

OREGON E-BIKE RIGHTS:

A Legal Guide for Electric Bike Riders

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THOMAS, COON, NEWTON & FROST Portland Law Firm Since 1980 2nd Edition

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TABLE OF CONTENTS

Preface		1	
I. Who rides e-bikes?		3	
II. The History of Oregon's E-Bike Law		4	
III. What is an e-bike under the law?	5	5	
The Oregon Vehicle Code Federal "low speed electric bicycle" What is not an e-bike?	7 7		
Importance of legal definition	9		
When is an e-bike a motor vehicle?	10		
IV. E-bike rights on the roadway		11	
Riders' Bill of Rights	11		
Sidewalks	13		
Bike lanes	14		
Requirement to use bike lanes	14		
Developing state laws	15		
V. Off-road use of e-bikes in Oregon		17	
Shared use paths	17		
State park trails	18		
Portland park paths	19		
VI. E-bike use on federal lands			
VII. E-bike use on city, county, and private trails			
VIII. E-bikes and insurance		24	
Car insurance	25		
Homeowner's or renter's insurance	26		
Umbrella coverage	26		
APPENDICES			
How does an e-bike work?			
US Forest Service Trail Management Letter			
Resource Guide		ix	
Oregon Bike Shops		xiii	

PREFACE

This booklet about Oregon electric bicycle law is the fourth in our series of Oregon law guides. The first, "Pedal Power: A Legal Guide for Oregon Bicyclists" was published in 2000 and is now in its eighth edition. That book has been widely distributed to riders, libraries, law enforcement, lawyers and has provided the textbook for the regular "Bicycle Rights Legal Clinics" conducted statewide by the lawyers in our office.

It was our intention that "Pedal Power" serve as a law and advocacy reference to help build Oregon's bicycle movement and advance knowledge of Oregon law for cyclists, pedestrians and motorists. Six years later in 2006 we produced "Action Pamphlet #1, A Do It Yourself Guide to Ticketing Bad Drivers, Citizen Initiation of Violation Proceedings" to provide a how-to guide to traffic court enforcement actions by private citizens. Then in 2008 our walking rights legal guide "Oregon Pedestrian Rights: A Legal Guide for Persons on Foot" was published. It contained Oregon laws as well as historic and legal analysis of the politics of the pedestrian right to a legal presence on the public way. It is being revised and re-issued in 2018 as a second edition.

Now we are pleased to issue "Oregon E-Bike Rights: A Legal Guide for Electric Bike Riders." "E-bikes" are appearing on Oregon roads, paths and sidewalks in greater numbers, and federal, state and local authorities are of several minds about what to do with them. Sometimes treated by law as a bicycle, sometimes as a motor vehicle, the bicycle with a battery powered electric motor has created a legal hybrid that defies easy and logical categorization. The Oregon Vehicle Code defines a low-powered "electric assisted bicycle" to be a bicycle, not a motor vehicle, but then also prohibits it from being lawfully ridden on sidewalks statewide. Oregon State Park rules incorporate the Oregon Vehicle Code definition and as of August 2018 allow e-bikes on trails just like regular bikes. However, the e-bike is still not allowed on Oregon beaches except in those places where motor vehicles may be lawfully operated.

E-bike law in Oregon and elsewhere is very much a moving target. Efforts to amend state and federal laws to

reclassify electric bicycles and allow wider access are presently underway, with several campaigns pending at this time. We support many of these efforts to further reform state and federal park rules to allow e-bikes broader access to trails and beaches. For many riders an electric bicycle creates opportunities to travel places that would be unreachable on a regular bicycle because of advancing age, injury or other physical limitations. The battery operated electric motor provides these opportunities without the power, noise, erosion and pollution associated with gasoline-powered engines. It is time for the laws to create a more hospitable legal environment for electric bicycle operators and coordinate the use of legal terminology and rules at the local, state and federal level to reduce presently existing confusion about where e-bikes can and cannot legally go.

This book was truly a team effort. Cynthia Newton, Chris Thomas, Jim Coon and Ray Thomas all participated in the research and writing.

I. WHO RIDES E-BIKES?

Short answer – folks in China. The vast majority of e-bikes on the planet are sold domestically in China – over 31 million in 2016, as compared with just 3.3 million sold in the rest of the world altogether. Market saturation and restrictions on use in major Chinese cities are expected to flatten China's e-bike growth while the rest of the world's purchases increase, but China is still projected to sell five times as many e-bikes to its citizens (about 30 million) as the rest of the world does (about six million) by 2025.¹ E-bikes are 27% of the total Dutch bicycle market, 16% of the German and 7% of the Japanese. In the U.S., e-bike sales are only 1% of the market and tend to rise with gas prices. Nevertheless, with an aging population and improved battery technology, American e-bike market share is projected to continue growing. This is doubtless true in Oregon, as graying Boomer cyclists reluctantly admit they could use a little help.

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¹ "Electric Bicycles," Navigant Research (Q2 2016) accessed June 4, 2018 at https://www.pedegoelectricbikes.com/wp-content/uploads/2016/07/MF-EBIKE-16-Executive-Summary-w-Pedego.pdf

II. THE HISTORY OF OREGON'S E-BIKE LAW

The Oregon legislature passed what is now ORS 801.258 as HB 2602 "The Electric Bicycle Bill" in 1997. Industry representatives proposed the law to provide legal separation from mopeds. Without the law electric bicycles would have been designated as mopeds. Oregon's moped law required use of helmets, registration as motor vehicles, insurance coverage and use of daytime running lights. The electric bicycle industry representatives who testified at the House Transportation Committee Hearing on the bill on March 14, 1997, said then existing moped laws would cause "needless smothering of a brand new industry" when applied to electric bicycles.

Witnesses testified that HB 2602 was based upon a California law which was the nation's first law to create a separate legal category for electric bicycles. In 1997 there were laws similar to HB 2602 being proposed in Washington, Minnesota, Florida, New York and Georgia by industry representatives anxious to create a more hospitable legal environment for their products.

Only bike lanes and bike paths were mentioned as places to ride. The proposal did not allow riding on sidewalks and there was no real discussion about whether this was a good idea or not. No one mentioned riding on trails or beaches.

The e-bikes brought to the hearing in Salem used now outdated technology -- lead acid batteries and a friction on tire drive system. They had a very limited range so that it was necessary to pedal at all times and use the electric assist only as an accessory to regular pedaling.

The e-bike market was tiny -- described as "expanding rapidly" -- from a total market of 1000 units sold in 1995 to 3000 units sold in 1996. Velosurance estimates 350,000 units were sold in the US in 2015.

When legislators asked how far the new e-bikes would go on a charge, they were told that a rider "would not get very far" without pedaling and the motor would turn off, but, with pedaling, a rider could nurse up to 25 miles out of a battery charge. Neither ODOT representatives nor the Oregon State Police opposed the legislation and ODOT testified that the state had no interest in registering or licensing the vehicles even if it meant that e-bikes would not be paying any fee for operation in the state. ODOT's Bicycle and Pedestrian Program Manager Peter Ronkin submitted written testimony that "ODOT sees the electric assisted bicycle as one choice to increase transportation options for Oregonians..." that "furthers the goal of a multi-modal transportation system."

When the legislators asked about speed, they were informed that 1997 models would go about 15-18 mph with a rider so that HB 2602's 20 mph maximum speed would not restrict use. Now that some e-bikes are capable of speeds matching the legal speed limits on Oregon roadways it may be time to take another look at what speed capacities should define an e-bike. There was no mention made of the 1000 watt power output limit (one that remains in ORS 801.258) and one suspects it too is a historic vestige of the early battery power limits of two decades ago. We can expect future legislative proposals to address the speed and power limits that define e-bikes.

III. WHAT IS AN E-BIKE UNDER THE LAW?

A. The Oregon Vehicle Code

Oregon law defines an "electric assisted bicycle" as a vehicle:

- designed to run on the ground
- on no more than three wheels
- with fully operational pedals for human propulsion
- with a seat for the rider
- with an electric motor that
 - o has power output no more than 1,000 watts

o can propel the vehicle no faster than 20 mph on level ground

ORS 801.258. The law has been around since 1997, but no appellate court has had occasion to say what it means. Running "on the ground?" No problem. On three wheels or fewer? That's pretty clear. With a seat and pedals for human propulsion? So far it's just a bicycle. ORS 801.150. But of course the electric motor is the interesting part.

