

Permissioning the City

from Static Forms to Conditional Agreements

What we've learned building a civic platform for shared urban space

Dark Matter Labs

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Problem

Cities operate in real-time. Permission systems do not.

Current systems are too rigid, binary, and slow to support timely use of underused urban assets. Non-standard, low- to medium-risk civic uses fall outside standard permit categories and face delay, rejection, or inconsistent handling. The core failure is not lack of demand — it is the lack of an operational workflow to assess context, route requests, and generate conditional approvals.

- **Rigid categories** — new civic uses treated as exceptions
- **Unequal access** — only actors with admin capacity get through
- **Slow coordination** — fragmented departments, no shared workflow

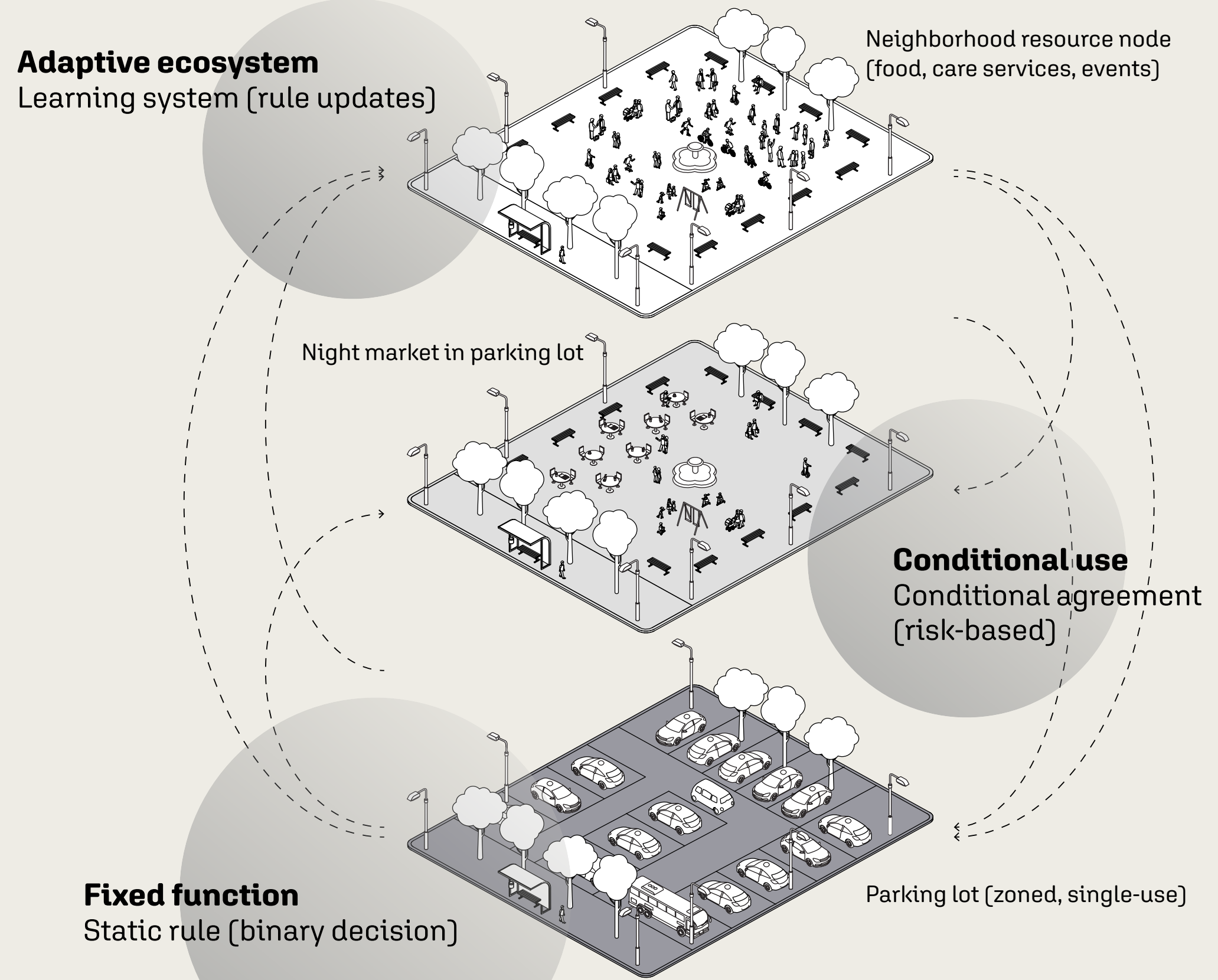


Solution

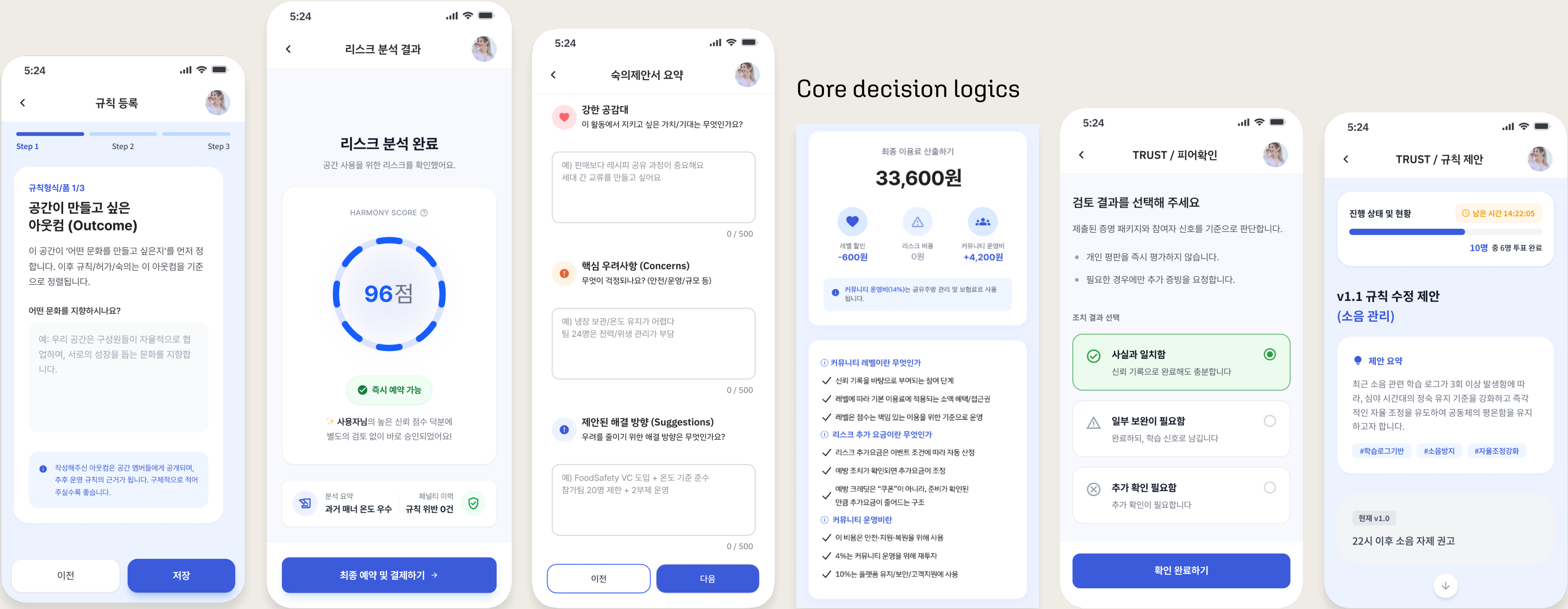
What if rules could be made together and updated as we learn?

