

Low-Power Vehicles

There has been an upsurge in recent years in the number and types of motorized “low-power vehicles” available in Minnesota. Such vehicles include e-bikes, mini-trucks, motor scooters, motorized foot scooters, and neighborhood electric vehicles. They range from recreational devices intended mainly for children to relatively powerful vehicles.

This information brief describes the various types of vehicles, focusing on their classification and regulation under Minnesota law. It also looks at how other states have addressed them.

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Executive Summary

This information brief summarizes low-power vehicle laws in Minnesota. “Low-power vehicles,” as the term is used here, include all-terrain vehicles, golf carts, mini-trucks, motor scooters, motorized foot scooters, motorized bicycles (or mopeds), and neighborhood electric vehicles.

Although the vehicles are all motorized they vary greatly in form, size, features, and intended use. In most but not all cases, the vehicles are smaller and less powerful than a typical car, truck, or SUV. Some are essentially devices marketed mainly to children, whereas others represent an alternative to driving a standard passenger automobile.

Minnesota law regulates vehicle operation on public streets and highways and establishes licensing, insurance, and equipment requirements. Legislation in recent years has established new classifications of vehicles and devices and, in many cases, specific regulations for each type of vehicle. The expansion in vehicle categories defined in law reflects a rise in the variety of vehicles now available to consumers.

Key Regulation Summary Tables

The tables below outline basic requirements for each type of vehicle. Subsequent sections provide, for each vehicle classification, descriptions and more detail on regulations.

| | ATV and Utility Task Vehicle | Golf Cart | Mini-truck | Motor Scooter and Motorcycle |
|--|--|---|---|---|
| Attributes in legal definition | ATV: up to 960 cc engine, three to six flotation tires, max. 1,800 pounds dry weight UTV: four wheels, up to 1,200 cc engine, 1,800 to 2,600 dry weight | Vehicle not specifically defined | Up to 660 cc or 7,500-watt engine, 900 to 2,200 pounds dry weight, does not meet certain federal safety standards | Motor scooter: not specifically defined Motorcycle: seat or saddle, up to three wheels Classification excludes motorized bicycles |
| Registration | Local special permit; typically DNR registration for ATV use | Local special permit | Local special permit; possible DNR registration as ATV | Title, vehicle registration, tax, license plate |
| Operator licensing | No driver's license needed | No driver's license needed | Driver's license or permit | Driver's license with two-wheeled vehicle endorsement |
| Insurance | Liability coverage (same as passenger autos) | Liability coverage (same as passenger autos) | Liability coverage (same as passenger autos) | Liability coverage (same as passenger autos) |
| Operation rules | Generally same traffic laws as other motor vehicles; some limitations on operating at night and in low visibility | Generally same traffic laws as other motor vehicles; some limitations on operating at night and in low visibility | Generally same traffic laws as other motor vehicles | Generally same traffic laws as other motor vehicles; various limitations; no operation on sidewalks |
| Safety equipment | Most equipment laws do not apply; rearview mirror | Most equipment laws do not apply; rearview mirror; slow-moving vehicle emblem | Headlights; taillights; turn signals; mirrors; windshield; seat belt; parking brake | Helmet if under 18; various equipment requirements; eye protection for all operators; headlight on at all times |
| Notes "ATV" refers to an all-terrain vehicle. "UTV" refers to a utility task vehicle. | | | | |

| | Motorized Bicycle | Electric-Assisted Bicycle | Motorized Foot Scooter | Electric Vehicles | Segway |
|---|--|---|--|--|---|
| Attributes in legal definition | Up to 50 cc and 2 hp engine, top speed of 30 m.p.h. Classification includes electric-assisted bicycles | Saddle, pedals for human propulsion, two to three wheels, max. 1,000-watt electric motor, top speed of 20 m.p.h., meets federal standards | Handlebars, motor, max. 12-inch wheels, top speed of 15 m.p.h. | NEV: electric motor, four wheels, top speed of 20-25 m.p.h. MSEV: electric motor, misc. equipment, top speed of 35 m.p.h. | Electric motor, two nontandem wheels, designed for one person, top speed of 15 m.p.h. |
| Registration | Title, vehicle registration, tax, license plate | Title, vehicle registration, tax, license plate | None required | Title, vehicle registration, tax, license plate | None required |
| Operator licensing | Driver's license or operator's permit | Driver's license or operator's permit | None; minimum operator age is 12 | Driver's license or permit | None required |
| Insurance | Liability coverage (same as passenger autos) | None required | None required | Liability and personal injury coverage (same as passenger autos) | None required |
| Operation rules | Generally same traffic laws as motorcycles and other motor vehicles; various limitations; no operation on sidewalks | Generally same traffic laws as motorcycles and other motor vehicles; various limitations; no operation on sidewalks | Generally same traffic laws as bicycles; no operation on sidewalks; allowed on certain bike paths and trails | Generally same traffic laws as other motor vehicles; no operation on roads with speed limit above 35 | Generally same traffic laws as pedestrians; allowed on bike paths |
| Safety equipment | Helmet if under 18; eye protection; certain lighting generally required for night; if so equipped, headlight on at all times | Helmet if under 18; certain lighting generally required for night; if so equipped, headlight on at all times | Helmet if under 18; headlight and reflector required for night | Must meet federal equipment requirements | Reflectors required |
| Notes "NEV" refers to a neighborhood electric vehicle. "MSEV" refers to a medium-speed electric vehicle. | | | | | |

Identifying the Type of Vehicle

Due to the wide variety of low-power vehicles and devices that are now on the market, it can be challenging to determine how a specific make and model in a particular year is classified under Minnesota law. In particular, motor scooters, motorized bicycles, motorized foot scooters, and motorcycles hold many similarities.

Because state regulation varies with each vehicle, a key question is whether the vehicle in question fits one of the legal definitions established in Minnesota Statutes. See [Minn. Stat. § 169.011](#). The specific characteristics of a particular vehicle determine its classification. Although other features are relevant, engine size is a key factor in identifying scooters, mopeds, and motorcycles under Minnesota law. Top speed, vehicle weight, and safety equipment are also important characteristics.

