

Abandoned and Improperly Parked Rental Scooters on the Mount Vernon Trail Corridor

17 rental scooters and e-bikes left obstructing a National Park Service trail, its sidewalk approaches, and the 14th Street Bridge crossing, recorded across 16 bicycle commute passes between 21 September and 2 October. In the third survey of this corridor, new devices are arriving at 18% of the rate of the first — but the ones already there are not being collected. 41% stayed a week or more, 3 for the entire period, and 4 places held a device for a week or more in both of the last two surveys.

Corridor Mount Vernon Trail, Arlington & Alexandria, VA **Period 3** 2026-09-21 – 2026-10-02 (9 riding days)
Periods 1 & 2 2026-08-03 – 2026-08-13; 2026-08-24 – 2026-09-03 (separate reports)
Data source BumpyRide, GPS-tagged rider sightings

1 Summary

17 distinct devices left obstructing the corridor, down from 49 and 29	0.6 new devices per pass — 3.3, then 1.3, in the earlier periods	41% stayed a week or more — up from 12%, then 24%	3 present for the entire 11-day window	4 places that held a device a week or more in both period 2 and period 3
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This is the third survey of the same corridor by the same commuter using the same method. Over 9 riding days between 21 September and 2 October, 130 GPS-tagged sightings of badly parked rental scooters and e-bikes resolve to **17 distinct devices** (§2). The two earlier surveys found 49 and 29.

THE DUMPING HAS SLOWED. THE COLLECTING HAS NOT STARTED.

New devices now arrive at 0.6 per pass, against 3.3 in period 1. Fewer devices are being left badly parked, and the distinct-device count has fallen by 65% across the three surveys.

But the corridor is no emptier. Between 6 and 10 devices stood on it on every pass of this window, much as in the earlier ones, because the devices that remain do not leave. The mean stay per device has risen from 1.5 days to 2.9 to 4.9. Falling arrivals have exposed what was underneath: a standing stock of abandoned devices that nobody is collecting.

- **The same places, every time.** 7 of the 14 locations recorded in this period also held a device in both earlier periods. 4 held one for a week or more in period 2 and again in period 3, and the spot at 38.84155, -77.04786 at Four Mile Run did so in all three.
- **On the bridge itself.** A device stood on the 14th Street Bridge at 38.87652, -77.04174 for the whole of this window, and one stood within 23 m of it for 10 days in period 2. The bridge deck has no shoulder and no way round an obstruction.
- **17 is a floor.** On 9 passes a single location produced two or more sightings at once — at least 9 additional devices that the location-based count cannot separate (\$2).
- **Within a day, nothing moves.** On 43 occasions a device was recorded on the morning pass and again on the evening pass, still in place up to 7.8 hours later.

Three measured windows now exist for this corridor. The requests in §9 ask the operator to account for its collection activity against all three, and in particular to explain why Four Mile Run was cleared at one point during this window while 3 devices in the northern half stood through all of it (\$4).

2 How the data was collected

The observer is a daily bicycle commuter who rides this corridor twice on most weekdays — northbound in the morning and southbound in the evening. Sightings were logged with BumpyRide, an iOS cycling app that records a timestamped GPS coordinate the moment the rider taps a labelled event button. Nothing was entered after the fact or from memory; each sighting marks a device the rider physically rode past. A device was logged when it was parked in a way that obstructed or intruded on the trail tread, a sidewalk, a bridge deck, or a park area; devices parked upright and clear of the path were not logged.

FROM 130 SIGHTINGS TO 17 DEVICES

The rider deliberately re-recorded a device on every pass for as long as it stayed put, so raw sightings are not devices. Reconstruction uses a property of a commute: the route is fixed, so *every pass is an observation of every location*, and a pass that records nothing at a location is evidence the device was gone. Sightings were grouped into locations within 40 m of one another; each location's history was laid out across the 16 passes in order; and an

unbroken run of passes with a sighting is one device sitting there — an *occupancy episode*. Passes are counted in sequence rather than by calendar date, so days without a commute pass (26, 27 and 29 September) bridge an episode instead of splitting it.

A single missed sighting inside an otherwise unbroken run is treated as the rider not logging it, rather than the device vanishing and an identical one landing in the same spot before the next pass. The data supports this, as in both earlier periods: internal gaps of exactly one pass outnumber gaps of two or more by 9 to 3. Gaps of two or more passes are still treated as a departure. Splitting on *every* gap yields 26 devices; that is the strict upper bound and changes no conclusion here.

