

HOUSING IS INFRASTRUCTURE

The Built Environment Doesn't Function Without It

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“Alright, I have a plan. It’s pretty simple...”

— Tony Stark, *Avengers: Infinity War* (2018)

Ottawa renamed a department, and almost no one noticed it for what it was. Infrastructure Canada became Housing, Infrastructure and Communities Canada — on its face, a filing-cabinet event, the kind of machinery-of-government shuffle that earns a press release nobody reads.¹ But look at what the new name actually claims: that housing and infrastructure belong in the same department, presumably governed by something like the same logic. Nobody in the announcement explained what that logic is. This paper tries to finish the sentence Ottawa started.

The claim sounds rhetorical until you test it against how capital actually behaves. We underwrite a four-lane highway, a substation, a water treatment plant, and a container terminal using a similar mental model: long asset life, high fixed cost, public or quasi-public benefit, and a return profile measured in decades rather than quarters. We underwrite a condominium tower using almost none of that — we underwrite it like a retail strip mall, because both are, formally, real estate. The question this paper asks is whether that’s a categorization error, and what it costs us when we get it wrong.

Part I — The Definitional Problem

The Definitional Problem

“Infrastructure” is not a synonym for “big and expensive.” It is a specific economic category, and if housing is going to claim membership in it, the claim should survive the same test we’d apply to a port or a power grid — not just analogy, but mechanism. Four criteria conventionally define the category:

- High fixed, sunk capital cost relative to marginal unit cost — the first unit is extraordinarily expensive; the next one rides on capacity already built.
- Network effects — value compounds as connections and usage scale, rather than staying flat per unit.
- Derived demand — the asset isn’t consumed for its own sake; it enables other economic activity. Nobody wants a road; they want what’s at the other end of it.
- Quasi-public-good characteristics — benefits accrue to people who never directly use the asset. A port lifts a whole regional economy, not just the shippers who dock there.

Run housing through the same four tests. Fixed cost relative to marginal cost: a six-storey building has the same elevator, the same foundation, and the same servicing connection whether it holds twelve suites or sixty — the marginal suite is cheap once the building exists. Network effects: a rental market with more supply produces lower search costs, more labour mobility, and more competitive pricing for everyone in it, not just the newest tenant. Derived demand: nobody wants a unit for its own sake; they want proximity to a job, a school, a hospital, a market. Quasi-public-good characteristics: a community with adequate housing supply has lower policing costs, lower emergency-shelter costs, and a more stable tax base — benefits that accrue to neighbours who never set foot in the building.

Housing clears all four tests on the same logic we already apply, without controversy, to a bridge. The harder and more interesting question isn't whether housing qualifies — it's why we've been so slow to underwrite it that way.

Part II — The Inversion

Housing as the Zeroth Infrastructure

In mathematics and computer science, counting often begins at zero rather than one. The zeroth element is the foundation upon which everything else is built.

Housing occupies the same position in our infrastructure system.

Here is the part of the argument that goes further than the federal department's rebrand was probably intending. Roads, power grids, water systems, and ports all share an unstated assumption: that a population already exists at the location they're built to serve. Every infrastructure planning exercise starts from a demand forecast, and every demand forecast starts from a population figure. Housing is the term that produces that figure in the first place.

Formally: the utilization of any conventional infrastructure asset is a function of population and economic activity at that location — $D = f(\text{population}, \text{activity})$. Strip the housing out of a place and population trends toward zero, which drives utilization of every other infrastructure asset toward zero with it. A six-lane highway built to an empty subdivision is capital with no throughput. The grid substation sized for a planned community that never filled in is a stranded asset earning a return on nothing.

Housing isn't just another infrastructure category. It's the multiplier term every other category depends on.

This reframes the policy conversation in a useful way. We don't debate whether a region "deserves" a water treatment plant on moral grounds — we ask whether the demand projection justifies the capital. Housing should be subject to the same discipline, except run in the other direction: the absence of housing isn't a neutral market outcome, it's a leading indicator that every other infrastructure investment in that location is about to underperform its business case.

Part III — The Evidence

What "No Housing" Actually Looks Like

If the inversion in Part II is correct, it should show up empirically wherever housing and population disappear from a place — not as a rounding error, but as a visible collapse in the utilization of every other infrastructure asset built to serve that population. Two case studies, one domestic and one international, make the mechanism concrete rather than theoretical.

Saskatchewan. Saskatchewan has catalogued more than 130 ghost towns, a reminder that communities disappear when the economic reason for their existence disappears.² Uranium City provides perhaps the clearest example. After the Beaverlodge uranium mine closed in 1982, the population collapsed from nearly 2,500 residents to about 200 by 1986—a decline of more than 90

percent.³ As the population fell, utilities were abandoned, neighbourhoods were consolidated, businesses closed, and public services were reduced.

