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THE BEST POSSIBLE CITY FOR ALL

VU.CITY AND STRATEGIC POLICY: REAL LIFE EXAMPLES AND REFERENCES

VU.CITY FOR LOCAL AUTHORITIES

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AT A GLANCE

90%
OF LONDON MUNICIPALITIES USE VU.CITY

481
MUNICIPALITY USERS ACROSS UK & IRELAND

1 MONTH
SAVED USING VU.CITY FOR APPLICATIONS

3 MONTHS
SAVED THROUGH IDENTIFYING DESIGN CONFLICTS EARLY ON

CONTENTS

VU.CITY
Portsmouth

1. Planning Policy

Speak to one of our experts

VU.CITY
London ZTV

1. Planning Policy

1.1. Waltham Forest Skylines Study
- Access the full document here.

How was VU.CITY used?
VU.CITY was used in Waltham Forest's development of their Skyline study (Nov 2021).

This draft Study forms part of the evidence base for Local Plan 2. It considers site allocations where where 'tall' and 'taller' buildings could be appropriate and examines these opportunities in greater detail, including analysis of: - local character, - surrounding context, - proximity to public transport interchanges, - public transport accessibility, - walking and cycling networks, - nearby facilities such as shops, community facilities and social infrastructure, - civic nature of potential land use.

The study is intended to form part of the evidence base of LP2 - it considers site allocations where "tall" and "taller" buildings could be appropriate.

VU.CITY references
"This study reviews these illustrative scenarios in the surrounding context though the use of a visualisation tool called VU.CITY London*. It then presents the impact that this scenario would have on the skyline in the form of 'wireframe' views and proposes an illustrative approach to appropriate storey height range and location for height."

"02.6 Key views: This study assesses the impact of an illustrative composition of building heights on the study sites in a number of key views (identified in a plan diagrams) to review the impact of potential development on sites on the existing character and townscape of the surrounding context, in long-range, mid-range and immediate views. The views have been created using VU.CITY London and are presented as illustrative wireframes.

02.7 Important borough views: The study reviews whether the sites are located within any important borough views identified by: - LBWF Characterisation and Intensification Study (2019), - Conservation Area appraisals, - Highams Park Neighbourhood Plan."

1. Planning Policy

1.2 Belfast City Council Tall Buildings SPG (May 2022)
- Access the full document here.

How was VU.CITY used?
Comments on Key Views
At the time of writing (May 2022) Belfast CC does not benefit from formalised protected views - " key views and vistas in this context will include (but not be limited to) views to and from key listed buildings as well as views from strategic public vantage points across the city including from public realm, civic spaces, parks, pedestrian bridges and the city's waterfront area."

References to 3D Modelling Requirements - Tall Building design statement

6.1.2 The TBDS should include a thorough urban design analysis which covers.

Contextual Analysis – character appraisal of immediate and local context including existing and planned building heights (clearly shown in metres), topography, urban grain, massing and materiality. Conclusions should be drawn outlining how these have been addressed.

Design Rationale – setting out the design vision for the proposal including architectural approach, streetscape treatment, palette of materials, open space provision, public realm measures, soft and hard landscape treatment, security design measures, parking provision and servicing arrangements.

Visual Appraisal - including 3D modelling and verified visual montages of proposal demonstrating how it responds to conclusions drawn from contextual analysis including any impact on key views and drawings/visualisations demonstrating the form and character of the proposed building.

Heritage Impact Assessment – identification and assessment of the impact of the proposal on the significance and setting of any affected heritage assets and areas of archaeological potential.

Microclimatic Impact – evidence of wind testing, sunlight/daylight and shadow analysis and how these have influenced the proposed design approach.

Sustainable Design Measures – including aspects such as carbon footprint, energy efficiencies, green and blue infrastructure, sustainable construction methods and waste management."

1. Planning Policy

1.2 Belfast City Council Tall Buildings SPG (May 2022) continued...

How was VU.CITY used?

There are images from VU.CITY therein. References to the model include:

- Image showing existing and proposed buildings above 35m AOD to identify emerging clusters.
- "In the absence of formalised key views and vistas across Belfast, any impact on views and vistas will be assessed on a case by case basis. This will require a detailed assessment of how the building sits within the wider context of the city, most likely by way of 3D modelling and verified visual montages".

VU.CITY
Belfast

1. Planning Policy

1.3 Bexley - Locally Significant Views
- Access the full document [here](#).

How was VU.CITY used?

Bexley published their study of locally significant views. A borough-wide ZTV was conducted by VU.CITY, which is referenced within their policy document:

"Specialist software VU.CITY thoroughly mapped every location from which the landmarks were visible, using a method termed Identifying zones of theoretical visibility. The mapping relied upon a proprietary accurate 3D model of the area of analysis is required, including building volumes, terrain topology, and trees.

The model used for analysis by VU.CITY has a 15 cm accuracy tolerance. Within the 3d model, the landmarks were selected and then used as emitters to throw "light" (raycasts) over the surrounding scene. When this "light" (raycasts) reaches a viewing plane 1.6m off the ground (the average human standing viewing plane) it was assumed the target building is visible from that location.

The mapping also differentiated the degree of the landmark visible from any given location, which allowed for the elimination of locations with poor visibility or where key features of the landmark were not visible."

VU.CITY
London Listed Building Data

Camera Location   [538734, 1094, 177096]   Bearing 259°   Pitch -70°   Focal Length   37mm   © VU.CITY 2021

1. Planning Policy

1.4 Woking Town Centre by 2030: Woking Town Centre Draft Masterplan
- Access the full document [here](#).

How was VU.CITY used?
We were used in the storyboard to explain to the public the potential changes in the masterplan which can be viewed [here](#).

Beyond this, plenty of examples of VU.CITY were used in this document - particularly in identifying tall building locations and potential clusters for development.

A lot of imagery used, including for potential long range views from N, E, S and W locations.

VU.CITY
Woking

1. Planning Policy

1.5 Hounslow Character and Design Study
- Access the full document here.

How was VU.CITY used?
Completed by Allies and Morrison on behalf of Hounslow, plenty of VU.CITY images were used when examining views in this document.

For example:

Aerial view facing north-west showing the scale of existing buildings and nearby developments.

Key view of the site facing north-east from Chiswick High Road.

Aerial view facing north-east showing the scale of nearby buildings.

Key street level view facing south-east approaching the site from Chiswick Park Station.

1. Planning Policy

1.6 The Royal Borough of Kingston Upon Thames Views Study Report
- Access the full document here.

How was VU.CITY used?
We worked closely with RBKT on this report and VU.CITY is referenced frequently throughout.

For example:
"VU.CITY: the largest and most accurate fully interactive digital city models…

A revolutionary tool
Until now we have relied on physical models and CGIs to help visualise the future. Now VU.CITY has created the largest and most accurate truly interactive digital city model, continuously updated to provide a revolutionary tool for architects, developers, advisors and the public sector. Covering 500sq km of London – including every building, road, tree and public space – it is accurate to within 15cm.

VU.CITY has been developed by GIA, the UK's largest specialist advisor in rights of light and neighbourly matters, and award winning digital agency, Wagstaffs. The digital model is fully aligned with the draft London Plan and recently released draft NPPF in terms of the adoption and use of 3D models to understand how cities can be operated and the potential impact upon the use and experience of that environment.