Binary yes/no licensing creates a capacity squeeze: operational pressure rises while the system stays rigid. The result is paralysis, informal workarounds, or blanket bans. City life is layered and time-based; permissioning remains static.

- **Fixed function** > static rule, binary decision
- **Conditional use** > risk-based agreement
- **Adaptive ecosystem** > learning system, rules update over time



Solution: Platform UI



Registry: assets, actors, rules

Intake & Risk routing
: classify and route requests

Deliberation
: structured negotiation (ECS)

Agreement: conditions, commitments, payments

Proof: verification and audit

Learning: rule updates and precedent logs

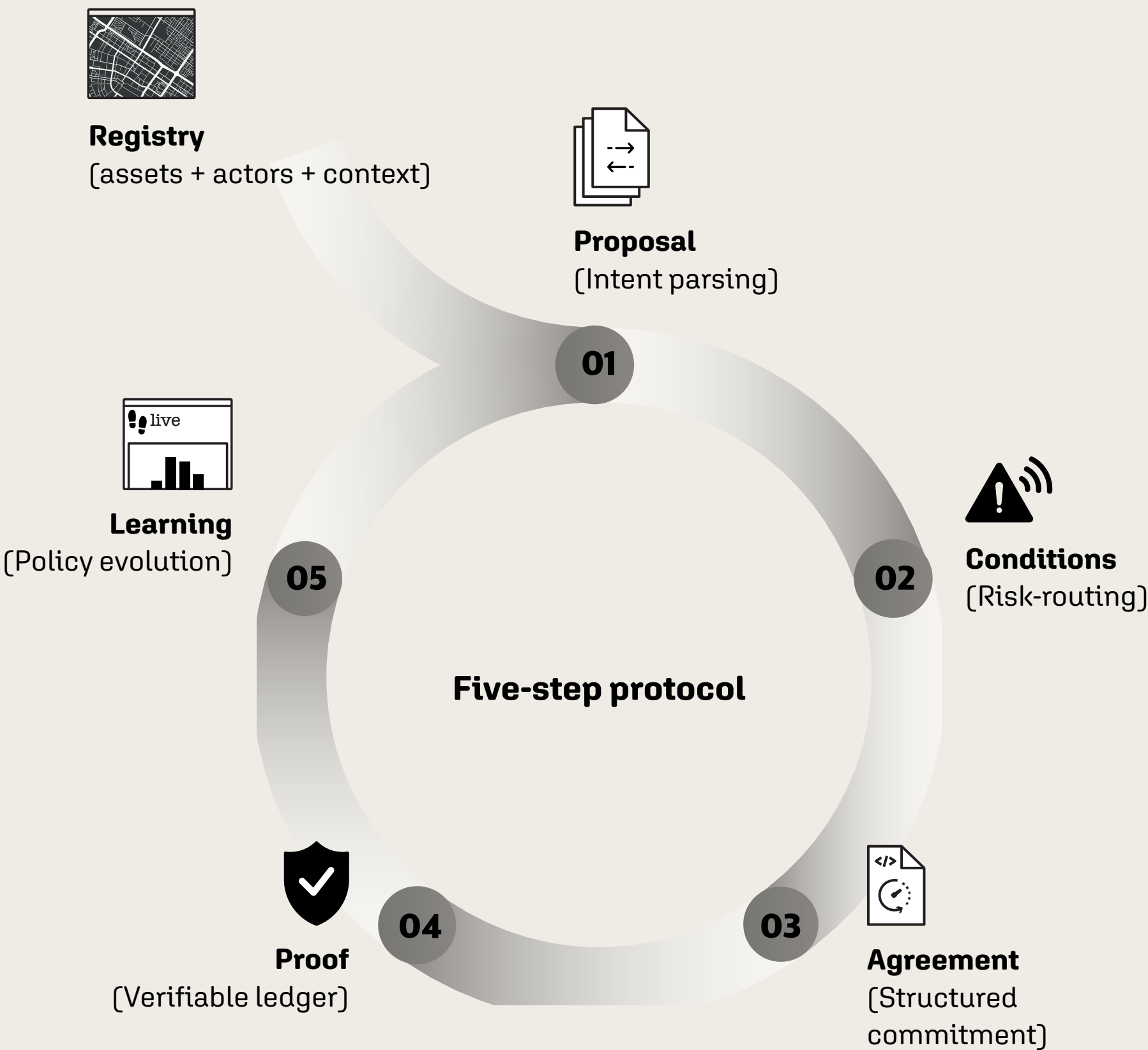


Solution: Platform

From request to conditional agreement

Every request is processed as a structured case through five steps.

- **Proposal** – natural-language intent becomes a structured case
- **Conditions** – rules, context and level of risks route the case: auto / conditional / deliberative
- **Agreement** – conditions for use defined through structured negotiation
- **Proof** – agreement recorded as a verifiable, auditable commitment
- **Learning** – real-world outcomes update rules and workflows



Current status: Live pilots, May–Oct

Currently: live pilots across three cities*

40 Pilot sites in Incheon (3M), Yongin (1.1M) , Jeollanam-do (1.85M)

- ~80% **government-owned**: public halls, technoparks, community centres, public parking lots, civic buildings with idle hours
- **Community-run facilities**: neighbourhood kitchens, cooperative spaces, local cultural venues. Want to share but can't justify commissioning a bespoke booking system
- **Private spaces with civic intent**: ESG-committed organisations, small businesses with spare capacity. Willing to open up but need a trusted, low-friction structure to do so

20+ **Place-makers**: local champions in real neighbourhoods

6+ **tech and research partners**: providing modular solutions across LLMs, DID, payments, UI/UX, and data

*Grants from Korea Ministry of Science and ICT and NIPA



Current status: Beta1.0 in the field

Early signals/evidence from field testing

Community testing in Baedari, Incheon — **with place-makers and the municipalities as space providers** — to learn how communities actually negotiate conditions and take on accountability for spaces they share.

