



HOUSTON HACKATHON 2026

Tiersel Houston

Ask Houston's 311 data a question, out loud or typed. See a verified answer in under a second.

houston.tiersel.com

THE PROBLEM, IN THE CHALLENGE'S OWN WORDS

“Thousands of 311 dumping and litter hotspots are scattered across Houston ... and nobody has a simple way to see them all in one place.”

Clean Houston! challenge brief, Houston Hackathon 2026

The brief also says residents who want to help “have no simple tool to see where the need is greatest.” The records are public. Reading them still means downloads, spreadsheets and guesswork.

1.2M+

311 service requests since 2024, plus older cases still open

15 min

between updates from the City's own 311 data

WHO IT'S FOR

Anyone with a question about their part of Houston

Residents

“Is dumping on my street being picked up?” Ask in plain words, no dashboards to learn.

Civic clubs and cleanup organizers

See where requests cluster and how long they stay open before planning a cleanup day.

Council and City staff

Answer a constituent question in the meeting, with the records behind it one click away.

Reporters and researchers

Start from a checked number, then open the exact records it came from.

These are the people the product is designed for. No partner or user adoption is claimed.

THE PRODUCT IN ACTION

Ask. The number lands first.

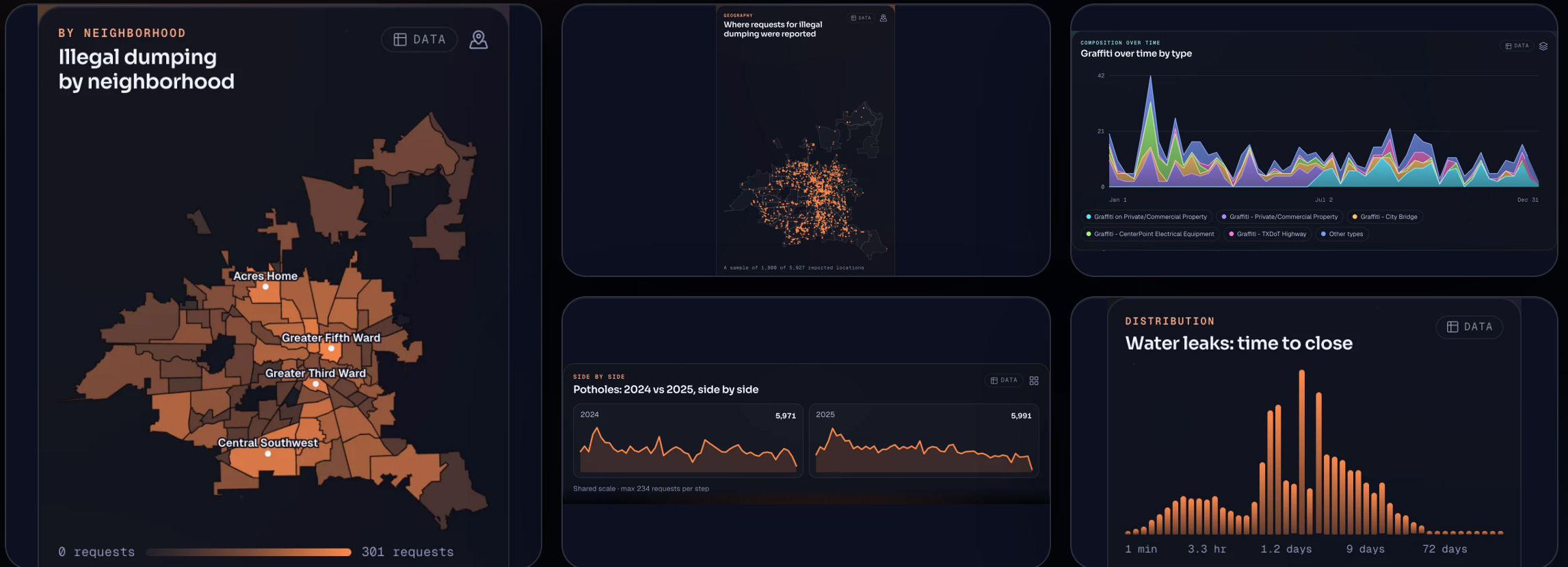
- 1 Say or type “illegal dumping in fifth ward this year”.
- 2 The count paints in about 0.2 s: 301 requests, 10 open, down 44% on the prior period.
- 3 The layout arranges around it: pipeline, calendar, trend, map.
- 4 Tiersel answers out loud while you read.

