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From Maglev to Meaningful Place: Anti-Fragile Wellbeing Design for Kōfu. A Prospective Policy-Design Study of Municipal Choices Ahead of the Chūō Shinkansen

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ABSTRACT: A maglev line will not by itself determine the wellbeing of the region it serves; the decisions that will are largely municipal, and many remain open. This prospective conceptual and policy-design study applies the Anti-Fragile Well-Being (AFWB) framework to resident wellbeing in Kōfu, Japan, ahead of the Chūō Shinkansen maglev, whose opening is undated. Drawing on a structured review of municipal, prefectural and operator documents, it treats the railway as backdrop and municipal place-making as the object of design, with Kōfu City as the unit of action and Yamanashi Prefecture as the unit of analysis. The problem is capability conversion: whether far greater access to Tokyo enlarges residents' real freedom to live, work, age and participate in the region, read across six wellbeing domains. The paper separates documented conditions from proposed instruments and from claims still to be tested. It contributes a map of open municipal decisions, including public–private development and procurement; a Wellbeing and Capability Check that requires a defined gain while protecting minimum floors in every domain; an illustrative feeder-access pilot with retain, modify and stop rules; and five propositions stated with their disconfirming evidence. It prepares, but does not report, a participatory action-research programme. By anti-fragile we mean a design that, exposed to bounded and reversible failures, ends each cycle more capable than it began, a claim the paper states in testable form. The study's main limitations are that it rests on documents alone, has not yet engaged residents, and leaves every floor, threshold and proposition untested. Its intended practical contribution is a decision check and pilot design that the city could apply to station-area choices while they remain open.

Keywords: Antifragility, Multidimensional wellbeing, Capability approach, Anticipatory governance, Municipal planning, Public–private development, Participatory action research, High-speed rail, Kōfu.

1. INTRODUCTION

The Chūō Shinkansen superconducting maglev will eventually connect Tokyo and Nagoya through a station on the southern edge of Kōfu, cutting rail time between Shinagawa and the Yamanashi station to roughly 25 minutes, against about 90 minutes by conventional limited express between central Tokyo and Kōfu. Conventional analysis treats such a link as a binary prospect for the region: revival or irrelevance. We reject that framing on two grounds. First, it measures the wrong thing, and would score a place's hollowing-out as success if the proxies (passenger volume, land value, aggregate income) rose. Second, and decisive for this paper, the railway is not a variable that a local research institute, a city or even a prefecture can act on. Its route, timetable and cost are set elsewhere. What can be acted

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on is the surrounding municipal policy: station-front land use, housing protections, feeder transport and benefit-sharing. Much of that policy is being decided now, while the maglev's opening remains officially undated. JR Central has said it will announce a target within 2026; press estimates put opening at 2036 at the earliest (Appendix **A**).

This paper is one of six case studies extending the Anti-Fragile Well-Being (AFWB) framework (Yadava *et al*., 2025) beyond its four national cases (Japan, the United Kingdom, India and Cameroon) to sub-national, sectoral, digital and governance contexts. Its object is resident wellbeing; its venue is municipal place-making policy; and it is deliberate about scale. Kōfu City is the unit of action: it holds the live station-front, land-use and public-space decisions, and it is where the authors' institute is located. Yamanashi Prefecture is the unit of analysis, because the central risk, a widening split between a connected gateway and a hollowing periphery, cannot be seen at city scale alone. Separating the two scales lets the analysis act where leverage can exist and look where the stakes are visible.

What this case adds. The published framework supplies the six domains, the five-stage cycle and the narrative layer, and has so far been applied to national cases. This paper adds four things those applications do not contain. First, it moves the framework to the scale at which a transport-led transition is decided, separating a unit of action (the city) from a unit of analysis (the prefecture), so that regional inequality between a connected gateway and a hollowing periphery becomes a monitored outcome rather than a background condition. Second, it specifies a mechanism for transport-led development, capability conversion through five architectures (Section 6), that links the accessibility and capability literature to the wellbeing domains. Third, it treats anticipation, a railway that is credible but undated, as the first causal pathway and the main object of anticipatory governance. Fourth, it turns the framework's non-compensatory principle into a municipal decision rule with floors, thresholds and a review procedure (Section 10). All four are proposals. None has been tested, and the instruments are presented as designs to pilot, not as validated tools.

No probe has been run, no monitoring data have been collected, and the authors' contacts with the city are informal. This is therefore neither an impact evaluation nor action research. It is a prospective conceptual and policy-design study, based on a structured review of public documents (Section 2), that prepares a participatory action-research programme. It specifies a problem definition, a causal model, a decision rule, an illustrative pilot and propositions with their disconfirming evidence, and it keeps three kinds of statement apart: conditions documented in the sources, instruments the paper proposes, and claims that remain to be tested (Table **1**). Its outputs are a theory of change and a design specified to the point of piloting, not findings.

The case is also a question about value capture in public–private development. The station-front area is being developed by the prefecture, the city and private partners together, and its south side includes a public–private zone whose partners are still to be chosen (Section 4). Whether station-area land, procurement and enterprise formation build locally owned capacity, or route activity through owners elsewhere, is one of the conversion mechanisms the paper models (Section 6) and one of the decisions it maps (Section 7). Section 14 draws out the implications for local enterprise, ownership and procurement.

Section 2 sets out the framework, the study design and the status of the paper's claims. Sections 3 to 6 define the problem, the external transition, the fragility diagnosis and the causal model. Section 7, the core of the paper, maps the municipal decision surfaces and the proposed instruments. Sections 8 to 12 state the propositions and work through the remaining AFWB stages, including an illustrative pilot (Section 9.2) and the decision rule (Section 10). Section 13 sets out the comparative-learning design and empirical priors, Section 14 discusses implications for local enterprise and public–private development, and Section 15 discusses limitations.

2. FRAMEWORK, METHOD AND POSITIONALITY

The AFWB framework (Yadava *et al*., 2025) integrates Taleb's (2012) antifragility, Hofstede's cultural dimensions (Hofstede, 2001, 2011), multidimensional wellbeing drawn from the OECD Better Life dimensions, Sen's (1999) capability approach and Gross National Happiness, and real-time narrative analytics. It runs as a recursive five-stage cycle: diagnose fragility; analyse cultural levers; design safe-to-fail probes; monitor; and refine, replicate or retire. Wellbeing is read across six domains: health, psychological flourishing, social connection, civic engagement, economic security and environmental quality.

Multidimensionality is the working commitment. Capability must be read across all six domains at once, and any single proxy (income, passenger volume, land

value, visitor numbers) collapses that space. The rationale is well established at national scale: in high-income countries, sustained income growth has often failed to raise average life satisfaction over the long run (Easterlin, 1974; Easterlin *et al*., 2010). If aggregate growth is an unreliable guide to wellbeing nationally, it is a poorer one locally, where the distribution of gains across places and groups is both visible and decisive. The six domains therefore carry the problem definition (Section 3), the conversion model (Section 6), the decision rule (Section 10) and the monitoring instrument (Section 11). The five conversion architectures introduced in Section 6 are mechanisms that move these domains, not substitutes for them. For monitoring, the domains are resolved onto the Institute's nine-dimension discourse taxonomy (general, economic, community, individual, cultural, social, environmental, technology, political), reconciled in Section 11.1 so that framework and instrument speak one language and the cultural dimension is carried in its own right.

Position in the literature. The design draws on five bodies of work and departs from each in a specific way. Measurement beyond GDP (Stiglitz *et al*., 2009) established multidimensional dashboards but left open how they bind a decision; the rule in Section 10 is one answer, and it is untested. The capability approach to transport (Vecchio & Martens, 2021) and work on transport, social exclusion and distributive justice (Lucas, 2012; Pereira *et al*., 2017) define access by what people can reach, not by how fast vehicles move; the paper adopts that definition and connects it to all six wellbeing domains rather than to accessibility alone. Regional-development research documents persistent decline in places left behind by agglomeration and argues for place-sensitive policy (Rodríguez-Pose, 2018), and the Japanese high-speed-rail evidence points the same way (Section 13); the paper treats this as a reason to monitor the gateway–periphery split directly. Adaptive governance (Folke *et al*., 2005) and anticipatory governance (Guston, 2014) supply the logic of learning under uncertainty. What AFWB adds is a test of whether the city ends each cycle more capable (Section 12), and the requirement that learning be judged across all six domains with protected floors. The cultural layer is kept as hypotheses about legitimacy (Section 9.1), whose local applicability still requires evidence.