What the pilot is testing:

Indoor space Eg. Meeting rooms	Outdoor space Eg. Parks/Parklets	Public/Private Eg. Rooftops
Quiet planning meeting → After-work jam session	Yoga class → Aerobics with music	Plant care class → Film screening at night
Noise, numbering, time, access conditions	Numbers, timing, community complaints	Access, safety, liability, most complex negotiations



Few weeks of real-time, scenario-based testing across three spatial typologies. Not only service usability and efficiency, but something more fundamental: **whether communities can actually negotiate conditions and take on accountability for shared spaces.**

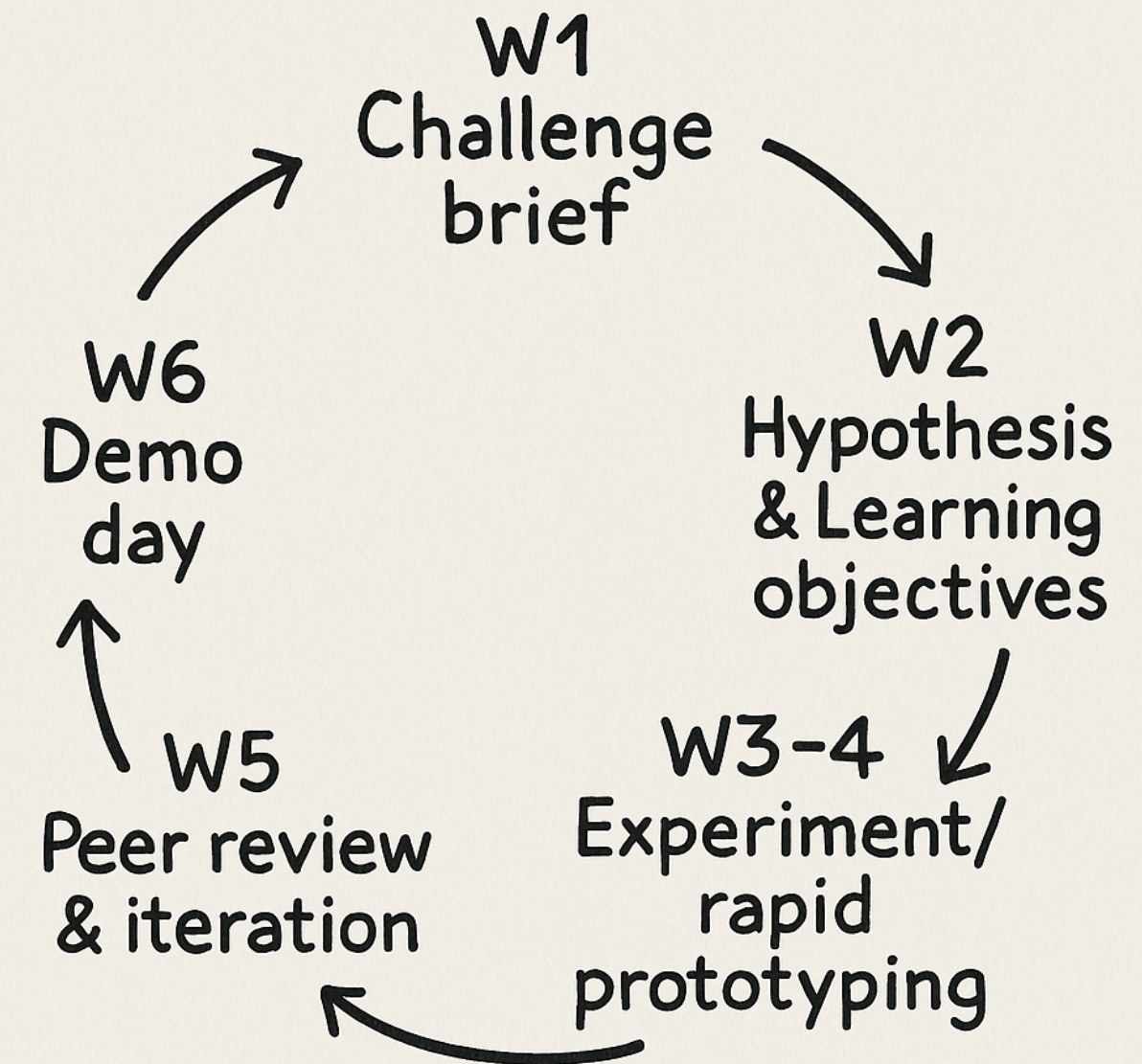
- **Same space, more uses**
A rooftop locked to 'quiet daytime only' hosted a night film screening — once the community set the conditions.
- **Risk negotiated, not avoided**
Noise, timing and access conflicts were resolved by the people closest to the space, not rejected from a distance.
- **Community as accountability**
Peer confirmation replaced the compliance officer. Trust backed by data, not assumption.
- **Rules that learn**
Each resolved case updated the shared rule template. The next request starts better than the last.

Learning 01: Why demonstrations matter

01. Start with micro demonstrations, not systems.

The biggest risk was not technical failure. It was introducing a new governance model before people understood it.

Tangible demonstrations allowed cities, partners, and communities to experience new workflows, build shared language, and evaluate new forms of permissioning before wider adoption.



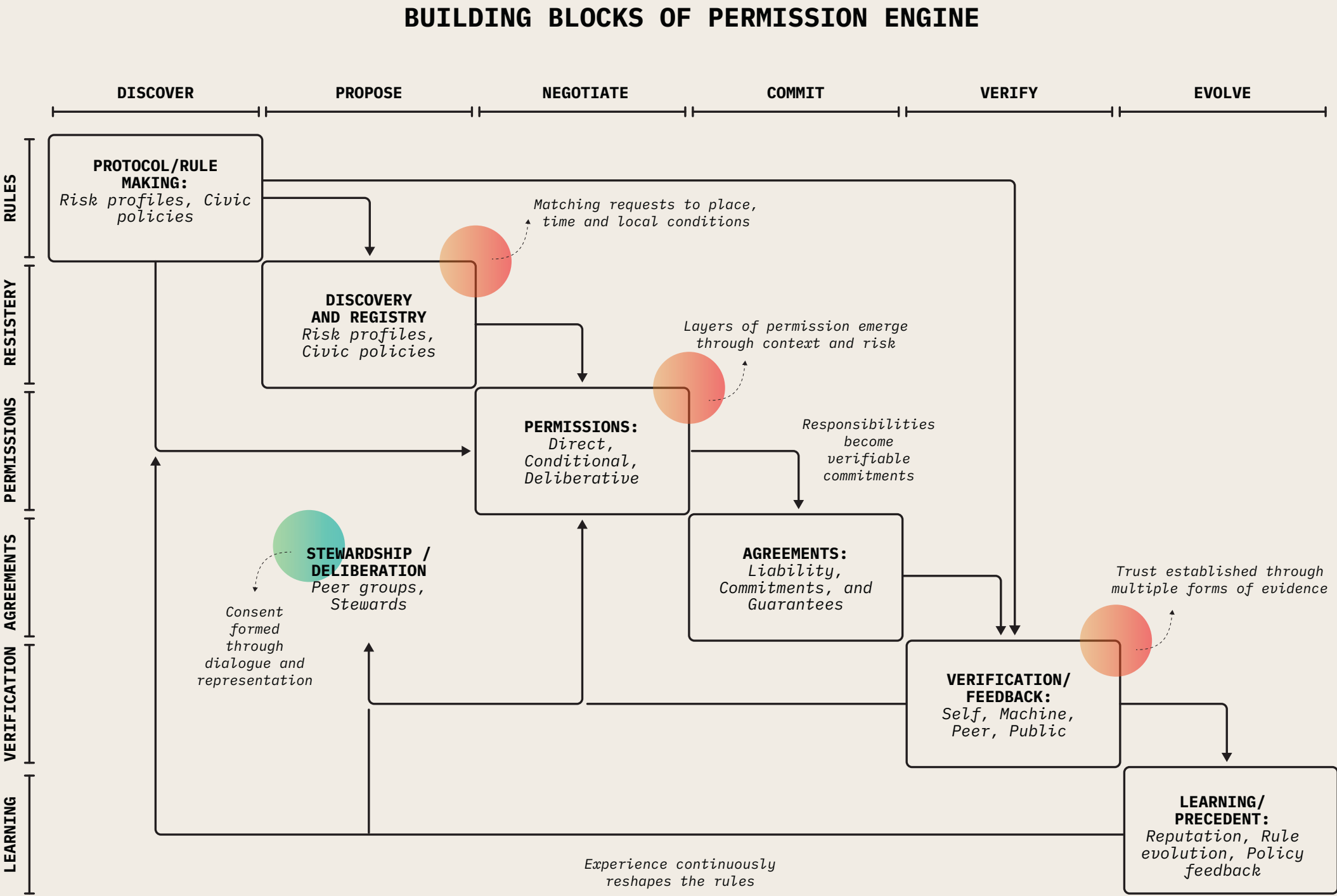
Small loops → evidence → legitimacy → adoption

Learning 01: Breaking down the system

Test the building blocks before building the system.

