Supplemental Information

To understand the impact of the feedback on individual sidewalk riding events, we examine the individual events within each trip. We computed the time and distance between consecutive events within a trip. These results are complementary to, and distinct from, the effects on trip-level total times and distances reported in the main paper. Summary statistics for the continuous time and distance on each surface are shown in Table S1.

Figures S1 and S2 display the ECDFs for the duration and distance of travel on each surface, measured at the level of individual segments between consecutive events. These figures reveal a statistically significant reduction in both the length and duration of individual segments of sidewalk riding, indicating the effectiveness of the intervention in discouraging sidewalk usage. At the same time, there is no significant change in the time or duration of segments of street or bike lane riding, consistent with the fact that the e-scooters do not provide feedback when ridden in bike lanes or streets. The street and bike lane distributions show jumps at around 60 m and, less noticeably, 120 m. These are likely due to the standard distances between streets and alleys in Santa Monica's street grid.

Table S1 Individual-event Level Segment of Time and Distance Statistics

Surface	**Measure (Event)**	**Feedback**			**No feedback**		
		Mean	Std. Dev.	Number of events	Mean	Std Dev	Number of events
Sidewalk	Time (Second)	31	161	635	31	95	631
	Distance (Meter)	47	105		55	102	
Street	Time (Second)	22	49	1831	22	48	1486
	Distance (Meter)	85	194		89	225	
Bike lane	Time (Second)	10	14	1263	10	15	963
	Distance (Meter)	68	87		70	87	