TWO ADJUSTMENTS THIS PERIOD

Two trips home were ridden but not observed, on the evenings of Tuesday 22 and Thursday 24 September. They are treated as skipped: they are not counted as passes at all, so the absence of sightings on them is never read as a device leaving. That is why this period has 16 passes over 9 riding days rather than 18.

One sighting was missed and is recorded as a confirmed presence. On the evening of Wednesday 23 September the rider passed the device on the 14th Street Bridge at 38.87652, -77.04174 without logging it, and confirms it was still there. That pass is marked as occupied for the purpose of reconstructing episodes, and drawn as a square in Figure 2 so it can never be mistaken for a sighting. It is *not* counted as a sighting anywhere in this report. It changes no headline figure: the one-gap rule above would have bridged that pass anyway. Its only effect is on the strict upper bound, which would otherwise be one higher.

WHAT THE COUNTS DO AND DO NOT REPRESENT

17 is a floor, not a total. A location-based count cannot separate devices parked together. On 9 passes one location produced two or more sightings at once, implying at least 9 further devices; and anything that arrived and left between passes never appears at all.

Dwell times are minimums. A device recorded over 11 days was present for *at least* that long. 3 were already in place on the first pass of this window and still there on the last.

Operator identification is the rider's visual observation. The rider reports that with very few exceptions the devices were Lime-branded. Brand was not recorded in the data, so the per-location tables make no operator claim. Any operator can verify or refute the attribution against its own trip and parking records for these coordinates and timestamps.

3 Arrivals versus accumulation

Splitting the devices present on each pass into those newly arrived and those already there separates two different problems: more devices being parked badly, or the same devices never being collected. Across three surveys the

first problem has shrunk. The second has not.

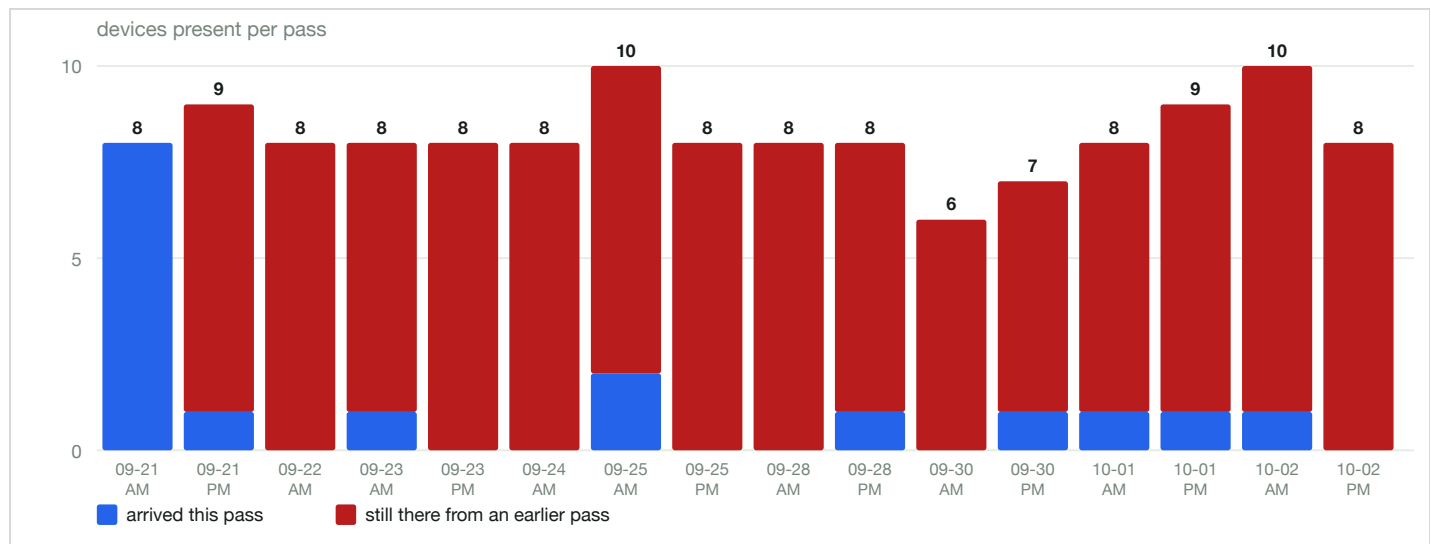


Figure 1. Devices present on each pass. Blue is devices seen for the first time; red is devices already recorded on an earlier pass and still in place. Everything present on the first pass necessarily counts as new. There were no commute passes on 26, 27 and 29 September, and the trips home on Tuesday 22 and Thursday 24 September were not observed (§2), so those evenings have no bar.