1. A Thousand Watts

Also known as a *kilowatt*, a thousand watts is a little more than one horsepower, about the power output of a microwave oven or a toaster, or the power the sun delivers to a square meter of earth on a nice day. Of course there's not much you can do about it other than read what it says on the bike and trust the manufacturer to tell you how many watts the motor can generate.

2. 20 MPH on Level Ground

The law doesn't say whether the 20 mph limit is with a 98-lb jockey or a 300-lb offensive tackle on the seat. If speed is limited by an electronic governor rather than by the power of the motor, it should make no difference how big the rider is. The controller cuts the power when the bike reaches 20 mph.

And do we count the added human power? What if the bike will do 20 mph under electric power alone but goes 30 mph when the rider pedals hard with the throttle full open? The Oregon statute says the *motor* must be "incapable of propelling the vehicle" faster than 20 mph. That suggests that your e-bike can go as fast as you can make it go, as long as the motor alone will do only 20 on a level surface. As a practical matter, with the motor cutting out at 20 mph, you're not likely to go a whole lot faster than that unless you're headed downhill. Of course violating the speed limit is a separate question; here we're just talking about whether your bike qualifies for treatment as an e-bike under Oregon law.

NOTE: The Oregon definition calls this an "electric-assisted bicycle," which suggests, in e-bike parlance, that it's a pedelec². However, the definition itself doesn't say it can't be a "throttle-controlled" e-bike³, as long as it won't go faster than 20 mph and has a 1000 watt motor or smaller. Oregon courts read statutes literally when they can, so it's likely that either a pedelec or a throttle bike can be an "e-bike" under Oregon law.

B. The Federal "Low Speed Electric Bicycle"

State law controls most aspects of vehicle licensing and operation. But federal law adds safety requirements for motor vehicles as consumer products and limits use of powered vehicles on federal lands. The Consumer Product Safety Act defines "low-speed electric bicycle" as

a two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 mph.

15 USC 2085(b). Most e-bikes you'll see for sale in bike shops will meet these requirements. Again, as with the Oregon definition, this could be a pedelec or a throttle-controlled e-bike, and the question is whether the motor alone will make the bike go more than 20 mph on a level surface.

C. Other Motor Bikes: What Is NOT an E-bike Under Oregon Law?

Electric two-wheelers (and three-wheelers) with more power than the definition of "electric assisted bicycle" allows (more

² "Pedelec" is an e-bike that applies power from the electric motor only when the rider pedals.

³ "Throttle-controlled" means the motor delivers power when the rider operates a throttle lever or other control, whether the rider pedals or not.

power than 1000 watts or faster than 20 mph) are not e-bikes under Oregon law. They include:

A motor assisted scooter has a motor that will make it go up to 24 mph on a level surface, with up to 1000 watts if the motor is electric and displacement up to 35 cc if it's a gasoline engine. ORS 801.348.

A moped is a vehicle "other than an electric assisted bicycle" that has a motor that will make it go up to 30 mph on a level surface and, if it's a gasoline engine, is no larger than 50cc, with no gear shifting. ORS 801.345. This creates a technical legal problem (see the definition of "motorcycle" below).

A **motorcycle** is defined as any self-propelled two or three-wheeled vehicle with a seat or saddle, "other than a moped or farm tractor":

"Motorcycle" means any self-propelled vehicle other than a moped or farm tractor that:

- (1) Has a seat or saddle for use of the rider;
- (2) Is designed to be operated on the ground upon wheels; and
- (3) Is designed to travel with not more than three wheels in contact with the ground.

ORS 801.365.4

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⁴ Since a "motorcycle" is any self-propelled two-wheeler other than a moped, and a moped is defined not to include e-bikes, technically, e-bikes might be considered to be within the Oregon definition of "motorcycles," which would mean licensing, registration and helmets. In the unlikely event that Oregon tried to impose these requirements on e-bikes, the courts would probably hold that e-bikes, or at least pedelecs, aren't wholly "self-propelled" because they're designed to be pedaled by the rider.

D. What difference does the legal definition make?

The point of having an e-bike that's within the definition of "electric assisted bicycle" is so that it is treated legally as a bicycle and not as a motor vehicle, thus avoiding DMV registration, licensing, insurance, and other requirements that apply only to motor vehicles.

When the Oregon Legislature first defined "electric assisted bicycle" in 1997, it also provided that an e-bike "shall be considered a bicycle rather than a motor vehicle" under the law. ORS 814.405. Of course Oregon law also provides that a bicycle "is a vehicle" under the vehicle code, with certain exceptions:

- (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.

ORS 814.400 (emphasis added). So, while a 20-mph, 1000-watt e-bike is a bicycle, because bicycles have the same rights and duties as any other vehicle unless the vehicle code specifically provides otherwise or unless "by their very nature," the laws can't apply to e-bikes, some duties don't apply to e-bikes (e.g. DEQ emissions testing and the law against driving a motor vehicle in a bike lane).

E. When is a bicycle (including an e-bike) a "motor vehicle?"

The Oregon Court of Appeals has considered the meaning of the "bicycle is a vehicle" statute only once, and its decision creates considerable uncertainty about when a bicycle, and therefore an e-bike, is or is not covered by the laws that apply to "motor vehicles." The court held in State v. Potter, 185 Or. App. 81 (2002) that when a statute refers specifically to "motor vehicles," it still covers bicycles because the legislature has not "specifically provided" that bicycles are not covered,5 even though a "bicycle" is defined in the law as a vehicle "propelled exclusively by human power." So the only motor vehicle laws that don't apply to bikes, including e-bikes, are those that "by their nature cannot apply" (like tailpipe emissions and equipment standards) or where the statute actually says "bicycles are exempt" (for example ORS 803.030(7) (title requirements) or ORS 811.405(2) (turn signals), or where the statute gives bicycles specific rights and responsibilities, like the right and the responsibility to be in a bike lane.

E-bikes will be subject to the same judicial analysis. If a statute says it applies to "motor vehicles," and it doesn't specifically say bicycles are excluded, e-bikes, like regular bikes, will be covered.

when bicycles must ride as far to the right as they can and when they may ride in the traffic lane. *See* section III – "E-bike Rights on the Roadway."

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⁵ The *Potter* court applied the statute prohibiting "impeding traffic," ORS 811.130, to bicycles although it prohibits driving a "motor vehicle" so as to impede traffic. The court reasoned that the impeding traffic statute does not "specifically provide" that bicycles are not covered. That's especially interesting because there *is* a statute that specifically covers

IV. E-BIKE RIGHTS ON THE ROADWAY

A. "Rider's Bill of Rights"

What rights does an e-bike rider have on the roadway? The answer is "The same rights as a regular bicycle operator." As above, ORS 814.405 provides: "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."

ORS 814.430, concerning "Improper Use of Lanes," provides the basic collection of bike rights on the roadway; the statutory language is in bold type, followed by an explanation in regular font:

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.

This means that if the e-bike rider is able to maintain the "normal" speed of other traffic at the time, then the e-bike can use the entire roadway lane. But if the e-bike is going less than the normal speed of traffic then the rider must ride as close to the right curb or edge of the roadway as "practicable" which means a flexible standard that allows the rider to adjust position depending on conditions.

(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:

This section contains the exceptions to the general rule, allowing the e-bike rider to take up to the entire lane for the following reasons: (a) When overtaking and passing another bicycle or vehicle that is proceeding in the same direction.

The e-bike may occupy the entire lane when passing a bike, car or bus.

(b) When preparing to execute a left turn.

E-bikes may move into the lane to make a left turn to avoid having to turn left from the right edge of roadway.

(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

(Failure of slower driver to yield to overtaking vehicle) or from the penalties for failure to comply with those requirements.

E-bikes are legally excused from the "ride to the right" rule when any of the above conditions make it potentially unsafe to ride to the right.

(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.

