RESEARCH SHOP · BUILT AT NEAR HACKATHON

NEAR activity: real users or bots?

Research Shop sample report · Window 2026-09-08 to 2026-10-07 (30 days) · Every number below comes from the query results in this pack and can be re-run with `make verify`.

Claim

NEAR's raw transaction count measures automation, not people. A tiny set of signers produces the large majority of transactions. Most of them are relayers and infrastructure accounts that sign on behalf of many end users, so this is evidence of concentration, not proof of fake activity. **Distinct signers is the better measure of users, and it moved sharply in early October.**

Evidence for

1. **Over the 30 days, 90 signers (0.01% of all signers) produced 80.7% of all transactions**: 20,446,122 transactions, each from a signer averaging 1,000+ transactions per active day. *(q3)*
2. **Light users are the majority of signers but a small share of volume.** 795,727 signers (93.03%) averaged fewer than 2 transactions per active day and produced 8.9% of transactions. *(q3)*
3. **Concentration is persistent day after day.** The 10 busiest signers produced between 45.3% and 69% of each day's transactions. The 100 busiest produced between 65.7% and 91.5%. *(q2)*
4. **The single busiest signer,** `sweat-relayer.near`**, sent 7,429,693 transactions,** an average of 247,656 per day, active all 30 days. Other heavy hitters include `intents.near` (1,390,976), `omni-relayer.bridge.near`, `meteor-relayer.near` and `relay.aurora`. *(q4)*
5. **Several top-15 signers have generated-looking names** (adjective-noun-digits, e.g. `closemeat6237.near` with 1,036,408 transactions, plus `leftdress3225.near`, `malejaguar616.near` and `tinykoala595.near`). Each was active all 30 days at 10,136 or more transactions per day. *(q4)* That pattern fits automated operation, but this report doesn't establish what these accounts are.

Evidence against

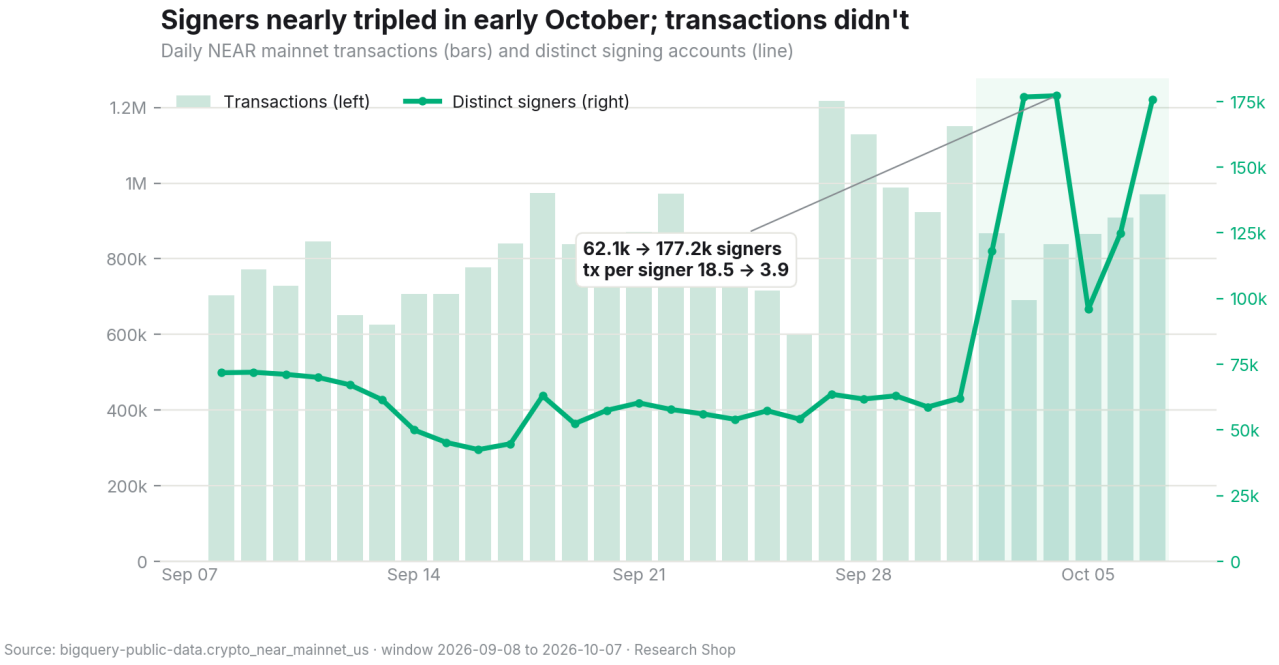
1. **Relayers carry real users.** NEAR supports meta-transactions: a relayer signs and pays gas for a user's action. `sweat-relayer.near`, `meteor-relayer.near`, `relay.aurora` and `omni-relayer.bridge.near` are relayer-style accounts, so a large part of the "automated" 80.7% may be real people whose activity is counted under one signer. **Signer-level analysis undercounts users behind relayers.** It doesn't prove the activity is fake.
2. **Volume growth on the busiest day was broad-based, not bot-driven.** The window's peak, 1,217,209 transactions on 2026-09-27, came with the top-10 share *falling* to 46.1% (top 100: 77.8%). *(q1, q2)*
3. **Distinct signers surged in early October.** They went from 62,105 on 2026-10-01 to 176,719 on 2026-10-03, and stayed high (177,196 on 2026-10-04, 175,774 on 2026-10-07), while transactions per signer fell from 18.5 to 3.9. *(q1)* That's a lot of new, lightly active signers. It could be real user growth, or a campaign, airdrop or sybil wave. This data can't tell them apart.

