

Ambient's new national 3D transport noise map relies on the accuracy of Geoscape Buildings data.

Challenge

With cities becoming denser and more populated, the knowledge of transport noise levels is gaining significant importance.

Excessive transportation noise is known to cause considerable damage to health. The World Health Organization (WHO) [states](#) transportation noise to be the second biggest environmental problem affecting people's health after air pollution. It can seriously harm a person's health, interfere with daily activities, disturb sleep and have cardiovascular and psychophysiological effects.

Environmental noise experts, Ambient Maps, recently developed the world's largest 3D representation of transport noise data of every address in Australia, calculating noise exposure levels for the day, evening, and night. A new 3D map allows Australians to see the transport noise levels at every wall, of every level, of every building, and across all open spaces, across Australia.

Ambient needed a reliable and accurate buildings dataset to anchor its transport noise map. Any incorrect building alignments, absent buildings or a lack of accurate building heights would lessen the precision of the map. Data accuracy was a key requirement for Ambient and its clients.

Solution

For Ambient, detailed and accurate buildings data was a critical aspect of its modelling. The presence of buildings, directly and indirectly, affects noise levels. They also provide points for each façade to calculate the noise exposure levels.

For instance, the noise level surrounding a home can differ at the front and back of the house. Buildings also provide screening for noise levels, for example, the first row of dwellings screens noise from a rail line for the second row. Without these buildings, the noise levels from a source, for the second row of dwellings would be inaccurate.

Ambient used Geoscape Buildings data as an essential layer in its 3D noise model.



Benefits

Ambient sought to provide actual noise exposure levels rather than a simplistic, estimated score. Greater levels of accuracy from Geoscape Buildings data derived from satellite and aerial imagery meant Ambient could incorporate building areas, heights, land zoning and addresses on a consistent, national scale.

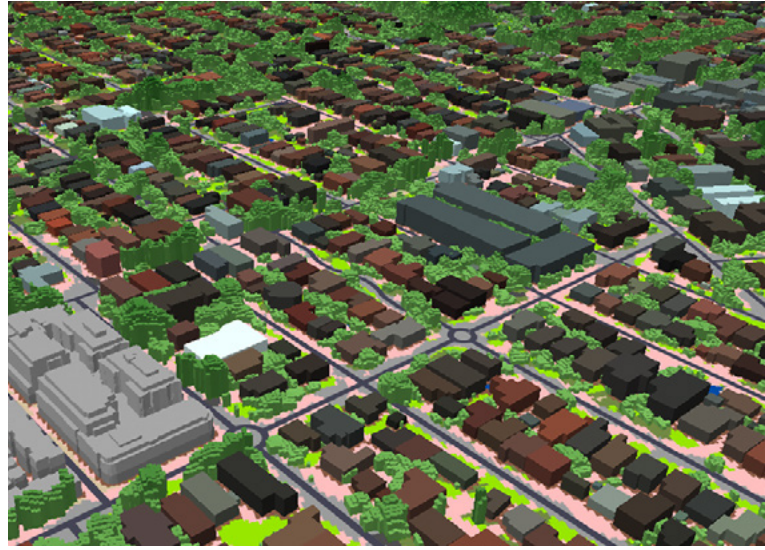
With this increased level of accuracy, the 3D noise map can support a variety of use cases. For instance, it can guide automatic valuation models (AVMs) in property pricing, allow health studies to attribute exposure levels to noise, and guide government planning in the construction of new, noise-sensitive developments.

About Ambient Maps

Ambient is an Australian company devoted to environmental mapping of our major cities and regions. Their goal is to help Australians understand how transport noise and air quality affect their homes. Ambient produces a range of maps and tabulated data around transport-related noise and air quality levels for individual properties and across whole suburbs. Ambient maps and data cover air traffic noise, road traffic noise, rail noise, air quality and future road noise impacts.

About Geoscape

Geoscape Australia is a reliable provider of national location data, backed by the governments of Australia. The company's trusted data offers a clear and detailed picture of Australia's complex cities, regional centres, and rural communities, allowing for a better understanding of how these areas change over time.



To create this data, Geoscape combines information from both satellite and aerial imagery with data from private and public sources, including the governments of Australia. This data is then continually updated to ensure its accuracy and relevance. Additionally, it is available in a variety of formats to ensure easy integration and flexibility of use.

Overall, Geoscape's location data is a valuable resource for businesses and organizations looking to stay informed about the changing landscape of Australia's cities and communities.

Sample Geoscape data today.