Building on the city's own commitment. The design does not ask Kōfu to adopt an outside worldview, because the city has already written wellbeing into its plans. Its 2023 basic policy for the station-front area commits, under a principle on realising the Sustainable Development Goals, to propose from the maglev station front "a distinctively Yamanashi 'wellbeing' way of life" (山梨らしい"ウェルビーイング"な暮らし), defining wellbeing as physical, mental and social health, and it sets the wider aim of a region in which no one is left behind (誰一人取り残さない圏域) (Kōfu City, 2023). The Seventh Kōfu City Comprehensive Plan, the city's highest-level plan for FY2026–2035, whose basic concept the city assembly adopted in December 2025 after workshops, surveys and public comment, names wellbeing as one of three guiding principles alongside collaboration and civic pride, under the city image "Feeling happiness: a city that keeps creating a hopeful future" (Kōfu City, 2026a). The plan's advisory council asked that progress be tracked through residents' felt happiness (Kōfu City Comprehensive Plan Council, 2025), and the city's 2026 maglev-era strategy takes *kōfuku*, a play on the city's name and the word for happiness, as its core value, defining it not as subjective satisfaction but as a balanced state of human, economic, social and natural capital, and proposing it as a standard for judging projects (Kōfu City, 2026b). The same strategy already recognises the risks at issue here. It warns that excessive public investment in the station area and related development could burden the renewal of everyday infrastructure and the welfare and education services residents rely on, and that a development model dependent on outside actors could instead draw people and spending away, a straw effect (Kōfu City, 2026b). The opportunity is therefore not persuasion but operationalisation: helping the city turn concerns it has already stated into explicit floors, a decision check and feedback that are specific, multidimensional, spatially sensitive and testable. The instruments in Section 7 are designed to sit alongside the council's felt-happiness measure and the strategy's *kōfuku* standard, disaggregating both by domain, place and group.

One methodological commitment follows. In Cynefin terms (Snowden & Boone, 2007), the railway engineering problem is complicated: expert-solvable and plannable. Its regional and wellbeing consequences are complex: emergent from thousands of adaptive decisions and not pre-specifiable by any planner. That distinction licenses the anti-fragile method of small reversible probes, and it makes multidimensional wellbeing the necessary compass rather than a dashboard, because an emergent system can only be steered by a live, rich read of how people are doing.

What antifragility adds. Reversibility, monitoring and adjustment are the vocabulary of adaptive governance, and on their own they would not justify the AFWB label.

The distinctive claim is stronger: that a municipality exposed to bounded, reversible failures can end each cycle more capable than it began. In Taleb's (2012) terms the design seeks a convex exposure: the cost of each probe is capped in advance, while what the probe teaches is kept whether it succeeds or fails. A retired or modified probe leaves something the city did not have before, such as a detection routine, a revised eligibility rule or a working channel to a group it had not reached; a successful one is retained as provision. The claim is falsifiable. If successive probe cycles do not shorten the time between an emerging exclusion and a municipal response, widen the range of affected groups the city can detect, or raise floor attainment for the groups probed, the design reduces to adaptive governance and should be described as such. Section 12 specifies the measures.

Study design. This is a prospective conceptual and policy-design study. It is not yet action research: no intervention has been co-designed or run, and the Institute's contacts with the city are informal. What it prepares is a participatory action-research programme (Reason & Bradbury, 2008) in the tradition of collaborative planning (Healey, 1997), in which knowledge would be produced with, and for use by, the actors who make the decisions. The intended pathway runs from institute, to municipal planning process, to place-making decision, to resident capability. Section 7.3 states the conditions under which the study would become action research.

Sources and analytic procedure. The empirical base is a documentary review. We assembled the public documents that bear on the station area's land use, access, wellbeing commitments and timing: Kōfu City's station-front basic policy (2023) and infrastructure development policy (2025), the review committee's roster and planning materials (2024–2026), the Seventh Comprehensive Plan and its council report, the 2026 maglev-era strategy and the concept-book tender record; Yamanashi Prefecture's station-access policy (2021), population vision (2025), draft public-transport reorganisation policy (2026) and corridor plan; JR Central's releases; and Shizuoka Prefecture's records of the tunnel dispute. News reports were used only to date events. Documents were retrieved and read in the original Japanese with the assistance of an AI research tool (see Acknowledgements), and every factual claim drawn from them was checked against its primary source as of 22 October 2026. English renderings of Japanese titles and quotations were produced with the same assistance and are the authors' responsibility. Each document was read for three things: the decisions it leaves open, the authority and timing attached to each, and any stated commitment on wellbeing, access or distribution. The open decisions became the decision surfaces in Section 7, and the dated events the ledger in Appendix A. The five conversion architectures (Section 6) are an analytic synthesis, not the result of inductive coding: they combine the capability approach's distinction between resources and the conversion factors that determine what people can do with them (Sen, 1999; Vecchio & Martens, 2021) with the policy areas in which the review found open municipal decisions.

Inclusion, selection and conflicting sources. A document was included if it was issued by Kōfu City or a body it convenes or serves (its assembly, plan council and the downtown area platform), Yamanashi Prefecture, Shizuoka Prefecture, JR Central or a national ministry; was publicly available; was dated between the 2011 development decision and 22 October 2026; and bore on the station area's land use, access or timing, or on a stated commitment on wellbeing or distribution. Documents were located through the issuing bodies' websites, starting from the station-front pages of Kōfu City and the prefecture, and by following the documents each cited. Press reports were used only to date and record events in the ledger (Appendix A), including press estimates of the opening date, and not as evidence of conditions or commitments. Where sources disagreed, the primary source took precedence over press reports, the later official statement over the earlier one, and the body with authority over a decision over other bodies describing it. Where official sources themselves differed over time, as on the opening date, the paper reports each statement with its date rather than choosing between them (Appendix A). The reference list and Table **A1** together form the source log, from which the review can be repeated. This documentary analysis is the only part of the study that has been carried out; the resident, monitoring and pilot work in Sections 7 to 12 is proposed.

Status of claims. Because the study is prospective, the paper keeps three kinds of statement apart throughout (Table **1**): what the sources document, what the paper proposes, and what remains to be tested. Hypothesised effects are labelled as such where they appear.

Positionality. The Institute's location is both the design's main asset and its main risk. It gives access to local discourse and to the venues where decisions are discussed. It also invites insider over-confidence: the temptation to read a complex, emergent situation as knowable and plannable, which is the error the complexity diagnosis warns against. We are explicit

Table 1: Status of the paper's main claims

Status	What it covers	Where
Documented in public sources (to 22 October 2026)	Kōfu's wellbeing commitments, planning sequence and stated concerns; station location, access design and division of authority; the railway timeline; population; the Japanese high-speed-rail evidence	Sections 2, 4, 5 (chronic substrate), 7 and 13; Appendix A
Proposed by this paper (to be negotiated with the city and residents)	The capability-conversion problem definition; the five conversion architectures; the Wellbeing and Capability Check and decision rule; the observatory; the illustrative pilot; the monitoring design	Sections 3, 6, 7.1–7.3, 9.2, 10 and 11
Hypothesised (to be tested, not established)	The divergences in Table 2; the couplings in Section 5; anticipatory effects on household, employer and land-market behaviour; propositions P1–P5; the cultural legitimacy hypotheses; the antifragility claim	Sections 3.3, 5, 6.3, 8, 9.1 and 12

about reach: the Institute holds no formal role in the city's station-front planning, so the leverage described in Section 7 is a pathway to be earned, not a position held. The complexity framing, the falsifiable propositions (Section 8) and the participatory-review requirement (Section 10) are the disciplines that keep the embeddedness honest.

The Institute's role is not to predict or manage the maglev's regional effects. It is to strengthen Kōfu's capacity to recognise and respond to emerging threats to resident wellbeing while policy choices remain alterable. A university can contribute what a developer, a consultant or a one-off study cannot: analytic independence, continuity across political and planning cycles, access to emerging evidence, and a convening space in which residents, officials and local organisations can test competing accounts of what counts as progress.

3. PROBLEM DEFINITION: CAPABILITY CONVERSION

3.1. The Central Claim

The maglev transition is a capability-conversion and capability-retention problem under intensified external connectivity. The objective is not to retain residents at all costs, nor to suppress mobility, but to ensure that staying, leaving, commuting, returning, combining places and participating locally remain genuine choices rather than choices imposed by failing services, unaffordable housing, inaccessible transport or disappearing livelihoods.

The animating question is: how can Yamanashi turn far greater access to Tokyo into greater capability to live well in Yamanashi? This relocates agency from the train to the choices around it. In Sen's (1999) terms the goal is non-forced mobility. A Tokyo commuter who remains socially, economically and civically rooted may represent success; a resident forced out because care, housing or schooling have become unviable represents failure.

3.2. Three Asymmetries

1. **External versus internal access.** Tokyo may become far more reachable from Yamanashi while Yamanashi remains hard to cross for anyone without a car. Access must mean door-to-door capability, not train speed.

2. **Gateway versus prefecture.** The station zone, the Kōfu basin, the Fuji corridor and remote municipalities will not benefit equally. A prefecture-wide gain is not success if it masks a widening split between them, the "two Yamanashis" of Section 5.

3. **Flow versus capture.** Activity may move through without remaining. The question is what share becomes locally retained livelihoods, skills, revenue and institutional capacity.

3.3. What Multidimensional Wellbeing Changes in a Decision

Each row of Table **2** is a scenario to investigate, not an established effect: a single proxy rising while one or more domains may degrade. The middle column names the domains that might move, with the gaining domain first.

