



Midpeninsula Regional  
Open Space District

# Memorandum

DATE: May 12, 2021

MEMO TO: Board of Directors

THROUGH: Ana Ruiz, General Manager *AR*

FROM: Brad Pennington, Area Superintendent

SUBJECT: Update on the Electric Bicycle Study

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The electronic bicycle (e-bike) study project includes several components. In addition to the Paved Pilot Program and Unpaved Trails Study, staff are working with the Science Advisory Panel (SAP) and consultant H.T. Harvey to expand upon the evaluation of e-bike impacts on unpaved trails in natural areas. Staff also plan to update agency surveys on current regulations, policies and issues related to e-bikes experienced by local agencies.

During a Special Meeting on January 27, 2021, the Midpeninsula Regional Open Space District (District) Board of Directors (Board ) approved an option to revise the one-year pilot program (Pilot Program) that streamlines the evaluation of select paved and improved bicycles trails for use by class 1 and 2 e-bikes at Ravenswood Preserve and Rancho San Antonio Preserve and County Park (Rancho). (R-20-89). These revised changes released staff capacity to conduct a more robust Unpaved Trails Study on partner agency lands that includes intercept surveys and trail observation reports to serve as a good proxy for District trail and site conditions.

Staff contacted surrounding land management agencies, including San Mateo County Parks, California State Parks, and Santa Clara County Parks, to find a good proxy for District trails and visitation. Criteria used to select comparable trails included:

- Multi-use trail designation (hiker, bicycles, equestrian)
- Visitation levels
- Trail classification (mix of single track and road width)
- Surrounding environment
- Proximity to District preserves

Staff also talked with representatives from the Santa Clara Valley Open Space Authority, City of Belmont Parks Department, and Marin Municipal Water District who are also interested in assessing e-bike use on their lands. They expressed interest in our planning process and survey methodology. We invited them to observe our process and will update them on our findings and progress. Santa Clara County Parks visitor use and trail types are the closest proxy to District preserves and trails. Santa Clara County Parks have allowed class 1 and 2 e-bikes on all paved and unpaved bicycle trails and pathways, including on approximately 150 miles of unpaved multi-use trails since 2017. District staff met with the Santa Clara County Parks Chief Ranger,

Public Information Officer, and Planning staff and have come to an agreement to allow the District to conduct Intercept Surveys at Calero County Park and Sanborn County Park.

### **Paved E-Bike Pilot Program**

During the ongoing Paved E-Bike Pilot Program, visitors are permitted to use class 1 and 2 e-bikes on the designated paved and improved trails in Ravenswood and Rancho San Antonio. Intercept surveys and observation reports started in early April and will continue through June. Board authorization of e-bikes as part of the pilot program extends through December 2021.

#### Paved Pilot Scope

- ❖ Collect data over a 3 month period (April-June) at Rancho San Antonio Preserve and County Park, and Ravenswood Preserve, on paved and improved trails to assess public opinions and perceptions, impacts to trail user experience and safety, facility impacts, compliance and enforcement (speed observations, incidents and citations), and level of use
- ❖ Determine approximate counts of visitors riding e-bike and visitors riding analog bicycles, horses, and hiking/walking
- ❖ Gather observational data on trail etiquette
- ❖ Gather observational data on visual wildlife impacts
- ❖ Gather public input and document visitor trail experiences through intercept surveys
- ❖ Gather data on trail use violations and incidents
- ❖ Document trail conditions pre and post Pilot Program
- ❖ Analyze data and develop findings
- ❖ Report conclusions to the Planning and Natural Resources Committee in early 2022
- ❖ Report conclusions and Committee feedback to the Board in Spring 2022

#### Intercept Surveys

Trained seasonal staff and volunteers will conduct intercept surveys Monday through Sunday at variable times. Surveys will be conducted for twelve weeks starting April 3, 2021 and ending June 27, 2021. Staff anticipate doing a total of 36 survey sessions per preserve, with each session lasting approximately four hours. Visitors contacted for the intercept survey that wish to take the survey online will be able to do so if they provide an email for follow up. The surveys will document the visitor experience, including any trail use conflicts and ask respondents about their level of support or opposition to e-bike use. Survey staff and volunteers will contact visitors hiking, running, horseback riding (at Rancho), and riding bicycles and e-bikes. They will maintain a neutral position towards the use of e-bikes.

#### Observation Reports

During each of the intercept survey sessions, one of the trained survey staff or volunteers will make observational reports of all visitor use by activity type. These reports will be used to provide an overall view of the percentage of trail use by activity.

#### Speed Observations

Rangers will measure bicycle speeds of bicycles and e-bikes with radar units during each survey week. They will conduct approximately four hours of speed observations per survey week in each preserve.

#### Violations and Incidents

A comparison will be made of all reportable incidents, accidents, enforcement activity, and public comments received during the pilot/study period and over the last three years for each study area.