A vehicle that has two or three wheels as well as a seat or saddle and does not clearly fit another vehicle definition is likely classified as a motorcycle (even though it might not be considered a motorcycle in the traditional sense). As discussed below, requirements for a vehicle classified as a motorcycle include title, registration, and license plates.

In effect, the general categorization for a vehicle or device that does not conform to any low-power vehicle definition is likely a motor vehicle. As such, it would need to be registered and have license plates, the operator must have a driver's license, it must have full insurance coverage, and the vehicle must have safety equipment that includes lights, turn signals, and brakes at both the front and rear.

Vehicle Descriptions and Key Regulations

Motorized vehicles face limited state regulation while they are being operated on private land. Once they venture onto streets, roads, and even alleys they are subject to a wider array of state and local regulations. Following the introduction of mini-trucks, motorized foot scooters, and neighborhood electric vehicles, recent changes in Minnesota law have expanded the assortment of vehicles that can be operated on public roadways. The following sections describe the basic classifications of different low-power vehicles under Minnesota law, outline their legal definitions and general characteristics along with some of the recent law changes, and provide an overview of notable regulatory provisions for each vehicle type.

All-Terrain Vehicles and Utility Task Vehicles

Classifications¹

All-terrain vehicles. All-terrain vehicles (ATVs) under Minnesota law are flotation-tired vehicles having three to six tires, an engine with a less than 960 cc displacement, and a dry weight of up to 1,800 pounds. They are most often used for off-road recreation on trails or private land. The type of seating is not specifically identified under the statutory definition, and ATV designs include models having seats with backs or a saddle so that the operator (and any passenger) sits straddling the vehicle. ATVs are further categorized based on dry weight into class 1 (less than 1,000 pounds) and class 2 (1,000 to 1,800 pounds). [Minn. Stat. §§ 84.92](#), subs. 8-10; 169.045, subd. 1.



Legislation in 2011 broadened the ATV classification for on-road use by special permit (discussed below). The definition of ATV was changed to match that already used in state statutes for ATVs that register and operate off-road. (Previous to the change, only ATVs having four tires, an engine displacement of no more than 800 cc, and a dry weight of less than 600 pounds were eligible for the special permit.) [Laws 2011, ch. 107](#), § 89.

Utility task vehicles. Utility task vehicles (UTVs) were first introduced in state statute for on-road use under a 2011 change. [Laws 2011, ch. 107](#), §§ 89 to 95. To be considered a UTV in Minnesota law, the vehicle must have four-wheel drive, four wheels, an internal combustion engine with a displacement of no more than 1,200 cc, and a dry weight of 1,800 to 2,600 pounds. Also known as a “side-by-side ATV” (among other terms), a UTV has side-by-side seating, in some cases carries multiple passengers, typically has a passenger compartment space, and often includes an open bed located behind the driver and passengers (like a pickup truck). The vehicle is similar to an ATV in its typical off-road purposes although with an arguably greater focus on work activities. [Minn. Stat. § 169.045](#), subd. 1.



Regulations

ATVs and UTVs are not titled or registered with the Department of Public Safety (which is required of most motor vehicles using public roads), and allowable operation on public roads is limited. ATVs can be operated on public roads and in some public rights-of-way under two distinct sets of state statutes governing the vehicles:

- 1) Operation on local roads can be allowed by **special permit**. The permit is issued by a local unit of government (a city, county, or town) following a local ordinance that must meet certain statutory requirements, and it only authorizes driving on

¹ Image sources: <http://www.gekgo.com/cpi-gas-atvs.html>; <http://www.cubcadet.com>

particular roads under the jurisdiction of the issuing authority. This is a discretionary program that each local government may choose to set up, so ATV (and UTV) operation is essentially prevented if a local government has not taken the steps of establishing the ordinance and issuing special permits. [Minn. Stat. § 169.045](#).

- 2) ATVs are subject to various **off-highway vehicle regulations** administered by the Department of Natural Resources. They can operate on some parts of public rights-of-way (that is, on the roadway itself, the road shoulder, the inside bank or slope, the ditch, and the outside bank or slope) and on bridges under some circumstances depending on several factors: the type of road (trunk highway, county highway, town road, or city street), the type of ATV (class 1 versus class 2), and time of year for some regions of the state. [Minn. Stat. §§ 84.92 to 84.928](#).

While ATVs are not registered for on-road use in the same manner as passenger vehicles, in many cases they must be registered with the Department of Natural Resources for use on designated trails, public lands, and other off-road locations. ATVs and riders are also subject to various regulations that include: display of registration information, where the vehicle can be ridden, operating rules, passenger restrictions, required vehicle equipment, and other limitations for youth operators. (The general off-highway vehicle and ATV regulations, under [Minnesota Statutes, chapter 84](#), are not discussed further in this publication.)

Requirements under the Special Permit

Registration The vehicles are not registered with the Department of Public Safety in the manner of other motor vehicles and do not require titling or license plates. (In many cases, ATV registration is required under off-highway vehicle regulations.)

Operation of ATVs and UTVs can be allowed via a special permit issued to the vehicle owner by counties, cities, or towns. [Minn. Stat. § 169.045](#), subd. 1. The Minnesota Department of Transportation cannot issue the permit for use on trunk highways (including the interstate system).

A key requirement is that the governing body must establish a special permit ordinance, and the ordinance must provide for permit application and confirmation that insurance requirements are met. The ordinance can also set additional conditions and require certification by a physician of ability to safely operate the vehicle. The permit can limit use to certain roads and must be renewed at least every three years, as determined by the unit of government. It can be revoked at any time based on evidence of inability to safely operate the vehicle.

Operator licensing A driver's license or instruction permit is not required for operation under a special permit. [Minn. Stat. § 169.045](#), subd. 7. (However, a driver's license may be required for operating on public road rights-of-way under off-highway vehicle regulations.)