The pattern to test is general: a proxy can rise because a domain is being depleted (land value up as affordability falls), which is why no scalar can stand in for the space.

4. THE CONNECTIVITY TRANSITION AS BACKDROP

The external transition in brief. The maglev is a large, externally determined connectivity transition that is credible but undated. JR Central abandoned its 2027 Tokyo–Nagoya target in March 2024, raised the Shinagawa–Nagoya cost estimate to ¥11.0 trillion in October 2025, and said the opening date could not then

Table 2: Single-proxy success and hypothesised multidimensional divergence

Conventional "success"	Hypothesised divergence to investigate (domains)	Decision implication
More Tokyo commuting	↑ economic security (incomes); possible ↓ social connection (daytime community), ↓ health (care availability), ↓ civic engagement, ↓ psychological flourishing (youth attachment)	Support local work and participation, not only outward commuting
More Fuji visitors	↑ economic security (receipts); possible ↓ environmental quality, ↓ social connection (resident displacement), ↓ psychological flourishing (resentment)	Cap, time, redistribute and capture value locally
Higher station-area investment	↑ economic security (visible development); possible ↓ in several domains for peripheral municipalities, and pressure on everyday infrastructure, welfare and education budgets, a risk the city itself names	Design distributed access and benefit-sharing
Rising land values	↑ economic security (apparent); possible ↓ economic security (housing affordability for residents), ↓ psychological flourishing (rootedness)	Treat housing accessibility as a success condition

be projected (JR Central, 2025). The main blocker moved in 2026: Shizuoka's governor accepted construction of the prefecture's tunnel section in July, and the remaining permits were granted by September, but tunnelling there had not begun by October 2026 and no new opening date had been announced (Appendix **A**).

For a wellbeing paper, five facts are load-bearing: (1) the horizon is becoming more credible while remaining undated, which makes anticipation the live phenomenon (Section 6.3); (2) station-area planning is active now, years ahead of any opening; (3) the station's defining access infrastructure is car-oriented, with a smart interchange on the Chūō Expressway connected directly to the station and a park-and-ride, while a high-grade bus link to central Kōfu remains a proposal, which frames the central accessibility risk (Section 9.2); (4) the municipal choices are still partly open; and (5) anticipatory planning is documented, while whether anticipation has already changed household, employer and land-market behaviour locally is an open empirical question (P1). The detailed timeline is in Appendix A.

One structural fact underpins the rest of the paper: authority is divided. The station, used only by the maglev, stands in Ōtsu-machi on the southern edge of Kōfu, about 7 km south of JR Kōfu Station, with the works area extending into neighbouring Chūō City. It has no connection to conventional rail; the nearest station, Koikawa on the JR Minobu Line, is about 3 km away. The station-front area of about 24.5 ha is being developed by Yamanashi Prefecture, Kōfu City and private partners together (Kōfu City, 2025a). The prefecture leads the north side (the transport plaza, park-and-ride, main access road and, with NEXCO Central, the smart interchange) and coordinates construction. The city leads the south side, about 11.5 ha including a public–private zone of about 4 ha in which housing, research and office uses and green space are under consideration as options, and it coordinates the overall town-making (*machizukuri*) process. The questions of what kind of place this becomes therefore sit with the municipality and its partners, not with the railway. The headline 25-minute journey matters little on its own. The binding question is who can actually use the new connectivity, at what cost, with what reliability and for what purpose.

5. STAGE 1: FRAGILITY DIAGNOSIS

Yamanashi's fragility is a three-tier structure whose tiers couple and amplify, not a flat inventory of domains.

Chronic substrate (knowable). Sustained demographic decline and ageing. The prefecture counted 779,276 residents in the 2025 census, down 3.8% since 2020 and from a peak of 888,172 in 2000 (Yamanashi Prefecture, 2026a). The consequences include rising eldercare demand as the caregiving base thins, eroding rural medical access, transmission risk for heritage crafts, weakening *mimamori* (watching-over) networks, visible *akiya* (vacant houses), and the corrosion of future orientation that comes from living in a place narrated as shrinking. The prefecture's own population vision projects that in some areas even emergency hospitals and banks may become hard to sustain, alongside retail withdrawal, school consolidation and strain on care provision (Yamanashi Prefecture, 2025).

Acute perturbations (complex). The maglev, undated but increasingly credible, as a two-sided transition; and overtourism around Mount Fuji, concentrating environmental load, resident displacement and volatile receipts on one corridor.

Structural condition (standing context). The proximity paradox (close enough to Tokyo to be drained, not close enough to be part of the metropole) and the agency deficit (route, timing and station decided elsewhere)

constrain the prefecture's and municipalities' capacity to respond.

The coupling is the diagnosis, stated as hypotheses. The tiers above are documented; how they interact has not been measured, and the couplings that follow are hypotheses to investigate. A thinned, aged population has less buffer to absorb a straw effect. Overtourism loads the Fuji corridor while the basin empties, producing two Yamanashis that prefecture-level averages hide. The agency deficit prevents full local authorship of the response. The Southern Alps watershed carries the bottled-water economy, the tunnel dispute and an environmental concern at once. Each of these harms, if it occurs, is the kind that a single-proxy indicator can record as success, which is the case's main justification for a multidimensional compass.

6. THE CAUSAL MODEL: AMPLIFIER, CONVERSION ARCHITECTURES AND ANTICIPATION

6.1. The Maglev as Amplifier

Compressed travel time enlarges choice; how that choice is distributed is set by complementary local systems. The maglev is therefore neither automatically regenerative nor extractive but an amplifier, and the decisive variable is whether local actors build enough capacity to convert access into durable resident capability. Two pathways bound the space the system can move through: capability-expanding (local enterprise, hybrid work, distributed access, youth retention, local value capture) and extractive (commuter-bedroom dependence, external ownership, gateway concentration, land pressure, peripheral exclusion). The amplifier is not a switch. Conversion capacity is built through a portfolio of probes, and the two pathways describe a space, not a binary.

6.2. Five Conversion Architectures, Four Analytical Levels

The five architectures (mobility, land and housing, economic, social reproduction, agency) are mechanisms, and must be kept distinct from the normative conditions, observable proxies and interventions associated with them (Table **3**).

For example, mobility conversion is a mechanism; "residents can reach care without unreasonable car dependence" is a floor; travel time, fare, reliability and frequency are indicators; a feeder redesign is a probe. The mapping is not uniform. The first three architectures convert market access into local value and are comparatively well instrumented in administrative data. The last two concern non-market viability, with clear floors and probes but weak indicators, and live mainly in the resident-evidence and narrative layers. This asymmetry is the same fact as the data-availability problem (Section 11.3) and should govern which monitoring layer carries which floor. Compactly: external access × conversion architectures → capability expansion, hollowing-out or mixed outcomes. The maglev may improve market access while worsening daily capability. That is not a contradiction; it is the case.

Table 3: Four analytical levels

Analytical level	Role
Conversion architecture	The mechanism through which access becomes, or fails to become, capability
Capability floor	A normative condition below which success cannot be claimed
Indicator	An observable proxy used for monitoring
Probe	A reversible intervention testing a causal proposition

The architectures move the six domains; they are not the domains. This distinction keeps multidimensionality from collapsing back into a five-item checklist. Each architecture bears on specific domains, and one domain, environmental quality, is owned by none of them but cuts across all (the Southern Alps watershed, overtourism load, the station's land take, the green space under discussion on the south side, and the emissions consequences of the feeder choice), as Table **4** shows.

Table 4: Conversion architectures and the wellbeing domains they move

Conversion architecture	Wellbeing domains it primarily moves
Mobility	health (reach to care), social connection (reach to people), economic security (reach to work), civic engagement (reach to civic life)
Land and housing	economic security (affordability, cost burden), psychological flourishing (rootedness, home)
Economic	economic security (local enterprise, ownership, procurement, employment, fiscal capacity), civic engagement (institutional capacity)
Social reproduction	health (care, health access), social connection (intergenerational support), psychological flourishing (belonging, future orientation)
Agency	civic engagement (participation, influence), psychological flourishing (self-determination, dignity)
(cross-cutting)	**environmental quality:** borne by all five and by none alone

An intervention judged good on one architecture may therefore still fail the case if it depletes a domain another architecture is meant to protect. That is the hazard the non-compensatory rule (Section 10) is built to catch.

6.3. Anticipation as the First Causal Pathway

Because the date floats while credibility rises, the most important analytical object is the anticipation regime. A credible but undated railway can alter land, development, household, employer, transport and municipal decisions long before it opens. The documents establish the municipal and development part: planning is under way years ahead of service. Whether household, employer and land-market behaviour has already changed locally is not established here; it is what P1 tests. Elsewhere, transit access has been capitalised into property values before opening, at announcement and during construction (Agostini & Palmucci, 2008; Knaap *et al*., 2001; McMillen & McDonald, 2004), yet evaluations rarely observe the period before construction (Wang & Levinson, 2023). The risk is anticipatory lock-in: speculative land and station-area decisions becoming irreversible before the railway opens. The sequence in Yamanashi makes the danger concrete. The station broke ground in March 2026 and is scheduled for completion in 2031, while the systems that will decide whether it expands capability remain unsettled. The prefecture's public-transport reorganisation policy was still in draft in October 2026 (Yamanashi Prefecture, 2026b), and the city's basic plan is not due before FY2027 and is tied to the start of tunnelling in Shizuoka (Kōfu City, 2026c). The hard infrastructure is locking in years before the soft systems are designed.

