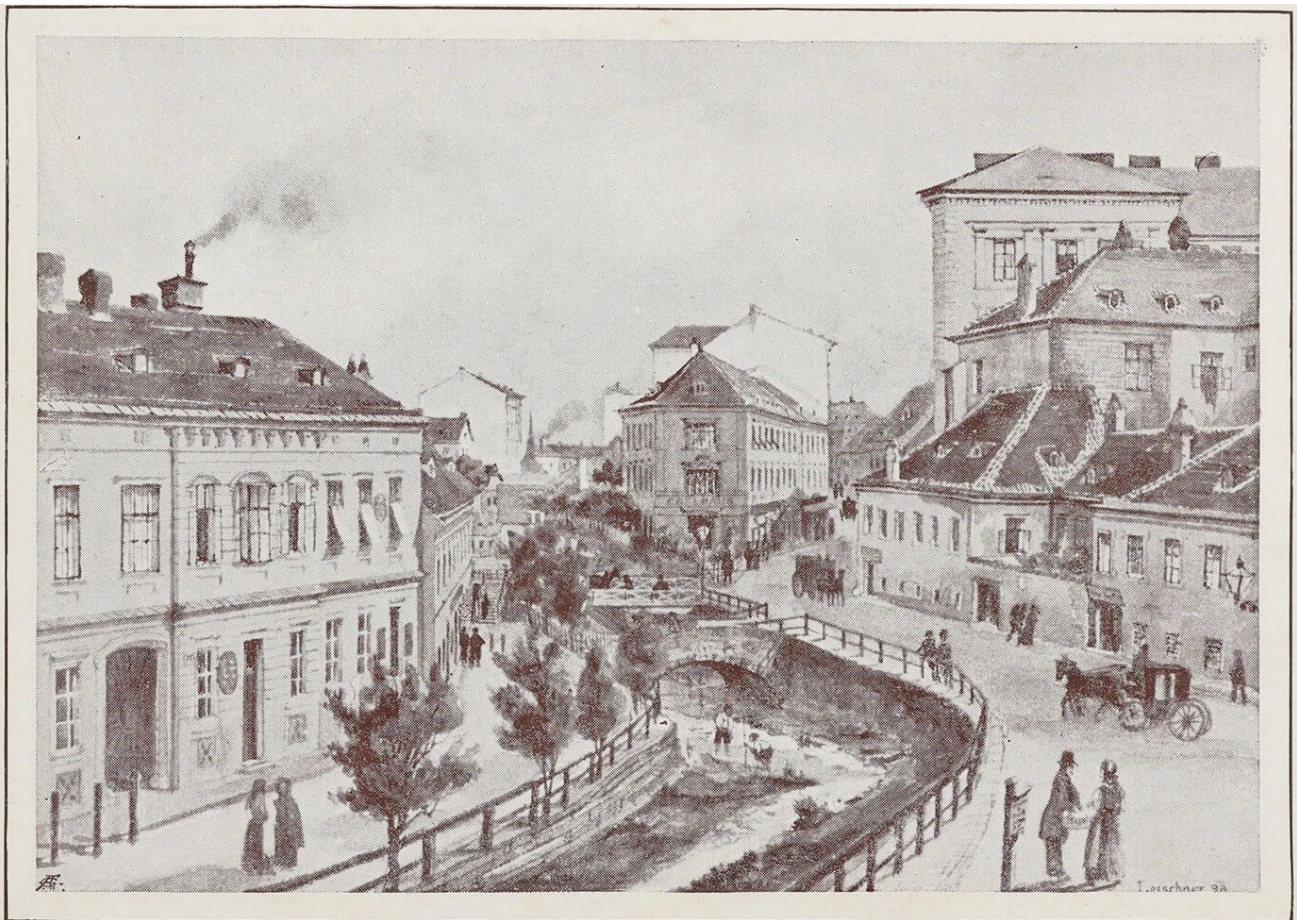


Climate-Resilient Urban Development in Vienna

From Smart City to Smart Klima City - and from Strategy to Implementation

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Elterleinplatz before the Alsbach was culverted (view c. 1870; postcard produced after 1904). C. Angerer & Göschl, after Hans Leischner. Wien Museum, Inv. 58891/1306, CC0.