Excluding the first pass, new devices arrived at 0.6 per pass — on most passes, none at all. Devices standing in the corridor averaged 8.4 per pass in the first half and 8.0 in the second. In period 1 the standing count rose from 8.3 to 14.1 as arrivals outpaced removals; now it is flat, because arrivals have nearly stopped and removals have not begun to take their place.

Morning and evening passes record essentially the same number of devices — 8.2 and 8.0 sightings per pass respectively, over 9 morning and 7 evening passes. Were devices being ridden away and re-parked through the day, the two would diverge.

4 How long devices stay

Of the 17 devices, 3 were seen once and gone by the next pass. The remaining 14 each stayed in place across more than one day, and every one is plotted below. 10 stayed three days or more and 7 a week or more.

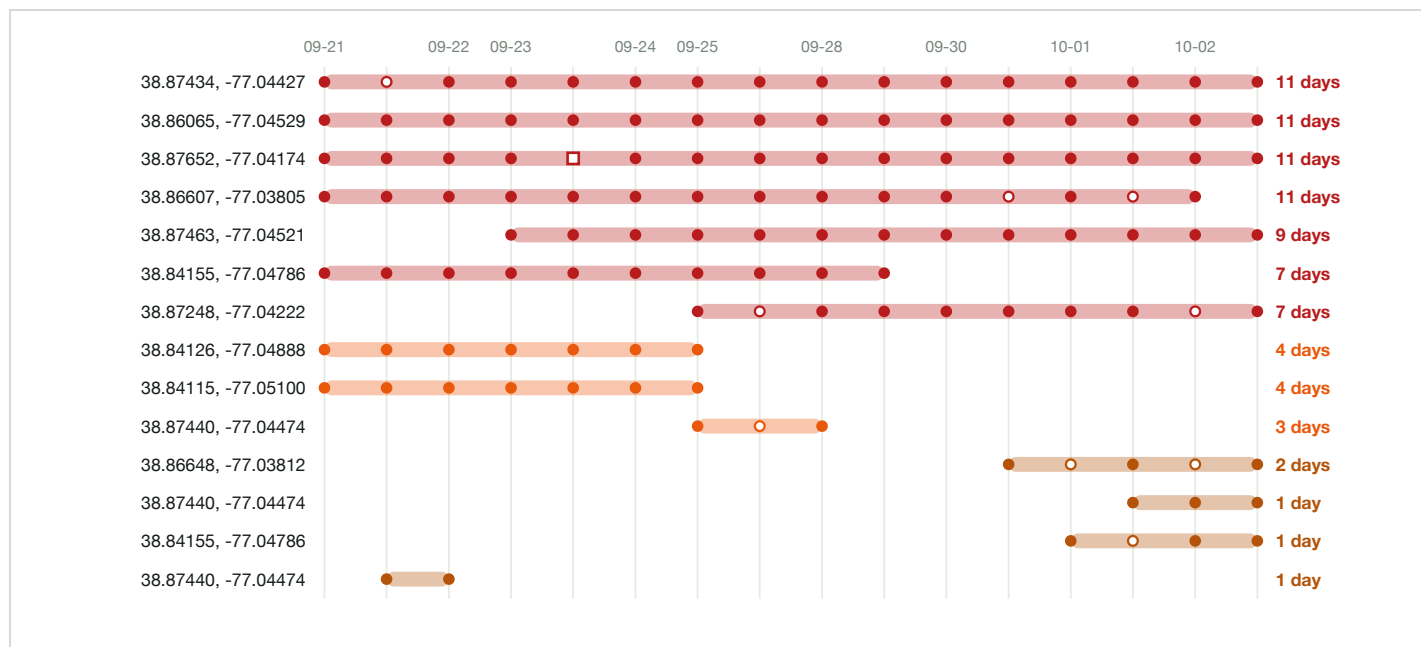


Figure 2. Every device that remained in place across more than one day, drawn against the 16 passes. Filled dots are sightings; hollow dots mark a pass where the device was not logged but was recorded on both sides of it; the square marks the one pass the rider confirms the device was present but did not log it (§2). Colour follows the severity scale used throughout.

3 devices were present on the first pass and the last — the full 11 days of the window. Together the 14 multi-day devices account for 83 device-days of obstruction.

