

CITIES FORUM · MENTORSHIP KNOWLEDGE SERIES

# Urban Continuity Is Decided Between Projects

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An insight article on how the urban code translates a territorial vision into repeatable street conditions and how Al Ahsa verifies that structure at the scale of the street.

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*Urban continuity is grounded in the professional work of the Al Ahsa Design Studio within Saudi Architecture, the national framework that translates regional architectural identity into design guidance for contemporary development. Through urban codes, handbooks, design guidelines and public-realm criteria, the studio translates regional identity, urban quality and exterior performance into project review and implementation decisions. Saudi Arabia provides the setting, as this national framework is actively shaping the built environment. At the same time, Al Ahsa situates that work in an oasis city defined by a low-rise fabric, extreme heat, shade, drainage, and pedestrian continuity.*

## Urban Continuity under Fragmented City-Making

The fragmented production of the city distributes shared urban form across different projects, actors and phases. At the same time, the street needs to operate as a continuous structure in spatial, pedestrian, climatic and material terms. Each intervention delivers one portion of urban ground, while the street requires continuity of section, edge, pedestrian movement, shade and drainage. Saudi Arabia's rapid urban development and large land operations make the relationship between regulation, implementation and exterior performance especially visible. In Al Ahsa, an oasis city in the Eastern Province of Saudi Arabia, this relationship becomes concrete through low-rise urban fabric, extreme heat and the need to coordinate shade, drainage, frontage and pedestrian continuity across separate interventions.

The urban code operates as a mechanism of translation. It turns a physical, climatic, territorial and cultural vision into repeatable urban conditions for the street, the built edge, the pedestrian plane, shade, ground and water. An individual project resolves one case, while an urban code organises the repetition of many cases and turns spatial decisions into accumulated urban behaviour over time. In that role, the code fixes the relationships that several projects produce in common: the built frontage, the pedestrian route, the depth of transition between building and public space, the movement of water across the urban ground and the climatic protection capacity of the exterior. (CMAP, 2013. Form-Based Codes Institute, 2022)



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## The Street as the Main Field of the Urban Code

The most useful dimension of the code appears at the scale of the street and the interface between building and public space, where each project affects edge continuity, pedestrian movement, ground treatment, shade and outdoor use. This field includes the urban section, built edge, frontage continuity, pedestrian system, ground plane, access sequence, shade strip, surface drainage, planting structure and the relationship between solid and void. (Global Designing Cities Initiative and NACTO, 2016. Gehl, 2010. Panerai et al., 2004)

This field establishes the conditions of use, legibility, permanence and physical behaviour of exterior space through the built edge, sidewalk, threshold, trees, shade, drainage and ground. A continuous edge with distributed shade supports movement, staying and outdoor use, while disconnected frontages, arbitrary thresholds and fragmented ground treatments reduce pedestrian continuity and public-space performance. The code gains value in this collective part of urban form because it sustains relationships that isolated interventions resolve only partially, allowing successive frontages, phases and development applications to form a common urban structure. (Lynch, 1960. Gehl, 2010)



**Figure 1.** Street edge, shaded pedestrian route and ground continuity as the main field of urban code application. — Image source: AI-generated image prepared by the authors, 2026.

## Fixed Structure and Verifiable Performance

The urban code needs to combine a register of fixed structure, responsible for stabilising section, alignment, edge and pedestrian route, with a register of verifiable performance, responsible for adjusting shade, ventilation, drainage, thermal exposure and outdoor comfort.

The first layer organises the street before materials, styles or particular solutions appear. It includes the position of the edge, the width and hierarchy of the section, frontage continuity, interface depth, ground organisation and the layout of the pedestrian system.

Codified geometry produces physical effects before any later technical solution is added. Section, orientation, edge continuity,

exposed surface shape solar exposure and heat accumulation. Shade, water and permeability affect runoff, ventilation, pedestrian continuity and outdoor comfort. (Olgyay, 1963. Farr Associates, n.d.)

The second layer calibrates the physical behaviour of exterior space through criteria of shade, ventilation, runoff, infiltration, heat accumulation, orientation, vegetation and comfort. Structure ensures urban continuity. Calibration ensures real exterior habitability. Their integration allows the code to operate as a hybrid matrix, where the form-based layer fixes the common structure, and the performance-based layer controls the result at critical points.