The Royal Borough of Kingston Upon Thames (RBK) is one of the first Local Authorities to use VU.CITY. Using the city model, it is possible to overlay GIS data, sightlines, views of the LVMF, transport links and sunlight paths, therefore offering RBK an unparalleled method of digitally understanding development and infrastructure projects both in the context of the borough, but equally, as the model grows to cover the whole of the capital, in the context of London as a whole.

RBK actively encourages all development and infrastructure proposals that change the urban environment to use a 3D visualisation tool such as VU.CITY to support assessment of the views and viewing corridors across the Borough.

The collective vision is that all future developments will go into the VU.CITY model, creating a valuable tool that visualises proposed schemes in the context of the existing built environment and what has been consented."
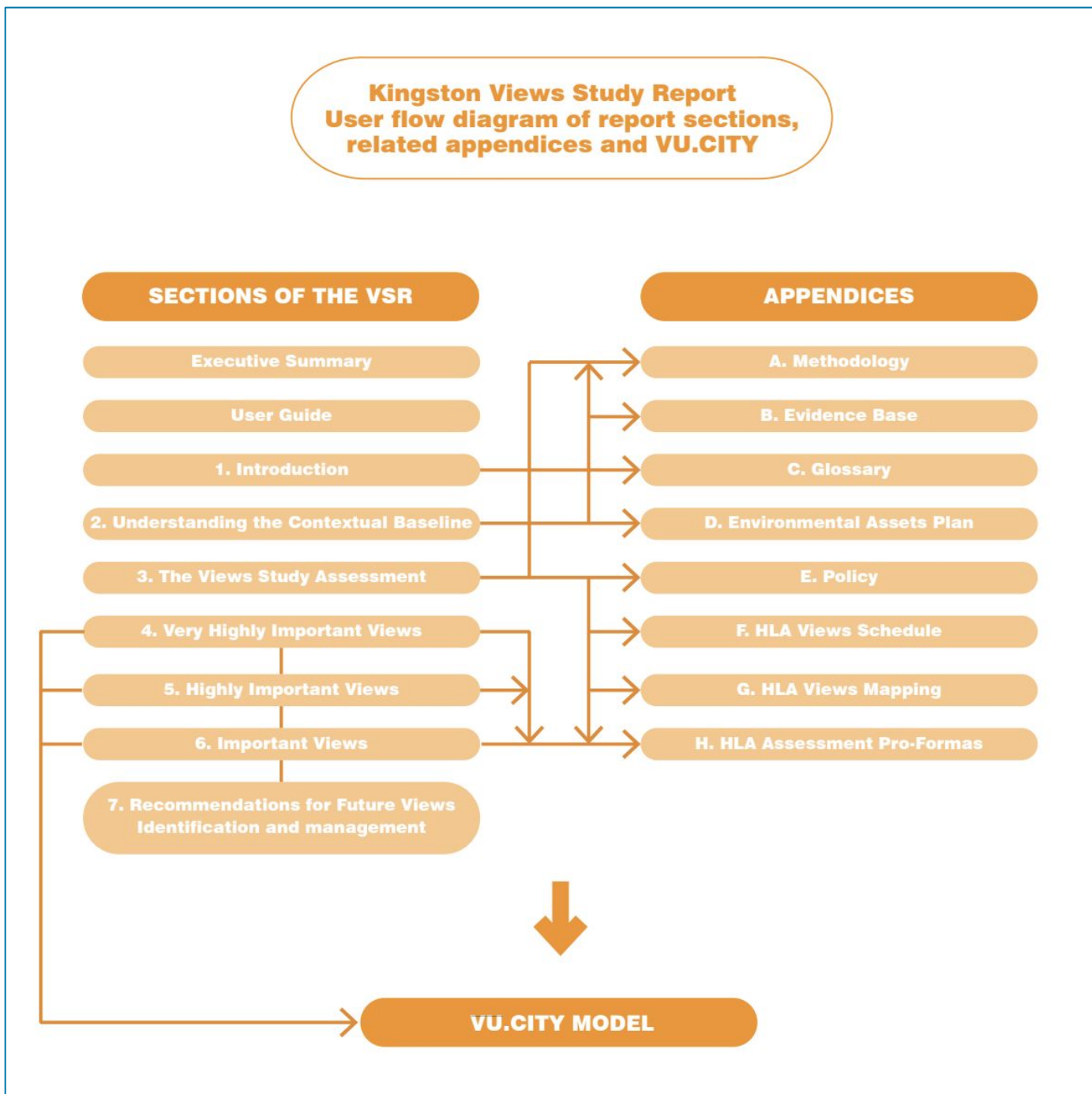
1. Planning Policy

1.6 The Royal Borough of Kingston Upon Thames Views Study Report
- Access the full document <u>here</u>.

How was VU.CITY used?

Kingston Views Study Report
User flow diagram of report sections, related appendices and VU.CITY

SECTIONS OF THE VSR

- Executive Summary
- User Guide
- 1. Introduction
- 2. Understanding the Contextual Baseline
- 3. The Views Study Assessment
- 4. Very Highly Important Views
- 5. Highly Important Views
- 6. Important Views
- 7. Recommendations for Future Views Identification and management

APPENDICES

- A. Methodology
- B. Evidence Base
- C. Glossary
- D. Environmental Assets Plan
- E. Policy
- F. HLA Views Schedule
- G. HLA Views Mapping
- H. HLA Assessment Pro-Formas

VU.CITY MODEL

1. Planning Policy

1.7 Southwark Old Kent Road - Hatcham and Ilderton Design Code
- Access the full document here.

How was VU.CITY used?
In this document, VU.CITY was used to scope out potential heights and massings. A jelly mould of the design code has been provided to be hosted in VU.CITY. This project involved Farrells, Exterior Arch and Gbolade Involved.

For example:

The existing built form and consented scheme massings can be accessed and viewed on VuCity.

New proposals should be imported and viewed in context as a standard procedure.

Instead of traditional parameter plans, the masterplan maximum parameter boxes have been developed as 3d models.

These will be available as a VuCity Layer and will be available to designers as a DWG or FBX file format.

Parameter boxes are based on AOD heights and OS grid references.

While tolerance has already been allowed for structure and peripheral elements such as upstands, parapets, lift cores and external balconies, an additional 1.5m deviation in height will be considered.

The illustrative model is an indicative set of masses, including consented sites.

This mass will be used to test proposals for topics such as daylight and overlooking in context.

Masterplan Development Steps

Site Vision for Sites - OKR16, Hatcham Road and Ilderton Road.

1. Planning Policy

1.8 Tower Hamlets Capacity Study
- Access the full document [here](#).

How was VU.CITY used?
VU.CITY was used in the Capacity Study looking at Heights and Massings options. The study

Existing   **Potential**

Existing view - North towards Lower lea Crossing   Potential view - North towards Lower lea Crossing

Existing view - West from Thameside West   Potential view - West from Thameside West

Existing view - North from Greenwich Peninsula   Potential view - North from Greenwich Peninsula

1. Planning Policy

1.9 Wandsworth Borough Council - Urban Design Study 2020
- Access the full document here.

How was VU.CITY used?
This urban design study was put together by ARUP. The tall building scenarios were created and tested in VU.CITY. See pages 174, 206 and 262 for reference. As well as these tall building scenarios, small sites were also examined using VU.CITY.

Southside Shopping Centre Massing Model.

Tall building scenarios: From left to right, Southside Shopping Centre; Markets area, Tooting High Street; Riverside cluster; Putney High Street cluster; Riverside cluster; Sainsbury's car park, Bedford Hill.

