



**WU.CITY**  
THE BEST POSSIBLE CITY FOR ALL

# REALISING ROI: THE ECONOMIC VALUE OF SMART CITY PLATFORMS FOR ARCHITECTURAL PROJECTS

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# The economic value of Smart City platforms for architectural projects

**At its heart, architecture is a 3D discipline. A discipline that Smart Cities (a digital twin technology) has taken to a completely new level. Architects can now visualise designs in a way that's never been possible before. As a result, architectural design with Smart Cities is transforming the built environment through enhanced building design and sustainable urban planning.**

Briefly, a Smart Cities platform – like [VU.CITY](#) – is an immersive, fully interactive 3D digital replica of a real city - and in the case of VU.CITY, it's accurate to the nearest 15cm.

Briefly, VU.CITY allows you to...

- Visualise and fully comprehend your design within its environmental context;
- Test design iterations to determine massing and height options;
- Analyse multiple layers of GIS planning and other data in one place;
- Communicate and share both 3D outputs and data in real-time with all stakeholders

These capabilities not only aid in making informed decisions, but also enhance building designs and project efficiency. The integration of improved urban planning and Smart Cities practices can significantly streamline your workflow, ultimately leading to tangible economic benefits.

This highlights why architectural digital twin platforms are considered invaluable tools and why architects, developers, planning consultants, and local authorities are increasingly adopting them. Therefore, the question of the economic value of utilising Smart Cities for architectural projects becomes apparent.

So, what is the economic value of using Smart Cities for architectural projects?





# The economic benefits of using a Smart City platform

The most significant cost-saving benefit that platforms like VU.CITY offer to architects is the time saved. These Smart City platforms expedite and simplify intricate processes, resulting in a more efficient workflow. With VU.CITY, you can effortlessly conduct various detailed studies and analyses. Tasks that used to require hours or even days can now be completed in minutes, or even seconds.

Exploring emerging consents (planning approved schemes) is just one such study. Knowing what currently exists and what is in the pipeline not only helps you design with the present and future cityscape in mind, but it can also support your planning application. This, in turn, increases the likelihood of a positive outcome, as [demonstrated by the team at Formation Architects in one of their proposed projects in the leafy south London suburb of Purley](#).

## The challenge of tall buildings in suburbia

A large-scale residential development consisting of three 6- to 12-storey buildings could potentially be a hard sell in leafy suburbia. But by using VU.CITY's Consented Timeline tool, the team were able to pre-empt any objections. They achieved this by ensuring their designs worked within the context of the surrounding area. This approach enabled them to convincingly demonstrate to local planners how their scheme aligned with the existing and upcoming buildings in the area. As a result, they obtained consent, and saved a significant amount of time in the process.



# Collaborative design enhances project efficiency

Collaboration in relation to planning and design are made much easier with Smart City platforms. Moreover, the synergy of Building Information Modeling (BIM) with Smart City platforms not only amplifies project management capabilities but also further elevates overall efficiency.

## BIM in architecture?

Building Information Modelling is another collaborative tool. It allows everyone involved in a project to share information in the same format simultaneously. And so, with all the various sectors working together, projects run more smoothly and project efficiency greatly improved. As a result, BIM is increasingly used throughout the AEC (architectural, engineering, and construction) industry.