The railway is irreversible; the more immediate risk lies in the accumulation of second-order irreversibilities around it.

The implication is active, not defensive. The same hardening of expectations that can entrench extraction can entrench capability-preserving arrangements if they are established first. To stay anti-fragile, the aim is not "good lock-in" but early option-preserving commitments: protections with explicit review clauses, such as affordable-housing requirements, public-access guarantees, benefit-sharing rules, protected feeder minimums and reassessable land-use constraints. A review clause is only as durable as the actor who holds the review power, so the durability of these commitments is itself an agency-conversion question (Section 7). The corollary for design is that every maglev-related intervention must deliver present-tense benefit, not merely prepare for a movable date. Kōfu already applies a parallel principle to hazard: its station-area plans call for phase-free (フェーズフリー) infrastructure that works in ordinary times and in disasters alike (Kōfu City, 2023, 2025a). Extending the same test from hazard to timing, so that assets pay off before opening as well as after, is a short step.

7. THEORY OF CHANGE: THE MUNICIPAL LEVERAGE MAP

This is the operational core. The lever runs from institute, to municipal planning, to wellbeing-informed decision criteria, to small policy experiments, to resident capability. The maglev's structure is fixed; its place-making is not. The leverage window is open now, in the formative stage in which the city is defining the area's character and the rules that will govern implementation, and it narrows gradually as land-use, infrastructure and delivery commitments harden, not at a single date. The city's sequence is iterative and explicitly contingent, with every step dated "or later". A basic policy (2023) and an infrastructure development policy (2025) are in place. A concept book is being drafted for completion by the end of FY2026, with a consultancy selected in July 2026, and partner solicitation follows it. The basic plan, urban-planning decision and project authorisation are scheduled for FY2027 or later, and the basic plan is not to start before tunnelling begins in Shizuoka. Base infrastructure completion was moved in March 2026 to FY2035 or later, and the city has said it will revise the schedule as the maglev's progress requires (Kōfu City, 2025a, 2026c, 2026d). The criteria by which these still-open decisions will be judged are being set now.

Within that window sit five municipal decision surfaces, ordered by the leverage a Kōfu-based institute could plausibly gain (Table **5**). Each is tagged with what AFWB feeds it.

Surfaces 1 to 3 harden over the same multi-year sequence rather than at a single date. Surface 2 is the one to win first, because a shared wellbeing-and-capability lens is what makes the others evaluable on capability rather than throughput. Two consequences follow for the framework. First, agency conversion stops being abstract: a working relationship between the Institute and the city would itself be an agency-conversion mechanism, supplying a local actor with analytic capacity to shape how external flows enter. Second, the participatory-review requirement of the

Table 5: Municipal decision surfaces and AFWB inputs

#	Decision surface	Authority window	Capability floor (domains)	Monitored signal	Probe	Leverage
1	Station-front machizukuri (c. 24.5 ha; city-led south side c. 11.5 ha, incl. a c. 4 ha public–private zone)	Kōfu City with prefecture and private partners · formative now, hardening over several years	Affordable housing (economic security), rootedness (psychological flourishing), green space (environmental quality): inhabitable, not only investable	Land transactions, building starts, ownership concentration (P1)	Affordable-housing and present-benefit requirements in the concept book; stay-and-work pilot	Highest: a live, city-convened decision
2	Co-develop a **Kōfu Wellbeing and Capability Check** for station-area and related decisions	Kōfu planning · concept book (FY2026) onward	Resident agency (civic engagement); the Check makes every option face all six domains	The whole monitoring system as early warning; whose imaginary dominates	Embed the Check, with non-compensatory floors and a present-benefit test, in the concept book and basic plan	High and force-multiplying: the keystone
3	Housing-affordability and land-use protections before pressure hardens	Kōfu and Chūō land use · hardens as commitments are made	Housing security for essential workers (economic security, psychological flourishing)	Rent burden, land price, speculative vacancy (P1)	Option-preserving commitments with review clauses	High but politically harder; most time-critical
4	Feeder transport and fare integration	Prefecture-led (reorganisation policy in draft, 2026), municipal delivery · longer window	Door-to-door access without unreasonable car dependence (health, social connection, civic engagement)	First- and last-mile time, cost and reliability by mobility status	The park-and-ride test and the feeder-access pilot (Section 9.2)	Medium-high: shape the criteria (who can use it), not the mode
5	Benefit-sharing from station node to basin	Inter-municipal and prefecture · design now	Distributional viability across all six domains (the two Yamanashis)	Local capture: procurement, ownership, fiscal	Land value capture and benefit-sharing instruments (OECD, 2022); local procurement pathways	Medium: inter-municipal, hardest to move

decision rule (Section 10) acquires a venue in the machizukuri process, through which the city is already running public dialogue and resident workshops and will run the concept-book and partner stages. The monitoring system (Section 11) thereby gains a real client, municipal planning, rather than an abstract policymaker.

A precise account of municipal power. Kōfu is not sole sovereign here. The station-front area is a collaboration among the prefecture, the city and private actors, and its south side includes an explicitly public–private zone. The city's basic-plan review committee, considering land use, disaster prevention, energy and landscape, includes the prefecture as a member and JR Central as an observer, and runs alongside resident and private-sector dialogue (Kōfu City, 2025b). The Institute's contribution would therefore be not to command the system but to help its key local actor articulate wellbeing conditions clearly enough that they travel through the wider arrangement. Kōfu is best described not as the body that will decide, but as a key convening, planning and rule-setting actor within a multi-level development arrangement.

7.1. The Keystone Made Usable: The Kōfu Wellbeing and Capability Check

Asking a city to "adopt a non-compensatory decision rule" from an outside paper is intellectually right but too abstract to land in one move. The keystone is therefore to co-develop with the city a short Wellbeing and Capability Check that every significant station-area or related option must answer:

1. **Which wellbeing domains does this improve, and which does it endanger?** (all six, named)

2. **Who benefits and who bears the risk**, by age, place, income and mobility status?

3. **Does it create capability now, or only promise benefits after an uncertain opening?**

4. **Does it preserve future options, or lock the city into car dependence, exclusion or speculative development?**

5. **What evidence would cause the city to modify or retire the approach?**

This translates the framework into something officials, planners and residents can use, and it maps one-to-one onto the design: Q1 to multidimensionality, Q2 to distribution, Q3 to present benefit, Q4 to option value and Q5 to corrigibility. One caution must be stated, or the Check degrades into a weighing exercise that can be "passed on balance": it must inherit the non-compensatory teeth of Section 10. A domain pushed below its floor (Q1) is not offset by gains elsewhere; it is a fail, not a low score. The Check is the delivery vehicle for the rule, not a softening of it. It also complements, rather than replaces, the felt-happiness measure proposed by the city's advisory council: that measure says how residents feel overall, while the Check asks which domains, places and groups a specific decision moves.

7.2. Two Live Laboratories

Treating the station as the first proving ground for a broader municipal wellbeing partnership, rather than the whole project, makes two laboratories available:

- **The station area**, where the city's wellbeing commitment first meets a concrete and partly irreversible set of decisions (land use, access, phase-free facilities). This is where the Check would face its first real test.

- **The Kōfu Machinaka Social Experiment 2026**, run from June 2026 to March 2027 by the Kōfu Machinaka Area Platform, with the city as secretariat and support from the Ministry of Land, Infrastructure, Transport and Tourism. It is running seven downtown public-space and activity projects with the stated aim that successful ones become permanent and everyday (常設化・日常化) rather than one-off (Kōfu Machinaka Area Platform, 2026), which is the retain-what-works logic of an anti-fragile probe portfolio. One project is testing a mode of travel described as more than walking but less than a car (徒歩以上・車未満); a shared e-bike and e-scooter pilot run with the prefecture began in October 2026. This speaks directly to the non-driver access problem (Section 9.2), and it is a laboratory the partnership could join without waiting for the maglev's timetable.

7.3. The Concrete Offer: A Kōfu Wellbeing and Capability Observatory

To make the university's role tangible, as a long-horizon sensing-and-learning partner rather than watchdog, consultant or detached observer, we propose a light, three-part partnership:

- **A baseline:** a six-domain wellbeing-and-capability map of the city, with deliberate attention to non-drivers, younger and older residents, care workers and areas distant from the station.

- **A decision check:** the Wellbeing and Capability Check (Section 7.1) applied to a small number of live choices, initially land use, access, public space and phase-free facilities, across both laboratories.

- **A resident sensing loop:** periodic structured conversations plus Japanese-language narrative monitoring (Section 11), feeding findings back into the city's dialogue, the basic-plan committee and planning processes.

