



FHWA E-bike Case Study Series

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Seattle Parks and Recreation Connects Multimodal Trails for E-bike Use

The city of Seattle, known as the Emerald City, prides itself on its access to lush evergreen forests and a culture of outdoor recreation. Seattle Parks and Recreation (SPR) manages more than 120 miles of trails. Several other jurisdictions border Seattle city parks and share trail infrastructure. In 2018, Washington State passed legislation to regulate electric bicycle (e-bike) use on roads, sidewalks, and trails unless a local law prohibited their operation. When the law passed, SPR already had regulations prohibiting the use of Class 3 e-bikes on its trails. King County, with a population of more than 2 million and which includes Seattle,¹ has an extensive trail system that prohibited motorized vehicles on trails before the law was passed. Other adjoining jurisdictions, such as the Seattle Department of Transportation, had no prohibition at all. The inconsistent patchwork of regulations between SPR and other jurisdictions made it difficult for e-bike users to legally navigate the trail systems. To overcome this, SPR engaged with land managers from surrounding jurisdictions to align policies on use of e-mobility devices, including e-bikes, on trails.

E-bike Classes

Class 1: pedal assist, max assisted speed of 20 mph

Class 2: throttle assist, max assisted speed of 20 mph

Class 3: pedal assist, max assisted speed of 28 mph

Source: 23 U.S.C. § 217(j)(2)

In 2020, SPR approved the use of e-mobility devices on their trails. The 2020 [Multiuse Trail Policy](#) aligns SPR's e-mobility trail policy with those of adjacent jurisdictions such as King County and the University of Washington. SPR approached the policy changes using data-driven decision making while also engaging with stakeholder groups. Seattle saw the need to align its policies with other partners as an opportunity to not only harmonize with State laws, but also anticipate future emerging technologies and how their uses could be included in the updated policy. SPR worked closely with five land

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¹ As of 2019, per the U.S. Census Bureau.

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managing partners (Seattle Department of Transportation (SDOT), Washington State Department of Transportation, King County, Port of Seattle, and the University of Washington) to develop a pilot program, design surveys, and engage with the public to inform the policymaking process.



SPR installed signage along trails to inform the public of the e-bike pilot and the speed limit. Image courtesy of SPR.

On-the-Ground Data Collection

SPR conducted a one-year pilot program to learn more about potential impacts of e-bikes. The program began in August 2018 and allowed Class 1 and Class 2 e-bikes on several different recreational trails. SPR established a 15 mile per hour (mph) advisory speed limit for all devices, including traditional bicycles. The city installed small signs throughout high traffic trail areas to inform the public of the pilot program and to provide the speed limit advisory.

SPR worked with SDOT and the University of Washington to design surveys and perform onsite data collection. Staff visited the trails to observe how many people used the trails, the types of users (pedestrian, cyclists, e-cyclists), the speed of cyclists and e-cyclists, and how people used the [local bikeshare systems](#).² They also observed the trails throughout the week and at different times of day in order to develop a complete understanding of trail traffic patterns.

Results from the data collection showed that average speeds for e-bikes and traditional bicycles were similar (14.9 mph for traditional bicycles and 14.8 mph for e-bikes). Furthermore, the study found that those who owned their own e-bikes, on average, rode faster at 16.8 mph. Riders using traditional bicycles and e-bikes from the bikeshare were slower compared to other users of private bikes, riding at an average speed of 11.9 mph.



E-bike user fills out SPR survey on a shared use path. Image courtesy of SPR.

² Seattle's bikeshare fleet includes both traditional bicycles and e-bikes. SPR noted that, as of 2021, there has been an increasing trend of users opting for e-bikes from the bikeshare.

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SPR staff [conducted surveys both online and in person](#) with over 1,400 respondents. The primary purpose of the surveys was to determine user perceptions and opinions on how the trails should be used. In person surveys were not only conducted on city trails, but also at public engagement meetings conducted throughout the pilot program. SPR made an effort to engage a diversity of groups ranging from recreation advocates to the Seattle Commission for People with Disabilities. The survey received 200 in-person respondents and 1,200 online participants. A majority (74 percent) of respondents supported allowing Class 1 and Class 2 e-bikes on the trails. For SPR, the pilot program provided on-the-ground data that was critical in informing how to harmonize its e-bike regulations with surrounding jurisdictions.

Connecting Trails by Aligning Policies

The conclusion of the pilot program led to the development of SPR's Multiuse Trail Policy, which permits Class 1 and Class 2 e-bikes on SPR trails. SPR did not allow Class 3 e-bikes to ensure regulatory consistency with neighboring jurisdictions in accordance with the State legislation.³ The surveys indicated public support for e-bikes being allowed on trails as well as support for limits to how fast they can be operated. As of August 2020, the Multiuse Trail Policy made the following [changes](#):

- Established a mandatory 15 mph speed limit, or lower speed limits as necessary, for all users
- Allowed e-mobility devices (under 750-watt motor, e-assist stops at 20 mph) on multiuse trails
- Prohibited other forms of motorized vehicles
- Clarified roles and responsibilities

Soon after, partnering agencies followed by aligning their policies closely to SPR's Multiuse Trail policy. SDOT provides [educational materials on how to use Seattle's multiuse trails](#). SPR has also shared the new policy with the multi-county [Leafline Trails Coalition](#).

Key Takeaways

SPR's e-bike management approach harmonizes e-bike regulations across jurisdictions. SPR's development of the policy highlights takeaways for other jurisdictions interested in establishing similar e-bike regulatory strategies.

Identify and engage stakeholders early in the process. There were at least five major agencies managing jurisdictions adjacent to SPR's recreational lands. It was important to SPR to understand the regulatory framework at the State and local level as well as the actual ownership of the trail network. By engaging with agency partners early in the process, SPR got support for the pilot program and cultivated interest and buy-in for aligning local regulations. This support brought in resources and expertise. For example, SDOT helped SPR understand how much trail mileage SPR owned as it conducted its own trail upgrades plan, and the University of Washington's School of Public Health helped to design surveys.

³ [Washington State law](#) requires that local regulations regarding the operation of Class 1 or Class 2 e-bikes on shared use paths that cross jurisdictional boundaries of local jurisdictions be consistent for the entire shared use path in order for the local regulations to be enforceable.



Real-world data helps to make a case. Objective data that better represented the realities of trail use helped SPR avoid relying on anecdotal observations. Recording average speeds within the trail system along with user perceptions from surveying 1,400 respondents allowed SPR to determine what speed limit was appropriate and what restrictions would be needed. On-the-ground data collection, in conjunction with research on best practices from other States, ultimately led to defensible and flexible policy recommendations.

E-mobility policy should aim to foresee emerging uses. The 2018 State legislation was a response to years of emerging e-mobility technologies (e-bikes, e-scooters, and electric personal assistive mobility devices) being introduced in the State. SPR observed that e-mobility technology was quickly evolving; for example, SDOT has expanded its bikeshare fleet to include e-scooters. Considering this and anticipating future changes to the e-mobility landscape, SPR's Multiuse Trail Policy allowed not just e-bikes, but any "electric-assisted micro-mobility devices with motors up to 750 watts that have a speed controller at 20 mph." This approach allows SPR to remain flexible so they can respond to changes in technology and align with changes in partnering agency policies.

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