At least ten Canadian municipalities have quietly dissolved their incorporated status in the past two decades⁴ as population decline made self-governance — and the infrastructure and services that go with it — unsustainable to maintain. Pull the housing and the people out of a place, and the roads, the schools, and the clinics built for them don't sit idle waiting for a recovery. They get shut down, amalgamated, or quietly written off.

Japan. Japan is the sharper version of the same story because it isn't a single-resource-town problem — it's structural demographic decline at national scale. The country now has somewhere between 8.5 and 11 million abandoned homes, known as akiya, and the Nomura Research Institute projects that figure could exceed 30 percent of Japan's entire housing stock by 2033.⁵ The fiscal mechanism runs exactly opposite to the inversion argument in Part II, which is precisely why it's useful evidence for it: as owners vanish or stop maintaining abandoned properties, local tax collections decline, leaving small-town governments with shrinking budgets to fund roads and basic services.

Pull the housing base out from under a place, and the roads, schools, and clinics built to serve it become stranded assets within a generation.

Some Japanese municipalities have stopped fighting the decline and started planning around it. Akitakata City, in Hiroshima Prefecture, has adopted a deliberate “compact city” strategy — consolidating residential areas and essential services into walkable hubs and removing abandoned properties rather than maintaining an infrastructure footprint sized for a population that no longer exists.⁶ It's an uncomfortable model, but a logically consistent one: if housing is the precondition for the rest of the infrastructure stack, then infrastructure planning that ignores housing's trajectory is planning against the evidence, not with it.

Part IV — The Human Right Question

Need Versus Mechanism

Any paper arguing housing belongs in the infrastructure category eventually runs into the parallel claim that housing is a human right. The two arguments get treated as if they're the same argument wearing different clothes. They aren't, and collapsing them together is a logical error worth naming explicitly, because it's the error most likely to derail an otherwise sound policy conversation.

Canada's framing has already settled the need question as a matter of law, not just sentiment: the National Housing Strategy Act requires the federal housing strategy to be guided by a human-rights-based approach, backed by a ten-year, \$115-billion-plus commitment launched in 2017.⁷ That settles whether people need shelter. It does not settle who builds it, who owns it, or how it gets financed — and treating the human-right framing as if it answers the delivery-mechanism question is where the debate usually goes sideways.

The better way to think about it is to separate the right itself from the mechanism used to deliver it. We don't treat a right to food as implying a right to state-run agriculture; we run mixed delivery,

market production supplemented by a safety net where the market doesn't reach. Infrastructure itself already operates on exactly this principle: roads are public assets, toll roads run on private concessions, and ports are frequently public-asset, private-operator hybrids. "Housing is infrastructure" doesn't resolve the public-versus-private debate in either direction — it clarifies that the outcome is non-negotiable while the delivery mix remains an engineering and capital-allocation question, not an ideological one.

Part V — The Spectrum

Why One Housing Type Can't Carry the Load

CMHC's own housing continuum model spans homelessness, emergency shelter and transitional housing, supportive and community housing, affordable rental, market rental, and homeownership.⁸ The conventional assumption was that households move along this continuum in a roughly linear sequence — shelter, then non-market housing, then market rental, then ownership. CMHC's own 2024 research walked that assumption back, finding that real households move through the system in far more complicated, non-linear paths than the textbook model assumes.⁹

That finding strengthens this paper's argument rather than complicating it. No single power plant type serves an entire electrical grid — base-load generation, peaking capacity, and distributed generation each serve a different part of demand, and the system fails if any one tier is missing or oversized relative to actual need. Housing is structurally identical. A market-rate rental tower doesn't substitute for supportive housing any more than a nuclear plant substitutes for a peaker plant during a demand spike, and a city that only builds market ownership product is running a grid with one generation type and calling it resilient.

No single power plant type serves an entire grid. Housing is no different.

Does the current unsold condominium/strata unit issue in Toronto and Vancouver start making more sense now? Two nodes in the country where there was a near-singular focus: build small, investor-focused condominium units and move them as quickly as possible to maximize profit. The moment the market shifted and that was no longer profitable for investors the inventory just kept piling up. There are reports and opinions that the condominium market is essentially dead and that the investor-driven pre-construction model that dominated the market for more than a decade may have fundamentally changed.

Treat housing as infrastructure in practice—not just in speeches—and you arrive at a different conclusion. It leads to the opposite conclusion: a functioning system requires deliberate capacity at every point on the continuum, sized to actual local need, the same way a competent utility plans its generation mix rather than betting the grid on a single technology.