Insurance Insurance requirements must be established as part of the local ordinance and must match that of motorcycles. Thus liability insurance (which covers certain claims from another driver) is required and is the same as for passenger automobiles, but the vehicles are exempt from the requirements of personal injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses).² [Minn. Stat. §§ 65B.48](#), subd. 5; [169.045](#), subd. 2.

If insurance cannot be obtained on the private market, it can be purchased from the Minnesota Automobile Insurance Plan with a rate determined by the Department of Commerce. [Minn. Stat. § 169.045](#), subd. 8.

Operation If a local government establishes special permits, vehicle operation under the permit is only allowed on roadways under the jurisdiction of the issuing unit of government. A city-issued permit, for instance, does not authorize driving on county roads; a separate permit would be required. (The law is silent on coordination between local units of government for permit issuance and applicability.)

Drivers of ATVs and UTVs are subject to the same traffic laws and duties as operators of other motor vehicles, although additional limitations apply. The vehicles can only be operated on designated roadways, although they may cross other roads and highways. The vehicles can only be operated between sunrise and sunset unless original equipment includes headlights, taillights, and brake lights. They cannot be used (1) in bad weather unless the authorizing ordinance provides an exception for emergencies, or (2) if there is not enough visibility to see people and other vehicles from 500 feet away. [Minn. Stat. § 169.045](#), subs. 3, 5, 6.

Safety equipment Standard equipment requirements for motor vehicles do not apply to vehicles operating under the special permit, except that a rearview mirror is necessary. The mirror must provide a view to the rear for at least 200 feet. [Minn. Stat. § 169.045](#), subd. 7.

² The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage.

Golf Carts

Classifications³

A golf cart is not specifically defined in statute. Originally manufactured for use on golf courses, the vehicle's uses have become more varied. They usually seat two to four people and can be powered by an electric or gasoline engine ranging from under 4 to over 20 horsepower. Vehicle weight can go from 500 to over 2,000 pounds. Top speed is typically less than 20 miles per hour. Some models can go up to 25 miles per hour and may potentially be considered a neighborhood electric vehicle or medium-speed electric vehicle under Minnesota law.



Regulations

Motorized golf carts are not titled or registered with the Department of Public Safety, and ordinarily they cannot be operated on public roads. However, Minnesota law does allow local units of government, such as counties and cities, to authorize via a special permit motorized golf carts (along with ATVs, UTVs, and mini-trucks) to use streets and highways under their jurisdiction. [Minn. Stat. § 169.045](#).

Registration The vehicles are not registered with the Department of Public Safety in the manner of other motor vehicles and do not require titling or license plates.

Operation of golf carts can be allowed via a special permit issued to the vehicle owner by counties, cities, or towns. [Minn. Stat. § 169.045](#), subd. 1. The Minnesota Department of Transportation cannot issue the permit for use on trunk highways (including the interstate system).

A key requirement is that the governing body must establish a special permit ordinance, and the ordinance must provide for permit application and confirmation that insurance requirements are met. The ordinance can also set additional conditions and require certification by a physician of ability to safely operate the vehicle. The permit can limit use to certain roads and must be renewed at least every three years, as determined by the unit of government. It can be revoked at any time based on evidence of inability to safely operate the vehicle.

Operator licensing A driver's license or instruction permit is not required for operation under a special permit. [Minn. Stat. § 169.045](#), subd. 7.

Insurance Insurance requirements must be established as part of the local ordinance and must match that of motorcycles. Thus liability insurance (which covers certain claims from another driver) is required and is the same as for passenger automobiles, but the vehicles are exempt from the requirements of personal

³ Image source: www.floridaslargestgolfshow.com/register.htm

injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses).⁴ [Minn. Stat. §§ 65B.48](#), subd. 5; [169.045](#), subd. 2.

If insurance cannot be obtained on the private market, it can be purchased from the Minnesota Automobile Insurance Plan with a rate determined by the Department of Commerce. [Minn. Stat. § 169.045](#), subd. 8.

Operation If a local government establishes special permits, vehicle operation under the permit is only allowed on roadways under the jurisdiction of the issuing unit of government. A city-issued permit, for instance, does not authorize driving on county roads; a separate permit would be required. (The law is silent on coordination between local units of government for permit issuance and applicability.)

Drivers of golf carts are subject to the same traffic laws and duties as operators of other motor vehicles, although additional limitations apply. The vehicles can only be operated on designated roadways, although they may cross other roads and highways. The vehicles can only be operated between sunrise and sunset unless original equipment includes headlights, taillights, and brake lights. They cannot be used (1) in bad weather unless the authorizing ordinance provides an exception for emergencies, or (2) if there is not enough visibility to see people and other vehicles from 500 feet away. [Minn. Stat. § 169.045](#), subs. 3, 5, 6.

Safety equipment Standard equipment requirements for motor vehicles do not apply to vehicles operating under the special permit, except that a rearview mirror is necessary. The mirror must provide a view to the rear for at least 200 feet. Golf carts must also display a triangular slow-moving vehicle emblem. [Minn. Stat. § 169.045](#), subs. 4 and 7.

Mini-trucks

Classification⁵

Mini-trucks often resemble pickup trucks, but are notably smaller in size, weight, and capacity. Although they come in different forms, the typical design is an open flat bed behind a small enclosed cab for the driver and one passenger. Other features can include air conditioning and all-wheel drive. They are produced by a number of Asian manufacturers and have traditionally been imported for off-road uses like recreational off-road activity, agricultural work on farms and ranches, at construction sites, in industrial parks, and grounds maintenance.



⁴ The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage.

⁵ Image source: <http://www.made-in-china.com>

Mini-trucks were formally classified in statute under a 2009 law that authorized their operation under limited circumstances (discussed below). They are defined as a motor vehicle that:

- has four wheels;
- uses an electric motor rated at 7,500 watts or less, or uses an engine with a maximum displacement of 660 cc;
- weighs between 900 and 2,200 pounds;
- has an enclosed cabin;
- resembles a pickup truck or van and has a cargo area; and
- was **not** originally manufactured to meet federal motor vehicle safety standard for passenger automobiles or “low-speed vehicles.” [Minn. Stat. § 169.011](#), subd. 40a.