The form-based layer is key in contexts of accelerated urbanisation because it offers stability, repetition and governability. It fixes section, alignment, edge, pedestrian width, frontage continuity and the relationship between building and street. This layer allows different projects to work within the same urban grammar and keeps the street aligned with a shared structure across separate decisions. (Alshamsi, S. M., & Jung, C., 2020)

The performance-based layer is especially important in individual projects because it allows technical and formal flexibility within a common requirement. The same urban objective can be achieved through different solutions. Trees, porticoes, projections, galleries, façade depth, screens, permeable paving, controlled slope or integrated drainage. The code maintains the requirement on the result and allows variation in the solution, as long as exterior performance is verified in shade, drainage, ventilation, thermal exposure and comfort. (Farr Associates, n.d.)

### KEY LESSON

This combination gives precision to the code. Form fixes the relationships that must endure. Performance allows solutions to adapt to climate, orientation, materiality, maintenance and concrete execution. Urban continuity is protected through common structure, and exterior quality is adjusted through verifiable results.

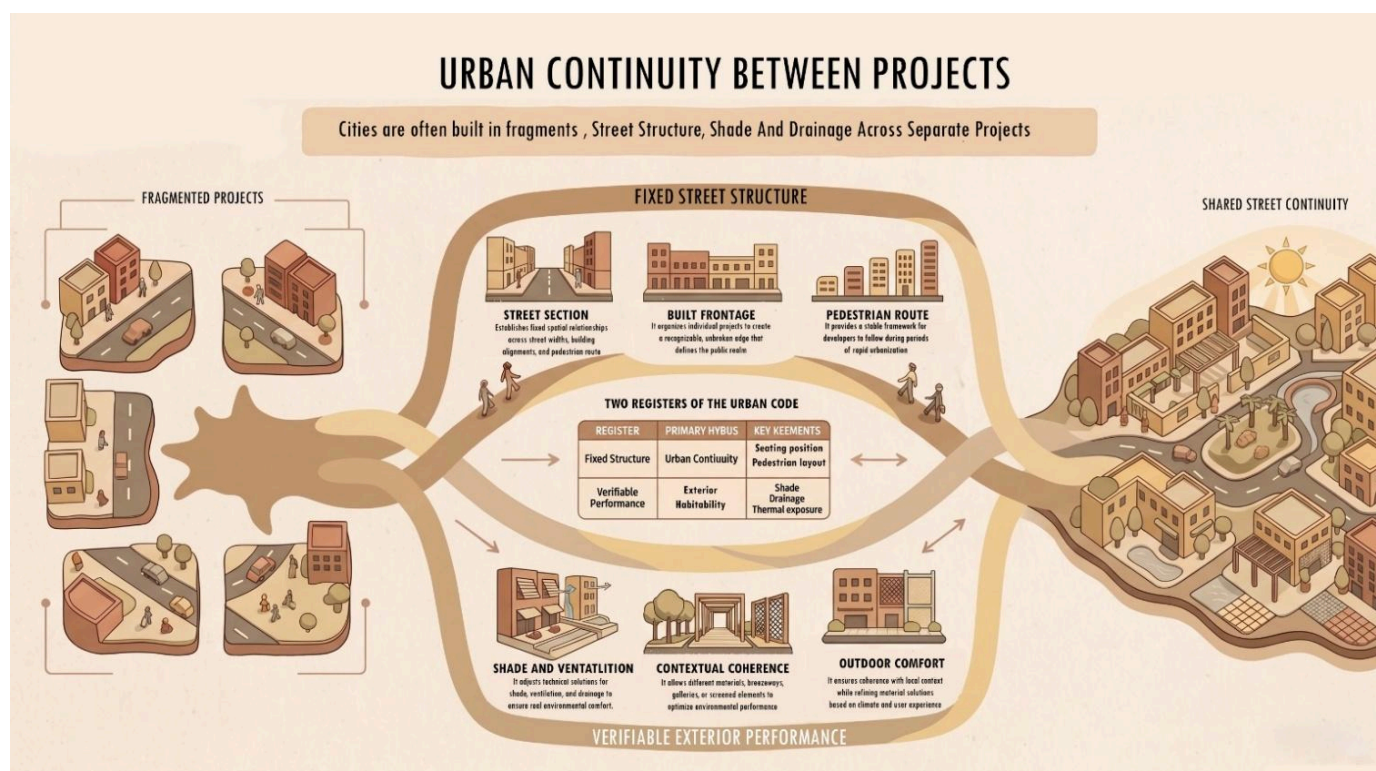


**Figure 2.** From fragmented projects to urban continuity through fixed street structure and verifiable exterior performance. — Image source: AI-assisted diagram prepared by the authors, 2026.