WHERE DEVICES DID LEAVE

Devices did leave during this window, but not evenly. Of the 5 devices standing in the northern half of the corridor on the first morning — the bridge, its approach, and Gravelly Point — 3 were still there on the final evening and 1 more until the final morning. At Four Mile Run the picture is different. Two devices about 180 m apart, both there since the first morning, were last recorded on the morning of Friday 25 September and not seen again — the pattern a collection run would leave, though nothing in the data says who moved them. By the morning of Wednesday 30 September no device remained at Four Mile Run at all, though one was back at the busiest spot there by the morning of Thursday 1 October.

So devices can be cleared from this corridor, and at its southern end every one was, for a day at least. In the north, 3 devices stood through the entire window: two at the bridge and one at Gravelly Point.

On **43 occasions** a device was recorded at the same location on the morning pass and again on the evening pass of the same day, up to 7.8 hours apart. The full list is in Appendix B.

IF THE RECONSTRUCTION IS WRONG, THE PROBLEM IS LARGER

Grouping sightings into episodes assumes that an unbroken run at one spot is a single device rather than a succession of different ones. Only the operator's fleet telemetry can settle that, but the conclusion does not depend on it. If the runs are single devices, units sat untouched for 11 days and idle-device monitoring failed to flag them. If different devices cycled through the same spots, arrivals are far higher than 0.6 per pass and a handful of coordinates are absorbing a continuous stream of badly parked units. Both readings require the same first step, and the operator can distinguish them from its own records.

5 Where the devices are

78% of sightings fall in the northern half of the corridor — the 14th Street Bridge approach and the Gravelly Point / Roaches Run stretch — with the bridge segment alone accounting for 69 sightings (53%).

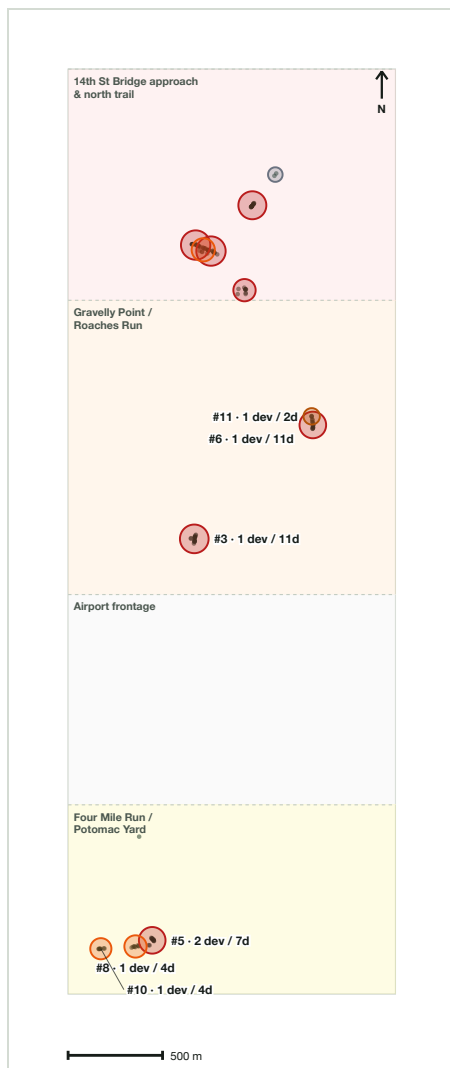


Figure 3. Corridor overview, all 130 sightings.