The vehicles typically do not meet most federally mandated equipment standards for motor vehicles (such as for vehicle lighting and occupant safety). Also, they may not meet certain emissions requirements for on-road vehicles.

Regulations

Mini-trucks cannot be registered with the Department of Public Safety to drive on public roads in Minnesota. However, under a 2009 law, the vehicles can be operated on authorized streets and highways via a special permit issued by local units of government, such as counties or cities. [Laws 2009, ch. 158](#), § 10. The permit and regulations are mostly the same as allowed for ATVs, UTVs, and golf carts (discussed previously). [Minn. Stat. § 169.045](#). The authority for mini-truck operation under special permits expires July 31, 2012.

Registration The vehicles are not registered with the Department of Public Safety in the manner of other motor vehicles and do not require titling or license plates.

Operation of mini-trucks can be allowed via a special permit issued to the vehicle owner by counties, cities, or towns. [Minn. Stat. § 169.045](#), subd. 1. The Minnesota Department of Transportation cannot issue the permit for use on trunk highways (including the interstate system).

A key requirement is that the governing body must establish a special permit ordinance, and the ordinance must provide for permit application and confirmation that insurance requirements are met. The ordinance can also set additional conditions and require certification by a physician of ability to safely operate the vehicle. The permit can limit use to certain roads and must be renewed at least every three years, as determined by the unit of government. It can be revoked at any time based on evidence of inability to safely operate the vehicle.

Operator licensing Unlike ATVs, UTVs, and golf carts operated under the local permit, a driver’s license or instruction permit is required. [Minn. Stat. § 169.045](#), subd. 7.

Insurance Insurance requirements must be established as part of the local ordinance and must match that of motorcycles. Thus liability insurance (which covers certain

claims from another driver) is required and is the same as for passenger automobiles, but the vehicles are exempt from the requirements of personal injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses).⁶ [Minn. Stat. §§ 65B.48](#), subd. 5; [169.045](#), subd. 2.

If insurance cannot be obtained on the private market, it can be purchased from the Minnesota Automobile Insurance Plan with a rate determined by the Department of Commerce. [Minn. Stat. § 169.045](#), subd. 8.

Operation

If a local government establishes special permits, vehicle operation under the permit is only allowed on roadways under the jurisdiction of the issuing unit of government. A city-issued permit, for instance, does not authorize driving on county roads; a separate permit would be required. (The law is silent on coordination between local units of government for permit issuance and applicability.)

Drivers are subject to the same traffic laws as operators of other motor vehicles. The vehicles can only be driven on designated roadways, although they may cross other roads and highways. Mini-trucks are not restricted from operation at night or in inclement weather. [Minn. Stat. § 169.045](#), subds. 5, 6.

Safety equipment

Some equipment requirements apply, including: headlights and taillights; turn-signal lamps; some rearview mirrors; a windshield; front driver and passenger seat belts; and a parking brake. [Minn. Stat. § 169.045](#), subd. 7a.

Motor Scooters and Motorcycles

Classification⁷

Motor scooters, as they are commonly known, generally differ from motorcycles in a couple of ways. The engine is most often located underneath where the operator sits, and the standard design is step-through with a low platform for the operator's feet. They are generally lighter (200 pounds), smaller (145 cc engine), and slower (top speed under 60 miles per hour) than the average motorcycle. Vespa and Honda are among the best-selling manufacturers.



Motor scooters are not specifically defined in Minnesota law separately from motorcycles. *See* [Minn. Stat. § 169.974](#). “Motorcycles” are defined as motor vehicles that have no more than three wheels and a seat or saddle for the driver. The classification excludes motorized bicycles, electric-assisted bicycles, and tractors. [Minn. Stat. § 169.011](#), subd. 44.

⁶ The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage.

⁷ Image source: <http://www.vespausa.com>

Regulations

Motor scooters are treated under Minnesota law in the same manner as motorcycles, and the following summary is the same for both. [Minn. Stat. §§ 169.011](#), subd. 44; [169.974](#).

Registration The vehicle must be registered and carries a registration tax of \$10. [Minn. Stat. § 168.013](#), subd. 1b. The license plate must be displayed on the rear of the vehicle. [Minn. Stat. § 169.79](#), subd. 3. A certificate of title also must be obtained. The vehicle is subject to the motor vehicle sales tax. [Minn. Stat. §§ 297B.01](#), subd. 11; [297B.02](#).

Operator licensing A valid driver's license with a two-wheeled vehicle endorsement is required. A two-wheeled vehicle instruction permit is available to a person who is over 16 years old, has a driver's license, is enrolled in a two-wheeled driver's safety course, and passes a written exam.

Insurance Liability insurance (which covers certain claims from another driver) is required and is the same as for passenger automobiles.⁸ [Minn. Stat. §§ 65B.43](#), subds. 2, 13; [65B.48](#), subd. 5. Motor scooters and motorcycles are exempt from the requirements of personal injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses).

Operation Motor scooter and motorcycle operators are subject to the same traffic laws as operators of other motor vehicles (except those that by their nature would not be relevant). The vehicles may be operated two abreast. Additional passengers are allowed under some circumstances. Some prohibitions also apply, such as: carrying cargo that prevents keeping both hands on the handlebars, passing other vehicles by going between traffic lanes, and passing vehicles that occupy the same traffic lane as the motor scooter or motorcycle. Instruction permit holders face additional limits, including prohibitions on carrying passengers and driving at night. Operation is allowed on streets but not sidewalks.