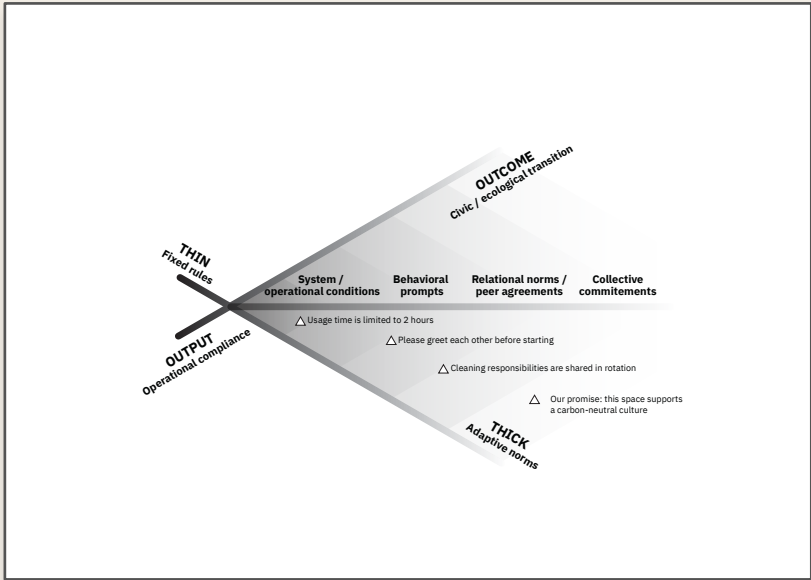
The initial concept combined multiple systems: registration, rules, permissions, deliberation, trust, verification, and service delivery.

Rather than building the entire permissioning engine at once, we isolated individual components and tested them independently.



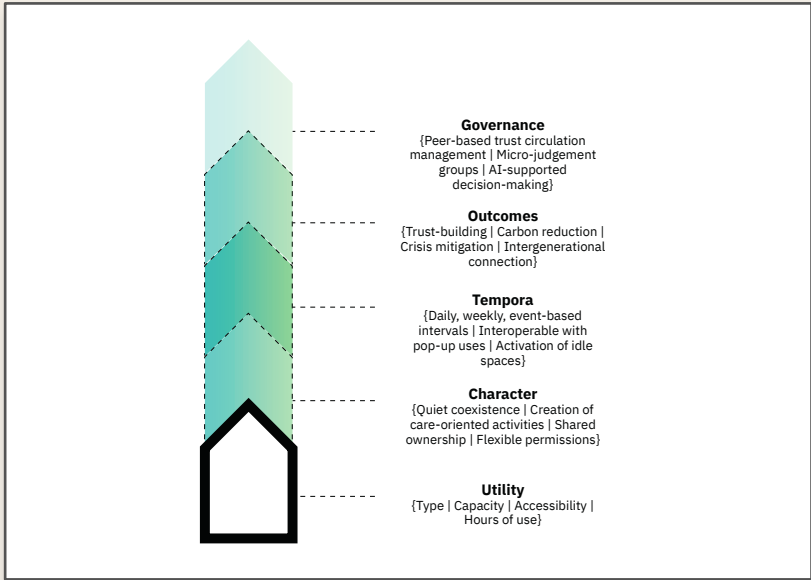
Learning 01: What we tested

Example of how we developed the direct approval pathway during the six weeks



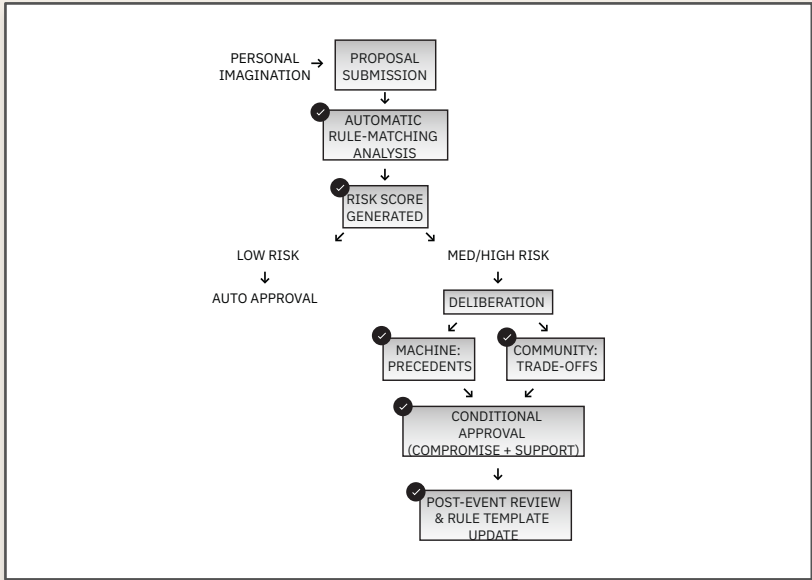
Rule spectrum

How can thin operational rules and thicker contextual rules work together in a permissioning process?



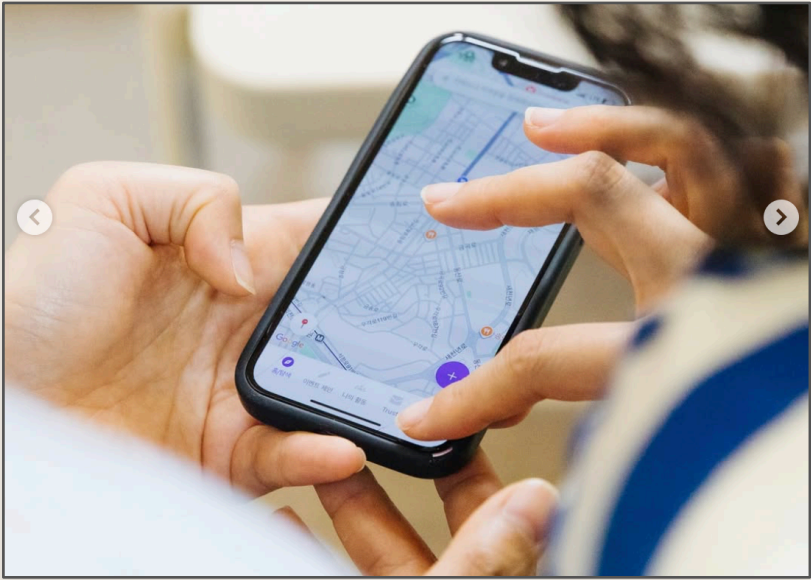
Space registry

What information is needed to make spaces visible, searchable, and usable?