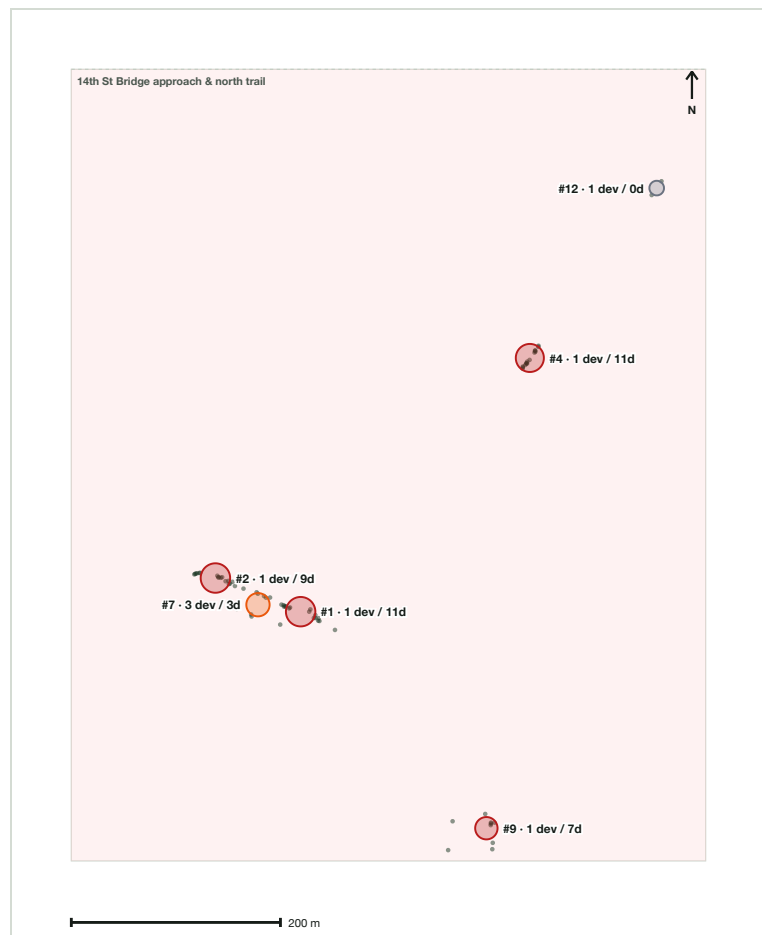


Figure 4. Northern hotspot at larger scale — the 14th Street Bridge approach, containing 69 of 130 sightings.

● longest stay 6+ days
 ● 3–5 days
 ● 1–2 days
 ● under a day
 circle area ∝ sightings

small dots = individual sightings

Both maps are drawn to equal horizontal and vertical ground scale in WGS 84; numbered labels correspond to the location ranks in §6, with the number of devices and the longest stay recorded there. Segment names are descriptive; the coordinates are authoritative.

CORRIDOR SEGMENT	SIGHTINGS	SHARE
14th Street Bridge approach & north trail	69	53%
Gravelly Point / Roaches Run	32	25%
Airport frontage	0	0%
Four Mile Run / Potomac Yard	29	22%

6 Recurring locations requiring action

The 11 locations below each held a device for more than a single pass. Coordinates are the mean position of the sightings assigned to each location. “Longest stay” is the greatest number of days a single device remained there. The final column gives the longest stay recorded at the same place in period 1 and period 2, where a location lies within 60 m; a dash means no device was recorded there in that period.

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIODS 1 · 2
1	38.87434, -77.04427	Bridge approach / north trail	1	17	11d	09-21 – 10-02	0d · 10d
2	38.87463, -77.04521	Bridge approach / north trail	1	17	9d	09-23 – 10-02	10d · —
3	38.86065, -77.04529	Gravelly Pt / Roaches Run	1	16	11d	09-21 – 10-02	2d · 10d
4	38.87652, -77.04174	Bridge approach / north trail	1	15	11d	09-21 – 10-02	1d · 10d
5	38.84155, -77.04786	Four Mile Run / Potomac Yd	2	13	7d	09-21 – 10-02	10d · 10d
6	38.86607, -77.03805	Gravelly Pt / Roaches Run	1	13	11d	09-21 – 10-02	3d · 0d
7	38.87440, -77.04474	Bridge approach / north trail	3	9	3d	09-21 – 10-02	0d · 8d
8	38.84126, -77.04888	Four Mile Run / Potomac Yd	1	8	4d	09-21 – 09-25	1d · 2d
9	38.87248, -77.04222	Bridge approach / north trail	1	8	7d	09-25 – 10-02	— · —
10	38.84115, -77.05100	Four Mile Run / Potomac Yd	1	7	4d	09-21 – 09-25	0d · —
11	38.86648, -77.03812	Gravelly Pt / Roaches Run	1	3	2d	09-30 – 10-02	— · 0d

The remaining 3 locations saw only devices that were gone by the next pass; they are listed in Appendix A. The 11 above are where intervention would have the most effect.

7 Three periods compared

The three windows were surveyed the same way by the same observer, with unobserved gaps between them — most recently 17 days between period 2 and period 3. Nothing in the data can say whether a device seen at the end of one period is the one seen at the start of the next; what the comparison can show is whether the *places* and the *pattern* changed.