VU.CITY Hub  
Collaboration





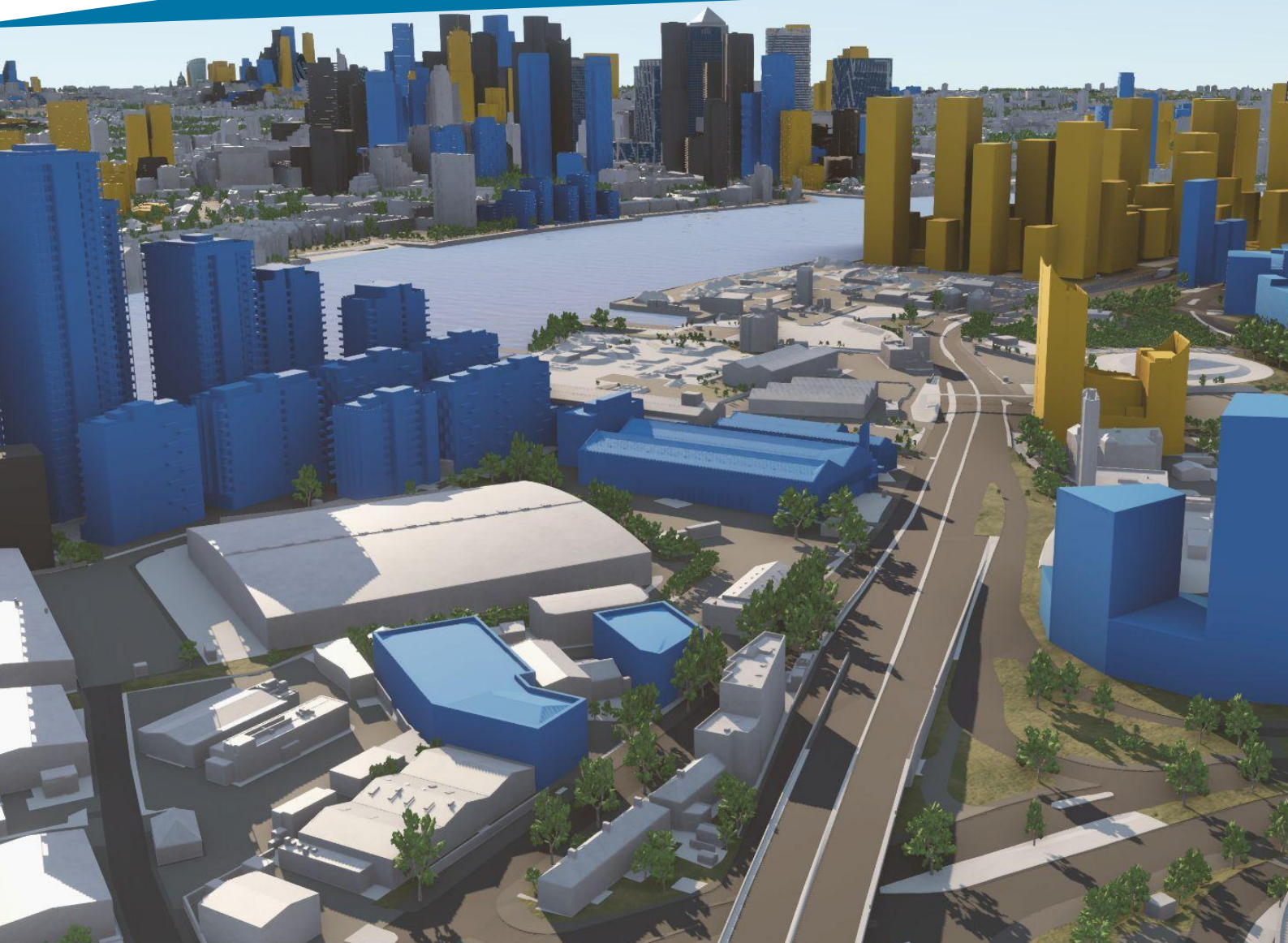
## Smart City platforms enable streamlined communications

Smart City platforms like VU.CITY empower architects to engage with stakeholders and project team members in real-time. They can seamlessly and securely share design ideas, data, questions, feedback, and more through our Hub. This fosters quicker and more informed decision-making.

By streamlining communication and decision-making, architectural project management becomes more efficient. A significant aspect of this efficiency is design integration.

Incorporating communication with project specialists, such as engineers, Internet of Things (IoT) providers, or constructors, into an architect's workflow ensures that design integration is a fundamental component. This approach ensures that all the necessary technical compatibilities a building requires are integrated during the initial design phase.