What would change the conclusion

- **Attributing relayer traffic to end users.** If decoding the relayed actions (receipt predecessor/receiver) shows hundreds of thousands of distinct end users behind relayers, then NEAR's real user base is much larger than its signer count, and the claim softens from "automation" to "routed through infrastructure".
- **Retention of the October signers.** If a large share of the signers who appeared 2026-10-02 to 2026-10-07 stay active for 30 days, that's real growth. If most vanish, it was a campaign or sybil wave.
- **Funding graph of the generated-name accounts.** If they share funders, they're one operator, which would support the bot reading.

These are the next queries in the full deep-dive report.

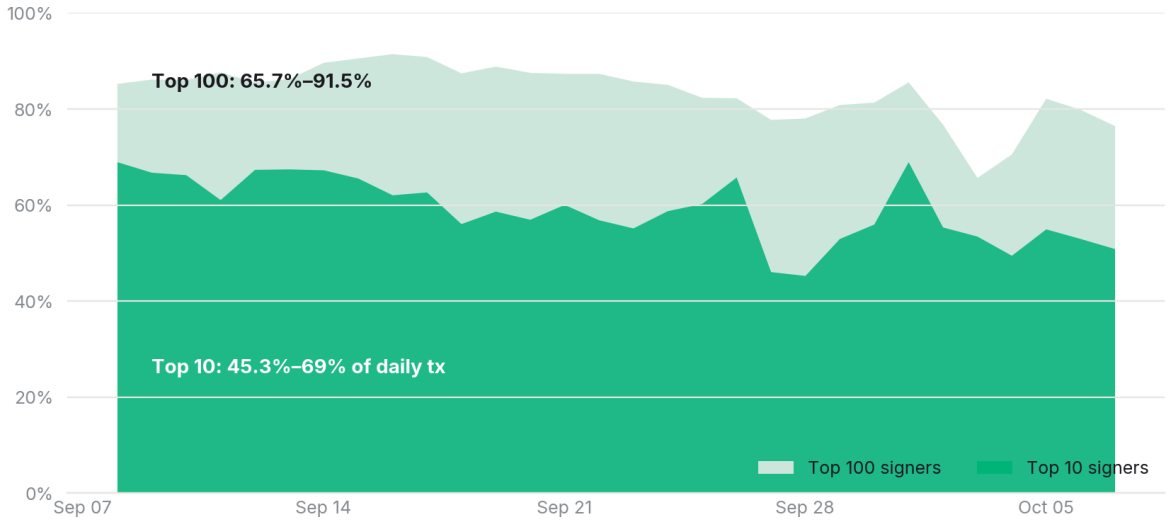
Charts



Source: bigquery-public-data.crypto_near_mainnet_us · window 2026-09-08 to 2026-10-07 · Research Shop