	PERIOD 1	PERIOD 2	PERIOD 3	
Observation window	08-03 – 08-13	08-24 – 09-03	09-21 – 10-02	
Passes (riding days)	14 (8)	16 (8)	16 (9)	
Sightings	144	150	130	
Distinct devices (strict upper bound)	49 (70)	29 (43)	17 (26)	
Distinct locations	39	24	14	
New devices per pass, after the first	3.3	1.3	0.6	how fast bad parking happens
Devices standing, first half → second half	8.3 → 14.1	8.6 → 10.6	8.4 → 8.0	
Devices that stayed a week or more	6 (12%)	7 (24%)	7 (41%)	
Devices present for the entire window	2	4	3	
Mean stay per device (days)	1.5	2.9	4.9	
Same-day morning-to-evening persistence	31	50	43	

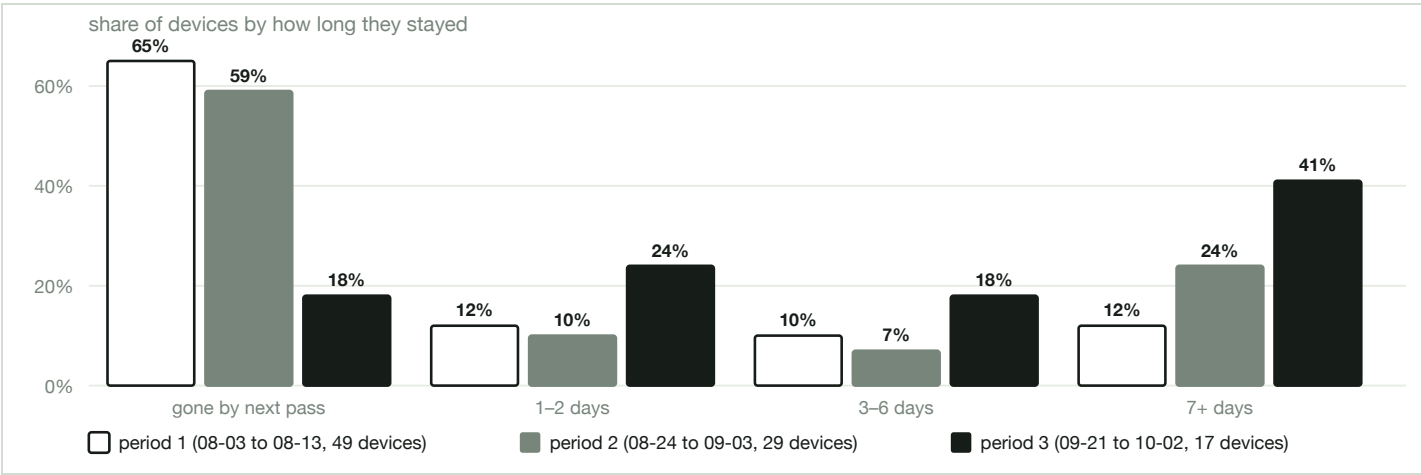


Figure 5. Share of devices in each period by how long they stayed. Across the three surveys the share gone by the next pass has collapsed and the week-or-more share has risen from 12% to 24% to 41%.

The trend is consistent across all three windows. New devices per pass fell from 3.3 to 1.3 to 0.6; the mean stay per device rose from 1.5 to 2.9 to 4.9 days. Whatever has reduced bad parking has done nothing about devices already abandoned. 7 of this period's 14 locations held a device in every period, and these are the coordinates that matter most:

LOCATION	SEGMENT	PERIOD 1	PERIOD 2	PERIOD 3
38.87434, -77.04427	Bridge approach / north trail	0d	10d	11d
38.86065, -77.04529	Gravelly Pt / Roaches Run	2d	10d	11d
38.87652, -77.04174	Bridge approach / north trail	1d	10d	11d
38.84155, -77.04786	Four Mile Run / Potomac Yd	10d	10d	7d

The 4 places that held a device for a week or more in both period 2 and period 3, with the longest stay recorded there in each period. A match means the place recurred, not that the same device did.

8 Why this matters

The Mount Vernon Trail is a National Park Service facility within the George Washington Memorial Parkway: a shared-use path roughly ten feet wide, carrying commuting cyclists, runners and pedestrians, with soft or dropped shoulders along much of the affected stretch. The first report set out the hazards in full — collision and fall risk at dawn and dusk, the confined bridge deck where there is no shoulder and no way to turn around, the hard stop an obstruction presents to a wheelchair or handcycle user, and the fact that this is park land rather than a city kerb. They are unchanged.

What three periods add is that this is not a backlog that will clear on its own. If the devices on the trail were simply the residue of heavy summer use, falling arrivals would have emptied the corridor by now. They have not, because the places that hold devices are the same places each time and the devices in them are not being removed.

9 Requested actions

TO THE OPERATOR

- 1 **Clear the 11 locations in §6 now**, starting with the 4 in §7 that have held a device for a week or more in consecutive surveys. Each is given to five decimal places. They are a work order, not a complaint.
- 2 **Remove the device on the 14th Street Bridge at 38.87652, -77.04174** and explain how a device came to stand on a bridge deck for the whole of one observation window, within 23 m of where one had already stood for 10 days in the previous one.
- 3 **Explain the difference between the two ends of the corridor.** By Wednesday 30 September no device remained at Four Mile Run; in the north, two at the bridge and one at Gravelly Point stood for the whole

window. If the southern clearance was a collection run, say why it did not reach the bridge.