With improved design integration, the need for costly and time-consuming retrofitting at a later stage is eliminated. Construction processes can be optimised to minimise disruptions, materials can be used more efficiently, and technical infrastructure can be designed for easier future adaptation.





# Reduce rework and errors

**From the project's inception, Smart City platforms like VU.CITY empower architects to precisely visualise their design's appearance and how it harmonises with the surrounding environment.**

As previously mentioned, within VU.CITY, you have the capability to conduct various studies and data analyses (we'll delve into data and Smart Cities further shortly) for your project. One crucial study at the project's outset involves testing the massing and height options within the context.

Executing this study aids in refining your design and proactively identifying potential design issues. This allows ample time to implement necessary modifications. It's essential to prevent your project from facing setbacks caused by oversights or design errors when dealing with planning authorities.

For decision-makers in the planning process, the mass and height of a proposed development are particularly significant, especially when historical structures might be impacted. Hence, ensuring your design aligns correctly becomes paramount. This was a concern that Niazi Roden Architects were acutely aware of when [planning their development, 4 Victoria Street, in London's Victoria.](#)

VU.CITY London  
St Paul's Height Grid





# Designing with historic building preservation in mind

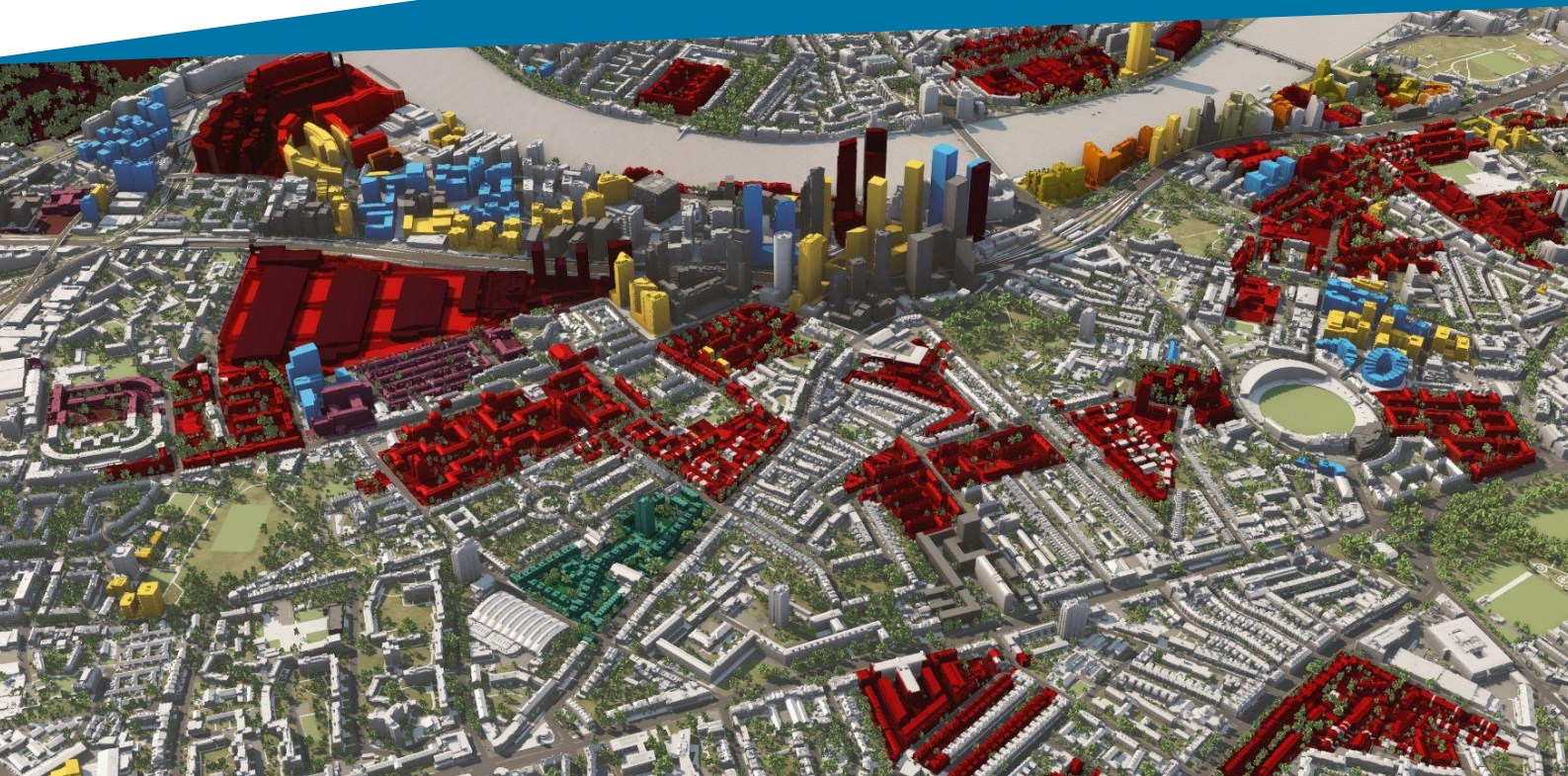
**During the pre-app process, the team at Niazi Rodan knew that getting their scheme approved would be a challenge. With its many historic buildings, Victoria's protected sightlines were a key consideration for local planners. Consequently, it was imperative to make the right design decisions from the outset and secure swift approval from all stakeholders to avoid costly delays.**