A potential institutional home exists: the basic-plan committee and the parallel resident and private-sector dialogue would give an embedded wellbeing lens somewhere real to live, if the city chooses to use it.

The study becomes action research only when three conditions hold: the city agrees to apply the Check to at least one live decision; residents take part in setting the floors and thresholds; and the probe log (Section 12) is shared with the city and its review committee. Until then the design is a proposal.

What implementation would require. Moving from proposal to use needs four things, none of which is yet in place. Authority: the city would decide whether to apply the Check, the prefecture would decide feeder standards (Table **5**, surface 4), and private partners would have to accept any capture conditions in their contracts. Resources: a part-time research coordinator, Japanese-speaking coders for the gold standard, panel incentives and travel-time modelling for the Institute, and an operator and service budget from the city for the pilot in Table **8**; possible sources include competitive research grants and programmes such as the corridor plan, which funds secondary-transport analysis (Section 13). Responsibilities: the city and its partners own the decisions; the Institute runs baseline, monitoring and review and holds no decision power. Arrangements: a written agreement covering data sharing, reporting to the review committee and publication of the probe log. Transfer to other regions would carry the method (the Check, floors with review, the probe log and the antifragility test), not the content. The decision surfaces, floors and actors must be rebuilt for each place, and a region without Kōfu's division of authority, written wellbeing commitment or demographic profile should not assume the same leverage.

8. PROSPECTIVE PROPOSITIONS

The propositions below are claims to be tested, not findings. Each states an expected relationship, the conditions under which it should hold and a time horizon; Table **6** gives the measures, the comparison and the evidence that would count against each.

P1. Anticipatory land-value concentration (land and housing). From the 2026 groundbreaking until an opening date is announced, and in each year after, land prices and building starts near the station will rise faster than in districts of Kōfu and Chūō at a similar distance from central Kōfu, and the differential will be larger where road access to the planned interchange is better than where public-transport access is better.

P2. Accessibility divergence (mobility). Unless the prefecture's reorganisation policy sets access standards for non-drivers, (a) adopted station-area plans will commit car access (interchange, parking) in more detail and with firmer funding than feeder services, and (b) in the first three years after opening, modelled door-to-door journey times to the station will improve materially for car users but not for non-drivers from the same origins.

P3. Flow–capture divergence (economic). Where station-area contracts and partner agreements carry no local-procurement or local-ownership conditions, growth in station-area investment and visitor flows will be accompanied by proportionally slower growth in local capture (the Yamanashi-based share of contract value, locally owned enterprises in the station area and municipal revenue) over the development period and the first five years of operation. Where such conditions are adopted, the gap will be smaller.

P4. Narrative leading indicator (social reproduction, agency). Resident and peripheral-municipality discourse will register specific concerns (service access, housing cost, loss of agency) before the underlying conditions deteriorate, not merely before administrative statistics are published. The test therefore dates each narrative signal against the reference period of the administrative indicator, not its publication date. A second, separable claim is that official narratives will over-represent opportunity and revitalisation relative to resident discourse.

P5. Present-benefit legitimacy (cross-cutting). While the opening date is uncertain, residents will support maglev-linked interventions more when their benefit is available within a year (health access, local mobility, care, youth opportunity) than comparable interventions whose benefit depends on opening, holding cost and domain constant.

Confounding, sample sizes and causal claims. Each comparison is exposed to factors other than the railway: national transport and housing policy, prefectural reorganisation of bus services, population decline and ageing, interest rates and the wider economy, and tourism shocks. The design addresses them in three ways: matched comparison districts that share these exposures; comparison of trends from a pre-period baseline rather than of levels; and recording of known

Table 6: Propositions, measures and disconfirming evidence

Proposition	Measures	Comparison and horizon	Disconfirming evidence
P1 Land-value concentration	Land transaction prices, published land values and building starts by district (MLIT)	Station-area districts against matched Kōfu and Chūō districts; annual, from 2026	No differential, or a differential that tracks public-transport access rather than road access
P2 Accessibility divergence	(a) Plan content and committed budgets by access mode; (b) modelled door-to-door journey time, cost and reliability by mobility status	(a) Plans as adopted, 2026–2031; (b) car users against non-drivers from the same origins, first three years of operation	Plans commit feeder standards without being required to; non-driver journey times improve comparably to car users'
P3 Flow–capture divergence	Investment and visitor flows; Yamanashi-based share of contract value; local business formation and ownership in the station area; municipal revenue	Contracts with and without local conditions; development period and five years of operation	Local capture grows in proportion to flows without local conditions, or the gap is no smaller where conditions apply
P4 Narrative leading indicator	Dated narrative signals by domain; administrative indicators by reference period	Lead time against the reference period, with the false-alarm rate; quarterly	Narrative signals coincide with or lag the reference period, or lead only the publication date
P5 Present-benefit legitimacy	Stated support in paired vignettes or a choice experiment in the resident panel	Present-benefit against opening-dependent versions of the same intervention; before opening	No difference in support, or higher support for opening-dependent benefits

policy changes in the event ledger (Appendix A) so that they can be separated from maglev-linked events. Only P1 rests directly on prior evidence, the literature on the anticipatory capitalisation of transit (Section 6.3). The horizons, comparison groups, panel size and thresholds for P2 to P5 are provisional and will be fixed, with a pre-specified analysis plan, before data collection. The panel of 150 to 200 residents (Table **11**) is a feasibility and learning sample. It is sized to test the instruments and procedures, not to give representative estimates or to detect differences between subgroups, because cells by district and vulnerable group will be small. Except where a staggered or matched pilot supports attribution (Table **8**), the comparisons are observational and will be reported as associations, not causal effects.

9. STAGES 2 AND 3: LEGITIMACY HYPOTHESES AND SAFE-TO-FAIL PROBES

9.1. Cultural Levers as Legitimacy Hypotheses

National cultural scores cannot explain a prefecture or municipality, and treating Japan's high uncertainty avoidance as an observed local mechanism invites the standard critique that Hofstede's model overgeneralises (McSweeney, 2002). We retain the framework but recast it: Hofstede dimensions are design hypotheses about legitimacy, not descriptions of what residents inherently are, and each has a competing possibility. Does high uncertainty avoidance favour bounded, reversible pilots, or does uncertain timing erode trust in any "maglev preparation"? Does collectivist framing support local benefit, or silence peripheral and younger voices? Does formal authorisation produce ownership, or mere compliance? On the key tension, an undated horizon under high uncertainty avoidance, the likely answer is both: grand promises lose credibility, while small bounded interventions with visible present benefits gain it. The governing principle is that every maglev-related probe must have a present-tense justification and a future option value (Ahern, 2011; Guston, 2014). One structural consequence follows. Once cultural claims are hypotheses, Stage 2 cannot be completed before monitoring, because the cultural propositions are monitoring hypotheses, answerable only through the discourse instrument (Section 11). Stage 2 becomes hypothesis generation for Stage 4.

9.2. Probes, the Park-and-ride Paradox and an Illustrative Pilot

The maglev itself is not safe to fail; probes operate on its complementary systems and carry deliberately rival hypotheses. The station's design forces one to the front. A smart interchange plus park-and-ride may extend access, but it risks becoming a high-speed car funnel, intensifying access for drivers while deepening exclusion for non-drivers and thinning local public transport. The planning record points the same way. The city's infrastructure policy observes that private cars dominate local movement and calls for breaking excessive dependence on them (Kōfu City, 2025a); members of its planning committee have warned that weak secondary transport would waste the line's potential (Kōfu City, 2026c); and the prefecture's concrete public-transport proposal for the station is a shuttle to Koikawa station at about one bus an hour, matched to maglev stops (Yamanashi Prefecture, 2021).

Table 7: Rival hypotheses for the park-and-ride probe

Hypothesis	Prediction
Park-and-ride distributes capability	Residents from multiple municipalities reach the station affordably and reliably; feeder services improve; non-driver access rises
Park-and-ride concentrates capability	Benefits accrue mainly to car-owning households near trunk roads; feeder services thin; parking and road investment displace distributed mobility

The probe monitors the origin municipality and mobility status of users; first- and last-mile cost, time and reliability; feeder frequency; accessibility for older residents, students, care workers and non-drivers; and whether station access generates local spending or merely accelerates outward commuting. It does not monitor passenger volume as a success measure. Its concrete object is the prefecture's public-transport reorganisation policy, which positions the station as the hub of a new network and was due to be finalised in autumn 2026 (Yamanashi Prefecture, 2026b).

An illustrative worked example: feeder access. The park-and-ride test cannot run until the station opens, but its central question, whether new access reaches people without cars, can be tested now on an analogue. Table **8** specifies a reversible pilot of the kind the Check would govern. It is explicitly illustrative: the districts, numbers and thresholds are placeholders to be set with residents and the city, not recommendations.

The example delivers a present-tense benefit while preparing the future one, which is the test Section 6.3 sets for maglev-related interventions, and its retain, modify and stop outcomes are the convex exposure described in Section 2: each failure is capped, and each leaves a rule the city can use.

