

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

29 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 24 August and 3 September. Three weeks after the first survey, 21 of 24 locations are the same places — and the devices there now stay longer: a quarter for a week or more, 6 for the entire period.

Corridor Mount Vernon Trail, Arlington & Alexandria, VA **Period 2** 2026-08-24 – 2026-09-03 (8 riding days)
Period 1 2026-08-03 – 2026-08-13 (separate report) **Data source** BumpyRide, GPS-tagged rider sightings

1 Summary

29 distinct devices left obstructing the corridor	24% stayed a week or more — up from 12% in period 1	6 present for the entire 10-day window	83 device-days of obstruction — more than period 1, with 41% fewer devices	1.3 new devices per pass, down from 3.3
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This is the second survey of the same corridor by the same commuter using the same method. Over 8 riding days between 24 August and 3 September, 150 GPS-tagged sightings of badly parked rental scooters and e-bikes resolve to **29 distinct devices** (\$2). The first survey, covering 3 August to 13 August, found 49.

FEWER NEW DEVICES — AND THE ONES THAT ARE THERE DO NOT LEAVE

New devices appeared at 1.3 per pass, well below the 3.3 per pass of period 1. Yet the number standing in the corridor never fell: 10 were already in place on the first pass, and the count held between 6 and 13 on every pass thereafter.

The stock has stopped turning over. The mean stay per device nearly doubled, from 1.5 days to 2.9; the share staying a week or more went from 12% to 24%; and 6 devices were present on the first day and still there on the last. What is obstructing the trail now is a standing population of abandoned devices, not a stream of careless parkings.

- **The same places, three weeks later.** 21 of the 24 locations recorded in this period lie within 60 m of a location recorded in period 1, and 12 of the 17 period-1 locations that held a device for more than a day were occupied again. The spot at 38.84155, -77.04790 held a device for 10 days in period 1 and another for 10 days in period 2.
- **29 is a floor.** On 11 passes a single location produced two or more sightings at once — at least 12 additional devices that the location-based count cannot separate (§2).
- **Within a day, nothing moves.** On 50 occasions a device was recorded on the morning pass and again on the evening pass, still in place up to 7.9 hours later — against 31 such occasions in period 1.

The requests in §9 are the same as in the first report, with one addition: two measured windows now exist for this corridor, and the operator can be asked to account for its own collection activity against both.

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 150 SIGHTINGS TO 29 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 the days without a ride (29, 30 and 31 August) 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. In this period the rider's own account is that gaps of that kind were observation misses — there was almost no evidence of any device being retrieved — and the data agrees: internal gaps of exactly one pass outnumber gaps of two or more by 14 to 5. Gaps of two or more passes are still treated as a departure, which makes the device count, if anything, an overcount of turnover. Splitting on *every* gap yields 43 devices; that is the strict upper bound and changes no conclusion here.

One pass is flagged as incomplete: the morning of 28 August, on which the rider knows some devices went unlogged. Sightings made on that pass are kept; its *absences* are not counted as evidence, so it never splits an episode. It is drawn hatched in Figure 1.

WHAT THE COUNTS DO AND DO NOT REPRESENT

29 is a floor, not a total. A location-based count cannot separate devices parked together. On 11 passes one location produced two or more sightings at once, implying at least 12 further devices; and anything that arrived and left between passes never appears at all.

Dwell times are minimums. A device recorded over 10 days was present for *at least* that long. Several 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. Period 1 showed the second problem developing. This period shows it settled in.