Safety equipment The vehicle must be equipped with various safety features, including: at least one rearview mirror, a horn, a hand or foot brake, at least one headlight that has both low and high beams and is lighted at all times, a taillight, a brake light, rear license plate illumination, and footrests if it has passenger seating. [Minn. Stat. §§ 169.49](#); [169.50](#); [169.57](#), subd. 1; [169.60](#); [169.67](#), subd. 2; [169.974](#), subd. 3. A helmet is required for operators and passengers under the age of 18 as well as those operating with an instruction permit, and eye protection is required for all operators. [Minn. Stat. §§ 169.974](#), subd. 2, 4, 5 (i).

⁸ The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage. Note that the insurance requirements do not appear to apply to all motorcycles and motor scooters: under the definition of "motorcycle" in the chapter on automobile insurance, the vehicle's engine must be "rated at greater than five horsepower." [Minn. Stat. § 65B.43](#), subd. 13.

Motorized Bicycles (Mopeds) and Electric-Assisted Bicycles

Classifications⁹

Bicycles with small attached motors are commonly referred to as “mopeds,” although that term can describe other vehicles as well. They are available in a number of styles that generally resemble a bicycle, although they weigh more (from 55 to over 250 pounds), have additional features such as built-in headlights and turn signals, and may not necessarily have pedals for manual use. The vehicles are generally lighter and less powerful than a motor scooter.

Motorized bicycles. A motorized bicycle resembles a bike but incorporates the capability of motorized travel. State law defines it as a bicycle propelled by an electric or liquid fuel motor that has an engine displacement of up to 50 cc and up to 2 brake horsepower, and is capable of a top speed of 30 miles per hour on a flat surface. Although it appears to be classified as a type of bicycle in law, pedals are not specifically required.¹⁰ [Minn. Stat. § 169.011](#), subd. 45.



Electric-assisted bicycles. Electric-assisted bicycles, sometimes referred to as “e-bikes,” are a subset of motorized bicycles.¹¹ To be classified as an electric-assisted bicycle in Minnesota, the device must have a saddle and operable pedals, two or three wheels, and an electric motor of up to 1,000 watts, as well as meet certain federal motor vehicle safety standards. The motor must disengage during braking and have a maximum speed of 20 miles per hour (whether assisted by human power or not). [Minn. Stat. § 169.011](#), subd. 27.



Regulations

Motorized bicycles and electric-assisted bicycles are regulated in a manner similar to motor scooters and motorcycles. Most of the same laws apply to motorized bicycles, with a few exceptions. A couple of regulations are specifically different for electric-assisted bicycles. [Minn. Stat. § 169.223](#).

Registration The vehicle must be registered, with an annual tax of \$6. [Minn. Stat. § 168.013](#), subd. 1h. The license plate must be displayed on the rear of the vehicle. [Minn. Stat. § 169.79](#), subd. 3. A title is required. The vehicle is subject to the motor vehicle sales tax. [Minn. Stat. §§ 297B.01](#), subd. 11; [297B.02](#).

⁹ Image sources: <http://www.egovehicles.com>; <http://www.electric-bikes.com/others.htm>

¹⁰ While the statutory definition of motorized bicycle refers to the device as a bicycle, a “bicycle” under state law is defined as a “device propelled *solely by human power* upon which any person may ride, having two tandem wheels except scooters...” [Minn. Stat. § 169.011](#), subds. 4, 45.

¹¹ While an electric-assisted bicycle is specifically included as a type of “motorized bicycle,” in the definition of “electric-assisted bicycle” it appears to instead be classified as a motor vehicle. [Minn. Stat. §§ 169.011](#), subds. 27, 45.

| | |
|---------------------------|--|
| <i>Operator licensing</i> | An operator must have a motorized bicycle operator's permit, motorized bicycle instruction permit, or driver's license (although a two-wheeled vehicle endorsement is not required). Minors who are at least 15 years old can obtain an operator's or instruction permit. Minn. Stat. § 171.02 , subd. 3. |
| <i>Insurance</i> | Liability insurance (which covers certain claims from another driver) is required and is the same as for passenger automobiles, except that liability coverage is not required for an electric-assisted bicycle. ¹² Minn. Stat. §§ 65B.43 , subds. 2, 13; 65B.48 , subd. 5. Both types of bicycles are exempt from the requirements of personal injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses). |
| <i>Operation</i> | <p>Motorized bicycle operators must follow the same traffic laws as operators of motor scooters, motorcycles, and other motor vehicles (except those that by their nature would not be relevant). The vehicles may be operated two abreast. Operators must generally ride as close as is practical to the right-hand side of the road. Some prohibitions also apply, such as: carrying cargo that prevents keeping both hands on the handlebars, passing other vehicles by going between traffic lanes, and passing vehicles that occupy the same traffic lane as the bicycle. Holders of a motorized bicycle instruction permit are limited to riding within one mile of the person's residence. Minn. Stat. §§ 169.223, subds. 1, 5; 169.974, subd. 5; 171.05, subd. 3.</p> <p>The vehicles may not be operated on a sidewalk except to access a road. Minn. Stat. § 169.223, subd. 3. There is variation across communities in whether electric-assisted bicycles are allowed on bike paths reserved for nonmotorized traffic.¹³ An electric-assisted bicycle can be operated:</p> <ul style="list-style-type: none">• in a bicycle lane¹⁴, unless otherwise designated by a political subdivision via posted signs; and• on the shoulder of a roadway, if going in the same direction as motor vehicle travel. Minn. Stat. § 169.223, subd. 5. <p>Motorized bicycles are subject to the same parking regulations as bicycles. They can be parked on a sidewalk unless restricted by local government (although they cannot impede normal movement of pedestrians) and can be parked on streets where parking of other motor vehicles is allowed. Minn. Stat. §§ 169.222, subd. 9; 169.223, subd. 1.</p> |

¹² The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage.

¹³ A "bicycle path" is a dedicated bikeway that is separated from a shoulder or marked route on a street. [Minn. Stat. § 169.011](#), subd. 6.

¹⁴ A "bicycle lane" is a portion of the roadway or shoulder of a street designated for exclusive use by bicyclists. [Minn. Stat. § 169.011](#), subd. 5.

