
**3** g) other \_\_\_\_\_
- C What is your preferred riding surface?
- 83** a) separated (off-street), paved bicycle path  
**45** b) street with bicycle lane  
**45** c) separated (off-street) unpaved bicycle path  
**61** d) paved shoulder of road  
**33** e) mountain trails  
**12** f) sidewalk  
**35** g) multi-use trail  
**16** h) paved roads  
**5** i) other \_\_\_\_\_
- D Concerning bicycling in Montana, what is your degree of satisfaction with the following?
- a) Safety education/training  
**4** i. excellent  
**20** ii. good  
**80** iii. fair  
**79** iv. Poor

b) Width of highway and street shoulders

|            |      |           |
|------------|------|-----------|
| <b>1</b>   | i.   | excellent |
| <b>17</b>  | ii.  | good      |
| <b>68</b>  | iii. | fair      |
| <b>107</b> | iv.  | poor      |

c) Courtesy of motorists towards bicyclists

|           |      |           |
|-----------|------|-----------|
| <b>4</b>  | i.   | excellent |
| <b>46</b> | ii.  | good      |
| <b>82</b> | iii. | fair      |
| <b>59</b> | iv.  | poor      |

d) Courtesy of bicyclists towards motorists

|           |      |           |
|-----------|------|-----------|
| <b>2</b>  | i.   | excellent |
| <b>69</b> | ii.  | good      |
| <b>90</b> | iii. | fair      |
| <b>28</b> | iv.  | poor      |

e) Road debris (reasonably clear riding surface)

|           |      |           |
|-----------|------|-----------|
| <b>5</b>  | i.   | excellent |
| <b>47</b> | ii.  | good      |
| <b>83</b> | iii. | fair      |
| <b>57</b> | iv.  | poor      |

f) Crossing conditions at intersections

|           |      |           |
|-----------|------|-----------|
| <b>3</b>  | i.   | excellent |
| <b>43</b> | ii.  | good      |
| <b>94</b> | iii. | fair      |
| <b>53</b> | iv.  | poor      |

g) Bicycle parking facilities at destinations

|           |      |           |
|-----------|------|-----------|
| <b>5</b>  | i.   | excellent |
| <b>31</b> | ii.  | good      |
| <b>65</b> | iii. | fair      |
| <b>89</b> | iv.  | poor      |

h) Bicycle laws/enforcement

|           |      |           |
|-----------|------|-----------|
| <b>1</b>  | i.   | excellent |
| <b>31</b> | ii.  | good      |
| <b>74</b> | iii. | fair      |
| <b>76</b> | iv.  | poor      |

i) other \_\_\_\_\_

5) In your opinion, what are the primary obstacles to bicycle safety in Montana? Please rank your responses.

**15(1)** a) need for clarified/stronger state laws and traffic codes

**18(2)**

- 47(1) b) need for enhanced enforcement of laws
- 12(2)
- 70(1) c) lack of separate bicycle facilities
- 23(1) d) need for better education and training
- 12(2)
- 16(1) e) bicyclist visibility
- 8(2)
- 1(1) f) need for improved signing
- 13(2)
- 7(1) g) other\_\_\_\_\_
- 2(2)

6) In your opinion, what is the best way to improve bicycle safety in Montana? Please rank your responses.

- 11(1) a) enhanced enforcement of state laws/traffic codes
- 17(2)
- 15(1) b) improved visibility of bicyclists
- 27(2)
- 119(1) c) improved bicycle facilities and amenities (wider shoulders, signing)
- 31(2)
- 3(1) d) clarified/improved statutes and codes
- 15(2)
- 1(1) e) legislation
- 4(2)
- 32(1) f) enhanced bicycle safety education
- 39(2)
- 3(1) g) motor vehicle/bicycle accident data
- 3(2)
- 5(1) h) other\_\_\_\_\_
- 0(2)

7) Concerning bicycle safety, with which of the following statements do you agree? Please rank your responses.