1. Planning Policy

1.10 Node's "Assessing the impact of tall buildings on the historic environment" 2021 for Historic England - to Inform TAN4
**-** Access the full document here.

How was VU.CITY used?

The overarching aim of this project is to improve understanding of how the impacts of tall buildings on heritage assets and historic areas are visualised, understood, and accounted for within the planning process, drawing conclusions from examples of good and bad practice.

The purpose of this document was to present a summary of the key findings of the research, and provide recommendations to Historic England on how to encourage good practice. The project's findings will inform an updated second edition of the Historic England Advice Note (HEAN) 4 'Tall Buildings', currently in production by Historic England, following a consultation draft of March 2020.

VU.CITY was referred to as "Insight through innovation: The rise of supplementary planning data" in this document. Rapid advances in planning technologies offer great opportunities to address challenges facing planning authorities in tall building assessment.

"The cost and usability of 3D modelling has historically been prohibitive in certain contexts. The emergence of user-friendly, and relatively affordable, 3D city modelling software is key. Once complex processes of visualisation are now within reach for many authorities, enabling more **effective baseline analysis of tall building locations, design and impact at early stages.** Moreover, as such tools become more accessible a wider range of stakeholders may scrutinise a tall building's impacts, and present evidenced positions. The change may provide renewed incentive for applicants to proactively identify and address environmental concerns (such as heritage), potentially of great benefit to addressing identified issues around information requirements and the transparency of submitted evidence (Key Lesson 6)."
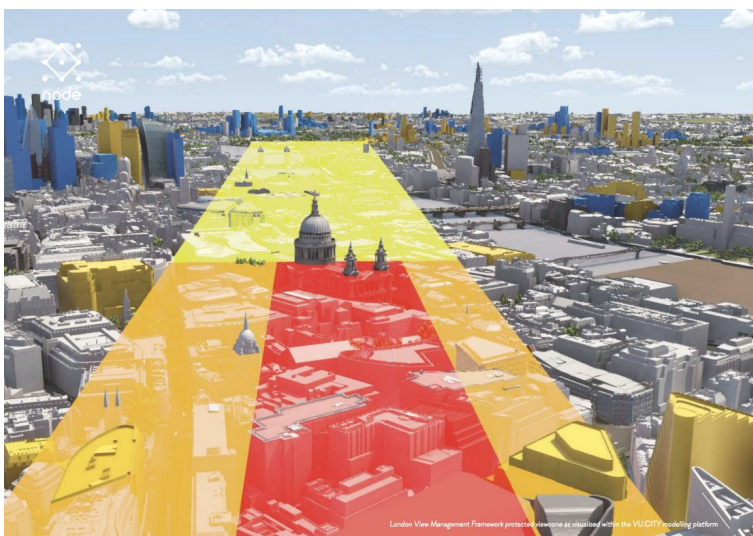
London View Management Framework protected viewcone (page 36).
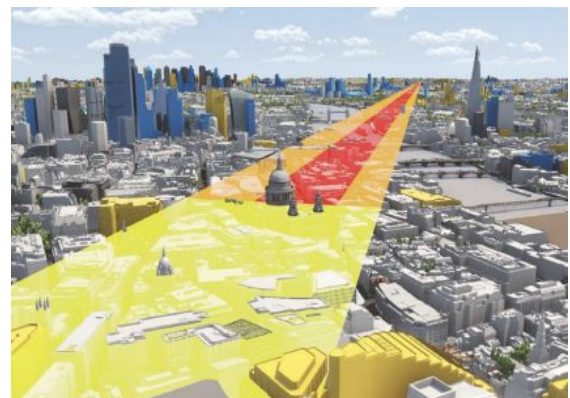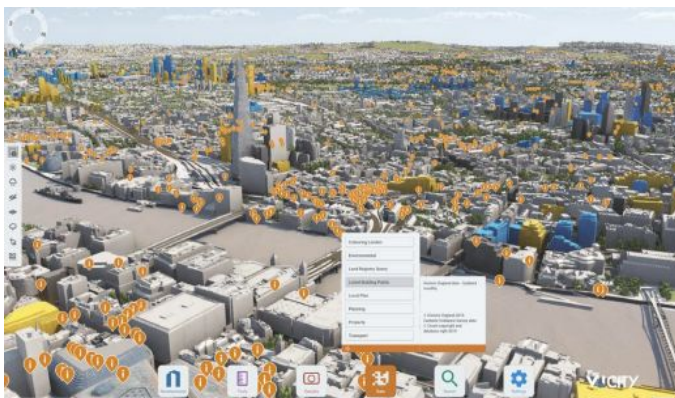
1. Planning Policy

1.10 Node's "Assessing the impact of tall buildings on the historic environment" 2021 for Historic England - to Inform TAN4 continued...

"The large majority of emerging products are proprietary software, licensed by LPAs and applicants from private sector providers (e.g. VU.CITY). At present, these providers control the scope and focus of content. Proactive engagement by historic environment organisations would be beneficial to establish new partnerships and encourage heritage-focussed research and development. This could include wider integration of existing heritage data (e.g. designated heritage assets or historic environment records) and exploring opportunities to integrate established processes of assessment (e.g. GPA3) within new digital frameworks."

"VU.CITY is amongst the better known proprietary software for 3D city modelling for planning. Targeted at both applicants and planning authorities, the software gives capabilities to integrate proposals as they develop, to be scrutinised relative to key planning and design concerns.

For historic environment, the software includes a range of welcomed tools. **Integrated data layers** include protected vistas of the London Views Management Framework, and designated heritage assets. Moreover, the ability to **visualise potential developments from street level**, and **adapt base parameters** (massing, scale) provides the ability to r**apidly scope both potential impacts of schemes,** via setting, and areas for further, more detailed investigation (e.g. TVIA) or modelling (e.g. AVRs). These can only be positive outcomes, highlighting areas of opportunity or concern at the outset, and s**ignificantly reducing risk to both applicant and environment in turn**.

At time of authorship, application of VU.CITY appears to be principally within the Greater London area - the website stating 80% adoption by GLA local planning authorities. The company also lists other key stakeholders in tall building development as clients, including Historic England. With the scope of modelled data rapidly expanding across the country's major urban areas, it is likely that other authorities will follow suit in due course, should access to this (or similar) products prove economically viable outside of the (better resourced) London boroughs."