Decision pathways

How should requests move between direct, conditional, and deliberative approval pathways?



Demonstrating functionality

Can new workflows be understood, trusted, and integrated into existing practice?

Micro demonstrations reduce uncertainty. Stakeholders can engage with one change at a time, building confidence, shared language, and legitimacy

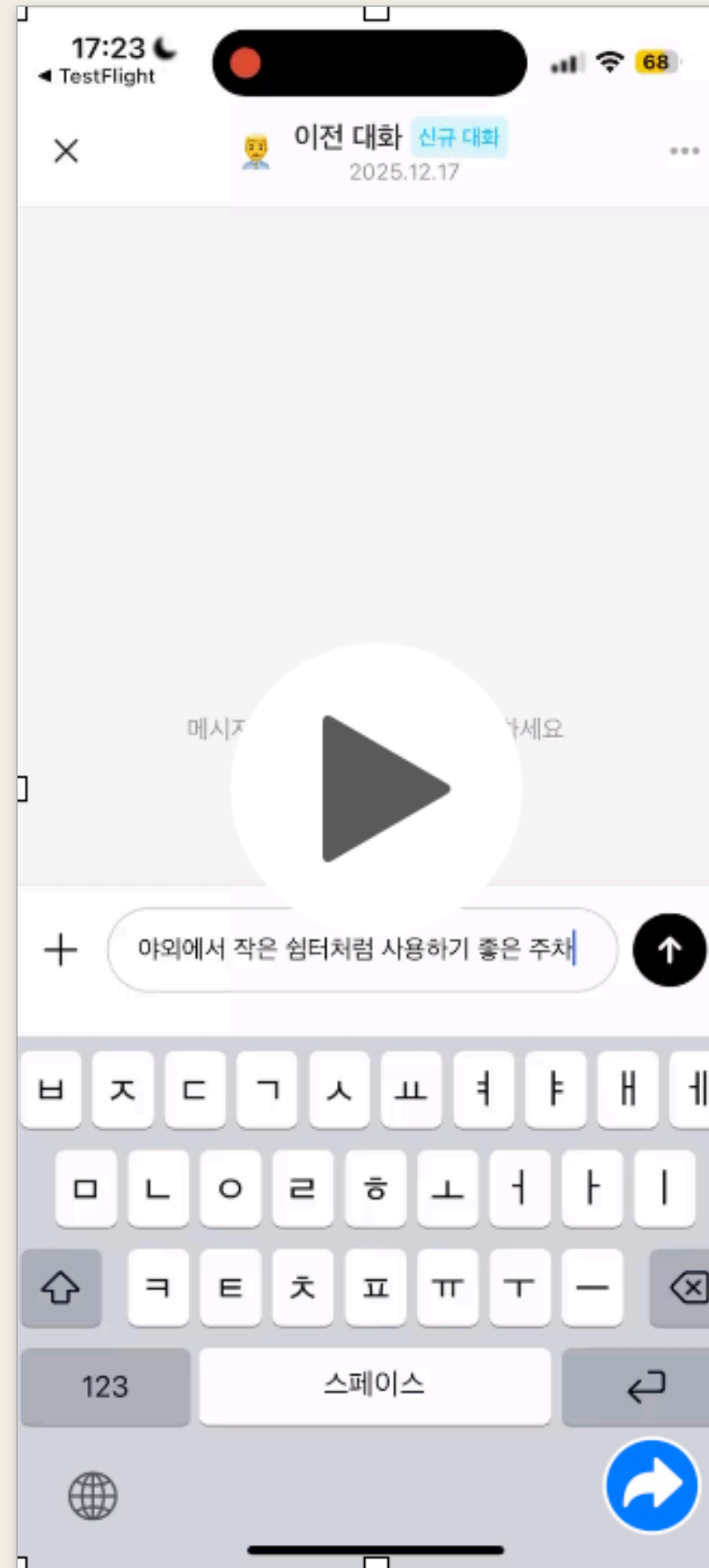
Learning 01: Concrete example

Demonstrating functionality builds legitimacy.

The prototype was not testing software/interface alone. It helped cities, partners, and communities experience a new service workflow before committing to it.

The demonstration made a future permissioning process visible, understandable, and discussable.

People were testing a future workflow, not a future interface.



The parking space example [low-risk approval]

A resident proposes temporary use of an underused parking space for a weekend community event.

An AI agent helps interpret the proposal, check the rules, assess risk, and suggest a pathway.

[URL link \[click\]](#)

Learning 02: Organise around outcomes and learning

02. Innovation requires orchestration, not only coordination.

The challenge was not only building the technology. It was orchestrating over 15 stakeholders across governance, research, design, engineering, policy, and implementation. As more partners joined, coordination itself became a risk: too many meetings, updates, and managed deliverables.

Traditional project management kept tasks moving, but orchestration was needed to keep partners learning toward shared outcomes.

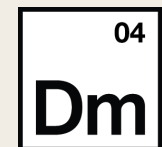


Learning 02: What changed

Organise partners around shared civic outcomes.

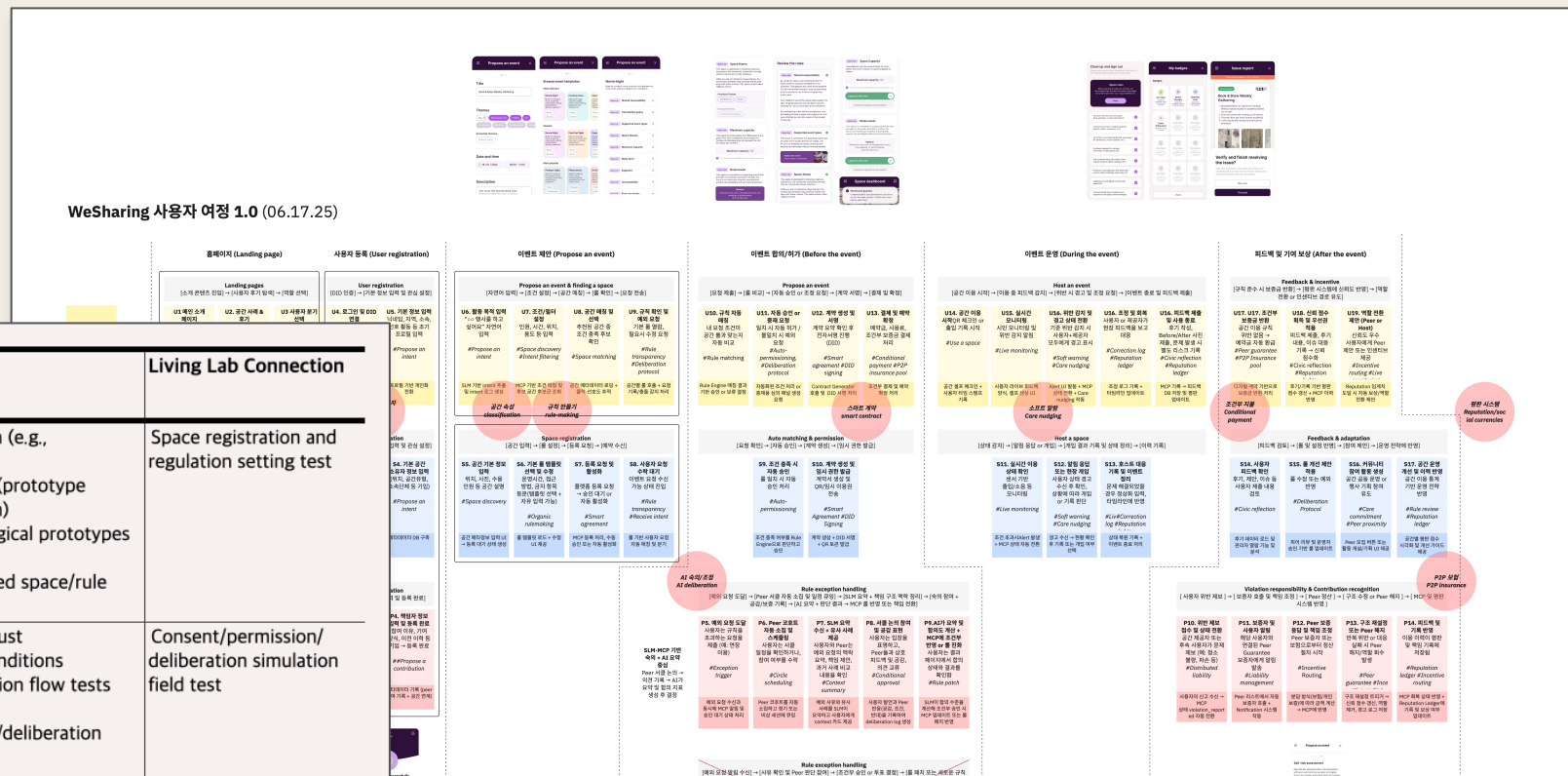
Instead of assigning isolated feature lists to partners, we organised development around shared learning/civic outcomes. Each sprint tested a different shift in how cities discover, govern, trust, and care for shared assets.