On one-way roads the rider may ride as far as practicable to the right OR TO THE LEFT if proceeding at slower than the normal speed of traffic.

(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.

Two riders may proceed side by side so long as other traffic may proceed. If other traffic is being "plugged" by the riders then they are required to proceed in single file until faster overtaking traffic can safely pass.

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

Indeed, the law *requires a cyclist to use a bicycle lane or path* if one is "adjacent to or near the roadway." ORS 814.420 (see exceptions below).

While ORS 814.430 is called "Improper Use of Lanes" it is really the Rider's Bill of Rights to the Roadway. Bicycle riders are given specific legal rights to either take the whole lane (when proceeding so as not to impede the normal speed of traffic) or to move further into the lane when necessary to avoid specific hazards.

B. No E-Bikes on Sidewalks

Unlike regular bikes, e-bikes cannot be used on the sidewalk in Oregon under state law. ORS 814.410(1)(e).6 Regular

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⁶ Note that e-bike advocates urge reform of this provision, arguing that it unnecessarily restricts use of e-bikes. A state legislative change would be necessary. People For Bikes, an industry-sponsored nonprofit, has distributed a "model e-bike law" that has been passed in seventeen states including Washington and California, and is separately discussed later in this legal guide. *See* subsection E, below. That model law would allow lower-powered e-bikes to use sidewalks.

bikes are allowed on sidewalks, subject to pedestrian right of way except where excluded by municipal ordinance. Local ordinances often exclude bicycles from sidewalks in the central downtown area, but allow bikes on sidewalks in the neighborhoods

C. E-Bike Rights to Bike Lanes

E-bikes are granted the same rights to bike lanes as regular bikes under ORS 814.405. ORS 811.050 provides that, in the bike lane e-bikes, like regular bikes have the right of way over motor vehicle traffic. (So do mopeds, electric personal assistive mobility device, motor assisted scooters and motorized wheelchairs.)

D. E-bikes must use the bike lane if there is one.

Oregon has a "mandatory sidepath law," which requires cyclists, including e-bike riders, to use a bike lane "where a bicycle lane or bicycle path is adjacent to or near the roadway." ORS 814.420. However, there are a number of reasons for which a cyclist, including an e-cyclist, may leave the bike lane, if it is safe to do so:

- (a) Overtaking and passing another bicycle, a vehicle or a pedestrian that is in the bicycle lane or path and passage cannot safely be made in the lane or path.
- (b) Preparing to execute a left turn at an intersection or into a private road or driveway.
- (c) Avoiding debris or other hazardous conditions.

The one exception to the Oregon prohibition on sidewalk e-bike use is for the disabled e-bike rider who may apply to the DMV to obtain a disabled person exception under federal ADA law allowing an exemption for a "power driven mobility device". So far only one Oregonian has successfully obtained such a permit, and this exemption was allowed only for an electric driven recumbent bicycle. *See* https://bikeportland.org/2018/02/19/chris-billman-is-the-only-

nttps://bikeportiand.org/2018/02/19/chris-biliman-is-the-only-oregonian-with-a-disabled-parking-decal-for-his-bicycle-268675.]

- (d) Preparing to execute a right turn where a right turn is authorized.
- (e) Continuing straight at an intersection where the bicycle lane or path is to the right of a lane from which a motor vehicle must turn right.

ORS 814.420.

E. Developing State Laws

State laws governing the use of e-bikes vary widely. Some states, like Kentucky, treat e-bikes just like regular bikes, no matter how fast they go, as long as they have pedals. In some states, like New York, the law treats e-bikes as motorcycles subject to the same registration, licensing and insurance requirements as cars; there is no administrative mechanism to register or license them, so they're technically illegal, but, in practice, in New York City, you can ride a pedelec, but not a throttle bike. About half the states have no definition of an "electric bike."

People For Bikes,⁷ an industry-sponsored nonprofit, is supporting a new system, enacted in seventeen states as of May, 2019, that divides e-bikes into three classes:

Class 1 electric bicycle

A bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.

Class 2 electric bicycle

A bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.

Class 3 electric bicycle

⁷ https://peopleforbikes.org/

A bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour, and is equipped with a speedometer.

Generally, only Class 1 and Class 2 electric bikes can use sidewalks and shared-use paths. *E.g.* RCW 46.61.710(3) in Washington. Other states have recently adopted other e-bike definitions, like North Carolina in 2016 (up to 750 watts, 20 mph) and Vermont (1000 watts, 20 mph with 170-lb rider), so national uniformity is not on the horizon.

V. OFF-ROAD USE OF E-BIKES IN OREGON

A. E-Bikes on Shared-Use Paths

"Shared-Use paths" used to be called "bike paths," then they were called "multi-use paths". The new Oregon Bicycle and Pedestrian Design Guide (2011) sets forth design standards for bike and pedestrian facilities. It describes shared-use paths as used by "pedestrians, joggers, skaters, bicyclists and many others" and "can provide access and mobility to pedestrians and bicyclists in areas where the roads don't serve their needs" (p. 7-1).

"Shared-use paths" are not defined in the Oregon Vehicle Code. There is therefore no state law against riding an e-bike on a shared-use path, and the classification of "electric assisted bikes" as bicycles rather than motor vehicles provides an argument for e-bike use on shared-use paths, as long as those paths are not within the definition of "sidewalk." Thus, for now, by omission, e-bikes are probably allowed on shared-use paths that are not part of the road right-of-way. In fact only one local government seems to have legislated a definition of "shared-use path," – the City of Sherwood:

Shared-use path: A facility for non-motorized access conforming to City standards and separated from the roadway, either in the roadway right-of-way, independent public right-of-way, or a public access easement. It is designed and constructed to allow for safe walking, biking, and other human-powered travel modes.

Sherwood Oregon Code of Ordinances, Sec. 16.10.020. While ebikes are not specifically mentioned, the use of "non-motorized" and "human-powered" suggests that a bike with any sort of motor is probably not permitted on a shared-use path in Sherwood.

⁸ Oregon law defines a "sidewalk" as the part of a public right of way between the outside of the shoulder or "the lateral line of the roadway and the adjacent property line capable of being used by a pedestrian." ORS 801.485.

B. E-Bike Use on State Park Trails

As of August 2018, the Oregon State Parks' definition of e-bike was changed to mirror the Oregon Vehicle Code definition for "Electric assisted bicycle" and thereby allow the e-bike to have the same access on park trails as regular bicycles. OAR 736-010-0026 is now given the title "Operator-Propelled Vehicles, Cycles or Similar Devices". It provides in section 3 and 4 that:

- (3) A person may operate an electric assisted bicycle on roads and trails eight feet or wider unless otherwise posted to restrict or permit such activity.
- (4) The director or designee may open or close roads and trails to the operation of non-motorized cycles, electric assisted bicycles or similar devices, based on an evaluation of factors related to the use of these devices including, but not limited to, the degree of conflict with other users, public safety, or damage to park resources.

Thus, leave is given to park managers to decide on a case by case basis whether e-bike access to trails narrower than 8 feet will be allowed, but e-bike use on trails eight feet wide or greater is presumed to be allowed.

However, e-bike access to beaches is another matter entirely. The Oregon Parks and Recreation Department staff had also recommended expanding e-bike access to all Oregon beaches where regular bicycles could be ridden. However, the Commissioners decided against allowing expanded e-bike beach access. Instead the Commissioners decided that e-bikes for the present would be limited to those Oregon beach areas where cars may be lawfully operated. We anticipate that pressure to change this beach restriction will continue as many potential riders are unable to ride regular bicycles on the soft sand but would be able to ride an e-bike if it were allowed.