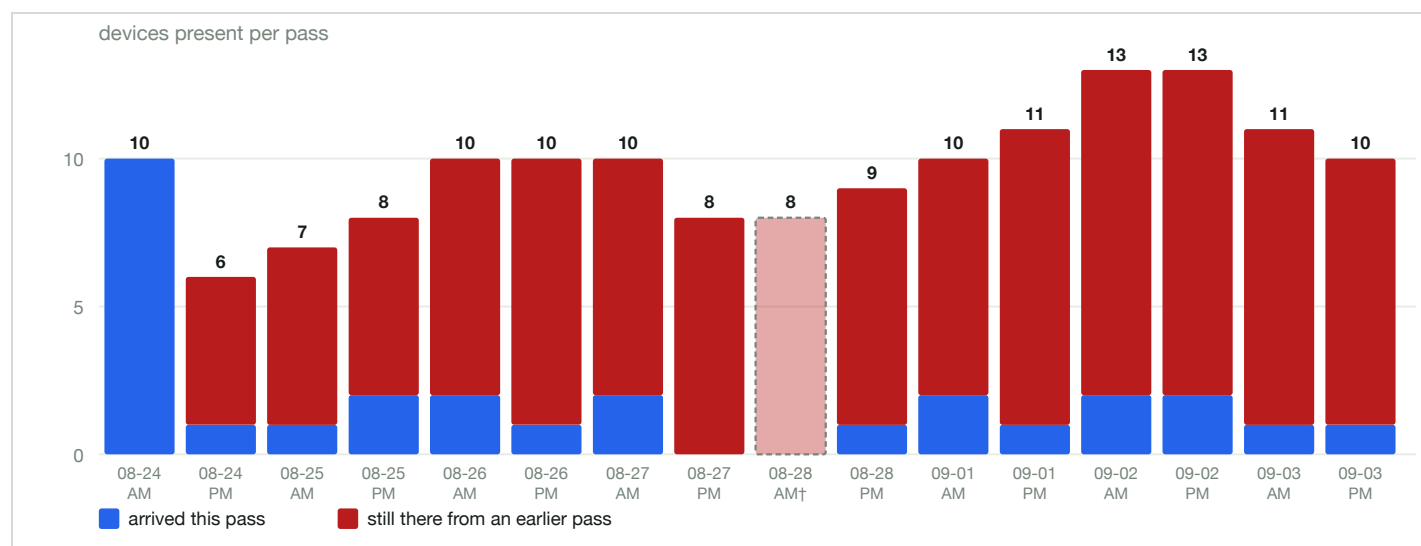


Figure 1. Devices present on each pass. Blue is devices seen for the first time; red is devices already recorded on an earlier pass and still in place. Everything present on the first pass necessarily counts as new. No rides were made on 29, 30 and 31 August. The hatched pass (†) is the one the rider reports as under-logged; see §2.

Excluding the first pass, new devices arrived at 1.3 per pass, and the rate did not change across the window (1.3 in the first half, 1.2 in the second). Devices standing in the corridor averaged 8.6 per pass in the first half and 10.6 in the second. Nearly every device present on any given pass had been there before.

Morning and evening sightings are close to equal (73 and 77); were devices being ridden away and re-parked through the day, the two would diverge.

4 How long devices stay

Of the 29 devices, 17 were seen once and gone by the next pass. The remaining 12 each stayed in place across more than one day, and every one is plotted below. 9 stayed three days or more and 7 a week or more.