Shared outcomes helped multiple organisations align around a common direction. They helped partners see how their own work connected to the wider system. This moved the project from feature delivery to shared learning.



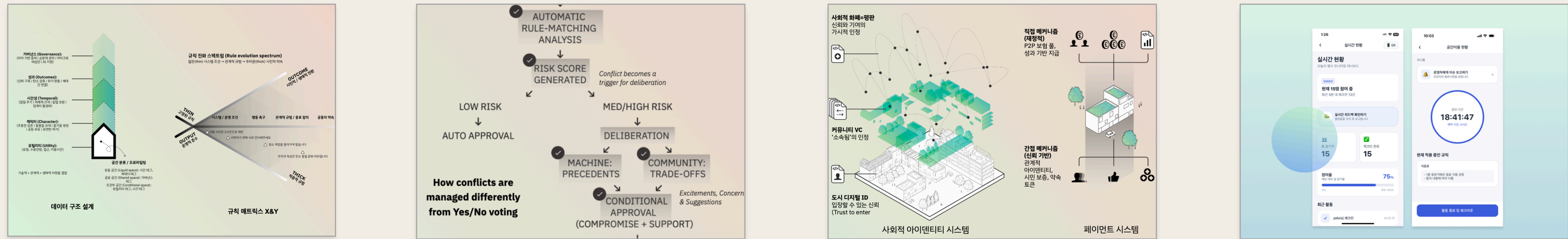
Dimension	Current pattern	Emerging patterns
Space	Fixed functions	Dynamic affordances and discovery
Permission	Static permits	Adaptive and conditional permissions
Exceptions	Exception handling	Structured negotiation
Trust	Platform verification	Participation-based trust
Ownership	Owner-centred control	Shared stewardship and accountability

Sprint	Sprint Theme	Key Question / Hypothesis	4-8 Week Cycle	Living Lab Connection
1 (8 weeks)	Space and Regulation Mapping	Exploring spaces categorised and proposed by citizens → toward civic discovery of space #User registration #Space search #Space/Rule registration Beyond simple booking systems, can we imagine new civic lives where individuals create and evolve their own rules through dialogue?	• W1: Define the problem (e.g., unregistered space) • W2: Set learning goals (prototype regulation as a program) • W3-5: Create UI and logical prototypes • W6: Peer review • W7-8: Demo - integrated space/rule flow	Space registration and regulation setting test
2 (8 weeks)	Deliberation and Permission	From static permission → to digital consent/deliberation within agreements #Automated permission #Collective consent #Personal imagination #Payment & accountability system	• W1: Analyse types of trust • W2: Design consent conditions • W3-5: Layered permission flow tests • W6: Peer testing • W7-8: Demo - consent/deliberation flow	Consent/permission/deliberation simulation field test



Learning 02: Civic questions and outcomes

Across the six sprints, the work was organised around civic outcome lines



Sprint ①
Matching spaces with rules

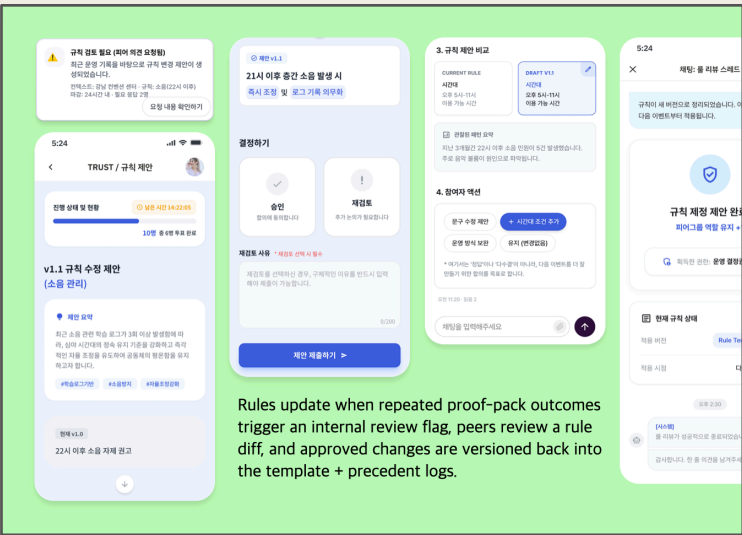
Sprint ②
Turning permissions into agreements