C. City of Portland Rules for E-Bike Operation

In the City of Portland, e-bikes are generally prohibited on paths located in any City park. Subsection D of the Code of the City of Portland 20.12.170, entitled "Use of Certain Devices or Equipment" provides:

- D. No person shall operate any motorized vehicle or motorized wheeled vehicle or motorized wheeled device in any Park, except on Park roads or in designated vehicle parking areas, or by permit. The prohibitions of this Section do not apply to authorized service or emergency vehicles or to the following electric mobility devices used by persons who need assistance to be mobile, and used in accordance with all applicable park and traffic rules:
 - 1. "Electric assisted bicycle" as defined in ORS 801.258;
 - 2. "Motorized wheelchair," "Mobility scooter" or "Power chair" defined as an electric powered transportation device for one person in a seated position, with feet resting on floorboards or foot rests, and incapable of exceeding a speed of 20 mph; or
 - 3. "Human or personal transporter system" defined as a self-balancing, electric-powered transportation device with two wheels, able to turn in place, and designed to transport one person in a standing position, with a top speed of 20 mph.

Subsection (1) above exempts e-bikes from the general prohibition on "motorized vehicle or motorized wheeled vehicle or motorized wheeled device," but only when "used by persons who need assistance to be mobile."

Therefore, non-disabled e-bike riders are granted no exception to the motorized vehicle prohibition, and are prohibited on all Park paths throughout the City.

Parks are defined in 20.04.010 as property "placed under the jurisdiction of Portland Parks and Recreation for park or recreational purposes." According to the Portland Parks directory, Parks include critical off-street paths such as the Springwater Corridor, Eastside Esplanade, and Waterfront Park Trail, as well as the Peninsula Crossing Trail, Gateway Green, Forest Park and Powell Butte. Indeed, Portland law excludes non-disabled e-bike use on some of the City's most convenient, safe, and scenic carfree corridors.

VI. E-BIKE USE ON FEDERAL LANDS

On federal land managed by the Bureau of Land Management ("BLM") or US Forest Service ("USFS") e-bikes are included within the definition of "off road vehicle" and "motorized vehicle," The BLM definition of "off-road vehicle" is contained in 43 CFR 8340.5:

(a) Off-road vehicle means any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies.

43 CFR 8340.5. E-bikes are allowed only on trails and in areas that are open to off-road motor vehicle use, and on the terms and conditions that apply to each designation of those trails by local land managers for that use. 43 CFR 8341.1. You can't take your e-bike wherever you can take your regular bike. You can take it where you can take your motorcycle.

The same is true on Forest Service lands:

"Motor vehicle" means any vehicle which is self-propelled, other than:

- (1) A vehicle operated on rails; and
- (2) Any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area.

36 CFR 212.1, 261.2. That makes it pretty clear that the only electrically powered vehicle allowed where motorized vehicles are prohibited is an electric wheelchair. E-bikes are not "designed solely" for use by mobility-impaired folks, and they're not suitable for indoor use. The agency said specifically in response to comments on a snow vehicle rule in 2015 that "New technologies that merge bicycles and motors, such as e-bikes, are considered motor vehicles under section 212.1 of the [Travel Management Rule]." 80 Fed Reg 4503 (Jan. 28, 2015).

When the Forest Service revised its Travel Management Rule in 2005, it rejected proposals that non-motorized bicycles be treated as motor vehicles, 70 Fed Reg 68264 at 68283. The considerations the agency found to distinguish bikes from motor vehicles were noise, speed, power, weight and tread width. Clearly some of these do, and some do not apply, to e-bikes and depend on their power. There is some recent recognition in the agency that demand for use of e-bikes on federal lands may justify changing some of the rules as they apply to e-bikes, but the law for now on federal land is that e-bikes are treated as if they were motorcycles. In fact, the trail designations for trails on which e-bikes are allowed are roads and trails open to "all vehicles," trails open to vehicles 50 inches or less wide and trails open to "motorcycles only."

As a practical matter, whether you can ride a particular trail on an e-bike is likely to depend on local information. Federal lands and private lands often share boundaries, and roads and trails can

content/uploads/2017/10/2160324ElectricBikesAndTrailManagement final-Fed-2016-1.pdf

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⁹ Recent treatment of e-bike access on federal lands is articulated in the US Forest Service Trail Management Letter of March 2016 which is included in this booklet as Appendix 2 and could be viewed as of June, 2018 at: https://peopleforbikes.org/wp-

cross both, with inconsistent consequences for e-bike riders. While e-bikes are treated as motorcycles and therefore banned on most Forest Service singletrack trails, local private land managers may have other rules for timber land and other lands open to public recreation. ¹⁰ Check local websites and bike shops for up to date information about trail closures and conditions. And, once you're there on the ground, watch for signage indicating whether trails and roads are open to e-bikes.

The treatment of e-bikes on federal lands as motorized vehicles is causing e-bike enthusiasts, trail user groups and disability rights advocates to put forth their views urging creation of a system that is fair to all, and protects the environment. Finding the most current version of the governing federal rules is important because use restrictions are being revised and reconsidered, particularly in light of the impact of the federal Americans with Disability Act (ADA). Note that the US Forest Service Letter of March 2016, referenced above in note 9, does not recognize an ADA right to use e-bikes on trails that would otherwise prohibit motorized vehicles.

¹⁰ For example, singletrack is legal for e-bikes, though not for motorcycles, in privately-owned Skyline Forest (formerly Bull Springs Tree Farm) near Bend for most of the year. Check local resources for an idea about the variability of trail openings and closures for various kinds of bikes.

E-BIKE ACCESS TO CITY, COUNTY, AND VII. PRIVATE TRAILS

Use of e-bikes in city, county and private parks on trails is a different legal matter entirely. The Oregon Vehicle Code does not apply to trails, and the State of Oregon does not manage these areas so the rules for e-bike riding are up to the "responsible authorities". Finding out who is responsible for riding rules is sometimes a challenge and it is best to check with local mountain bike and e-bike rider groups to find out the rules applied for a particular area.

It is beyond the scope of this legal guide to cover the individual Oregon recreation areas but the resource guide section will contain some helpful contacts. Signage at the site is helpful and important but not very useful when a person has to travel long distances before seeing that a particular place restricts e-bike access. Websites relevant to your destination may provide information as to particular trail restrictions. For example, the website for the "Olympic Discovery Trail," running some 130 miles from Port Townsend, Washington to the Pacific says "E-Bikes" are allowed, though it does not specify which class of ebikes, under Washington's three-class system, is intended. https://olympicdiscoverytrail.org.

VIII. E-BIKES AND INSURANCE

E-bike insurance raises many of the same issues as do the laws and regulations we've already discussed. Is an e-bike really a bike, or should it be treated as a motor vehicle? Or does it just fall through the cracks because it's neither fully a bike nor fully a motor vehicle? The difference between falling through the cracks in the law and falling through the cracks in insurance, however, is important: If the law doesn't cover you, you can do what you want (e.g. e-bikes on shared use paths); if insurance doesn't cover you, you're out of luck.

This is potentially even more important for e-bikes than for regular bikes because e-bikes are, as a group, more expensive, heavier and faster than regular bikes. When they get stolen or damaged in a crash, the property loss is greater. When you have a crash on an e-bike, you may cause more damage or suffer more injury than you might on a regular bike. Unfortunately, while bicycles have a well-established place in the insurance world, e-bikes still wander in the wilderness.

Insurance coverage depends on policy language. An insurance policy is a contract - you pay the premium, and the insurer covers your losses under the agreement between you. So, if you want to know what coverage you have for e-bike property loss, liability to others or injury to yourself, read your policy, or call your agent. Better vet, read your policy AND call your agent. But don't rely on what your agent tells you if it contradicts the policy language. The language of the policy controls your agreement with your insurer. ORS 742.016. The language of insurance policies in Oregon is construed against the insurer because the insurer wrote the policy language. Of course the insured individual did not negotiate the language of the policy, and usually had no idea what it said until after suffering or causing injury in a crash. If insurance policy language is ambiguous or unclear, Oregon courts will read it in favor of coverage. A lawyer can give you a pretty good idea what coverage you have, but most insurance policies were not written with e-bikes in mind, and the courts haven't yet weighed in on most policy provisions as they apply to e-bikes.

You can get insurance designed specifically for e-bikes¹¹, but unless you do that, your e-bike coverage will be decided under the homeowner's, auto and umbrella policies you may already have.