## Trail Assessments

Land and Facilities staff have completed pre-pilot trail assessments of all designated trails in the pilot program. Post-pilot assessments will be done in December 2021. The assessments include pictures of the trail every 500 feet, a general assessment of trail condition and of trail use impact/compaction adjacent to the trail.

## **Unpaved E-Bike Partner Trails Study**

Two specific unpaved trails/locations were chosen for the study that closely resemble District trails in environment, use type, and visitation levels. The first location is at the junction of the Lisa Killough Trail, Cottle Trail, and North Ridge Trail within the Rancho San Vicente portion of Calero County Park. These three trails are heavily used multi-use trails. Equestrians, hikers, dog walkers, and bicyclists use these trails which compares well to the District's Fremont Older Preserve and Sierra Azul Preserve (Kennedy Area). The second location is along the John Nicholas Trail in Sanborn County Park. This trail is narrow, heavily used by bicyclists, hikers, dog walkers, and occasionally equestrians, and is a segment of the Bay Area Ridge Trail. This trail is similar to segments of the Bay Area Ridge Trail on District preserves. Intercept surveys and observation reports will be conducted from July 2021 through October 2021.

## Unpaved Trail Survey Scope

- ❖ Collect data over a 4-month period (July-Oct) in two Santa Clara County Parks.
- ❖ Determine approximate counts of visitors riding e-bikes and visitors riding analog bicycles, horses and hiking.
- ❖ Gather observational data on trail etiquette.
- ❖ Gather observational data on visual wildlife impacts.
- ❖ Gather public input and document visitor trail experiences through intercept surveys.
- ❖ Gather data on trail use violations and incidents.
- ❖ Analyze data and develop findings.
- ❖ Report conclusions to the Planning and Natural Resources Committee in early 2022.
- ❖ Report conclusions and Committee feedback to the Board in Spring 2022.

## Intercept Surveys

Trained seasonal staff and volunteers will conduct intercept surveys Monday through Sunday at variable times. Surveys will be conducted for seventeen weeks starting July 3, 2021 and ending on October 31, 2021. Staff anticipate doing a total of 51 survey sessions per trail segment, with each session lasting approximately four hours. Visitors contacted for the intercept survey that wish to take the survey online will be able to do so if they provide an email for follow up. The surveys will document the visitor experience, including any trail use conflicts and ask respondents about their level of support or opposition to e-bike use. Survey staff and volunteers will contact visitors hiking, running, horseback riding, and riding bicycles and e-bikes. They will maintain a neutral position towards the use of e-bikes.

## Violations and Incidents

The Board selected e-bikes as the fourth topic of study for the Science Advisory Panel (SAP) on March 10, 2021 (R-21-38). SAP research will focus on impacts to trail infrastructure and natural resources (e.g. wildlife, plants and soils) that may result from class 1 e-bike use on unpaved trails, and whether these impacts would differ from those seen with typical mountain bikes. The SAP will conduct a literature review of scientific publications and reports by land management practitioners. Additionally, they will consult a Technical Advisory Committee of experts with backgrounds in wildlife science, ecology, natural resource management and recreation management. The SAP's final report will summarize the best available data and include an

assessment of the scientific validity of the studies cited. The final report will also identify gaps in the literature where further study may be helpful.

### **E-Bike Noise Study**

Natural Resources wildlife program staff have contracted with H.T. Harvey, a biological on-call consultant (Consultant), to conduct a study of noise produced by e-bike motors. The consultant will use audio recording units (ARUs) placed at differing distances from a trail to determine what high and low frequency noises are generated by three examples of e-bikes and standard bicycles. Results will be analyzed to show how far away an e-bike must be from a receptor before the noise attenuates to ambient levels. This information will help the District determine if noise generated by e-bikes may impact sensitive status species of bats and birds that may be affected by adverse noise levels. The noise study is anticipated to be one of the scientific reports that the SAP will assess and include in their literature review.

### **Agency Surveys**

Staff will also update the surveys of other agencies that were previously conducted by District leadership academy teams regarding the status of e-bike use on public lands. Staff will also survey land management agencies to understand any issues they have experienced regarding e-bike use. The use and regulation of e-bikes is quickly evolving. For instance, the last leadership academy team reported that the Marin Municipal Water District is actively considering whether to allow class 1 e-bike use, making them the only other agency, staff is aware of, that is considering regulations that distinguish between class 1 and class 2 e-bikes.

### **Next Steps**

After completion of the Paved Pilot Program, Unpaved Trails Study, SAP literature review, noise study, and agency surveys, staff will summarize the results and present to the PNR for review in early 2022 and to the full Board in Spring of 2022. At that time, the Board will determine whether to designate the trails included in the Paved Pilot Project for e-bike use or discontinue e-bike use in Rancho San Antonio and Ravenswood Preserves. The Board can also consider whether to allow class 1 e-bikes on designated unpaved trails within District preserves, to continue the current prohibition of e-bikes on District preserves, or to conduct a pilot e-bike program on District preserves.

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