Access the full document here.
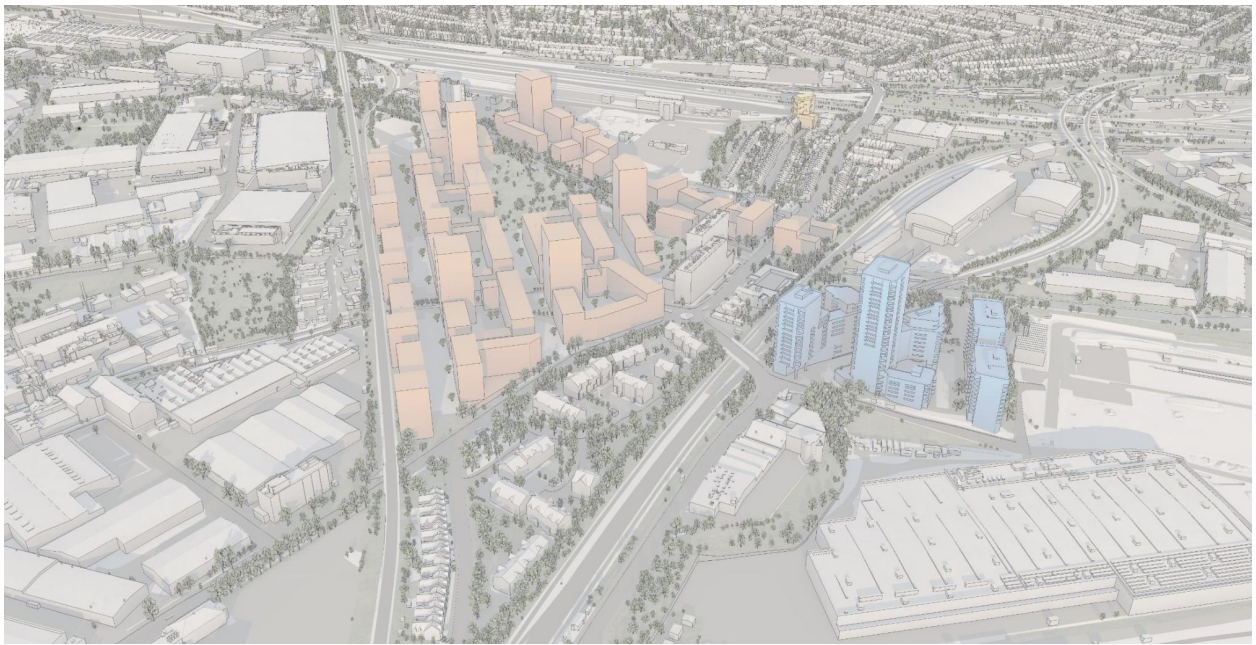
I. Planning Policy

1.11 Public Consultation on OPDC Local Plan (2020)
- Access the full document [here](#).

How was VU.CITY used?
This was a Capacity study carried out by Gort Scott on behalf od OPDC. This document is part of the public consultation that occurred in conjunction with the Local Plan.

Indicative massing/ building heights.

VU.CITY
London Boroughs

1. Planning Policy

1.12 Evidence Base for Draft Lambeth Site Allocations DPD - Knollys Yard
- Access the full document here.

How was VU.CITY used?
VU.CITY was used extensively during the assembly of this evidence base, including extensive images for the TVIA assessment. For general height and massing at Knolly's Yard VU.CITY was used by the local authority to demonstrate indicative layout and assess visual impact.

See section 4.6 on pages 16 & 17, and see appendix, page 25-36.

Bird's eye view looking from the northeast.

Used for different TVIA View's: This is no.135 Knolly's Road, demonstrating the impacts of the proposed development on the townscape.

1. Planning Policy

1.13 Brixton Tall Building Heights Study (2018) - Lambeth Local Plan
- Access the full document here.

How was VU.CITY used?
To help form part of Lambeth's Local Plan Evidence Base, VU.CITY was used to assess sites for the potential for tall buildings in Lambeth, in this case Brixton, and visual impact was assessed using the model.

Demonstrating views using VU.CITY: Max Roach Park.

Demonstrating views using VU.CITY: Wiltshire Rd at junction with Angell Park Gardens.

Demonstrating view using VU.CITY: Somerleyton Road at corner with Broughton Drive.

1. Planning Policy

1.14 Waterloo Building Heights Study (2018) - Lambeth Local Plan
- Access the full document here.

How was VU.CITY used?
To help form part of Lambeth's Local Plan Evidence Base, VU.CITY was used to assess sites for the potential for tall buildings in Lambeth, in this case Waterloo, and visual impact was assessed using the model. Extrusions for potential heights were created and then assessed from various viewpoints in the attached.
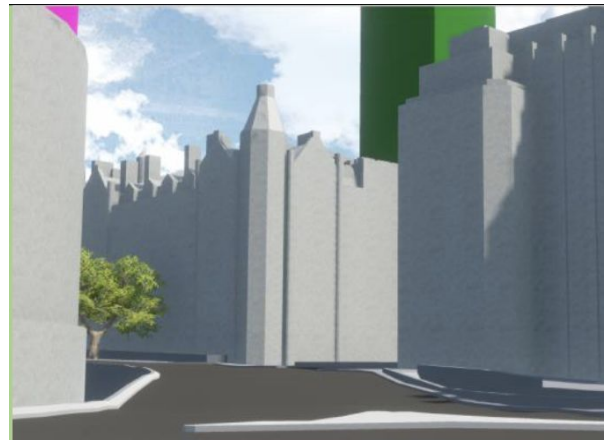
Demonstrating impact of tall building proposal: 5 Whitcote Street

Demonstrating views using VU.CITY: Victoria Embankment at Temple Tube Station.

Demonstrating view using VU.CITY: Somerleyton Road at corner with Broughton Drive.

1. Planning Policy

1.15 Woking Town Centre Masterplan - Site Specific Guidance
- Access the full document here**.**

How was VU.CITY used?
In this site specific guidance VU.CITY was used throughout to illustrate which sites in Woking could be appropriate for tall buildings and show the potential skyline.

Aerial view facing north-west showing the scale of existing buildings and nearby developments

■ Consented scheme
■ Scheme under construction

POTENTIAL MASSING

■ Consented scheme
■ Scheme under construction
■ Proposed scheme

I. Planning Policy

1.16 Royal Borough of Kensington and Chelsea - Earls Court Opportunity Area Capacity Study (February 2022)
- Access the full document [here](#).

How was VU.CITY used?

Optimal heights scenario aerial view from south-west.
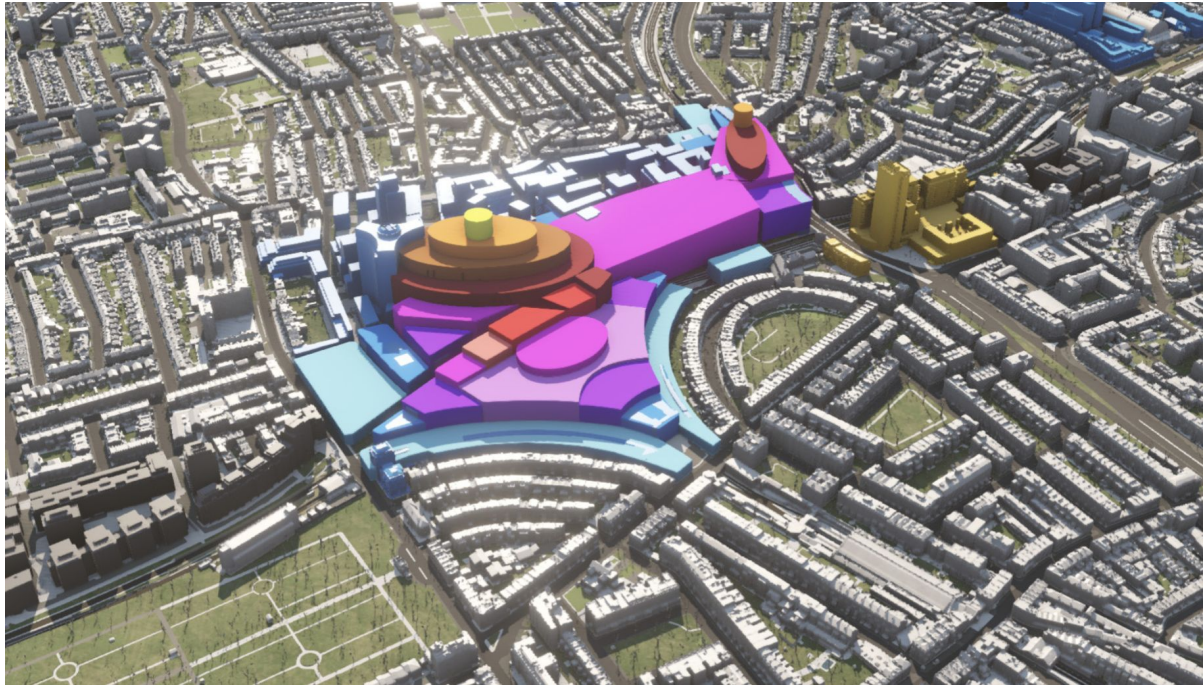
I. Planning Policy

1.16 Royal Borough of Kensington and Chelsea - Earls Court Opportunity Area Height Guidance
- Access the full document [here](#).