A. Car Insurance

If you drive a car in Oregon, you're required to have liability insurance coverage in the minimum amount of \$25,000 for liability for causing injury to a single person and \$50,000 for liability for causing injury to more than one person in a single crash. Any car insurance policy issued in Oregon must provide at least that amount of coverage for liability to others. ORS 806.070. The bad news is that auto insurance policies always require that, in order to be covered for liability to others, a car you own be listed as an insured vehicle. You might try to get your e-bike named as an insured vehicle on your auto policy, but we've never seen it.

Coverage for injury to yourself while riding your e-bike is more ambiguous. You might get coverage for Personal Injury Protection (PIP), which is no-fault compensation up to \$15,000 or \$25,000 for your medical expenses and wage loss, but that will depend on the policy language. Oregon law requires auto insurance policies to include PIP for injuries to family members in your own vehicle or "pedestrians," which has been construed to include bicycle riders. ORS 742.520. No clear practice has yet developed as to whether that includes e-bike riders.

Oregon law also requires that auto insurance policies issued in the state provide "uninsured/underinsured motorist" (UM/UIM) coverage. ORS 742.502 That's coverage for injuries you might suffer in a collision with an uninsured motorist or with a motorist who does not have enough coverage to compensate you fully. So, if you're injured in a crash with a car that has minimum policy limits (\$25,000/\$50,000), and your claim is worth more than \$25,000, you can make a UIM claim against your own policy to receive additional compensation. For policies issued or renewed

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¹¹ Check out Velosurance.com. They insure only bikes, and they offer specific e-bike coverage if you conclude your auto and homeowners' insurance don't cover your e-bike.

after January 1, 2016, the total amount available is the total of your policy limit and the limit of the underinsured motorist¹². This coverage applies to regular bikes, and there's no reason it shouldn't apply to e-bikes as well.

Note: Higher policy limits are much less expensive than basic auto coverage, so it's worth checking out what you can afford. The basic \$25,000 limit can disappear on medical expenses with a couple of days in a hospital.

Coverage for property damage to your e-bike is unlikely to apply under a standard auto policy, because most policies cover only property damage to the "insured vehicle" but, as always, the language of your particular policy is the key.

Homeowner's or Renter's Insurance В.

The most likely place (other than specific e-bike insurance) to find coverage for injury to you, injury you cause someone else or property damage to your e-bike is your homeowner's or renter's policy. Language to watch out for will be in the "Exclusions" and "Definitions" sections of the policy. Look for exclusion of coverage for injury or property damage caused by "motor vehicles" or "motorized vehicles," and read the "definitions" of these terms in the policy to see if it's clear whether e-bike coverage is excluded. Remember, if the policy language is ambiguous, Oregon courts will construe it in favor of coverage. Consider, for example whether a "motorized vehicle" includes a pedelec – a vehicle that has a motor but is also powered by a pedaling human.

C. Umbrella Coverage

¹² Senate Bill 411, passed by the Oregon Legislature in 2015, increased

the coverage available by allowing the injured person's UIM coverage to stack or be paid in addition to the at-fault party's coverage, and applies to where the policy was issued on or after January 1, 2016. As a practical matter, since auto policies are renewed annually, stacking applies now in almost every case.

Umbrella insurance coverage provides higher liability policy limits on top of underlying insurance coverage like auto or homeowners insurance. You can get very high limits to protect against liability for causing catastrophic injury to others, for relatively low premiums. It's reasonable to question whether you need that kind of insurance for riding an e-bike because it's not likely you would cause catastrophic injury on your e-bike. State law protects basic assets like a home from recovery in injury lawsuits, and a person with limited assets can resort to bankruptcy to avoid paying a judgment, so you may not need umbrella coverage if you don't have a lot of assets.

However, Umbrella Coverage may also be purchased as part of an Umbrella policy that includes UM/UIM coverage. This means that if an uninsured or underinsured driver caused a major injury to you on your bicycle or e-bike you would be able to make a claim for the damages you would otherwise have been able to collect against the at-fault driver if he had enough insurance. Having UM/UIM coverage as part of your Umbrella policy may be a tremendous relief after a bad crash caused by a driver with no assets and little or no insurance.

If you do have substantial personal assets, umbrella coverage is worth considering. Umbrella coverage usually requires that you also purchase auto and homeowners as a package with the same insurance company.

The bottom line on whether conventional automobile insurance policies will provide coverage for damage to your e-bike, for injury to you while riding one, or for injury you may cause to others while riding one, is that the language of the particular insurance policy will control. That language may—and likely will—be interpreted differently by insurance companies than by cycling advocates; it is likely that coverage disputes will make filing suit necessary so that juries and/or judges can decide these issues. Insurance law relating to e-bikes will develop as e-bike riders bring cases to recover damages and juries and judges decide these cases. In the meantime, insurance designed specifically to cover e-bikes is available and worth considering.

APPENDIX 1: HOW DOES AN E-BIKE WORK?

Any bicycle with an electric motor comes within the popular idea of "E-Bike," whether the motor is something your brother-in-law bolted to his 1974 Schwinn Varsity or, more commonly, a factory-installed unit that's very much part of the bike at retail. Bikes with electric motors take many shapes, usually depending on the size, power and location of the motor and battery and the extent to which the motor and pedals are connected with each other. The law defines "e-bikes" so as to draw lines for safety and revenue purposes between what's more like a bicycle and what's more like a motor vehicle. The most important factor is generally how fast the motor alone can make the bike go. The limit on speed isn't usually the power of the motor (though that is often limited as well) but rather the e-bike's electronic speed governor.

In this book, we use "e-bike" generally to refer to e-bikes that meet the Oregon definition of "electric assisted bicycle," that is, e-bikes with 1000 watts or less of power that go no faster than 20 mph with the motor alone, a definition that appears to apply equally to pedelecs and throttle control bikes.

Bicycle builders have been tinkering with bikes powered by electric batteries since the late 19th Century. The first patent for an electric bicycle with a front-wheel hub motor was issued to Ogden Bolton, an Ohio inventor, in 1895. Depression era Oregon law provided for licensing and registration of "motor bicycles." Section 55-106, Oregon Code 1930.

Modern e-bikes add three major features to an ordinary bicycle: motors, batteries and controls.

The Hub Motor

A "hub motor" is a motor that sits inside the center of a wheel or the bottom bracket of a bicycle (where the crank arms that hold the pedals meet the frame). It turns the wheel or the pedals by sending electricity through wire coils to spin a magnet. (Electricity traveling through wire creates a magnetic field that

repels or attracts the magnet in sequence, causing the magnet to turn.) Modern e-bikes can have hub motors in the rear wheel, the bottom bracket or the front wheel. Each location has advantages and drawbacks. Bottom bracket motors keep the motor's weight in the center of the bike but wear out the chain and gears faster, while front and rear hub motors are easy on the drive train because they don't drive the chain, but they put more weight fore or aft and can be hard on spokes. A front hub motor gives you all-wheel drive – you in the back, motor in the front – the extra traction and power may help on steep climbs off road. Which kind of drive is best is very much a matter of personal feel.

The Battery

The battery is usually the heaviest e-bike component. It can be installed on the down-tube (that's the frame tube that connects the headset in front to the crankset at the bottom) or on a rear rack. The rear rack position puts a lot of weight in back, so most e-bike batteries are installed on the down-tube. Wherever it is, the battery can be connected to a rear hub, bottom bracket or front hub motor.

Battery technology moves fast, and many of the batteries described below will soon be history for e-bikes. Batteries are getting smaller, lighter and more powerful as the electric storage industry races to power computers, phones, home appliances, cars and just about everything else with smaller, lighter, more powerful, cleaner, portable, rechargeable products.