- 14(1) a) Enforcement needs to be enhanced.
- 6(2)
- 5(1) b) Laws are vague.
- 6(2)
- 50(1) c) Safety education/training is very important.
- 22(2)
- 39(1) d) Motorist responsibilities to bicyclists need to be clarified.
- 60(2)
- 13(1) e) Bicyclist responsibilities need to be clarified.
- 38(2)
- 75(1) f) Having a safe place to ride would increase bicycle use.
- 18(2)
- 0(1) g) other\_\_\_\_\_
- 0(2)

8) What are the primary safety issues with road design and construction of bicycle facilities? Please rank your responses.

- 116(1) a) Current road design/construction policies give little consideration to bicycle usage.
- 25(2)
- 8(1) b) visibility (blind spots)

- 12(2)  
 57(1) c) Road design often does not provide wide shoulders.  
 88(2)  
 11(1) d) road maintenance  
 20(2)  
 1(1) e) signing  
 6(2)  
 4(1) f) other\_\_\_\_\_

9) What would you like to see done to improve bicycle transportation? Please rank your responses.

- 47(1) a) build more separated (off-street) bicycle paths  
 31(2)  
 46(1) b) link existing bicycle paths to create a bicycle transportation system  
 40(2)  
 13(1) c) improve maintenance on current road system  
 26(2)  
 67(1) d) construct wider road shoulders where possible  
 35(2)  
 2(1) e) seek stronger statutes/regulations  
 4(2)  
 4(1) f) seek stronger enforcement  
 5(2)  
 18(1) g) improve bicycle safety education/training  
 15(2)  
 0(1) h) other\_\_\_\_\_

10) How would you suggest the Montana Legislature pay for improvements or bicycle safety programs? Please rank your responses.

- 127(1) a) state or federal program funds  
 25(2)  
 12(1) b) license and registration fees  
 33(2)  
 6(1) c) user fees for trails/paths  
 7(2)  
 5(1) d) new tax earmarked for these improvements  
 18(2)  
 2(1) e) school funds  
 4(2)  
 35(1) f) grant programs  
 47(2)  
 7(1) g) other\_\_\_\_\_

11) In your opinion, where do you think children should receive bicycle safety instruction? Please rank your responses.

- 84(1) a) school  
 53(2)  
 69(1) b) parents  
 44(2)  
 7(1) c) parks/recreation programs  
 27(2)

- 8(1)** d) community organizations/clubs
- 9(2)**
- 1(1)** e) pamphlets/brochures
- 1(2)**
- 10(1)** f) police/fire departments
- 9(2)**
- 1(1)** g) media
- 6(2)**
- 6(1)** h) bicycle shops
- 5(2)**
- 2(1)** i) government programs
- 5(2)**
- 1(1)** j) seminars
- 2(2)**
- 0(1)** k) other \_\_\_\_\_
- 0(2)**

12) Please answer the following questions for survey purposes only.

- a) my age is
  - 0** i) 18 or under
  - 10** ii) 19-29
  - 55** iii) 30-39
  - 55** iv) 40-49
  - 60** v) 50-59
  - 13** vi) 60 or over
  
- b) I am
  - 66** i) female
  - 134** ii) male

April 2, 2002

name1~  
name2~  
district~  
address~  
citystatezip~

Subject: Montana Department of Transportation Bicycle Safety Study

The Montana Department of Transportation (MDT) is preparing a study in response to the provisions of Montana House Joint Resolution 37 (HJR 37), which directed MDT to assemble an advisory panel to review current state systems, regulations and policies for bicycle transportation and safety. MDT hired Robert Peccia & Associates to complete a bicycle safety study to comply with HJR 37.

RPA is asking you to assist in investigating bicycle safety education conducted in Montana's school system by answering the following questions:

- I. What, if any, type of bicycle safety programs are being conducted in your schools?
- II. What are the costs of these programs?
- III. Have your teachers received training on bicycle safety education?
- IV. What problems have you had in implementing a bicycle safety program?
- V. Would you be interested in increasing the amount of bicycle safety programs offered in your schools?
- VI. Do you have any ideas for enhancing bicycle safety education in schools?
- VII. Do you currently have any funding source for bicycle safety education programs?