Safety equipment The vehicle must be equipped with various safety features that largely parallel those of motor scooters and motorcycles, including: at least one rearview mirror, a horn, a hand or foot brake, certain vehicle lighting, and footrests if it has passenger seating. For operation at night, as well as for motorized bicycles sold after June 1, 1987, lighting requirements consist of at least one headlight that has both low and high beams as well as a taillight (and the lights must meet the requirements for motorcycles).¹⁵ If so equipped, the headlight must be on at all times the vehicle is operated. [Minn. Stat. §§ 169.223](#), subd. 4; [169.49](#); [169.50](#); [169.57](#), subd. 1; [169.60](#); [169.67](#), subd. 2; [169.974](#), subd. 3.

A motorcycle or bicycle helmet is mandatory for operators under the age of 18.¹⁶ Eye protection is required except for operators of electric-assisted bicycles.

Motorized Foot Scooters

Classification¹⁷

In the past few years, motorized foot scooters became rather popular among youth. They are also called “motorized scooters” and “go-peds” (a specific brand name). The devices are usually lightweight platforms with two small wheels, having a design similar to a skateboard but with a motor as well as steering and acceleration control via handlebars. Braking is from a hand brake on the handlebar or by using a foot-operated rear-wheel brake. Some models have a seat or saddle that sometimes is removable, which is found on more powerful and expensive models. Many motorized foot scooters weigh around 20 to 65 pounds, although heavier designs are available.

Types include both gas and electric motors. Electric models generally have a top speed below 15 miles per hour and a range of up to 20 miles. Models with gas engines commonly range from 25 to 50 cc (1.5 to 2.5 horsepower), and can have a top speed of over 30 miles per hour.



Under a Minnesota law first passed in 2005 and modified in 2008, a motorized foot scooter is defined as a “device” (not a “motor vehicle”) that:

- has handlebars;
- can be stood or sat on by the operator (a seat or saddle is not required);

¹⁵ In addition, a brake light and rear license plate illumination may be required.

¹⁶ For an electric-assisted bicycle, the headgear requirement is viewed by Driver and Vehicle Services in the Minnesota Department of Public Safety as mandating a bicycle helmet meeting a specific American National Standards Institute (ANSI) standard.

¹⁷ Image source: <http://www.electrikmotion.com/GTscotersmain.htm>

- is powered by an internal combustion engine or an electric motor;
- has wheels no more than 12 inches in diameter; and
- has an engine capable of a maximum speed of not more than 15 miles per hour on a flat surface. [Minn. Stat. § 169.011](#), subd. 46.

Most pocket bikes are excluded from the motorized foot scooter category (see the discussion on page 20).

Regulations

Minnesota law treats motorized foot scooters like bicycles, so that operators have the same rights as bicyclists and must generally follow the same laws. [Minn. Stat. § 169.225](#).

Registration A motorized foot scooter does not need to be registered or pay registration taxes, and a certificate of title is not necessary. See [Minn. Stat. §§ 168.002](#), subd. 18 (e); [168.013](#), subd. 1; [168.09](#), subd. 1.

Operator licensing A driver's license or permit is not required for operation. The minimum operator age is 12 years old.

Insurance The device does not need to be insured. See [Minn. Stat. §§ 65B.43](#), subds. 2, 13; [65B.48](#), subd. 5.

Operation A motorized foot scooter may not be operated on a sidewalk, except to cross it. The device can be operated on a bicycle path, bicycle trail, bicycle lane, or bikeway unless (1) the pathway is reserved for nonmotorized use, or (2) operation is restricted by local government.

Operators must ride as close as is practical to the right-hand side of the road, and must follow the same traffic laws as bicyclists. This includes a requirement that when making a left turn, the rider must dismount and cross the roadway on foot (the person is then subject to any restrictions applicable to a pedestrian).

No passengers besides the operator can be carried.

Safety equipment Any person under age 18 must wear a helmet.
The device can be operated when it is dark out, but under current Department of Public Safety regulations it must meet the same lighting requirements that apply to a bicycle: a headlight that is visible at least 500 feet ahead and a red reflector that can be seen from 600 feet behind when in the path of a motor vehicle's headlight.

Neighborhood Electric Vehicles and Medium-Speed Electric Vehicles

Classifications¹⁸

Neighborhood electric vehicles and medium-speed electric vehicles are similar to golf carts, but have more power, can carry more passengers or cargo, and are designed for potential operation on public roads.

Neighborhood electric vehicle. A Minnesota law passed in 2006 defines a neighborhood electric vehicle (NEV) as a four-wheeled, electrically powered motor vehicle that has a maximum speed of between 20 and 25 miles per hour on a flat surface. [Minn. Stat. § 169.011](#), subd. 47.



Medium-speed electric vehicle. A 2008 law created a related classification: the medium-speed electric vehicle (MSEV). An MSEV is defined similarly to an NEV. It too is four-wheeled, electrically powered motor vehicle, but it can have a top speed of up to 35 miles per hour on a flat surface. It also must be fully enclosed, have at least one door for entry, be equipped with a roll cage or crush-proof design, have a minimum wheelbase of 40 inches, have wheels with a diameter of at least 10 inches, and other than speed capability, it must meet the federal safety standard for low-speed vehicles. [Minn. Stat. § 169.011](#), subd. 39.



The electric vehicles are rechargeable through the electrical grid and have a range of between 30 to 75 miles before needing to recharge. Models come in styles ranging from two-seaters to small-scale trucks, normally weighing between 1,000 and 1,500 pounds. Originally produced mostly for niche uses such as military bases and planned communities, their use has widened. The largest U.S. market is in California.