- <u>Lead acid</u> batteries have been around for more than a century. They're cheap, easily recycled and HEAVY. They don't do well in below-freezing temperatures.
- <u>Nickel-cadmium</u> (Ni-Cad) batteries have more capacity than lead-acid batteries, but they're expensive, and cadmium is toxic and hard to recycle. You'll find fewer and fewer e-bikes with Ni-Cad batteries.
- Nickel metal hydride (NiMH) batteries are a bit more efficient and durable than Ni-Cads, and not so toxic to the

environment, but nothing can really compete, except on price, with

- <u>Lithium-type</u> batteries. (Li-xxx) These include <u>lithium ion</u> (the ones that power your cellphone or the newer high-end Prius plug-in cars), <u>lithium iron phosphate</u> (more stable than lithium ion, but not as powerful), <u>lithium cobalt</u>, <u>lithium manganese</u> and <u>lithium polymer</u>. Most e-bikes now use some form of this battery technology. Li-ion batteries are lighter and more powerful than other batteries, but they're delicate, needing a lot of electronic features to keep them from overheating and self-destructing, even bursting into flame. This is where battery development is likely to be going for the near and mid-future. Whether to go with proven lithium-ion technology or early-adopt lithium cobalt, manganese or polymer depends on your personal attitude. If you still have an iPhone 5s, it's probably lithium-ion. If you're already tired of your iPhone X, good luck.

Note on saving battery power: Pedal! An e-bike is designed to assist a pedaling rider, not as an electric motorcycle. Some e-bikes won't engage electric power at all unless the rider is pedaling (see "pedelec" above). The main limiting factor for an e-bike is its range – how far you can go before running out of power. When you run out, what you have is a very heavy bike. To save power and get home with energy to spare, use the power lightly, to help on hills. When you start from a stop, get going with the pedals, not the power. And going faster uses a lot more power (wind resistance increases exponentially with speed), so get more range out of your e-bike by going 15 mph instead of 20.

Note on lithium battery charging: Don't drain it! You'll get more life out of your lithium e-bike battery if you charge it as often as is practical for you.

The Controller

The controller is a computer that mediates the conversation between the battery and the motor. It decides how much power from the battery goes to the motor and when. It senses when you brake and cuts power to the motor so you're not braking against the motor. It senses when you're pedaling which,

for "electric assist" e-bikes or "pedelecs," is required for the motor to contribute power. It also controls other powered functions on the e-bike like lights, computer display, cruise control, power range settings and anything else a bike might need a brain for.

APPENDIX 2: US FOREST SERVICE TRAIL MANAGEMENT LETTER

US Forest Service Washington Office 1400 Independence Avenue, SW Washington, DC 20250

Date: March 24, 2016

Subject: Electric Bikes and Trail Management

To: Regional Foresters

Electric bikes or e-bikes are growing in popularity and offer increased potential for quality recreation experiences, where determined appropriate, that connect people with enjoyment of their National Forests. Given the recent introduction of e-bikes as a use on National Forest System (NFS) land, questions have been raised by Forest Service units, recreationists, user groups, permit holders and law enforcement regarding appropriate routes and areas for this use. The intent of this letter is to provide current guidance on how to classify and manage e-bikes for determining where they are allowed to be operated on NFS lands. It also lays out possible opportunities to expand appropriate e-bike access to NFS lands through special designation routes and areas for e-bikes now and into the future.

The Forest Service recognizes that technology continues to rapidly change, including the design and capability of e-bikes and other related modes of travel. Monitoring of e-bike use for visitor safety, social issues, along with performance metrics and natural resource impacts will continue to develop and advance. As such, we as an agency remain open to potentially re-visiting and adjusting associated agency guidance if and as needed in the future.

As a starting point, certain applicable laws and relevant directives provide a foundational approach to current e-bike management:

<u>The Forest Service's Travel Management Rule (TMR) and E-Bikes</u>: The TMR defines "motor vehicle" as "any vehicle

which is self-propelled, other than: (1) a vehicle operated on rails; and (2) any wheelchair or mobility device, including one that is battery powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area." 36 CFR 212.1. E-bikes have a motor, thereby are self-propelled, and are not covered by the exceptions in the definition. Therefore, e-bikes are motor vehicles and are subject to regulation under the TMR, which requires designation of National Forest System (NFS) roads, NFS trails, and areas on NFS lands tor motor vehicle use. 36 CFR 212.51(a). Direction on e-bikes was included in a response in the Federal Register notice for the final over-snow vehicle rule. The response states: "New technologies that merge bicycles and motors, such as e-bikes, are considered motor vehicles under §212.1 of the TMR." 80 Fed. Reg. 4503 (Jan. 28, 2015).

Disability and Motorized Devices: Questions have been raised in relation to people with disabilities requesting use of e-bikes as an assistive device. The only exception for a person with a disability for use of a device that is selfpropelled is if that device meets both parts of the legal definition of a wheelchair or mobility device as defined above in 36 CFR 212.1 and also defined the same way in FSM 2353.05 as well as in 42 U.S.C. 12107. Under that definition, any device that is both designed solely for mobility for a person with disability and which is suitable for use in an indoor pedestrian area may be used anywhere foot travel is allowed. E-bikes are not solely designed for individuals who have mobility impairments and their suitability for indoor use would be highly questionable. Therefore, e-bikes do not qualify for an exception and may only be used where the Motor Vehicle Use Maps allows that use by all people. An e-bike remains a motor vehicle regardless of who is using it. It is essential that exceptions to TMR designations not be made. Restrictions on motor vehicle use that are applied consistently to everyone have been repeatedly found not to be discriminatory.

Section 504 of the Rehabilitation Act (29 U.S.C. 794): Requires programs on federal lands to provide "reasonable modification" of policies and procedures to allow the participation of qualified people who have disabilities. To be a qualified person the individuals must meet the same essential eligibility requirements for participation in that activity as does a person who doesn't have a disability. However, no federal agency is to "fundamentally alter" the program in order to allow a person with a disability to participate. To allow a motorized device, that doesn't meet both parts of the legal definition of a wheelchair, to be used on a route or in an area where use of that class of device is not designated would be a fundamental alteration of that program.

Other Power Driven Mobility Devices (OPDMD): In 2010, the Department of Justice released their Rule on OPDMD. An OPDMD is defined as any vehicle or device that is powered by batteries, fuel or other engines including those not primarily designed for people with disabilities. Under the OPDMD Rule, a person who has a disability is to be allowed to operate an OPDMD anywhere, unless that area has been previously determined not to be appropriate for use of that type of device/vehicle and the information as to what if any devices/vehicles may be operated in that location has been posted. The criteria within the Rule for such a determination includes the same parameters as were used for the Forest Service designations under the TMR. Therefore, the use of any OPDMD is limited to where the use of that specific type of device/vehicle is designated for use by all. It is essential that OPDMD exceptions not be made to the TMR designations.

Currently, e-bikes are allowed with the TMR designations for "Roads Open to All Vehicles", "Trails Open to All Vehicles", "Trails Open to Vehicles 50" or Less in Width," and "Trails Open to Motorcycles Only." In addition, new trail riding opportunities for e-bikes on existing non-motorized trails may be considered and designated as motorized trails by administrative units and ranger

districts under travel management planning efforts, based on special vehicle class designations in accordance with 36 CFR 212.55. These motorized trail designation changes would involve appropriate environmental analysis, public participation and designation decisions that, once established, will be reflected on updated Motor Vehicle Use Maps in accordance with the TMR.

Technology continues to rapidly change, including the design and performance metrics of e-bikes. As such, the Forest Service will remain open to potentially re-visiting and adjusting associated agency guidance, if and as needed, in the future. The Washington Office Recreation, Heritage and Volunteer Resources staff members ready to assist you include Chris Sporl, Travel Management Program Manager, cfsporl@fs.fed.us: Jaime Schmidt, Assistant Program Manager for Trails, jschmidt@fs.fed.us: and Janet Zeller, Accessibility Program Manager, jschmidt@fs.fed.us: and <a href="mailto:j

JOE MEADE

Director, Recreation Heritage & Volunteer Resources

APPENDIX 3: RESOURCE GUIDE

People for Bikes

https://peopleforbikes.org/

PeopleForBikes includes both an industry coalition of bicycling suppliers and retailers, as well as a charitable foundation. PeopleForBikes provides a unified front for advocating for bicycling on a national level. Legal requirements are likely to change for e-bikes in the near future as public use of e-bikes ramps up and demand for various public uses increases.

Handout on e-bike law in Oregon:

https://peopleforbikes.org/wp-

content/uploads/2017/10/E-Bike-Law-

Handouts OR Revision compressed.pdf

State by state e-bike guides, national policy info, and legal advocacy materials:

https://peopleforbikes.org/our-work/e-bikes/policies-and-laws/

Bike Portland

https://bikeportland.org/

An independent daily news source following the Portland bike scene, coordinating journalism, events, and advocacy. State and local developments are covered.