Leveraging VU.CITY's 3D London model, the team accurately evaluated the heights of neighbouring structures and conducted protected view studies, determining the visible aspects and vantage points. Remarkably, these tasks were completed within minutes, in stark contrast to the hours or possibly days it would have taken for on-site visits to verify the same information – a luxury they couldn't afford.

Through these studies, they swiftly identified a potential issue: the rooftop plant area protruded excessively, a costly mistake in the making. However, making adjustments to the design within VU.CITY efficiently resolved this problem.

Furthermore, VU.CITY allowed them to present Westminster Council with a comprehensive showcase of their design's considerations to ensure minimal adverse impact on the surrounding historic buildings. The outcome of these efforts was the successful attainment of planning consent.

VU.CITY London  
Colouring London Data





# Data-driven decision-making in architecture

**VU.CITY is a comprehensive Smart Cities platform with multiple layers of functionality. It not only features highly detailed, immersive, and fully interactive 3D models but also incorporates extensive layers of planning data, providing a full contextual view of your project. This data is continually updated, often on a weekly basis.**

For instance, you can effortlessly access and explore:

- Timelines of approved schemes, including existing, under construction, and consented projects.
- Conservation areas.
- Studies on protected views, including Zone of Theoretical Visibility (ZTV) analyses.
- Sunlight and micro-climate assessments.
- Pollution data.
- Transport access information, among other resources.

No longer will you need to spend hours searching for and sifting through extensive data from various public and private sources. You'll also eliminate the risk of overlooking critical restrictions or limitations that could potentially derail your project due to oversight.

Instead, with VU.CITY, you can instantly access all the necessary information from a single source, saving you a significant amount of time and ensuring nothing is left to chance.