Sprint ③
Connecting identity and payment to responsibility

Sprint ④
Supporting stewardship and care during use



Sprint ⑤
Building reputation through proof



Sprint ⑥
Improving governance through participation over time

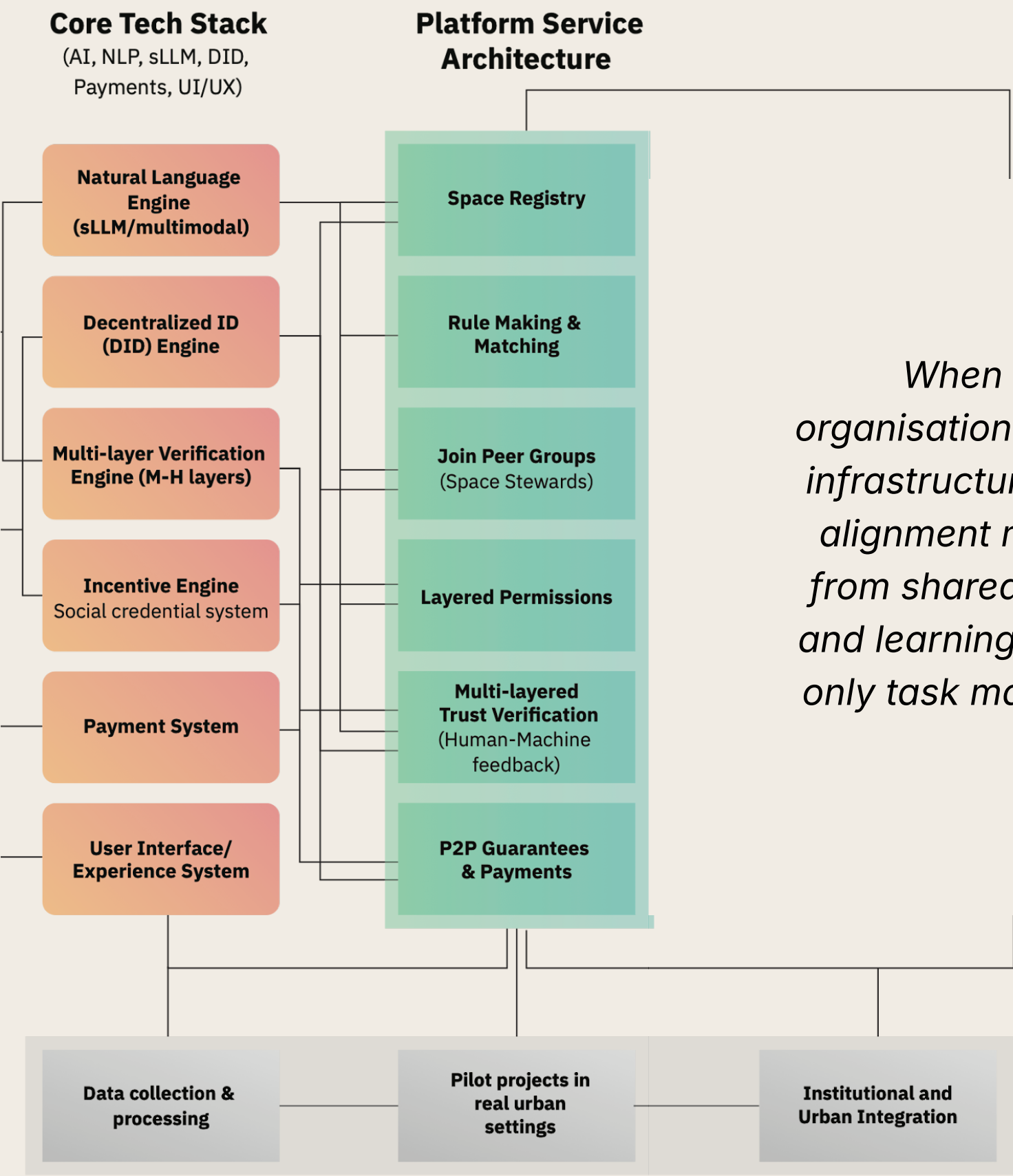
Together, these sprints tested the building blocks of a future operating model from matching spaces and rules to forming agreements, recording proof, and learning from use.

Learning 02: Coordination is infrastructure

Project management coordinates tasks.
Orchestration coordinates learning.

Civic platforms cannot be delivered by one organisation alone. They depend on technical, civic, and institutional parts working together.

Traditional project management asks: what needs to be delivered, who owns it, and when is it due?
Innovation also has to ask: what are we learning, what assumptions have changed, what evidence do we have now, and what needs to be adjusted?

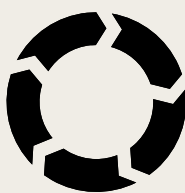
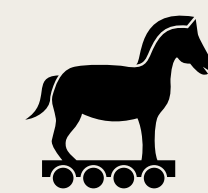


When many organisations build civic infrastructure together, alignment must come from shared outcomes and learning cycles, not only task management.

03. Government buy-in needs near-term proof and long-term ownership.

Civil servants need to feel safe spending taxpayers' money. That is legitimate. For innovation to move beyond pilots, it must meet two horizons at the same time: immediate accountability and long-term public value.

This means showing visible results early, while also making clear how the system can be governed, funded, maintained, and adapted over time.



H1: Space activation

A visible proof case: measurable, understandable, and politically legible.

H2: Permissioning loop & evidence

Show the full operating loop:
proposal → conditions → permission → proof → learning.

H3: Adaptive licensing domains

Reuse the same civic logic across more complex domains: night-time economy, climate response, curb use, and temporary events.

*Near-term proof creates confidence.
Long-term ownership creates the conditions for change.*

Learning 03: Accountability + momentum

Design for near-term accountability and long-term momentum

The platform is still grant-supported, but the operating model must make the path to public-sector adoption visible from the beginning. Momentum cannot depend on one funding cycle.

That means designing for two kinds of evidence: immediate operational value and long-term civic learning.

Immediate operational value

Long-term civic learning

Usage numbers and sites activated

Better understanding of use patterns

Faster permitting processing

Improved conditions for dynamic permits

Community participation logged

Stronger civic accountability

Pilot reporting produced

Reusable rule templates created

*If the project only shows short-term KPIs, it may remain a pilot.
If the project only shows long-term vision, it may lack a credible adoption pathway.*

