

Heat Pressure Is Not a Housing Audit

A public method note for the Heat Pressure v0.1 field tool: what it can read, what it cannot prove, and why that boundary is the product.

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[HTTPS://HEDEGREENRESEARCH.COM/ARTICLES/HEAT-PRESSURE-IS-NOT-A-HOUSING-AUDIT/](https://hedegreenresearch.com/articles/heat-pressure-is-not-a-housing-audit/)

Most maps become dangerous at the moment they start to look complete.

A dot appears. A circle is drawn. A number lands beside a place. The eye wants the rest of the sentence to be true: this is what is happening here.

Heat Pressure is built against that temptation.

It is a field tool for reading the cost of staying in a place, but the first thing it should tell you is what it cannot know. It cannot prove that someone was displaced. It cannot prove that a home was converted. It cannot prove causality. It cannot turn a municipal income number into a neighbourhood fact. It cannot verify that every mapped bench, bakery, clinic, bus stop, park, or water point is open, accessible, affordable, current, or enough.

That is not a small-print weakness around the tool. It is the method.

Housing pressure often becomes visible before it becomes provable. Waiting for perfect proof can mean missing the moment when a place starts to change. But turning every signal into a verdict is the opposite mistake. It makes a map do the work of fieldwork, local knowledge, records, and investigation.

Heat Pressure is trying to stay between those failures. It places imperfect signals next to each other and keeps the boundary of those signals visible.

The product is not the score.

The product is the reading, plus the line around what the reading cannot say.

What It Is

Heat Pressure is a prototype field-reading tool.

The current v0.1 tool is here: [Heat Pressure field tool](#).

It lets a reader choose a place, draw a circular field, and compare mapped everyday support traces with municipal pressure layers.

In use, it is deliberately simple. A reader opens the tool, lands on a selected Portuguese field, moves the point or chooses another place, and then reads a set of tabs: field traces, housing pressure, tourism pressure, heat, cooling support, and collisions between those layers. Views can be added to a report, and the report can be

downloaded as a PDF field brief.

The interface is dark and instrument-like, but the export is supposed to be plainer. The report is not a screenshot of the interface. It is a portable explanation of the reading.

The tool reads relationships between:

- rent
- income
- purchase entry
- tourism / visitor-stay pressure
- heat
- mapped everyday support
- green geometry when available

It is not trying to replace fieldwork. It is trying to show where fieldwork should begin.

A housing audit tries to establish documented facts about homes, ownership, occupancy, tenancy, permits, conversions, listings, and legal status. Heat Pressure does not do that. It does something earlier and lighter: it asks whether the signals around a place make staying there look fragile enough to check.

That distinction matters. If the tool pretends to be an audit, it overclaims. If it refuses to read any pressure before an audit exists, it becomes useless. The useful zone is the field note: here are the signals, here is their basis, here is what they do not prove.

The Two Evidence Families

The selected circle is not the same thing as the municipality.

Inside the selected field, Heat Pressure can read mapped traces:

- bread
- food
- care
- transit
- green
- water
- public rest
- social places

But many of the pressure layers are municipal or reference layers:

- rent
- income
- purchase
- tourism

- resident base
- heat

The tool is only honest if those two families stay separated.

The 3,000 metre circle is a straight-line field for checking mapped traces. It is not a walking-distance field. Rivers, cliffs, major roads, railway lines, private land, bridges, ferries, and missing crossings can all change what "near" means in real life.

The municipal layers are different. A rent denominator may be a municipal reference. An income denominator may be a municipal tax or register proxy. Tourism pressure may come from a municipal visitor-stay register. Heat may be a reference or model layer. Those layers can be highly useful, but they do not magically become local facts just because the selected circle is drawn over a neighbourhood.

That is the core honesty problem in the interface and the report. The map invites a local reading. The data often arrives at a wider scale. A responsible tool has to keep saying that, not once at the end, but at the point where the reader is about to believe too much.

What It Can Say

Heat Pressure can say:

- the municipal rent layer looks strained against the stated income denominator
- the purchase gate looks beyond ordinary income under the stated denominator
- visitor-stay pressure is visible at the municipal/reference level
- heat is part of the cost of staying
- mapped support traces are visible or thin inside the selected radius
- the combination is worth checking

That is enough to be useful.

It is not enough to be a verdict.

The strongest version of the tool is not a dashboard that says "this place is broken." The stronger version says: this rent layer, against this income denominator, under this source basis, falls into this pressure band.

It can then place that reading beside the other signals. This visitor-stay ratio is high enough to treat temporary use as a serious housing signal. This mapped field has or lacks certain everyday support traces. This heat class adds another cost to staying. These things together justify attention.

That is a civic triage claim, not a legal claim.

It can be enough for a researcher to choose the next site visit. It can be enough for a journalist to ask better questions. It can be enough for a resident group to say: please check this place before treating the pressure as imaginary. It is still not proof that one specific household was pushed out.

What It Cannot Say

Heat Pressure cannot say:

- this exact home was displaced
- this pressure exists evenly inside the whole circle
- this mapped service is open today
- this unmapped service does not exist
- this field is walkable just because it is inside 3,000 metres
- this city is comparable to another city without checking the source basis

The map is not proof.

The map is a way to ask better questions.

This is why the report export matters as much as the interactive screen. A PDF travels without the tool around it. It may be read later, out of context, by someone who never saw the tabs, caveats, badges, and source notes. The PDF therefore has to be more explicit than the interface, not less.