Table 8: Illustrative worked example: a non-driver feeder-access pilot

Element	Specification (illustrative)
Decision it informs	The access standards in the prefecture's public-transport reorganisation and the station-area plans (Table 5, surface 4)
Responsible actor	Kōfu City with a local operator, under the prefecture's reorganisation policy; the Institute runs baseline, monitoring and review
Intervention	A timed, fare-integrated demand-responsive feeder linking two outlying districts in the south of the city, between the centre and the future station, to the JR Kōfu station area and a hospital, bookable by telephone as well as by app
Affected groups	Non-driving residents aged 65 and over; people with disabilities; students and care workers without cars; users of any existing bus service whose resources could be reallocated
Baseline (measured before launch)	Share of non-driving residents in each district who can reach a hospital or clinic by public transport within the threshold below; existing bus frequency and fares; trips to care and services by mobility status
Protected floor and threshold	Floor: non-driving older residents keep at least their current access to care, and no existing service is withdrawn or thinned. Illustrative threshold: a reliable door-to-door journey to care of 45 minutes or less, available at least four times a day, for 90% of non-driving residents aged 65 and over in each district
Comparison and duration	Two matched districts without the service, or a staggered start; six months, with a three-month review
Retain	Non-driver trips to care and services rise relative to the comparison districts, the threshold is met and the floor holds
Modify	Use is concentrated among people who already drive or are under 65, or telephone bookings often fail: redesign booking, eligibility or timing and run a further three months
Stop	The floor is breached for any group, or the cost per additional non-driver trip exceeds a ceiling agreed before launch
What carries forward	Whatever the outcome, the eligibility rules, booking channels and service standards the station feeder will need, recorded in the probe log (Section 12)

10. SUCCESS CRITERIA AND THE DECISION RULE

The decision rule the Institute would seek to embed, operationalised as the Wellbeing and Capability Check (Section 7.1), has two separate tests. Improving all six domains and protecting a minimum floor in each are materially different requirements, and the rule asks for the second, not the first.

A qualifying gain. An intervention must deliver a defined improvement, stated in advance with its measure, in at least one domain for a named group.

Protected floors. It must not push any affected group below an agreed floor in any domain, and gains elsewhere cannot offset such a breach. An intervention that improves access to care while leaving environmental quality unchanged therefore passes; one that improves access to care while pushing renters below the housing floor does not.

Groups already below a floor. The rule tightens rather than lapses. An intervention affecting such a group must not worsen its position and is judged first by whether it moves the group toward the floor, and a group found below a floor creates an obligation to respond in the next cycle, whether or not a new intervention is proposed.

Options that pass both tests are then compared in order: (1) priority to groups below a floor; (2) the distribution of gains across place, generation and mobility status; (3) local capture; (4) option value. Aggregate gains matter only once the floors are protected. The Check is how the rule reaches a planner's desk; the rule is what stops the Check from becoming a checklist passed on balance.

There is precedent for the first half of this. The Australian Capital Territory government's wellbeing framework and impact-assessment tool show that wellbeing can work as an assessment discipline inside ordinary government decisions, applied before a choice is made rather than reported afterwards (OECD, 2025). That tool records impacts across domains; it does not impose floors. The non-compensatory rule proposed here is our extension and is untested in practice.

Floors also need protecting from quiet revision. Normative floors are negotiated minimum entitlements, for example "older residents retain meaningful access to care". Operational thresholds are the indicators, spatial grain and trigger values that make a floor measurable, for example whether "meaningful access" means a reliable 30-, 45- or 60-minute journey. Thresholds carry substance: moving from 30 to 60 minutes weakens protection even if it is described as a measurement change. Any threshold change that would loosen

protection therefore faces the same participatory review as a change to the floor itself. Only changes that tighten a threshold, or improve measurement without changing who is protected, may be made through ordinary monitoring review.

A floor cannot be tested until it is defined at a stated spatial and temporal grain (for example, access to care at the municipality-month level). Because of the agency deficit (Section 5), those who might wish to lower a floor are often not those who bear it, so the review procedure is itself an agency-conversion question. That is why participatory review through the machizukuri process (Section 7) is structural rather than a courtesy. The separation of transport resources from the conversion factors that determine reachable opportunities follows the capability approach to accessibility (Vecchio & Martens, 2021).

Setting, validating and integrating indicators. Each floor would be set in three steps: a provisional value taken from current service levels or an existing public standard; a resident workshop that confirms, tightens or replaces it; and publication with its rationale before monitoring begins. Revision then follows the review rule above, on published evidence and with a presumption against downward revision, and no domain's floor can be traded against another's. Each indicator would be reported with its source, reference period and spatial grain, and disaggregated by age, sex, disability, car access and district wherever cell sizes allow; where they do not, the indicator is flagged rather than imputed. Survey items for the resident panel would be tested for consistency across age groups and districts before results are compared between them. Subjective wellbeing, objective conditions and narrative signals are kept as separate evidence streams and are never averaged. Objective indicators and panel measures decide whether a floor holds; a narrative signal can trigger closer inquiry but cannot establish a breach on its own. Where the streams disagree, the disagreement is reported as a finding. The indicator set and the narrative codebook remain provisional until this work is done, and neither is presented here as an instrument ready for deployment.

11. STAGE 4: MONITORING

The monitoring system is built around the anticipation regime now, with Kōfu municipal planning as its intended client, and it treats online discourse as a sensor rather than a population proxy. It has three layers: administrative and service data; repeated resident evidence (small, consistent check-ins and sentinel-community interviews); and narrative sensing.

11.1. Reconciling Six Policy Domains with Nine Monitoring Dimensions

The decision framework reads wellbeing in the six AFWB domains (Section 2); the Institute's affect-and-network pipeline resolves discourse onto its nine-dimension taxonomy. The two must speak one language, or the instrument silently re-dimensions what the floors protect (Table **9**).

Table 9: AFWB policy domains and monitoring dimensions

AFWB policy domain (decision)	Nine-dimension monitoring resolution
Health	individual; community (care systems)
Psychological flourishing	individual; **cultural** (meaning, identity)
Social connection	social; community
Civic engagement	political; community
Economic security	economic
Environmental quality	environmental

Three of the nine dimensions are monitoring-only and have no dedicated policy floor, which is itself informative. Cultural is the most important. It is carried in its own right (heritage identity such as Takeda Shingen, Koshu wine and craft; the felt question of whether Yamanashi will still be Yamanashi) rather than folded into social, and it is the through-line shared with the digital-archives case in this series. Technology tracks the maglev, on-demand transport and the monitoring apparatus itself as objects of discourse; general carries aggregate baseline sentiment. Surfacing these three keeps the instrument from quietly narrowing the six-domain space it is meant to watch.

11.2. Why Narrative: Sociotechnical Imaginaries

The anticipated maglev is not only a transport service but a contested sociotechnical imaginary: a collectively articulated vision of how technology, territory, prosperity and social life should relate (Jasanoff & Kim, 2009). Yamanashi is imagined variously as Tokyo-linked and entrepreneurial, visitor-oriented, commuter-residential, environmentally constrained or locally regenerative. Narrative monitoring detects the competing future-models that already organise present land, mobility and institutional decisions. That makes the codebook necessary rather than ornamental, and connects it to the anticipation regime: imaginaries are how anticipation acts.

11.3. The Codebook and an Honest Data Spine

The first task is a Japanese anticipatory-narrative codebook. Each text is coded for actor, place, temporal orientation, locus of agency, frame, proposed mechanism and, last and separately from the factual claim, affect. The question becomes which groups are imagining which future, through which causal story, and where those stories bridge or collide. The network layer defines three graphs (issue co-occurrence; actor–frame; place–claim) so that betweenness centrality is interpretable. Affect is scored on Russell's (1980) valence–arousal circumplex. Both dimensions need Japanese validation, not polarity alone: a model can recover whether a text is positive or negative while misreading its arousal, and arousal is what separates alarm from resignation. The bridging step needs the same calibration, because Japanese discourse relies on indirection that English-tuned models misread, and lexicons such as SentiWordNet (Baccianella *et al*., 2010) cannot be assumed to transfer. A stratified gold-standard sample of about 800 to 1,200 double-coded texts, building on existing Japanese polarity resources (Suzuki *et al*., 2022), would validate the model before scaling. We anticipate that inter-coder reliability will be uneven and weakest on frame, the most decision-relevant dimension; until validation shows acceptable agreement (Section 11.4), frame codes should not be used even to prompt inquiry into a floor (Section 10).

The data spine must be honest about availability. Public sources supply some indicators immediately; others require new collection (Table **10**).

The prefecture's population vision already projects service fragility (Yamanashi Prefecture, 2025), giving Stage 1 an administrative baseline rather than only a narrative of decline. If the city adopts the felt-happiness measure its advisory council proposed (Kōfu City Comprehensive Plan Council, 2025), it will add a useful general-wellbeing series; the design above disaggregates it.