A brief exploration of e-bike law and regulation at the federal, state, and Portland level, with an additional section on Washington state law: https://bikeportland.org/2010/08/26/e-bikes-the-law-and-you-38493

Oregon Environmental Council

https://oeconline.org/

Founded in 1968, OEC is a membership-based nonpartisan nonprofit working to protect Oregon's water, air and land with healthy solutions that work both for today and for future generations.

Informational page on e-bikes:

https://oeconline.org/electric-bikes-the-other-ev/

Transportation Research and Education Center at PSU

https://trec.pdx.edu/

TREC houses the National Institute for Transportation and Communities (NITC) and administers the Initiative for Bicycle and Pedestrian Innovation (IBPI) alongside other transportation grants and programs.

Collection of articles concerning e-bikes:

https://trec.pdx.edu/tags/e-bikes

Results of a national e-bike owner survey:

https://trec.pdx.edu/research/project/1041/National Electric Bike Owner Survey

Bicycle Product Suppliers Association

http://bpsa.org/

BPSA is an association of suppliers of bicycles, parts, accessories and services. The association leads industry initiatives in legal and governmental affairs and safety issues, is the leading resource for bicycle statistical data, and provides regular networking and educational forums for members.

Summary of recent e-bike advocacy efforts:

http://bpsa.org/bpsa-drives-e-bike-progress/

International Mountain Bicycling Association

https://www.imba.com/

IMBA is a nonprofit educational association dedicated to creating, enhancing, and protecting places to ride mountain bikes. IMBA engages in advocacy work with national, state, and local governments and land management organizations.

Electric mountain bike (eMTB) access and management info: https://www.imba.com/education/emtb

The League of American Bicyclists

http://www.bikeleague.org/

The League represents bicyclists in the movement to create safer roads, stronger communities, and a bicycle-friendly America. Through information, advocacy and promotion, they work to celebrate and preserve cycling.

Research on public perception and policy surrounding e-bikes:

https://bikeleague.org/content/e-bikes-public-perceptions-policy

Results and analysis of a national e-bike survey:

https://bikeleague.org/sites/default/files/E bikes mini report.pdf

Pedego

https://www.pedegoelectricbikes.com/

A manufacturer and seller of electric bikes.

A summary of e-bike market trends and forecasts:

https://www.pedegoelectricbikes.com/wp-content/uploads/2016/07/MF-EBIKE-16-Executive-Summary-w-Pedego.pdf

Electric Bike Reviews

https://electricbikereview.com/

A site reviewing e-bikes and e-bike accessories, as well as cataloguing nearby electric bike stores by zip code.

Alliance for Biking and Walking

http://www.bikewalkalliance.org/

The Alliance's mission is to create, strengthen, and unite state and local bicycle and pedestrian advocacy organizations throughout North America. Today, the Alliance continues to work to empower state and local walking and biking organizations to advocate for change in their communities' political contexts.

National Conference of State Legislatures

State Electric Bicycle Laws—A Legislative Primer:

http://www.ncsl.org/research/transportation/stateelectric-bicycle-laws-a-legislative-primer.aspx

Greater Greater Washington

Describes an electric scooter service in Washington DC, and explores some of the legal concerns

https://ggwash.org/view/67306/electric-scooters-join-the-dockless-bikeshare-experiment

Treehugger: "Should I buy an electric bicycle?"

Covers some of the most frequently asked questions for first-time electric bike ownership.

https://www.treehugger.com/bikes/should-i-buy-electric-bicycle-everything-you-need-to-know-primer-faq.html

eBike Generation: "Which Electric Bicycle Is Right For You?" Breaks down the pro, cons, and considerations involved with different kinds of e-bikes.

https://ebikegeneration.com/blogs/news/which-electric-bike-is-right-for-you

New Wheel: "Electric Bike Basics"

Summarizes basic electric bicycles information.

https://newwheel.net/electric-bike-basics

The New Yorker: "The Electric-Bike Conundrum"

Describes more philosophical look at e-bike use.

https://www.newyorker.com/culture/culture-desk/the-electric-bike-conundrum

APPENDIX 4: OREGON BIKE SHOPS

4 Seasons Recreational Outfitters

1678 Ashland St., Ashland, OR 97520 http://4sro.com/

Adventure Leadership Institute

211 Dixon Rec Center, Oregon State Uni., Corvallis, OR 97331 http://recsports.oregonstate.ed u/ali/bike-shop

Al's Cycle and Hobby

127 N. Central Ave., Medford, OR 97501

http://www.alcycleandhobby.co m/

Arriving by Bike

2705 Willamette St., Eugene, OR 97405

http://arrivingbybike.com/

Arrow Racing Design Corp.

5200 Fish Hatchery Rd., Grants Pass, OR 97527

Ashland Cycle Sport

191 Oak St., Ashland, OR 97520

https://www.roguecycle.com/

Ashland Electric Bikes

1678 Ashland St., Ashland, OR 97520

http://ashlandelectricbikes.com/

Bad Boyz Bicycle Specialties

19002 SE 15th St., Vancouver, WA 98683

http://bikeshopvancouver.com/

Barlow Bikes and Boards

315 S. Columbia River Hwy, Saint Helens, OR 97051

Bear Creek Bicycle

1988 Hwy. 99 North, Ashland, OR 97520

http://www.bearcreekbicycle.co m/

Bend Electric Bikes

223 NW Hill Street, Bend, OR 97701

https://www.bendelectricbikes.com/

Bend Velo

1212 NE 1st St., Bend, OR 97701 http://www.bendvelo.com/

Bicycles 101

1537 8th St., Florence, OR 97439 http://www.bikes101.com/

Bike Friday

3364 W. 11th Ave., Eugene, OR 97402

https://www.bikefriday.com/folding-bikes/

The Bike Gallery

Locations in Portland, Beaverton, Happy Valley, and Lake Oswego.

https://www.bikegallery.com/

Bike Guy

752 Hopkins Rd., Central Point, OR 97502

Bike N' Hike

424 W 1st Ave, Albany, OR 97321, and 401 SW 3rd Ave., Corvallis, OR 97333

https://www.bikenhike.com/

Bike Newport

150 NW 6th St., Newport, OR 97365

Bike Shop at Joseph Hardware

15 S. Main St., Joseph, OR 97846

https://joseph.doitbest.com/

Bike Tools Etc.