- 4 **Account for collection activity in this corridor across all three windows** (2026-08-03 to 2026-08-13, 2026-08-24 to 2026-09-03, and 2026-09-21 to 2026-10-02): every device retrieved, with coordinates and time.
- 5 **Geofence the Mount Vernon Trail corridor and the 14th Street Bridge crossing as a no-parking zone**, so a trip cannot be ended there; make the bridge deck a no-ride zone. The corridor extent in §10 defines the area.
- 6 **Publish a removal service level for park and trail land** and report against it.
- 7 **Add this corridor to a daily sweep route**. 43 instances of a device sitting from morning to evening indicate no one is currently looking.

TO THE LICENSING AND PERMITTING AUTHORITIES FOR THIS CORRIDOR

- 1 **Make corridor geofencing a permit condition** for every operator licensed to deploy here, rather than a voluntary measure.
- 2 **Require a documented removal standard** for devices on trail, park and bridge land, with monthly reporting of reports received, response times and devices collected.
- 3 **Request each operator's own parking and idle-device records for these coordinates** for all three windows and compare them against these datasets.
- 4 **Measure dwell time, not complaint volume**. Arrivals have fallen by 82% while the share of devices staying a week or more has more than tripled. A complaint-based measure would record that as improvement.
- 5 **Coordinate across jurisdictions**. The corridor crosses National Park Service land as well as Arlington County and City of Alexandria territory; a device left at the bridge is outside any single local permit regime.

OFFER

The complete underlying datasets for all three periods — every sighting with its coordinate and timestamp — are available on request in CSV form to any operator or agency that wants to verify these findings or match them against internal records. Observation is continuing; this analysis is re-run for each new period, so the effect of any intervention will be measured.

10 Data notes and limitations

- **Sampling.** Two passes per riding day on a fixed route. Devices outside the rider's line of sight, or placed and removed between passes, are absent. This biases every count downward.

- **Device count.** 17 is a reconstruction from 130 sightings (§2), not a direct count. Splitting on every gap gives 26. Both understate the true figure: 9 passes recorded two or more sightings at a single location, and anything that came and went between passes is invisible.
- **Skipped passes.** The trips home on Tuesday 22 and Thursday 24 September were ridden but not observed and are excluded as passes, so they never count as evidence that a device left.
- **Confirmed presence.** One pass, the evening of Wednesday 23 September at 38.87652, -77.04174, is marked occupied on the rider's confirmation that the device was there but not logged. It is not counted as a sighting. Without it the strict upper bound would be 27; no other figure changes.
- **Positional accuracy.** Phone GPS fixes taken while moving, typically within a few metres, with larger error near the bridge structure. The 40 m clustering radius accommodates this and may merge two genuinely distinct parking spots.
- **Episode identity.** As set out in §4, sightings at one coordinate cannot distinguish a single stationary device from successive devices left in the same place.
- **Cross-period matching.** Locations are matched between periods within 60 m. A match means the place recurred, never that the same device did; the gaps between periods were not observed.
- **Departures.** A device that stopped being recorded left by some means the data cannot identify: collected by the operator, ridden away, or moved by someone else.
- **Dwell times are lower bounds.** Measured from first to last sighting; a device may have arrived earlier and stayed later.
- **Operator attribution.** Brand is the rider's contemporaneous visual observation and is not encoded in the data. No per-location table attributes a device to an operator.
- **Period.** 2026-09-21 to 2026-10-02 — 12 calendar days, 9 of them with commute passes; none on 26, 27 and 29 September.
- **Extent.** Sightings span 38.84113° to 38.87804° N and 77.03802° to 77.05114° W.

A Appendix A — all recorded locations

All 14 locations this period, ranked by sightings, with the longest stay at the same place in each earlier period where one exists.