11.4. Implementation Specification for the Pilot Phase

Table **11** sets out what must be fixed before monitoring starts. Sample sizes and reliability thresholds are targets for the pilot phase, to be revised after the first validation round.

Recruitment, consent and resident roles (proposed). None of the resident work has begun. When it does, panel members and interviewees would be recruited through the channels in Table **11**, with quotas by district, age, car access and disability, so that older residents, non-drivers, people with disabilities and peripheral communities are represented in proportion to the decisions that affect them rather than to their online visibility. Each participant would receive a Japanese-language information sheet and give written informed consent, with the right to withdraw at any time and to have their data removed; telephone, paper and in-person options would be offered alongside online ones. Residents would take part in setting floors and thresholds through facilitated workshops in each district, starting from current service levels and existing public standards, and the resulting proposals would go to the participatory review described in Section 10. Ethical approval would be sought from the authors' institution before any recruitment.

Table 10: Monitoring layers and data availability

Layer	Example indicator	Availability
Land	Transaction price, assessed value, building starts	Public and immediate (MLIT Real Estate Information Library)
Housing security	Rent burden, short-term letting, ownership concentration	Requires acquisition or survey
Mobility (service)	Frequency, fare, scheduled travel time	Public (operator data, plans)
Mobility (actual access)	Reliable door-to-door journeys by mobility status	Fieldwork and travel-time modelling
Local capture	Local procurement, retained spending, ownership	Mixed; survey or agreement (partial via RESAS, e-Stat)
Social reproduction	Care burden, informal support, belonging, future orientation	Repeated resident evidence
Environmental quality	Green-space area and access, land take, traffic and air quality near the station and interchange	Prefectural air, water and noise monitoring is public; station-area green space, land take and traffic need a baseline survey
Narrative	Frames, actors, anticipated losses and gains	Original Japanese corpus and coding

Table 11: Monitoring implementation for the pilot phase

Element	Specification
Corpus sources	Japanese-language local and national news coverage of the station, the corridor and named districts; city and prefectural assembly minutes and public-comment records; public social-media posts and local forums; English-language sources as a comparator only
Sampling period	A retrospective baseline from the March 2024 date change to the start of monitoring, then continuous collection analysed quarterly
Resident evidence	A standing panel of about 150 to 200 residents stratified by district (station area, central Kōfu, outlying Kōfu, Chūō City, one peripheral municipality), age and car access, recruited through neighbourhood associations, the downtown area platform and care and student networks; sentinel-community interviews in two districts each quarter
Coding criteria	Written definitions and decision rules for the seven codebook dimensions (Section 11.3), piloted on about 200 texts before the gold standard is coded
Validation	A double-coded gold standard of 800 to 1,200 texts; agreement reported per dimension as Krippendorff's alpha, with 0.67 as the minimum for exploratory use and 0.80 before a code can be used to prompt inquiry into a floor (Krippendorff, 2004); a code never establishes a breach, which rests on objective and panel evidence (Section 10); the affect model's valence and arousal scores each compared with human ratings on held-out texts
Reporting	Quarterly narrative briefs to the city and the review committee; an annual six-domain report; immediate notice when a floor indicator crosses its trigger
Data protection	Public texts only, aggregate reporting and no individual profiles; ethics review before any resident recruitment

12. STAGE 5: THE ANTIFRAGILITY TEST AND THE SCALABILITY TENSION

Stage 5 is where the antifragility claim of Section 2 is either earned or dropped. Every probe is recorded in a probe log: the signal that prompted it, the floor and threshold it protected, the decision taken (retain, modify or stop), its cost against the cap set in advance, and what was carried forward. Three measures computed from the log distinguish antifragile learning from adaptation:

- **Detection lag:** the time from the first resident or narrative signal of an exclusion to a recorded municipal response falls across cycles.
- **Detection reach:** the number of distinct affected groups identified before a formal complaint rises across cycles.
- **Floor attainment at bounded cost:** the share of each probed group meeting its floor rises, while every failed probe stays within its cap.

If these measures do not improve over successive cycles, the design is adaptive governance rather than antifragile, and the paper's stronger claim fails. Refinement, replication and retirement must also respect a scalability tension: probes work because they are decentralised, reversible and locally framed, but prefecture-wide or national replication risks reintroducing rigidity. Operational thresholds (Section 10) are revisited here as evidence accumulates, under the review rule, and cultural hypotheses (Section 9.1) are updated against discourse evidence (Section 11). Modularity, open feedback and participatory evaluation are design constraints, not aspirations.

13. COMPARATIVE-LEARNING DESIGN AND EMPIRICAL PRIORS

The four-prefecture corridor is best treated as an external learning network, not a causal-inference engine. It is not a natural experiment: the prefectures were not randomly assigned stations and differ greatly, and the paper does not rest its claims on cross-corridor identification. Its value is comparative and practical. Yamanashi, Kanagawa, Nagano and Gifu are pursuing different conversion strategies under a shared anticipation, and their joint Japan Central Corridor regional revitalisation plan, certified by the Cabinet Office in March 2026 for five years, funds secondary-transport analysis and new models of living and working (Yamanashi Prefecture, 2026c). It offers resources, comparison cases and a forum for shared learning, not a counterfactual the design needs. The causal weight of the paper sits where effects are observable and actionable: within Yamanashi, with municipalities including Kōfu and Chūō classified by door-to-door access, service fragility, car dependence, age and housing pressure, and compared with matched non-corridor municipalities. With no single treatment date, the baseline is built around the expectation-shock ledger in Appendix A, since anticipatory effects precede operations (Section 6.3).

Empirical priors should not rest on one study. Yoo *et al*. (2023), using market access with instrumental-variable identification on Shinkansen expansion from 1983 to

2020, find benefits concentrated in Tokyo and other developed areas, with growth elsewhere negative or statistically insignificant; their simulations of the maglev show growth alongside aggravated regional disparity. Their nationwide elasticities with respect to market access are about an order of magnitude larger for aggregate income (0.425) and land price (0.176) than for income per capita (0.023): a divergence in economic responses that is suggestive for this case but is not itself evidence about wellbeing. Against this, Wetwitoo and Kato (2019), using difference-in-differences and propensity-score matching, find on average no direct effect of proximity to high-speed rail on regional or local production or productivity in Japan, with the range of local effects on tax revenue varying between 10 and 30 km according to local characteristics. Read together, the Japanese evidence shows heterogeneous, context-dependent outcomes, with benefits tending to concentrate in already-developed areas: a warning, not a prophecy. The relevant unit is therefore not whether Yamanashi has a station but differentiated local accessibility and institutional context, which is what municipal place-making (Section 7) determines.

14. IMPLICATIONS FOR LOCAL ENTERPRISE AND PUBLIC–PRIVATE DEVELOPMENT

For business and management research the case is a study in who captures value from public infrastructure. The station-front area is a public–private development arrangement: land is being assembled by the prefecture and the city, the south side includes a public–private zone, and partner solicitation follows the concept book (Section 7). The capture questions are therefore being settled in documents that are still being written.

Three implications follow. First, partner selection and procurement are where capture is decided. The Check's capture criterion translates into solicitation terms: reporting of the Yamanashi-based share of contract value, local hiring and training commitments, options for local ownership or co-ownership in the public–private zone, and the land value capture and benefit-sharing instruments reviewed by the OECD (2022). These are proposals; whether they raise local capture is what P3 tests. Second, local enterprise is itself a conversion mechanism. The economic architecture (Section 6) turns access into capability only if local firms can supply what the station area will demand, which makes a present-tense pipeline (premises, contracts sized for local firms, the stay-and-work pilot) part of the access question rather than a separate economic-development policy. Third, for firms the anticipation regime is a strategic environment in which the railway is credible but undated. Option-preserving commitments with review clauses reduce the advantage of early speculative positions and give local firms time to build capacity.

The early record shows why capture needs monitoring rather than assumption. The station's construction contract went to a joint venture that includes a Kōfu-based contractor alongside national firms, while the concept book was awarded to the Tokyo office of a national design firm (Appendix A). Single contracts are not evidence for or against P3, but they are the kind of observation the monitoring would accumulate.

15. LIMITATIONS AND ETHICS

The design's strengths and risks share a root: it is embedded. Insider access is the source of potential leverage (Section 2), but it carries six limitations. (i) Insider over-confidence pulls toward reading a complex situation as plannable; the complexity framing is the discipline against it. (ii) The cultural analysis rests on national dimensions of contested municipal applicability (McSweeney, 2002), mitigated but not removed by recasting them as hypotheses. (iii) The counterfactual is partly unobservable, since Yamanashi runs one world, so claims are comparative learning rather than identified effects. (iv) The narrative instrument's reliability is uneven and weakest where it is most decision-relevant. (v) The propositions are prospective and untested by design. (vi) The study is documentary: it has not yet engaged residents, so the problem framing, floors and thresholds are the authors' proposals and remain to be negotiated.

Two ethical points are specific to embeddedness. An institute that helps shape which imaginary prevails is itself an actor in a contested political process, which obliges transparency about whose capabilities the floors protect and a genuine, not procedural, participatory review. And the Institute's current contacts with the city are informal (Section 2); presenting the leverage pathway as achieved influence would misrepresent the design.

