

DATE: May 13, 2024

TO: Bicycle/Pedestrian Advisory Committee

FROM: Brandon Whyte, Active Transportation Planner
Ria Hutabarat Lo, Transportation Manager

VIA: Edward Arango, Acting Public Works Director

SUBJECT: **Trail Counters Pilot Project**

RECOMMENDATION

Receive an update regarding the i8Labs trail counter pilot project.

BACKGROUND AND ANALYSIS

A local Mountain View-based tech start-up, i8Labs, has developed a data collection system that utilizes a camera-based sensor for counting trail users, measuring number and mode types. In recent months, staff from the Public Works and Community Services Departments and the City Attorney's Office have been working with i8Labs to pilot their data collection hardware and software on the City's trail system at no cost to the City. Through the pilot project, i8Labs will test their hardware and software in various locations and conditions along City trails, and the City will receive this data to better understand how our trail system is being used. This information will help staff understand and plan for trail use.

The trail counting equipment in this pilot is a video sensor assembly to be installed on existing poles and infrastructure. The physical hardware is solar-powered and mounted 12" to 15" above the counting site. When active, the system runs continuously using video technology and machine-learning models to recognize persons, bicycles, and vehicles as they pass through the camera's field of view.

The trail counting software is housed inside the device. All counts are processed locally at the sensor, and only count information is uploaded wirelessly. No images or video information are collected or stored on the device or in the cloud. i8Labs has stated that the appropriate cybersecurity protections have been implemented. City staff will have access to the software and count data for the duration of the pilot.



Figure 1: i8Labs Equipment Example

i8Labs has indicated that data accuracy in the trial environment is near 100%, higher than the existing standards of tubes and infrared equipment, with error rates just below 10%.

This information will provide staff with information on number, location, speed, and transportation mode of users. Staff will also work with i8Labs to utilize traditional trail counting technologies and in-person counting to verify the technology's efficacy and accuracy.

Although exact locations have not yet been identified, the devices will be installed in locations within the City's jurisdiction along major trails, including:

- Two locations along Stevens Creek Trail;
- One location along Hetch Hetchy Trail;
- One location along Permanente Creek Trail; and
- One location along the Bay Trail.

i8Labs is offering this service during the beta-testing period, which is expected to last one year. When beta testing is complete, the counters will be removed. Installation and removal of cameras will be provided by i8Labs at no cost to the City.

NEXT STEPS

Staff will be working with i8Labs to meet the City's permit requirements and to allow installation and beta testing of these devices on the City's local trail network. Staff will provide the Bicycle/Pedestrian Advisory Committee with updates of trail usage data collected at a future meeting.

~~BW RHL/1/PWK~~

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cc: PWD(A), TM, TP—Whyte