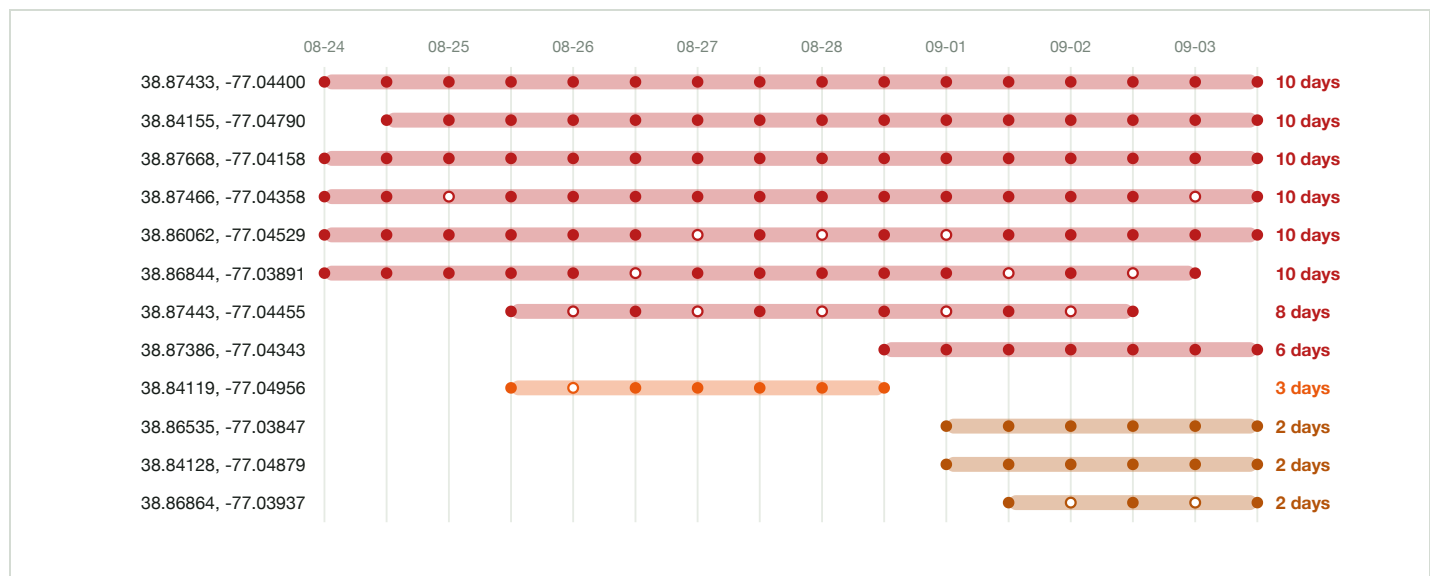


Figure 2. Every device that remained in place across more than one day, drawn against the 16 passes. Filled dots are sightings; hollow dots mark a pass where the device was not logged but was recorded on both sides of it. Colour follows the severity scale used throughout.

6 devices span the full 10 days of the window, and 4 of them were recorded on both the very first pass and the very last. Together the 12 multi-day devices account for 83 device-days of obstruction — more than the 73 of period 1, from 41% fewer devices.

On **50 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 7.9 hours apart. The full list is in Appendix B. A device that has not moved across an entire working day is not in service; it is obstructing the trail.

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 10 days and idle-device monitoring failed to flag them. If different devices cycled through the same spots, arrivals are far higher than 1.3 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

76% 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 68 sightings (45%). The distribution is essentially that of period 1.

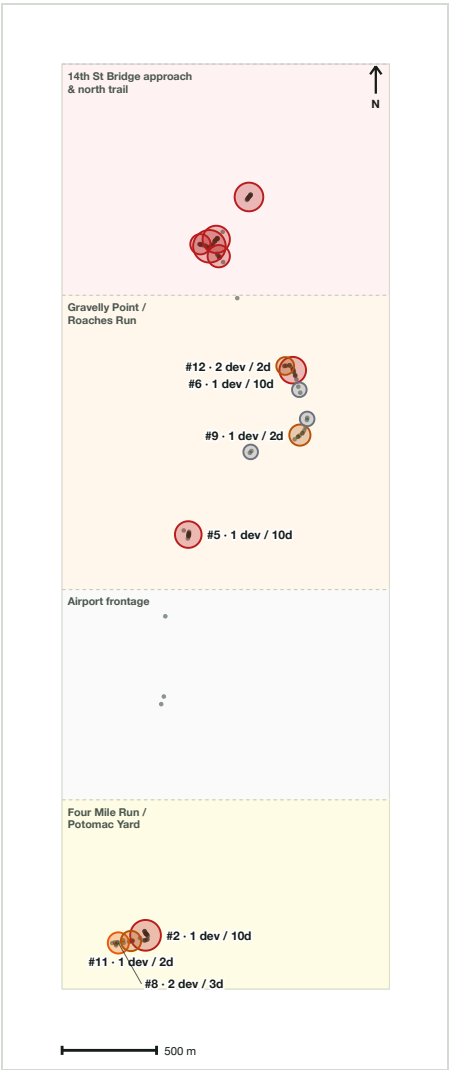


Figure 3. Corridor overview, all 150 sightings.



Figure 4. Northern hotspot at larger scale — the 14th Street Bridge approach, containing 68 of 150 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	68	45%
Gravelly Point / Roaches Run	46	31%
Airport frontage	3	2%
Four Mile Run / Potomac Yard	33	22%

6 Recurring locations requiring action

The 12 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 matching period-1 location, where one lies within 60 m, with its own longest stay.

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIOD 1
1	38.87433, -77.04400	Bridge approach / north trail	1	22	10d	08-24 – 09-03	#25 · 0d
2	38.84155, -77.04790	Four Mile Run / Potomac Yd	1	19	10d	08-24 – 09-03	#1 · 10d
3	38.87668, -77.04158	Bridge approach / north trail	1	16	10d	08-24 – 09-03	#16 · 1d
4	38.87466, -77.04358	Bridge approach / north trail	1	14	10d	08-24 – 09-03	#25 · 0d
5	38.86062, -77.04529	Gravelly Pt / Roaches Run	1	13	10d	08-24 – 09-03	#12 · 2d
6	38.86844, -77.03891	Gravelly Pt / Roaches Run	1	13	10d	08-24 – 09-03	#33 · 0d
7	38.87386, -77.04343	Bridge approach / north trail	2	8	6d	08-24 – 09-03	#15 · 0d
8	38.84119, -77.04956	Four Mile Run / Potomac Yd	2	7	3d	08-24 – 08-28	#19 · 0d
9	38.86535, -77.03847	Gravelly Pt / Roaches Run	1	7	2d	09-01 – 09-03	#17 · 1d
10	38.87443, -77.04455	Bridge approach / north trail	1	6	8d	08-25 – 09-02	#18 · 0d
11	38.84128, -77.04879	Four Mile Run / Potomac Yd	1	6	2d	09-01 – 09-03	#13 · 1d
12	38.86864, -77.03937	Gravelly Pt / Roaches Run	2	4	2d	08-26 – 09-03	#33 · 0d