Data protection and representation. Narrative monitoring would use public texts only, collect nothing from private accounts or closed groups, keep no user identifiers beyond what is needed to remove duplicates, and report only aggregates; quoted texts would be paraphrased so that their authors cannot be traced. Panel and interview data would be pseudonymised, held on university systems and handled under Japan's Act on the Protection of Personal Information. Two risks are specific to the instrument. Online discourse over-

represents younger and digitally active residents and under-represents the groups the floors most need to protect, so narrative signals are never read as population measures, and the panel, interviews and offline channels carry the voices of older residents, people with disabilities, non-drivers and peripheral communities. Automated classification of Japanese text can misread indirection, dialect and irony, so every automated code is checked against the human-coded gold standard (Table **11**), and a sample of machine-coded texts is reviewed each quarter by native-speaking coders.

Limits of the policy implications. Because nothing here has been field-tested, the policy implications are conditional: they say what the city could try and how it would know whether it worked, not what will happen if it does. The expected benefits of the Check, the observatory and the pilot are hypotheses (Table **1**), and the design could fail in practice for reasons the paper cannot rule out, above all because authority over the station area is shared. The prefecture controls feeder standards and the north side, private partners will control much of the south-side zone, and JR Central controls the railway, so a city that adopts the Check may still be unable to apply it to decisions it does not make. In that case the Check would serve as a shared assessment language for the review committee rather than a binding rule, a weaker outcome that would be reported as such.

16. CONCLUSION

The maglev invites a simple question, revival or decline, and the invitation is the trap: the question cannot be answered in advance and is not one a local institute can act on. The maglev is not the intervention; it is the condition under which the region must decide what kind of place it wishes to remain and become, and the intervention is a wellbeing-informed municipal learning process. With Kōfu as the unit of action and Yamanashi as the unit of analysis, the problem is capability conversion: whether intensified external connectivity becomes resident capability, retained value and distributed agency, or merely throughput. The line is irreversible and its consequences complex, which licenses an anti-fragile method and makes multidimensional wellbeing the necessary compass. The maglev is an amplifier whose outcome turns on five local conversion architectures that move the six wellbeing domains, and its first causal pathway is anticipation, which makes present-tense benefit and option-preserving commitments urgent now.

The lever is municipal policy, and the window is open in the formative stage and narrowing as commitments harden. The keystone is not to import a rule but to help the city operationalise the wellbeing commitment already written into its own plans, through a Wellbeing and Capability Check with non-compensatory teeth and a light observatory, tested first on the station area and on the downtown experiments already running. The risk the framework is built to detect is specific: that the region rises on a single proxy, more connected, more visited and richer in aggregate, while falling across the domains that proxy cannot see (thinner care access, hollowed social connection, weaker agency, housing that prices out residents, a degraded environment), and that single-proxy indicators would record this decline as success. Kōfu's own strategy already names part of this risk; what the paper adds is a way to make that concern operational, through floors, a decision check, an illustrative pilot and feedback, while the decisions are still open. Whether the design works is itself one of the claims still to be tested.

AUTHOR CONTRIBUTIONS

Conceptualization, J.R. and C.D.B.; methodology, J.R.; investigation, J.R.; writing - original draft preparation, J.R.; writing - review and editing, J.R. and C.D.B. All authors have read and agreed to the published version of the manuscript.

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Not applicable. The resident evidence and fieldwork proposed in Sections 7, 9.2 and 11 will require institutional ethical review before any data are collected.

INFORMED CONSENT STATEMENT

Not applicable.

DATA AVAILABILITY STATEMENT

No new data were created or analyzed in this study. Data sharing is not applicable to this article. All documentary sources are publicly available at the addresses given in the References and Appendix A.

USE OF GENERATIVE AI

During the preparation of this manuscript, the authors used Claude (Anthropic) to help locate, read and translate Japanese-language sources and to assist with drafting and editing. The authors reviewed and edited all output and take full responsibility for the content.

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CONFLICTS OF INTEREST

J.R. directs the AI+Wellbeing Institute, which proposes the partnership described in Section 7. The authors declare no other conflicts of interest.

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APPENDIX A. EXPECTATION-SHOCK EVENT LEDGER

The monitoring baseline is anchored not to opening day but to the dated sequence of expectation shocks already moving land, mobility and institutional decisions. Table **A1** sets them out in four phases, current to 22 October 2026, with the source for each; full references are in the reference list.

Table A1: Expectation-shock event ledger

Date	Event	Expectation effect	Source
Route commitment and dispute, 2011–2020			
26–27 May 2011	Development plan decided; MLIT instructs JR Central to construct	Establishes route credibility	MLIT (n.d.)
Dec 2014	Tokyo–Nagoya construction begins	Converts plan to commitment	Kimura (2014)
Oct 2018	JR Central commits in principle to returning all tunnel spring water in Shizuoka to the Ōi River	Reframes the Shizuoka dispute	Shizuoka Prefecture (n.d.)
Jun–Jul 2020	Shizuoka withholds permission for preparatory tunnel works	Open-ended delay	Shizuoka Prefecture (n.d.)
Delay and municipal planning, 2023–2025			
Nov 2023	Kōfu adopts its station-front basic policy, including the wellbeing commitment	Municipal vision set	Kōfu City (2023)
Mar 2024	2027 target abandoned; opening "2034 or later"	Horizon shifts from datable to undated	Edakubo (2024)
Feb 2025	Kōfu station-front infrastructure development policy	Spatial framework set; schedule dated "or later"	Kōfu City (2025a)
Sep 2025	Yamanashi station construction contract (Meikō, Tekken and Hayano-gumi joint venture), to December 2031	Localises commitment	Norimono News (2025)
29 Oct 2025	Shinagawa–Nagoya cost raised to ¥11.0 trillion; opening "cannot currently be projected"	Signals scale and financial strain	JR Central (2025)
17 Dec 2025	Kōfu assembly adopts the basic concept of the Seventh Comprehensive Plan, with wellbeing as a guiding principle	Wellbeing enters the city's top-level plan	Kōfu City Assembly (2025)
Unblocking and active planning, 2026			
24 Jan 2026	Ōi River compensation confirmation signed by Shizuoka and JR Central, MLIT as witness	Reduces the central blocker's uncertainty	Kyodo News (2026a)
28 Jan and 31 Mar 2026	Four prefectures apply for, then receive Cabinet Office certification of, the Japan Central Corridor plan (to March 2031)	Activates corridor-level capture policy	Yamanashi Prefecture (2026c)
11 Mar 2026	Yamanashi station groundbreaking, the last of six stations; completion 2031	Localises credibility at the station site	Kyodo News (2026b)
26 Mar 2026	Shizuoka's 28-item environmental dialogue concluded	Further reduces the blocker	Shizuoka Prefecture (2026a)
Mar 2026	Kōfu adopts its maglev-era strategy, naming *kōfuku* as its standard and warning of over-investment and straw effects	Wellbeing standard and risks stated by the city	Kōfu City (2026b)

Mar 2026	Kōfu revises its schedule: base infrastructure FY2035 or later; basic plan to follow the start of Shizuoka tunnelling	Municipal timeline explicitly tied to the railway	Kōfu City (2026c)
Jun 2026–Mar 2027	Kōfu Machinaka Social Experiment 2026: seven downtown projects aiming at permanence; mobility pilot from 20 October	A live, non-station laboratory (Section 7.2)	Kōfu Machinaka Area Platform (2026)
22 Jun 2026	Prefecture releases public-transport reorganisation policy materials, with the station as network hub	Feeder criteria open for shaping	Yamanashi Prefecture (2026b)
7 and 18 Jul 2026	Shizuoka governor accepts construction; conservation agreement and regional-promotion agreement signed	Main blocker removed in principle	Jiji Press (2026); Shizuoka Prefecture (2026b)
21 Jul 2026	Kōfu selects Nikken Sekkei to draft the station-front concept book, due by March 2027	Opens the leverage window (Section 7)	Kōfu City (2026d)
24 Jul 2026	JR Central says a new opening date will be given within 2026	Potential shift from undated to dated	Shizuoka Asahi Television (2026a)
7 Aug and 7 Sep 2026	River Act and embankment permits granted, completing the Shizuoka permits	Removes the last formal barrier	Shizuoka Asahi Television (2026b, 2026c)
Oct 2026	Shizuoka tunnelling not yet started; no opening date; prefecture transport policy not yet final	Anticipation without a date	Kobayashi (2026)
Scheduled			
2031	Station building complete	Tangible anticipatory artefact, years before service	Kyodo News (2026b)
FY2035 or later	Station-front base infrastructure complete	Municipal build downstream of zoning	Kōfu City (2026c)

MLIT: Ministry of Land, Infrastructure, Transport and Tourism. Dates are those of the event, not of the source.

Each entry is a candidate treatment point for the comparative-learning design (Section 13) and a prompt for the narrative monitor (Section 11).

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