Wien Museum Online Collection · [SOURCE](#)

CORE QUESTION

What does Vienna's shift from "Smart City" to "Smart Klima City" reveal about the translation of integrated climate strategy into spatial planning and built infrastructure? The Wienerwaldbäche serve as the test case - not the research subject in isolation.

RESEARCH FRAME

A 2021 question revisited as a 2026 governance test

The initial 2021 research examined the possible return of channelled Wienerwaldbäche to the surface within the framework of Vienna's Smart City strategy. The streams were used to test a broader proposition: could an existing natural resource contribute simultaneously to resource efficiency, climate adaptation, quality of life and a more integrated form of urban development?

The 2026 review deliberately changes the level of analysis. It does not repeat the original blue-green-infrastructure question. Instead, it asks whether the Smart City logic discussed in 2021 has become more operational - visible in current strategy, spatial planning, assessment tools and implementation.

2021 / INITIAL RESEARCH

Interdisciplinary literature and policy review. Smart City concepts, Vienna's framework strategy, heat-island adaptation and the potential role of hidden streams were compared.

2026 / EVIDENCE REVIEW

Desk-based review of official City of Vienna strategy, planning instruments and implementation evidence, with a focus on what has moved from principle to practice.

Source basis

- 2021 source: the original concept note (December 2020) and working research draft, including the Smart City debate, Vienna's framework strategy and the original research hypotheses.
- 2026 source: primarily official City of Vienna material - Smart Klima City Strategy, Wiener Klimafahrplan, Wien-Plan 2035, GRF Wien, UHI Strategy, Wienerwaldbach and Liesingbach project pages.
- Current implementation status reviewed on 8 September 2026. Political proposals are identified as proposals rather than city commitments.

WORKING HYPOTHESIS

The relevant 2026 question is not whether Vienna has uncovered all of its hidden streams. It is whether the underlying "smart" planning logic has matured into a system that connects climate, water, land use, infrastructure and quality of life.

Original 2021 framing: Korol, working research draft and concept note (2020/2021).

2021 ANALYTICAL LENS

"Smart" was already more than technology

The 2021 research draft placed Vienna within a wider Smart City debate. Some approaches emphasised ICT, sensors, data and efficient services; others argued that a genuinely smart city should be evaluated against broader sustainability outcomes. Vienna's own framework already took a comparatively integrated position: quality of life, resource conservation and innovation were treated as mutually dependent rather than separate objectives.

The hidden-stream hypothesis was therefore useful because it crossed disciplinary boundaries. A stream could not be assessed only as an ecological object or only as technical drainage infrastructure. Its relevance depended on whether several urban objectives could be achieved together.

The 2021 Smart City test

The original research did not ask whether water was "nice to have". It tested whether a hidden urban resource could support a smart-city mission.



Derived from the original 2020 concept note and 2021 thesis framing.

Figure 1. The four criteria implicit in the original Smart City test.

Author synthesis from the 2020 concept note and 2021 research framing.

Why this matters for the 2026 review

If Smart City is understood as an integrated governance model, then evidence of progress should appear at several levels: in city-wide strategy, in spatial plans, in assessment tools and finally in projects where technical, ecological and social functions are implemented together. That is the standard used in this update.

ANALYTICAL SHIFT

2021 asked: "Could this be smart?" · 2026 asks: "Can we see the smart-city logic operating in planning and implementation?"

From Smart City principles to climate-resilient planning

Vienna's current Smart Klima City Strategy was adopted in February 2022 and remains the city's binding umbrella and sustainability strategy. Its central mission still combines three dimensions: high quality of life, maximum resource conservation, and social and technical innovation. The change since the original research is not a rejection of the Smart City idea, but a stronger climate focus and a clearer translation into operational objectives.

From strategy to operational planning



The shift is not "technology → nature". Vienna's current Smart City model explicitly combines quality of life, resource conservation and social/technical innovation.