Captured from production on 27 September 2026. Live numbers move as new requests arrive.



ANSWERS ARE GENERATED INTERFACES

18 block types, chosen per question



Map, neighborhood choropleth, trend, stacked trend, calendar, scatter, funnel, small multiples, ranked bars, table, histogram and more. Every chart has a Data button that opens exactly the records it draws.

GO DEEPER

Tap a bar, area, point or record. It asks that question.

Tapping **Greater Heights** in “potholes by neighborhood in 2025” runs “potholes in Greater Heights in 2025”: 300 requests, 295 closed. Keyboard users focus the item and press Enter. Follow-up questions keep the scope you already set.



Tiersel

Ready

HOUSTON · 311 · SNAPSHOT

potholes in Greater Heights in 2025

300 potholes in Greater Heights in 2025.

Houston 311

CITY OF HOUSTON 311 · 2021-2026 · 1,215,461 LOADED · 2025

DATA STORY · SNAPSHOT

Potholes in Greater Heights

300 potholes in Greater Heights in 2025.

2025 · All statuses · Potholes · Greater Heights

300

REQUESTS

0 open · 295 closed · down 29% vs 2024

Earlier · 1

Or type...

HOW IT WORKS

Jev decides. Code computes.

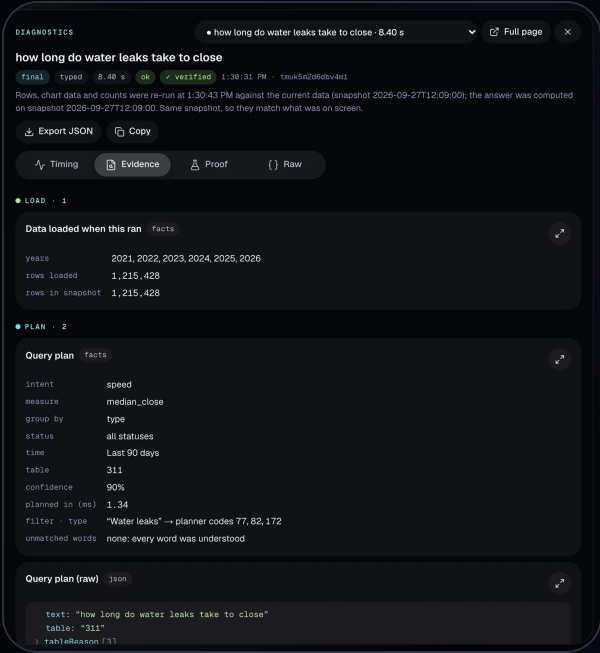
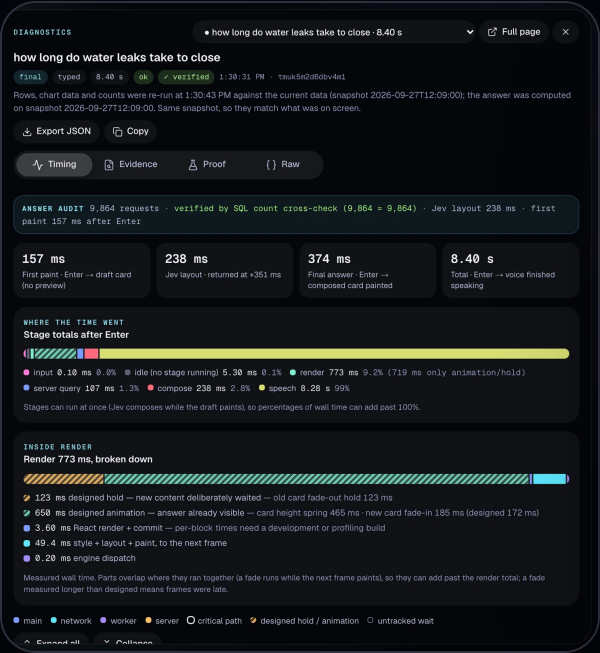


Houston is an edition of the Tiersel platform: the same stage, mascot, speech, themes and diagnostics that run Tiersel's other skills. Nothing is computed in the browser, and no model writes a number.