# Saudi Arabia as an Urban System and Al Ahsa as Street-Scale Verification

In Saudi Arabia, the problem of the urban code acquires a systemic dimension. The production of the city combines accelerated growth, large land operations, public administration, private investment, successive phases and multiple actors. Many projects, administrative timelines, development packages and different actors have to generate a common structure. In this context, accessibility, pedestrian continuity and the review of street conditions become part of a wider national concern with urban quality and public-realm performance. (Kingdom of Saudi

Arabia, n.d. Quality of Life Program, n.d. Royal Commission for Riyadh City, n.d.)

This framework makes the hybrid matrix especially important. The form-based layer sustains long-term spatial relationships, while the performance-based layer allows technical responses to be calibrated where climate, use or execution demand greater precision. The code gains value because it can operate between territorial vision, land operation, urban project, architecture and construction.

## Al-Ahsa Climate: Low Heights → Shade Must Be a System

Fixed + solar exposure set the side programme and the shade requirement per segment.

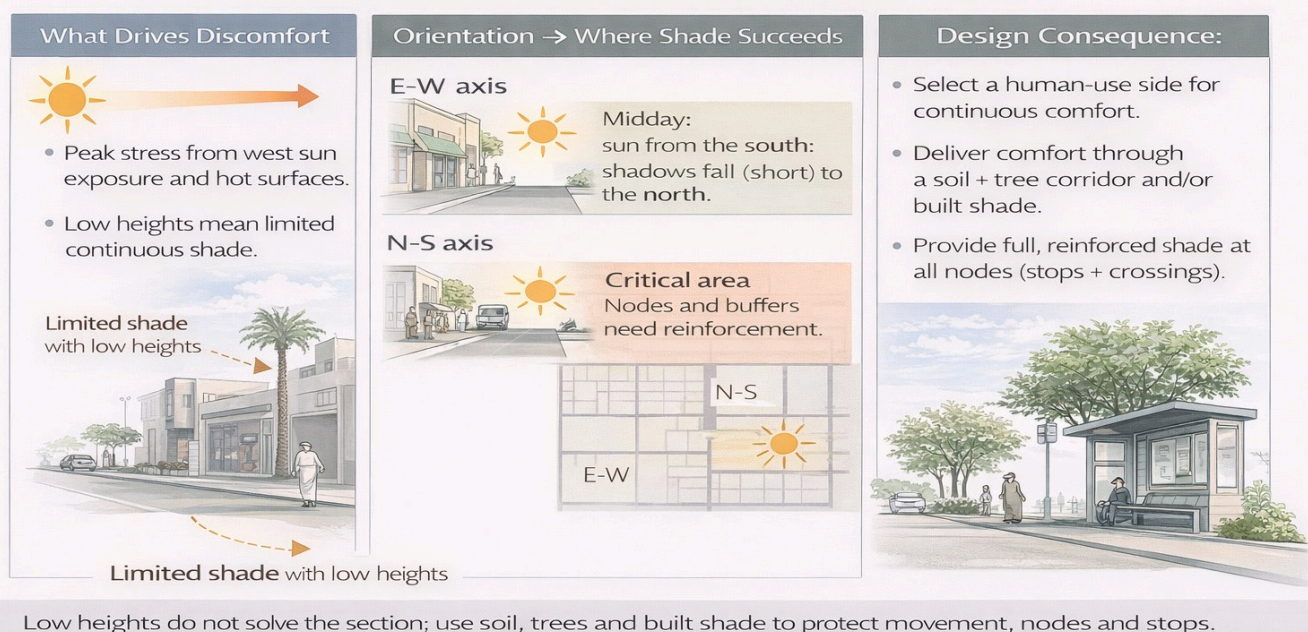


**Figure 3.** Al Ahsa climate response: low-rise fabric, shade system, tree-soil-water continuity and protected pedestrian nodes. —  
Image source: AI-assisted diagram prepared by the authors, 2026.