350 E Hersey St., Ashland, OR 97520

https://www.biketoolsetc.com/

BikeKraft

1448 Williams Hwy, Grants Pass, OR 97527 https://bikekraft.com/

Bikes & Beyond

1089 Marine Dr., Astoria, OR 97103

http://www.bikesandbeyond.com/

Bikes N' More

200 NW First Ave., Canby, OR 97013

Blue Heron Bicycles

877 E 13th Ave., Eugene, OR 97401

Burley Design

1500 Westec Dr., Eugene, OR 97402

https://burley.com/

Canyon Creek Bicycles

1640 NE Odell Ave., Roseburg, OR 97470

http://www.canyoncreekbicycles.com/

Classic Cycle

812 Molalla Ave., Oregon City, OR 97045

http://cycleoc.com/

Clever Cycles

900 SE Hawthorne Blvd, Portland, OR 97214 https://clevercycles.com/

Co Motion Cycles

4765 Pacific Ave., Eugene, OR 97402

https://co-motion.com/

Cog Wild Mountain Bike Tours

255 SW Century Dr. #201, Bend, OR 97709 https://www.cogwild.com/

Corvallis Bicycle Collective

707 NW 11th St., Corvallis, OR 97333

http://corvallisbikes.org/

Corvallis Cyclery

344 SW 2nd St., Corvallis, OR 97333

https://corvalliscycleryinc.com/

Cycle Analysis

110 5th St. Jacksonville, OR 97530

https://www.cycleanalysis.net/

Cyclotopia

435 SW 2nd St., Corvallis, OR 97333

http://www.cyclotopia.com/

Cynergy E-Bikes

3838 SE Powell Blvd., Portland, OR 97202

http://www.cynergyebikes.com/

Dick's Bikes & Repairs

2815 E. St., Baker City, OR 97814

Dicks Sporting Goods

https://stores.dickssportinggoods.com/or/

Dirty Fingers Bicycle Repair

1235 State St., Hood River, OR 97031

http://dirtyfingersbikes.com/

Discover Bicycles

210 State St., Hood River, OR 97031

https://discoverbicycles.com/

Don's Bike Center

201 SW G St, Grants Pass, OR 97526

http://donsbikecenter.com/

Drake's Bike Shop

2506 3rd St., Tillamook, OR 97141

Eastern Oregon Cycles

122 S Oregon St., Ontario, OR 97914

https://eastern-oregoncycles.business.site/

The eBike Store

809 N. Rosa Parks Way, Portland, OR 97217 https://ebikestore.com/

Escape Hatch Sports & Cycle

642 Railroad Ave., Brookings, OR 97415

Eugene Bicycle Works

455 West 1st Ave., Eugene, OR 97401

Eugene Electric Bicycles

645 River Road, Eugene, OR 97404

https://www.eugeneelectricbicycles.com/

Eurosports

223 E. Hood Ave., Sisters, OR 97759

http://eurosports.us/

Fall Line Sports

302 Lewis St., Silverton, OR 97381

https://falllinesports.wordpress.com/

Firebird Bicycle Shop

3995 S. Pacific Hwy., Medford, OR 97501

Flywheel Bicycle Solutions

550 S. Pacific Hwy., Talent, OR 97540

http://www.flywheelbicycles.co m/

Gear Peddler

184 NE Greenwood Ave., Bend, OR 97701 http://www.gearpeddler.com/

Get N' Gear

340 A St., Ashland, OR 97520

Green Gear Cycling

 $3364~\mathrm{W}$ 11th Ave., Eugene, OR97402

Gresham Bicycle Center

567 NE 8th St., Gresham, OR 97030

http://www.greshambike.com/

Hutch's Bicycle

Bend, Eugene, Redmond, Klamath Falls https://hutchsbicycles.com/

Keith Anderson Cycles

222 N Marble Dr., Grants Pass, OR 97526

http://keithandersoncycles.com/?reqp=1&reqr=Ml5jLt==

Klink Cycles

909 River Rd., Eugene, OR 97404 http://www.klinkcvcles.com/

Kool-Stop International Inc.

5700 Willow Ln., Lake Oswego, OR 97035

http://www.koolstop.com/english/corporate.html

Lactic Acid Bicycles

4332 Harvey Way, Lake Oswego, OR 97035

Lakeside Bicycles

428 N State St., Lake Oswego, OR 97034

https://lakeside-bikes.com/

Land Shark Bicycles

507 Hummingbird, Talent, OR 97540

https://landsharkbicycles.com/

Let it Ride

25 NW Minnesota Avenue, #6, Bend, OR 97701 https://www.letitridebend.com/

Life Cycle Bike Shop

1733 Pearl St., Eugene, OR 97401 http://www.lifecyclebikeshop.c om/

Marty's Cycles

712 Crater Lake Ave., Medford, OR 97504, and Ashland https://martyscycleonline.com/

Medford Cycle Sport

1340 Biddle Rd., Medford, OR 97504 https://www.roguecycle.com/

Moe's Bike Shop

1397 Sherman Ave. N., Bend, OR 97459 https://moesbikeshop.com/

Mountain View Cycles

205 Oak St, Hood River, OR 97031 https://www.mtviewcycles.com /

Olson's Bicycles

1904 Elm St., Ste 1, Forest Grove, OR 97116 https://olsonsbicycles.com/

Oregon E-Bikes

207 Front Street, Hood River, OR 97031 https://www.oregonebikes.com/

Paul's Bicycle Way of Life

Eugene, Multiple Locations https://bicycleway.com/

Peak Sports

135 NW 2nd St., Corvallis, OR 97330 https://www.peaksportscorvallis.com/articles/homepg176.htm

Pedego Portland

412 SW 2nd Ave., Portland, OR 97204

https://www.pedegoelectricbike s.com/dealers/portland/

Performance Bicycle Shop

Beaverton and Tualatin https://www.performancebike.com

Piccadilly Cycles

525 A Street, Suite 1, Ashland, OR 97520 https://www.piccadillycycles.com/

Pine Mountain Sports

255 SW Century Drive, Bend, OR 97702

https://pinemountainsports.co m/

Play It Again Sports

2598 Willamette St., Eugene, OR 97405

https://www.playitagainsportse ugene.com/

Portland Electric Cycle

7816 N Interstate Ave., Portland, OR 97217 https://www.pxcycle.com/

Prom Bike Shop

<u>m/</u>

622 12th Ave., Seaside, OR 97138 http://www.prombikeshop.co

R/C Plus Hobbies, Bikes, and Raceway

1685 25th St. SE, Salem, OR 97302 http://www.rcplus.com/

Rainy Peak Bicycle

533 E Main St., Cottage Grove, OR 97424

Randall's Bike Shop

16165 SW Pacific Hwy, Tigard, OR 97224

https://tualatinvalley.org/business/randalls-bike-shop/

REI

Hillsboro, Bend, Eugene, Tigard https://www.rei.com/map/store

Sagebrush Cycles

35 SW Century Dr., Bend, OR 97702

http://www.sagebrushcycles.com/

Sandy Bicycle

17390 Smith Ave., Sandy, OR 97055

http://www.sandybicycle.com/ Welcome.html

Santiam Bicycle

Salem and Tigard https://www.santiambicycle.co m/

Schlegel's Bicycle Center

1913 19th Ave., Forest Grove, OR 97116

Scott's Cycle and Fitness

147 Commercial St. SE, Salem, OR 97301 http://scottscycle.com/

Scott's Cycling and Sports

110 E Highland Ave., Hermiston, OR 97838 https://www.scottscycleandsports.com/

Simply Cycle

303 Main St., Springfield, OR 97477 https://simplycycle.com/

Siskiyou Cyclery, Inc

1729 Siskiyou Blvd, Ashland, OR 97520

http://www.siskiyoucyclery.com/

South Salem Cycleworks

4071 Liberty Road S, Salem, OR 97302

http://sscycleworks.com/

Starbuck Lane Bicycle Repair

4723 SW 172nd Ave., Beaverton, OR 97007

https://starbuck-lane-bicycle-repair.business.site/

Sunnyside Sports

930 NW Newport Ave., Bend, OR 97701 https://www.sunnysidesports.c

Sunriver Sports

om/

57100 Beaver Dr. #13 and #16, Sunriver, OR 97707 http://www.sunriversports.com/

T & Nae's Cycles

815 W 12th St., The Dalles, OR 97058

The Bike Peddler

174 Commercial St. NE, Salem, OR 97301 http://www.bikepeddler.com/

The Ledge

369 S 6th St., Klamath Falls, OR 97601

https://yetiledge.wordpress.com/

The Mountain Works

1301 Adams Ave., La Grande, OR 97850

https://www.mountainworksbicycles.com/

Tommy's Bicycle Shop

624 NE Third St., McMinnville, OR 97128

http://tommysbicycle.net/

Trask Mountain Cycle

48400 Wilson River Hwy, Tillamook, OR 97141 http://www.traskmountaincycle .com/

Trinity Bikes

1730 SW Parkway Dr., Redmond, OR 97756 https://www.trinitybikes.com/

Vancouver Cyclery

10108 NE Hwy 99, Vancouver, WA 98686 http://www.vancouvercyclery.c

om/

Waldron's Outdoor Sports

330 NE Garden Valley Blvd, Roseburg, OR 97470 http://www.waldronsoutdoor.com/

viii

Walnut Studiolo

36005 Hwy 53, Nehalem, OR 97131 https://walnutstudiolo.com/

Webcyclery

550 SW Industrial Way #150, Bend, OR 97702 https://webcyclery.com/

Wheel Fun Rentals

Bend, Black Butte Ranch, Klamath Falls, Redmond, Seaside https://wheelfunrentals.com/