How was VU.CITY used?

RECOMMENDATIONS - VIEW 1, BROMPTON CEMETERY

View 1 (a) - photograph

View 1 (a) - VUcity model with height principles

View 1 (a) - VUcity model with recommended height envelope
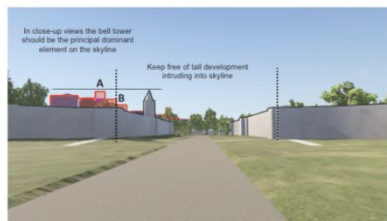
View 1 (b) - photograph

View 1 (b) - VUcity model with height principles

View 1 (b) - VUcity model with recommended height envelop

View 1 (c) - photograph

View 1 (c) - VUcity model with height principles

View 1 (c) - VUcity model with recommended height envelope

2. Planning Inquiry

Speak to one of our experts

VU.CITY
Croydon Consented Timeline

2. Planning Inquiry

2.1. New City Court Planning Inquiry
- Access the full document here.

How was VU.CITY used?
This is an example of a planning inquiry that referenced VU.CITY by one of the appellant or defendant parties. A planning application was made by Great Portland Estates (AHMM, DP9) for New City Court. During the inquiry, they referenced VU.CITY at 1.51.00. Views were created purposefully around Minerva Square. The photographs were tested in VU.CITY to test impacted views for this development. They were able to visualise how a tall building impacted old architecture of Southwark Cathedral.

Link to the video inquiry here.

Historic England goes on to mention the use of ZTV and at 16m30s Historic England had both models of the schemes that were submitted in 2018 and 2021 at application stage from the appellant team and extruded their own models. They commented:

"3D modelling is becoming more and more a really important part, these digital planning tools are becoming a really important part of what we do and how we assess impact".

2. Planning Inquiry

2.2. 103-111A High Street, Croydon - Planning Inquiry
- Access the full document here.

How was VU.CITY used?
This is an example of a planning inquiry that referenced VU.CITY by one of the appellant or defendant parties. References of using VU.CITY run throughout this document, which both JJ Sarralde (Townscape Consultancy) and Gordon Ingram (GIA) used during their expert witness evidence.

"... A cursory consideration of the VU.CITY model outputs over the subsequent decade reveals that the stategem has been working. However, a walk around the town centre also reveals that there is much more to be done".

VU.CITY
Croydon

nera Location [531866, 103, 164789]   Bearing 49°   Pitch -14°   Focal Length 37mm

3. Validation Requirements

Speak to one of our experts

VU.CITY
Salford

3. Validation Requirements

Examples of where 3D modelling is directly referenced in a Validation Checklist

3.1 London Borough of Brent Validation Requirements
- Access the full document <u>here</u>.

How was VU.CITY used?
"A three dimensional computer generated model in a format to be agreed with the Local Planning Authority. The model must be Geo-located in Ordinance Survey space, in meters (m) units. The model is intended for the evaluation of massing and should not a large-set BIM model with full structural information. Please contact the Planning Authority for further information regarding requirements".

3.2 Southwark Plan 2022
- Access the full document <u>here</u>.

How was VU.CITY used?
This was in Southwark's Historic Environment: Heritage supplementary planning document. The Validation requirements for tall buildings includes "3D model file for VU.CITY". The SPD references the Council's use of VU.CITY software and requires that 3D models compatible with VU.CITY are submitted for major schemes.

"The Council utilises a software application called VuCity which is a 3D rendered model of the entire borough. Major (up to 50 units or 50,000 sq ft) and Strategic Major Application schemes (more than 50 units or 50,000 sq ft) will be required to provide a 3D electronic model in an FBX file format so that it can be inserted into the VuCity model so the proposal may be assessed within its context."

VU.CITY
Southwark Protected View

3. Validation Requirements

Examples of where 3D modelling is directly referenced in a Validation Checklist.

3.3 Tower Hamlets Validation Requirements
- Access the full document here.

How was VU.CITY used?
"Photographs and photomontages can provide useful background information and can help to show how developments can be satisfactorily integrated within the street scene.

Computer generated visualisations should illustrate the likely visual impact of the development and show it in its context. The views required and the format/level of detail can be determined through pre-application discussions and would depend on the scale and likely prominence of the proposed development as well the sensitivity of its setting.

The council uses VU.CITY software. Applicants should submit the massing model of their building – simplified - in the *.fbx format, geolocated by either OS Grid Coordinates (preferred) or Lat/Long. Material details on identified layers, structural info etc. should be omitted.

We also need to know the original software which generated the model (SketchUp, AutoCAD, Rhino, Revit, 3DMax) and units of measures applied (m, cm, mm)."

When required

"Photographs / photomontages are required where the proposal involves demolition or development affecting a conservation area or listed building.

Digital 3D Modelling will be required for major development and applications considered to have a significant impact on the townscape for medium to large scale projects."

**VU.CITY
Tower Hamlets**

3. Validation Requirements

Examples of where 3D modelling is directly referenced in a Validation Checklist.

3.4 Salford City Validation Requirements
- Access the full document [here](#).

How was VU.CITY used?

Local information requirements: VU City 3D model

Types of application that require this information
- All major new build applications of 50 dwellings or more; or 2,500 square metres of gross external floorspace or more.

Details of what should be included
- A 3D Massing Model in fbx file format (2013-2016)
- Details of the modelling app, scale, and survey coordinates

The model is intended for the evaluation of massing, so does not need to be a large-set BIM model with full structural or internal information. The file should be less than 128mb, and all objects grouped onto one object/layer.

The model should be geo-located in OSGB space. If the application you have used does not geolocate in OSGB or you have any issues, please zero the model instead. When you submit a model, please ensure you also include the OSGB geolocation coordinates and AOD height, the modelling package used to create the file and the scale it was created in.

Further guidance is available in the [VU.CITY guidance note](#) which is available for download on the council's website.

Salford City maintain that the following type of application require VU.CITY: All major new build applications of 50 dwellings or more; or 2,500 square metres of gross external floorspace or more.

VU.CITY
Olympic Park

3. Validation Requirements

Examples of where 3D modelling is directly referenced in a Validation Checklist.

3.5 Haringey Validation Checklist
- Access the full document here.

How was VU.CITY used?
Requirements from Haringey are as follows:

"**What you need?** - Geo-located 3D Massing Model in fbx file format.

What kind of Development? - Development of 50 residential units or 2,500sqm of commercial floorspace or more.

Which Locations - All Locations.

Policy Driver - Local Plan.

What info is needed - A **3D massing mode**l exported in fbx format which has been created in any of the following software packages; AutoCAD, 3DS Max/Maya, Rhino, SketchUp, and Revit.

The model must be geo-located in Ordinance Survey space, in meters (m) units. The model is intended for the evaluation of massing and should not be a large-set BIM model with full structural information. Instead, it should have less than 65,000 vertices, and does not require internal information (only external)."