Al Ahsa allows this condition to be verified at the concrete scale of the street. Extreme heat makes the consequences of each decision on shade, walkability, built edge, drainage, urban ground and protection of exterior space immediately visible. Pedestrian continuity depends on the edge, shade, drainage and the resolu-

tion of the urban plane working as one exterior structure. The case shows how a systemic condition of urban production reaches the street and requires a code capable of coordinating structure, performance and implementation. (Aldersoni, A. A. 2021)

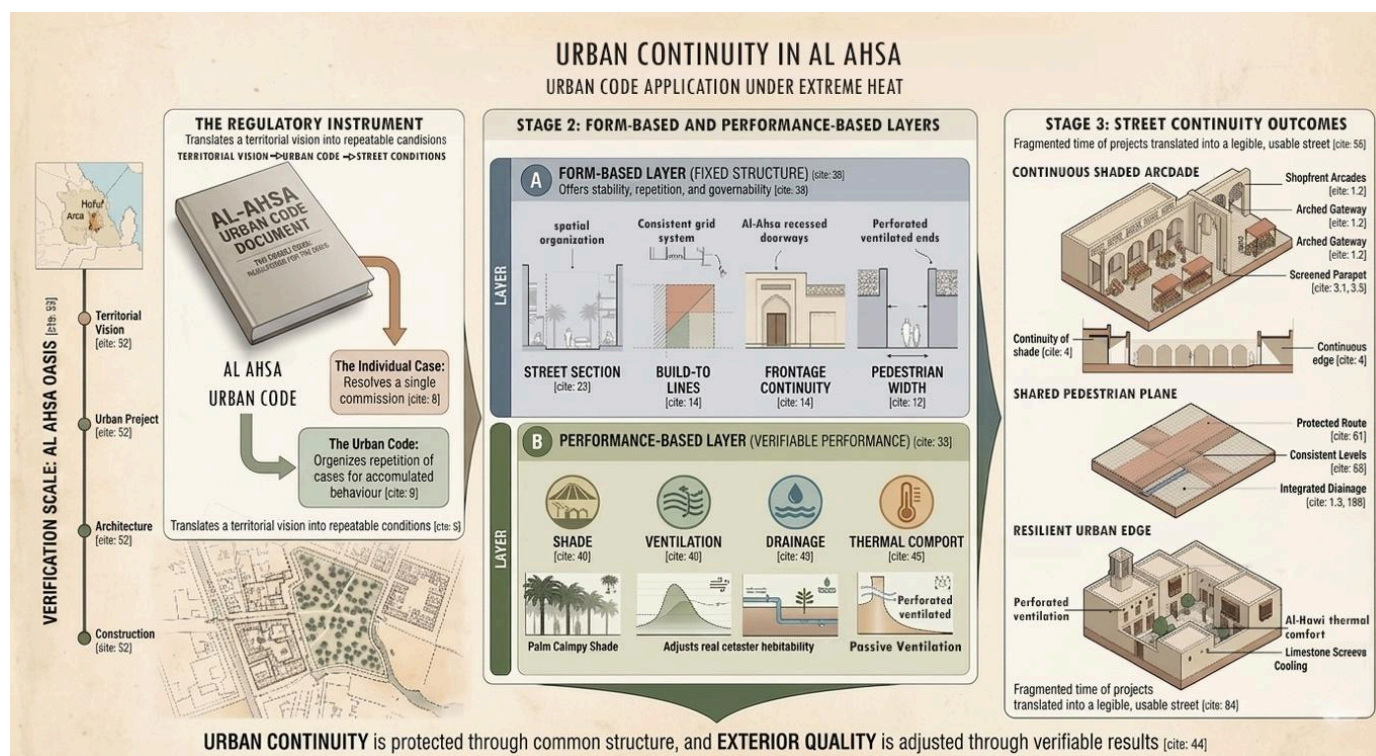


Figure 4. Al Ahsa as street-scale verification of urban continuity through fixed structure and verifiable exterior performance. — Image source: AI-assisted diagram prepared by the authors, 2026.