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIODS 1 · 2
1	38.87434, -77.04427	Bridge approach / north trail	1	17	11d	09-21 – 10-02	0d · 10d
2	38.87463, -77.04521	Bridge approach / north trail	1	17	9d	09-23 – 10-02	10d · —
3	38.86065, -77.04529	Gravelly Pt / Roaches Run	1	16	11d	09-21 – 10-02	2d · 10d
4	38.87652, -77.04174	Bridge approach / north trail	1	15	11d	09-21 – 10-02	1d · 10d

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIODS 1 · 2
5	38.84155, -77.04786	Four Mile Run / Potomac Yd	2	13	7d	09-21 – 10-02	10d · 10d
6	38.86607, -77.03805	Gravelly Pt / Roaches Run	1	13	11d	09-21 – 10-02	3d · 0d
7	38.87440, -77.04474	Bridge approach / north trail	3	9	3d	09-21 – 10-02	0d · 8d
8	38.84126, -77.04888	Four Mile Run / Potomac Yd	1	8	4d	09-21 – 09-25	1d · 2d
9	38.87248, -77.04222	Bridge approach / north trail	1	8	7d	09-25 – 10-02	— · —
10	38.84115, -77.05100	Four Mile Run / Potomac Yd	1	7	4d	09-21 – 09-25	0d · —
11	38.86648, -77.03812	Gravelly Pt / Roaches Run	1	3	2d	09-30 – 10-02	— · 0d
12	38.87798, -77.04034	Bridge approach / north trail	1	2	0d	09-21 – 09-21	3d · —
13	38.84648, -77.04866	Four Mile Run / Potomac Yd	1	1	0d	09-28 – 09-28	— · —
14	38.87229, -77.04264	Bridge approach / north trail	1	1	0d	10-02 – 10-02	— · 0d

B Appendix B — same-day persistence

All 43 occasions on which a device was recorded on both the morning and the evening pass of one day at one location.

DATE	LOCATION	STILL PRESENT AFTER
2026-09-21	38.84155, -77.04786	6.3 h
2026-09-21	38.84126, -77.04888	6.3 h
2026-09-21	38.84115, -77.05100	6.3 h
2026-09-21	38.86065, -77.04529	6.2 h
2026-09-21	38.86607, -77.03805	6.1 h
2026-09-21	38.87652, -77.04174	6.0 h
2026-09-21	38.87798, -77.04034	6.0 h
2026-09-23	38.84126, -77.04888	7.8 h
2026-09-23	38.84115, -77.05100	7.8 h
2026-09-23	38.84155, -77.04786	7.7 h
2026-09-23	38.86065, -77.04529	7.6 h
2026-09-23	38.87434, -77.04427	7.5 h
2026-09-23	38.87463, -77.04521	7.5 h
2026-09-23	38.86607, -77.03805	7.5 h
2026-09-25	38.84155, -77.04786	4.7 h
2026-09-25	38.86065, -77.04529	4.5 h
2026-09-25	38.86607, -77.03805	4.5 h
2026-09-25	38.87434, -77.04427	4.4 h
2026-09-25	38.87463, -77.04521	4.4 h
2026-09-25	38.87652, -77.04174	4.3 h
2026-09-28	38.84155, -77.04786	7.8 h
2026-09-28	38.86065, -77.04529	7.6 h

DATE	LOCATION	STILL PRESENT AFTER
2026-09-28	38.86607, -77.03805	7.6 h
2026-09-28	38.87434, -77.04427	7.5 h
2026-09-28	38.87463, -77.04521	7.5 h
2026-09-28	38.87652, -77.04174	7.5 h
2026-09-28	38.87248, -77.04222	7.5 h
2026-09-30	38.86065, -77.04529	7.5 h
2026-09-30	38.87434, -77.04427	7.3 h
2026-09-30	38.87463, -77.04521	7.3 h
2026-09-30	38.87652, -77.04174	7.3 h
2026-09-30	38.87248, -77.04222	7.3 h
2026-10-01	38.86065, -77.04529	7.6 h
2026-10-01	38.87248, -77.04222	7.5 h
2026-10-01	38.87434, -77.04427	7.4 h
2026-10-01	38.87463, -77.04521	7.4 h
2026-10-01	38.87652, -77.04174	7.4 h
2026-10-02	38.84155, -77.04786	3.9 h
2026-10-02	38.86065, -77.04529	3.7 h
2026-10-02	38.87434, -77.04427	3.6 h
2026-10-02	38.87463, -77.04521	3.6 h
2026-10-02	38.87440, -77.04474	3.6 h
2026-10-02	38.87652, -77.04174	3.5 h

Prepared from 130 GPS-tagged rider sightings collected 2026-09-21 to 2026-10-02 using BumpyRide for iOS, and compared against the 144 and 150 sightings of the two earlier periods. Coordinates are WGS 84 decimal degrees; times are local (UTC-4). Locations were grouped with a 40 m greedy spatial clustering pass and matched between periods within 60 m; all other figures are direct counts from the source records. Underlying data available on request.