Please submit this information to me by **April 30, 2002** to help us remain on schedule. You can also email this information to me at [trish@rpa-hln.com](mailto:trish@rpa-hln.com). If you have any questions, feel free to contact me at 447-5000. Thank you for your cooperation.

Sincerely,  
ROBERT PECCIA & ASSOCIATES, Inc.

Trisha Jensen  
Environmental Planner

April 2, 2002

Fred Chouinard  
Superintendent  
Absarokee Public Schools  
Route 1 Box 2020  
Absarokee, MT 59001

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Each school district in the State of Montana was sent a survey to determine if bicycle safety education programs are conducted in Montana schools. Out of 196 school districts in Montana, 73 responded to the survey. While only 37% of the school districts responded to the survey, these districts represented a majority of counties in the state.

Only 17 of the 56 counties in the state did not have a school district respond to the survey. The results indicated that a majority of counties in western Montana offer some type of bicycle safety program for students while the counties in the eastern part of the state that teach bicycle safety education programs are scattered.

The results of the survey are as follows:

- 34 school districts (47%) that responded to the survey offer some type of bicycle safety education program. A majority of these programs are done in the Physical Education programs of elementary schools. Some areas have volunteers from the local law enforcement that conduct bicycle safety programs for students.
- The cost of these programs varies up to \$1,000 depending on the program being implemented.
- Teachers in 22 districts that responded to the survey have had training for bicycle safety, which includes school districts that do not have a program in place.
- The major problems implementing bicycle safety education programs in schools are funding and time. There is currently no funding available for the school districts for a bicycle safety education program. Not all students have access to bicycles so providing bicycles for all students becomes a problem for many school districts as well.
- 62% of the school districts that did respond to the survey would like to increase the amount of bicycle safety education programs available in that district.

Several school districts that responded to the survey had ideas for enhancing bicycle safety in Montana. These ideas include the following:

- Have better funding available;
- Hold a bike rodeo;
- Have a statewide bicycle safety program implemented through Physical Education classes;
- Would like to see all programs be consistent;
- Have a bicycle safety program taught in the fall with hands-on classes in the Spring;
- Better enforcement of laws;
- Review and implement the Missoula program through the State;
- Hold summer programs through other organizations (law enforcement, Lions Club);
- Get help through the PTA or law enforcement;
- Teach bicycle safety to younger children;
- Better organized helmet sales;
- Contact local police departments for ideas on safety programs;
- Educate adults as well as children;
- Use drivers education to help remind middle school children of bicycle laws;
- More training for teachers; and

- Have a team of instructors travel throughout the state to give bicycle safety presentations in Physical Education classes.

According to Roger DeBrito, physical education teacher in the Missoula school district, in 1980 the Montana Traffic Education Program became a statewide education program that involved training of physical education teachers and police officers statewide. The curriculum for the program included videotapes for kids, workbooks for teachers and videos for middle school students. This program was funded by the federal Highway Traffic Safety Program but the funding was cut soon after the program was implemented and never restored.

Today, individual schools are responsible for the cost of bicycle safety education programs. While few districts have been fortunate to receive donations for bicycle safety programs, most school districts in the state must use the general education fund.

Montana Department of Transportation  
Helena, Montana 59620-1001

Memorandum

To: Distribution

From: Carl S. Peil, PE  
Preconstruction Engineer

Date: July 26, 2000

Subject: Implementation of Revised Rumble Strip Policy

*Carl S. Peil*

|               |          |         |              |            |   |
|---------------|----------|---------|--------------|------------|---|
| File Fax Note | 7671     | Date    | 8/2/02       | # of Pages | 3 |
| Dept.         | RPA      | From    | JOHN CORDELL |            |   |
| Phone #       | 447-5000 | Co.     | MDT          |            |   |
| Fax #         |          | Phone # | 444-7616     |            |   |

The revised Rumble Strip Policy was approved on June 23, 2000. Until the Detailed Drawing is revised, use one of the details found in w:\caddstd\rdstd for all projects that include shoulder rumble strips. The standard summary frame has also been revised.