Federal Low-Speed Vehicle Classification

Both NEVs and MSEVs must meet a federal safety standard for “low-speed vehicles” in order to be legally operated on public roads in Minnesota.¹⁹ However, the NEV and MSEV definitions under state law do not completely match the federal classification. There are a couple of differences, but a key one regards the top speed capability of MSEVs, which under state law is allowed to be higher than the 25 miles per hour maximum allowed under the federal low-speed

¹⁸ Image sources: <http://www.gemcar.com>; <http://electriccarsofamerica.com/ev-car-news/1-latest-news/2-30-electric-cars>

¹⁹ Federal law establishes a number of safety standards that regulate manufactured motor vehicles. The U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA) establishes and oversees the safety standards through federal regulations. [49 U.S.C. § 30111](#); [49 C.F.R. § 571](#). The regulations cover technical and engineering specifications for motor vehicle safety equipment and crashworthiness, ranging from windshield wipers and brake hoses to crash resistance and material flammability. Each specification is referred to as a “federal motor vehicle safety standard.” The motor vehicle safety standard for low-speed vehicles was first established in 1998, and excludes most of the safety features required of other passenger motor vehicles.

vehicle standard. This may raise issues with federal preemption as well as the ability of vehicle manufacturers to legally produce MSEVs.

Primarily because of the federal safety standard governing low-speed vehicle manufacture, most golf carts would not be considered an NEV or an MSEV that could be operated on public roads (except under the special permit discussed earlier). Similarly, because of the safety standards mini-trucks would not be classified as an NEV or MSEV (as part of the statutory definition of a mini-truck, it is not manufactured to meet the safety standard for low-speed vehicles).

Regulations

Under Minnesota law NEVs and MSEVs are treated similarly to passenger motor vehicles, but their use is restricted to slower streets. See [Minn. Stat. § 169.224](#).

Registration Both NEVs and MSEVs are considered passenger automobiles and must be registered. They are subject to the same registration tax (based on vehicle value, depreciated over time) as cars, pickup trucks, and vans. License plates must be displayed on the vehicles.

A certificate of title also must be obtained, which requires a vehicle identification number and a manufacturer's certificate of origin.²⁰ Homemade electric vehicles and retrofitted golf carts do not qualify for titling. [Minn. Stat. § 168A.05](#), subd. 9.

Operator licensing A valid driver's license or instruction permit is required, and no special endorsement is necessary.

Insurance Insurance requirements match that of other passenger automobiles, including liability coverage (which covers certain claims from another driver) and personal injury protection under the Minnesota No-Fault Automobile Insurance Act (which establishes minimum required coverage levels for medical, lost wages, and related expenses).²¹

Operation Drivers of an NEV or MSEV are subject to the same traffic laws as operators of other motor vehicles. Neither type of vehicle can be operated on a street or highway with a speed limit above 35 miles per hour, except to directly cross it. A local government can restrict use of the vehicle on its roads.

Safety equipment The vehicle may only be operated on public streets and highways if it meets federal equipment standards established for low-speed vehicles. This includes: a windshield, headlamps, tail-lamps, brake lights, front and rear turn signals, reflectors at the rear, rearview mirrors, a parking break, a seat belt, and a vehicle

²⁰ The certificate of origin is created by the vehicle manufacturer and sent to a dealer along with the vehicle itself. The dealer then provides the certificate to the Department of Public Safety when the vehicle is sold.

²¹ The minimum liability coverage is \$30,000 per person for injuries, \$60,000 per occurrence for injuries, and \$10,000 for property damage. The minimum personal injury protection (PIP) coverage is \$40,000 per person per accident (\$20,000 for hospital and medical expenses, and \$20,000 for other expenses such as lost wages).

identification number. An NEV or an MSEV must also have a slow-moving vehicle emblem. [Minn. Stat. §§ 169.224](#), subd. 2; [169.522](#), subd. 1.

Pocket Bikes

Classification²²

Pocket bikes (also referred to as mini-bikes, mini-motorcycles, and mini-choppers) are not specifically defined in Minnesota law. They come in a variety of styles, but often resemble a miniature-sized motorcycle, with a saddle that is commonly located about two feet off the ground. The vehicles are typically powered by a 49-cc gas engine (although electric models are available). They have wheel sizes around 10 inches, weights ranging from just over 30 pounds to about 100 pounds, and top speeds ranging from 30 to over 50 miles per hour.



Regulations

Following a 2008 legislative change, devices that are considered pocket bikes are most likely no longer allowed on public roads. Under current law, for a device to be categorized as a motorized foot scooter it must have both a small wheel size (up to 12 inches) as well as a modest top speed (of 15 miles per hour). Before the change, the classification for motorized foot scooters included devices with small wheels (up to 10 inches) **or** a modest top speed, which had the effect of including pocket bikes in the classification. [Laws 2008, ch. 287](#), art. 1, § 35.

The reason most pocket bikes are not allowed on public roads following the motorized foot scooter definition change concerns device classifications and associated title and registration requirements. A two-wheeled device that does not fit a specific vehicle definition—likely the case for most types of pocket bikes—would most likely be classified under Minnesota law as a motorcycle. This is effectively the default category for two- and three-wheeled vehicles. Smaller devices such as pocket bikes that fall into the motorcycle classification often lack safety equipment required under federal regulations faced by manufacturers, preventing a vehicle identification number (VIN) from being assigned. A VIN is necessary in order for Driver and Vehicle Services in the Department of Public Safety to issue a title for a motorcycle, so the vehicle would accordingly not be able to be titled or registered. A title and registration are necessary steps for legal operation on public roads. *See* [Minn. Stat. §§ 168.013](#), subd. 1; [168.09](#), subd. 1; [168A.04](#), subd. 1; [168A.085](#).

²² Image source: <http://www.squidoo.com/gas-pocket-bikes>

Segways

Classification²³

Segways were first introduced in 2001. They are referred to in law as “electric personal assistive mobility devices.” They have two wheels that are parallel rather than tandem and handlebars that a standing operator uses for steering. They are designed to be self-balancing, which contrasts with the other two-wheeled low-speed vehicles that require balancing by the vehicle operator. The latest Segways come in several models, having a top speed of 12.5 miles per hour and a range of up to roughly 25 miles.