A handful of accounts send most of NEAR's transactions, every day

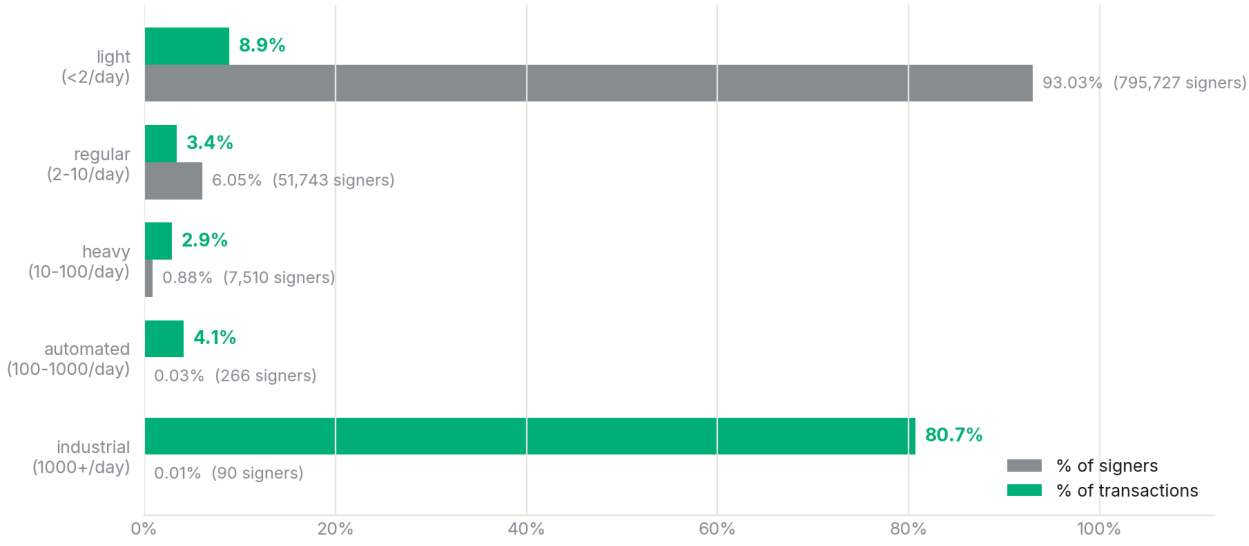
Share of each day's transactions signed by the busiest 10 and 100 accounts



