

Protecting Commuters and Pedestrians: How can Seminole County Address Micromobility Safety?

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The growing use of e-bikes and e-scooters has raised safety concerns for commuting across Central Florida.

Florida law establishes a statewide e-bike classification and equipment framework while leaving substantial operational authority to local governments.¹ For example, while state statutes establish broad equipment standards, local jurisdictions may adopt differing operational rules, which can complicate enforcement and create confusion for riders and other road users.²



The veto of CS/SB 382 in 2026 left proposed statewide micromobility-specific crash-data collection requirements unenacted.³ As a result, local governments and school districts continue to operate within a common state legal framework but with substantial local discretion and limited standardized e-bike specific crash tracking.

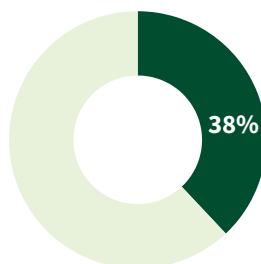
Local discussions in Seminole County have highlighted particular concern about young riders, while also raising the need to preserve access to school and work.

Seminole County faces a practical question: how can the county best protect riders, pedestrians, and other road users while preserving micromobility as an accessible transportation option?

Injury trends, circumstances, and severity

U.S. studies report increasing numbers of micromobility injuries, especially among children and adolescents.^{4,5,6}

Children aged 11 to 14 years represent the largest age group for e-scooter injuries, accounting for more than 38% of all injuries.⁷



More than 38% of all injuries from e-scooters are children aged 11 to 14

From 2017 to 2022, there was a **30-fold rise in e-bicycle injuries** and a **43-fold increase in e-bicycle hospitalizations**. Furthermore, **incidence of head trauma** from e-bicycle accidents was **49 times higher** in 2022 than in 2017.⁶

E-bikers and e-scooter riders exhibit greater injury severity, worse injury-related outcomes, and more hospitalizations than conventional bicycle riders.^{8,9}

Mechanisms and contributing factors

Head, neck, or facial e-bike injuries were more common in cases involving **speed-related loss of control** than in other cases (49.1% vs. 28.7%).⁴

Falls and **motor vehicle collisions** are leading mechanisms of e-scooter injuries and hospitalizations.¹⁰

Odds of sustaining a head injury are **1.9 times higher** for e-bicyclists not wearing a helmet than for those using helmets.⁶

Recent research from the Florida Department of Transportation (FDOT) indicates that micromobility crashes are associated with both **usage patterns** and **street-level characteristics**, including the availability of bicycle infrastructure, underscoring the importance of roadway design alongside rider regulation.¹¹

Research on the impact of regulations is lacking.

Few studies have empirically tested the impacts of specific regulations. Here, we offer examples from four studies across the globe:

Finland



Policy or regulation: Speed reduction, nighttime restrictions

Findings: Changes were associated with a decline in hospital-treated shared e-scooter injuries from 19 to 9 per 100,000 trips.¹² A subsequent study reported lower traumatic brain injury incidence after restrictions, from 2.2 to 1.0 per 100,000 trips.¹³

United States



Policy or regulation: Local-regional regulations for eScooter rides and companies (speed limitations, road rules, geofencing, and limiting the number of companies allowed in the county)

Findings: Implementation of regulations led to a 44.4% reduction in monthly injured patients following the initial regulations and an additional 60% reduction following subsequent restrictions.¹⁴

Denmark



Policy or regulation: Helmet laws for e-scooters

Findings: Mandatory helmet legislation increased observed helmet use from 1.8% to 5.56%¹⁵ but another study found that while helmet use increased, overall injury incidence and major injury incidence remained essentially unchanged.¹⁶

China



Policy or regulation: Helmet laws for e-bikes

Findings: Mandatory helmet regulation was associated with better head-injury outcomes than an encouragement-based approach.¹⁷

What are other counties and states doing?

The National Institute for Transportation and Communities has reported:⁹

- Most states impose a speed limit on e-bikes
- About half of states require an operator's license to ride an e-bike, but nearly $\frac{3}{4}$ of states do not require registration
- Most states have a minimum age, with 18 states requiring operators to be 16 years or older.
- Most states do not require rider to wear a helmet. Requirements more stringent for those under a specified age limit.
- States can explicitly permit or prohibit operation of e-bikes or e-scooters.

Policy considerations highlighted in reviews of the literature^{9,18} include:

- Clear route signage: signs clarifying where e-bikes are allowed or banned; sometimes paired with speed limits (see [Park City, UT, Boulder, CO, and Seattle, WA for examples](#))
- Infrastructure improvements (e.g., roads and sidewalks)
- Operating rules (e.g., minimum age requirements, license/registration, speed limits, where they are permitted)
- Pedal or helmet requirements

Examples of policies or programs for students in Florida school districts:

Orange County

Students without a learner's permit or license may not bring motorized micromobility devices onto school property. Eligible high-schoolers may obtain school permission/decal. Class 3 and modified e-bikes are prohibited.²⁵

Volusia County

Ride Smart VCS requires micromobility campus riders to complete a free, approximately 30-minute course and obtain a device permit sticker.²⁶

Comparison of State-level Regulations

State	Minimum Operator Age	Helmet Requirement	License/Registration	Distinctive Regulatory Feature
Florida (1, 19)	No statewide minimum; local minimum-age rules may apply	Required for those under 16 years	Neither required	Local authorities may regulate age and access
New Jersey (19,20)	15 years* for e-bikes; No statewide minimum age specified for e-scooters	Required for all e-bike riders; required for those under 17 years for low-speed e-scooters.	Required for e-bikes; neither required for e-scooters	E-bikes and low-speed e-scooters have different licensing and registration requirements
New York (21)	16 years	Required for those 16–17 years for e-scooters; all Class 3 operators	Neither required	E-scooters have a statewide operating-speed limit of 15 mph; sidewalk riding is prohibited unless authorized by local law
Oregon (22)	16 years	Recommended for e-bike riders; required for all e-scooter riders.	Neither required	E-bike sidewalk operation prohibited; Revised e-bike and e-scooter age requirements become operative January 1, 2027

Note. Requirements reflect laws and official guidance reviewed as of September 28, 2026, and may change as legislation and regulations are amended. Readers should check official sources for the latest requirements

*Qualifying shared low-speed e-bike rentals have a licensing exception for riders aged 16+ when the operator is renting from a company under contract with a local government.

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Methods

This brief draws on a rapid review of selected research reviews and empirical studies on e-bike and e-scooter safety, Florida statutes and legislative materials, and municipal and school-district policies in Central Florida and other U.S. jurisdictions. Policy comparisons are descriptive; the brief does not estimate causal policy effects or assume that findings from other jurisdictions directly apply to Seminole County. This review is not exhaustive. Official sources reviewed September 28, 2026.

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