VU.CITY
Haringey

3. Validation Requirements

Examples of where 3D modelling is directly referenced in a Validation Checklist.

3.6 Westminster Council Validation List
- Access the full document here.

How was VU.CITY used?
"**3D Model** - May be required for major applications/ tall building proposals or development affecting the Westminster World Heritage Site, LVMF or other significant views."

City Plan Policy 40 Townscape and Architecture, Requirements agreed by the Cabinet Member for Business, Licensing and Planning, October 2021."

L25. 3D Model	May be required for major applications/ tall	City Plan Policy 40 *Townscape and Architecture,*	• Full Planning Permission

Requirements agreed by the Cabinet Member for Business, Licensing and Planning, October 2021.

	building proposals or development affecting the Westminster World Heritage Site, LVMF or other significant views.	London Plan Policy D4 *Delivering Good Design,* HC2 *World Heritage Sites* and HC3 *Strategic and Local Views* Models should be in fbx format and should be geo-located. We currently use VU:CITY software. You can view instructions on how to import a model into VU:CITY here. This will not be required for all major applications and requirements will be discussed and agreed through the pre-application or application process.	• Outline Planning Permission • Reserved Matters • Removal/Variation of Condition(s)

**VU.CITY
Westminster**

4. Other Areas in Planning Policy

Speak to one of our experts

VU.CITY
Oxford

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.1 London Borough of Kingston Upon Thames
- Access the full document here.

How was VU.CITY used?
This borough references the use of 3D modelling in submitting planning applications. They have a page on their website for 3D Modelling and VU.CITY here.

"The Council uses VU.CITY software to analyse 3D models as it provides an interactive view of the Royal Borough of Kingston upon Thames (RBK). VU.CITY London is an accurate digital 3D model of London that is managed and maintained independently of the council. VU.CITY London includes:

A fully interactive 3D city model of the whole of London(roofscape accuracy to 15cm); sunlight and shadowing simulation, street level walk mode, transport overlays, set and view cameras and view GIS data; RBK Very Highly Important Views and verified views; and integration of consented and on-site projects to assess the cumulative impact of proposals.

Applicants and developers are encouraged to use VU.CITY to support their planning application and inform the pre-application process. To find out more about the model, visitVU.CITY London. Applicants and Developers may submit a 3D model to the Council both within and outside of VU.CITY".

VU.CITY
Kingston

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.2 Dacorum Borough Council's Requirements for 3D Modelling
- Access the full document [here](#).

How was VU.CITY used?
References to VU.CITY in Dacorum Borough Council's Planning Requirements:

"We require all applicants to submit digital models of proposed major developments as part of any pre-application discussions. Digital 3D modelling will be required for major developments and any application considered to have a significant impact on the townscape. Requirement for 3D submission should be discussed with officers during pre-application discussion.

The requirements for applications which we will require a 3D submission as part of the application are set out below:

3D digital model submission is required for all major developments:

Category A: Significant Major Developments - 3D submission required for all in this category
Category B: Very Large Major Developments - 3D submission required for all in this category
Category C: Major Developments - 3D submission is required for any development of four storeys and above. We recommend discussing with your case officer if a 3D model is recommended for a Category C major developments.

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.3 Central Oxford Conservation Area and Appraisal
- Access the full document here.

How was VU.CITY used?
They outline how applicants should approach the design and development of buildings within the conservation area:

""8.2 Making an application - Advice Applicants should:

- Seek pre-application advice where applications are located within the conservation area or within its setting, particularly if they may have a harmful impact on the significance of the conservation area, listed buildings, archaeology or historic landscapes.
- Where the nature or scale of the proposals require, engage with the Council's **VU.CITY's 3D model** through the pre-application and planning application process by providing a 3D model of the proposal and undertaking reviews with the Council Planning Service.
- Comply with Oxford City Council's planning validation requirements.

**VU.CITY
Oxford**

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.4 Lambeth Local Plan 2021
- Access the full document here.

How was VU.CITY used?
Reference assessing strategic and local views:

"Applicants should provide accurate digital model based assessments of the impact of their proposals on designated views; including, where necessary, verified renders of the proposal within the view. Digital models, where submitted, should be VUCity compatible."

Referenced in tall building applications:

"All proposals for tall buildings should be accompanied by a detailed urban design assessment including accurate information on the townscape impact assessment. This should include a map showing the Zone of Theoretical Visibility (ZTV) of the proposal, verified digital modelling showing the impact on its immediate locality, on local and strategic views; and on any affected heritage asset settings. Any digital models submitted for assessment should be in a VUCity compatible format."

10.127 - Applicants should provide accurate digital model based assessments of the impact of their proposals on designated views; including, where necessary, verified renders of the proposal within the view. Digital models, where submitted, should be VUCity compatible. The Mayor's London Views Management Framework SPG (LVMF) will be used when considering proposals that affect strategic views. See Annex 6 for a list of the strategic views identified in the LVMF. Historic England's 'Setting of Heritage Assets' guidance will also be used to inform the assessment of proposals where a heritage asset are affected. The council will produce a Lambeth Local View Management SPD to assist with the management of development within local views, wherever possible, in a positive manner.

VU.CITY
Lambeth Palace

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.5 Southwark Heritage SPD
- Access the full document [here](#).

How was VU.CITY used?
This SPD references the Council's use of VC software and requires that 3D models compatible with VC are submitted for major schemes:

"The Council utilises a software application called VuCity which is a 3D rendered model of the entire borough. Major (up to 50 units or 50,000 sq ft) and Strategic Major Application schemes (more than 50 units or 50,000 sq ft) will be required to provide a 3D electronic model in an FBX file format so that it can be inserted into the VuCity model so the proposal may be assessed within its context. "

9.6.4	VuCity
	The Council utilises a software application called VuCity which is a 3D rendered model of the entire borough. Major (up to 50 units or 50,000 sq ft) and Strategic Major Application schemes (more than 50 units or 50,000 sq ft) will be required to provide a 3D electronic model in an FBX file format so that it can be inserted into the VuCity model so the proposal may be assessed within its context.

VU.CITY
Southwark

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.6 Brighton Urban Design Framework
- Access the full document here.

How was VU.CITY used?
Within the UDF SPD there are several references to the use of 3D, including as follows:

"Tall Building Statements - submissions should include " an urban design assessment, including a 3D modelling and analysis, within the proposal's area of visual impact to support the appropriateness of the site for taller development."

Conceptual Design Options - the council expects would-be applicants to submit design information including " Sketch drawings and images which may include figure ground studies, plans, sections, elevations, 3D visualisation and/or physical models to clearly indicate site layout, scale and massing, contextual streetscape, ground plane functionality, spatial adjacencies and indicative movement strategies." - "Relevant identified strategic and local views and views from within the development, all using 3D visualisation."

Preferred Design Concept - at this stage the council expects would-be applicants to submit design information, including: " More detailed 3D visualisation and/or models."

VU.CITY
Brighton

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4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.7 Richmond Upon Thames - Consultation Draft Local Views SPD
- Access the full document here.

How was VU.CITY used?
This policy advocates the use of VU.CITY:

"Views extend beyond borough boundaries so it is incumbent on developers to prepare accurate visual representations (AVR) and use digital modelling such as VUCITY to understand the full implications of development proposals."

"Applicants will be required to provide Accurate visual Representations (AVRs) of the impact on views of proposals from agreed viewpoints with planning applications for major developments. These will form part of the Townscape and Heritage Impact Analysis. The use of 3D modelling such as VUCITY is also advocated."