VU.CITY Bristol  
Article 4 Direction





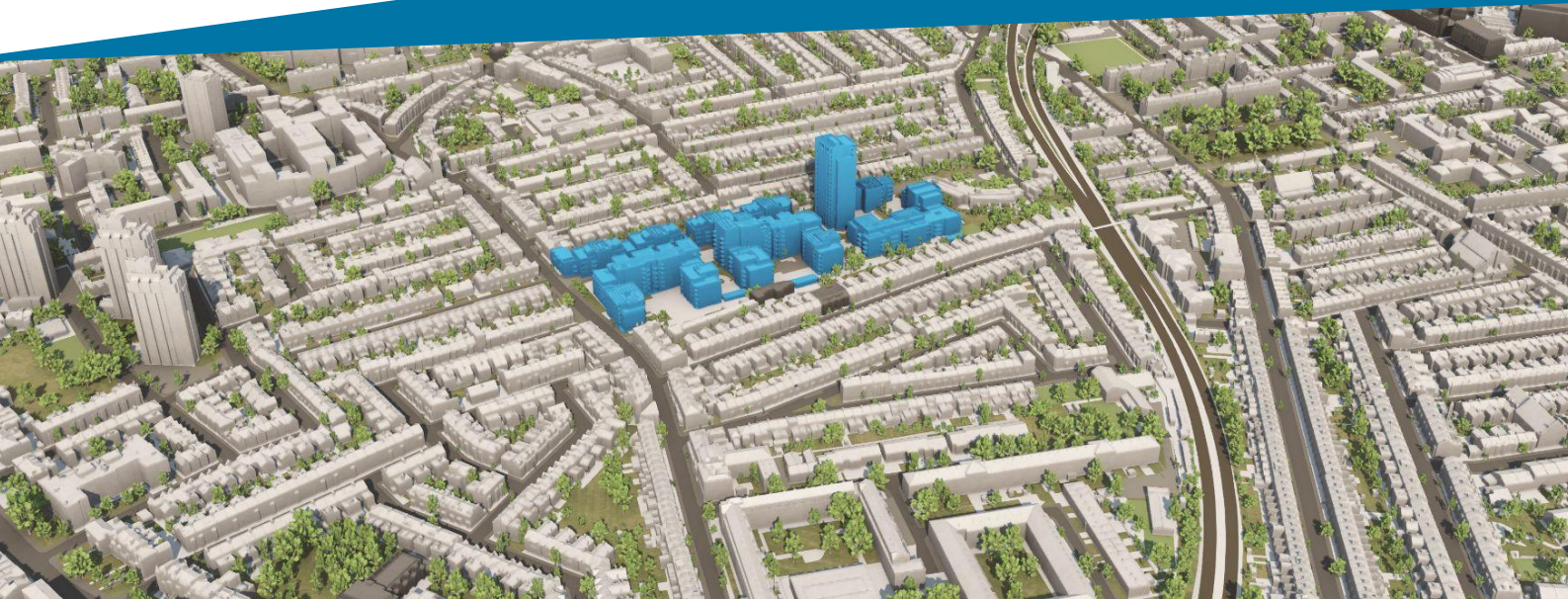
# Realising ROI: Architectural projects that have saved time and money

**Every project is unique, but architects who invest in Smart City platforms like VU.CITY will promptly notice substantial time savings. As demonstrated previously, many intricate project studies can save several days.**

The subsequent real-world instances spotlight architectural projects where architects employed VU.CITY for intricate studies. These efforts led to time and cost savings and resulted in planning consent for each scheme.

- Priestley Design tackled a [challenging project](#) involving a substantial rooftop extension on a Grade II listed building in the heart of Leeds. This necessitated extensive massing tests on various design variations and Zone of Theoretical Visibility (ZTV) studies. They assessed the visual impact of each design from multiple perspectives, considering its effect on the neighbouring area and two adjacent buildings. These studies enabled them to finalise a design that would secure approval.
- In the South London borough of Sutton, LOM Architecture & Design [employed VU.CITY to fine-tune their proposed mixed retail and residential development](#). Massing studies evaluated design iterations ranging from 6 to 12 stories, ultimately leading LOM to select 9 stories as the optimal height for the area.
- On a significantly larger scale, [ESA Architecture faced the challenge of designing three blocks, with the tallest reaching 18 stories](#), as part of a redevelopment project comprising over 550 homes on the former Lambeth Hospital site in London. Given the prominence and scale of this development, ESA's architects utilised VU.CITY to assess its visual impact on the surrounding area by exploring critical views.