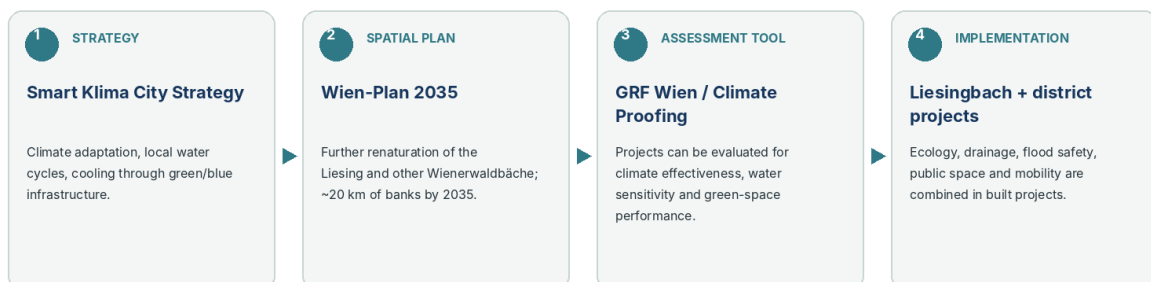
The relevant change is institutional: climate, water, public space and infrastructure are increasingly assessed as one planning system.

Figure 2. Selected milestones relevant to the original research question.

Author synthesis; official City of Vienna sources reviewed 8 Sep 2026.

A policy-to-implementation chain

The 2026 review looks for evidence at four levels rather than treating strategy statements as implementation.



Reading rule: a Smart City claim becomes stronger when it is visible not only in strategy, but also in planning instruments, budgets and built interventions.

Figure 3. The policy-to-implementation chain used in the 2026 review.

Author synthesis based on Smart Klima City Strategy, Wien-Plan 2035, GRF Wien and current implementation evidence.

What is more explicit today

- Climate adaptation is a dedicated strategic field. Vienna explicitly links urban cooling to greenery, water and shading.
- Rainwater is to be kept locally in natural or near-natural cycles wherever possible, with infiltration, evaporation and storage preferred over rapid drainage.
- All building and urban-development projects are to be checked and optimised for climate-adaptation performance; Climate Proofing and climate simulations are named as instruments.
- GRF Wien provides a quantitative tool for assessing climate effectiveness, green structures, water sensitivity and land-use efficiency in early planning phases.
- The Wien-Plan 2035 explicitly continues the renaturation of the Liesing and other Wienerwaldbäche and targets roughly 20 km of additional renatured riverbanks by 2035.

CASE-TEST 1: HIDDEN STREAMS

Do the Wienerwaldbäche now sit inside mainstream planning?

Vienna has around 50 Wienerwaldbäche; roughly two thirds are no longer visible at the surface because historical culverting incorporated them into the drainage and sewer system. This makes them a useful stress test for integrated planning: ecological restoration, flood safety, water quality, underground infrastructure, public space and land availability all collide in the same corridor.

Vienna's hidden streams

A city-wide water network with much of its historic course out of sight



Surface visibility of the Wienerwaldbach network



Why this matters

Historical channelisation solved flood and sanitation problems, but also removed watercourses from the visible urban landscape. Today, restoration has to work around existing streets, sewers, utilities and flood-safety needs.

Source: City of Vienna, "Die Wienerwaldbäche" (reviewed 26 Aug 2026).

Figure 4. Current status of the Wienerwaldbach network.

City of Vienna, "Die Wienerwaldbäche"; reviewed 8 Sep 2026. · [SOURCE](#)

Current city policy is more explicit than in 2021. Vienna describes the objective of creating continuous, near-natural watercourses connected with their surroundings and states that currently piped sections are opened step by step where conditions allow. At the same time, the city stresses that each project must be adapted to the specific spatial situation.