- Policy 44 (Design process) – This policy sets out a design-led approach to the evaluation of development sites in accordance with the London Plan. The onus is on developers to undertake a thorough analysis of sites and their context to understand fully the impact of any proposals on the settings of heritage assets. An analysis of both strategic and local views is essential to understand the impacts of development on views. Views extend beyond borough boundaries so it is incumbent on developers to prepare accurate visual representations (AVR) and use digital modelling such as VUCITY to understand the full implications of development proposals.

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VU.CITY
Richmond

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.8 City of London - PPA 2022
- Access the full document <u>here</u>.

How was VU.CITY used?
In this document, Developers are asked to present their proposals for assessment in the City of London's 3-D model to accurately test the impact of height, scale and massing in both the existing context and within the context of future planned development.

4.9 Westminster City Plan 2019-2040 - Access the full document <u>here</u>.

How was VU.CITY used?
"**40.19:** "We will work with adjoining boroughs to ensure the impact of development in Westminster on protected views in other boroughs (and vice versa) is understood and managed carefully and sensitively. Potential impacts on views should be identified through visibility analysis, supported wherever possible by the use of accurate 3D digital modelling."

VU.CITY
London Massing Tool

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.10 Historic England Tall Buildings Advice
- Access the full document here.

How was VU.CITY used?
Historic England's updated Tall Buildings Advice note, providing advice on planning for tall buildings within historic environment.

Its purpose is to support local planning authorities (LPAs), developers, communities and other stakeholders in dealing with tall buildings proposals within the legislative and planning framework relevant to the historic environment.

Within the Tall Building Advice Note there are references to 3D modelling, including an image specifically from VU.CITY, which is directly referenced.

"Accurate visual representations and three-dimensional models: photography (taking account of good practice visual representation techniques in the Landscape Institute's 'Technical Guidance Note'12) helps describe a proposal's impact by illustrating the context. Where available and appropriate, images produced using computer models are helpful supplementary information to technical drawings, providing an opportunity to illustrate what the development would look like. Proposals can be viewed dynamically within the programme environment and alternative options can be tested. It is important to differentiate between representations created for technical assessment and those produced for marketing purposes. Digital models which include historic environment data can assist with the testing of alternative configurations, layout, scale and massing to inform plan-making and planning applications. Use of such technologies should be proportionate to the scale of the proposal and the significance of heritage assets."

Use of ZTVs is also encouraged at pre-App: " Zones of Visual Influence (ZVI), also known as Zones of Theoretical Visibility (ZTV)13: these are a useful model to show the visual 'line of sight' or catchment area from which a development can potentially be seen. At pre-application stage ZVI/ZTV are a useful initial tool for understanding the potential impact of a tall building. As they use terrain models, important elements like trees or existing buildings may be excluded. but they remain a useful aid."

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.11 HUK Regional Planning Policy: The London Plan
- Access the full document here.

How was VU.CITY used?
Following on from the foundation provided by the National Planning Policy Framework (linked below), for Planning in London specifically, the next resource down in policy structure is The London Plan, which is intended to guide Local Plan Development within the overarching vision of London set out here.

REFERENCES TO 3D MODELLING INCLUDE:

"The Mayor will work with boroughs to provide a strategic overview of tall building locations across London and will seek to utilise 3D virtual reality digital modelling to help identify these areas, assess tall building proposals and aid public consultation and engagement. 3D virtual reality modelling can also help assess cumulative impacts of developments, particularly those permitted but not yet completed."

Policy D4 Delivering good design

Design analysis and development certainty

A - Masterplans and design codes should be used to help bring forward development and ensure it delivers high quality design and place-making based on the requirements set out in Part B of Policy D3 Optimising site capacity through the design-led approach.

B - Where appropriate, visual, environmental and movement modelling/ assessments should be undertaken to analyse potential design options for an area, site or development proposal. These models, particularly 3D virtual reality and other interactive digital models, should, where possible, be used to inform plan-making and decision-taking, and to engage Londoners in the planning process."

VU.CITY
London

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.12 Enfield Draft Local Plan (2019 - 2039)
- Access the full document <u>here</u>.

How was VU.CITY used?
Draft Policy DM DE2 - Design Process and Design Review Panel

2. Pre-application

"Applicants may be required to provide 3D digital massing models suitable for collation by the planning team to assess cumulative impact of development. This could be in a form that accommodates software, such as VU.CITY"

Draft Policy DM DE5 - Strategic and Local Views

"Where developments are likely to be visible within designated important views, the council will require the production of accurate visual representations of the development form the surrounding area and from different points within the viewing corridor. Dynamic models, such as VU.CITY will often be sufficient. For schemes with a greater impact, fully rendered and verified visual representations may be required in line with the guidance contained within the London View Management Framework Supplementary Planning Guidance 16. Development will only be supported where the applicant can demonstrate that it does not harm or obstruct the views identified."

Draft Policy DM DE4 - Putting heritage at the centre of placemaking

7. A full understanding of the impacts of the proposals on the setting of the heritage asset at a scale appropriate to the significance of the asset and scale of proposed development. Appropriate techniques for assessment may include annotated photos; 3D wirelines or wireframe; photomontage; verified views; 3D modelling software. Applicants are encouraged to take advantage of new technology to demonstrate accurately the impact of a development upon a heritage asset or its setting. The level of detail required will depend upon the scale of development / change. Through pre application advice services we will work with applicants to clarify and define what information will be required to assess development proposals.

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.13 Enfield Draft Local Plan (2019 - 2039)
- Access the full document here.

How was VU.CITY used?
Draft Policy DM DE6 - Tall Buildings

Location

"The principle of tall buildings will be supported in appropriate locations. Different definitions of "tall building" are used throughout the Borough to reflect local context (as explained in Figure 7.3). If a proposal is defined as tall, it will be assessed against the following criteria: a. Figure 7.4 identifies areas where tall buildings could be acceptable (subject to the criteria contained in this policy) along with indicative maximum heights.

Tall buildings should only be developed in locations that are identified as potentially suitable; and b. Locations marked as potentially appropriate for tall buildings do not allow for a blanket height across the area. Height will only be supported as part of a coherent strategy. All other policies within the development plan remain relevant in determining the detailed location, form and design of buildings. It should be noted that many of the locations include sensitivities, including those related to heritage assets, and therefore more detailed analysis will be needed to justify proposals.

Design quality

"Proposals involving tall buildings must demonstrate how they will: a. be of the highest architectural and urban design quality (in terms of materials, silhouette, proportion, finishes and the treatment of the public realm); b. relate well to the character of the immediate context and its surroundings, taking account of building heights, topography and the pattern of adjoining streets (both existing and planned); c. not harm the significance of heritage assets, including their settings and protected views; d. provide high quality private and communal amenity and play space in accordance e. activate the street frontage; f. be carefully sited to avoid creating a wall of tall buildings or isolated and poorly defined buildings and spaces; g. avoid adverse impacts on the microclimate (including wind and overshadowing) and amenity of the site and surrounding area (including appropriate modelling); h. provide a positive contribution to the skyline that considers views in the medium, short and long distance as well as contribution to a cumulative impact across an area."

Applicants must submit 3D models of their designs in an agreed format to allow a full assessment of the tall building (or cumulative impact of a cluster of tall buildings) across the borough as part of the planning application process.

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.13 Cambridge Local Plan 2018
- Access the full document here.