EVERY ANSWER SHOWS ITS WORK

Follow any number back to the records it came from.

- How long each step took, from your screen to the City’s records and back.
- Where each number came from: the source, the filters it used and the exact lookup behind it.
- The exact records behind every chart, sortable and ready to export.
- A cross-check that recounts the answer from the same copy of the records.



PROOF, MEASURED IN PRODUCTION

140/140

test questions checked
against the City’s records:
every answer matches

≈0.2 s

median time to the
first numbers on
screen (180–194 ms)

≈0.4 s

median time to the full
chosen layout (403–422 ms)

<1 s

median time to the
first spoken word
(0.83–0.89 s)

Speed: two runs of 30 fresh questions against houston.tiersel.com, 27 Sep 2026, from one desktop computer; one answer in ten took 1.3–1.6 s or longer to its first word. Accuracy: every test question answered a second, independent way straight from the records, on the same copy of the live data, 27 Sep 2026.

DIAGNOSTICS

Full page

×

how long do water leaks take to close

finaltyped8.76 sfallback✓ verified4:30:50 PM · tmukciyleh36ls7

Rows, chart data and counts were re-run at 4:30:59 PM against the current data (snapshot 2026-09-27T13:17:00); the answer was computed on snapshot 2026-09-27T13:17:00. Same snapshot, so they match what was on screen.

Export JSONCopy

TimingEvidenceProofRaw

PROOF

Golden questions vs an independent reference

Reload↗

110 questions · generated 9/27/2026, 1:58:54 PM

100%Plan accuracy

100%Number accuracy

100%Data accuracy

333 msEngine p50

410 msEngine p95

924 msEngine max

Data through 2026-09-27T13:17. Timings are the median of 5 runs. Independent SQL over civic.requests in the same snapshot. Answers come from the production SQL path (server/sql.ts over civic.request_facts and the day rollups). planOk: planner output vs a hand-written structured intent. numbersOk: the SQL answer vs hand-written SQL over the base civic.requests view (by label, no facts, rollups or dictionary ids) for that intent. dataOk: the same reference evaluated on the SQL path's own plan, isolating SQL-builder errors from planner errors. Engine and reference read one exported REPEATABLE READ snapshot. Timings are whole server queries against production.

All 110Failing 0

QUESTION	RESULT	ENGINE	REFERENCE	P50
How many potholes were reported in 2025? type-potholes-2025	✓ plan ✓ numbers ✓ data	5,991	5,991	332 ms
Illegal dumping in 2025 type-dumping-2025	✓ plan ✓ numbers ✓ data	9,584	9,584	334 ms
How much graffiti was reported this year? type-graffiti-ytd	✓ plan ✓ numbers ✓ data	385	385	337 ms
Water leaks last month type-water-leaks-last-month	✓ plan ✓ numbers ✓ data	3,379	3,379	329 ms
Missed trash pickups in August 2024 type-missed-trash-aug-2024	✓ plan ✓ numbers ✓ data	3,263	3,263	331 ms

Progress, practical, potential

Progress

- Live at houston.tiersel.com with health monitoring
- ~1.2M requests, refreshed every 15 minutes
- Voice and text, 18 block types, drill-in and follow-ups
- Shows its work, and checks itself on 140 test questions

Practical

- Nothing to install: a web page, light or dark theme
- Answers stay usable if the layout model is slow or down
- States its limits: service requests, not incidents; no per-capita rates
- Refuses what it can't answer instead of guessing

Potential

- The same engine could read other public datasets
- Saved questions a civic club checks each week
- Spanish questions and spoken answers
- All of this is planned, not built

HONEST BOUNDARIES

What Tiersel Houston is not

Not a model's guess

No model writes a number. Every figure is counted from the City's records, and you can open the records behind it.

Not a count of incidents

Counts are service requests. One pothole can have several requests, and many problems are never reported.

Not the Clean Houston! app

It answers the "see where the need is" half of that brief. Claims, crews and photos live in CleanHOU, a separate entry.



A REALISTIC NEXT STEP

Four weeks with one civic club or council office

Collect the questions they actually ask each week,
answer them here, and keep only the answers they
use. That list decides what to build next.

Try it: houston.tiersel.com

Watch the demo

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