The remaining 12 locations saw only devices that were gone by the next pass; they are listed in Appendix A. The 12 above are where intervention would have the most effect.

7 Period 1 and period 2 compared

The two windows were surveyed the same way by the same observer, three weeks apart, with an unobserved gap of 10 days between them. Nothing in the data can say whether a device seen at the end of period 1 is the one seen at the start of period 2; what the comparison can show is whether the *places* and the *pattern* changed.

	PERIOD 1	PERIOD 2	
Observation window	08-03 – 08-13	08-24 – 09-03	
Passes (riding days)	14 (8)	16 (8)	
Sightings	144	150	
Distinct devices (strict upper bound)	49 (70)	29 (43)	
Distinct locations	39	24	
New devices per pass, after the first	3.3	1.3	how fast bad parking happens
Devices standing, first half → second half	8.3 → 14.1	8.6 → 10.6	
Devices that stayed a week or more	6 (12%)	7 (24%)	
Devices present for the entire window	2	4	
Mean stay per device (days)	1.5	2.9	
Device-days of obstruction	73	83	
Same-day morning-to-evening persistence	31	50	

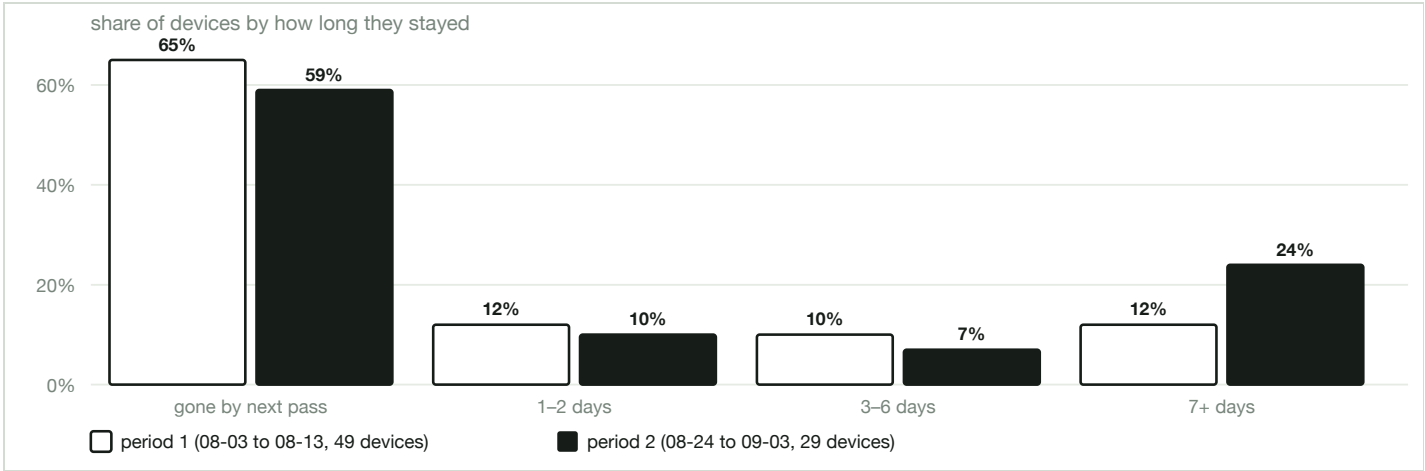


Figure 5. Share of devices in each period by how long they stayed. The single-pass share fell and the week-or-more share doubled.

Three things changed and one did not. Fewer new devices arrived per pass; the devices that were there stayed longer; and the corridor carried more cumulative obstruction from fewer devices. What did not change is where: 21

of 24 period-2 locations coincide with a period-1 location, and 12 of the 17 places that held a device across days in August held one again. At 38.84155, -77.04790, a device sat for 10 days in period 1; in period 2 a device sat for 10 days at the same coordinate.