Part VI — Capital Allocation Implications

What Changes If the Category Changes

If the classification holds, it should change more than language — it should change underwriting. Infrastructure-grade capital is typically priced for longer investment horizons and a lower required return than opportunistic real estate, on the logic that the asset's cash flows are more predictable and the social cost of underinvestment is higher than the private cost of a lower yield. Treating purpose-built rental housing on those terms — patient capital, public-private concession-style structures, financing tenors measured in decades rather than the typical five-to-seven-year hold — would change who is willing to build it, and at what cost of capital.

It would also change accountability. Infrastructure assets are typically subject to regulated-return frameworks, long-term maintenance obligations, and public reporting on service levels. Housing financed and governed on the same terms would come with the same obligations attached — which is a feature of the framework, not a side effect to be managed around.

Part VII — The Skeptic's Counter-Section

What Could Still Go Wrong

In keeping with this series' habit of interrogating its own thesis rather than just advocating for it: "housing is infrastructure" is a framing with real risks attached, and a paper that only makes the case for the category without naming them isn't finished.

The first risk is rhetorical inflation without a funding commitment to match. A department rename is free; the capital required to actually treat housing like a regulated infrastructure asset class is not. The gap between Ottawa's new department name and the underlying financing architecture is exactly the kind of gap this paper warns against elsewhere — it would be inconsistent to call that gap out in other contexts and ignore it here.

The second risk is moral hazard at the policy level: if "infrastructure" becomes shorthand for "the government must provide it," the framing gets used to justify open-ended claims on the public purse rather than the more precise claim this paper is actually making — that housing supply at every tier of the continuum needs to be planned and financed with infrastructure-grade discipline, regardless of who holds the capital.

The third risk is definitional creep. Once a category like "infrastructure" becomes politically useful, there's pressure to expand it to cover anything someone wants prioritized for funding. The four-criteria test in Part I exists precisely to guard against that — housing qualifies because it satisfies the same mechanism-level tests as a port or a grid, not because the word is convenient. Any future claim that something else belongs in the category should have to clear the same bar.

Part VIII — Where This Leaves Us

The Sentence Ottawa Started

Ottawa's department rename was either an accident of bureaucratic convenience or an unfinished insight. This paper has tried to finish it properly: housing satisfies the same economic tests we already apply, without controversy, to roads, power, water, and ports — and it does so in a stronger sense than any of them, because it's the term that determines whether a population exists at a given location to use the rest of the infrastructure stack at all. The evidence for what happens when housing disappears isn't hypothetical; it's sitting in Saskatchewan's ghost towns and Japan's akiya registries. The human-rights framing settles the need, not the mechanism. And the continuum data confirms that no single housing type can do the job a functioning system requires of all of them together. None of that is an argument for unlimited government obligation — it's an argument for underwriting housing with the same rigour, patience, and accountability we already demand of everything else we call infrastructure.

Also in the Building Forward Series: "How Do We Get Innovative...Again?" (Paper 1) opens the series' case for recovering Canada's lost construction ambition. "Ontario's Housing Giants: From Individuals to Empires" (Paper 2) traces the consolidation of the province's homebuilders. "The Cathedral and the Condo" (Paper 3) contrasts civic-scale architectural ambition with the modern condominium boom. "The Missing Builder Class" (Paper 4) examines the shrinking pipeline of skilled trades. "The Consultant Economy" (Paper 5) questions the development industry's reliance on layered third-party advisory work. "Standardization Is Not the Enemy" (Paper 6) makes the case for repeatable, platform-based building systems. "The Projects That Built Canada" (Paper 7) explores 10 historic infrastructure and technology projects in Canada and asks whether we could still build these today. "The Missing Middle Scale" (Paper 8) investigates a build form between single family homes and high rises.

Author's Note on AI Assistance — This paper was developed using generative AI tools — Claude (Anthropic) and ChatGPT (OpenAI) — for source organization, structural review, and drafting refinement. AI is a tool. Like any tool, its value is determined by the judgment of the person using it. The pneumatic nail gun was resisted by carpenters who believed it would undermine craftsmanship. AutoCAD was resisted by drafters who believed hand drawing produced better design thinking. In both cases, the tool expanded what skilled practitioners could accomplish — it did not replace the judgment that made the work worth doing. The analysis, policy positions, and conclusions in this paper are the author's own.

ABOUT THE AUTHOR

Patrick Norris is a Canadian construction and capital planning professional with experience in large-scale residential development and infrastructure-related projects.

This paper is an independent thought piece and does not reflect the views of any employer or affiliated organization.

Endnotes

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