This is not a mass-daylighting programme

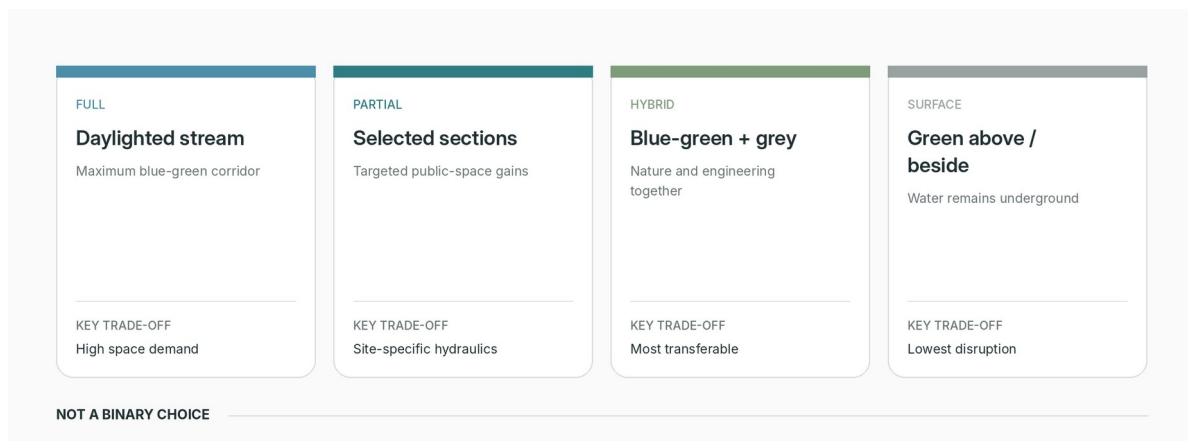


Figure 5. A spectrum of interventions rather than a universal daylighting template.

Author synthesis.

The practical constraint identified in the original research remains decisive: dense western districts have the strongest need for climate adaptation but often the least space for a full stream corridor. Current monitoring likewise notes that renaturation is planning-intensive, constrained by flood-safety requirements and dependent on securing sufficient space.

2026 ASSESSMENT

The Wienerwaldbäche are more clearly embedded in city policy than in 2021, but implementation remains selective and site-specific. That is evidence of policy maturation, not evidence that every historic stream should be reopened.

CASE-TEST 2: LIESINGBACH

When strategy becomes integrated infrastructure

The Liesingbach is the strongest implementation test because it is not a single-purpose nature project. The remaining 9.2 km of hard-engineered river corridor are being transformed in stages through 2027 while Wien Kanal builds an approximately 9 km rainwater sewer. The programme simultaneously addresses ecological restoration, water quality, flood safety and public space.



Figure 6. The Liesingbach as hybrid blue-green-grey infrastructure.

Author synthesis from City of Vienna project information; current programme cost approx. €85 million including Gelbe Haide storage basin.

How the project maps onto the Smart City framework

SMART CITY DIMENSION	LIESING EVIDENCE	INTERPRETATION
Resource conservation	Existing paving is partly processed and reused on site; technical works are coordinated across departments.	Resource efficiency is visible in project delivery, not only in environmental outcomes.
Climate adaptation	Flood protection, retention, vegetation and more resilient river morphology are combined.	Adaptation is treated as an infrastructure function.
Quality of life	Paths, access, greenery and recreation are integrated into the river corridor.	Public-space value is part of the programme logic.
Innovation / integration	MA 45 and Wien Kanal combine ecological restoration with engineered water-quality infrastructure.	The project demonstrates the cross-sector governance model discussed in 2021.

The crucial point is methodological: the €85 million programme cannot sensibly be evaluated as the “cost of renaturation” alone. It purchases several urban functions at once – drainage, water quality, flood safety, ecology and public-space quality. That multifunctionality is precisely what makes the Liesing case relevant to the Smart City question.

Integrativer Hochwasserschutz Liesingbach · [source](#)

City of Vienna Press Service, 15 Jul 2026 · [source](#)

CASE-TEST 3: ALS / HERNALS

Smart City functions without reopening the stream

The Als provides the useful counter-case. Its historic watercourse remains underground through dense parts of Hernals. A proposal to make the Als visible again was presented politically in 2025, but it is not an adopted city daylighting project. If the analysis stopped there, the conclusion would simply be “no implementation”.

The 2026 picture is more interesting. Along the Alszeile and nearby corridors, Hernals is implementing other parts of the integrated climate-city logic: a completed cycle connection, de-sealing and greenery, and a biodiversity corridor designed to connect the Wienerwald with parks and smaller urban habitats. The stream remains hidden, but parts of the corridor logic - ecological connectivity, active mobility, cooling and public-space improvement - are being realised through other instruments.

DAYLIGHTING	CORRIDOR FUNCTIONS
Still a proposal rather than an adopted construction project.	Biodiversity corridor along the Alszeile; active-mobility and public-space upgrades completed/under implementation.
PLANNING LESSON Integrated urban development does not require every function to be delivered by the same physical intervention. A historic stream corridor can influence planning even when the stream itself remains underground.	