The Construction Bureau has developed a standard special provision (D17) that addresses the revised policy until the detailed drawing is revised. At that time, the standard special provision will be incorporated into the Supplemental Specifications.

Include one of the attached details, summary frame, and standard special provision in all projects that can be revised before the deadline for comments on the "blue plans" distributed by Contract Plans. For projects under construction, the Area Engineers provided the Construction Bureau a list of projects for which the revised rumble strip design can be implemented by change order.

*A revised page 2 of the policy showing the correct date of "Last Revision" is also attached.*

CSP:WMS

Distribution (all with attachments)

District Administrators  
District Construction Engineers  
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M. A. Wissinger  
R. E. Williams  
R. D. Morgan  
D. P. Dusek  
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Lead Designers  
Area Engineers  
C. S. Peil  
Scott Keller  
Area Engineers  
Lead Designers  
Carol Strizich  
Pat Saindon  
Ted Burch (FHWA:HOP-MT)

Management Memo Number: 96-01  
Date Issued: 3/15/96  
Date Effective: 3/15/96  
Last Revision: 6/23/00

### Location and Design

#### Interstate

Provide rumble strips on the right and left shoulders of all Interstate new construction, reconstruction, and overlay projects unless there is a specific reason not to do so (documented in Scope of Work Report).

Install rumble strips on the right shoulder on an 18.3 meter cycle pattern consisting of a 14.7 meter rumble strip and a 3.6 meter gap. Eliminate the gap on the left shoulder.

At exit ramps end rumble strips 30 meters (100') upstream of the ramp taper, and begin them again at the gore nose left off-ramp shoulder stripe.

At entry ramps end rumble strips at the gore nose, and begin them again at the ramp taper.

Discontinue rumble strips on outside shoulders less than 1.8 meters wide if guardrail exists or is proposed.

#### National Highway Routes, Primary Routes, and Secondary Routes

On segments of National Highway, Primary, or Secondary routes within designated city or urban limits, use engineering judgement on a case-by-case basis to determine if rumble strip installation is appropriate.

Discontinue rumble strips across the full width of all public and private (residential and commercial) road approaches.

Continue rumble strips along the full length, including tapers, of mailbox turnouts, scenic turnouts, historic marker turnouts, etc.

Discontinue rumble strips on shoulders less than 1.8 meters wide if guardrail exists or is proposed.

Install rumble strips on an 18.3 meter cycle pattern consisting of a 14.7 meter rumble strip and a 3.6 meter gap.

#### Shoulder width $\geq$ 1.2 m (4 feet)

Provide rumble strips on the shoulders of all National Highway, Primary, and Secondary new construction, reconstruction, and overlay projects, subject to the restrictions within urban and city limits. Document justification to not provide rumble strips on 1.2 to 1.8 m (4 to 6 ft) shoulders in the Scope of Work Report. Base justification in part on corridor continuity, approach density, bicycle usage, and accident history.

#### Shoulder width $<$ 1.2 m (4 feet)

Do not generally provide rumble strips on shoulders less than 1.2 m (4 feet) wide. In cases where there is little or no bicycle use and the incidence of run-off-the-road accidents is high, rumble strips should be considered. Document justification to provide rumble strips in the Scope of Work Report.

#### Case-by-Case Applications (where significant bicycle use is documented or attested to by District Administrator)

1. Consider a 100 mm offset from shoulder stripe where shoulder width is 1.2 m or less.
2. Consider transverse width of rumble strips of 200 mm where shoulder width is 1.2 m or less.

### CLOSING

Adherence to this policy will result in more consistent use of shoulder rumble strips on Montana highways.