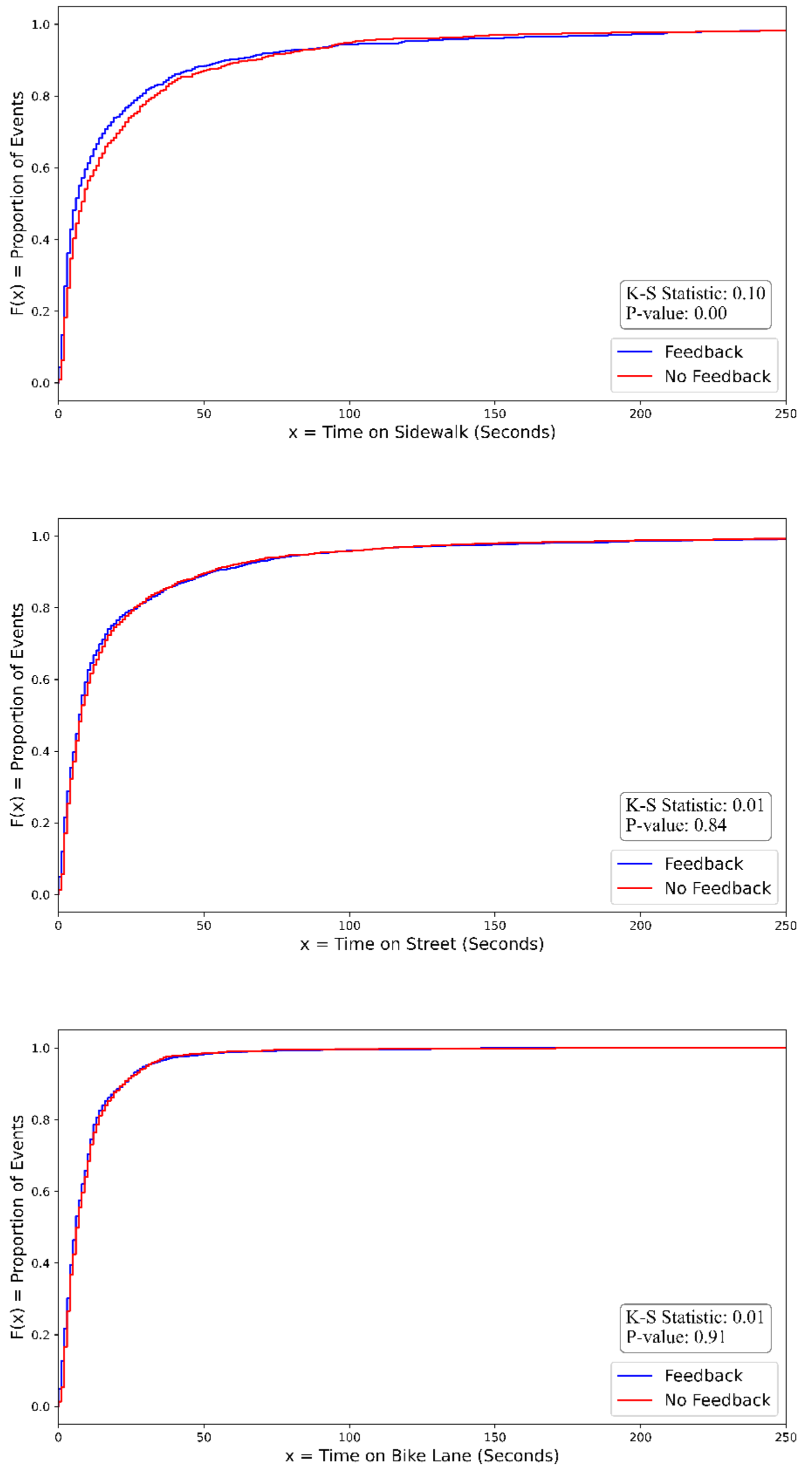

Figure S1 ECDFs of Individual-event Level of Time Ridden on Each Surface Type for Feedback and No-feedback Groups.