Read together, the two periods describe a corridor on which a fixed set of parking spots is continuously occupied by abandoned devices, replenished slowly and cleared almost never.

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 this period adds is duration. A device that sits for ten days is not a parking mistake; it is an object left in a national park that the operator's own idle-device monitoring should have found within a day. 6 such devices were present for the whole of this window.

9 Requested actions

TO THE OPERATOR

- ① **Clear the 12 locations in §6 now.** Each is given to five decimal places. They are a work order, not a complaint.
- ② **Explain how devices sat for 10 days without being flagged.** 7 devices stayed a week or more in this window alone. Confirm from telemetry whether these were single stranded units or repeat drop points, and share which; the remedy differs (§4).
- ③ **Account for collection activity in this corridor across both windows** (2026-08-03 to 2026-08-13 and 2026-08-24 to 2026-09-03): every device retrieved, with coordinates and time. Two independent measured baselines now exist to compare it against.
- ④ **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.
- ⑤ **Require end-of-ride parking verification inside the corridor** — a location check and a parking photo before a trip can close — and reject closures on the trail tread.

- 6 **Publish a removal service level for park and trail land** and report against it.
- 7 **Add this corridor to a daily sweep route.** 50 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 both windows and compare them against these datasets. The comparison will show directly whether operator monitoring is detecting what a passing cyclist detects twice a day.
- 4 **Measure dwell time, not complaint volume.** A single device obstructing a national park trail for 10 days is a systems failure; counted as complaints it looks like a handful of minor reports.
- 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 both 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.** 29 is a reconstruction from 150 sightings (\$2), not a direct count. Splitting on every gap gives 43. Both understate the true figure: 11 passes recorded two or more sightings at a single location, and anything that came and went between passes is invisible.
- **Incomplete pass.** 2026-08-28 AM is flagged by the rider as under-logged. Its sightings are retained; its absences are not used as evidence.
- **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 gap between periods was not observed.
- **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.** 2026-08-24 to 2026-09-03 — 11 calendar days, 8 of them with rides; no rides on 29, 30 and 31 August.
- **Extent.** Sightings span 38.84107° to 38.87680° N and 77.03802° to 77.04994° W.

A Appendix A — all recorded locations

All 24 locations this period, ranked by sightings, with the matching period-1 location where one exists.

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIOD 1
1	38.87433, -77.04400	Bridge approach / north trail	1	22	10d	08-24 – 09-03	#25 · 0d
2	38.84155, -77.04790	Four Mile Run / Potomac Yd	1	19	10d	08-24 – 09-03	#1 · 10d
3	38.87668, -77.04158	Bridge approach / north trail	1	16	10d	08-24 – 09-03	#16 · 1d
4	38.87466, -77.04358	Bridge approach / north trail	1	14	10d	08-24 – 09-03	#25 · 0d
5	38.86062, -77.04529	Gravelly Pt / Roaches Run	1	13	10d	08-24 – 09-03	#12 · 2d
6	38.86844, -77.03891	Gravelly Pt / Roaches Run	1	13	10d	08-24 – 09-03	#33 · 0d
7	38.87386, -77.04343	Bridge approach / north trail	2	8	6d	08-24 – 09-03	#15 · 0d
8	38.84119, -77.04956	Four Mile Run / Potomac Yd	2	7	3d	08-24 – 08-28	#19 · 0d
9	38.86535, -77.03847	Gravelly Pt / Roaches Run	1	7	2d	09-01 – 09-03	#17 · 1d
10	38.87443, -77.04455	Bridge approach / north trail	1	6	8d	08-25 – 09-02	#18 · 0d
11	38.84128, -77.04879	Four Mile Run / Potomac Yd	1	6	2d	09-01 – 09-03	#13 · 1d
12	38.86864, -77.03937	Gravelly Pt / Roaches Run	2	4	2d	08-26 – 09-03	#33 · 0d
13	38.86455, -77.04148	Gravelly Pt / Roaches Run	2	2	0d	08-24 – 09-02	#20 · 0d
14	38.86612, -77.03803	Gravelly Pt / Roaches Run	2	2	0d	08-24 – 09-03	#11 · 3d
15	38.86751, -77.03851	Gravelly Pt / Roaches Run	1	2	0d	08-26 – 08-26	#7 · 3d