To be considered an electric personal assistive mobility device under Minnesota law, a device must have two nontandem wheels, be able to transport only one person, use an electric motor, and have a maximum speed of 15 miles per hour on a flat surface. [Minn. Stat. § 169.011](#), subd. 26.

Regulations

Operators of a Segway (or other electric personal assistive mobility device) have the same rights and responsibilities as pedestrians, with some additional requirements. [Minn. Stat. § 169.212](#).

Registration They do not need to be registered, and a certificate of title is not necessary.

Operator licensing A driver’s license or permit is not required for operation.

Insurance The device does not need to be insured.

Operation The device may be operated on a bicycle path. Operators must use due care and go at speeds that are “reasonable and prudent under the conditions.” [Minn. Stat. § 169.212](#).

Segways can only be operated on a road if directly crossing the roadway, the sidewalk is obstructed or unavailable, under direction of a traffic control device, or temporarily to reach a motor vehicle.

No passengers may be carried.

Safety equipment The device must have reflectors on its front, back, and wheels, which can be seen from 600 feet when in the path of a motor vehicle’s headlights.

²³ Image source: <http://www.segway.com>

Wheelchairs

Wheelchairs are in an altogether separate category from other low-power vehicles. The statutory classification includes scooters and tricycles “used by a disabled person as a substitute for walking.” [Minn. Stat. § 169.011](#), subd. 93.

Under Minnesota law, persons in wheelchairs are considered pedestrians rather than vehicle operators and have the same rights and responsibilities as pedestrians. This is true whether the wheelchair is powered or not. Wheelchairs are required to remain on sidewalks and stay off streets, except to cross them or in situations where a passable or useable sidewalk is not available.

Legislation in Other States

Electric vehicles. Most states have enacted regulations governing NEVs (or “low-speed vehicles” as they are called by some states as well as in federal regulations).²⁴ Across the states, definition of an NEV often overlaps with Minnesota’s and is based on the federal safety standard. Like Minnesota, the top speed of the vehicle is typically limited to 25 miles per hour. Unlike Minnesota, however, laws in a number of states—as well as in federal regulations—do not limit the vehicle category to electrically powered vehicles. Almost all states restrict NEV operation to certain roads based on speed limit, with the most common being operation only on roads with a limit of up to 35 miles per hour. A handful of states allow further regulations by local units of government.

Nationally, the MSEV classification is quite recent. At least ten states have enacted legislation establishing the new class (Colorado, Kentucky, Maryland, Minnesota, Montana, Oklahoma, Oregon, Tennessee, Texas, and Washington).²⁵ The vehicle is defined similarly as in Minnesota, although it can have a top speed of 45 miles per hour in a couple of states. As with NEVs, MSEV operation is generally restricted to relatively slower roads, most often with a top posted limit of 45 miles per hour.

Motorized foot scooters. Many states have addressed the status of motorized foot scooters, and there is variation among those states that have specific laws. Some, including Delaware and New Jersey, prohibit operation on public roads, trails, and sidewalks. Others have different provisions for:

- minimum operator age (ranging from no minimum in Washington to age 16 in California, Florida, and Oregon);
- helmet requirements (generally required);
- driver’s license (required in a couple of states including Florida and Maine); and

²⁴ Insurance Institute for Highway Safety, “Low-speed Vehicles,” September 2011, <http://www.iihs.org/laws/low-speed-vehicles.aspx> (accessed September 9, 2011).

²⁵ Insurance Institute for Highway Safety, “Medium-speed Vehicles,” September 2011, <http://www.iihs.org/laws/medium-speed-vehicles.aspx> (accessed September 9, 2011).

- maximum speed limit of streets on which they can be operated (25 miles per hour in a few states, such as California and Oregon).

Mini-trucks. Nationally, mini-trucks have been another area of recent legislative activity, and most laws have only gone into effect some time since 2007. At least 18 states allow their use on some public roads (Alabama, Arkansas, California, Florida, Idaho, Illinois, Kansas, Louisiana, Maine, Minnesota, Missouri, Nebraska, New Hampshire, North Dakota, Oklahoma, Tennessee, Utah, and Wyoming).²⁶ The vehicles go by a wide variety of terms under state laws. They are usually restricted from operating on interstates and certain other roads, but the nature of the limitations varies across the states. Several states restrict the vehicle based on posted speed limit, such as up to 35 miles per hour. In many cases, local units of government such as counties and cities can authorize or restrict vehicles on roads under their jurisdiction. Classification as a mini-truck based on its top speed capability varies from 25 miles per hour to no limit. A few states require that the truck meets federal safety standards for “low-speed vehicles.” This is the same standard that Minnesota requires for operation of NEVs and MSEVs.

Pocket bikes. Legislative activity on pocket bikes has primarily consisted of prohibiting their operation on public streets and roads, sidewalks, trails, and other public lands. Concerns expressed about the vehicles include engine noise, lack of safety equipment such as horns and mirrors, stability at higher speeds, and reduced visibility of both the vehicle (due to its small size) and the operator (due to positioning low to the ground). A couple of states have also enacted labeling and disclosure laws. California, New Hampshire, and Connecticut require that manufacturers or retailers affix a label stating that pocket bikes cannot be legally operated on public roads. New Hampshire additionally requires disclosure by the retailer that the vehicle might not be covered under an operator’s insurance policy.

Segways. The majority of states allow Segways to be used on public sidewalks and bike paths, although they are restricted to just sidewalks in some cases.²⁷ A handful of states have not enacted legislation governing their use, and they are not allowed in a couple of states.

For more information about vehicles and traffic regulation, visit the transportation area of our website, www.house.mn/hrd/hrd.htm.

²⁶ Insurance Institute for Highway Safety, “Minitruck State Laws,” September 2011, <http://www.iihs.org/laws/minitrucks.aspx> (accessed September 9, 2011).

²⁷ Governor’s Highway Safety Association, “Segway Laws,” May 2010, http://www.ghsa.org/html/stateinfo/laws/segway_laws.html (accessed May 27, 2010).