This makes the Als a useful Smart City case rather than a failed renaturation case. It shows the difference between a symbolic project idea and the incremental delivery of climate, biodiversity, mobility and public-space objectives through multiple programmes.

Hernals - biodiversity corridor · [SOURCE](#)

City of Vienna Press Service - Als proposal, 1 Apr 2025 · [SOURCE](#)

Hernals - VCÖ Mobility Award 2026 · [SOURCE](#)

What changed - and what did not?

2021 QUESTION	2021 POSITION	2026 EVIDENCE	ASSESSMENT
Is “smart” more than technology?	Vienna already used a broad, human-centred definition.	The current mission still combines quality of life, resource conservation and social/technical innovation.	Confirmed and strengthened.
Can natural systems become infrastructure?	Plausible, but implementation evidence was limited.	Local water cycles, sponge-city methods, stream renaturation and green-blue systems are explicit planning objectives.	Mainstreamed into policy.
Can climate performance become a planning criterion?	Emerging research and strategy.	Climate Proofing, simulations and GRF Wien make performance more assessable.	More operational.
Can several urban functions be combined?	A key argument of the original research.	Liesing combines ecology, water quality, flood safety and public space.	Strongly supported.
Will hidden streams be widely reopened?	Possible in selected corridors; feasibility uncertain.	Around two thirds remain underground; renaturation is selective and constrained.	Not confirmed as a broad programme.
Does the idea transfer to dense western districts?	Open question.	Als corridor functions are advancing without stream daylighting.	Partly - through hybrid/incremental measures.
2026 ANSWER The most significant change is not mass stream daylighting. It is the institutionalisation of the systems approach behind the 2021 question: climate, water, vegetation, infrastructure, public space and quality of life are increasingly treated as interconnected planning variables.			

What remains unresolved

The hardest question is still spatial. The integrated approach is easiest to demonstrate where sufficient corridor space exists, as at the Liesing. The denser western districts have high adaptation needs but limited land, complex underground infrastructure and competing uses. Whether more hidden streams can become visible again therefore remains a site-specific planning question rather than a general Smart City prescription.

CONCLUSION

What does “Smart” mean in practice?

The 2021 research used Vienna’s hidden streams to test whether an existing natural resource could fit a Smart City model that promised resource efficiency, climate resilience and high quality of life. The 2026 review suggests that the underlying question was more durable than the specific daylighting hypothesis.

Vienna’s Smart City model has become more climate-explicit and more operational. The current strategy links quality of life, resource conservation and innovation; the Wien-Plan embeds water and renaturation in spatial development; GRF Wien and Climate Proofing logic move climate performance toward measurable planning criteria; and the Liesing demonstrates how ecological and engineered infrastructure can be implemented as one programme.

At the same time, the Wienerwaldbäche show the limits of strategic ambition. Historic channelisation cannot simply be reversed across a dense city. Flood safety, water quality, underground infrastructure, land availability and competing uses remain decisive. The Als illustrates that some Smart City functions can be delivered along a historic stream corridor even when the stream itself stays underground.

FINAL INTERPRETATION

A “smart” city in this case is not a city that applies the most technology, nor one that simply restores nature. It is a city that can combine natural systems, technical infrastructure, spatial planning and social value - and choose the intervention that fits the place.

Selected references - 2021 research

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- Meijer, A. & Bolívar, M.P.R. (2016). Governing the smart city: a review. *International Review of Administrative Sciences* 82.
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Current official sources - reviewed 8 Sep 2026

- [Smart Klima City Strategy Vienna](#)
- [Smart Klima City Strategy - climate adaptation](#)
- [Wien-Plan 2035](#)
- [Wien-Plan 2035 - investments and stream renaturation](#)
- [GRF Wien](#)
- [Urban Heat Island Strategy Vienna](#)
- [Wienerwaldbäche and renaturation projects](#)
- [Integrativer Hochwasserschutz Liesingbach](#)
- [Hernals biodiversity corridor](#)

Historical cover image: Wien Museum Online Collection, “17., Elterleinplatz - vor der Alsbach Einwölbung, um 1870, Ansichtskarte”, Inv. 58891/1306, CC0. · [source](#)

Note: This 2026 edition is an independent synthesis. It uses the 2020/2021 research as a historical baseline and adds a clearly separated review of current strategy, planning instruments and implementation evidence.