**Rumble Strips****(All Projects with Shoulder Rumble Strips)****1. RUMBLE STRIPS**

Revise supplemental specification 401.04.6 as follows:

401.04.6 Rumble Strips. Rumble strips are measured by the kilometer to the nearest 0.1 kilometer along the centerline of the roadway.

- a. Continuous rumble strip. Gaps in the continuous rumble strip pattern due to ramp terminals, objects, etc. are not measured for payment.
- b. Intermittent rumble strip. Gaps in the intermittent rumble strip pattern due to ramp terminals, approaches, guardrail on narrow shoulders, objects, etc. are not measured for payment. The gap in the intermittent rumble strip pattern shown in the contract is measured for payment.

Each individual line of rumble strips is measured separately.

Fog seal, when specified, for rumble strips is measured by the undiluted gallon of SS-1. The quantity shown in the contract is an estimate of undiluted SS-1 needed to complete the work and is calculated using an application rate of 0.20 liters per square meter and an applied width of 600 millimeters.

2. Superelevated Sections. For superelevated sections, the cross slope of the top of subgrade will be the same as the cross slope of the paved surface from the subgrade shoulder (hinge point in fill sections) on the high side of the section to a point directly below the edge of the shoulder on the low side of the section. From this point to the subgrade shoulder on the low side, the subgrade cross slope will be 2%. This change in subgrade cross slope results in the subgrade shoulder at the inside of the superelevated section being the same distance from the centerline of the pavement as the subgrade shoulder of the tangent section. Maintaining a constant location of the subgrade shoulder on the low side of curves maintains the ditch offset distance, avoids depressions in the ditch grade, reduces surfacing material and aides in the staking of the subgrade.
3. Variable Surfacing Depths. Where adjoining typical sections have different surfacing depths, use a taper rate of 20:1 to transition between the subgrade widths.

See the typical section figures in Section 11.7 for an illustration of the subgrade slope on tangent and superelevated sections.

#### 11.2.2.6 Rumble Strips

##### Guidelines/Location

Rumble strips on the shoulder can potentially prevent run-off-the-road accidents by alerting sleepy or inattentive drivers. However, other factors must be considered when using rumble strips, including:

1. use of the shoulder by bicyclists,
2. impact on pavement life,
3. impact on maintenance operations, and
4. initial construction costs.

The following summarizes MDT criteria for rumble strip guidelines and location on shoulders:

1. Interstates. Provide rumble strips on both the outside and inside shoulders of all Interstate projects unless there is a specific reason not to do so. The reason(s) should be documented in the Scope of Work Report. Typically, place the rumble strips 150 mm outside of the shoulder stripe. At exit ramps, end the rumble strip 30 m upstream of the ramp taper and begin again at the gore nose after the left

shoulder stripe of the exit ramp. For entrance ramps, end the rumble strip at the gore nose and begin again at the end of the ramp taper.

2. Arterials. On arterials located within designated city or urban limits, the decision to install rumble strips will be determined on a case-by-case basis using engineering judgment. Guidelines for rumble strips on all other arterials are based on the shoulder width as follows:
  - a. For shoulder widths equal to or greater than 1.2 m, provide rumble strips on the shoulders of all new construction, reconstruction and overlay arterial projects. Justification to not provide rumble strips will be based on corridor continuity, approach density, bicycle use and crash history. Document the decision and justification for not using rumble strips in the Scope of Work Report. Base the justification in part on corridor continuity, approach density, bicycle usage and crash history. Place the rumble strips 150 mm from the shoulder stripe.
  - b. For shoulder widths less than 1.2 m, do not use rumble strips. However, in cases where there is little bicycle usage and the incidence of run-off-the-road crashes is high, consider providing rumble strips. Document the decision and justification to use rumble strips in the Scope of Work Report.
  - c. Where significant bicycle usage is documented or attested to by the District Administrator and the shoulder width is 1.2 m or less, consider the following modifications:
    - (1) The use of a 100 mm offset from the shoulder stripe.
    - (2) The use of a 200 mm transverse rumbling strip width.
3. Bridge Decks. Do not install rumble strips on bridge decks.
4. Approaches. Discontinue the use of rumble strips across the full width of all public and private approaches.
5. Turnouts. Continue the use of rumble strips along the full length of all turnouts, including tapers (e.g., mailbox turnouts, scenic and historic marker turnouts, chain-up turnouts).
6. Guardrail. Discontinue rumble strips on outside shoulders less than 1.8 m wide if guardrail is in place or will be installed.

