

# Student discovers lost Mayan city by accident

VISHWAM SANKARAN

An American student analysing publicly available data found a sprawling Mayan city with thousands of undiscovered structures, including pyramids, under a Mexican forest.

The data came from laser scans of the Campeche region and revealed a buried world, since named "Valeriana", with nearly 6,700 undiscovered structures.

Archaeologists have been using laser scanning lidar technology to assess anomalies in landscapes across the Yucatan peninsula in Central America and stumbling upon pyramids, family houses and other Mayan infrastructure.

For a long time, surveys to find ancient structures sampled just a couple of hundred square kilometres.

"That sample was hard won by archaeologists who painstakingly walked over every square metre, hacking away at the vegetation with machetes, to see if they were standing on a pile of rocks that might have been someone's home 1,500 years ago," said Luke Auld-Thomas, PhD candidate at the Northern Arizona University who made the discovery.

In recent years, researchers have been analysing data from lidar scans taken for unrelated purposes to look



An example of Mayan art in a temple in the ruins of the Mayan city of Bonampak in Chiapas, Mexico.  
Photo: Jon G. Fuller

for evidence of Mayan structures. Mr Auld-Thomas analysed data from one such lidar project from 2013, focused on measuring and monitoring carbon in Mexico's forests, to see what lay underneath 50 square miles of Campeche.

"I was on something like page 16 of Google search and found a laser survey done by a Mexican organisation for environmental monitoring," he told the BBC.

Analysing the data using modern archaeological methods revealed a dense

and diverse array of Mayan settlements, including one sprawling city dating to between 250 to 900AD.

"The government never knew about it, the scientific community never knew about it. That really puts an exclamation

point behind the statement that, no, we have not found everything, and yes, there's a lot more to be discovered," Mr Auld-Thomas said.

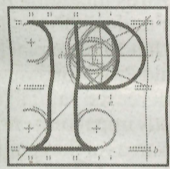
His study was recently published in the journal *Antiquity*.

He said the lost city has all the hallmarks of a classic Mayan political centre.

"We did not just find rural areas and smaller settlements. We also found a large city with pyramids right next to the area's only highway, near a town where people have been farming among the ruins for years," Mr Auld-Thomas noted.

Studying such ancient cities could help solve modern problems facing urban development, researchers said.

"There were cities that were sprawling agricultural patchworks and hyperdense," Mr Auld-Thomas said. "Given the environmental and social challenges we are facing from rapid population growth, it can only help to study ancient cities and expand our view of what urban living can look like."



An Bord Pleanála

## Roads Acts 1993 to 2015 Planning and Development Acts 2000 to 2023

ABP-316828-23

Notice of a decision by An Bord Pleanála in relation to the Tallaght/Clondalkin to City Centre Core Bus Corridor Scheme, all in the County of Dublin.

An Bord Pleanála has, on 17th October 2024, in exercise of the powers vested in it by section 51 of the Roads Act, 1993, as amended, made an order to approve subject to conditions the proposed road as submitted by the National Transport Authority.

The conditions of the Board's decision are summarised as follows:

1. The proposed development shall be carried out and completed in accordance with the plans and particulars lodged with the application, except as may otherwise be required to comply with the following conditions.
2. The mitigation measures contained in the submitted Natura Impact Statement shall be implemented.
3. The mitigation measures contained in the submitted Environmental Impact Assessment Report shall be implemented.
4. The design and visual appearance of the pedestrian/cycle bridge at the inter-section of Naas Road, New Nangor Road and Long Mile Road shall be considered further by the applicant and final design and visual appearance agreed in writing with the planning authority.
5. Finalised cycle parking racks/stands throughout the proposed scheme shall be agreed in writing with the planning authorities.
6. The design of the proposed scheme shall be amended to allow cycle tracks on Cork Street to continue behind on-street parking.
7. The developer shall agree in writing with the planning authorities the design and layout of pedestrian crossing facilities over cycle tracks at island bus stops on a case-by-case basis in accordance with the new Cycle Design Manual, 2023.
8. The developer shall monitor queuing time / delays at each works location and record traffic flows on the local road network.
9. The developer shall, following consultation, submit a loading and servicing strategy for businesses and traders located along the core bus corridor for the written agreement of the planning authorities.
10. At detailed design stage, the developer shall engage with Uisce Éireann to agree adequate protection of existing significant assets and ensure appropriate access is maintained during and following construction. All works that would impact on Uisce Éireann's assets shall be carried out in compliance with Uisce Éireann's Standards and Codes of Practice.
11. The developer, shall prepare in consultation with the relevant statutory agencies, a CEMP, incorporating all mitigation measures indicated in the NIS and EIAR and a demonstration of proposals to adhere to best practice and protocols.
12. The developer shall submit a Construction Traffic Management Plan and a Construction Stage Mobility Management Plan for the construction phase of the development for the written agreement of the planning authority.
13. The developer shall engage with TII in relation to plans and details of works, construction traffic, and management of assets thereafter, on, or in the vicinity of the national road network and associated managed areas.
14. Details of measures to protect fisheries and water quality of the river systems shall be outlined and placed on file.

15. Noise monitoring shall be carried out during the construction phase of the proposed road development by the developer to ensure that construction noise threshold levels shall not exceed the levels set out in the EIAR.
16. Drainage arrangements shall comply with the requirements of the planning authority for such works in respect of both the construction and operation phases of the proposed development.
17. A suitably experienced and qualified ecologist will be appointed by the contractor.
18. Pre-construction surveys shall be carried out to determine the presence of protected mammal, bird or bat species.
19. (a) Trees to be felled shall be examined prior to felling and demolition to determine the presence of bat roosts. Any clearance works shall be in accordance with the Transport Infrastructure Ireland Guidelines for the Treatment of Bats During the Construction of National Road Schemes.  
(b) No ground clearance shall be undertaken and no vegetation shall be cleared from the 1st day of March to 31st day of August, unless otherwise agree.  
(c) A Calcicole Plant Communities Conservation Plan shall be submitted to the planning authority for written agreement prior to commencement of development.
20. Prior to the replacement of trees, hedging and planting which is to be removed, the NTA shall liaise with the relevant landowner with regard to the species, size and location of all replacement vegetation.
21. The areas of land temporarily acquired to accommodate construction compounds will be landscaped and returned to their original use once construction is complete.
22. Comprehensive details of the proposed public lighting system to serve the proposed scheme shall be submitted to and agreed in writing with the planning authority.
23. The developer and/or any agent acting on its behalf shall submit an Invasive Species Management Plan to the planning authority.
24. All works to protected structures, and structures of cultural heritage interest shall be monitored and recorded by an Architectural Conservation Specialist, Re-instatement Method Statements shall be submitted to the planning authority to be held on file.

The full text of the Board's decision, including conditions, can be viewed on the Board's website at <https://www.pleanala.ie/en-ie/case/316828>. A copy of the Board's decision and the EIAR is available for inspection at the offices of the National Transport Authority during office hours on working days for a period of 8 weeks beginning on the date of publication of this notice.

A person may question the validity of a decision by the Board by way of an application for judicial review, under Order 84 of the Rules of the Superior Courts (S.I. No. 15 of 1986), in accordance with section 50 of the Planning and Development Act, 2000, as amended.

Practical information on the review mechanism can be accessed under the heading Legal Notices – Judicial Review Notice on the Board's website [www.pleanala.ie](http://www.pleanala.ie) or on the Citizens Information Service website [www.citizensinformation.ie](http://www.citizensinformation.ie)

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