How was VU.CITY used?
Digital visualisation techniques

F.49 The use of 3D digital modelling and visualisation by applicants for tall buildings is strongly encouraged at pre-application discussions with applicants. As part of the planning process, developers may produce 3D computer models of their scheme to illustrate the scale and massing of proposed development.

F.50 Where 3D computer models are made available to the council, these need to be produced in a format compatible with SketchUp or AutoCAD (.dwg or .dxf). Models need to be at the correct scale (1:1), location, elevation and orientation according to Ordnance Survey data, including a reference point of existing nearby buildings. At the pre-application stage, 3D models need to show the basic form of the building with proposed roof forms and any stepped/staggered elevations, and overhangs or defining architectural elements.

4.14 Oxford High Buildings TAN - 2018
- Access the full document here.

How was VU.CITY used?
Many references to 3D throughout, including:

"Accurate visualisations of development proposals are considered helpful and necessary to inform an understanding of the final design proposal and 3D modelling of high buildings is required under Local Plan policy"

"The use of 3D modelling and appraisal tools, such as landscape and visual appraisal, is promoted so that key matters can be identified early and addressed as part of iterative design process. "

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.15 Tower Hamlets - Isle of Dogs Neighbourhood Plan 2019-2031
- Access the full document here.

How was VU.CITY used?
7.5 Given the vertical scale of development in the Area (up to 241 meters above sea level), good design and good architecture in the 21st century require the use of 3D models in the planning process.

7.6 LBTH has acquired its own 3D model for planning purposes, which as of 2018 was a licence to the Vu.city model. 33

POLICY 3D1 – 3D MODEL FOR APPLICATIONS All applications for Strategic Developments must be accompanied by a 3D model and in a form that is compatible with the model used for assessment as part of the development management process.

7.7 It is no longer sustainable to plan at this level of density and height without better tools.

7.8 3D models are increasingly being used in planning to solve a wide range of issues.

7.9 In order to keep the 3D model 'live', any applications submitted must include 3D models to allow the LBTH 3D model to be updated.

7.12 Applications submitted to LBTH which do not include the ability to have a fly-through presentation, or views from different angles of the development in its wider context through a 3D model, should not be validated.

4. Other areas in planning policy

These examples refer to other areas in planning policy that require VU.CITY directly or 3D modelling.

4.16 Brighton and Hove County Council - Pre Application Requirements
- Access the full document here.

How was VU.CITY used?

Brighton & Hove City Council

City Development & Regeneration
Planning and Building Control Service
Major Pre-Application Initial Enquiry Form

3D Modelling
To support the digitisation of planning and better decision making, we are encouraging all major developments to be developed within the 3D model that our partner Vu City has developed for most parts of the city.
The use of this model is mandatory for any scheme that is going to be presented to DesignPLACE panel and for developments of 50 + residential units or 2,500 sqm + of commercial floorspace.
Further information, advice and guidance can be found on the council's website by searching for 3D Modelling.

3D models format / requirements:
Please supply your 3D massing model either generated and sent through the VU.CITY platform.

Alternatively a 3D massing model exported in .fbx format which has been created in any of the following software packages: AutoCAD, 3DS Max/Maya; Rhino; SketchUp and Revit can be submitted.

The model must be Geo-located in Ordinance Survey space, in meters (m) units. The model is intended for the evaluation of massing and should not be a large-set BIM model with full structural information. Instead, it should have less than 65,000 vertices, and does not require internal information (only external).

To understand how you can save time and money on your next project, schedule a free demo with one of our experts today

Book your demo today

Additionally, you can explore more resources related to the topics we've covered here.

VU.CITY Belfast
Weaver's Cross

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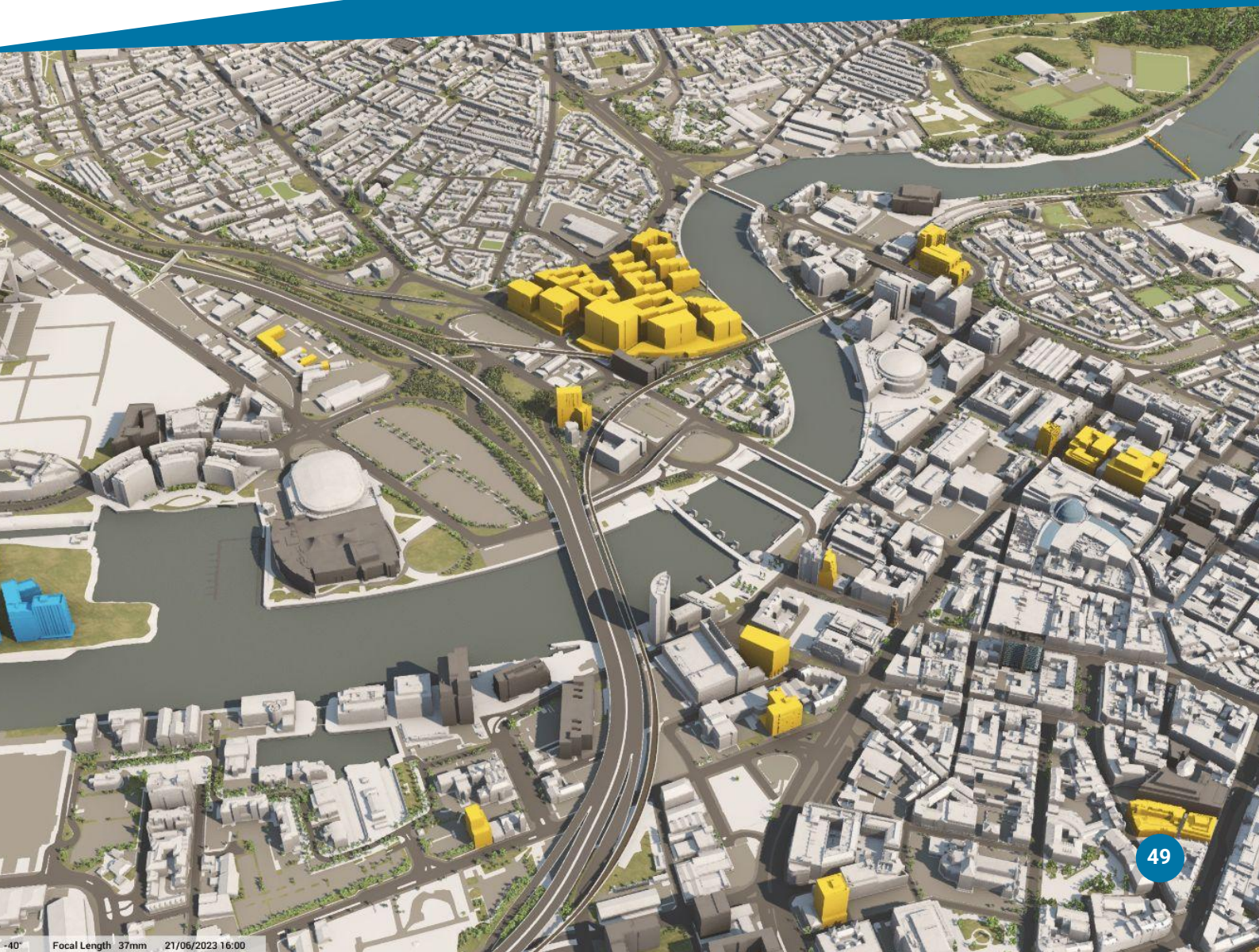
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info@vu.city   +44 (0)203 889 7030   www.vu.city

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