VU.CITY London  
former Lambeth Hospital





# What are the challenges associated with using Smart City platforms?

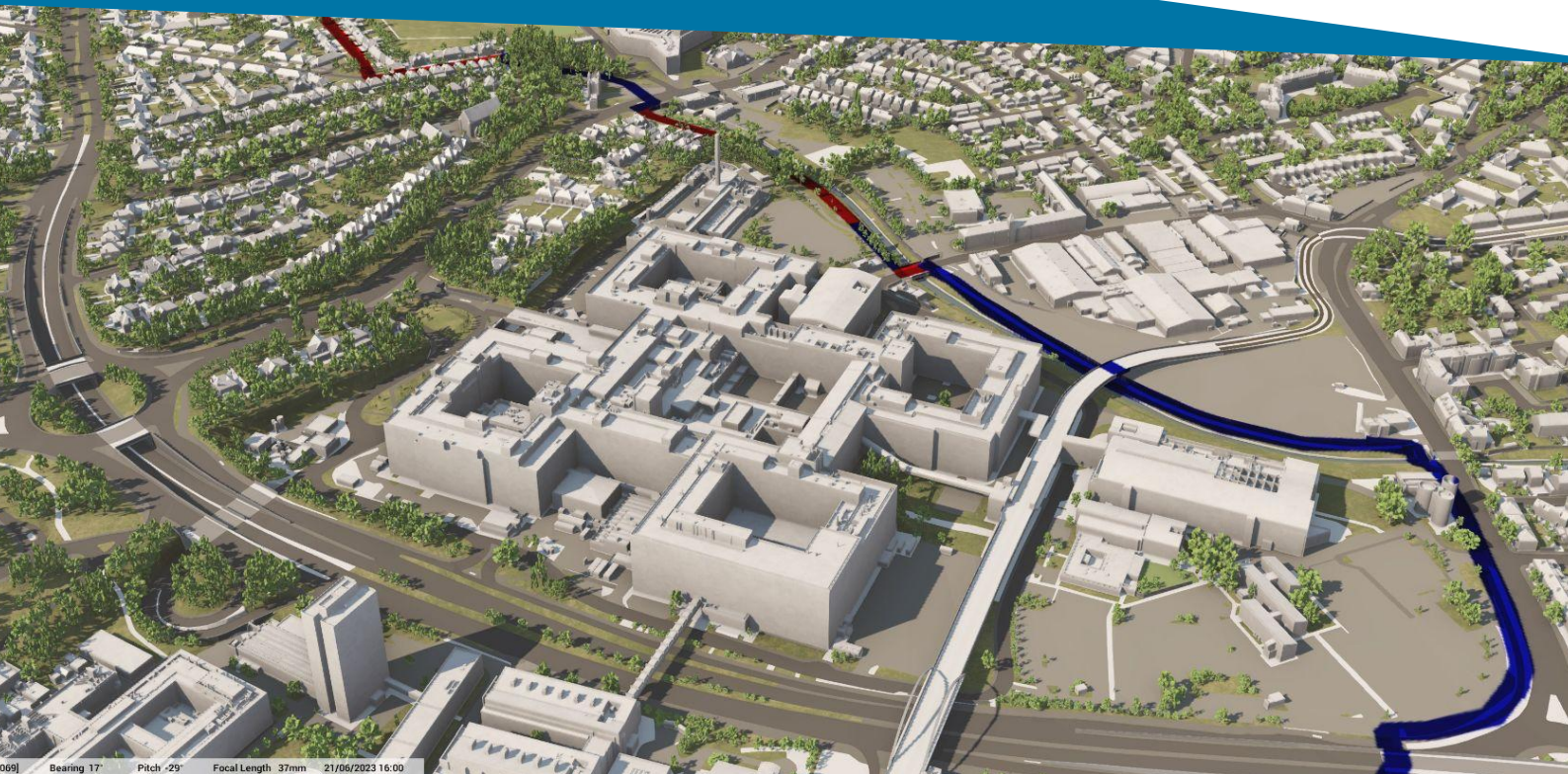
**The idea of integration and user-friendliness might initially seem like the primary challenges when adapting to Smart City platforms in your workflow. However, these challenges are not as daunting as they may appear.**

Whether you use Rhino, Revit, 3ds Max or SketchUp to create your 3D building designs, VU.CITY integrates seamlessly with them all. Once you've imported your design, whether it's a work in progress or finalised, you'll be able to thoroughly assess and refine your plans in context.