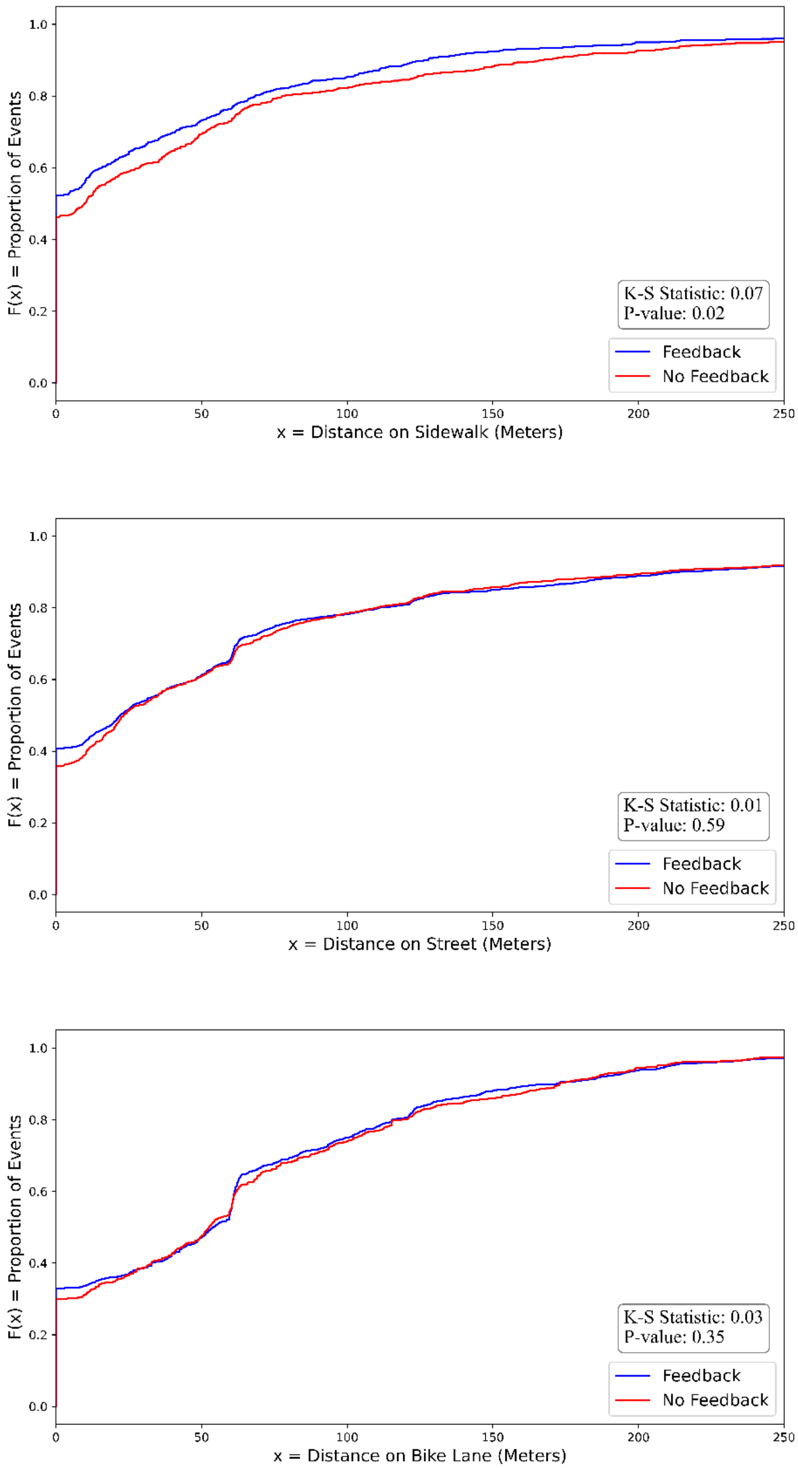

Figure S2 ECDFs of Individual-event Level of Time Ridden on Each Surface Type for Feedback and No-feedback Groups.

To assess how feedback influences the likelihood of choosing a sidewalk as the next surface for riding, we developed two binary logistic regression models. These models were specifically tailored to events that commenced on either a street or a bike lane. The details of the regression model are outlined in Equation S1.

$$P(Y=1) = \frac{1}{1+e^{-(\beta_0+\beta_1 X)}} \quad \text{(S1)}$$

In our analysis, two distinct binary logistic regression models were employed. In the first model, P(Y=1) denotes the probability of transitioning to the sidewalk as the next surface when the rider is initially on the street. The second model uses P(Y=1) to represent the likelihood of moving to the sidewalk from a bike lane. The key independent variable in both models, X, is a binary indicator: X is set to 1 for data corresponding to the feedback group and to 0 for the no-feedback group. The term β_0 serves as the intercept in the model, while β_1 is the coefficient associated with the dummy variable X. The results of the logistic regression analysis, for transitions originating from the street, are presented in Table S2. The statistically significant negative coefficient (β_1) implies that the presence of feedback correlates with a reduced probability of selecting the sidewalk as the next surface for riders who are currently on the street.

Table S2 Results of Logistic Regression for Transition States Originating from Street

Coefficient	**Estimate**	**Std. Err**	**Z**	***p***	**95% CI** 2.5 %	97.5%
β_0	-0.589	0.048	-12.230	0.000	-0.684	-0.495
β_1	-0.160	0.062	-2.592	0.01	-0.282	-0.039

No. Observations: 4910
Df Residuals: 4908
Df Model: 1
Pseudo R-squ: 0.001070
Log-Likelihood: -3125.6
LL-Null: -3129.0
LLR p-value: 0.009664

Table S3 presents the logistic regression outcomes for transitions originating from the bike lane. Despite the coefficient of the dummy variable being negative, it is not statistically significant.

Table S3 Results of Logistic Regression for Transition States Originating from Bike Lane

Coefficient	**Estimate**	**Std. Err**	**Z**	***p***	**95% CI** 2.5 %	97.5%
β_0	-2.671	0.113	-23.681	0.000	-2.893	-2.451
β_1	-0.225	0.148	-1.518	0.129	-0.516	0.066

No. Observations: 3478
Df Residuals: 3476
Df Model: 1
Pseudo R-squ: 0.001498
Log-Likelihood: -758.57
LL-Null: -759.71
LLR p-value: 0.1314