## Implementation, Repetition and Permanence

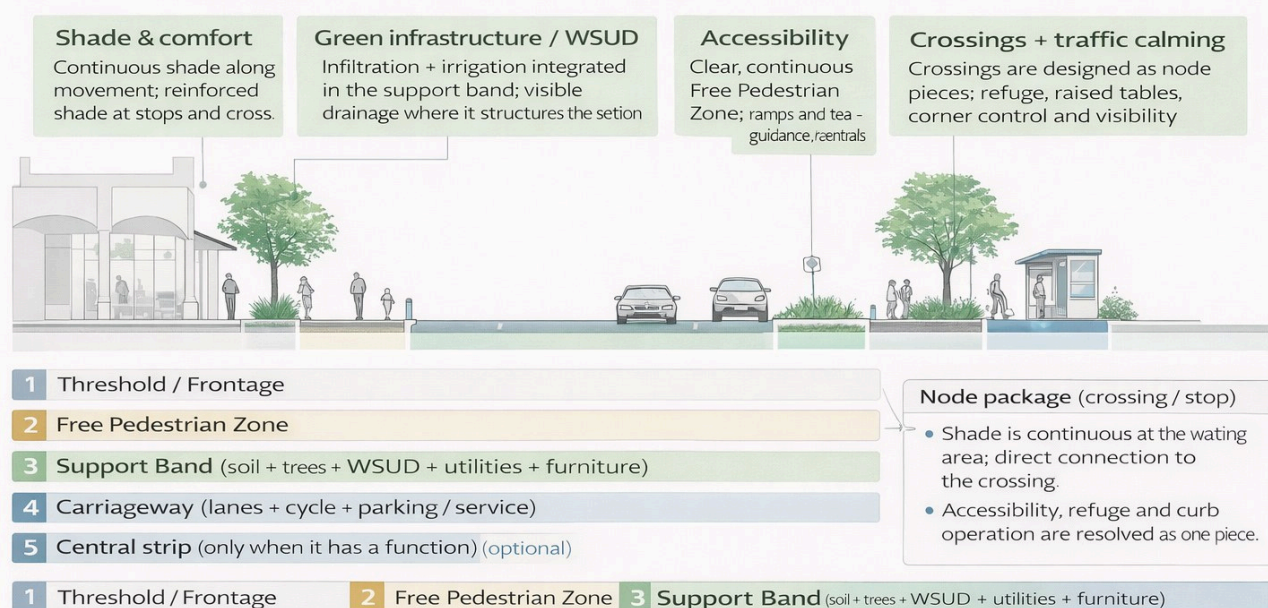
The decisive step lies in material translation, when a regulated relationship becomes level, slope, usable width, threshold, access, planting, shade or drainage capable of being repeated between projects and sustaining built urban continuity. A rule on the street is verified in the way it reaches the ground. A rule on the edge is verified in accesses, setbacks, porches, enclosures and transitions coherent with the public structure. A rule on pedes-

trian continuity is verified as a legible, protected and physically continuous route through successive phases. (Global Designing Cities Initiative and NACTO, 2016. Llewelyn-Davies, 2007)

Implementation must be part of the code's own design. Each rule needs to be applicable, drawable, reviewable, approvable, inspectable and durable through repeated use.

## Band Order: Where Every Rule Lands in the Section

One generic section. One fixed band order. Best practices stay the same; families change the weight and placement within the same band order.



Best practices stay the same; families change the weight and placement within the same band order.

**Figure 5.** Band order and implementation criteria for street continuity: frontage, pedestrian zone, support band, carriageway and climate-responsive public-realm systems. — Image source: AI-assisted diagram prepared by the authors, 2026.

Implementation belongs to the real field of development, where the city is produced through phases, actors, investment, administrative timelines, risk, viability and successive adjustments. The code gains value when it operates within that reality, organises repeated decisions, reduces incompatibility between interventions and keeps a common urban direction active through partial and cumulative processes. This dimension links the code to the real production of the city, beyond its normative formulation. (Llewelyn-Davies, 2007)

The shared city is sustained through repeated small decisions that reappear across different development applications. The code organises that repetition so that ground, edge, shade, water and movement respond to the same logic over time. Best practice guidance helps the logic of the code reach the development application, the worksite and the repeated detail. It reduces accumulated deviations, supports consistent interpretation and gives material consistency to implementation across multiple projects.