7. Installation. Install rumble strips on the right shoulder on an 18.3 m cycle pattern consisting of a 14.7 m rumble strip and a 3.6 m gap. Eliminate the gap on the inside shoulder of multilane highways.

### Design

For guidance on the configuration and design of rumble strips, see the *MDT Detailed Drawings*.

#### **11.2.3 Auxiliary Lanes**

Auxiliary lanes are any lanes beyond the basic through travel lanes, and they are intended for use by vehicular traffic for specific functions (e.g., two-way, left-turn lanes). The following will apply to the design of auxiliary lanes:

1. Width. With the exception of TWLTL, the width of an auxiliary lane is typically the same as that of the adjacent through lane. In rare cases, it may be justified to provide a narrower width (e.g., restricted right-of-way).
2. Shoulders. The designer should meet the following for shoulders adjacent to auxiliary lanes:
  - a. On uncurbed facilities, the shoulder width adjacent to the auxiliary lane should be the same as the normal shoulder width for the approaching roadway. At a minimum, the width may be 1.2 m, assuming the roadway has a shoulder width equal to or greater than 1.2 m.
  - b. On curbed facilities, the shoulder between the auxiliary lane and curb should be the same as that for the normal roadway section, typically 0.6 m. At a minimum, the shoulder may be 0.3 m.
3. Cross Slope. The cross slope for an auxiliary lane will typically be the same as the adjacent through lane, typically 2%.

#### **11.2.4 Two-Way Left-Turn Lanes (TWLTL)**

Two-way left-turn lanes (TWLTL) are a cost-effective method to accommodate a continuous left-turn demand and to reduce delay and accidents.

### 18.2.3 Selection

The Rail, Transit and Planning Division may determine the bikeway type and location for the bicycle facility during the planning stages. However, the Scoping Team, in conjunction with the District Office, Bicycle and Pedestrian Coordinator and local officials, will generally determine the bikeway type and location. If during the design of a project, it is determined that a bicycle facility is warranted, the designer should coordinate with the District and local officials to determine the most appropriate bikeway type.

### 18.2.4 Design

For design criteria of bicycle facilities, the designer is referred to the AASHTO publication *Guide for the Development of Bicycle Facilities*. The following offers a few guidelines that should be considered in the design of bicycle facilities:

1. Rumble Strips. The designer should evaluate bicycle usage to determine if rumble strips should be installed or if additional widening should be done in conjunction with rumble strip installation. Where additional shoulder widening is provided in conjunction with rumble strips, at least a 1.2 m wide shoulder must be provided beyond the outside edge of the rumble strip.
2. Drainage Grates/Utility Covers. Drainage grates and utility covers should be kept out of the expected bicycle path wherever practical. If this cannot be accomplished, these elements should be made bicycle safe.
3. Railroad Crossings. Ideally bicycle facilities should approach at-grade railroad crossing at right angles to the rails.
4. Intersections. Bicycle lanes tend to complicate turning movements at intersections. Adequate signing and pavement markings should be provided to minimize the conflicts; see Chapter Eighteen of the *Montana Traffic Engineering Manual*.
5. Width. The desirable width of a bike lane or widened shoulder should vary with traffic volumes, percentage of trucks and running speeds on a route.
6. Geometric Design. The design of bicycle paths should address geometric issues with bicycle specific criteria. These issues are similar to the geometric issues that are addressed in the design of roads (e.g., stopping sight distance, clear zones, vertical grades, horizontal alignment).