That means "can say" and "cannot say" belong on the first page. The income denominator has to be named. The burden classes have to be tied to thresholds. The map figures have to say whether they are live tiles, rendered abstractions, mapped OSM traces, municipal references, or model layers. If a value cannot be supported, it should fail to "unmeasured" rather than quietly substitute a convenient number.

For a tool built around pressure, silent substitution is the worst failure mode. It can make the output look calm exactly where the evidence is missing.

Why OpenStreetMap Matters

OpenStreetMap is one of the reasons a tool like this can exist at all.

It gives a visible community layer: bus stops, bakeries, benches, drinking water, parks, clinics, schools, streets, paths, and other traces of ordinary life.

But OpenStreetMap also has a limit.

Absence in the map is not absence in the world. Presence in the map is not proof that something is open, accessible, affordable, or enough.

That is why the tool now links back to [OpenStreetMap support](https://supporting.openstreetmap.org/donate/) (<https://supporting.openstreetmap.org/donate/>). If community infrastructure helps make a civic reading possible, the tool should not treat that infrastructure as invisible.

This is not an endorsement claim. OpenStreetMap does not approve the tool just because the tool reads public map traces. The point is simpler: if a public project benefits from community mapping, it should credit the infrastructure and make stewardship visible.

OpenStreetMap is also a lesson in humility. The map is alive because people maintain it. It is incomplete because no community map can be complete everywhere. It is powerful because it lets ordinary traces appear: the bakery, the bus stop, the path, the clinic, the fountain, the shade, the bench. Those traces are not the whole story of staying in a place, but they are part of what a place is made of.

What The Prototype Already Learned

The current version became more honest because it was tested against its own claims.

The income denominator had to be tightened. The lesson was not Lisboa or Porto. The lesson was the denominator. It was not enough for a card to say "income used." The denominator had to say what it was, what year it came from, what transformation was used, and what it excluded. If the tool divides an annual municipal income proxy by twelve, the report should say that. If the value is not a payslip wage, the report should say that too.

Porto exposed another kind of weakness. A circular field can include water, barriers, or places that are technically near but not practically reachable. If a report says "3,000 metre field," it has to say that this is a straight-line radius, not a walking catchment. Later versions should compute land/water share and reachability. The current version should not pretend it already has that geometry.

The PDF also had to become a report, not a screenshot. A dark interface copied into a print dialog is not an honest portable product. The report should extract the data, state the layer status, show the limits, and create a document that can be read without the web app open beside it.

Those are not side notes. They are the method.

If a field instrument cannot survive its own edge cases, it should not ask for public trust.

That is why the tool's development has been less about adding confidence and more about removing false confidence. The useful question is not "how do we make the number look more decisive?" The useful question is "what would a skeptical reader fairly attack, and can the product survive that attack without needing us in the room?"

What Comes Next

The next serious upgrade is geometry.

The tool should eventually know more about the physical shape of the field:

- how much is land
- how much is water
- how much is mapped green space
- how many metres of mapped footway, pedestrian street, living street, and sidewalk exist
- where bridges, ferries, crossings, railways, roads, and water barriers change what "near" means

For now, the field is a straight-line circular radius.

Later, it should also be able to say what part of that circle is actually reachable.

There is also a data architecture step. Portugal is the first country layer, not the final method. If the tool is going to work across more countries, country data should not live as one-off assumptions inside the main JavaScript. Each country needs a clearer data file, source basis, denominator rules, freshness status, fallback behavior, and public caveat language.

That is not just software cleanliness. It is part of the honesty architecture. If Lisboa and Porto can accidentally use different income paths, the reader does not care whether the bug came from code structure or editorial wording. The result is still a report that understates pressure. A single canonical report object, a single formatter, and country-specific source files are not just maintainability choices. They are claim-control choices.

Future versions should also make the field more physical:

- land share and water share inside the selected field
- mapped green share where polygon geometry is available
- built-up and non-built-up surface where source coverage supports it
- metres of footway, sidewalk, pedestrian street, living street, path, and crossing
- bridges, ferries, rail crossings, road barriers, and water barriers
- explicit difference between straight-line radius and reachable field

That would let the tool say less vaguely what kind of place it is reading. A city cut by a river should not be treated like an even disk. A neighbourhood with many mapped services but few crossings is not the same as a neighbourhood where those services are actually within reach.

Ending

Heat Pressure is not valuable because it makes a city simple.

It is valuable if it makes a place harder to misunderstand.

The most honest output is not a final score.

It is a reading with a boundary around what the reading cannot know.

That is also the point of publishing the tool at all.

Not because v0.1 is complete. It is not.

Not because the map proves the pressure. It does not.

But because a civic instrument can be useful before it is perfect if it is disciplined about its own limits. The public does not need another dashboard that hides uncertainty until the footnotes. It needs tools that show the signal and the caveat in the same frame.

Heat Pressure is a prototype for that kind of frame.

RELATION MEMORY

METHOD INSPIRATION [The Map Was a Joke. The Method Was Real.](#) · Earlier public field-tool note about maps, OpenStreetMap, visible evidence layers, and refusing to turn a map into a recommendation engine.

CORRECTS [A Tool Can Be Right and Wrong at the Same Time](#) · Related correction logic: a tool can calculate something useful while still needing stricter language around what the output proves.

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