VU.CITY's 3D urban city design and planning platform is intuitive to use, with access to its many tools and extensive data made easy. To help you get a better understanding of how it all works, you can [book a free demo with one of our VU.CITY experts](#) to see the real difference it could make to all of your future architectural projects.

You'll have gathered by now Smart Cities from VU.CITY provide you with unrivalled design and planning tools alongside multiple layers of precise data. This rich combination empowers you to create the best possible design and garner the support of all stakeholders, including planners. With this alignment, the likelihood of obtaining planning consent significantly increases.

VU.CITY Nottingham  
Cycle Networks





# Future trends for Smart City Platforms

**Technological advancements in architecture are rapidly evolving, with Augmented Reality (AR) and Generative Design being two notable technologies that offer substantial benefits to both the architectural field and architects themselves.**

In the case of Generative Design, when combined with a Smart City platform like VU.CITY, architects are able to visualise 1000's of possible scenarios in seconds. For example, VU.CITY's generative design tool, [SiteSolve](#). With the power of VU.CITY and SiteSolve combined, you can get an even more accurate answer. With VU.CITY's contextual and planning functionality, you can set the parameters of your site, then with SiteSolve, you can then generate the massing that meets your needs.

Armed with the best massing option, assess them in an immersive context and securely share it with the project team, clients and investors.

Beyond technological innovation, as a growing number of architects recognize the economic advantages offered by Smart City platforms, the demand for broader 3D city model coverage is expected to naturally increase. Currently, VU.CITY provides access to [26 cities](#), and with the availability of more cities, architects can harness greater efficiencies. This expansion also opens up the potential for numerous other cities to explore enhanced design possibilities.

SiteSolve model  
in VU.CITY





# Replace guesswork with certainty

- **Enhanced design precision:** Test design variations in their actual context to save time and mitigate risks.
- **Streamlined complex 3D analysis:** Tasks that used to take hours or days can now be completed in seconds.
- **Consolidated access to all necessary GIS planning data in one place.**
- **Seamless collaboration with stakeholders:** Share visuals and data, enabling faster decision-making and comprehensive understanding of your plans.

By employing platforms like VU.CITY for architectural analysis, design, and planning, you can replace conventional 2D guesswork with 3D digital certainty. This certainty ensures a positive project outcome, allowing you to design with confidence from inception to completion, while also saving time and money.

For example, [Sovereign Centros](#), a property developer, used VU.CITY to showcase their masterplan for the redevelopment of Glasgow's St Enoch Centre to the public. This helped them to secure planning permission and attract investors, saving them millions in the process.