#	COORDINATES (WGS 84)	SEGMENT	DEV.	SIGHT.	LONGEST	FIRST – LAST	PERIOD 1
16	38.87187, -77.04230	Gravelly Pt / Roaches Run	1	1	0d	08-24 – 08-24	—
17	38.87502, -77.04319	Bridge approach / north trail	1	1	0d	08-25 – 08-25	#10 · 3d
18	38.84119, -77.04994	Four Mile Run / Potomac Yd	1	1	0d	08-26 – 08-26	#19 · 0d
19	38.86799, -77.03868	Gravelly Pt / Roaches Run	1	1	0d	08-27 – 08-27	#7 · 3d
20	38.87358, -77.04316	Bridge approach / north trail	1	1	0d	08-27 – 08-27	#15 · 0d
21	38.85291, -77.04678	Airport frontage	1	1	0d	09-02 – 09-02	—
22	38.85673, -77.04670	Airport frontage	1	1	0d	09-02 – 09-02	—
23	38.86572, -77.03812	Gravelly Pt / Roaches Run	1	1	0d	09-02 – 09-02	#11 · 3d
24	38.85255, -77.04694	Airport frontage	1	1	0d	09-03 – 09-03	#30 · 0d

B Appendix B — same-day persistence

All 50 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
2026-08-24	38.86062, -77.04529	7.4 h
2026-08-24	38.86844, -77.03891	7.4 h
2026-08-24	38.87433, -77.04400	7.3 h
2026-08-24	38.87668, -77.04158	7.3 h
2026-08-24	38.87466, -77.04358	7.3 h
2026-08-25	38.84155, -77.04790	7.9 h
2026-08-25	38.86062, -77.04529	7.7 h
2026-08-25	38.86844, -77.03891	7.7 h
2026-08-25	38.87433, -77.04400	7.6 h
2026-08-25	38.87668, -77.04158	7.6 h
2026-08-26	38.84155, -77.04790	7.5 h
2026-08-26	38.86062, -77.04529	7.4 h
2026-08-26	38.87433, -77.04400	7.3 h
2026-08-26	38.86751, -77.03851	7.3 h
2026-08-26	38.87668, -77.04158	7.2 h

DATE	LOCATION	STILL PRESENT AFTER
2026-08-26	38.87466, -77.04358	7.2 h
2026-08-27	38.84155, -77.04790	7.4 h
2026-08-27	38.84119, -77.04956	7.4 h
2026-08-27	38.87433, -77.04400	7.1 h
2026-08-27	38.87466, -77.04358	7.1 h
2026-08-27	38.86844, -77.03891	7.1 h
2026-08-27	38.87668, -77.04158	7.0 h
2026-08-28	38.84155, -77.04790	5.8 h
2026-08-28	38.84119, -77.04956	5.8 h
2026-08-28	38.86844, -77.03891	5.6 h
2026-08-28	38.87433, -77.04400	5.5 h
2026-08-28	38.87668, -77.04158	5.5 h
2026-08-28	38.87466, -77.04358	5.5 h
2026-09-01	38.84155, -77.04790	7.9 h
2026-09-01	38.84128, -77.04879	7.9 h
2026-09-01	38.86535, -77.03847	7.7 h
2026-09-01	38.87386, -77.04343	7.6 h
2026-09-01	38.87433, -77.04400	7.5 h
2026-09-01	38.87668, -77.04158	7.5 h
2026-09-01	38.87466, -77.04358	7.5 h
2026-09-02	38.84155, -77.04790	7.1 h
2026-09-02	38.84128, -77.04879	7.1 h
2026-09-02	38.86062, -77.04529	6.9 h
2026-09-02	38.86535, -77.03847	6.9 h
2026-09-02	38.87433, -77.04400	6.8 h
2026-09-02	38.87668, -77.04158	6.8 h
2026-09-02	38.87466, -77.04358	6.8 h
2026-09-02	38.87386, -77.04343	6.8 h
2026-09-03	38.84155, -77.04790	7.4 h
2026-09-03	38.84128, -77.04879	7.4 h
2026-09-03	38.86062, -77.04529	7.2 h

DATE	LOCATION	STILL PRESENT AFTER
2026-09-03	38.86535, -77.03847	7.2 h
2026-09-03	38.87433, -77.04400	7.1 h
2026-09-03	38.87386, -77.04343	7.1 h
2026-09-03	38.87668, -77.04158	7.0 h

Prepared from 150 GPS-tagged rider sightings collected 2026-08-24 to 2026-09-03 using BumpyRide for iOS, and compared against the 144 sightings of 2026-08-03 to 2026-08-13. 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.