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## Shared Solutions (AL-AHSA) — Commercial Shared Street + Extension of Families

### N Tactical Play + Residential extension



### NS Traditional market (souk)



N—S.c (N—S.o)

### E-W Commercial Arcade / recova extension



### E-W Residential threshold + Central Art Oasis



E—W. ORIENTATION (N—S.or E—W)

**Figure 6.** Implementation variants for shaded pedestrian continuity, public use and street activation in Al Ahsa. — Image source: AI-generated image prepared by the authors, 2026.

Permanence defines the capacity of the system to keep functioning while the city is completed, intensified and adjusted. The street maintains structural direction even as buildings, programmes or execution rhythms change. That permanence depends on rules that fix essential relationships and admit technical adjustment where climate, use or accumulated experience requires it. A durable code fixes the relationships that sustain urban structure and allows adjustment in the layers that depend on material, technical, programmatic or contextual variation.

Within the permanence of the code, resilience acquires a precise urban meaning because it expresses the capacity of a street to conserve structural continuity while adjusting its material solutions of shade, drainage, vegetation and ground through use, maintenance and accumulated experience. Continuity remains as a stable urban relationship, while technical solutions are refined through cumulative implementation.

# Regulated Continuity and Built City

The effectiveness of the code is verified when production by phases achieves real urban continuity. The street acquires a common condition even when its construction advances through different commissions, development applications and timelines.

Each intervention contributes one part of the edge, ground, route and exterior performance, and the code ensures that those parts enter the same urban structure.

## CLOSING ARGUMENT

The decisive point for urban practice is that the code turns regulation into a concrete way of producing the city. It fixes stable relationships where continuity needs permanence and admits technical calibration where climate, use and execution require adjustment. Its value appears in the built city, when the fragmented time of projects is translated into a legible, usable and materially coherent street.

## REFERENCES

## Sources Cited

**Note on figures.** All figures were prepared by the authors using AI-generated or AI-assisted visual material developed in relation to the AI Ahsa Design Studio work. No third-party copyrighted images are used.

- Chicago Metropolitan Agency for Planning. 2013. *Form-Based Codes. A Step-by-Step Guide for Communities*. Chicago. Chicago Metropolitan Agency for Planning.
- Farr Associates. n.d. *Sustainable Urbanism Performance-Based SmartCode Module*. SmartCode Version 9.2. Prepared by Leslie Oberholtzer and Doug Farr, with assistance from Monica Richart and April Hughes.
- Form-Based Codes Institute. 2022. *FBCI Standards of Practice*. Form-Based Codes Institute.
- Gehl, Jan. 2010. *Cities for People*. Washington DC. Island Press.
- Global Designing Cities Initiative and National Association of City Transportation Officials. 2016. *Global Street Design Guide*. Washington DC. Island Press. ISBN 978-1-61091-494-9.
- Kingdom of Saudi Arabia. n.d. *Saudi Vision 2030*. Official Vision 2030 website.
- Llewelyn-Davies. 2007. *Urban Design Compendium*. English Partnerships and The Housing Corporation.
- Lynch, Kevin. 1960. *The Image of the City*. Cambridge MA. MIT Press.
- Olgyay, Victor. 1963. *Design with Climate. Bioclimatic Approach to Architectural Regionalism*. Princeton. Princeton University Press. Spanish edition consulted. *Arquitectura y clima. Manual de diseño bioclimático para arquitectos y urbanistas*. Barcelona. Editorial Gustavo Gili, 1998.
- Panerai, Philippe, Jean Castex, Jean-Charles Depaule and Ivor Samuels. 2004. *Urban Forms. The Death and Life of the Urban Block*. Oxford. Architectural Press. English edition and additional material by Ivor Samuels. Translated by Olga Vitale Samuels. ISBN 0-7506-5607-7.
- Quality of Life Program. n.d. *Quality of Life Program*. Vision 2030 Realization Program.
- Royal Commission for Riyadh City. n.d. *Accessibility Code for Riyadh City*. Riyadh. Royal Commission for Riyadh City.
- Alshamsi, S. M., & Jung, C. 2020. *Towards Sustainable Saudi Housing: Balancing Modernity with Traditional Architectural Practices.: A comparative study between contemporary detached houses and traditional courtyard houses in the Eastern Province*. *Future Cities and Environment*.
- Aldersoni, A. A. 2021. *Improving the energy performance of future Saudi Ministry of Housing building designs to achieve the country's future climate change targets [Doctoral dissertation, University of Liverpool]*. University of Liverpool Repository.



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