VU.CITY Glasgow  
St Enoch Centre





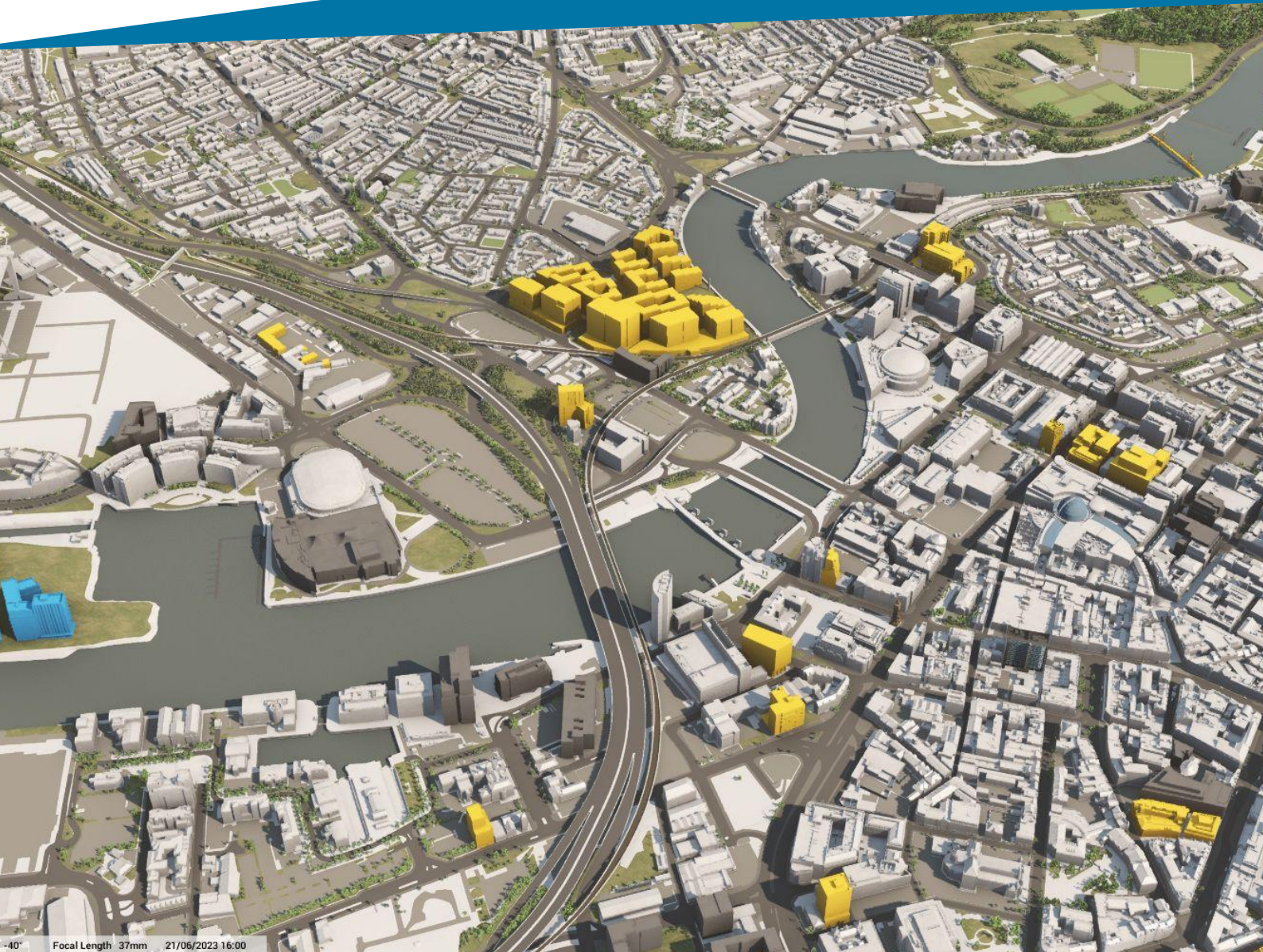
Another example is [Weaver's Cross](#), a substantial renovation of a major transportation hub in Belfast. The developers used VU.CITY to collaborate with stakeholders and ensure that the project met the needs for the community. This resulted in a more efficient and cost-effective project, with improved outcomes for everyone involved.

**To understand how you can save time and money on your next project, schedule a free trial demonstration of VU.CITY today.**

**Book your free trial with VU.CITY today**

Additionally, you can explore more resources related to the topics we've covered [here](#).

VU.CITY Belfast  
Weaver's Cross







Thank you



[info@vu.city](mailto:info@vu.city)




+44 (0)203 889 7030



[www.vu.city](http://www.vu.city)



 The Whitehouse, Belvedere Rd, South Bank, London SE1 8GA

VUCITY Limited

Registered Office: 10 Orange Street, Haymarket, London, United Kingdom, WC2H 7DQ Registered in England No: 09903428 VAT No: 266 0339 06