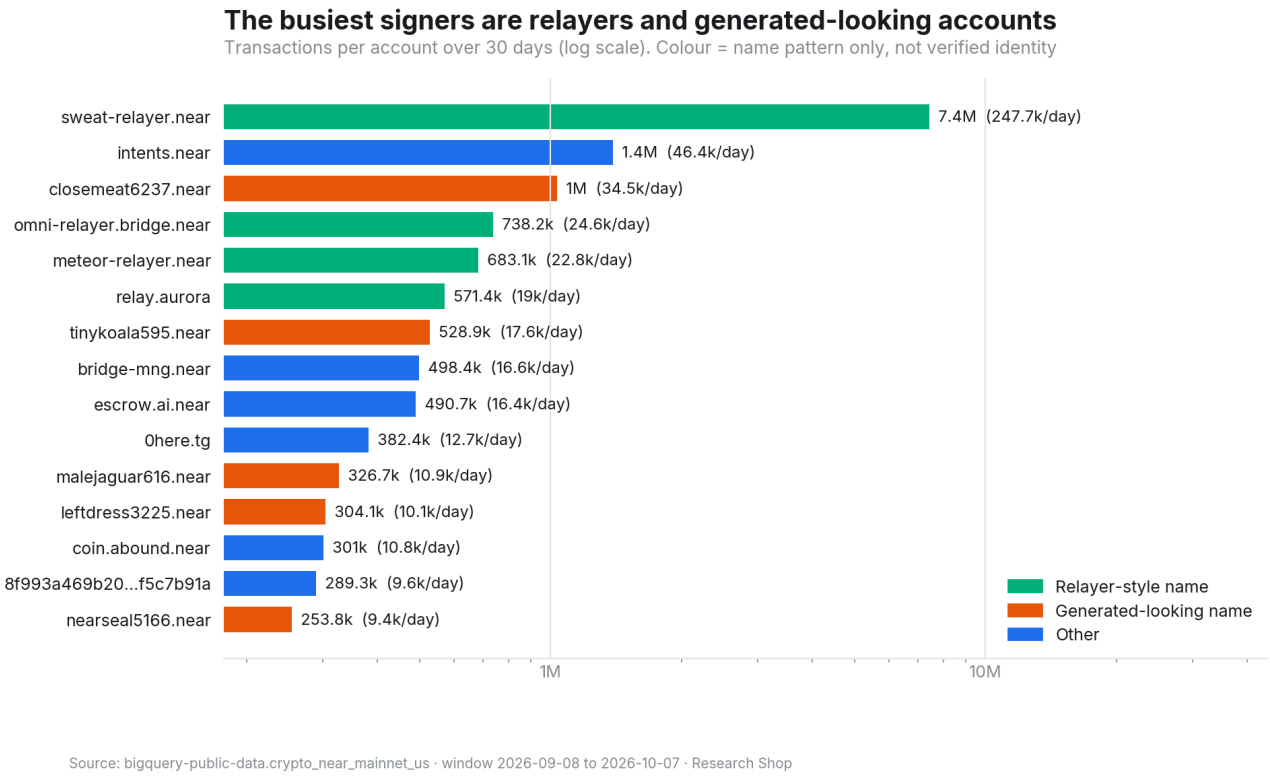
Source: bigquery-public-data.crypto_near_mainnet_us · window 2026-09-08 to 2026-10-07 · Research Shop

0.01% of signers produced 80.7% of transactions

Signers grouped by average transactions per active day, 30 days



Source: bigquery-public-data.crypto_near_mainnet_us · window 2026-09-08 to 2026-10-07 · Research Shop



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Queries

id	question	file
q1	Daily transactions, distinct signers, transactions per signer	`queries/q1_daily_activity.sql`
q2	Share of daily transactions from the top 10 / top 100 signers	`queries/q2_concentration.sql`
q3	Signers and transactions by average daily activity bucket	`queries/q3_signer_buckets.sql`
q4	15 busiest signers	`queries/q4_top_signers.sql`

Each query is bounded to a fixed `block_date` range and passed the safeguards (no relative dates, cost estimate before running). The SHA-256 hash of every result is in `manifest.json`.

Reproduce

```
# no Google account needed: re-hash the shipped results
make verify-cached
# re-run every query on BigQuery (your project pays, about 3 GB in total)
gcloud auth application-default login
make verify PROJECT=<your-gcp-project>
```

Appendix: result fingerprints (SHA-256)

Generated 2026-11-02T13:04:28+00:00 from `bigquery-public-data.crypto_near_mainnet_us`. `make verify` re-runs each query and must reproduce these exactly.

query	rows	result sha256
q1_daily_activity	30	0c049f8f929b60160c457391317c81d574d82305f170932338c050853254fe57
q2_concentration	30	e7efbd908266179b0a7608bfc60e147882a853330cc05c5090d4eeebac0397a6
q3_signer_buckets	5	2133327d741d455519e1058ba68b194f64a83446232e2e6ec9ca1cb2ab541e53
q4_top_signers	15	2233ef9483e1f6670ea41c2afd4c598a2fb1e02a3021951122f19849d889cd06