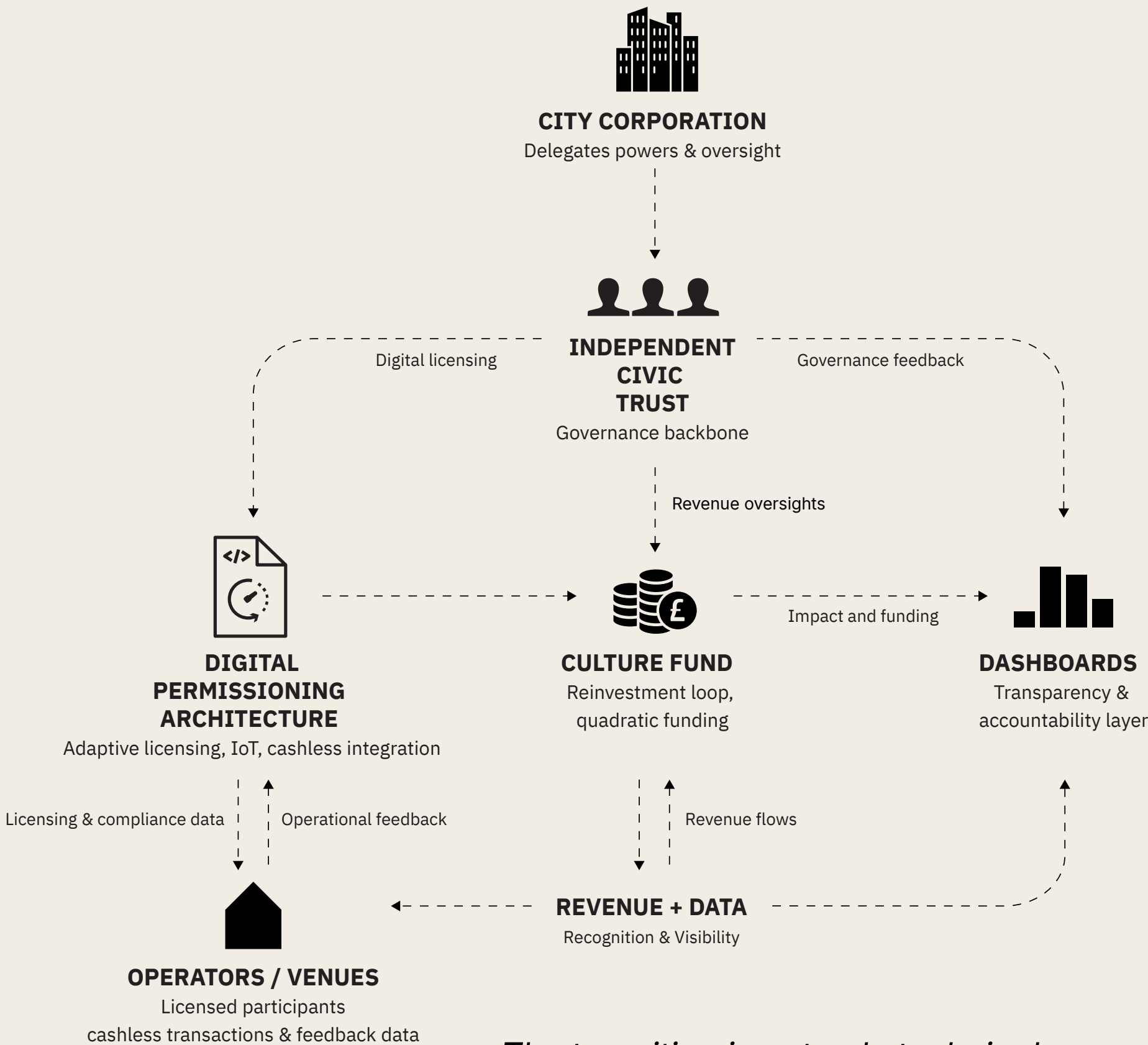
Learning 03: Platform transition

The reality of platform transition

A single-app model does not work well at city scale. The value is not only in transactions, but in the governance layer: rules, evidence, trust, accountability, and adaptation.

Long-term adoption likely requires city membership or subscription models, not only transaction fees. Cities need shared infrastructure, while retaining the autonomy to adapt platform rules to local context.

At city scale, adoption requires shared responsibility across public authorities, asset owners, stewards, participants, and funders.



The transition is not only technical, but also institutional and financial.

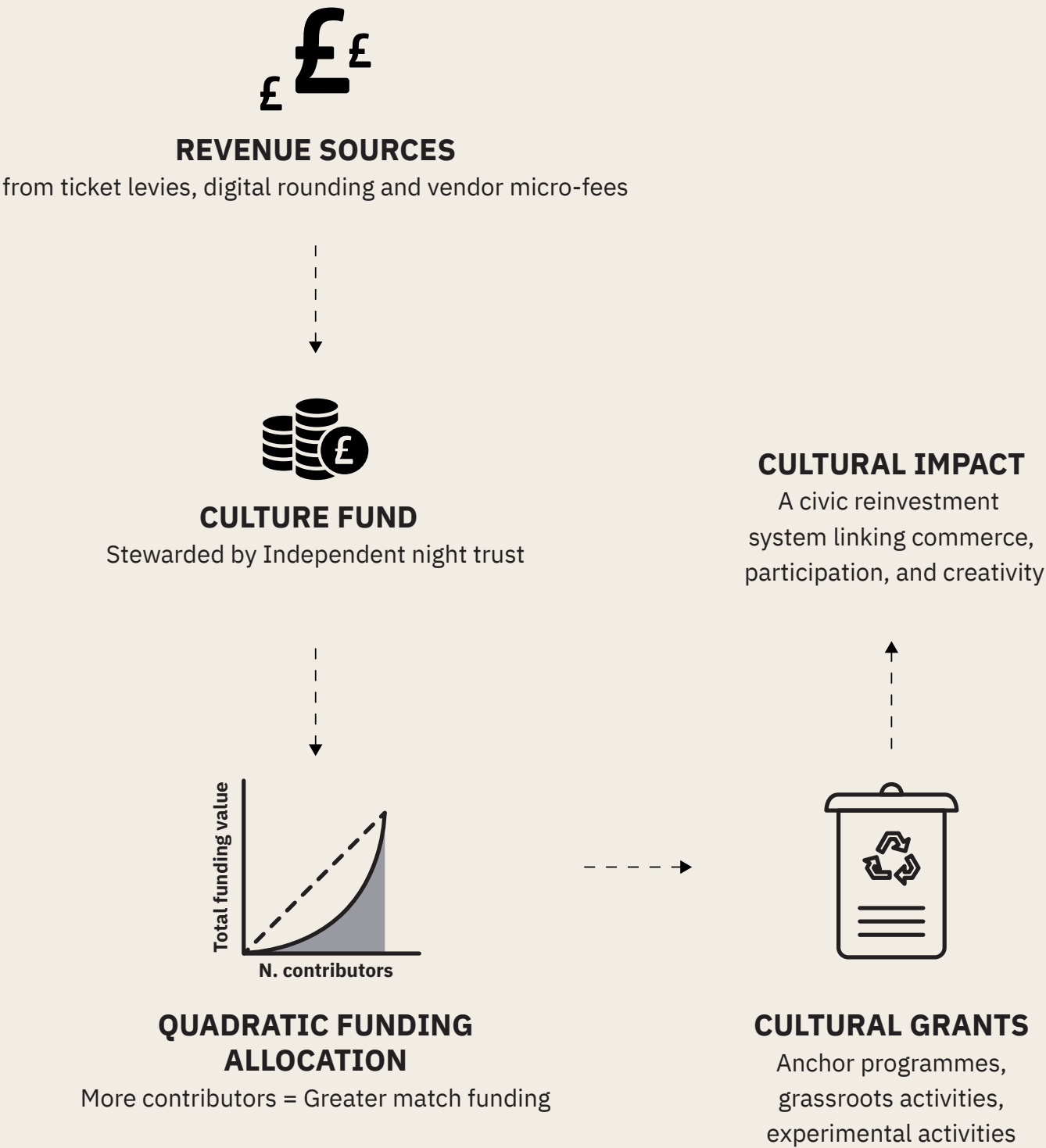
Learning 03: Financing civic infrastructure

Financing civic infrastructure requires blended pathways

Permissioning the City has already been supported by different kinds of funding across different stages.

Grants supported experimentation.
Implementation funding supported deployment.
Public authority subscriptions and modular services can support long-term maintenance.

The financing challenge is not only revenue generation. It is building a blended model that can fund and demonstrate public value.



Closing

We're in the middle of this.

01 Start with micro-demonstrations

Build shared language before shared plans.

02 Orchestrate around outcomes

Multi-organisation innovation needs learning cycles, not just task coordination.

03 Design for proof and ownership

Civil servants need near-term accountability and a credible long-term pathway.

What comes next:

Pilots are still teaching us. Platform is still evolving.

The next step is to turn that learning into adoption.

Creating Safe Space for New Ideas in a Risk-Averse Culture

Civic Ledger

From static permits to continuous coordination of urban life.

Dark Matter Labs

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9 Jun 26

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